Chapter 7
Comprehensive Programs

Introduction

A comprehensive approach to reducing tobacco use recognizes that individual behavioral choices occur in a larger, complex context: a social setting of family, community, and culture; a complex economic and physical environment; formal and informal government policy; and the prevailing legal atmosphere (Green and Richard 1993). The specific programs reviewed in prior chapters can be better understood as part of a general framework for health promotion (World Health Organization [WHO] 1986; *Health Promotion International* 1997). Using such a framework, this chapter will review community-based intervention studies and the current models for comprehensive tobacco prevention and control that are funded by specific excise taxes or by settlements with the tobacco industry.

The evaluation of multicomponent interventions and socioecological models of health promotion poses a special problem (Green and Kreuter 1991; Sanson-Fisher et al. 1996; Nutbeam 1998). The most effective models of health promotion are social movements that evolve (Kickbusch 1989; Allison and Rootman 1996; Downie et al. 1996; Nutbeam 1998). Thus, the nature and complexity of health promotion interventions do not fit the tightly defined, controlled, and presumably reproducible research model that is more suitable for epidemiologic testing (Elder et al. 1993; Mittelmark et al. 1993; Baum 1995; Allison and Rootman 1996; Macdonald et al. 1996; Nutbeam 1996, 1998). Nonetheless, surveillance data, periodic surveys, and other administrative data from multiple sites permit these interventions, as well as "natural experiments," to be studied. Traditionally, per capita consumption data, adult prevalence surveys, and surveys of tobacco-related behaviors among young people have been the core of this surveillance approach. Recently, a broader array of legislative, economic, media, and program data has emerged to enhance surveillance of the social environments that influence the use of tobacco products. For example, the WHO's *Guidelines for Controlling and Monitoring the Tobacco Epidemic* (WHO 1998) provides detailed recommendations on the types of data that should be monitored for both planning and evaluating tobacco control efforts. For the United States, the Centers for Disease Control and Prevention (CDC) has published background information on sources of national surveillance data (Giovino et al. 1994). The Federal Trade Commission provides annual estimates of trends in the tobacco industry's advertising and promotion expenditures. Surveillance data on protobacco influences are not well monitored, however, particularly at the state level. Finally, Wakefield and Chaloupka (1999) have provided a conceptual framework for the monitoring of comprehensive tobacco control programs, particularly those that focus on preventing teenage smoking.

Conceptual Frameworks

From its formation in the mid-1970s, health promotion has emerged as an approach that offers greater potential for change in the health-related behavior of populations than does health education (Green and Richard 1993; Downie et al. 1996; *Health Promotion International* 1997). Health promotion emphasizes social, economic, and other environmental influences as the primary determinants of health behavior change (WHO 1986; Downie et al. 1996; *Health Promotion International* 1997). Though such health promotion strategies have been characterized as a new approach to public health, ecological and policy-oriented approaches are similar to the public health methods of the latter part of the 19th century and the early decades of the 20th century (Kickbusch 1989; Green and Richard 1993; Mullan 2000). As the role of individual risk behaviors, such as tobacco use, was increasingly understood in the middle of the 20th century, individually focused educational strategies gained primacy (Green and Richard 1993). These strategies produced some important changes in health behaviors, but their limits were realized in the cardiovascular disease

prevention programs that took place in the United States during the 1970s and 1980s (see "Community Intervention Trials," later in this chapter) (Green and Richard 1993; Luepker 1994; Winkleby 1994; Fisher 1995; Schmid et al. 1995; Susser 1995).

The shift from a health education approach that targets the individual to a health promotion approach that uses social, policy, and environmental strategies has several advantages. First, by recognizing that many environmental determinants of health behavior are not under the direct control of the individual, the ecological focus avoids blaming persons who fail to modify their behavior. Second, many educational strategies are more effective with better-educated, wealthier persons and may thereby increase the disparities in health between population groups and fail to reach those in greatest need. Third, regulatory and policy interventions can be more cost-effective than multiple efforts to modify individual behavior.

Description of Comprehensive Programs

The importance of comprehensive economic, policy, and regulatory interventions to reduce tobacco use has long been recognized by international experts (WHO 1979). For example, the evolving WHO guidelines for such interventions have increasingly emphasized policy and legislative measures, stressing that these types of health promotion and health protection strategies are essential elements of any national effort to reduce tobacco use (WHO 1998). In an extension of the WHO's efforts, the National Cancer Institute (NCI) released a blueprint for related public health action in the United States (NCI 1991). This monograph stressed that the application of social environmental approaches should not compete with individual approaches but should be combined synergistically with them. Similarly, the Center for Substance Abuse Prevention (CSAP) of the Substance Abuse and Mental Health Services Administration (SAMHSA) published guidelines that provide the concept, structure, and operations of a community-based approach to reduce tobacco use among youth (SAMHSA 1998a,b). To further help states overcome common obstacles to enforcing youth access laws, CSAP also has provided a document that provides strategies to address problems such as interagency and intraagency issues, insufficient or uncoordinated resources, or lack of data sources (U.S. Department of Health and Human Services [USDHHS] 1999). More recently, the CDC (1999a) has synthesized a comprehensive framework for statewide programs to reduce tobacco use. This framework integrates four program goals with four program components; optimally, each of the goals would be fully addressed in the implementation of each of the components. The framework, described in the next section of this chapter, recognizes that comprehensive programs will continue to evolve, in response both to new information and to new circumstances. In addition, the framework represents a distillation of evidence and judgment that have been discussed in detail in the earlier chapters of this report and that have been tested in the community-based trials and the comprehensive programs discussed later in this chapter.

Program Goals for Reducing Tobacco Use Statewide

1. ***Prevent initiation among young people.*** The hallmarks of this goal are

   - Decreasing young people's access to tobacco products.
   - Increasing prohealth messages.
   - Reducing protobacco messages.
   - Increasing the price of tobacco products.

   Some of the mechanisms for decreasing young people's susceptibility to tobacco use are promoting youth empowerment activities, providing school health education, offering positive alternatives, deglamorizing tobacco use, and involving parents and families.

2. ***Promote quitting among adults and young people.*** An environment that supports efforts to quit using tobacco can be fostered by

   - Increasing access to culturally appropriate, effective cessation services (e.g., by expanding insurance coverage).
   - Increasing the price of tobacco products.
   - Increasing restrictions on environmental tobacco smoke (ETS).

- Increasing prohealth messages.
- Decreasing protobacco messages.

3. ***Eliminate exposure to ETS***. The continued expansion of policies to eliminate exposure to ETS can be achieved by

   - Developing support for implementation.
   - Enforcing voluntary private policies.
   - Enforcing public policy and public regulation.
   - Expanding coverage of public areas.

4. ***Identify and eliminate disparities among population groups***. Intrinsically linked to achieving the first three goals, eliminating disparities entails

   - Increasing the price of tobacco products through culturally acceptable programs.
   - Decreasing exposure to ETS.
   - Increasing prohealth messages.
   - Decreasing protobacco messages, particularly those aimed at population subgroups.
   - Increasing the availability of culturally acceptable cessation services.
   - Increasing protective factors among young people.
   - Decreasing young people's access to tobacco products.

   Development, funding, and implementation of the major elements—some of which appear in several of these goals—are critically linked to community involvement and, as noted, to a culturally appropriate approach.

Program Components for Reducing Tobacco Use Statewide

1. ***Community interventions***. Working through social organizations, systems, and networks promotes an environment that facilitates individual health choices and establishes freedom from tobacco use as the norm. The term "community" encompasses a diverse set of entities, including medical societies; schools; school districts; departments of education; voluntary health agencies; civic, social, and recreational organizations; businesses and business associations; city and county governments; public health organizations; labor groups; managed care systems; faith communities; and organizations for racial and ethnic minority groups.

   Community-based activities can include supporting legislated removal or restriction of stimuli to use tobacco (such as advertising and promotion, easy access to tobacco products via self-service display and vending machines, and ongoing exposure to ETS) as well as providing positive alternatives (such as promoting cessation, encouraging prevention advocacy, developing role modeling through parents and adults, and fostering youth empowerment). By changing the community setting and institutions with which adults and young people interact, community-based activities work to denormalize, deglamorize, and discourage tobacco use and to provide access to resources that increase users' ability to control their addiction and use of tobacco. This approach has the potential to effect substantial, sustained, populationwide change in tobacco use behavior.

2. ***Countermarketing***. Changing a social environment that fosters a norm of tobacco use is an essential element of national, state, and local programs. This change requires strategies to counter the billions of dollars spent in advertising and promotion that reach young people and adults with misleading images about tobacco. Countermarketing efforts can include using media advocacy, paid media, and counteradvertising; increasing prohealth promotions and sponsorships; and providing information on the tobacco industry's marketing and promotional tactics. These public health messages should use a strategy that targets all age groups and populations. In a comprehensive strategy, education messages will be mutually reinforcing: clean indoor air messages will provide added motivation for adults to quit smoking; cessation messages for adults will discourage tobacco use among young people and accentuate the problem of addiction; and youth prevention messages will increase the salience of the tobacco issue among parents and community leaders.

3. ***Program policy and regulation***. Areas in which policy and regulation to reduce tobacco use have been applied include minors' access, tobacco pricing, advertising and promotion, clean indoor air, product regulation, product labeling, ingredient disclosure, and policies on insurance coverage for cessation services. Policies and regulations can be established at the federal, state, and local levels (see Chapter 5). Ideally, policies and regulations need to be implemented at both the community level and statewide. Educating the public about policies and regulation is crucial to acceptance, but such education must be supported by adequate enforcement.

4. ***Surveillance and evaluation***. Surveillance and evaluation efforts are necessary to make the ongoing refinements that lead to more effective prevention strategies. In addition to traditional surveillance methods, nontraditional approaches—such as monitoring the promotional activity of the tobacco industry at the state and local levels, monitoring the economic impact of smoking laws and other ETS policies, and performing periodic surveys of public opinion on program interventions—are critical for reducing tobacco use.

The conceptual framework for comprehensive efforts to reduce tobacco use has been used to develop the current generation of statewide programs. However, even the most comprehensive programs currently in place have not been able to fully implement all recommended components. Policy and regulation components are especially hampered, since many state and local actions are limited by federal mandates and preemptions (see "Preemption of Local Action by State Policy" in Chapter 5). Moreover, only two states, California and Massachusetts, have implemented comprehensive programs for a sufficient time to provide evaluation data on the overall efficacy of the emerging comprehensive model.

The following sections summarize the history and development of community-based, statewide, and other large-scale efforts to reduce tobacco use and conclude with a review of existing data on the efficacy of the comprehensive model.

Community Intervention Trials

Large-scale trials to prevent cardiovascular disease have been a major source of data on population-based approaches to reducing tobacco use. An emphasis on the importance of addressing social and cultural determinants of smoking behavior grew directly out of early work on cardiovascular disease epidemiology. The Seven Countries Study, which was started in the mid-1950s by Keys and colleagues (Aravanis et al. 1970; Blackburn et al. 1970; Buzina et al. 1970; Fidanza et al. 1970; Kimura and Keys 1970; Taylor et al. 1970a,b), examined risk factors for cardiovascular disease in populations around the world and documented that disease rates and risk factors differed markedly across cultural and social environments (WHO 1982). In that study, more than 12,500 men aged 40–59 years from Finland, Greece, Italy, Japan, the Netherlands, the United States, and Yugoslavia were recruited for a prospective study of the relationship between personal behaviors (e.g., diet, physical activity, smoking) and risk of cardiovascular disease (Aravanis et al. 1970; Blackburn et al. 1970; Buzina et al. 1970; Fidanza et al. 1970; Kimura and Keys 1970; Taylor et al. 1970a,b). Although the most striking differences in lifestyle across cultures were in the composition of the men's diet, smoking was found to be a significant risk factor. This study, and many other early studies of cardiovascular disease epidemiology, encouraged researchers to start community trials to modify the identified risk factors in whole population groups (WHO 1982).

Two landmark community trials that began in 1972 grew directly out of the work of the Seven Countries Study investigators: the Stanford Three-Community Study (Farquhar et al. 1977) and the Finnish North Karelia Study (Puska et al. 1985). A third, less directly tied to this early work, was the Israeli Community Syndrome of Hypertension, Atherosclerosis and Diabetes (CHAD) program (Gofin et al. 1986) begun in 1971. In addition, two worksite trials focusing on population-level changes in cardiovascular disease risk factors developed out of the Seven Countries Study and from related early work on cardiovascular disease epidemiology: the Belgian Heart Disease Prevention Project (Kornitzer et al. 1980) and the United Kingdom Heart Disease Prevention Project (Rose et al. 1980). Though investigators in these initial studies recognized the importance of the social and cultural environment in modifying risk factors for cardiovascular disease, including smoking (Farquhar 1978; WHO 1979; Farquhar et al. 1981, 1985; Rose 1981; McAlister et al. 1982; Puska et al. 1985), the smoking cessation techniques of the time were primarily individually oriented (McAlister et al. 1976; Meyer et al. 1980).

The Stanford and North Karelia studies shared some community organizing and conceptual perspectives in their planning (WHO 1982). Logistical and cultural differences between the United States and Finland dictated significantly different implementation, however. In the Stanford study, an intervention that

primarily used mass media was compared with the same mass media intervention plus intensive face-to-face counseling for high-risk individuals and was also compared with a control community that received no intervention. In the initial results, the community cohort receiving both the mass media and the face-to-face counseling for high-risk smokers had a significantly greater decrease than the control community in the prevalence of smoking (–50 vs. –14.9 percent) and in the number of cigarettes smoked (percentage reduction of 51.6 vs. 21.0 percent) (Farquhar et al. 1977, 1985; Maccoby et al. 1977; Meyer et al. 1980).

In the Finnish study, the people of North Karelia province requested the intervention because of concerns raised by the results of the Seven Countries Study, in which residents of their province had participated (Puska et al. 1985, 1995). The intervention had a strong focus on community organizing and environmental modification, together with multiple educational components using mass media and other strategies (McAlister et al. 1982; Puska et al. 1985). Although the intervention's early efforts had a greater emphasis on increasing direct cessation services than on preventing smoking, the importance of nonsmoking environments and other environmental changes was clearly recognized and emphasized (Koskela 1981). The five-year follow-up results of the study found no significant difference in smoking prevalence between the North Karelia province and Kuopio, a comparison province with similar baseline smoking rates (Puska et al. 1979). Ten years on, a significantly greater reduction in smoking prevalence was observed among men in North Karelia than in Kuopio (Salonen et al. 1981; Puska et al. 1983a,b; Vartiainen et al. 1986). The intervention trial has been continued, and new prevention and population-based cessation strategies have been added (Vartiainen et al. 1986; Korhonen et al. 1992, 1993). Analyses of 20-year trends (from 1972 to 1992) in smoking in the two provinces found a significantly greater decline in smoking prevalence for adult men in North Karelia (from 52 to 32 percent) than in Kuopio (50 to 37 percent) and in southwestern Finland. Smoking prevalence for adult women increased at similar rates in both provinces (increasing from 10 to 17 percent in North Karelia and from 11 to 19 percent in Kuopio) (Vartiainen et al. 1998). The 20-year difference in trends in men between the two provinces appeared to be primarily related to cessation during the first 10 years and to prevention during the last 10 years.

The CHAD program had a somewhat more individually focused intervention model directed at reducing the risk factors for cardiovascular disease among residents in Israeli housing projects (Abramson et al. 1981). The health care providers serving the intervention communities provided risk factor screening and counseling for families, couples, and individuals living in the four adjacent housing projects. The residents of comparison housing areas received usual care from their providers. In the intervention communities, group discussions were held to provide social support and increase group influences on individual lifestyle changes. Comparisons between community health surveys conducted at baseline (1969–1971) and after five years (1975–1976) showed a significantly greater decline in smoking prevalence among men but not among women in the intervention communities than in control communities (Gofin et al. 1986). At the 10-year follow-up (1981), the prevalence of smoking had declined significantly between 1976 and 1981 among both men and women in the CHAD follow-up cohort, whereas no change or a slight increase in smoking had occurred among adults in Israel overall (Gofin et al. 1986).

The Belgian Heart Disease Prevention Project was a controlled, multifactorial trial involving men aged 40–59 years at baseline at Belgian worksites (Kornitzer et al. 1980). Thirty pairs of factories were studied, with one site from each pair randomly assigned to the intervention group and one site to the control group. At baseline screenings for risk factors for cardiovascular disease, individuals in the upper two deciles of risk were identified and received semiannual individual counseling from the medical staff. Medical advice to quit smoking was reinforced in the factories by anti-smoking posters, written messages, and health education conferences encouraging workers to quit smoking and to encourage the same to their friends who smoked. Changes in smoking prevalence at the intervention and control worksites were monitored among both the high-risk individuals and in random samples of the total worksite populations. After two years of intervention, a significantly greater percentage of the high-risk smokers quit in the intervention group than in the control group (18.7 vs. 12.2 percent), but no difference was observed in the random samples.

The United Kingdom Heart Disease Prevention Project was started in 1971 with 24 pairs of English and Welsh factories. Each member of the pair was randomly assigned to intervention or control status (Rose et al. 1980; Bauer et al. 1985). At baseline and in 1977–1978, risk factor screening for cardiovascular disease was conducted among men aged 40–59 years in the intervention sites and in a 10-percent random sample of similarly aged men at the control sites. Over a five- to six-year period, all men in the intervention sites

received healthy lifestyle advice by mail and by worksite posters. Men in the intervention sites found at baseline to be at high risk for cardiovascular disease were provided medical counseling on risk factor change, including smoking cessation. At the end of the intervention in 1977–1978, a small but significant reduction in smoking prevalence had occurred among the high-risk smokers in the intervention site (Rose et al. 1980). Five intervention and five control worksites were resurveyed in 1983, approximately 12 years after the baseline screening and at least 5 years after the end of the intervention program (Bauer et al. 1985). There was no significant difference in the prevalence of smoking between intervention and control factories, but the smokers at the intervention sites reported smoking significantly fewer cigarettes per day.

The initial design and implementation of the North Karelia and Stanford Three-Community trials led to the design of several other cardiovascular disease prevention trials around the world. These included the Swiss National Research Program from 1977 to 1980 (Gutzwiller et al. 1985), the South African Coronary Risk Factor Study from 1979 to 1984 (Steenkamp et al. 1991), and the Australian North Coast Healthy Lifestyle Programme from 1978 to 1980 (Egger et al. 1983). The early trials also influenced the development of two communitywide mass media-based smoking cessation trials implemented in Australia in the 1980s, in Sydney from 1983 to 1986 and in Melbourne from 1984 to 1986 (Pierce et al. 1986, 1990; Macaskill et al. 1992).

In the Swiss trial, two towns in the French-speaking and two towns in the German-speaking regions of the country were assigned to either intervention or reference status (Gutzwiller et al. 1985). Baseline surveys of risk factors for cardiovascular disease were conducted among random samples of residents aged 16 to 69 years in all four towns in 1977–1978 and repeated at the final assessments in 1980–1981. In the interval, communitywide health education and health promotion interventions were conducted in the two intervention towns, including media campaigns, counseling of high-risk individuals, and community organization efforts to encourage environmental and social changes. The prevalence of smoking in the communities declined from 32.8 to 27.4 percent in the intervention towns and from 37.1 to 35.3 percent in the reference towns, a significant net effect of 3.6 percent decline.

In the South African Coronary Risk Factor Study, three rural communities, matched in size, socioeconomic status, and cultural factors, were assigned to low-intensity prevention, high-intensity prevention, and control status (Steenkamp et al. 1991). Both the low- and the high-intensity sites received a mass media educational campaign using so-called small media, such as posters, billboards, mailings, and coverage in local newspapers. In the high-intensity community, high-risk individuals, including smokers, received personal interventions from health care providers. Risk factors for cardiovascular disease were measured in a cohort of residents aged 15 to 64 years from each community in 1979 and in 1983. The baseline prevalence of smoking was higher among men (49.2 vs. 44.4 percent) and women (17.0 vs. 14.5 percent) in the high-intensity intervention community than in the control community, but the difference was not statistically significant. After the four-year intervention, the net change in smoking prevalence in the high-intensity community, relative to the control community, was not significant for men but was significant for women. Women in both the low- and the high-intensity intervention communities had significantly higher rates of quitting than women in the control community, but no differences were observed for men.

The Australian North Coast Healthy Lifestyle Programme replicated the design of the Stanford Three-Community Study (Egger et al. 1983). In 1978, three communities in northern New South Wales, Australia, were assigned to a media intervention, media intervention plus community program, or control status. A two-year study for preventing cardiovascular disease was conducted, including a smoking cessation component called "Quit for Life." The media interventions used professional commercial media and advertising techniques and a social marketing and health promotion framework involving print, posters, radio, television, and other advertising techniques. The community programs for smoking cessation included promotions of smoking cessation organizations, kits handed out by doctors, distribution of self-help materials, and telephone help lines. The smoking cessation campaigns also incorporated other community activities—such as organized runs, stress management training, and computerized health testing—that conveyed the overall program's broader theme of healthy lifestyles. Risk factors for cardiovascular disease, including smoking, were measured in random samples of residents aged 18 years and older in each community in 1978 (baseline), 1980, and 1981. In the multiple logistic regression analysis model, which controlled for baseline differences among the three communities in age and sex distributions, there was a statistically greater decline in smoking in the two intervention communities than in the comparison community, with the largest differences among young smokers. Declines in the prevalence of smoking in the area assigned to

media intervention plus community program ranged from 15.7 percent among men aged 18–25 years to 6.1 percent among women aged 65 years and older.

In the 1980s, a communitywide mass media-based smoking cessation campaign was conducted in Sydney and Melbourne, Australia (Dwyer et al. 1986; Pierce et al. 1986). The Sydney campaign began in mid-1983, and the Melbourne campaign began one year later (during the preceding year, Melbourne was used as a control city for the Sydney campaign). The "Quit for Life" campaigns involved innovative and provocative smoking cessation messages delivered through paid spots on the radio, on television, and in newspapers. These messages were supported by a telephone "Quit Line," self-help "Quit Kits," and a hospital-based "Quit Centre," all of which were promoted at the end of the paid advertisements used in the campaigns. The campaigns were evaluated through monthly random telephone surveys in the two communities. In addition, a cohort of residents was interviewed in April–June 1983 and again in May 1984. In the cohort, 23 percent of smokers in Sydney and 9 percent in Melbourne quit during the initial (control) year before the campaign was begun in Melbourne (Pierce et al. 1986). The monthly prevalence estimates demonstrated an approximately 1-percent decline in Sydney in comparison with the rest of Australia (Dwyer et al. 1986). The media campaigns were continued through 1986, along with additional programs in conjunction with physician-, school-, and community-based activities. Long-term evaluation of trends in smoking in the two cities from 1981 to 1987 suggests that the sustained campaigns may have contributed to a decline in smoking prevalence of about 1.5 percentage points per year in both communities among men but had little impact on women (Pierce et al. 1990). An analysis of the campaign's potential differential impact across educational levels suggested that the Australian mass media and community campaigns did not contribute to an increase in the gap in smoking prevalence between educational groups (Pierce 1989; Macaskill et al. 1992).

The lack of a consistently positive effect from these initial community trials was attributed more to an incomplete understanding of comprehensive interventions and to the relatively weak, quasi-experimental designs of the studies than to concern about the efficacy of the overall approach (Farquhar 1978). The continuing enthusiasm for the potential efficacy of the communitywide approach was reflected in both national and international reviews and guidelines (Blackburn 1983; WHO 1982; USDHHS 1983; National Cholesterol Education Program Expert Panel 1988; Shea and Basch 1990a,b). Similarly, the positive results from the Australian communitywide antismoking media campaigns and smoking cessation data from the North Karelia trial encouraged the planning of smoking-specific community efforts in the United States in the late 1980s.

Three major community-based trials for preventing cardiovascular disease were funded by the National Heart, Lung, and Blood Institute (NHLBI) in the early 1980s: the Stanford Five-City Project, the Minnesota Heart Health Program, and the Pawtucket Heart Health Program. Each had comparison and intervention communities and stronger designs and evaluation methodologies than the studies initiated in the 1970s. Each study was developed by an independent team of investigators, and the NHLBI maintained a collaborative research relationship among the studies (Winkleby et al. 1997). All three shared common intervention approaches that lasted five to eight years and focused on the major risk factors for cardiovascular disease (hypertension, cigarette smoking, high dietary fat, obesity, and sedentary lifestyle). Each project used mass media, community mobilization, and multiple educational channels, such as health care providers, schools, worksites, and voluntary agencies. The programs integrated individual and social change approaches, employing some combination of social learning theory, social network diffusion theory, and social marketing to guide the planning and implementation of the interventions (Bandura 1977; McGuire 1973; Rothman 1979; Rogers 1983). The three projects differed initially in their relative emphasis on specific modalities (Stanford emphasized media; Minnesota, population screening; and Pawtucket, community organizations) (Shea and Basch 1990a), but frequent collaborations among projects decreased these differences over time. Many innovative strategies were developed, and the process evaluations on specific smoking prevention and cessation interventions were positive (Glasgow et al. 1985; Sallis et al. 1985; Altman et al. 1987; Elder et al. 1987, 1993; King et al. 1987; Lando et al. 1990, 1991; Perry et al. 1992; Pechacek et al. 1994). Nonetheless, the overall impact of the three interventions on smoking prevalence was modest.

The Stanford Five-City Project began with baseline surveys in 1979. Five cities in Northern California were selected on the basis of location, size, and media markets (Farquhar et al. 1985). Monterey and Salinas shared a media market and were assigned to the intervention group. The three control cities (Modesto, San Luis Obispo, and Santa Maria) were isolated from the media market of the intervention communities. The communitywide educational campaigns began in 1980 in collaboration with existing community

organizations. The two treatment cities received continual exposure for five years; each year, four to five separate risk factor education campaigns took place, one of which focused on smoking. Evaluations included independent, cross-sectional population samples aged 25 to 74 years surveyed at baseline and at 25, 51, and 73 months, as well as a cohort formed from the baseline survey that was resurveyed at 17, 39, and 60 months. Initially, the cohort samples in the intervention communities experienced a significantly greater decline in smoking prevalence than those in the control communities (–7.66 vs. –3.76 percent) (Farquhar et al. 1990; Fortmann et al. 1993). By the end of the intervention in 1986, the cross-sectional surveys showed no such difference in declining prevalence. At the final follow-up in 1989–1990, a more rapid though nonsignificant decline was detected in the control communities than in the intervention communities (Winkleby et al. 1996).

In the Minnesota Heart Health Project, three pairs of communities were selected, with one of each pair assigned to educational intervention and the other to comparison status (Jacobs et al. 1986; Murray et al. 1994). The communities were matched on size, community type, and distance from the Minneapolis-St. Paul metropolitan area. After a 16-month baseline assessment period, a 5- to 6-year intervention program was started in November 1981 in the first education site, Mankato, Minnesota (Luepker et al. 1994). The second and third education sites, Fargo-Moorhead on the North Dakota-Minnesota border and Bloomington, Minnesota, were started 22 and 28 months later in 1983. The staggered entry allowed for a gradual development of the intervention program and a stronger evaluation design (Luepker et al. 1994). Starting in 1980, annual cross-sectional surveys among residents aged 25 to 74 years were conducted in all six sites. A random sample of residents surveyed before the start of the education program was resurveyed. For long-term smoking cessation, the cross-sectional survey data provided evidence of an intervention effect for women but not for men; no such effect was observed for either sex in the cohort sample (Luepker et al. 1994; Lando et al. 1995). Unexpectedly, large declines in smoking prevalence, especially among men, were observed in comparison communities.

In the Pawtucket Heart Health Program, the impact of a communitywide program for reducing risks for cardiovascular disease in Pawtucket, Rhode Island, was compared with trends in a nearby matched community in southern Massachusetts (name withheld to honor a confidentiality agreement with the city government) (Carleton et al. 1995). Pawtucket was selected as the intervention site from among a pool of nine potential northeastern New England cities; the comparison site had similar sociodemographic characteristics. Surveys of risk factors for cardiovascular disease were conducted with random samples of residents aged 18 to 64 years in the two communities at two-year intervals, beginning in 1981 and continuing until 1993. Communitywide educational strategies emphasized public awareness campaigns, behavior change through existing community resources and volunteers, and community activation to promote involvement and environmental changes (Elder et al. 1987, 1993; Lefebvre et al. 1987). During the seven-year intervention program from 1984 to 1991, more than 500 community organizations were involved, including schools, religious and social organizations, larger worksites, and city government departments. Overall projected risk for cardiovascular disease declined significantly in Pawtucket during the educational program, but the prevalence of cigarette smoking declined only slightly and did so more in the comparison than in the intervention community (Carleton et al. 1995).

Concurrent with the community-based cardiovascular disease prevention trials in the United States, an antitobacco community education program was initiated in India (Anantha et al. 1995). The trial was conducted between 1986 and 1992 in the Karnataka State. One intervention area (117 villages) and two control areas (136 and 120 villages) were selected within the Kolar District. A baseline survey was conducted in 1986, and follow-up surveys were conducted two and five years later. Villages were randomly sampled in each of the three areas, and the tobacco use habits of all residents of each household were assessed. A subsample of the villages selected at baseline was resurveyed two and five years later to provide cohort follow-up. After the baseline survey, a three-year educational campaign used health worker staff from Primary Health Centres to visit each village at least once a week and deliver health education messages about the risks of cigarette smoking and other forms of tobacco use, particularly chewing. Handbills, photographs, posters, and films in multiple languages were used to reinforce health education counseling delivered to individuals and small discussion groups. Among tobacco users in the intervention area, prevalence declined 26.5 percent for men and 36.7 percent for women. The proportional reduction in the prevalence of any tobacco use was significantly greater in both men and women in the intervention area than in the two control areas (10.2 vs. 2.1 and 0.5 percent for men and 16.3 vs. 2.9 and 0.6 percent for women).

The Federal Republic of Germany began the German Cardiovascular Prevention (GCP) Study in the mid-1980s (GCP Study Group 1988). The seven-year prevention campaign in the GCP Study targeted more than 1 million people in six intervention regions whose demographic and socioeconomic structure reflected that of the West German population. The reference population was sampled from the total West German population. The goal of the campaign was to reduce four risk factors for cardiovascular disease (hypertension, hypercholesterolemia, smoking, and obesity) by using a multifaceted prevention program. Public health services, voluntary welfare federations, institutions for adult education, sports and consumer associations, and other existing community resources and facilities were used extensively. The campaigns sought the involvement of health care providers and emphasized consumers' access to them. Special emphasis was placed on improving community knowledge and awareness of healthy nutrition, the benefits of physical activity, and the importance of quitting smoking. To identify persons at high risk for hypertension and hypercholesterolemia, screenings were conducted at social events, in factories, and at other community settings in close cooperation with physicians, pharmacists, and health insurance companies. To discourage smoking, nonsmoking restrictions were extended in public places, and educational campaigns were conducted in the media and in community settings to promote smoking cessation and to help smokers quit. For the evaluation of risk factor trends, representative samples of residents aged 25–69 years from the intervention regions and of the national population of West Germany were surveyed before the intervention (May 1984 to March 1986), at midstudy (February 1988 to April 1989), and at the end of the intervention (April 1991 to April 1992) (Hoffmeister et al. 1996). In the national reference sample, the prevalence of smoking declined from 34.0 percent at baseline to 33.5 percent at the end of the study. In the intervention region, the prevalence of smoking declined from 35.4 percent at baseline to 32.5 percent at the end of the study, for a net change of –6.7 percent ($P < 0.001$). The decline occurred exclusively among men (net change of –7.9 percent, $P < 0.001$). Among women, the prevalence of smoking increased in both the intervention regions and nationwide, and no intervention impact was noted (net change of –1.8 percent).

Using a somewhat different design, the Community Intervention Trial for Smoking Cessation (COMMIT) was started in the late 1980s (COMMIT Research Group 1991). COMMIT focused solely on smoking cessation and built on the initial experience in the ongoing trials to prevent cardiovascular disease. COMMIT was planned as a randomized community trial with 11 pairs of communities and had adequate statistical power to detect relatively small intervention effects (Gail et al. 1992). One community of each pair was randomly allocated to the intervention program, and the other was monitored as a control. The 11 intervention communities received a four-year educational program that focused on adult cessation, with special emphasis on "heavy" cigarette smokers (those who smoked 25 or more cigarettes per day). The intervention philosophy of the trial assumed that a comprehensive communitywide strategy would make it difficult for residents in the 11 targeted sites to avoid exposure to messages about the importance of nonsmoking and would alert smokers to the many opportunities for cessation. Interventions focused on four primary educational channels: media-based and communitywide events, health care providers (e.g., physicians and dentists), worksites and other organizations, and cessation resources. Within these channels, the centrally developed protocol specified 58 mandated activities, designed to be carried out largely by community volunteers and local staff or agencies with limited external resources (Lichtenstein et al. 1990–1991). Intervention activities started after the baseline survey and randomization, beginning with community mobilization in January 1989 and continuing with protocol-defined intervention through December 1992. A telephone survey was conducted in each of the 22 sites to estimate baseline prevalence and identify cohorts of heavy and light-to-moderate smokers. Cohort members were contacted annually by telephone, with a final assessment in early 1993. A final prevalence survey was conducted in all 22 communities from August 1993 to January 1994.

There was a high degree of community ownership within the 11 intervention sites (Bracht et al. 1994; Lichtenstein et al. 1996), and program staff and community organizations diligently delivered the 58 mandated activities. Hence, the modest effects observed in this trial were sobering for the public health community (Fisher 1995; Susser 1995). No cessation effect was observed for the "heavy" smokers for whom the trial was specifically designed (COMMIT Research Group 1995a). Among the evaluation cohort of light-to-moderate smokers, a significantly greater proportion quit in the intervention than in the control communities (30.6 vs. 27.5 percent) over the four-year intervention period, and the effect was strongest among the less educated residents of the communities. Overall the prevalence of smoking declined

slightly (but nonsignificantly) more in the intervention communities (3.5 percentage points) than in the comparison communities (3.2 percentage points) (COMMIT Research Group 1995b). The quality and statistical power of the overall trial design (Gail et al. 1992) make it unlikely that any true intervention effects were missed. The COMMIT intervention protocol sought to apply the most effective smoking cessation strategies as defined by the published literature (Lichtenstein et al. 1990–1991; COMMIT Research Group 1991). The investigators were limited, however, in their ability to be involved in many of the recommended ecological and policy-oriented health promotion strategies (WHO 1979; Green and Richard 1993) because of restrictions imposed by federal funding of the study (Fisher 1995; Susser 1995). In addition, process data showed that implemented protocol did not have a significant impact on many important intermediate variables (e.g., physician and dentist counseling rates, worksite smoking bans, public attitudes toward smoking) (Glasgow et al. 1997; Ockene et al. 1997; Taylor et al. 1998). Therefore, the failure of the COMMIT interventions to use certain strategies or to change intermediate social and policy variables suggests that the study was not an adequate test of the efficacy of the social-environmental approach to reducing tobacco use.

Several reviewers have provided some perspectives on the modest smoking cessation effects observed in these community trials (Green and Richard 1993; Luepker 1994; Winkleby 1994; Fisher 1995; Susser 1995). Common themes are (1) the difficulty in observing intervention effects because of the large secular declines in risk factors for cardiovascular disease, including smoking, that occurred during the period when the trials were implemented and (2) the need for a more comprehensive health promotion approach. A more complete understanding is needed of why such modest and mixed smoking cessation effects have been observed in numerous well-designed and well-implemented communitywide trials.

Statewide Interventions

Concurrent with the implementation of the community intervention trials, a broader national movement to reduce tobacco use began to emerge in the 1980s. Unlike the community intervention trials, this movement, and the large-scale interventions that developed from it, was not structured around research hypotheses and preplanned evaluation designs. Rather, the movement was characterized by community mobilization at the national, state, and local levels and encompassed the principles of health promotion as a social movement that evolves (Kickbusch 1989; Allison and Rootman 1996; Downie et al. 1996; Nutbeam 1998). Funding for these efforts came from both federal and private sources; however, an important manifestation of this national movement was the establishment of statewide interventions funded by increases in cigarette excise taxes or settlements with the tobacco industry. Such increases were the result of voter initiatives, beginning with those in California in 1990 and Massachusetts in 1993. The next section of this chapter reviews the main elements of the national movement.

Community Mobilization

A significant step in organizing the movement to reduce tobacco use was the founding in 1981 of the Coalition on Smoking OR Health, which consisted of representatives from three major volunteer health agencies: the American Cancer Society (ACS), the American Heart Association, and the American Lung Association. The formation of a national coalition prompted state- and local-level leaders of these organizations to form similar triagency coalitions. Some of these state and local coalitions expanded to include representatives from other groups, such as medical societies, other volunteer health organizations, and state health departments. These coalitions were among the first efforts to mobilize communities at the state and local levels.

The consensus of the 1985 International Summit of Smoking Control Leaders in Washington, DC, was that only unified, broadly based, strategically coherent, and flexible national movements for reducing smoking were destined to be successful. To help build such movements, the summit participants recommended producing a handbook on coalition building.

The resulting ACS publication, *Smoke Fighting: A Smoking Control Movement Building Guide* (Pertschuk and Erickson 1987), examined the strengths and weaknesses of networks and coalitions and gave suggestions for building and strengthening these forums. This guide was one of the earliest produced on community organizing to reduce tobacco use.

A survey conducted by the Association of State and Territorial Health Officials determined that as of December 31, 1989, coalitions for reducing tobacco use had been formed in 46 states and the District of Columbia (CDC 1990). Only Hawaii, Kentucky, Mississippi, and South Carolina did not have state-level coalitions at that time. Of the 47 coalitions, 44 concentrated on reducing tobacco use; the remaining 3 addressed tobacco use, as well as other chronic disease risk factors. Although Colorado established the first tobacco-related coalition in 1963, coalitions in 28 states were not established until after 1984. Coalition activities included lobbying, providing public education, educating health care professionals, conducting research and evaluation, and developing and implementing a state plan for reducing tobacco use (Pertschuk and Erickson 1987).

Until recently, the United States remained without a national program for tobacco-related risk reduction analogous to those established for hypertension and hypercholesterolemia. During the 1990s, three nationally funded programs—two by the federal government and one by a private foundation—and one federally funded research project have helped states and localities mobilize for reducing tobacco use. As noted, several states provided funds for state and local community organizing.

National Programs

ASSIST

The American Stop Smoking Intervention Study (ASSIST) for Cancer Prevention is a partnership between the NCI and the ACS to establish coalitions that focus on using public policy change to reduce tobacco use (see also "Community Programs" in Chapter 4). The ASSIST project was developed after many NCI consultants had recommended that community-based coalitions for reducing tobacco use be established in entire states or in large metropolitan areas. The ASSIST guidelines provided both the rationale for the coalition model and the flavor of the overall project:

- Smoking is a public health problem that affects everyone in a community, not only smokers. The solution to the smoking problem requires the active involvement of a broad range of groups and individuals.

- Significant and enduring changes in smoking behavior require a change in social norms, that is, that smoke-free environments and lifestyles are preferred and encouraged among all social groups. Changes in social norms occur over time with the involvement and support of a broad representation of interest groups.

- Tremendous resources are invested each minute of every day to encourage young people to begin smoking as a normal and acceptable behavior. The resources required to counter this effort and to effect a significant change in smoking behavior far exceed the funds available through this [ASSIST] project. A large contribution of direct and in-kind support in the form of time, energy, volunteers, and other resources will be required. Only through the commitment of a variety of groups and organizations can adequate resources be made available.

- The intent of ASSIST is not to create a new institution devoted to smoking control but rather to increase the capacity for existing groups and organizations to sustain and enhance their role as smoking control agents beyond the life of ASSIST. Activities by different groups will be coordinated and efforts thereby magnified, and strategies and training will be disseminated and institutionalized in each coalition member group (NCI 1991, pp. 1–2).

ASSIST included an initial planning phase (1991–1993) and a subsequent implementation phase (1993–1998) for the 17 states chosen for participation. The implementation phase was then extended to September 1999. During the planning phase, the coalitions performed comprehensive site analysis and developed a plan for reducing tobacco use. For planning, each state received approximately $400,000 per year to develop its own comprehensive, five-year plan (Manley et al. 1997a). During the implementation phase, states have been receiving an average of approximately $1.2 million per year to carry out the action steps in accordance with NCI guidelines and ASSIST program objectives. Intensive training of state health department and voluntary agency personnel in the ASSIST states was a primary activity during the planning phase and

early years of the implementation. This training focused on the program objectives, including policy changes, media advocacy, and community mobilization. An interim evaluation of impact (Manley et al. 1997b) found that per capita cigarette consumption and inflation-adjusted cigarette prices were nearly identical in the 17 ASSIST states and the remaining non-ASSIST states (excluding California) before 1993, when full funding for the ASSIST intervention began. By 1996, per capita consumption in the ASSIST states was about 7 percent less than in the non-ASSIST states. This decrease occurred in the face of a general decline in cigarette prices during the period of evaluation. These interim results suggest that the ASSIST program has been associated with a significant decrease in cigarette consumption and that increased price from taxation may not be the only program influence.

IMPACT

In its Initiatives to Mobilize for the Prevention and Control of Tobacco Use (IMPACT) program, the CDC has funded the District of Columbia and 32 states that do not receive funding from the ASSIST project. The exception is California, which is not funded by ASSIST or by the CDC but since 1989 has had a tobacco control program funded by the state excise tax on cigarettes. (The California program is described later in this chapter.) A portion of IMPACT funds supports community mobilization at the state and local levels, with particular focus on racial and ethnic minority groups and women. The IMPACT program also provides extensive training to representatives of state coalitions in subjects such as media advocacy, policy advocacy, and coalition building.

Recently, the IMPACT program has been expanded to include key national organizations to help them mobilize their constituencies in efforts to reduce tobacco use. Funds have been especially directed to organizations that serve populations targeted by the tobacco industry's marketing plans and that are historically underrepresented in the movement to reduce tobacco use (Farquhar et al. 1985; USDHHS 1998).

SmokeLess States Program

In 1994, the Robert Wood Johnson Foundation initiated the SmokeLess States program to provide additional funds to state coalitions. In the initial round of funding, the program awarded more than $13 million in either four-year implementation grants or two-year capacity-building grants to 19 state coalitions and also funded a youth-specific project in Tucson, Arizona (Robert Wood Johnson Foundation 1994). Two years later, funding for the SmokeLess States program was expanded to $20 million. In this second round of funding, awards were made to 13 new states; in addition, implementation grants were made to some of the states that had previously received capacity-building grants. In 1998, SmokeLess States funded another $6 million in grants to eight states that had been funded for four years each. Currently, the SmokeLess States program funds 28 states and 2 cities at a total of $39 million per year. The SmokeLess States program focuses on helping state coalitions develop policy options, including prevention programs similar to those in place in California and Massachusetts (as discussed later in this chapter) and other efforts aimed at reducing tobacco consumption, especially among young people. Administered by the American Medical Association (1998), this grant program differs from ASSIST and IMPACT in that it does not have strict requirements concerning the makeup of the coalition, although community mobilization is a required program activity.

National Programs to Reduce Youth Access to Tobacco

In 1996, SAMHSA issued regulations to implement the Synar Legislation. These regulations and the provisions of the Synar Amendment to the 1992 ADAMHA (Alcohol, Drug Abuse, and Mental Health Administration) Reorganization Act established a nationwide effort to reduce youth access to tobacco by requiring states to have and enforce laws prohibiting the sale of tobacco products to anyone under age 18. Failure to meet the requirements of the Synar legislation could result in penalties against a state's Substance Abuse Prevention and Treatment Block Grant. The full discussion of the state efforts to meet these requirements is provided in Chapter 5. By establishing a coordinated program in all 50 states and the District of Columbia to address this problem, SAMHSA has provided a core resource to the tobacco control effort across this country.

In 1996, the Food and Drug Administration (FDA) issued a rule mandating that tobacco retailers not sell tobacco to anyone under age 18 and that they require a picture identification card from anyone under the age of 27 who attempts to purchase tobacco (*Federal Register* 1996). In support of this rule, the FDA entered into contracts with state agencies to institute compliance checks of retailers and has implemented mass media and direct education campaigns to inform retailers of this rule. However, the March 21, 2000, ruling of the United States Supreme Court held that

the FDA lacks jurisdiction to regulate tobacco products as customarily marketed. Following this decision, the FDA immediately began the process of terminating the contracts with state agencies and shutting down its enforcement program. The full discussion of this program is provided in Chapter 5.

States Currently Funded in the Nationwide Program to Reduce Tobacco Use

In 1998, 49 state health departments and the District of Columbia received funding from the USDHHS for activities to reduce tobacco use. The NCI's ASSIST project provided 17 states with approximately $21.5 million, and the CDC's IMPACT program funded 32 states and the District of Columbia with approximately $12 million. In February 1998, the CDC and the NCI were given joint responsibility to assist states and national organizations in amalgamating the findings of comprehensive research projects, the CDC and NCI programs, and the state and local programs funded by tax initiatives and legal settlements with the tobacco industry. This process will continue the evaluation of a national program that includes all states, the District of Columbia, territories, and tribes and aims to bring synchrony and coherence to the efforts of all groups working to reduce tobacco use.

In May 1999, the CDC launched the National Tobacco Control Program (NTCP) transitioning funding through various federal initiatives into one national program. The purpose of the NTCP is to build and maintain a coordinated national effort to reduce the health and economic burden of tobacco use. Federal funding is intended to support core public health tobacco control functions or to enhance existing tobacco control programs within state and territorial health departments. The program framework is based on the comprehensive tobacco control framework outlined earlier in the chapter (see "Description of Comprehensive Programs"). The NTCP funds tobacco control programs in all states, the District of Columbia, and seven U.S. territories. The NTCP also includes initiatives to fund American Indian tribal organizations to develop or improve tobacco-related regional resource networks and outreach to tribes. In 2000, the NTCP launched a new initiative to aid in the elimination of disparities in health status and outcomes among populations as it relates to tobacco use. In fiscal year 1999, the NTCP awarded $50 million to 50 states, the District of Columbia, and seven territories for a five-year cooperative agreement starting June 1, 1999, to May 30, 2004. In fiscal year 2000, funding to the states, the District of Columbia, and territories totaled $59 million. The average award for states and the District of Columbia is $1.13 million. The average award for territories is $140,000. The total includes supplemental awards of $499,400 for asthma and ETS, funded in conjunction with the Environmental Protection Agency, and $244,000 for Smoke-Free Kids and Soccer. The state awards almost close the funding gap between the former NCI-funded states (ASSIST) and the other states. States with excise tax or settlement-funded programs are required to match federal funds 4 to 1. For all others, the match is 1 to 10.

Examples of Major State Programs

State coalitions have encouraged both legislation and voters' initiatives to raise state excise tax levels on tobacco products and earmark some portion of the new revenue for tobacco prevention and control programs (Shultz et al. 1986; Nicholl 1998). In 1985, the Minnesota Coalition for a Smoke-Free Society 2000 led a legislative effort that was the first to pass tobacco use prevention legislation that centered on an increase in the state cigarette excise tax. Since 1985, more than 40 other states have increased their excise tax on cigarettes; as part of the appropriations process, some of these states have also funded selected tobacco control activities with this revenue increase. One such state—Maine—in May 1997 legislated an excise tax increase that earmarked funds for a more comprehensive tobacco control program.

In some states, voters' initiative process, rather than the legislative process, has been the primary mechanism by which new revenue from an excise tax increase of tobacco products has been earmarked for tobacco prevention. Voters in 24 states and the District of Columbia are permitted to sign petitions that place a proposed law on the state ballot for referendum (Nicholl 1996). Since 1988, in eight such states, coalitions have tried to use the voters' initiative process to fund statewide tobacco control programs. State coalitions were successful in winning voter approval in four of these states: California in 1988, Massachusetts in 1992, Arizona in 1994, and Oregon in 1996. Initiatives were unsuccessful in Montana (1990), Nebraska (1992), Arkansas (1992), and Colorado (1994) (Moon et al. 1993; Ross 1996; Nicholl 1998).

The four state programs funded by successful voters' initiatives are described in the next sections of this chapter. They follow discussions of the two state programs (in Minnesota and Maine) that were established by legislated appropriations for a comprehensive tobacco control plan.

Minnesota

In 1975, Minnesota was one of the first states that passed statewide comprehensive legislation for clean indoor air. In 1983, the Commissioner of Health formed the Center for Nonsmoking and Health, which oversaw the development of *The Minnesota Plan for Nonsmoking and Health* (Minnesota Department of Health 1984) by a multidisciplinary technical advisory committee in 1984. In that same year, nearly 30 public and private organizations within the state formed the Minnesota Coalition for a Smoke-Free Society 2000.

By drawing increased attention to the hazards of smoking and of ETS exposure, the Minnesota Department of Health, together with civic and community leaders, stimulated legislation to implement the recommendations of *The Minnesota Plan for Nonsmoking and Health*. The legislative history and debate surrounding the passage of the resulting 1985 comprehensive legislation for preventing tobacco use have been summarized by Shultz and colleagues (1986). The legislation provided for an increase in the state cigarette excise tax from $0.18 to $0.23, with one cent of the revenue increase earmarked for a public health fund, approximately one-half of which was to be set aside for preventing tobacco use. Further, this legislation authorized the Commissioner of Health to launch a major statewide initiative—the Minnesota Tobacco-Use Prevention Initiative—to promote nonsmoking and established state aid for school-based programs to prevent tobacco use.

The legislation allocated funding to support the school-based programs at the rate of $0.52 per student during the 1985–1986 school year and $0.54 per student during future years. School districts were authorized to use these new funds for staff in-service training, curricula and materials, community and parent awareness programs, and evaluation.

Three principles guided the state's tobacco control programs. First, a broad base of public support was developed by the collaboration of the Minnesota Coalition for a Smoke-Free Society 2000, the Association for Nonsmokers—Minnesota, voluntary health agencies, health professionals, and insurers. Second, the program maintained a positive approach that stressed the consequences of tobacco use rather than attacked the tobacco industry or blamed smokers. Third, the program focused on preventing tobacco use among adolescents and young women who had not yet become addicted to cigarettes or smokeless tobacco.

The mass media campaigns were the most visible component. The campaigns included paid television, radio, and outdoor/transit advertising directed at two target populations: 12- to 13-year-old boys and girls and 18- to 24-year-old women. The goal of the media campaign was to change a social climate that encouraged the use of tobacco. Advertisements focused on increasing the awareness of the negative aspects of tobacco use that are most important to young people—unpleasant social and personal consequences, such as bad breath, smelly clothes, and addiction.

To foster community tobacco control programs, *The Minnesota Plan for Nonsmoking and Health* recommended that schools, health services, and other community organizations be involved in providing prevention and education programs about tobacco use. A granting program was established in 1986 to fund 21 proposals from local organizations that could demonstrate a coordinated approach for involving multiple local organizations in the prevention effort. A second cycle of local projects was funded in 1988.

Schools throughout the state were involved in an intensive effort to plan, implement, and evaluate effective programs for students from kindergarten (K) to grade 12 and in technical institutes. Since the start of these programs in the 1986–1987 school year, the percentage of school districts addressing smoking in grades K–4 steadily increased but remained fairly constant in grades 5–10. The number of school districts in the state with a tobacco-free policy, however, steadily increased.

Each of the main program elements funded by the Minnesota Tobacco-Use Prevention Initiative has been evaluated (Minnesota Department of Health 1989, 1991). Youth and adults targeted by the program were aware of the media campaign, and the evaluation data suggested that the campaign improved young people's attitudes toward tobacco use (Minnesota Department of Health 1991). There was a steady increase in the number of school districts whose curricula included components for preventing tobacco use (Minnesota Department of Health 1991). Nonetheless, a prospective study indicated that schools using the prevention curricula were not more effective in reducing adolescent tobacco use than were a randomized control group of schools (Murray et al. 1992). In that study, a comparison of trends in adolescent tobacco use in Minnesota and Wisconsin between 1986 and 1990 found a slightly larger (but nonsignificant) net decline in Minnesota. The investigators suggested that greater reach and penetration of preventive efforts may be required to produce statewide reductions in adolescent tobacco use (Murray et al. 1992).

California

In November 1988, the Tobacco Tax and Health Promotion Act (Proposition 99) was passed by California voters, thus mandating the start of California's Tobacco Control Program. The program is the largest and most comprehensive undertaken in the United States to reduce tobacco use. Initially, the program defined three long-term objectives: (1) to reduce the initiation of cigarette smoking by children and youth under age 19 from the 1987 rate of 26.4 percent to no more than 6.5 percent by 1999, (2) to reduce cigarette smoking among adults aged 20 years and older from the 1987 rate of 26.0 percent to 6.5 percent by 1999, and (3) to reduce smokeless tobacco use among males aged 12–24 years from the 1987 rate of 8.9 percent to no more than 2.2 percent by 1999 (Tobacco Education Oversight Committee 1991). The excise tax rate on cigarettes in California rose from $0.10 to $0.35 on January 1, 1989, when Proposition 99 was implemented. On January 1, 1994, the tax increased to $0.37, where it remained in 1999. Funding for tobacco control efforts began during fiscal year 1989 (July 1989–June 1990). The fiscal year 1999 budget in California was $126.8 million ($3.90 per capita) for tobacco control activities funded by the Department of Health Services and the Department of Education.

The NCI's planning framework (NCI 1991) was used to establish the program's target groups, intervention channels, and interventions to reach them (Bal et al. 1990). Community mobilization is a key part of California's extensive program for reducing tobacco use. Community-based programs are the responsibility of the California Department of Health Services and 61 local health departments (58 county and 3 city). These local agencies, advised by local coalitions, established multiple subcontracts with community-based organizations to conduct events, programs, and presentations for diverse racial and ethnic groups (Tobacco Education Oversight Committee 1991). Local lead agencies have been a cornerstone of the program by mobilizing communities to eliminate exposure to ETS, by closing channels for minors' access to tobacco, and by advising local policymakers. The local lead agencies receive approximately 20 percent of funds allocated for education programs to achieve these ends.

The statewide media campaign, which receives about 12 percent of funds, has been the program's most visible element. Launched in 1990, the media campaign has focused primarily on changing public opinion to denormalize tobacco use. In particular, it has sought to raise public awareness of the tobacco industry's manipulative and deceptive marketing tactics and of the dangers of ETS. Although young people are a direct target audience for some campaign messages, the campaign has focused more on changing social norms and reducing adult tobacco use to influence youth, many of whom begin using tobacco to be more adultlike. Funding for the statewide media campaign was about $24 million ($0.75 per capita) in 1998 but has varied considerably over the years, as is discussed later in this section.

About 16 percent of education funds are spent on competitive grants to community-based organizations. More than two-thirds of these grants have targeted racial and ethnic minority communities. The competitive grants program has had multiple funding cycles, and 46 separate projects were funded in 1993. In addition, the competitive grants program funds several statewide projects, such as the Tobacco Education Clearinghouse of California, which distributes library and video materials, and the California Tobacco Control Resource Partnership, which provides technical assistance and training to local lead agencies. The competitive grants program has also been used to establish regional linkages among local governments and local nongovernmental organizations. Twenty-four percent of the education funds go to school-based programs to prevent tobacco use and are distributed through the California Department of Education. The project estimated that it would reach approximately 350,000 students through programs implemented between 1994 and 1996.

The single largest share, by far, of the education funds—59 percent through 1996—goes to the medical care programs. This percentage is notably higher than the 45 percent specified by the legislation (Novotny and Siegel 1996). As a result of this redistribution, the portions of the program that deal with reducing tobacco use—designated for 20 percent of the fund—have never been fully financed. In the first year, 16.5 percent of funds were allocated for such program efforts; in the second cycle, 12 percent were allocated; in the third, 10 percent. This diversion of funds was the result of executive decisions and was strongly supported by the tobacco industry and the California Medical Association. After the third diversion, civil action was initiated by Americans for Nonsmokers' Rights, supported by the American Lung Association and the ACS, to prevent the reallocation. The Sacramento Superior Court found in favor of the plaintiffs in early 1995. The state appealed, and the judgment for the plaintiffs was upheld in December 1996 (*Americans for Nonsmokers' Rights v. State of California*).

The complicated course of these events, as detailed by Novotny and Siegel (1996), has highlighted

the role of the tobacco industry in countering efforts to reduce the use of its products and the opposing strategy of health advocates. Begay and colleagues (1993) have pointed out that since Proposition 99 passed, the tobacco industry's political expenditures in California have risen tenfold, from $790,050 in the 1985–1986 election to $7,615,091 in the 1991–1992 election, during which the tobacco industry contributed more heavily to candidates for the California legislature than to candidates for the U.S. Congress. In a further analysis, this same research group (Traynor et al. 1993) detailed the specific industry strategies to prevent local control of tobacco use. Using case studies, they documented the industry's use of front groups to conceal its involvement, its organization of local referenda to defeat or suspend local ordinances, and its financing of local election campaigns to repeal ordinances by popular vote. Glantz and Begay (1994) have also analyzed the relationship between campaign contributions and votes on individual tobacco-related bills in the California legislature. Using a "tobacco policy score" (p. 1178) that ranked legislators according to their stance for or against reducing tobacco use, they found a significant relationship between the amount of money received from tobacco sources and a protobacco position. This ongoing documentation of tobacco industry influence, though not a formal part of the California Tobacco Control Program, has been one of its notable features, and it provides a model of health advocacy for other states and localities.

The program, which has evolved considerably since 1989, remains a multifocal, multichannel approach to the broad range of issues that confront large-scale efforts to reduce tobacco use (Tobacco Education and Research Oversight Committee 1995; Pierce et al. 1998a). In 1993, the California Tobacco Control Program was revised, and program priorities were refocused (Pierce et al. 1998a). Four broad priority areas, or policy themes, were established for use in the program planning and funding decisions:

- Protecting people from exposure to ETS.
- Revealing and countering tobacco industry influence.
- Reducing young people's access to tobacco products.
- Providing cessation services.

The California Tobacco Control Program continues to place its primary emphasis on a broad statewide infrastructure that reaches into communities across the state. The program's basic structure is composed of a state-level office and several statewide and regional programs that foster a collaborative grassroots approach to serve a decentralized structure of community programs across the state (Pierce et al. 1998a).

Surveillance and evaluation activities to assess program performance and impact were established as part of the initial program structure (Bal et al. 1990; Tobacco Education Oversight Committee 1991). The evaluation is composed of large triennial surveys (Pierce et al. 1994, 1998a) and smaller ongoing surveys (Pierce et al. 1998b), a more targeted evaluation of program components (Independent Evaluation Consortium 1998), and a wide array of local program evaluation efforts. Evaluation is complicated, however, by the multiplicity of prevalence surveys available and by potential error from using data from surveys with differing methods (Novotny and Siegel 1996; Siegel et al. 2000). Establishing specific relationships between large-scale social interventions and a change in tobacco use is difficult, but the temporal relationship between the decline in California's tobacco consumption and the efforts generated by Proposition 99 can be clearly observed.

Per Capita Cigarette Consumption

Before the implementation of the program in 1989, the rate of decline in monthly per capita cigarette consumption was 0.42 packs, which was significantly greater than the rate of 0.36 in the rest of the country (Pierce et al. 1998a,b). From January 1989 through December 1993, the decline in California increased significantly, to 0.65 packs, while the decline in the rest of the United States increased nonsignificantly, to 0.45 packs. Until early 1992, the media program was the only part of the tobacco control program that was fully implemented. An econometric analysis (Hu et al. 1995) has estimated that of the 1,051-million pack decrease in sales between 1990 and 1992, approximately 232 million (22 percent) were attributed to the media campaign and the remaining 819 million (78 percent) to the excise tax increase. Between 1993 and 1996, the rate of decline in per capita consumption in California slowed significantly, to 0.17, but virtually halted altogether in the rest of the country (at 0.04 packs) (Pierce et al. 1998b). Consumption decreased more rapidly in California than in the rest of the country, even though the California cigarette excise tax changed only slightly during this period (from $0.35 in 1993 to $0.37 in 1994). Between 1993 and 1996, however, expenditures for tobacco control were reduced by more than 50 percent from their initial funding levels in fiscal year 1990 and 1991. During 1989–1993, spending for advertising and promotions by the

tobacco industry exceeded tobacco control expenditures in California by a ratio of about 5 to 1; from 1993 to 1996, that ratio increased to nearly 10 to 1 (Pierce et al. 1998b).

Adult Smoking Prevalence

Data on adult patterns of smoking prevalence are not as consistent or as easy to evaluate as consumption trends (Novotny and Siegel 1996). Nevertheless, the trends in these data are consistent with the patterns noted in the per capita consumption analyses. From 1989 to 1993, smoking prevalence declined in California almost twice as rapidly as in the rest of the country (Pierce et al. 1998b). However, from 1994 to 1997, the rate of decline in California appeared to slow. Overall, smoking prevalence has declined from 26.7 percent in 1988 to 16.7 percent in 1995 in California and from 30.2 percent in 1988 to 24.7 percent in 1995 in the rest of the country (CDC 1996; Pierce et al. 1998b). A recent analysis of trends in adult prevalence of smoking in California compared with the rest of the United States observed a significant decline in smoking prevalence in California from 1985 to 1990 and a slower but still significant decline from 1990 to 1994, a period in which there was no significant decline in the remainder of the nation (Siegel et al. 2000).

Youth Tobacco Use Prevalence

The lack of consistent youth smoking surveillance data between California and other states has impeded the evaluation of program impact on tobacco use among young people in California. However, one multivariate analysis of data from the school-based Monitoring the Future survey of 8th-, 10th-, and 12th-grade students showed that from 1992 to 1994, the increase in youth smoking rates that was experienced nationwide was slowed significantly in California ($P < 0.001$, controlling for price, smoking policies, and other nonprogram effects) as a result of the combined effect of the tax increase in 1994 and the implementation of the state's tobacco control programs (Chaloupka and Grossman 1996). Pierce and colleagues (1994) have concluded that the media campaign was successful in stopping the rise in teen smoking that had been occurring in California before the campaign launch.

Results from other analyses of youth tobacco use data are consistent with the result found by Chaloupka and Grossman (1996). In data reported by the California Independent Evaluation Consortium, between 1991 and 1996, rates of smoking during the past 30 days among California youth in the 8th and 10th grades in the Monitoring the Future survey increased, but the increase in California was less pronounced than in other states (Independent Evaluation Consortium 1998). Among 8th-grade youth, since 1993 the prevalence of smoking during the past month has varied from 12 to 14 percent in California while steadily increasing from 17 to 22 percent in the rest of the country. Similarly, among 10th-grade youth, past-month smoking prevalence in California has been about 18 to 19 percent since 1992 while increasing from 22 to 32 percent in the rest of the country. Data from the telephone-based California Youth Tobacco Survey indicate that the prevalence of smoking during the past 30 days among 12- to 17-year-olds increased from approximately 9 percent in the early 1990s to 11.9 percent in 1995. Prevalence declined gradually after 1995, to 10.9 percent in 1997, while increasing in the rest of the country (Pierce et al. 1998a).

Other Findings

Since the start of the program in 1990, numerous changes in intermediate outcomes have been noted related to changes in social norms; clean indoor air policies in public places, worksites, and bars; and voluntary policies to ban smoking in homes.

Massachusetts

In November 1992, Massachusetts voters approved an initiative petition known as Question 1, establishing the Health Protection Fund with revenue generated from a 25-cent increase in the state's cigarette excise tax and a 25-cent increase in the wholesale price of smokeless tobacco products. Revenues have been used to fund the Massachusetts Tobacco Control Program, a comprehensive set of activities and services that emphasize prevention programs at the local level and that focus on young people. The Massachusetts program was modeled, in part, on California's program. The overall goal of the program was to reduce tobacco use in Massachusetts by 50 percent by the end of 1999 (Abt Associates Inc. 1995). With the passage of Question 1, the excise tax on cigarettes in Massachusetts rose from $0.26 to $0.51 on January 1, 1993. This tax was fully absorbed by the industry through wholesale price reductions (CDC 1996). However, in October 1996 the cigarette tax increased to $0.76 per pack (with comparable increases on smokeless tobacco products), where it currently remains.

Funding for tobacco control efforts began with a large media campaign in October 1993. In late 1993 and early 1994, funding for local agencies was begun, and several statewide initiatives were undertaken to provide direct services, as well as technical assistance,

training, and materials for localities. Starting in late 1994, with the first year of complete implementation, the program received $43.1 million (33.7 percent) of the $127.8 million placed in the Health Promotion Fund created by the revenues from the excise tax increase. Other key programs receiving appropriations from the Health Promotion Fund were those for comprehensive school health education ($28.8 million, or 22.5 percent of the Health Promotion Fund in fiscal year 1995), drug education ($5.0 million, or 3.9 percent), and other health-related programs ($50.7 million, or 39.7 percent) (Abt Associates Inc. 1995). After the first funding year, the program's budget declined to $41.8 million in 1995–1996 and to $36.8 million in 1996–1997. Funding was increased for other programs receiving appropriations from the Health Promotion Fund (Abt Associates Inc. 1997).

Community-based education activities and prevention activities are two main elements of the Massachusetts program. The state's 10 regionally based, primary care Prevention Centers have added a component for reducing tobacco use and provide ongoing technical assistance and training to local community programs. Local community initiatives have included programs to increase community awareness about the hazards of tobacco use, to promote tobacco-free workplaces and public facilities, and to enforce local regulations and ordinances for reducing tobacco use; needs assessments in the community; mobilization of youth service agencies to prevent and reduce tobacco use among children and adolescents; funding of community-based agencies to work with at-risk adult populations, including cultural and linguistic minority groups, women of childbearing age, and blue-collar workers; and funding of school-based health centers (Abt Associates Inc. 1995).

Per Capita Cigarette Consumption

As in California, Massachusetts has experienced a persistent pattern of decline in per capita cigarette consumption. Before the 1993 implementation of these tobacco control programs, per capita cigarette consumption was declining in Massachusetts at a rate approximately equivalent to that of the rest of the country (6.4 percent in Massachusetts and 5.8 percent in the states other than California [CDC 1996]). Between 1992 and 1997, per capita consumption in Massachusetts declined by 31 percent (from 117 to 81 packs per adult), while the decline in the remaining 48 states was only 8 percent (Abt Associates Inc. 1997). Between 1993 and 1996, the decline in per capita consumption has been more consistent in Massachusetts than in California (CDC 1996). Although program funding declined about 15 percent in Massachusetts from 1995–1996 to 1996–1997 (Abt Associates Inc. 1997), it declined less than in California.

Adult Smoking Prevalence

Adult smoking prevalence has been monitored in Massachusetts both by the annual survey conducted through the Behavioral Risk Factor Surveillance System (BRFSS) and by special Massachusetts Adult Tobacco Surveys conducted in 1993, 1996, and 1997. Data from the BRFSS indicate that adult smoking prevalence in Massachusetts declined from an average of 23.5 percent for 1990–1992 to 20.6 percent in 1997. In the rest of the country (excluding California), prevalence declined from 24.1 percent in 1990–1992 to 23.4 percent in 1993–1995 (CDC 1996; Abt Associates Inc. 1997). The Massachusetts survey produced different prevalence estimates but corroborated a similar decline in the prevalence of smoking among adults in Massachusetts (from 22.6 percent in 1993 to 21.1 percent in 1996 and 20.6 percent in 1997) (Abt Associates Inc. 1997).

Youth Tobacco Use Prevalence

As in California, the observed nationwide increase in the prevalence of smoking among young people from 1992 to 1994 was significantly less evident in Massachusetts (Chaloupka and Grossman 1996). Follow-up data from the Youth Risk Behavior Survey (YRBS) indicated that the prevalence of current smoking among Massachusetts high school students (grades 9 to 12) declined from 35.7 percent in 1995 to 34.4 percent in 1997 while increasing from 34.4 to 36.4 percent nationwide (CDC 1996, 1998). Data from the YRBS and other survey sources suggest a differential pattern by age: the prevalence of current smoking increased in Massachusetts among older students in a manner similar to that of the rest of the country but declined among younger students. Between 1993 and 1996, the prevalence of smoking during the past 30 days among 8th-grade students in Massachusetts declined from 26.5 to 26.0 percent but increased from 16.7 to 21.0 percent nationwide (Briton et al. 1997). For Massachusetts, the prevalence of current smokeless tobacco use among 9th–12th graders decreased from 8.4 percent in 1995 to 6.0 percent in 1997; for males, the decline was from 15.1 to 10.3 percent (Kann et al. 1998). In the nation as a whole between 1993 and 1996, lifetime use of smokeless tobacco among 9th–12th graders decreased from 25 to 20 percent, and current use decreased from 9 to 6 percent (Briton et al. 1997). The most recent data from the 1999 YRBS in Massachusetts indicated a continuing decline in the

prevalence of current smoking, down to 30.3 percent among 9th–12th graders (Goodenow 2000); however, national comparison data for 1999 are not yet available.

A 1996 survey of 12- to 14-year-olds in Massachusetts and a national comparison sample (Houston Herstek Favat, Youth exploratory 1996, Massachusetts Department of Public Health, presentation of findings, unpublished data) found that Massachusetts youth had significantly higher levels of agreement with issues addressed in the state media campaign. For example, 59 percent of Massachusetts youth but only 35 percent of youth in the national sample agreed with the statement, "Smoking cigarettes decreases your stamina and smokers have a hard time keeping up in sports." Results from a longitudinal survey of Massachusetts youth provided additional support for the efficacy of the Massachusetts antismoking media campaign (Siegel and Biener 2000). In a four-year follow-up of youth aged 12 to 15 years in 1993, this study found that among the younger adolescents (aged 12 to 13 years at baseline), those exposed to antismoking advertisements were significantly less likely to progress to established smoking. However, among older adolescents (aged 14 to 15 years at baseline), exposure did not prevent progression to established smoking.

Other Findings

There have been multiple changes in intermediate measures of program impacts related to youth access, protection of nonsmokers from ETS, and availability of cessation services (Abt Associates Inc. 1999). For example, by 1999, nearly two-thirds of Massachusetts residents lived in cities and towns with some kind of smoking restriction in restaurants, and 26 percent were protected by complete bans. Prior to the start of the program, less than 1 percent of Massachusetts residents lived in towns with complete bans. Additionally, the local restaurant smoking restrictions were found to be more restrictive in communities receiving funding from the Massachusetts Tobacco Control Program.

Arizona

In November 1994, Arizona voters passed Proposition 200, which increased the state cigarette excise tax from $0.18 to $0.58. Revenues from the tax increase were earmarked for the state's Medicaid program (70 percent of revenues), for programs for preventing and reducing tobacco use (23 percent), for research on prevention and treatment of tobacco-related disease and addiction (5 percent), and for an "adjustment account" (Arizona Tobacco Tax and Health Care Act 1994, sec. 2C4) to offset lost revenue to other state programs currently funded by revenue from the existing $0.18 excise tax (2 percent). The petition drive to place the initiative on the November 1994 state ballot and the campaign to win voter approval was led by the Arizona for a Healthy Future coalition. Although public support for the initiative was strong when it was first proposed in 1993 (71 percent in favor, with 56 percent indicating strong support), the initiative was vigorously opposed in a well-funded advertising effort on television, in posters, and by direct mail. Proposition 200 was narrowly approved, garnering approximately 51 percent of the vote (Nicholl 1998).

With the passage of Proposition 200, analysts estimated that the revenues earmarked for tobacco prevention and education programs would be approximately $25 million per year (Meister 1998). However, measures passed during the 1995 session gave the legislature control over the funds and limited expenditures to $10 million per year (Madonna 1998). Additionally, multiple restrictions were placed on how the funds could be used, and an advisory committee was appointed that included legislative and business representatives hostile to the program (Meister 1998). Although the Coalition for Tobacco-Free Arizona led an effort to keep the goals of the newly created Arizona Tobacco Education and Prevention Program (AzTEPP) "comprehensive," the program efforts were narrowed to a focus on youth prevention; adult cessation activities were restricted to pregnant women and their partners. Not until the fiscal year that began on July 1, 1997, with a new governor and health department director, were the programmatic restrictions lifted from the health department and the program allowed to proceed with the implementation of the "draft" comprehensive tobacco control plan originally proposed by the Coalition for Tobacco-Free Arizona.

The expenditures of AzTEPP reflect the political history of the program: $9.7 million in fiscal year 1996, $18.2 million in 1997, and $28.2 million in 1998. Although the countermarketing campaign has expanded (with spending increasing from $7.4 million in 1996 to $13.2 million in 1998) (Riester and Linton 1988), the greatest expansion in the program has been in the scope and focus of the local programs (Meister 1998) (with funding increasing from $1.7 million in 1996 to $9.4 million in 1998). Recent program efforts have focused on all of the elements in the coalition's draft comprehensive tobacco control plan (Meister 1998), thereby expanding its adult cessation activities (discussed at the fourth annual AzTEPP meeting in February 1999), but one of the factors that had been minimized in early health department efforts was

evaluation. Only recently have baseline data collection surveys been initiated (Meister 1998); as a result, no outcome data have been reported on the program, and subsequent evaluation efforts will be compromised by the lack of baseline data collected before the start of the multiple large-scale program efforts.

Respondents to an initial statewide telephone survey conducted in 1998 (Arizona Cancer Center 1998), about two and a half years after the media campaign's launch, reported that the advertising campaign, which stressed how damaging tobacco use is and how unappealing it is to the user, to peers, and to the opposite sex, had influenced their attitudes in the intended direction. For example, 80 percent of young people reported that the advertisements made them think about the negative aspects of tobacco use, and 58 percent of pregnant or postpartum women said the advertisements made them uncomfortable around smokers. Young people who had been exposed to the television advertisements in the previous 30 days were less likely to be susceptible to using tobacco than were youth who had not seen the advertisements. The campaign's impact on reported behaviors is less clear, especially among young people. Among respondents who were using tobacco at the start of the campaign, 23 percent of adults, 37 percent of pregnant or postpartum women, and 27 percent of young people said the advertising campaign had convinced them to try quitting. However, 23 percent of young people also reported that the campaign had convinced them to *increase* their tobacco use. Cummings and Clarke (1998) noted that such an unintended effect, if it is real, might represent young smokers' negative reaction to a narrowly focused youth campaign with no messages directed at changing broader social norms.

In response to a request from the Arizona Joint Legislative Audit Committee, the State Auditor General conducted a performance audit of the AzTEPP (State of Arizona, Office of the Auditor General 1999). This audit noted that evaluations of the state and local levels of programs have not yet produced an adequate assessment of the program's tobacco control efforts. Thus, the audit recommended that the program needed to improve its evaluations to measure its effectiveness in preventing youth from starting to use tobacco, encouraging and assisting tobacco users to quit, and reducing exposure to secondhand smoke. Specifically, the audit found that the program had been unable to establish a baseline on tobacco use among youth and had only preliminary assessments in place to assess cessation services. The program has established adequate methodologies to measure the prevalence of adult smoking; however, follow-up results are not yet available. Thus, the audit concluded that "The program's evaluation approach to date leaves it far short of knowing whether its programs are working" (p-ii).

In response to this audit, the Arizona Department of Health Services (AzDOHS) has implemented changes in its surveillance and evaluation systems. Expanded surveillance systems for youth have been planned and will be implemented in 2000; however, no baseline data are available on youth smoking rates. For adults, a baseline survey of adults was conducted in 1996 and repeated in 1999. Using methodology similar to that used by the state BRFSS, the 1996 and 1999 Arizona Adult Tobacco Surveys were conducted by telephone interviews on representative samples of more than 4,500 adults in Arizona aged 18 years and older. Results from these surveys indicate that the prevalence of smoking among adults declined from 23.8 percent to 18.8 percent overall (AzDOHS 2000). Among adults aged 18 to 24 years, a significant decline was observed also, from 27.5 percent in 1996 to 21.0 percent in 1999. Both of these rates compare very favorably to national trends, where rates overall among adults have not declined in recent years and rates among younger adults have been increasing. Finally, smoking rates among Hispanics declined from 23.5 percent to 14.6 percent, which was the largest decline seen in any race/ethnic group in the state. Multiple other indicator variables suggest that these changes may be related to increases in smoke-free policies, advice from doctors and dentists, and exposure to television antismoking information. Finally, these declines in smoking prevalence are consistent with declines in per capita sales (Orzechowski and Walker 2000) that indicate that declines in Arizona since 1996 are larger than those observed in the rest of the country.

Oregon

On November 5, 1996, Oregon voters approved Measure 44, raising the state cigarette excise tax from $0.38 to $0.68 (with a proportional increase in the tax rate on other tobacco products) and designating 90 percent of the increased revenue for the Oregon Health Plan (to expand insurance for medically underserved state residents) and the remaining 10 percent for a statewide tobacco prevention and education program managed by the Oregon Health Division. Survey data indicated that support for the initiative was increased by having the new revenue earmarked in this way (CDC 1997; Nicholl 1998). The Oregon campaign to place the initiative on the November 1996 ballot was initially led by the Committee to Support the Oregon Health Plan, which represented

primarily the private health care sector. Nonprofit and public health organizations added their support and worked in a loosely organized network led by the ACS. Later in the campaign, both groups combined efforts and resources. The measure had strong support from state media (receiving endorsements from all major newspapers and a majority of the smaller ones), from leading business groups, and from the governor, who conducted a three-day supportive media tour before the election.

The Oregon Health Division used its existing Oregon Tobacco Control Plan as the model for the new statewide program. Revenue from Measure 44 during the 1997–1999 biennium was projected to be $170 million; of this, 10 percent (approximately $17 million) per biennium was appropriated to fund the Tobacco Use Reduction Account administered by the Oregon Health Division. The resulting Oregon Tobacco Prevention and Education Program has eight elements: (1) local community-based coalitions, (2) comprehensive school-based programs, (3) statewide public awareness and education campaigns, (4) a cessation help line, (5) tribal tobacco prevention programs, (6) multicultural outreach and education, (7) demonstration and innovation projects, and (8) statewide leadership, coordination, and evaluation.

The 1997–1999 biennium budget for these eight elements is combined into five categories: (1) local coalitions—$6.5 million (38 percent), (2) public awareness and education—$4.6 million (27 percent), (3) statewide and regional projects—$2.75 million (16 percent), (4) schools—$2 million (12 percent), and (5) statewide coordination and evaluation—$1.2 million (7 percent).

Evaluation data from Oregon indicate that the program has successfully implemented each of the program elements and is achieving its performance objectives (Oregon Health Division 1999). Local community-based coalitions were created in all 36 Oregon counties. Twenty-four school projects were funded, reaching 58 of the 198 (30 percent) school districts in the state. Surveys indicated that approximately 75 percent of adults and 84 percent of the young people recalled seeing the state's public awareness campaign. In January 1999, more than 1,500 Oregonians called the cessation help line. All nine federally recognized Indian tribes in Oregon are now receiving funding to implement prevention and education programs to reduce tobacco use. Multicultural outreach and education programs have been established for Hispanic, Asian/Pacific Islander, and African American populations in Oregon. Five demonstration projects have been funded focusing on pregnant women, health care delivery systems, and creative ways to reach youth audiences. The program has also established a comprehensive and multifaceted surveillance and evaluation system and has strengthened program management.

Trends in per capita consumption in Oregon were compared with the remainder of the country (excluding California, Massachusetts, and Arizona) for the period before program implementation (1993–1996) and after (1997–1998). From 1993 to 1996, consumption increased 2.2 percent in Oregon and decreased 0.6 percent in the rest of the country (CDC 1999b). In 1997 and 1998, per capita consumption declined 11.3 percent in Oregon (from 92 to 82 packs per adult). Between 1996 and 1997, per capita consumption in the rest of the country declined only 1.0 percent (from 93 packs per adult to 92 packs per adult).

Smoking prevalence among adults in Oregon has been consistent with the observed declines in per capita consumption. Data from the BRFSS indicate that the prevalence of smoking among adults aged 18 years and older in Oregon declined from 23.4 percent in 1996 to 21.9 percent in 1998 (Oregon Tobacco Prevention and Education Program 1999). The proportion of women who smoked during pregnancy, as reported on state birth certificates, dropped from 17.7 percent in 1996 to 15.2 percent in 1998. Data suggest that smoking rates among young people are continuing to increase as in the rest of the country.

Maine

In June 1997, the Maine legislature approved H.P. 1357, An Act to Discourage Smoking, Provide Tax Relief and Improve the Health of Maine Citizens, which increased the state cigarette excise tax from $0.37 to $0.74 and earmarked the increased revenue for the Tobacco Tax Relief Fund. The act established the Tobacco Prevention and Control Program within the Maine Bureau of Health and provided $3.5 million in funding for fiscal years 1998 and 1999. The legislative effort to gain passage of the act was a combined effort of the state public health community, legislative leadership, and executive branch support.

The Bureau of Health has developed the Maine Tobacco Prevention and Control Program to expand the existing ASSIST program structure and to meet the legislative requirement of the 1997 state statute. The legislation specified that the program include an ongoing, major media campaign; grants for funding community-based programs; program surveillance and evaluation; and law enforcement efforts regarding transportation, distribution, and sale of tobacco products. The program's initial $4.35 million annual

budget included $1.6 million for a multimedia campaign, $1.25 million for community and school grants, $625,000 for statewide cross-cutting activities, $400,000 for state staffing, $400,000 for evaluation, and $75,000 for enforcing youth access provisions.

In April 2000, legislation was passed in Maine that appropriated additional funds to expand the Maine Tobacco Prevention and Control Program; a total of $18.3 million from the settlement is going to tobacco control. Of this total amount, $8.35 million will be used for community and school-based grants, funding communities and schools to achieve the goal of reducing tobacco addiction and use and resulting disease, with a focus on those at highest risk such as youth and disadvantaged populations. About $6.75 million will be used for cessation and statewide multimedia campaigns; $1.2 million is for evaluation for independent program evaluation, research, and outcomes monitoring; $200,000 funds five positions in the Bureau of Health for administering the programs; and $1.8 million for improved prevention and treatment of tobacco-related diseases for those with Medicaid Insurance.

Programs Funded by State Settlements With the Tobacco Industry

As was discussed earlier in this report (see "Legislative Developments" and "Master Settlement Agreement" in Chapter 5), all 50 states, the District of Columbia, and five commonwealths and territories have settled lawsuits with the tobacco industry to reclaim statewide costs spent treating Medicaid patients for diseases related to tobacco use. Four of those states settled their individual lawsuits with the industry—Mississippi in July 1997, Florida in September 1997, Texas in January 1998, and Minnesota in May 1998—and the remaining parties jointly settled in November 1998 in the multistate Master Settlement Agreement.

Because of a "most favored nation" clause (explained in "Recovery Claims by Third-Party Health Care Payers" in Chapter 5), the four separate settlements have been closely linked, particularly in how the terms of their awards affect the kind of comprehensive programs discussed in this chapter. Most notably, when the State of Florida received in its settlement $200 million that was earmarked for a two-year pilot program to reduce tobacco use among young people, the State of Mississippi, though it had settled its lawsuit earlier, received $62 million for the same type of pilot program specified in its lawsuit. Texas and Minnesota received no such additional award, because their lawsuits did not specifically set aside funds for a parallel pilot program, although Minnesota received funds earmarked for smoking cessation and tobacco-related research. Language in the Texas and Minnesota settlements, however, released Florida and Mississippi from existing requirements to use their pilot program funding within two years and to direct their programs exclusively to young people.

Because program planning in Florida and Mississippi was already in place when the youth-only restriction was removed, an emphasis on preventing tobacco use among young people has been evident in their pilot programs' first years of activities. These activities are described in the next two sections of this chapter. Brief descriptions of settlement-funded plans in Texas and Minnesota follow. This report does not attempt to describe the various plans and legislative proposals that are developing (at the time of this writing) in the 46 states, the District of Columbia, and the five commonwealths and territories included in the joint settlement of January 1998.

Mississippi

The Partnership for a Healthy Mississippi, a nonprofit corporation representing a broad range of public and private interests, plans and manages the state's pilot program. The program's mission is to create a youth-centered, statewide collaboration dedicated to fostering a healthier Mississippi and eliminating tobacco use among Mississippi youth. The partnership will award grants in five designated areas: (1) community/school/youth activities and partnerships, (2) law enforcement, (3) public awareness, (4) health care services and research, and (5) evaluation.

In the first year, with a budget of $23.7 million, approximately 25 community and youth partnership coalitions were funded, and more are planned for the second year. Local coalitions—one-quarter of whose membership must be young people—are among the statewide and regional organizations supported by community assistance statewide partner grants to provide training, tobacco prevention activities for racial and ethnic minority groups, and other technical assistance. Specific programs that have been funded by the partnership are 4-H Youth Programs, Frontline (an advocacy organization for 14- to 18-year-olds), comprehensive school health programs, and a comprehensive school health nurses pilot project. In the first two years, $4 million has been allocated to these activities.

The law enforcement program has awarded grants to municipalities to enforce the Mississippi Juvenile Tobacco Access Prevention Act of 1997. These

awards will range (according to population size) from a minimum of $5,000 per municipality to a maximum of $250,000. A total of $12.65 million has been budgeted over the first two years of the program for these awards. The grants will require municipalities to conduct periodic enforcement checks on the illegal sale of tobacco to minors, provide retailer education programs, provide education programs in schools, organize youth partnerships, and work with community coalitions on enforcement issues. Other enforcement activities are being performed statewide by the Mississippi Attorney General's Office.

The partnership has budgeted $12.5 million for a countermarketing media campaign and other public awareness activities to be conducted during the first two years. The health care services and research component focuses on nicotine addiction and cessation among young people. An expenditure of $5 million is anticipated for the first and second years for training health providers in cessation counseling, for researching childhood and adolescent tobacco abuse, and for coordinating cessation services in the state, including a telephone help line. The Mississippi State Department of Health will manage the evaluation of the pilot program and will focus on program effectiveness in preventing initial tobacco use among young people, helping young people quit smoking, and reducing young people's exposure to ETS. An expenditure of $2 million is anticipated for the first and second years' evaluation activities.

Since 1998, the Partnership for a Healthy Mississippi has managed the pilot program to reduce youth tobacco use through a seven-member Board of Directors (www.healthy-miss.org) (McMillen et al. 1999). The major youth programs that have been implemented have included (1) the Reject All Tobacco (RAT) program among students in grades K–3, (2) the Students Working Against Tobacco (SWAT) Program for students in grades 4–7, and (3) the Frontline youth advocacy movement. Community programs have involved 26 community/youth partnership grants, targeted programs in collaboration with statewide organizations, and the school nurse program in 52 Mississippi school districts. Grants have funded 245 municipalities and 74 counties to empower the local law enforcement agencies to reduce sales to minors. Cessation services have included the Adolescent and Child Tobacco Treatment Center and a Mississippi Tobacco Quitline. Finally, a "Question It" public awareness campaign has focused on the 12- to 17-year-old audience.

The Mississippi State Department of Health has established a consortium of evaluation contracts involving multiple state universities to implement program evaluation efforts. The overall coordination is being managed by the Social Science Research Center at Mississippi State University, with the evaluation of the media component conducted by the University of Mississippi, community programs conducted by Jackson State University, law enforcement component by Mississippi State University, and the school nurses component by Mississippi State University (McMillen et al. 1999). A baseline Social Climate Survey of Tobacco Control and Tobacco Use was conducted in 1999 among 3,040 adults aged 18 years and older that provided benchmark data on several social norm intermediate indicator variables (McMillen et al. 1999). Surveillance of youth tobacco use patterns is being conducted by the Mississippi State Department of Health. The Youth Risk Behavior Survey was conducted among students in grades 9 to 12 in 1993, 1995, 1997, and 1999 and among students in grades 6 to 8 and 9 to 12 in 1998 and 1999. Results indicate that in Mississippi, smoking rates among students in grades 9 to 12 had been increasing, as in the rest of country, between 1993 and 1997 (Mississippi State Department of Health 2000). Between 1997 and 1999, smoking rates among students in grades 9 to 12 appear to have stopped increasing and leveled off. Among students in grades 6 to 8, smoking rates did not decline between 1998 and 1999.

Florida

Program planning and implementation initially were managed by the Governor's Office, with direct leadership provided by Governor Lawton Chiles, who was a party to the state's lawsuit and a member of the small team who negotiated the settlement agreement. The Florida Tobacco Pilot Program is now managed by the Office of Tobacco Control within the Florida Department of Health. The program has sought the input of Florida youth in planning the program focus and materials and in working toward the main goals of changing young people's attitudes about tobacco use, increasing youth empowerment through community involvement, reducing young people's access to tobacco products, and reducing youth exposure to ETS. These four goals will be addressed through program components similar to those of the Mississippi program:

- Marketing and communications initiatives are planned to directly counter the tobacco industry's marketing efforts. A commercial advertising firm, working closely with teen advisors, has developed the "Truth" campaign, a direct attack on the image of smoking as cool and rebellious. The campaign's multichannel approach—based on techniques used

by the tobacco industry—includes television, print, and billboard advertising, as well as consumer items, such as "Truth"-imprinted T-shirts and stickers.

- Youth programming and community partnership activities recruited young people to a Teen Tobacco Summit in early 1998 to advise on the overall development of the program. Chapters of Students Working Against Tobacco are currently active in all 67 counties.
- Education and training programs focus on school-aged children. Conducted in partnership with communities, schools, voluntary agencies, professional organizations, and universities, these programs ensure that effective tobacco prevention curricula are presented in middle and high schools across the state and that tobacco prevention strategies are being implemented in grades K–12 in conjunction with the Sunshine State Standards.
- Enforcement initiatives are aimed at improving Florida's efforts to reduce the accessibility of tobacco products to minors. The Florida Department of Business and Professional Regulation, Division of Alcoholic Beverages and Tobacco, provides enforcement, educational, and marketing initiatives to ensure compliance with all tobacco laws.
- The evaluation and research component monitors the performance of each of the program initiatives and the progress of the overall program in meeting goals and objectives. Under the leadership of the Florida Department of Health, and with the consultation of the University of Miami, baseline data were collected by Florida universities in all major areas before the pilot program began in early 1998.

In the first full year of operation, the program budget was approximately $70 million, with program component allocations of approximately $26 million for marketing and communications, $10 million for youth programming and community partnerships, $13 million for education and training, $8.5 million for enforcement, and $4 million for evaluation and research. An additional $5 million was budgeted for programs targeting minority populations and $3.5 million for administration and management. In the second year, approximately $45 million more was appropriated for program operations; however, there were significant unexpended funds from the first year of operations that enabled major program components, such as the marketing and communications activities, to continue a level of expenditure similar to the first year.

Youth Tobacco Use Prevalence

Between 1998 and 1999, the prevalence of current cigarette use among middle school students (grades 6 to 8) declined from 18.5 to 15.0 percent (CDC 1999c). Among high school students (grades 9 to 12), current cigarette use declined from 27.4 to 25.2 percent. However, these declines were significant only for non-Hispanic white students; the change in current smoking among non-Hispanic black and Hispanic middle and high school students was small and non-significant. Current cigar use declined significantly only for middle school students (from 14.1 to 11.9 percent), and this decline was almost entirely among males. Similarly, current smokeless tobacco use declined only among middle school students (from 6.9 to 4.9 percent) and remained unchanged among high school students.

In early 2000, additional declines in youth tobacco use were observed (Florida Department of Health 2000). Current cigarette use among middle school students declined to 8.6 percent, or an overall 54-percent decline since the 1998 baseline. Among high school students, current cigarette use declined to 20.9 percent, or an overall 24-percent decline since the 1998 baseline. Although declines between 1998 and 1999 were significant only for non-Hispanic white students, the declines observed in 2000 were significant among all racial/ethnic groups, except among the non-Hispanic black and "other" categories of high school students. Declines in current tobacco use, which include the use of cigars and smokeless tobacco, also were significant. Since the 1998 baseline survey, current cigar use declined by 46 percent among middle school students and 21 percent among high school students. Smokeless tobacco use declined by 54 percent among middle school students and by 19 percent among high school students. Declines in current tobacco use were consistent across grade, gender, and ethnicity as well.

Using additional data collected as part of the overall program evaluation, the Florida Tobacco Control Program has connected the declines in youth smoking prevalence with program activities (University of Miami 1999). Results suggest that students who reported receiving elements of a comprehensive tobacco use prevention education in school had greater declines in smoking between 1998 and 1999 than those students who reported not receiving such education in school. Similarly, the Community Partnerships in the 67 Florida counties were classified as "excellent," "average," or "needing improvement" based upon program record data, and these ratings were linked to data from the Florida Youth Tobacco Survey for

1998 and 1999 in those counties. Declines in smoking prevalence were related to the classification, with the greatest declines among middle and high school students in counties rated as "average" or "excellent." Similar ratings of counties on the level of local enforcement of youth access laws were related to youth smoking prevalence, with the highest levels of enforcement in counties with the lowest prevalence. Finally, data from the Florida Anti-Tobacco Media Evaluation (FAME) have indicated that the "Truth" campaign is producing impressive awareness among youth and changes in attitudes and knowledge consistent with the campaign themes. Between 1998 and 1999, the prevalence of Florida youth aged 16 years and under with antitobacco attitudes increased from 59 to 64 percent but decreased slightly nationwide.

National data against which to compare the Florida data from 1998 and 1999 are not yet available, but some data suggest that the prevalence of tobacco use among young people may have peaked nationwide and could be starting to decline (University of Michigan 1998). In addition, the impact of state excise tax increases that have occurred since the 1998 baseline data collection might be assessed.

Adult Smoking Prevalence

In 1998, the Florida Behavioral Risk Factor Surveillance System (BRFSS) expanded its assessment of tobacco issues. The tobacco module will enable changes to be assessed in tobacco use prevalence, cessation behaviors, family rules about tobacco use, environmental tobacco smoke exposure at home, and workplace policies regarding smoking.

Texas

The legislative plan developed by the Texas Interagency Tobacco Task Force (1998) incorporated the CDC recommendations for community and school-based programs to reduce tobacco use. The plan includes a public awareness campaign, cessation and nicotine addiction treatment, programs for diverse or special populations, enforcement of laws to reduce minors' access, surveillance and evaluation, and statewide program administration. The plan requests $20.75 million for fiscal year 2000 and $61.25 million for fiscal year 2001 to implement, evaluate, and administer the programs proposed.

In the fall of 1999, the Texas legislature created an endowment fund of $200 million and requested the Texas Department of Health to conduct a pilot study based upon recommended interventions included in the 1998 tobacco task force plan. This pilot would be funded by investment revenue from the endowment fund, approximately $9 million per year. In response to this requirement, the Texas Department of Health has begun an Intervention Effectiveness Pilot Study in conjunction with universities in the state.

To assess the impact of tobacco use prevention activities in the state, the Texas Department of Health has conducted the Texas Youth Tobacco Survey in 1998 and 1999 among middle and high school students from a sample of students statewide and in eight regions of the state. Results from the 1998 survey indicated 31 percent of middle school students and 43 percent of high school students were currently using some form of tobacco products (Texas Department of Health). For cigarettes alone, 21 percent of middle school students and 33 percent of high school students were current smokers.

Minnesota Settlement Program

In Minnesota, the Minnesota Partnership for Action Against Tobacco, the Tobacco Work Group of the Minnesota Health Improvement Partnership, and the Minnesota Blue Cross and Blue Shield (which received a separate $469-million settlement award [see "Recovery Claims by Third-Party Health Care Payers" in Chapter 5]) all have developed plans for the statewide effort to reduce tobacco use. In the 1999 Omnibus Health and Human Services appropriation bill, the Minnesota legislature set aside $968 million from the state's tobacco settlement to establish two health-related endowments: one for preventing tobacco use and supporting local public health efforts ($590 million) and the other for tobacco-related medical education and research ($378 million). The interest earned from these endowments will support long-term programs.

The 1999 Minnesota Omnibus Health and Human Services bill established an ambitious goal to reduce tobacco use among young people by 30 percent by the year 2005. In response to this, the Minnesota Department of Health developed the *Minnesota Youth Tobacco Prevention Initiative: Strategic Plan* (Minnesota Department of Health 1999). This plan defined major activities that will be funded from January 1, 2000, through June 30, 2001, in four component areas: Statewide Public Information and Education Campaign, Statewide Programs, Community-Based Prevention Programs, and Youth Leadership Projects. The strategic plan established "initial indicators of success" for each program component to enable program performance to be assessed.

The Statewide Public Information and Education Campaign will have a proposed budget of $7.5

million for the 18-month period. The campaign will include both a media component and grassroots organizing efforts focused on the target audience of 12- to 17-year-old youth. The Statewide Programs will be budgeted at $3.55 million for the initial 18-month period. Evaluation activities, training, and technical assistance services will be funded along with statewide organizations to support the community-based efforts. The Community-Based Prevention Programs will be budgeted at $4.4 million for the initial 18-month period. Community-based prevention efforts will include tobacco-use prevention activities at the local level and projects that focus on populations at risk. Finally, the Youth Leadership Projects will be budgeted at $1 million for the initial 18-month period and will work in conjunction with the community-based prevention efforts. These activities will seek to empower Minnesota's youth to take leadership in the planning and implementation of tobacco prevention and control programs at the local level. The Minnesota Department of Health has established an evaluation plan to track progress of the initiative, with the first comprehensive report on program effectiveness to be delivered to the legislature in January 2003.

Programs Meeting the Needs of Special Populations

The recent Surgeon General's report *Tobacco Use Among U.S. Racial/Ethnic Minority Groups* provided a summary of the various approaches that have been used to prevent and control tobacco use among racial/ethnic minority groups in the United States (USDHHS 1998). This report highlighted the need for more research on the effect of culturally appropriate programs to address this problem. Few new findings have emerged since the publication of that report; hence, the elimination of disparities in health among population groups remains hampered by the lack of culturally appropriate programs of proven efficacy. Below are some examples of community-based interventions that have proven to be effective and that may serve as examples for the development of future program initiatives.

Uniting and mobilizing the movement to reduce tobacco use among racial/ethnic groups have not been easy. Tension frequently occurs between various organizations within the community regarding appropriate strategies to achieve particular goals, "turf" disagreements, competition for fund-raising dollars, and other issues. Many of these problems were identified during the 1989–1992 COMMIT trial. Though COMMIT researchers did not attribute to internal dissension the program's inability to reach its goals (Thompson et al. 1993), internecine rivalry can splinter community mobilization efforts and greatly impair the effectiveness of any program trying to reduce tobacco use.

Diverse views and dissent are an expected part of organizing activity. A more serious issue for community mobilization has been a lag in engendering support from all segments of society. Historically, the movement to reduce tobacco use has been dominated by organizations composed of middle- and upper-class white Americans and often led by white males (see Chapter 2). For many years, participation in the movement was further limited to organizations concerned with health and medical issues and nonsmokers' rights.

In the early 1980s, increasing dissatisfaction was voiced by women and underrepresented communities who felt that their issues and contributions were not adequately integrated into mainstream efforts to reduce tobacco use (Jacobson 1983). In recent years, a number of persons and organizations representing more diverse perspectives have assumed a greater role (see the text boxes "Uptown," "X," and "Dakota"). Particularly in view of the tobacco industry's targeted marketing to women, African Americans, Hispanics, and young people (USDHHS 1994, 1998), such heightened activity is of critical importance to ensure a nonsmoking norm within diverse communities. In some instances—exemplified by the low and declining smoking prevalence among African American youth (USDHHS 1994)—such a norm may have already taken hold.

Programs for the African American Community

Several leadership groups, such as the National Black Leadership Initiative on Cancer, which is funded by the NCI, and the National Association of African Americans for Positive Imagery, funded in part by the CDC, have begun to have a voice in activities to reduce tobacco use in the African American community. For example, in 1989, a strong coalition guided community mobilization efforts to mount a successful campaign against the test-marketing of Uptown, a new brand of cigarettes targeting African Americans (see the text box "Uptown"). A similar community-organized campaign in 1995 resulted in the withdrawal of X, another new brand seemingly intended for the African American community (see the text box "X").

In 1992 and 1993, the ACS provided funds for community demonstration projects to use *Pathways to Freedom: Winning the Fight Against Tobacco*, a self-help guide for African American smokers (Robinson et al.

Uptown

In mid-December 1989, R.J. Reynolds Tobacco Company announced that on February 5, 1990, it would begin test-marketing a new cigarette in Philadelphia, Pennsylvania. The cigarette, to be named Uptown, was the first to be marketed directly to African American smokers. Within 10 days of this announcement, the Coalition Against Uptown Cigarettes (CAUC) was formed. Using existing church and community organizations and word of mouth, the coalition grew to include 26 diverse organizations representing health, religious, and community groups. The group's leaders were African Americans with long-standing ties to the Philadelphia African American community. The Philadelphia chapter of the National Black Leadership Initiative on Cancer, an organization funded in part by the National Cancer Institute and dedicated to reducing cancer in the African American community, and the Committee to Prevent Cancer Among Blacks facilitated the coalition's formation. Also active in the CAUC were several other organizations that addressed local issues on cancer control. These groups included chapters of the American Cancer Society and the American Lung Association, as well as the Fox Chase Cancer Center.

The CAUC decided that its initial goal would be to limit R.J. Reynolds' ability to use Philadelphia as a test market by convincing African American smokers to boycott the new cigarette. The coalition mobilized both smokers and nonsmokers in support of this goal by focusing on R.J. Reynolds' strategy to promote tobacco use among African Americans. The coalition initially used local media to reinforce the messages being sent through grassroots channels and did not seek out national coverage, which the coalition members believed would hinder their goal of building a local, grassroots constituency. On behalf of the CAUC campaign, Dr. Louis Sullivan, then Secretary of Health and Human Services, addressed the University of Pennsylvania School of Medicine on January 18, 1990. In his remarks, Secretary Sullivan said that "at a time when [African Americans] desperately need the message of health promotion, Uptown's message is more disease, more suffering and more death for a group of people already bearing more than its share of smoking-related illness and mortality" (quoted in Heller 1990, pp. 32–3).

The national media embraced the story. Secretary Sullivan's remarks were prominently featured in the evening news and were front-page headlines across the country. R.J. Reynolds initially responded by defending their targeted marketing strategy, but the company later claimed that Uptown was not aimed specifically at African Americans. On January 19, 1990, R.J. Reynolds canceled the Philadelphia test-marketing of Uptown. On January 31, 1990, the company canceled production of the cigarette.

The course of events suggests that the Uptown coalition played a decisive role in altering R.J. Reynolds' targeting strategy. A united response from Philadelphia's African American community, an organized local grassroots effort, the strategic alliance with a national figure, and media management were associated with product cancellation less than two months after introduction. The episode highlights the importance of timing in measures to reduce tobacco use. In this instance, a marketing campaign appears to have been derailed in its beginning stages by short-term, high-intensity media advocacy (see "Media Advocacy," later in this chapter).

1992). Awardees used *Pathways to Freedom* to bring tobacco control efforts to the African American community. Through these demonstration projects, many ACS divisions began or enhanced their work in the African American community.

A recent study in three predominately low-income, African American neighborhoods has demonstrated that culturally appropriate interventions can produce significant declines in smoking behaviors (Fisher et al. 1998). The Neighbors for a Smoke Free North Side organized residents in wellness councils to encourage nonsmoking in their areas. A citywide advisory council, composed mostly of African Americans, carried out central planning for the program and provided linkages to community resources and technical assistance to neighborhood councils. The program implemented a wide range of activities over a 24-month period, including smoking cessation classes, billboard public education campaigns, door-to-door campaigns, and a "gospelfest." A quasi-experimental

X

In early 1995, the memory of the grassroots victory against Uptown cigarettes (see the previous text box, "Uptown") served as a rallying cry in the African American community in Boston against the potential threat of a new brand—X cigarettes. As with Uptown in Philadelphia, the first information about this cigarette brand came in local media—in X's case, in articles in the *Boston Globe* and the *Boston Herald*.

This distinctive menthol cigarette brand was packaged in the Afrocentric colors red, black, and green and featured a prominent "X," a symbol frequently associated with the well-known, deceased African American leader Malcolm X. Community leaders in Boston and throughout the United States thought that the product had the potential to attract young African Americans—a group whose smoking rates had dropped dramatically in recent years. The use of "X" on a cigarette brand also was seen as a defamation of Malcolm X, a noted nonsmoker. Although manufactured and distributed by two companies without large marketing budgets, there was a fear that even a small success with X cigarettes would stimulate the creation of similar products by the major tobacco companies, which would have significant resources for advertising and promotion in African American communities.

The National Association of African Americans for Positive Imagery (NAAAPI) and the Boston-based organization Churches Organized to Stop Tobacco took the lead in opposing X cigarettes. Two NAAAPI leaders, Reverend Jesse W. Brown, Jr., and Charyn D. Sutton, both of whom had been involved in the Coalition Against Uptown Cigarettes, spoke in Boston in February 1995 about the need for communities to mobilize against tobacco marketing. Their visits were covered extensively by print and broadcast media. As a result of NAAAPI's organizing efforts, the manufacturer and distributor of X cigarettes received calls from around the country, most notably from the organizations involved in the African American Tobacco Education Network of California.

Because the brand's marketing seemed to be confined to the Boston area, NAAAPI decided to demand in writing that X cigarettes be withdrawn immediately to prevent any wider distribution. The manufacturer (Star Tobacco Corporation, Petersburg, Virginia) and distributor (Stowecroft Brook Distributors, Charlestown, Massachusetts) both responded within 10 days to that request, although they continued to insist that the cigarette brand had not been specifically targeted to the African American community. On March 16, 1995, news conferences were held in Boston and Los Angeles by tobacco advocates to announce the withdrawal of X cigarettes from the market.

The course of events suggests that the actions of activist groups had direct influence on the outcome. As was the case with the Uptown protest, the X experience suggests the critical role of a rapid but organized community response in efforts to prevent the targeted marketing of tobacco products to racial and ethnic minority groups.

design was used to evaluate the impact of this program. The three intervention neighborhoods in St. Louis were matched by ethnicity, income, and education with three comparison zip code areas in Kansas City, Missouri. Baseline and follow-up random-digit dialing telephone surveys were conducted among adults (aged 18 years or older) in the three intervention and three comparison areas in 1990 and in 1992. Smoking prevalence declined significantly in the St. Louis neighborhoods, from 34 to 27 percent, but declined only slightly in the Kansas City comparison areas, from 34 to 33 percent. Thus, the results of this trial suggest that a culturally appropriate community-organizing approach to smoking cessation that emphasizes local authority and involvement in program planning can have a significant impact on the smoking behavior among residents of low-income, African American neighborhoods.

Programs for Women

The Women vs. Smoking Network, a project of the Advocacy Institute, was the first national network of women's organizations and women's leaders to focus on reducing tobacco use among women. With financial support from the NCI, the network provided technical assistance and information to women's organizations in an effort to interest them in the movement

to reduce tobacco use. The network also focused on obtaining media coverage for issues concerning women and smoking. The network's most notable effort was the release of a plan by R.J. Reynolds to market cigarettes to young, uneducated women (see the text box "Dakota"). Subsequent media attention made this one of the most widely covered tobacco stories of 1990 (Pertschuk 1992). The network was short-lived (1989–1991), however, because of lack of funding. The International Network of Women Against Tobacco (INWAT) was established in 1990 as an international organization to counter the marketing and promotion of tobacco products to women and to foster the development of programs for the prevention and cessation of tobacco use among women. Through support from the American Public Health Association, INWAT has worked to draw attention to issues concerning women and tobacco and has sought to unite and inform women's advocates around the world. As a record of its Herstories project, INWAT assisted in preparing an issue of *World Smoking and Health* (INWAT 1994) that was a collection of brief essays about the role of tobacco in women's lives in various countries. INWAT has also published and distributed an international directory that lists women who are advocates for reducing tobacco use and includes their areas of specialization (American Public Health Association 1994). The National Coalition for Women Against Tobacco, whose sponsoring organization is the American Medical Women's Association, provides educational materials and advocacy messages to counteract tobacco industry marketing and combat tobacco use among women and girls (http://www.womenagainst.org).

Federal and State Programs

At the federal level, the CDC's IMPACT program awarded three-year cooperative agreements in 1994 to selected national organizations to enhance their work in reducing tobacco use at the national, state, and local levels. Organizations were chosen on the basis of their ability to provide services and outreach to young people, women, blue-collar and agricultural workers, African Americans, Hispanics, Asian Americans and Pacific Islanders, and American Indians.

Among the states, California has made a concerted effort to involve racial and ethnic minority groups and women in its efforts funded—by Proposition 99—to reduce tobacco use (see the section on California, earlier in this chapter). In 1990, four organizations were funded to form networks among Hispanics, African Americans, Asian Americans and Pacific Islanders, and American Indians. Members of the networks convene meetings, share experiences, participate in the development of culturally appropriate materials, and help community organizations reach their respective communities. These networks currently conduct programs and campaigns to build a strong statewide coalition among their respective populations (Tobacco Education Oversight Committee 2000). California also has funded a statewide organization, Women and Girls Against Tobacco, to focus on tobacco product marketing that targets females. Created in 1992, the organization focuses on empowering women's and girls' organizations to divest themselves of tobacco industry sponsorship and funding and on eliminating tobacco advertising in leading magazines with readership among young women (Women and Girls Against Tobacco, n.d.).

Religious Organizations

Although not specifically representative of minority or underserved groups, some religious organizations that have an important impact in minority communities have had long-standing involvement in issues related to reducing tobacco use. The Interfaith Center on Corporate Responsibility, a coalition of 250 Roman Catholic and Protestant institutional investors, pioneered the corporate responsibility movement in the early 1970s. The value of their combined portfolios is estimated at $40 billion. In 1981, the Province of St. Joseph of the Capuchin Order was the first member of the coalition to file a shareholder resolution with a tobacco company on the issue of smoking and health. Since then, the coalition has filed numerous shareholder resolutions with the major tobacco companies. These resolutions are a unique opportunity to engage in a public dialogue with executives of major tobacco companies; the shareholder meetings frequently receive media attention.

A more recent effort to involve religious organizations and thereby diversify efforts to reduce tobacco use is the formation of the Interreligious Coalition on Smoking OR Health. The stated purpose of the group is

> to mobilize the faith communities in the United States to improve the effectiveness of public policy concerning tobacco. The Coalition is concerned with policies affecting United States corporations involved in the manufacture and sale of tobacco products. The primary focus of the Coalition is educating policy makers within both the legislative and executive branches of the United States federal government (Interreligious Coalition on Smoking OR Health 1993, p. 1).

Dakota

The Women vs. Smoking Network, under the aegis of the Advocacy Institute, was a project aimed at informing and uniting women's organizations to oppose the tobacco industry's efforts to market its products specifically to women. In November 1989, the network sent a letter to the editor of more than 100 newspapers nationwide. Several newspapers printed the letter, which responded to a Philip Morris advertisement that had previously run in these newspapers as a mock apology to women for alleged "shortages" of their new cigarette, Virginia Slims Super. As a result, several major national papers and *ABC News* subsequently ran stories on tobacco advertising that targeted women. Soon thereafter, the controversy and media coverage surrounding the planned test-marketing of Uptown cigarettes to African Americans began (see the text box "Uptown"). In response, many journalists wrote stories on the related issue of targeted marketing to women. These stories prepared the public for the events that followed.

In February 1990, an anonymous source sent the Women vs. Smoking Network copies of confidential marketing documents for a new cigarette brand, Dakota. The cigarette, produced by R.J. Reynolds Tobacco Company, was scheduled for test-marketing in April 1990. The marketing documents, entitled "Dakota Field Marketing Concepts," consisted of more than 200 pages of test-marketing proposals from two different advertising firms. The marketing documents described Dakota, which was code-named Project Virile Female, as a cigarette explicitly for young women (18–20 years old). The demographic and psychological profile prepared by Trone Advertising Inc. of the typical Dakota smoker described her as a "caucasian female, 18–20 years old, with no education beyond high school, working at whatever job she can get" (Butler 1990, p. 1, citing Trone Advertising Inc.). She aspired to have an ongoing relationship with a man and "to get married in her early twenties and have a family." She spent her free time "with her boyfriend doing whatever he is doing." The marketing documents also included specific promotional strategies to attract young women to the new cigarette.

Recognizing the value of the documents, staff of the Advocacy Institute negotiated with the *Washington Post* for front-page coverage of the story in exchange for initial exclusive release of what the institute staff called "Dakota Papers." The *Washington Post* ran the story on Saturday, February 17, 1990, with the headline, "Marketers Target 'Virile Female': R.J. Reynolds Plans to Introduce Cigarette" (Specter 1990). The Advocacy Institute held back further details on the documents until Tuesday, February 20, so that the director of the Women vs. Smoking Network could appear on *CBS This Morning* with Dr. Louis Sullivan, then Secretary of Health and Human Services, to "release" the story of the documents. Secretary Sullivan strongly condemned R.J. Reynolds' plans to target women in its marketing strategies.

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The coalition was formed in cooperation with leading organizations within the mainstream tobacco control community. As of January 1994, the coalition had enlisted 16 main religious organizations, including Catholic, Muslim, and Protestant denominations, in the effort to support a large increase in the federal excise tax on a pack of cigarettes (Interreligious Coalition on Smoking OR Health 1994).

Special Efforts to Reduce Chewing Tobacco Use

In 1995, Oral Health America established the National Spit Tobacco Education Program (NSTEP), an effort aimed at reducing the use of smokeless tobacco among youth in sports. Oral Health America teamed up former major league baseball players, such as Joe Garagiola, Hank Aaron, and Bill Tuttle, to help get the message out that smokeless tobacco products are not a safe alternative to smoking. The components of NSTEP include in-stadium events, public service announcements that have been televised during major league baseball games, printed materials, and educational videos. An external evaluation of NSTEP is being developed to address all levels of the program and its public health impact.

Significant successes of the program include the inclusion of spit tobacco on the national tobacco policy agenda, with specific credit to NSTEP and national

continued

Within the next few weeks, representatives of the Women vs. Smoking Network appeared on *NBC Nightly News*, *CBS This Morning*, *CBS Evening News*, the *MacNeil-Lehrer NewsHour*, *Nightwatch*, and *Nightline*. Representatives were also interviewed by major national newspapers, including *USA Today*; by numerous local papers; by CBS Radio Network, the Black Radio Network, and National Public Radio; and by local talk shows. Last, representatives were asked to testify on the topic at congressional hearings. The network followed up on the publicity by spotlighting several different projects, including a petition to the tobacco companies to adhere to their own voluntary code of corporate ethics.

Even the cigarette's proposed name drew criticism. Groups in North Dakota and South Dakota objected to the name, as did Sioux tribal organizations, because "Dakota" means "friend" or "ally" in the Sioux language. These groups formed a coalition of more than 40 organizations and collected 25,000 signatures on a petition objecting to the use of the word and demanding that R.J. Reynolds cease selling the cigarette, which had been test-marketed, as planned, beginning in April 1990. The Women vs. Smoking Network provided strategic counseling and technical support to the grassroots coalition and was instrumental in helping arrange a press conference in Washington, DC, in June 1990, which featured then Surgeon General Antonia Novello, Senator Larry Pressler (R-SD), and others objecting to the marketing plan.

Although advocacy groups were able to generate considerable community and media mobilization, R.J. Reynolds continued test-marketing. Advocates felt they had raised national concern about the targeting of cigarette advertising, although this impression was not directly verified through survey research. Dakota cigarettes were withdrawn two years later, however, because the brand did not sell as well as officials had hoped (*American Medical News* 1992). In this instance, although advocates might attribute the end result to the effective use of the media to promote the agenda for reducing tobacco use, the demise of the Dakota brand was probably more attributable to market forces.

chairman Joe Garagiola by lawmakers and Secretary of Health and Human Services Donna Shalala. More than $70 million in electronic media coverage has been generated directly from NSTEP efforts. In addition, NSTEP activities appear to have substantially increased the coverage of smokeless tobacco issues in the print media. Before NSTEP there were approximately 500 print articles annually devoted to smokeless tobacco; since NSTEP that number has climbed to more than 5,000. One article alone appeared in more than 800 newspapers on a given weekend, and NSTEP estimated the value of this media coverage at $15 million. A recent survey of major league baseball players and coaches found that more than 44 percent of smokeless tobacco users want to quit in the next six months, perhaps attributable to NSTEP's active participation in educating ballplayers during spring training.

Components of Community Programs

Community Advocacy and Mobilization

Electronic Networking

Interactive communication technologies, such as computer networks, have been used extensively by advocacy groups for reducing tobacco use. For example, daily communications played an important part in the response to Philip Morris' Bill of Rights Tour (see the text box later in this chapter). Many active, functioning networks now provide communication services to assist in efforts to reduce tobacco use.

The Institute for Global Communications, based in San Francisco, was an early provider of issue-specific networks to the general public. PeaceNet and

EcoNet, which were developed in 1986, are among the most widely used and well known of the institute's networks. As of October 1994, the institute reported a combined membership of 12,000 people from 130 countries (Moore 1994). Within these networks, and others like them, are smaller groups focused on a specific aspect of an issue or a particular policy. For instance, among HandsNet's 2,500 member organizations, which span the nonprofit sector, is a forum linking 200 community coalitions on substance abuse. This forum, managed by the Boston-based group Join Together and supported by the Robert Wood Johnson Foundation, provides on-line technical assistance to these coalitions. The forum also provides news summaries and information available on funding opportunities and proposed legislation.

Several networks link people who work in health-related areas. In 1993, the Public Health Network provided forums, e-mail service, and databases for its membership, which was composed of nearly 600 users from state and local health agencies and of program directors who were members of the CDC's Public Health Leadership Institute. In 1998, this network was replaced by the Information Network for Public Health Officials. Established by the CDC's Public Health Practice Program Office, the network links the public health community to the Internet and provides access to on-line information. Planned Parenthood Federation of America hosts PPXNet, a network for its affiliates in regional and national offices, primarily for communication within the organization itself. During the 1990s, the CDC offered the electronic resource WONDER to public health officials, academicians, and others so that they were able to communicate via e-mail with and have access to the CDC's databases of health data. The advent of the Internet, including Web-based e-mail and list serv technology, has facilitated the exchange of public health information for health professionals and the public. CDC now offers its health data, materials, databases, electronic journals, and other resources on its Web site at www.cdc.gov.

In 1990, the Advocacy Institute founded SCARCNet, a multiuser interactive bulletin board that served the tobacco control community. (The history of the bulletin board's sponsoring organization—the resource center known by the acronym SCARC—is discussed in "Impact of Direct Advocacy," later in this chapter.) When SCARCNet ceased in January 2000, it had more than 1,000 subscribers and was circulated to thousands of readers throughout the world on various networks. SCARCNet's most popular feature was the "Daily Bulletin," which each day summarized major newspaper and journal stories on reducing tobacco use (Advocacy Institute 1994). The "Daily Bulletin" was accompanied by a "Morning Briefing," which put these news stories in perspective for the tobacco control community. The contents of the "Daily Bulletin" stories were retained and stored in a database that is currently available for searching at www.tobacco.org. Another notable feature of SCARCNet was the publication of "Action Alerts." These two-page summaries of current issues requiring immediate action included objectives for action, suggested actions, media bites, quotes, and talking points and were sent to SCARCNet as needed (on average, twice per month). The conferencing section on SCARCNet, called the "Strategy Exchanges," provided a forum for planning, counseling, and experience sharing. The technology allowed for concurrent but separate discussions on discrete issues, such as clean indoor air, tobacco advertising and promotion, tobacco pricing policies, and minors' access to tobacco products. Since its inception in 1990 to its final edition on January 31, 2000, SCARCNet, along with its global counterpart GLOBALink, became an important resource for the tobacco control community. In February 2000, the American Legacy Foundation began its support of a newly designed and enhanced news service system that harnesses advances in Web technology to build on SCARCNet's valued features. This system provides users with the leading national news stories and also includes a news service that allows users to receive a customized selection of other stories based on their geographic location and specialty areas of greatest personal interest (e.g., advertising, enforcement, etc.).

SCARCNet has served as a model for other public health advocacy networks. Examples include Safety Net (an advocacy network for violence prevention) and the Marin Institute's ALCNet (a network for alcohol control advocates), which is modeled closely after SCARCNet. ALCNet has been used for media advocacy as well, particularly to facilitate strategy development to counteract certain alcohol products and promotions.

As with other modalities used for social change, the precise role of on-line networks—one element in a multifaceted approach—is difficult to define. Although process measures are available (e.g., frequency of interactions and message traffic), they do not assess the basic value of computer links in furthering the agenda for reducing tobacco use, nor is it likely (as is noted at the beginning of this chapter for social interventions overall) that their efficacy can be precisely estimated. Current enthusiasm for the mechanism,

however, will probably ensure its continuation, and accrued anecdotal experience—to date, quite positive—will provide the ultimate judgment.

Direct Advocacy

History and Activities

National-level activities, including the work of the Coalition on Smoking OR Health (see "Further Regulatory Steps" in Chapter 5; see also "Community Mobilization," earlier in this chapter) and others (see Chapter 2 and USDHHS 1989b), have played a prominent role in the evolving policy changes concerning the reduction of tobacco use. Of equal interest, from the point of view of the potential impact of advocacy, are decentralized grassroots organizations.

The nonsmokers' rights movement originated in the early 1970s (see "From Antismoking to Nonsmokers' Rights" in Chapter 2). It consisted of individuals acting on their own and of small grassroots organizations of people irritated by ETS or convinced that their health suffered from it. During this period, the documented adverse health effects of ETS were first being brought to the public's attention (Steinfeld 1972; U.S. Department of Health, Education, and Welfare 1972). As research documenting these health hazards accumulated, nonsmokers' rights organizations grew in number and strength.

Many of the early grassroots organizations used the acronym GASP to represent similar titles, including the Group Against Smokers' Pollution, the Group Against Smoking Pollution, the Group to Alleviate Smoking in Public Places, and Georgians Against Smoking Pollution. Other acronyms were also used, including FANS (Fresh Air for Nonsmokers), TAPS (Texans Against Public Smoking), and ANSR—pronounced "answer"—(Association for Nonsmokers Rights). Organizations were small, poorly funded, and often run from home by volunteers.

Initially, many nonsmokers' rights organizations simply provided a forum for nonsmokers to express their concerns about smoking and ETS. These groups helped legitimize their members' complaints and empower them to take protective actions. Such actions required courage, assertiveness, and no small measure of tact, since smoking in public areas was normative at the time. Group members might thus learn how to politely ask people to refrain from smoking; or to obviate direct confrontation with smokers, groups might provide members with signs, cards, or buttons asking people not to smoke in their presence.

Early in the movement, nonsmokers' rights associations adopted public policy change as an important goal. Groups began to work for passage of measures to restrict public smoking. Such regulations are often referred to as clean indoor air laws (see "Clean Indoor Air Regulation" in Chapter 5). To encourage these measures, an early GASP organization produced a "Bill of Rights" that stated, in part, that

> Non-Smokers have the right to breathe clean air, free from harmful and irritating tobacco smoke. This right supersedes the right to smoke when the two conflict. Non-Smokers have the right to express—firmly but politely—their discomfort and adverse reactions to tobacco smoke. . . . Non-Smokers have the right to take action through legislative channels, social pressures or any other legitimate means—as individuals or in groups—to prevent or discourage smokers from polluting the atmosphere and to seek the restriction of smoking in public places (Group Against Smokers' Pollution, n.d.).

Over time, many organizations moved to encompass broader policy goals for reducing tobacco use—in particular, they sought ways to decrease tobacco use by minors. Largely as a consequence of those efforts, direct advocacy and public policy change became important parts of these organizational strategies.

In some communities, nonsmokers' rights organizations worked in isolation. In others, they formed associations with medical societies, voluntary health associations, and other organizations; the result was a more intense effort to ensure passage of desired legislation. Despite initial obstacles, in many communities nonsmokers' rights associations were a driving force in moving their allies toward a legislative approach to reducing tobacco use. For example, one of the earliest and most influential nonsmokers' rights organizations was California GASP, founded in 1976, which eventually became Americans for Nonsmokers' Rights (ANR). ANR is now the principal national-level tobacco control group devoted primarily to promoting legislation for clean indoor air. In California, ANR helped support the passage of such ordinances in many localities. Partly as a result of ANR's work, California has more local ordinances for clean indoor air than any other state. ANR has served as a national consultant to other groups pursuing such legislation.

Impact of Direct Advocacy

In retrospect, the grassroots organizations can be seen as having worked to diminish the legitimacy of tobacco use in the eyes of the public and the credibility of the tobacco industry. The passage of ordinances

against public smoking (see "Clean Indoor Air Regulation" in Chapter 5) occurred over several years, during which a shift in public opinion about smoking became evident. During the 1960s and 1970s, the right to smoke was largely unquestioned. In more recent years, declining smoking prevalence and public opinion polls have indicated an increasing intolerance for public smoking (USDHHS 1989b). The work of nonsmokers' rights organizations is coeval with these legal, epidemiologic, and social changes. Sorting out cause and effect is difficult, but the nonsmokers' rights movement seems to have contributed to the changing social norm (Glantz 1987).

There were, however, some important exceptions to the emerging nonsmoking norms. By the mid-1980s, it was apparent that both the traditional educational efforts and the passage of ordinances to protect nonsmokers from ETS had a limited effect on young people's smoking-related attitudes and behaviors (USDHHS 1994). Efforts to reduce smoking appeared unable to reduce the prevalence of smoking among teenagers (Lynch and Bonnie 1994), and smoking prevalence among white females began increasing sharply during the 1970s, as did the prevalence of smokeless tobacco use among males.

The failure to decrease smoking among young people is as difficult to assess as is the success observed among adults (particularly among adult men). Analyzing the effect of prevention activities on young people must include weighing the hampering effects of advertising and promotional efforts backed by the tobacco industry's enormous marketing budget (see "Advertising and Promotion" in Chapter 5; DiFranza et al. 1991; Pierce et al. 1991; Lynch and Bonnie 1994; USDHHS 1994). Whatever the interplay of the forces involved, the result is that protobacco activity directed at those entering the market has been generally successful. An exception is the continued decline in prevalence among young African Americans, particularly among young women (USDHHS 1998).

Perhaps some of the shortfall in grassroots efforts to reduce tobacco use is associated with the early isolation of these groups from the established national advocacy organization. Anecdotally, there is evidence of a culture clash. When the nonsmokers' rights movement emerged in the 1970s, many medical and voluntary health organizations decried what they perceived as the unprofessional, indecorous, confrontational approach that these activists took to an issue that had previously fallen in the domain of the traditional public health structure. Some traditional organizations in the public health arena may also have felt that grassroots organizations were infringing on their "turf" and their fund-raising base.

For their part, nonsmokers' rights associations objected to what they saw as the overly cautious, measured approach of researchers, medical associations, and volunteer health associations, whose efforts seemed to have done little to solve the problems of day-to-day exposure to ETS. The grassroots organizations urged voluntary health organizations to examine their mission statements and dedicate appropriate resources to cost-effective solutions to reducing tobacco use.

In time, both approaches acknowledged that the lack of coordination and cohesion was a significant barrier to their efforts. The groups noted that, in contrast, the tobacco industry operated as a monolith through the coordinated efforts of the Tobacco Institute, a lobbying and public relations organization representing the industry. This insight led to the emergence of several groups—somewhat disparate in their approaches—that attempted to bridge some of the distance between the grassroots and national approaches to reducing tobacco use.

Among the oldest of these groups is DOC (Doctors Ought to Care), which was founded in 1977 as a national coalition of health professionals, students, and concerned individuals. DOC groups take an activist approach to public health problems and sponsor community projects and events on reducing tobacco use and other issues. From the outset, members chose confrontational programs, such as counteradvertising and picketing industry-sponsored sports events, to delegitimize the tobacco industry and focus attention on its activities by involving both physicians and young people in advocacy activities. DOC groups use satire, ridicule, and parody in their work to appeal to children and teenagers (Blum 1982); for example, they have sponsored "Emphysema Slims" tennis matches featuring appearances by "Martina Nosmokanova." DOC also maintains a large archive of activities related to the tobacco industry, including past advertising campaigns and marketing strategies (Mintz 1995). The activities of DOC are similar in style, if not content, to those of the Australian organization Billboard Utilising Graffitists Against Unhealthy Promotions (BUGA-UP), which was founded in 1979. BUGA-UP members, some of whom are physicians, have used unconventional tactics, such as spray-painting billboards that advertise tobacco products (Jacobson 1983).

Another group is Stop Teenage Addiction to Tobacco (STAT), which was founded in 1985 with the aim of reducing tobacco use among minors. From its inception, STAT aimed to unite the medical and

scientific arm and the grassroots arm of the movement to reduce tobacco use. Although STAT frequently approaches tobacco issues from the activist perspective, the organization has long included key members of the medical and public health establishment in its leadership. DOC, STAT, and other groups have attempted to make the activist, confrontational approach to reducing tobacco use acceptable to the more conservative medical and voluntary health organizations. Partly because of these efforts, an activist approach is now an important component of the movement (see the text box "Bill of Rights Tour").

Another impetus for a more unified movement was the establishment of the Smoking Control Advocacy Resource Center (SCARC) at the Advocacy Institute in 1987. The Advocacy Institute's mission—to study, analyze, and teach public interest advocacy—included a focus on smoking reduction as a model public interest movement. The institute received funding from the Henry J. Kaiser Family Foundation to establish SCARC. Rather than be a frontline organization, SCARC proposed to help build the movement's infrastructure. As such, SCARC would be viewed as a neutral player and would not vie with the movement's other organizations in seeking media, voluntary, or funding sources. Since its formation, SCARC has served three important roles as convener, tobacco industry monitor, and center for strategic development, training, and counseling (Butler 1990).

Media Advocacy

Media advocacy for reducing tobacco use was developed during the 1980s by a small number of activists working primarily in the United States, Canada, Australia, and the United Kingdom. The attendees at the September 1985 International Summit of Smoking Control Leaders resolved to produce a handbook that would provide guidance on using the media to support tobacco control. The resulting document, *Smoke Signals: The Smoking Control Media Handbook* (Pertschuk 1987), describes many of the important themes and skills needed for using what would later be dubbed "media advocacy." In January 1988, the Advocacy Institute convened a two-day consensus workshop, sponsored by the NCI, that produced a second handbook on media advocacy, *Media Strategies for Smoking Control: Guidelines* (USDHHS 1989a), which formally recognized the importance of media advocacy in reducing tobacco use (and in which the term "media advocacy" was first employed).

Media advocacy has been defined as the strategic use of mass media to advance a social or public policy initiative (NCI 1991). In contrast to the goal of traditional health communications efforts, the goal of media advocacy is to change public policy and thereby generate a broader impact on tobacco use by creating an environment in which smoking is not normative. *Smoke Signals* articulates six critical tasks the media must perform to help accomplish this goal: (1) educate the public about the severity of the risks of smoking, the susceptibility of every smoker, and the health benefits of quitting; (2) educate the public about the health risks of ETS; (3) alert citizens and policymakers to injurious public policies that promote smoking, including insufficiently regulated advertising and promotion of cigarettes, as well as unrestricted smoking in public areas and the workplace; (4) respond to and counteract the propaganda and disinformation campaigns of the tobacco industry; (5) counter the economic and political influence of the tobacco industry, which thwarts the adoption of remedial policies; and (6) reinforce evolving social nonsmoking norms (Pertschuk 1987).

Media advocacy campaigns have been likened to political campaigns "in which competing forces continuously react to unexpected events, breaking news, and opportunities" (Pertschuk et al. 1991, p. 3). Such campaigns require both presenting the public health side of an issue and negating the opposing side. Like political campaigns, media advocacy campaigns require quick reactions that contrast with the carefully planned, fixed agendas of traditional media programs.

Media advocacy recognizes the potential of the press to place on the public agenda issues concerning the reduction of tobacco use and to either advance or retard progress toward policy goals. Successful media influence requires gaining access to the news and framing or shaping coverage of the resulting story. These strategies are interrelated, since the framing of a story helps determine whether a journalist will agree to cover it.

The use of media advocacy has two daunting limitations: it is a new technique that requires complex skills and an understanding of the news media, and it demands a large investment in time (Wallack 1990). But another apparent barrier—the reliance on an outside party (the media) to achieve program goals—is also a source of considerable strength: media advocacy is a means by which public health practitioners can indirectly confront and compete with forces that are traditionally beyond their policy and financial reach. These forces represent powerful vested interests—the tobacco industry, advertising industry, retail establishments that sell tobacco, and others. The financial and political influence of these entities can limit the ability of public

Bill of Rights Tour

In fall 1989, Philip Morris, the largest U.S. manufacturer of cigarettes, contracted with the U.S. National Archives and Records Administration to sponsor a commemoration of the 200th anniversary of the Bill of Rights. The commemoration involved a national advertising campaign, including commercials on prime-time television and full-page advertisements in major newspapers, asking Americans to "Join Philip Morris and the National Archives in celebrating the 200th anniversary of the Bill of Rights" (cited in Advocacy Institute 1989, p. 1). Philip Morris soon announced plans to transport Virginia's copy of the Bill of Rights to all 50 states in cooperation with the Virginia State Library and Archives.

Advocates for reducing tobacco use interpreted Philip Morris' effort as an attempt to link smoking with the national freedoms guaranteed by the Bill of Rights. These groups believed that Philip Morris would use its association with the Bill of Rights Tour, which highlighted themes of liberty and freedom of expression, to gain public support for the company's claim of a First Amendment right to advertise. Philip Morris' project with the National Archives raised concern in the U.S. House of Representatives, which held hearings on the issue but did not intervene. Advocates for reducing tobacco use began using the 16-month tour schedule to coordinate local efforts to counter what they considered to be a tobacco-marketing plan.

The Washington state chapter of Doctors Ought to Care (DOC) built a countersymbol, the "Statue of Nicotina," to travel with the tour. At a press conference, comments from the president of the chapter, Dr. Robert Jaffe, captured the flavor of the symbol's proposed use:

> Nicotina is modeled [on] the Statue of Liberty. She's holding a cigarette in her upheld hand, instead of a torch, and her eyes are closed, the symbol of shame that she's been . . . made a symbol of tobacco. The chains from her cigarettes in the pack help to illustrate to all of the children who are going to see the Bill of Rights Tour that this is a dangerous, addictive drug. At her feet are the words, "Give me your poor, your tired, your women, your children yearning to breathe free . . ." (quoted in Wallack et al. 1993, p. 185).

The Advocacy Institute published an advance schedule of the national tour, including dates and specific locations for each of the tour's stops. The institute also tracked activities in various states and disseminated strategic information through *Action Alerts* posted on SCARCNet, the institute's computer network dedicated to sharing information on reducing tobacco use. SCARCNet (see "Electronic Networking," earlier in this chapter) was a key mechanism for advocates to share information and develop strategies. In addition, the American Lung Association and the American Medical Association provided materials and strategic support to its interested affiliates.

Initially, Philip Morris responded to protests at tour sites by establishing a "speaker's corner" that restricted protesters to a site away from the exhibit hall. At first, this strategy successfully muted attacks and deflected positive attention from protesters. Indeed, by appearing to encourage protesters, Philip Morris was portrayed by some media reports as being faithful to the spirit of the Bill of Rights. As the tour continued, however, groups opposed to the sponsorship learned from experience in other states. The groups refined their message, learned how best to respond to Philip Morris' spokespersons, discussed public reaction to their protests, and modified their tactics appropriately. They developed a simple slogan, "Bill of Rights Yes/ Philip Morris No" (cited in Wallack et al. 1993, p. 186), to clarify the theme of their protests.

With the changed approach, advocates reported improved media coverage of the protests. At almost every tour stop, advocates staged press conferences before the opening of the exhibit and displayed the Statue of Nicotina, which was transported from state to state. By February 1991, five months into the tour, Philip Morris scaled down the number of scheduled stops. The tour, accompanied by advocates for reducing tobacco use, continued through its conclusion in Richmond, Virginia, in December 1991.

The ultimate effectiveness of this advocacy effort is difficult to judge, but the effort played an obvious role in muting the public relations benefits to the tobacco industry. At the very least, the resources invested by the industry did not appear to bring the expected return.

(as well as private) agencies to use confrontational tactics. In addition, many communities prefer consensus building to confrontation with powerful opposition parties. However, because the visible products of media advocacy—the media reports themselves—emerge from a disinterested party (the media) rather than from parties for or against reducing tobacco use, this newest form of social intervention can be successful in previously problematic areas.

As with other social interventions, the precise contribution of media advocacy to the effort to reduce tobacco use is difficult to judge. Events like those surrounding the marketing of the cigarette brands Uptown, X, and Dakota and the Philip Morris-sponsored Bill of Rights Tour demonstrate the role that media advocacy can play in the overall effort.

Countermarketing

Mass Media in Tobacco Control

In contemporary society, the mass media are the most important means of educating and informing the public and, through public response to media, policymakers. By design or not, the media plays an enormous role in influencing the smoking behavior of individuals and the actions of policymakers in both the public and the private sector (Pertschuk 1987). Public health programs have used various health communication programs to inform and influence the behavior of the general public. Traditionally, communication programs intended to reduce tobacco use have tried to influence the behavior of individuals. Most such media campaigns have focused on influencing the behavior of adult smokers—and hence have focused more on smoking cessation than on prevention. Flay (1987) describes three prominent types of mass media programs and campaigns designed to influence smoking-related knowledge, attitudes, and behavior: (1) those that inform the public of the negative health consequences of cigarette smoking and try to motivate smokers to quit, (2) those that promote specific smoking cessation actions to those smokers motivated to quit (e.g., smokers are encouraged to call a help line or to request specific materials, such as a tip sheet or a self-help manual), and (3) those that promote smoking cessation self-help clinics for those smokers who desire to quit. A smaller number of campaigns have focused on youth, either encouraging young people to avoid using tobacco products or convincing young people who smoke to try to quit (USDHHS 1994).

A factor that has limited the success of traditional mass media campaigns is the small size of the campaign budgets compared with the advertising and marketing budgets of the tobacco industry (Flay 1987; USDHHS 1994). In addition, these campaigns to reduce tobacco use have experienced drawbacks because of their traditional reliance on public service announcements (PSAs). Although PSAs have been an integral part of such efforts for many years, the number of PSAs on any subject provided to broadcasters has increased, whereas the amount of donated air time available for PSAs has decreased. Also, the advent of cable technology, which has increased the number of channels through which people can be reached and therefore has diffused the audience, has further hampered efforts to reach targeted groups efficiently. By the mid-1980s, it had become apparent that the role of the media in the effort to reduce tobacco use required reevaluation. In the following sections, the uses of mass media approaches for tobacco control are summarized.

Effects of Protobacco Advertising and Promotion

The effect of tobacco advertising and promotion activities on both adult consumption and youth initiation has been the subject of considerable research over the past decade (see "Advertising and Promotion" in Chapter 5). While noting that existing evidence suggests that tobacco marketing increases the level of tobacco consumption, the 1989 Surgeon General's report *Reducing the Health Consequences of Smoking: 25 Years of Progress* concluded that the issue is so complex that a sufficiently rigorous study capable of providing definitive scientific evidence is not available and that "none is likely to be forthcoming in the foreseeable future" (USDHHS 1989b, pp. 516–7). The 1994 Surgeon General's report *Preventing Tobacco Use Among Young People* similarly noted the absence of a definitive longitudinal study of the direct relationship of tobacco advertising to adolescent smoking. However, acknowledging the value of recent nonlongitudinal studies focused on young people, the report offered this major conclusion: "Cigarette advertising appears to increase young people's risk of smoking by affecting their perceptions of the pervasiveness, image, and function of smoking" (USDHHS 1994, p. 6). Also in 1994, the Institute of Medicine concluded that the preponderance of evidence suggests that tobacco marketing encourages young people to smoke (Lynch and Bonnie 1994).

In its rule to restrict the access and appeal of tobacco products to young people, the Food and Drug Administration (FDA) reviewed the quantitative and qualitative evidence and concluded that cigarette advertising is causally related to the prevalence of smoking among young people (*Federal Register* 1996). The

agency also cited statements from internal documents of the tobacco industry to show the importance of the youth market segment to the industry's continued success. More recently, a 1998 Report to the United Kingdom's Chief Medical Officer by the Scientific Committee on Tobacco and Health concluded unanimously that tobacco advertising and promotion influence young people to begin smoking (Scientific Committee on Tobacco and Health 1998).

Survey data show that among children who smoke, most use the most heavily advertised brands of cigarettes, whereas many adult smokers buy generic or value category brands, which have little or no image advertising (CDC 1994). A major econometric marketing study found that young people are three times more affected by advertising than are adults (Pollay et al. 1996). Research has also pointed to the impact of other tobacco promotional activities, such as sponsorship of public entertainment events and distribution of specialty or premium items. These activities constitute the largest (and an increasing) share of tobacco marketing expenditures. The CDC has estimated that today's U.S. teens already have been exposed to more than $20 billion in imagery advertising and promotions since age 6, creating a "friendly familiarity" for tobacco products and an environment in which smoking is seen as glamorous, social, and normal (Eriksen 1997). Although the effect of this exposure is difficult to quantify, especially nationwide, one study has estimated that 34 percent of all youth experimentation with smoking in California between 1993 and 1996 can be attributed to tobacco promotional activities (Pierce et al. 1998). A recent study found that teenagers who can readily name a cigarette brand and who own a tobacco-company-sponsored promotional item are more than twice as likely to become established smokers than adolescents who do neither (Biener and Siegel 2000).

Effects of Tobacco Countermarketing

In light of ubiquitous and sustained protobacco messages, countermarketing efforts of comparable intensity and duration are needed to alter the social and environmental context of tobacco use. Evidence of effectiveness comes from three main sources: (1) the natural experiment of the counteradvertising campaign that occurred during the late 1960s as the result of a Fairness Doctrine ruling (also discussed in "Broadcast Advertising Ban" in Chapter 5), (2) school and community intervention studies incorporating mass media approaches (see "Supplemental Programs" in Chapter 3), and (3) recent experience with large paid media campaigns in several U.S. states and with a nationwide campaign funded by the FDA. Because of the special sensitivity of young people to tobacco marketing and the high rates of tobacco use among teenagers, the subsequent review in this chapter will focus on countermarketing media campaigns that include prominent youth-targeted components. The literature provides strong evidence of the value of mass media campaigns to inform the public at large—including young people—about the hazards of smoking, to promote specific cessation actions and services (such as telephone help lines), and to provide cessation clinics to adult smokers (Flay 1987; Pierce 1995).

The Fairness Doctrine campaign. In 1967, the Federal Communications Commission (FCC) applied the Fairness Doctrine (discussed in "Broadcast Advertising Ban" in Chapter 5) to cigarette advertising and required broadcasters to provide a significant amount of airtime to antismoking messages—a requirement interpreted by the FCC at that time to be about one antismoking message per three tobacco advertising messages). This requirement resulted in the only sustained nationwide tobacco control media campaign to date. From mid-1967 through 1970, roughly $200 million in commercial airtime (in 1970 dollars) or $75 million per year was donated for antismoking messages on television and radio (Warner 1986; USDHHS 1989b).

The campaign produced significant reductions in both adult and youth smoking behaviors (Hamilton 1972). For the first time in the 20th century, adult per capita cigarette consumption fell for more than three consecutive years. Teenage smoking prevalence was 3 percentage points smaller during the Fairness Doctrine period than it was in the 16 months before the campaign, and the campaign was associated overall with a 3.4-percentage point reduction in teen smoking prevalence. Perhaps the ultimate indicator of the campaign's impact was a change that followed the campaign's end: with the 1971 enactment of congressional legislation banning tobacco commercials from television—and with them, the Fairness Doctrine-mandated counteradvertisements—per capita cigarette consumption immediately resumed its upward trend (see "Broadcast Advertising Ban" in Chapter 5).

Hamilton (1972) suggested that during the Fairness Doctrine period, the antismoking campaign messages had an effect that was nearly six times that of cigarette advertisements. Warner (1979) noted that the government's broadcast ban—and the consequent end of the countermarketing campaign—was especially detrimental to the ongoing effort to prevent young

people from smoking. Cigarette promotion remained highly visible in the print media and in tobacco companies' sponsorship of sporting events at the same time the broadcast ban "virtually eliminated mass promotion of the antismoking cause" (p. 445).

Community intervention studies. As described in "Research on Multifaceted Programs" in Chapter 3, multicomponent youth-directed programs that include a prominent mass media component have shown long-term success in postponing or preventing smoking onset in adolescents. In the University of Vermont School and Mass Media Project, the study featuring the most intensive paid counteradvertising campaign, the preventive effect actually increased during the two-year intervention period among the adolescents at higher risk for smoking (Flynn et al. 1997)—a rare outcome for most campaigns trying to change health behaviors. The authors noted that counteradvertising can effectively reach higher-risk youth because of their greater exposure to the mass media, particularly radio and television. It is also likely that higher-risk youth make their decisions about tobacco use earlier in life than lower-risk youth; mass media influences can be especially powerful in shaping attitudes and normative perceptions at early ages.

State-based media campaigns. Mass media campaigns are standard components of the well-funded, ongoing tobacco control programs in California, Massachusetts, Arizona, Florida, and other states receiving money for counteradvertising programs from state excise tax increases or tobacco settlement allotments (as was discussed in "Example of Major State Programs," earlier in this chapter). Although it is difficult to sort out the effectiveness of media campaigns from other program components, evaluations of these statewide public education programs, particularly in California and Massachusetts (see "Supplemental Programs" in Chapter 3), have shown their success in reducing tobacco use among adults, slowing the uptake of tobacco among youth, and protecting children from exposure to ETS (CDC 1996). A recent study of the Massachusetts media campaign in 1993 and 1997 found that among younger adolescents (those aged 12–13 years in 1993), those who had been exposed to the counteradvertising campaign on television were about half as likely to have become smokers as those who had not been able to recall campaign advertisements (Siegel and Biener 2000).

Food and Drug Administration campaign. In 1998, the FDA launched a national advertising campaign to help retailers comply with the age and photo identification provisions of the FDA's rules to prevent tobacco sales to children and adolescents. The campaign began with a test in Arkansas and by year's end was active in 42 states. Funded annually at about $9 million, the campaign featured radio spots, billboards, newspaper advertisements, posters, and store signage. The overall approach was to use humor to relieve the discomfort clerks may feel when checking young people's identification/proof-of-age cards and to increase awareness of the rule provisions among retailers, underage youth, and the general population. One counter card, for example, reads, "Our cashier really stinks at guessing ages. So if you want cigarettes, can we see some I.D.?"

A campaign tracking survey (Market Facts 1998) in nine states with test and control sites found that during the first year of the campaign, knowledge of age 27 as the cutoff age for checking identification increased from 34 to 54 percent in test sites and from 31 to 40 percent in control sites. Most important was a small but significant decline in the average number of times minors tried to buy tobacco. According to retailer self-reports, this number declined from 3.4 times each day before the campaign to 2.8 times daily after the media effort. In control sites, the frequency of underage purchase attempts did not decrease from before (2.4 times daily) to after (2.7 times daily) the time of the campaign. For customers from whom identification was requested in the test sites, retailers reported that the proportion of those who were "often" or "always" irritated declined from 34 percent to 28 percent.

Counteradvertising and entertainment media. The increase in movie depictions of tobacco use is a powerful media influence promoting use among teens (Stockwell and Glantz 1997). In focus groups, young people are not able to recall antismoking messages on television or in the movies, but they recall specific movies that portray smoking and can identify actors and actresses who smoke in their entertainment roles (Crawford et al. 1998). Counteradvertising holds promise for helping denormalize and deglamorize these portrayals in the entertainment media. In an experimental study, Pechmann and Shih (1999) found that placement of a 30-second California Department of Health Services tobacco counteradvertisement before the popular movie *Reality Bites* served to inoculate teenagers against the movie's pervasive prosmoking cues without detracting from their enjoyment of the film. Because paid advertising in movie theaters is a highly efficient method of reaching adolescents, the authors recommend this tactic as a nationwide cost-effective prevention strategy.

Research on best practices. Although producers of counteradvertising campaigns use formative research techniques to develop products, inconsistent

testing methods hinder comparison of the effectiveness of different messages. This situation has helped create the impression that there is little agreement over "what works" in tobacco counteradvertising, as typified by this *Washington Post* headline: "The Anti-Smoking Campaign's a Many Splendored Thing, and That's the Problem" (Teinowitz 1998).

Goldman and Glantz (1998), using available focus group data and research reports obtained from a number of states, concluded that two message strategies, industry manipulation and the hazards of ETS, are the most effective for denormalizing smoking among young people and reducing consumption among adults. The researchers reported that addiction and cessation messages can also be effective, but that four strategies are not effective: youth access, short-term health effects, long-term health effects, and romantic rejection. They also characterized California's counteradvertising campaign as more "confrontational with the industry" (p. 772) than Massachusetts' "more youth-oriented approach" (p. 772), citing this difference as a major reason for their finding that the California media campaign was relatively more cost-effective. This paper elicited some strong responses. The University of Vermont School and Mass Media Project investigators (Worden et al. 1998) emphasized the limitations of focus group results and the importance of audience age in reactions to messages. They argued that for young people aged 10 to 12 years (the age group in which they recommended starting prevention efforts), presenting messages that foster positive social influence and social norms have proved most effective in reducing tobacco use among youth. Balch and Rudman (1998) responded that young people participating in 110 focus groups in five different states considered numerous concepts and judged five to be more credible, relevant, and persuasive: addiction, short-term health effects, athletic performance, role model for younger siblings, and effects on family. From Massachusetts, Connolly and Harris (1998) noted that industry manipulation and ETS themes constituted 32 percent of all youth-targeted messages and 37 percent of all messages in the Massachusetts tobacco control media campaign and that on a per capita basis, the state actually outspent California on these messages. Moreover, the researchers reported that Massachusetts experienced a larger decline in per capita cigarette consumption than did California for the period 1990–1996.

To obtain data in a more quantitative way, Pechmann and Shih (1999) created a typology based on 196 youth-oriented antismoking television advertisements. They identified three main types—fear appeals, peer norms, and tobacco marketing—and further subdivided these into seven main messages: (1) smokers may face serious health problems, (2) tobacco company deception results in disease and death, (3) smokers endanger their family members, (4) smoking is unattractive, (5) smokers are perceived by peers as misguided, (6) most young people choose not to smoke, and (7) advertisement shows how tobacco companies market their products. The investigators tested a sample of 56 of their advertisements in a group of ethnically diverse 7th, 9th, and 10th graders. After viewing a selection of test and placebo advertisements, study participants completed an evaluation survey to assess the effect of each category on their intent to smoke and on other pertinent measures, such as attitudes toward smoking and knowledge of tobacco marketing tactics. Results showed that only three of the seven messages were highly effective in reducing teenagers' intent to smoke: those that conveyed that smokers endanger their family members, that smokers are perceived by peers as misguided, and that most young people choose not to smoke.

In the Massachusetts campaign study (Siegel and Biener 2000), the authors tested eight smoking-related knowledge and attitude variables corresponding to campaign themes. Only one variable, perceived youth smoking prevalence, changed significantly with exposure to the media campaign at baseline and was associated with the reported reduction in tobacco uptake. Exposed youths were more than twice as likely than their unexposed peers to have an accurate perception at follow-up that fewer than half of the students at their high school were smokers. Variables that did not change were knowledge and attitudes related to low-tar cigarettes, environmental tobacco smoke, chemicals, wrinkles, tobacco company tactics, dating, and sports. This finding points to the power of the mass media, especially television, to set social norms and supports the effectiveness of counteradvertising messages that denormalize tobacco use.

As part of a three-year study exploring racial/ethnic and gender differences in teen tobacco use, a group of 11 CDC-funded university-based Prevention Research Centers conducted a series of focus groups during 1996–1997 to explore potentially effective counteradvertising strategies and messages. Six of the 11 centers used television spots from CDC's Media Campaign Resource Center for Tobacco Control to elicit reactions and stimulate discussion. For the most part, different centers used different advertisements, and they did not attempt to "test" the advertisements in any standardized way to determine relative effectiveness. Nevertheless, the conclusions that emerged from

Teen Focus Group Response to Counteradvertising Messages

(Findings from 11 Prevention Research Centers)

- Without an overall context provided by ongoing advertising and other program elements, the message that tobacco companies are manipulating young people to smoke ("they're lying to you") has relatively low interest and salience among teens and may be miscomprehended.
- Attempts to explain the concept of nicotine addiction and make it personally relevant for young nonsmokers is difficult because most have not experienced the physical cravings of addiction and tend to take messages literally.
- The television spot shown to the most focus groups (about physical performance and featuring the U.S. Women's National Soccer Team) was easily understood, attention getting, and credible and may be generalizable (with some effort) to nonathletic endeavors.
- Young people did not like advertisements that feature text.
- Young people, particularly whites, were sharply critical of any advertisement they perceived as corny, "cute," staged, or unhip.
- As advertising professionals have reported in the research literature, humor was found to be a double-edged sword: it can be very effective, but if used inappropriately can be seen as trivializing the issue. In some focus groups, humorous advertisements obtained both the highest and the lowest scores.
- Young people reacted emotionally and favorably to true, nonpreachy stories about the impact of smoking on a person's or family member's life (such as a television spot from California featuring a man whose wife had died from exposure to his smoking).
- Cartoons tend to have low "stopping power" because teens have seen so many, whereas the use of surprising characters like animals (such as the "Animals" and "Butts" spots from Minnesota) can rivet attention. These attention-getting spots do not necessarily communicate an effective countermessage, however.
- Messages that portray the negative social effects of tobacco use perform well among teens; messages that focus on health effects can be effective if they are presented dramatically but realistically (such as a California spot featuring a laryngectomy patient smoking a cigarette).

this research (Tobacco Network, unpublished data) give some indication of the complexity of people's response and the considerable challenges to crafting effective messages (see the text box "Teen Focus Group Response to Counteradvertising Messages").

Audience targeting. The use of counteradvertising aimed only at young people rather than the use of a general marketing approach has been controversial. Glantz (1996) criticized the public health community's "preoccupation with youth" (p. 157), particularly youth access campaigns, as an ineffective strategy and one that diverts energy from reducing adult smoking and creating a smoke-free society. Cummings and Clarke (1998) warned that campaigns focused exclusively on young people may be counterproductive if the messages make smoking more appealing to youth by promoting it as something that is not for them. Indeed, a chief criticism of the tobacco industry-funded booklet *Tobacco: Helping Youth Say No* was that it portrayed tobacco use as a forbidden fruit and a badge of maturity, thereby increasing its attraction to youth (DiFranza and McAfee 1992). The Institute of Medicine noted that "as adolescents venture more and more into the community, their perceptions that certain norms seem to apply only to them and not to adults may promote health-compromising behaviors" (Lynch and Bonnie 1994, p. 87). Young people participating in focus groups conducted during the third year (1997–1998) of the CDC-funded Tobacco Network project reported that they respect and regard policies targeted to the public at large, such as clean indoor air laws, but resent policies specific to them, such as youth access restrictions. They also resented the inconsistent enforcement of general

Tips for Success in Health Promotion Campaigns

- ***Target young people in grades six and nine (ages 11 and 15)***. These years define critical periods in most children's social development, times when many young people change schools and peer groups.
- ***Target adults with complementary, noncontradictory messages***. In a comprehensive strategy, media messages that inevitably spill over from one audience to another can be mutually reinforcing and synergistic. Clean indoor air messages can provide added motivation for adults to quit smoking. Cessation messages for adults can affect young people's perception of norms and highlight the problem of addiction. Prevention messages for young people can increase the salience of the tobacco issue among parents and community leaders.
- ***Highlight nonsmoking as the majority behavior***. Most young people overestimate the number of their peers who use tobacco. Campaigns should not seek to correct this misperception *and* highlight an increasing "problem" of kids who smoke.
- ***Present realistic tobacco-free lifestyles*** as practiced by diverse, appealing, and interesting persons. Youth behaviors are driven by how young people perceive the behaviors of people like them. Having a repertoire of social choices is a fundamental need for teens, who are going through a period of profound social and environmental transition.
- ***Provide constructive alternatives*** to tobacco use and discourage destructive alternatives. Sports and other youth-oriented activities associated with the tobacco-free lifestyle can provide some of that positive social repertoire.
- ***Communicate the relevant dangers*** of tobacco. Certain dangers of tobacco, if explained in a creative and memorable manner, resonate with young people—for example, addiction portrayed as a loss of control, the carcinogenicity of environmental tobacco smoke, the toxic chemicals in tobacco products and smoke, and the tangible suffering and visible disfigurement from tobacco-related diseases. Communicate health messages through personal testimonies (tell a story) and creative executions that break through young people's sense of immortality and their (and adults') resistance to traditional health messages.
- ***Encourage youth empowerment and control***. Teens need to be offered information and anecdotal experience from which they can begin to understand the world and take control of their own lives.
- ***Abandon the search for the "magic-bullet" message***. There is no single best motivator for preventing or reducing tobacco use. Campaign messages for both young people and adults should feature a variety of themes, appeals (fear, humor, satire, testimonials, etc.), and executional styles. Maximize the number, variety, and novelty of messages rather than communicating a few messages repeatedly.

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policies, such as allowing teachers but not students to smoke on school property.

Worden (in Cummings and Clarke 1998), referring to the research literature on multifaceted education campaigns, noted that reducing the demand for tobacco among young people requires a combination of direct (to youth) and indirect (to adults) messages and careful attention to audience segmentation. He stressed that young people and adults need separate media campaigns that do not contradict each other. For example, a youth-directed television spot that communicates the message "most kids don't smoke" can be neutralized by an adult-aimed but youth-viewed spot that says "more and more kids are smoking every day."

Characteristics of Successful Campaigns

Though debate continues over the relative effectiveness of strategies employing specific messages, the experience reviewed in preceding sections suggests consensus that counteradvertising campaigns must have sufficient reach, frequency, and duration to be

continued

- ***Use multiple nonpreachy voices.*** Not only do different teens require different appeals and creative executions, but diversity of messages is itself a sophisticated message. Teens strongly reject attempts by anyone to dominate or direct them. Messages about industry manipulation, if they are to be relevant and acceptable to youth, should be delivered by nonauthoritarian sources (such as Florida's "Truth" campaign teenagers), not with melodramatic appeals. Avoid highlighting a single theme, tagline, identifier, or sponsor.
- ***Use a complementary, reinforcing mix of television, radio, print, and outdoor advertising.*** The campaign should also explore the various alternative media options available (e.g., movie trailers, the Internet, other computer resources, video games, materials for schools and community groups). The media mix is especially important in view of today's proliferating fragmented media market.
- ***Involve parents and families*** in activities that will reduce risk factors and promote protective factors for young people at risk for tobacco use. Parents and other family members have substantial influence on the perceptions and behaviors of young people.
- ***Maximize use of existing high-quality media materials*** produced by the government, voluntary agencies, and a number of individual states. (A new, high-quality television spot commonly costs more than $100,000 to produce.) A large collection of advertisements is currently available through the CDC's Media Campaign Resource Center for Tobacco Control. The cost of placing an advertisement will vary significantly by state and media market.
- ***Include grassroots promotions, local media advocacy, event sponsorships, and other community tie-ins*** to support and reinforce the counteradvertising campaign (see "Media Advocacy," earlier in this chapter). Work in concert with other interventions to promote policies that aim to change social norms regarding tobacco. A local "look" for local media messages (e.g., featuring people of ethnic or geographic representation similar to the viewing audience) appears to be more important for adults than for youth, because young people tend to share and be shaped by a more universal, multiethnic youth "media world."

successful. The 1967–1970 media campaign, enabled by the Fairness Doctrine, achieved high frequency (one antismoking advertisement per three cigarette advertisements), extended reach (virtually complete audience penetration through three [pre-cable television] national networks), and long duration (three and a half years). The youth-aimed media campaign of the University of Vermont School and Mass Media Project exposed 50 percent of the target population to each television and radio spot about 6 times each year over a four-year period (about the midpoint in the recommended exposure range of 3 to 10 times per year). This level of exposure is possible only through paid media placement.

Another lesson from health promotion campaigns is the need for research at every phase of campaign planning and implementation. Campaigns should be grounded in the extensive literature on psychosocial risk factors for initiating, continuing, and stopping tobacco use and should be guided by expertise in communications theory and practice. Media materials should undergo rigorous audience pretesting to ensure they achieve predetermined communication objectives with their target audiences. Ongoing measurement of the communications' impact is needed to evaluate the effectiveness of the campaign and to guide midcourse corrections.

Through the Columbia University Prevention Research Center in New York City, the CDC convened a panel of youth marketing and research experts in 1996 to advise the agency on effective countermarketing approaches to prevent tobacco use among young people. Over two years, the expert panel reviewed the literature, interviewed experts in tobacco control and health promotion, and drew on their private-sector experience and resources to develop a set of strategic guidelines for such a campaign (McKenna et al. 2000). This work, supplemented by other reviews of counteradvertising campaigns (USDHHS 1994; Pechmann 1997; Siegel 1998; Teenage Research

Unlimited 1999; Pechmann and Reibling 2000), yielded recommendations for effective media campaigns to prevent tobacco use (see the text box "Tips for Success in Health Promotion Campaigns").

These recommendations serve as general guidance for tobacco counteradvertising efforts, but further research is needed to refine our understanding of the role and effects of mass media. Relevant areas for further investigation include determining the impact of counteradvertising on tobacco use behaviors, on readiness to quit, on attitudes toward tobacco advertising and tobacco use, and on other predictors of initiation and cessation; identifying the most effective themes, techniques, and messages; tailoring messages to high-risk groups; exploring the role of new communication tools, such as the Internet; attributing impact; and examining the interaction of media campaigns with private and public tobacco control policies.

Summary

The conceptual framework described at the start of this chapter defines the basic components of the health promotion intervention model. The statewide tobacco control programs being funded either by increases in cigarette excise taxes or settlements with the tobacco industry are creating a new laboratory to test many of these conceptual models for comprehensive tobacco control. Recently, both the Institute of Medicine (IOM) and researchers have released reviews of the emerging data from these statewide tobacco control efforts. In their report, the IOM (2000) noted that it is difficult to attribute a reduction in tobacco use to any single factor; nevertheless, they conclude that "multifaceted state tobacco control programs are effective in reducing tobacco use"(p. 4). In a review focusing more specifically on the effectiveness of these new statewide tobacco control programs on teenage smoking, Wakefield and Chaloupka (1999) conclude that "There is consistent evidence the programs are associated with a decline in adult smoking prevalence"(p. 6), but they are somewhat more cautious about the impact of these programs on youth smoking. Nevertheless, they do conclude that "Notwithstanding these cautions, we find that the weight of evidence falls in favor of comprehensive tobacco control programs being able to reduce teenage tobacco use" (p. 6).

In the consideration of the emerging data from these statewide tobacco control programs, it is important to note that many programmatic elements of the comprehensive tobacco control program framework are still being refined and evaluated. Thus, no current statewide program serves an ideal or model program. Wakefield and Chaloupka (1999) conducted a careful review of the various elements of the statewide programs in Arizona, California, Florida, Massachusetts, and Oregon. They placed special attention on the strengths of the "inputs"—"namely, what was *actually implemented* as part of the programs." Additionally, they assessed how "actual implementation of program strategies may differ substantially from intended implementation" and noted that "the extent of disparity may vary over time and between programs." Much more evaluation research is needed in order to sort out the efficacy of individual components of these evolving comprehensive programs and to refine the comprehensive program structure.

Finally, although the data from these statewide tobacco control programs are encouraging, these results need to be considered in the perspective of the less favorable results from the community trials. The conceptual framework for the comprehensive tobacco control programs shares many elements with the theoretical models used to develop the community trial interventions. However, as Wakefield and Chaloupka (1999) noted, the programs actually implemented may differ substantially from the intended implementation. There has been some effort to analyze how the program components within the emerging statewide tobacco control programs may differ from interventions tested within the community trials (Green and Richard 1993; Schmid et al. 1995), but much more work is needed in this area. As the IOM (2000) and Wakefield and Chaloupka (1999) concluded, the results from the statewide tobacco control programs are favorable. However, both reviews emphasize the importance of continued surveillance and evaluation efforts to monitor program performance, to provide accountability for the use of public funds, and to improve program efforts.

Conclusions

1. The large-scale interventions conducted in community trials have not demonstrated a conclusive impact on preventing and reducing tobacco use.

2. Statewide programs have emerged as the new laboratory for developing and evaluating comprehensive plans to reduce tobacco use.

3. Initial results from the statewide tobacco control programs are favorable, especially regarding declines in per capita consumption of tobacco products.

4. Results of statewide tobacco control programs suggest that youth behaviors regarding tobacco use are more difficult to change than adult ones, but initial results of these programs are generally favorable.

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