

## 2. The Conceptual Framework

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## 2. The Conceptual Framework

*During the year following the approval of the American Stop Smoking Intervention Study (ASSIST) project by the Board of Scientific Counselors, the National Cancer Institute (NCI) staff formalized a description of the components—programmatically, organizationally, and operationally—that would be required in a comprehensive tobacco prevention program. Those components would be incorporated as program standards in a request for proposals, the mechanism the government uses to offer contracts for work to be performed. The standards presented the critical elements for an effective comprehensive intervention for tobacco prevention and control. They were based on the NCI research database, the cumulative body of smoking and behavioral change research literature, and the experience of public health professionals. As such, the standards represented the state of the science in smoking prevention and control at that time.*

*The standards informed the development of the “ASSIST Program Guidelines for Tobacco-Free Communities” and later served as the foundation for The Robert Wood Johnson Foundation’s SmokeLess States Program and the Initiatives to Mobilize for the Prevention and Control of Tobacco Use (IMPACT) program of the Centers for Disease Control and Prevention. They also provided guidance for programs in California, Massachusetts, and other states. This chapter describes the conceptual framework used for planning and implementing each state’s ASSIST program.*

### The Fundamental Premises of ASSIST: Preventing Tobacco Use through the Public Health Model

Concurrent with the efforts to formalize the concept for the ASSIST model, public health professionals throughout the United States were beginning to understand more fully the relationships between health behaviors and social and physical environments. Tobacco use is developed and shaped by social context in addition to an individual’s biological responses. Changes in the social and physical environment that can influence the initiation and cessation of tobacco use and exposure to environmental tobacco smoke include tobacco prices, antitobacco media campaigns, declining social acceptability of smoking, limitations on where tobacco use is permitted, and limitations on access to tobacco products.

Given the broader perspective, smoking was seen as a public health problem requiring population-based interventions that extend beyond individual counseling and education. The agent-host-environment triad is commonly used to conceptualize and address public health problems, thereby providing more strategic options for controlling diseases and promoting health. (See figure 2.1.)

This public health model is a fundamental component of epidemiology and health behavioral sciences. The ecological systems model, or a social-environmental model, depicts connections and inter-relationships between people and their environments and builds on the triad. Applied to tobacco control, it focuses attention on four priority actions:

1. Promoting a tobacco-free social norm through widespread policy changes and media messages
2. Preventing the initiation of tobacco use and thereby the development of nicotine addiction
3. Making support for quitting widely available to tobacco users
4. Protecting nonsmokers from exposure to environmental tobacco smoke<sup>1</sup>

Based on the ecological model, the ASSIST conceptual framework emphasizes how the influences of social rela-

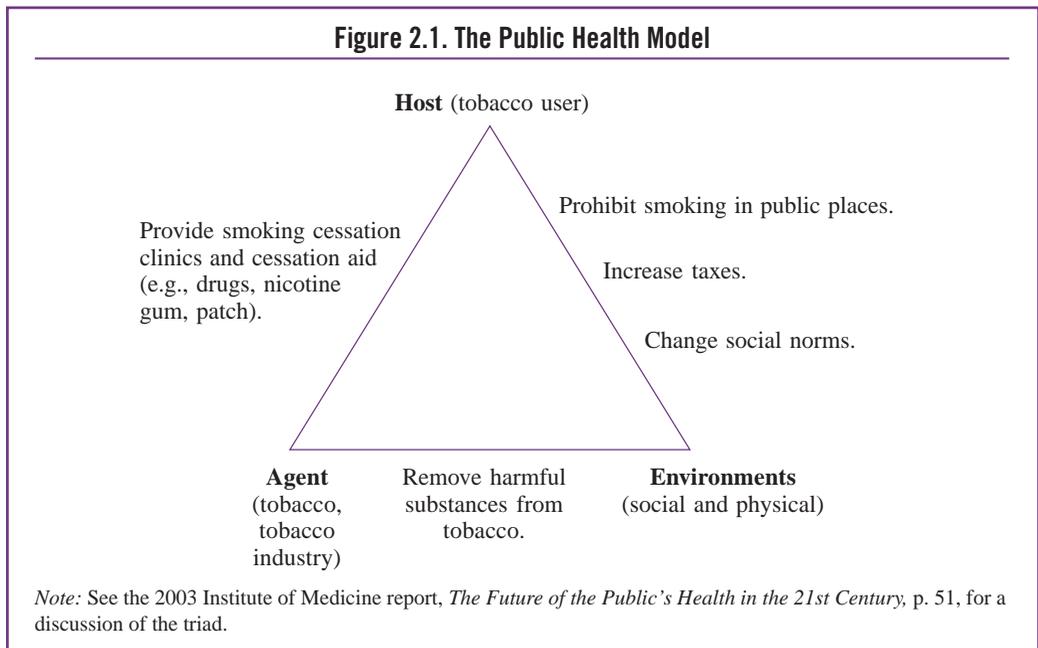
**Eligibility for ASSIST Contracts**

“Health departments, because of their commitment to public health, their experience in working in a society of institutional partnerships to accomplish their goals, their access to target populations of smokers, and their guaranteed continued presence, will be the only eligible recipients of ASSIST contracts.”

*Source:* National Cancer Institute. 1990. *The American Stop Smoking Intervention Study (ASSIST) request for proposals* (Publication no. NCI-CN-95165-38). Bethesda, MD: National Cancer Institute, 30.

tionships, environmental conditions, and societal phenomena, such as public policies that affect tobacco use and health, provide a structure for designing media and policy interventions for multiple channels and populations. (See figure 2.2.)

**Figure 2.1. The Public Health Model**



*Note:* See the 2003 Institute of Medicine report, *The Future of the Public’s Health in the 21st Century*, p. 51, for a discussion of the triad.

Given the public health conceptualization of the tobacco problem, important assumptions were identified and articulated as ASSIST program guidelines:

1. When a community affected by change is involved in initiating and promoting the development of that change, there is an increased probability that the change will be successful and permanent. This involvement includes participation by community representatives in defining the problem and in planning and instituting steps to resolve the problem.
2. Smoking control interventions should be targeted at broad social and environmental change rather than individual change. Therefore, efforts to achieve priority public policy objectives should take precedence over efforts to support service delivery.
3. Interventions should be directed toward efforts that will have the greatest potential for producing a major impact on smoking control. Usually, this would suggest targeting at the highest structural level of the site (i.e., state or region). However, this should not unduly preempt a careful weighing of the strategic benefits of local efforts.
4. Interventions targeted at populations at higher risk for smoking are likely to be more cost effective than undifferentiated initiatives targeted at the population as a whole. However, where policy advocacy is the appropriate intervention, the defined target audiences may not be representative of the target population but of other segments of the general public that would have a greater impact on implementing the policy.

5. Staff energies should be devoted to building capacity within the coalition and the site rather than directly carrying out interventions.
6. ASSIST resources will augment the existing resources of coalition members and other community organizations to accomplish ASSIST objectives. Rather than supplanting resources, ASSIST will stimulate and enhance existing resources to expand beyond their current smoking control activities. Conversely, ASSIST staff resources will be amplified by contributions of coalition members and other community organizations.<sup>1</sup>(Overview, pp4-5)

### **Coalition Building: Involving and Mobilizing the Community**

Working with and through communities was a central operational and structural approach of ASSIST. If a program's primary focus is on social- and system-oriented changes, stakeholders and key influential persons in the system must be involved and active.

The ability to develop and use statewide and local tobacco control coalitions was a fundamental underpinning for operationalizing the ASSIST conceptual framework and was a requirement in the request for proposals. The requirement conveyed NCI's commitment to the community-based approach. The coalition model,<sup>2,3</sup> as the organizational structure for the ASSIST framework, enables diverse groups to work together to plan, support, and coordinate tobacco control efforts. (An extensive description of the coalition model is presented in chapter 4.) ASSIST coalitions would be responsible for a variety of functions, including the following:

- Reaching out and engaging community groups and individuals who have the potential to contribute to community tobacco control mobilization on all intervention fronts and in all channels
- Mobilizing the organizations and human resources needed to collaborate with ASSIST staff in conducting site analyses, developing comprehensive tobacco control plans, and developing annual action plans
- Overseeing and implementing the program interventions defined in the annual action plans

Whatever the chosen structure and form of governance, each coalition was required by the ASSIST program guidelines to develop responsive leadership and certain capabilities to conduct interventions successfully.

### The ASSIST Conceptual Framework: Priority Populations, Channels, and Interventions

The ASSIST conceptual framework, an adaptation of the ecological model, approaches the prevention of tobacco use through three priority strategies: community organization and mobilization through coalition-building, mass media interventions, and policy advocacy. The

framework incorporates three axes, which became the project's planning model: priority populations,\* channels, and interventions. The ASSIST conceptual framework (known as *the cube*) depicts the channels for delivering intervention activities to priority populations. (See figure 2.2. This early version of the cube has four channels. The Community Environment channel was added later.)

#### Axis 1: Priority Populations

ASSIST was designed to reach groups with high rates of tobacco use, with limited access to information about tobacco use and cessation services, and at high risk for initiating tobacco use. National prevalence data revealed that the population groups with the highest rates of tobacco use were adolescents, ethnic minorities, blue-collar workers, unemployed people, and women. Because of the potential for the greatest long-term impact, youths were identified as a major priority population.

The ASSIST model readily integrates the social marketing concept of priority populations with a community development orientation; that is, it views involvement of community groups as important for reaching the priority populations and even engages the priority populations in implementing interventions. For example, to reach adolescents, the coalitions

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\*At the outset of ASSIST, the term *target populations* was used. The term *target* is commonly used in marketing disciplines to refer to population groups. However, in the early 1990s, because many in the public found the term *target* offensive and even threatening, ASSIST replaced the term with *priority*. In the glossary to the "ASSIST Program Guidelines for Tobacco-Free Communities," target (priority) populations are defined as follows: "segments of the general population that merit special attention based on their higher risk for cancer (e.g., heavy smokers), potentially higher risk of smoking (e.g., youths and teenagers), or lack of access to smoking control services" (p. 6).

worked with adolescents themselves and gave them the lead in advocacy interventions, such as media events and making presentations to city councils.

**Axis 2: Channels**

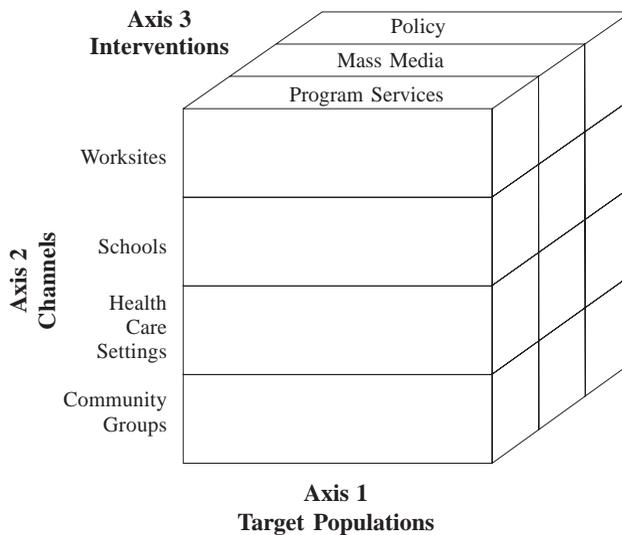
The following channels for prevention and control of tobacco use are the settings through which intervention program activities reach the specific individuals and groups:

- Community environment
- Worksites
- Schools
- Healthcare settings
- Community groups

Promoting a tobacco-free social norm in each of these settings establishes and

reinforces a tobacco-free norm community-wide. The channel of *community environment* includes smoke-free restaurants, bars, and other public buildings. Through the *worksites* channel, businesses can become involved in creating smoke-free workplaces and in developing cessation programs for employees and their spouses who use tobacco. *Schools* are settings in which tobacco use policies should be enacted and enforced—in school buildings, on school grounds, at school sporting events, and at school-related meetings. Schools also offer the means for outreach to teachers and students with strategies and interventions to prevent tobacco use and to become an empowering vehicle for change. *Healthcare* settings ensure that

**Figure 2.2. The ASSIST Conceptual Framework**



Source: ASSIST Coordinating Center. 1991. Overview of ASSIST. In ASSIST program guidelines for tobacco-free communities. Internal document, ASSIST Coordinating Center, Rockville, MD (p. 9).

### Critical Planning Issues

Several elements are critical to planning a comprehensive smoking prevention and control program. Whether for a small community, city, major metropolitan area, state, or the nation, the following three issues should be considered:

1. Tobacco use is a public health problem. Participants in the program must ensure that all communications describe the issue as a problem for all members of a community, not just for smokers. Blaming and ostracizing tobacco users can polarize the public and cause hard feelings that undermine tobacco prevention and control efforts.
2. A careful assessment of the community's needs and assets is essential to effective allocation of resources. Such an assessment includes defining the tobacco problem; identifying priority groups; surveying the current level of program services, policies, and various types of media; and analyzing the potential of the healthcare system, worksites, schools, community networks, and the community environment to reach smokers. This process is time-consuming and delays moving into action but is critical to the success of tobacco control efforts.
3. A comprehensive long-term plan must be developed to integrate and coordinate the use of various types of media, develop policies, and deliver program services to the appropriate audiences to achieve significant reductions in tobacco use.

smoking is an element in the patient assessment. *Community groups*, such as Rotary clubs, agree to no smoking at their meetings. (The subsection below on program objectives elaborates on these channels.)

### Axis 3: Interventions

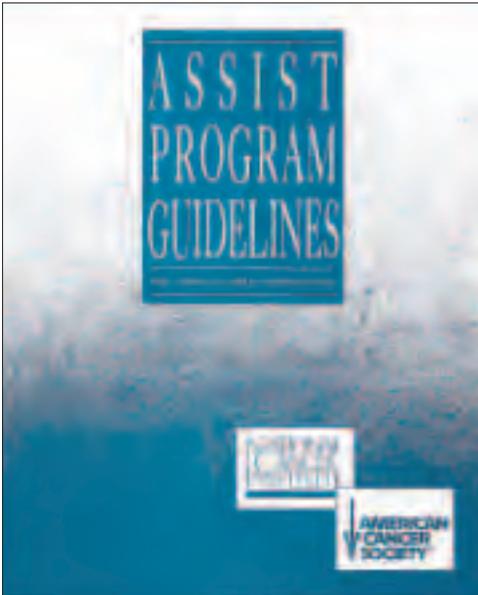
In the ASSIST conceptual framework and planning model, three types of inter-

ventions are delivered through the channels—policy, mass media, and program services. Tobacco control research shows that the social and physical environment surrounding smokers and potential smokers influences their behavior. Smoking rates among large populations appear to be related to certain public and private policies on tobacco use and to tobacco marketing.

Policies can take the form of legislation, such as excise tax increases, access and advertising restrictions, or private rules, such as voluntary adoption of workplace or restaurant smoking bans that are implemented without a public mandate. Each category of intervention includes a variety of specific activities, some that can be delivered through all five channels (e.g., self-help materials or large community-based magnet events, such as the Great American Smokeout) and some that are most appropriately delivered within a specific channel (e.g., brief counseling by healthcare providers, school-based smoking prevention programs, or messages designed specifically for priority populations).

The aim of the interventions is to alter the environmental and social influences affecting the population's use of tobacco; therefore, the strongest emphasis is on media and public and private policy interventions. In the ASSIST model, four policy areas are priorities:

1. Eliminating exposure to environmental tobacco smoke
2. Promoting higher taxes for tobacco
3. Limiting tobacco advertising and promotions
4. Reducing minors' access to tobacco products



ASSIST Program Guidelines

For example, *policy efforts* can be directed at promoting clean indoor air policies, promoting higher excise taxes for tobacco products, limiting tobacco advertising, and restricting minors' access to tobacco. *Media activities* should support these policy initiatives through well-designed media campaigns, especially campaigns that generate news coverage (sometimes termed *earned media coverage*), although the paid media approach is sometimes preferred to ensure prime-time and adequate coverage. Engaging the media strategically to bring attention to an issue or to promote a policy is known as *media advocacy*. Media advocacy was a critical strategy in the ASSIST project, which advanced its application as an intervention in the public health model of prevention.

Though proven to be effective interventions, the relative impacts of these

different types of policies and restrictions have not yet been conclusively established. However, the *Community Guide to Preventive Services* is an excellent resource that considers the strength of the evidence base for policy interventions and provides very helpful recommendations regarding their relative effectiveness. See <http://www.thecommunityguide.org/tobacco/default.htm>.<sup>4</sup> (For more information about the scientific basis and rationale behind these policy areas, see chapters 5–7.)

At the time the conceptual framework was developed, the impact of increases in cigarette excise taxes on smoking behavior was already documented.<sup>5</sup> Analyses demonstrated that a price increase of 10% produces a decrease of about 4% in demand for cigarettes, particularly among men 20 to 25 years old. This decrease results largely from people choosing not to smoke at all; the remainder is attributable to decreases in daily consumption rates by men 35 and older who continue to smoke.<sup>5</sup> Analyses also showed that youths are sensitive to price changes. An 8-cent decrease in the federal tax would induce up to 1 million young persons aged 12 to 25 to smoke, whereas without the tax decrease, they would not smoke. Conversely, an 8- to 16-cent tax increase would influence from 1 to 2 million persons ages 12 to 25 and from 800,000 to 1.5 million adults to quit smoking or not to start. Thus, the effect of a tax increase would translate into the prevention of hundreds of thousands of premature smoking-related deaths.<sup>6</sup>

Restrictions on indoor smoking and tobacco advertising may also influence

smoking behavior. By the time the ASSIST framework was developed, several longitudinal studies had documented decreases in prevalence and increases in smoking cessation after the enactment of smoking restrictions in individual work-sites and healthcare settings, whereas other studies did not.<sup>7-11</sup> Several studies had suggested that reductions in smoking prevalence can be achieved by implementing significant restrictions on tobacco promotion and advertising.<sup>12-16</sup> Many types of restrictions had been suggested. These restrictions included a total ban on advertising; removal of cartoon characters, color, or people from ads; bans on point-of-purchase advertising; bans on event sponsorship; and removal of outdoor advertising near schools and parks.

Program services are likely to be needed once media and policy efforts have been successful in putting tobacco use policies in place and in creating a tobacco-free norm. Program services were originally defined in the ASSIST program guidelines as those smoking control activities involved in directly assisting individuals to make behavioral changes consistent with nonsmoking norms, but the concept later evolved to include all forms of tobacco use. For purposes of ASSIST, three main kinds of services were identified:

1. Use of cessation resources to help people stop smoking
2. Services to prevent smoking initiation
3. Smoking education for the general public

### ASSIST Program Objectives and Evaluation

The request for proposals set forth program objectives based on a public health perspective. The program objectives would provide strategic direction and priorities for the coalitions, but it would be the responsibility of the coalition members to develop the tactics, or intervention activities, that would achieve the objectives. The ASSIST approach to achieving the objectives encompassed two phases:

1. A 2-year planning phase, during which state-level analyses of resources were made and comprehensive smoking control plans were developed
2. A 5-year implementation phase\*

The program objectives were revised early in the ASSIST project and were set forth in the “ASSIST Program Guidelines for Tobacco-Free Communities,” as presented in table 2.1.

The following sections elaborate on the program objectives in terms of the channels to be used in implementing the ASSIST planning model.

### Community Environment

All urban areas and regions of the country comprise various smaller communities that can be geographically, ethnically, or culturally defined. *Community environment* refers to the general physical and social environment in identified areas within the intervention site.

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\*The ASSIST project was originally scheduled to end in 1998 but was later extended through the end of September 1999.

**Table 2.1. ASSIST Program Objectives by 1998**

| Channel               | Objective   |
|-----------------------|---|
| Community Environment | <p>By 1998, cues and messages supporting nonsmoking will have increased, and pro-smoking cues and messages will have decreased.</p> <p>By 1998, sites will substantially increase and strengthen public support of policies which a) mandate clean indoor air; b) restrict access to tobacco by minors; c) increase economic incentives and taxation to discourage the use of tobacco products; and d) restrict the advertising and promotion of tobacco.</p> |
| Community Groups      | <p>By 1998, major community groups and organizations that represent the priority populations and have broad-based statewide reach should be involved in ASSIST activities.</p>  |
| Worksites             | <p>By 1998, proportion of worksites with a formal smoking policy that prohibits or severely restricts smoking at the workplace should increase to at least 75 percent.</p> <p>By 1998, worksites reaching major populations will adopt and maintain a tobacco use cessation focus.</p>  |
| Schools               | <p>By 1998, 100 percent of schools serving grades K through 12 and public vocation/technical/trade schools will be tobacco free.</p> <p>By 1998, 100 percent of all schools serving grades K through 12 will use a tested, efficacious tobacco use prevention curriculum.</p>   |
| Healthcare Settings   | <p>By 1998, at least 75 percent of primary medical and dental care providers will routinely advise cessation and provide assistance and followup for all of their tobacco-using patients.</p> <p>By 1998, all public health facilities, both outpatient and inpatient, will have enforced smoke-free policies.</p>  |

*Source:* ASSIST Coordinating Center. 1992. Resource materials section. In ASSIST training materials. Vol. III. Site analysis and comprehensive smoking control plan. July 20–21. Internal document, ASSIST Coordinating Center, Rockville, MD.

The community environment as a channel consists of the multiple community outlets that reach all citizens regardless of employment, educational, health, social, or smoking status. The presence and salience of messages promoting tobacco use or cessation, the availability (or lack) of cigarettes and smokeless tobacco, and the social norms for smoking in public places all contribute to a community environment that may or may not support tobacco use. An effective strategy for increasing awareness of

the tobacco control issue and changing the social environment is to involve numerous organizations and groups in planning, initiating, and implementing tobacco control activities at the local level.

### Worksites

Worksites are ready-made locations for implementing and supporting tobacco-free policies and smoking cessation programs. Worksites also provide an opportunity to reach the ASSIST priority populations: women, blue-collar workers,

and people of low educational attainment. Worksites are an important channel for involving nonsmokers in tobacco control efforts, particularly through the promotion of nonsmoking policies. Restrictions on smoking in the workplace protect nonsmokers from exposure to the tobacco smoke of others. Thus, successful worksite smoking control programs consist of two major components:

1. Motivation and support for smoking cessation attempts
2. A clear nonsmoking policy that is strictly enforced

It is important in implementing worksite smoking control programs that employees take responsibility for planning and implementing smoking control policies and programs in their own worksites.

### Schools

Schools provide another important channel for preventing tobacco use because they represent a primary channel for reaching youths and adolescents and provide an opportunity for reaching individuals who may not be reached through worksites. Schools also provide a forum for reinforcing parental messages delivered through worksite programs. The school environment is established to support learning and, thus, naturally provides the skills and support for the delivery of prevention and cessation programs to students, faculty, and staff. Further, during class time, students may be receptive to learning about the health consequences of tobacco use and the benefits of cessation. Finally, as self-governing establishments, schools pro-

vide important opportunities for implementing tobacco-free policies. School-based prevention and control activities should be conducted through all private and public primary, secondary, and post-secondary schools.

### Healthcare Settings

Because of the potential for healthcare providers to reach a substantial number of smokers, healthcare settings can be highly effective channels for smoking cessation and prevention activities. In addition, influential healthcare providers who are interested in playing a leadership role in tobacco control should be identified. They should be encouraged to influence their colleagues directly by training their peers in intervention techniques and indirectly by raising the topic at meetings and social events.

### Community Groups

Community groups of individuals who gather regularly for some mutual purpose are considered to be networks. Such networks range in structure from formal (social clubs and some service organizations) to informal (e.g., block associations, neighborhood centers) and are representative racially and ethnically of the community. Community groups are an important channel for preventing tobacco use because they provide an opportunity to reach individuals who may not be reached through healthcare settings, worksites, or schools. In addition, the groups create an expanded capacity for ongoing support of nonsmoking norms at all levels of the community. Community networks include youth organizations, service and social clubs,

and religious and professional organizations. They include large organizations that meet regularly and small groups that have the potential to reach priority groups of smokers. Small groups vary greatly in structure and function and may be uniquely able to reach certain groups of smokers. They include such entities as childcare co-ops, block associations, after-school programs, and social clubs.

### **The Evaluation Plan for ASSIST**

The main outcome expected from the ASSIST project was a trend of decreasing smoking prevalence in ASSIST states that would be greater than a trend in non-ASSIST states. To evaluate those trends, data would be needed at the state level and the national level. Because ASSIST was a national demonstration project, it would have been difficult for individual states to independently evaluate their own efforts and then combine those evaluations with evaluations from the other states. Consequently, no funds were allocated to the states for evaluation. Rather, as recommended by the ASSIST Scientific Advisory Committee, NCI staff decided to have the evaluation conducted centrally at NCI. Even so, the resources devoted to evaluation were quite modest relative to the total budget of the project. Thus, for the most part, existing databases had to be used, and designing the evaluation of this complex project proved to be a considerable challenge.<sup>17</sup> In addition, during the planning process, the lack of adequate scientific methodology for evaluating such a large-scale, multi-site demonstration became evident, and a number of revisions to the original plan became necessary.

To help address the inherent challenges of the ASSIST evaluation, ad hoc advisory groups were convened in 1990 and met during several months to assist NCI in developing the initial design for process and outcome evaluations and for impact substudies. Later in 1992, a broad-based ASSIST Evaluation Committee was established to advise NCI and the ASSIST Coordinating Center (which provided technical assistance to the states) on the evaluation plan and to address the various issues surrounding the evaluation. The committee identified potential evaluation and research questions, suggested secondary data sources, recommended priorities for evaluation activities, reviewed proposed analytic approaches and data collection and measurement methodologies, and provided feedback on draft documents related to the ASSIST evaluation.<sup>18</sup>

The advisory groups and the committee had to address a number of theoretical challenges. As a demonstration project, ASSIST was not a randomized experiment but rather a purposeful sample. Would comparisons to non-ASSIST states be valid measures of the effect of ASSIST? States were selected for participation in ASSIST because of their capabilities to deliver the three types of interventions to reach populations having the highest smoking rates. These criteria set them apart from most other states. Complicating the concept was the fact that two states, California and Massachusetts, received financial windfalls about the time that ASSIST was being funded. Massachusetts was an ASSIST state, but the committee had to consider whether California should be included

for comparison and if so, how it fit in because of the large spectrum of capabilities represented by the tobacco control program. In addition, some non-ASSIST states had started to implement programs that had elements similar to components of the ASSIST model, and a large amount of natural contamination (diffusion) to non-ASSIST states was to be expected from a nationwide program (personal communication from L. Kessler to C. Backinger, 2001).

In 1996, a technical expert panel was formed to address the methodological issues implied by the theoretical challenges. The panel developed a conceptual model to guide the evaluation, to determine the research questions and the specific set of measures to be used in the evaluation, and to identify the data collection needs and existing data sources.<sup>19</sup>

### **The ASSIST Evaluation Model**

The evaluation plan took into consideration the fact that environmental change occurs incrementally at a modest pace; therefore, multiple outcome points would be needed for tracking the continuum of change over the course of the project.<sup>17</sup> To put the evaluation in perspective, the evaluation model explains the sequential process of change resulting from statewide tobacco control efforts. The evaluation model shows all the components to be measured that led to the reduction of tobacco use. Since 1996, the model has been simplified. The current model is depicted in figure 2.3.

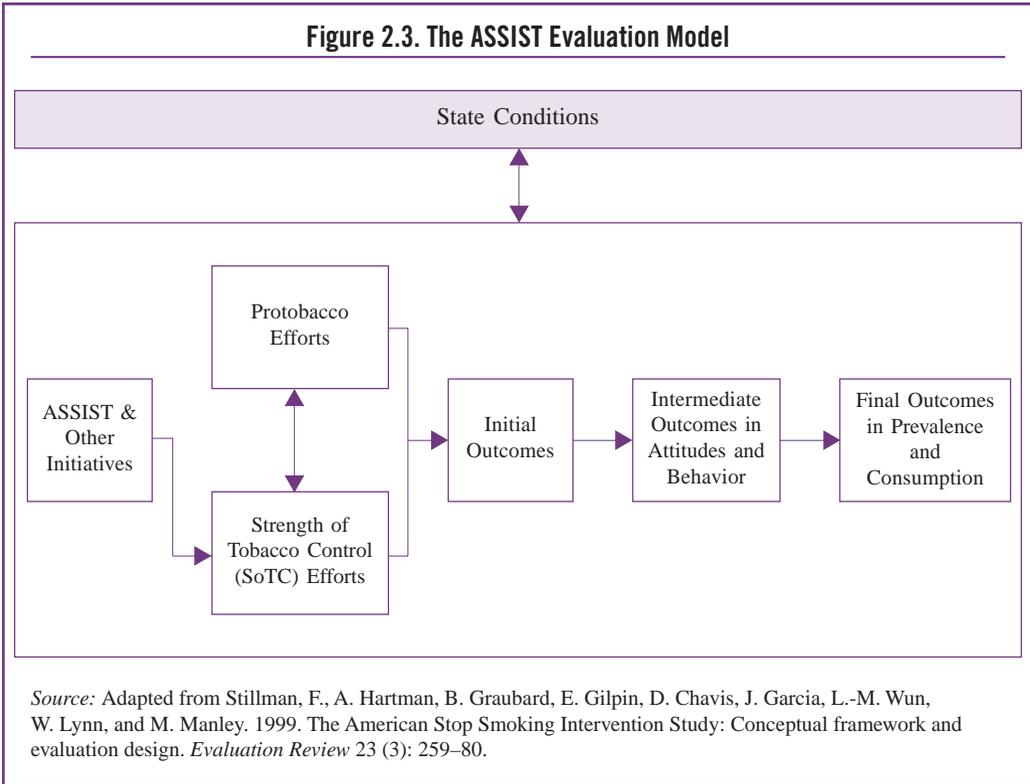
### ***Strength of Tobacco Control Index***

A method was developed as an indirect measure for the program effects of

ASSIST—the Strength of Tobacco Control index (SoTC). The method summarizes three constructs (resources, capacity, and antitobacco efforts) to form an overall exposure measure of tobacco control efforts at the state level: strength of tobacco control. Instead of measuring the individual effects of all the different tobacco control programs, this exposure measure summarizes this complex construct and the multiple facets and components of tobacco control efforts.<sup>19</sup> SoTC data were collected for 1998–99 from key informants at state-level tobacco control organizations in all 50 states. Analyses of the data were conducted at the end of the ASSIST project. Peer-reviewed articles have been published, and an NCI monograph on the ASSIST evaluation is forthcoming.

### ***Data Sources***

Conducting an evaluation required consistent, comparable data across all the states in the country—data that would enable analyses of state-level norms and tobacco control outcomes, such as media coverage, worksite clean air policies, and legislation. These data would be independent measures collected about all the states and not tied directly to ASSIST. A number of data sources, described below, were considered for the outcome and process evaluations of ASSIST. Two of these—site analyses and coalition assessment—guided the states during the planning and implementation phases. The other sources became integral to the ASSIST evaluation model: Tobacco Use Supplement—Current Population Survey, cigarette consumption data, databases on state



and local legislation, and the media tracking database.

**Site Analyses.** Each ASSIST state was required to conduct a site analysis to provide the baseline information that it needed to develop a comprehensive tobacco control plan and to monitor the implementation of its plan and progress toward its objectives. The site analysis documented the distribution of tobacco use by age, gender, and geographical area; the economic burden of tobacco use; and the social and political climate for enacting and enforcing tobacco control policies. It included an assessment of the state’s potential resource strengths and weaknesses for implementing ASSIST, including finances,

equipment, facilities, personnel, expertise, organizational relationships and structure, existing policies for tobacco control, and media relationships. (See chapter 4 for more details.) Using the information from the site analysis, each state developed site-specific numerical objectives that expressed the number of persons in the state who would quit smoking as a result of interventions and the number of persons who would not initiate tobacco use.<sup>20</sup>

**Coalition Assessment.** Because the statewide coalition approach was a relatively new concept in health promotion, NCI undertook a study to examine how this approach was implemented in different contexts. The study was based on

a conceptual framework of factors hypothesized to influence coalition effectiveness. The factors represent specific coalition characteristics identified in a review of research on community coalitions. A coalition advisory group of 11 individuals selected for their expertise in assessing or developing community coalitions made recommendations for the study design. The underlying theoretical proposition was that certain environmental, structural, and functional characteristics of coalitions are indicative of their intermediate success as well as their long-term effectiveness. The assessment focused on the concept and experience of using state and local coalitions to implement tobacco control activities rather than on the relative performance of individual sites.<sup>18</sup> (See chapter 4 for more details.)

**Tobacco Use Supplement for the Current Population Survey.** For a national measure of outcome goals for smoking prevalence, the committee chose the Current Population Survey (CPS) with its state-specific estimates on smoking. The CPS is a household sample telephone survey of the civilian noninstitutionalized population. Since 1950, the U.S. Bureau of the Census has conducted the CPS at regular intervals to provide estimates of employment, unemployment, and other characteristics of the general labor force, the population as a whole, and various other subgroups of the population. It was chosen for ASSIST because it is the only ongoing survey funded by the federal government that provides a sufficient state-level sample size to compare all states and individual states.

To acquire state-specific year-by-year data, NCI contracted the Bureau of the Census to conduct a Tobacco Use Supplement to the CPS that could be used to compare data over time and across states. The supplement was designed to closely mirror other surveys for comparability. It includes questions about attitudes toward tobacco use as well as individual patterns of smoking and using smokeless tobacco. The supplement consists of 40 self-report items that are asked of persons who are 15 or older residing in sampled households.

The baseline survey was conducted in three waves during a 1-year period—September 1992, January 1993, and May 1993—with approximately 115,000 individuals being interviewed for each wave. The surveys were repeated during the same months in 1995 to 1996 and 1998 to 1999. Computer-generated tables summarizing national and state-specific baseline findings were distributed to the ASSIST states, as were data tapes that included all of the baseline data.<sup>19,21</sup>

**Cigarette Consumption Data.** Another important source of data for tracking the effect of ASSIST was per capita cigarette consumption. These estimates, which are derived from tobacco sales tax data, are more sensitive than prevalence data to intervention effects. National and state-level per capita consumption data for cigarettes are available on a monthly basis and were included in the overall outcome evaluation.<sup>22</sup>

**Legislative Databases.** The State Cancer Legislative Database, developed and maintained since 1989 by NCI, is the pri-

mary data source for measuring changes in state tobacco control policies. (The Americans for Nonsmokers' Rights [ANR] data are referenced in chapter 6.) The database includes information about all enacted state legislation related to cancer control, including tobacco control, breast cancer early detection, cervical cancer early detection, diet modification, state-of-the-art treatment, and selected topics on environmental and occupational exposures. Information about each law, including an abstract describing the provisions of each law, is maintained in a single computerized record.

To meet the needs of the ASSIST evaluation, the database was expanded to enable annual tracking of state legislation in each of the four policy areas:

1. Clean indoor air
2. Restricted access to tobacco by minors
3. Economic disincentives to discourage the use of tobacco products
4. Restricted advertising and promotion of tobacco

The database also tracks legislation related to smokers' rights. (The database can be accessed at [www.sclcd-nci.net](http://www.sclcd-nci.net).)

Similarly, the ANR Foundation maintains a database that tracks information on tobacco-related legislation and policies at the local level. This data source was used in the evaluation to assess the outcomes of ASSIST activities in communities, especially clean indoor air and tobacco taxes.

**ASSIST Newspaper Clippings Database.** A study was designed to systematically track local newspaper coverage of tobac-

co-related policy issues during the 6-year implementation period of ASSIST. The expectation was that tobacco control advocacy would increase in general across the United States during the project period, with the ASSIST sites taking the lead in comprehensiveness and frequency of activity, and that this pattern would be reflected in the print media. Burrelle's Press Clipping Service was contracted to collect the print articles for the media analyses, and ASSIST Coordinating Center staff categorized the articles for relevance to type of smoking policy (clean indoor air, restriction of access by minors, economic incentives, advertising and promotion of tobacco, or miscellaneous), point of view (pro-tobacco control, anti-tobacco control, or neutral), origin of story (national or local), type of article, and whether the article appeared on the front page of the newspaper. Quarterly reports were produced summarizing the frequency of articles in each category and comparing ASSIST sites with non-ASSIST sites. (See chapter 5 for a detailed description.)

## The Selection of States

**O**n January 15, 1990, NCI issued its request for proposals for tobacco control programs from state health agencies in collaboration with state-level affiliates of the American Cancer Society (ACS). More than 35 states initially responded by submitting proposals. NCI formally reviewed all proposals for their technical merits, which included their proposed infrastructure and ability to mobilize community coalitions. The

proposals were reviewed in three review meetings, and 23 were judged to be technically acceptable.<sup>23</sup> However, technical merit was only one of several criteria applied in the award process.

The process of reviewing and scoring the proposals raised a complex decision problem: how to follow a process for making awards among the competing proposals that not only would consider technical merit and cost, but also would balance other considerations critical to the long-term viability and effectiveness of tobacco prevention and control. Those considerations included representing the United States geographically and ethnically in the states to be chosen for the ASSIST project. To address the problem, the director of NCI's Division of Cancer Prevention and Control engaged the services of NCI's Applied Research Branch to develop a mathematical optimization model for making ASSIST project funding decisions that would take into account various configurations of three major considerations: technical merit, cost, and secondary criteria mentioned in the request for proposals. The model was to provide a process both for scoring the proposals and for ranking them.<sup>23</sup>

Experts in the division were involved in a modified Delphi approach (a process of interviewing and group techniques to acquire input) to determine which criteria to include in the model and the relative weight of their values (see the Hall et al. article for details on the modifications).<sup>23</sup> From these experts, in a series of input formats, it was determined that geographical distribution was an unambiguous concept needing no further specification except that three states

from each of the Census Bureau's four regions would be an appropriate standard. In contrast, the criterion of smoking prevalence had numerous interpretations. The main question was whether states should be selected according to overall smoking rates (states with large numbers of smokers) or according to how smokers in the states were statistically distributed by demographics (e.g., socioeconomic status, ethnic group, age) and historical factors (e.g., rate of decline of smoking prevalence between 1985 and 1989). The resulting three constraints were set for the model:

1. At least 2 states would be chosen from each quartile of the distribution of smoking rates across the 50 states and the District of Columbia.
2. At least 2 states would be chosen from each quartile of the distribution of decline in smoking rates for the preceding few years across the 50 states and the District of Columbia.
3. The proportions of African Americans and Hispanics/Latinos in state populations would be assessed as more important than the absolute numbers.<sup>23</sup>

Although the ranking of the proposals according to technical merit was to be given primary importance in the award assessments, the constraints also figured into the formula.

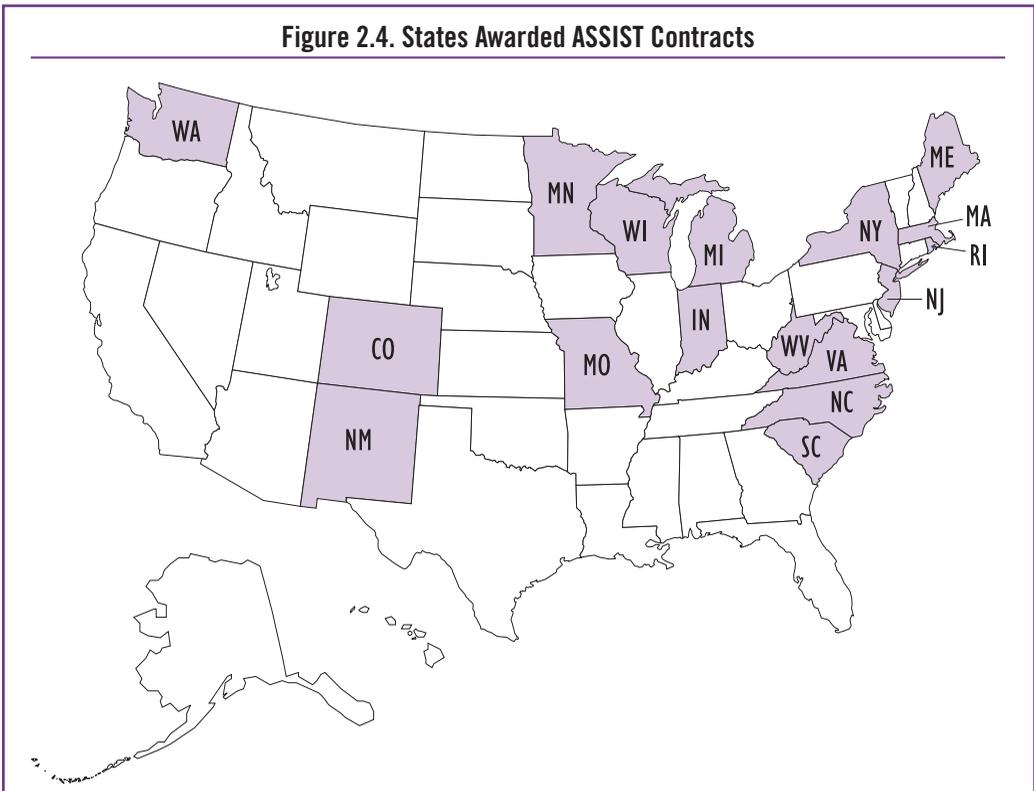
In October 1991, NCI awarded contracts to 17 state health departments to partner with their state-level ACS affiliate and other community organizations to design and implement statewide public health interventions based on the ASSIST conceptual framework. The

states that were awarded contracts are highlighted in figure 2.4. The eligibility of health departments for those funds was appropriate because of their commitment to protect and promote the public's health, experience working in institutional partnerships to accomplish their goals, access to priority populations, and guaranteed longevity. Combined, the population of the ASSIST states was 91 million people, more than a third of the U.S. population and closely reflecting the total American population in ethnic and geographic diversity. The ASSIST population included more than 10 million African Americans and 7 million people of Hispanic/Latino or other ethnic minority groups.<sup>20</sup>

In a press release announcing the contract awards on October 4, 1991, U.S. Department of Health and Human Services Secretary Louis W. Sullivan emphasized the role of communities in the ASSIST project:

What sets ASSIST apart from other government antismoking programs is its emphasis on the development of community-based coalitions throughout entire states. Ultimately, it will be our communities and individual Americans that decide how best to tackle their tobacco problems. ASSIST will empower them by providing the information and help that they need to change attitudes about smoking and counter the sinister marketing strategies of the tobacco industry.<sup>24</sup>

**Figure 2.4. States Awarded ASSIST Contracts**



### Time to Act

In summary, the ASSIST conceptual framework casts tobacco use as a public health problem and presents tobacco use as a social behavior; therefore, tobacco use is an issue that can be effectively addressed only at a population level through a combination of societal and individual interventions. In the late 1980s and early 1990s, the ASSIST model represented a major change in perspective—a paradigm shift—and changed the orientation of tobacco control across the United States.

All of the pre-ASSIST preparations were complete by October 1991. NCI had completed all the important processes:

1. Clearly describing the ASSIST project as a conceptual framework
2. Writing a request for proposals based on that framework
3. Releasing the request for proposals and receiving the proposals from the states
4. Reviewing the proposals and awarding 17 contracts
5. Awarding a contract for a coordinating center to provide technical assistance and training to the states

The principal mechanisms and the major forces were all in place. It was time to bring the ASSIST partners together and begin. The first task for the partners, as described in chapter 3, was to clarify and solidify the operational infrastructure and establish linkages among the participants.

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