
Background

ENVIRONMENTAL TOBACCO SMOKE

There is no longer any doubt that exposure to environmental tobacco smoke (ETS) is a cause of death and disease among nonsmokers. Indeed, any genuine controversy on the issue ended in 1986, with the publication of the Surgeon General's report on the health consequences of involuntary smoking (US DHHS, 1986a). The report concluded the following:

1. Involuntary smoking is a cause of disease, including lung cancer, in healthy nonsmokers.
2. The children of parents who smoke compared with the children of nonsmoking parents have an increased frequency of respiratory infections, increased respiratory symptoms, and slightly smaller rates of increase in lung function as the lung matures.
3. The simple separation of smokers and nonsmokers within the same air space may reduce, but does not eliminate, the exposure of nonsmokers to environmental tobacco smoke.

These findings were echoed by other reports from the National Academy of Sciences and other national and international scientific bodies (NAS, 1986b). These reports contributed to a surge in efforts to protect nonsmokers from the health effects of ETS through legislative and policy changes (Pertschuk and Shopland, 1989). By far the most significant trend was the passage of local smoking ordinances, which had been enacted at a steady pace since the late 1970's. By the time the predecessor to this publication, *Major Local Smoking Ordinances in the United States*, was published in the fall of 1989, 397 ordinances limiting smoking in workplaces, restaurants, or other places had been enacted (Pertschuk and Shopland, 1989).

Scientific knowledge of the health risks associated with ETS has increased dramatically during the past several years. Prior to 1981, however, there was no direct evidence that demonstrated a link between ETS exposure and chronic disease in adults at levels commonly experienced by nonsmokers, although a number of previous reports in the series issued by the Surgeon General had established a direct association between ETS and respiratory problems in infants and young children.

In 1982, when Dr. C. Everett Koop issued his first report as U.S. Surgeon General (US DHHS, 1982), an assessment of the then available scientific evidence on ETS was included. The report cited three independent epidemiologic studies on lung cancer in nonsmoking wives who lived with smoking husbands. Each study observed an increased risk for lung cancers and two demonstrated an increased risk with increased levels of smoking by the husband. While the report did not find the evidence sufficiently compelling to conclude that a causal connection existed, it warned that involuntary smoking could indeed pose a carcinogenic risk to the nonsmoker and that individuals should avoid exposure to ambient tobacco smoke to the greatest extent possible.

Between 1981 and 1986, when Dr. Koop issued his seminal report, *The Health Consequences of Involuntary Smoking*, 13 studies on ETS and lung cancer had been added to the scientific literature base. Other studies examining ETS and other chronic diseases existed, including several that supported a link between ETS and coronary heart disease.

With the growing recognition that tobacco smoke poses a significant health threat to individuals other than the smoker, the Congress as well as Federal health and regulatory agencies were increasingly being asked to take action to protect the public. The General Services Administration issued new rules for protecting workers and visitors to all Federal buildings, and in 1988 Congress banned smoking on all domestic airline flights of 6 hours or less duration, resulting in virtually smokefree air travel for all but less than 1 percent of all flights in the United States.

**1992 Report of
The U.S. Environmental Protection Agency**

Lung Cancer

One of the more significant actions by a Federal agency occurred in 1990, when the U.S. Environmental Protection Agency (EPA) began a formal risk assessment to determine whether ETS meets the Carcinogen Risk Assessment guidelines for classifying a compound carcinogenic. By the time EPA issued its draft report, *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*, in May 1992, findings from 26 case-control and 4 prospective cohort studies from 8 different countries comprised the available scientific evidence on ETS and lung cancer; all 4 cohort studies and 20 of the 26 case-control studies showed an elevated risk for lung cancer in never-smokers exposed to ETS (US EPA, 1992).

Many of these also showed a dose-response effect; that is, the greater the level of exposure, the greater the lung cancer risk. The overwhelming weight of the evidence permitted EPA to conclude that ETS belongs in the category of compounds

classified as Group A (known human) carcinogens, a category reserved for only the most toxic of compounds regulated by EPA, such as radon, asbestos, and benzene (US EPA, 1992).

ETS and Children

In addition to lung cancer, the EPA report examined the issue of ETS and respiratory diseases and disorders in children and concluded that ETS exposure was causally associated with (1) increased prevalence of respiratory symptoms such as cough, sputum, and wheezing; (2) increased prevalence of middle-ear effusion; and (3) a small but statistically significant reduction in lung function (US EPA, 1992).

The report further estimates that ETS contributes 150,000 to 300,000 lower respiratory infections annually in infants less than 18 months of age, resulting in between 7,000 and 15,000 hospitalizations annually. Of equal importance, EPA estimates that ETS is causally related to additional episodes and increased severity of preexisting asthma in children and exacerbates symptoms in approximately 20 percent of the estimated 2 million to 5 million asthmatic children annually. The EPA report leaves open the question of whether ETS is directly related to asthma in children who have not previously exhibited the disease, terming the evidence "suggestive but not conclusive" (US EPA, 1992). Nonetheless, the ETS from parents who smoke half a pack or more daily may contribute up to 26,000 new cases of asthma annually.

ETS and Coronary Heart Disease

In early 1991, researchers at the University of California, San Francisco, published the first detailed analysis of the evidence linking ETS and coronary heart disease (CHD) (Glantz and Parmley, 1991). The study estimated that secondhand smoke kills 53,000 nonsmokers in the United States each year from cancer, heart disease, and lung disease, making it the third leading cause of preventable mortality, ranking behind active smoking and alcohol use. After an examination of 13 epidemiological studies, the investigators concluded that ETS was causally associated with CHD in nonsmokers and that such exposure may be responsible for 10 times more deaths annually than those attributable to ETS and lung cancer.

Finally, in June 1991, the National Institute for Occupational Safety and Health (NIOSH) joined the growing number of scientific and regulatory agencies to publish on the subject of secondhand smoke as an occupational carcinogen (NIOSH, 1991). NIOSH recommended eliminating smoking in all workplaces. The only alternative, according to NIOSH, is restricting smoking to completely separated smoking lounges with independent ventilation systems exhausting secondhand smoke outside.

LOCAL SMOKING ORDINANCES

Serious proposals for local ordinances restricting smoking to protect nonsmokers first appeared in the early 1970's. Activity began simultaneously in several states, including Florida, Maryland, Colorado, Minnesota, California, and Massachusetts. In 1977, Berkeley, California, enacted the first modern ordinance limiting smoking in restaurants and other public places. Similar ordinances continued to pass during the late 1970's and early 1980's. The 1986 Surgeon General's report on the health consequences of involuntary smoking greatly accelerated the passage of such ordinances. By 1988, nearly 400 ordinances to restrict smoking had been enacted throughout the United States (Pertschuk and Shopland, 1989).

Such ordinances typically restricted smoking in workplaces, restaurants, and other public places. Smoking was completely eliminated in most enclosed public places such as banks, theaters, laundromats, and retail stores. Many ordinances prohibited smoking in all enclosed places open to the general public.

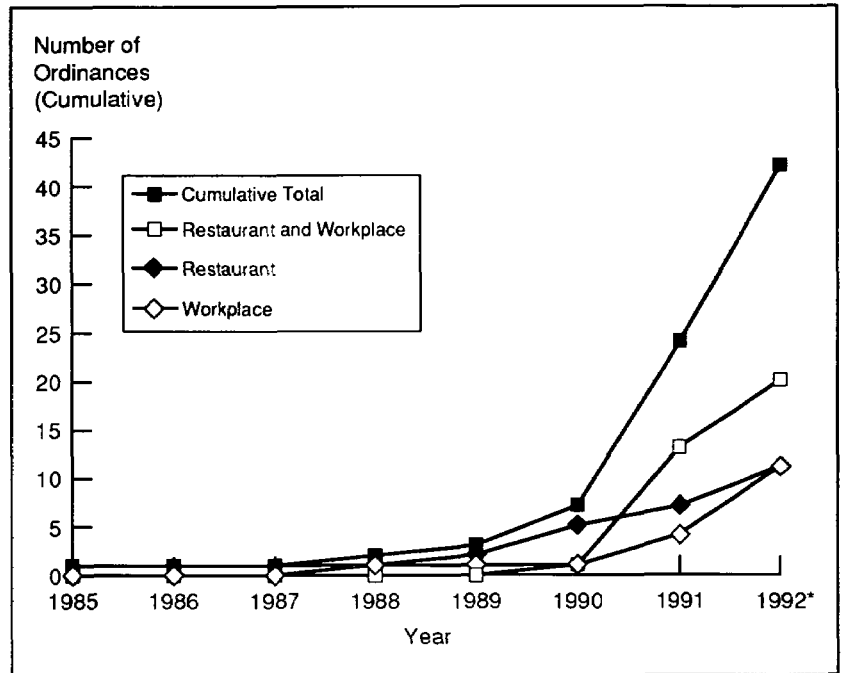
Restaurants were usually treated differently. Most ordinances required restaurants to set aside a minimum nonsmoking area, generally 40 or 50 percent of the restaurant's seating capacity. In some ordinances, smaller restaurants were exempted from the law.

In workplaces, employers were required to develop a written smoking policy providing basic protections for nonsmoking employees. Smoking was normally eliminated in certain common areas, such as restrooms, hallways, and conference rooms. Nonsmokers were often given the right to designate their own work area as a no-smoking area. In many ordinances, nonsmokers were granted a preference in any dispute over smoking and nonsmoking sections (Pertschuk and Shopland, 1989).

The Trend Toward Smokefree Ordinances

When the Environmental Protection Agency initially made public the conclusions of its draft Risk Assessment on Environmental Tobacco Smoke in 1990, communities began to consider secondhand smoke as far more dangerous to the public health than previously realized. In 1990, Lodi, California, started a trend by adopting an ordinance completely eliminating smoking in restaurants. Other cities and counties followed. Aspen, Colorado, passed the first 100-percent smokefree restaurant ordinance in 1986. However, it was not until the release of the EPA draft risk assessment, and subsequent passage of Lodi's ordinance, that the passage of such laws found favor widely (Figure 1). Many communities followed, including Sacramento, California, which extended the total ban to workplaces as well as restaurants.

Figure 1
100-percent smokefree ordinances, by year enacted



*Through September 1992.

By the middle of 1992, the passage of smokefree ordinances had begun to accelerate significantly (Figure 1). Although the majority of the ordinances have passed in California, several have been proposed or passed in other states, including Massachusetts, Wisconsin, and Washington.

Even cities in tobacco-producing states have begun to pass ordinances restricting smoking. Voters in Greensboro, North Carolina, twice upheld their smoking ordinance, the second time by a three-to-one margin.

Tobacco Industry Response

Not surprisingly, the tobacco industry has fought aggressively against local smoking ordinances (Samuels and Glantz, 1990). The industry recognizes that nonsmokers' rights ordinances reduce the social acceptability of smoking, helping smokers to quit and leading to a reduction in the number of children who begin smoking (Roper, 1978). The tobacco industry recognized the profound impact of smoking ordinances much earlier than the health establishment did. In 1978, a secret public opinion survey conducted on behalf of the Tobacco Institute concluded the following: "What the smoker does to himself may be his

business, but what the smoker does to the nonsmoker is quite a different matter This [the nonsmokers' rights movement] we see as the most dangerous development to the viability of the tobacco industry that has yet occurred" (Roper, 1978).

The tobacco industry's strategies on local ordinances range from legal challenges to various political attacks (Samuels and Glantz, 1991). Although the industry continues to suggest that smoking ordinances are unconstitutional, State and Federal courts have consistently upheld the right of cities and counties to protect the public health by limiting public smoking. In 1992, the 100-percent smokefree restaurant ordinance in Lodi, California, was upheld by a State appeals court, which found that the ordinance was reasonable and that there is "no constitutional 'right' to engage in smoking" (*California v. Smith*, 1992).

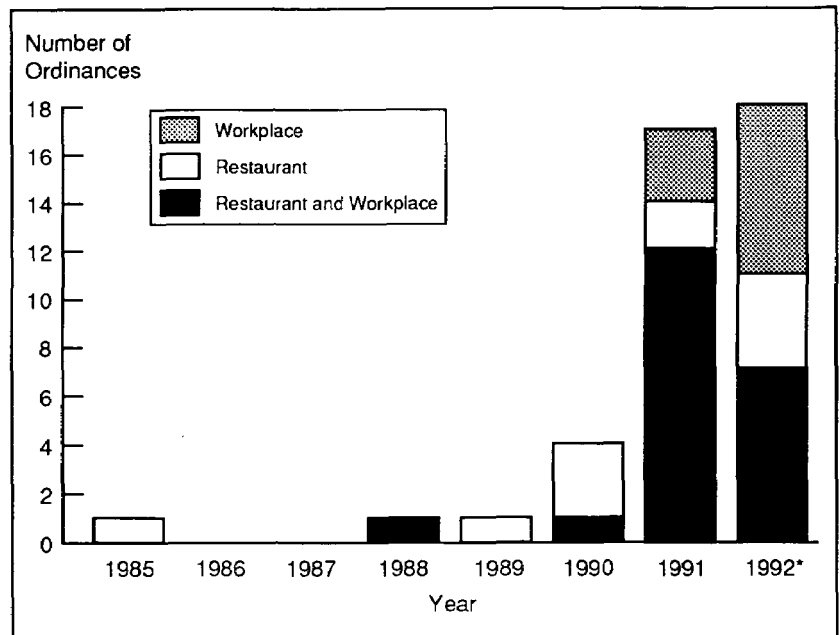
Because of the success of local ordinances, the tobacco industry has sought the enactment of preemptive State laws on tobacco issues (Pertschuk and Shopland, 1989). This includes laws addressing both clean indoor air and access by minors, such as limitations on tobacco vending machines. State proposals preempting local smoking restrictions have, for the most part, been defeated, but they have passed in Florida, Pennsylvania, Virginia, Nevada, Illinois, Oklahoma, and New Jersey. All except Florida allow preexisting local ordinances to remain in effect but eliminate the power of local governments to adopt future ordinances.

Economic Impact Of Smokefree Ordinances

During the 1990's, there has been a significant trend toward the passage of 100-percent smokefree ordinances, those that eliminate smoking completely in restaurants and workplaces, rather than the partial bans typical of the 1980's (Figure 2). The economic impact of smokefree restaurant ordinances has been a subject of debate. To date, all credible, scientific studies have found *no evidence of negative economic impact of smokefree ordinances on restaurants.*

In the most comprehensive study available, researchers at the University of California, San Francisco, analyzed sales data from the State Board of Equalization for four California cities with 100-percent smokefree ordinances (UCSF, 1992). Their analysis found that a smokefree restaurant ordinance had no negative impact on total restaurant sales in the four study cities. In addition, the research indicated that there may be a competitive advantage for smokefree restaurants relative to other businesses. The presence of a smokefree restaurant ordinance was associated with a small but statistically significant increase in the fraction of total retail sales that went to restaurants.

Figure 2
100-percent smokefree ordinances, by year of passage



*Through September 1992.

Individual studies also have been conducted in several cities with smokefree restaurant ordinances: the cities of Bellflower and San Luis Obispo, California, and Aspen, Colorado (unpublished studies, Bellflower and San Luis Obispo, California; unpublished study, Aspen Resort Association). Their findings are consistent with the UCSF study, showing either no negative impact on business or a positive economic impact.

Findings: There are 543 city and county smoking ordinances listed in this publication, covering a total population of 66,797,055.

A total of 413 cities and counties limit smoking in workplaces. The ordinances range from simple requirements for written smoking policies to the total elimination of smoking in the workplace (see Chart II).

A total of 505 cities and counties limit smoking in restaurants. These range from laws that merely require restaurants to set aside a nonsmoking section of unspecified size, to a growing number of ordinances that completely eliminate smoking in restaurants (see Chart I).

There are 419 local ordinances that limit smoking in retail stores (see Chart I).

A trend was found in the strength of smoking ordinances passed since the late 1970's. In general, the adoption of stronger ordinances has increased over time. For example, in 1984, there were no local ordinances completely eliminating smoking in restaurants or workplaces. By 1987, only one ordinance banned smoking in restaurants, while none did so in workplaces. In contrast, by September 1992 there had been 11 ordinances adopted that completely eliminated smoking in restaurants, 11 in workplaces, and 20 in both (Figure 1).

YOUTH ACCESS TO TOBACCO PRODUCTS

Cigarettes

More than 90 percent of current smokers began smoking as children or adolescents (US DHHS, 1988). Each day in the United States, another 3,000 children begin smoking, and of these, more than 750 will die prematurely because of smoking (US DHHS, 1989). Contrary to popular belief, the problem of tobacco use by children is not improving. Although smoking rates among high school seniors decreased 9 percent from 1977 to 1981, in the following 10 years, the daily smoking rate dropped only another 2 percent (Johnston et al., 1989). Of special concern are smoking rates among girls, which have increased over the past decade. This trend is in sharp contrast with the decline in most other drug use, including alcohol, over the same period.

The earlier a child begins to use tobacco, the less likely that he or she will be able to quit, and children are beginning to smoke at younger ages (Johnston et al., 1989). Young smokers often underestimate the harmful effects of their tobacco use and do not recognize that they quickly move from experimentation to addiction. In a National Institute on Drug Abuse study, 95 percent of daily smokers in high school predicted they would not be smoking 5 years after school, yet 75 percent were still smoking in followup studies 7 to 9 years later (Johnston et al., 1987).

Smokeless Tobacco

An increasingly severe problem is the use of smokeless tobacco (i.e., moist snuff and chewing tobacco), especially among male adolescents and young adults. By 1990, almost one in five male high school students in the United States reported recent smokeless tobacco use (CDC, 1991). Local surveys typically reveal that 40 to 60 percent of young males have tried smokeless tobacco (Boyd et al., 1987). The prevalence of use varies greatly by region, with the highest rate found in the South and the lowest in the Northeast (Marcus et al., 1989). First experimentation often occurs between ages 10 and 12 (Boyd and Glover, 1989). Use of smokeless tobacco can lead to nicotine addiction, and habitual users who attempt to quit experience many of the same symptoms and problems that cigarette smokers have.

The health risks of smokeless tobacco use include oral cancer as well as various other diseases of the mouth, gums, and throat (US DHHS, 1992).

Forty-nine States and the District of Columbia have laws that make it illegal for retailers to sell tobacco products to minors (usually defined as children under the age of 18) (see Appendix B). Despite these laws, children generally have easy access to tobacco products. Studies have shown consistently high rates of sales to children: Retailers sell to underage youth in field trials 70 to 100 percent of the time, over the counter and through vending machines (Altman et al., 1989).

In response to the problem, there has been a dramatic rise in the adoption of local ordinances to reduce minors' easy access to tobacco. The most common of these ordinances ban or limit the placement of cigarette vending machines (Figure 3). Other provisions include bans on the distribution of free tobacco products and licensing of tobacco retailers.

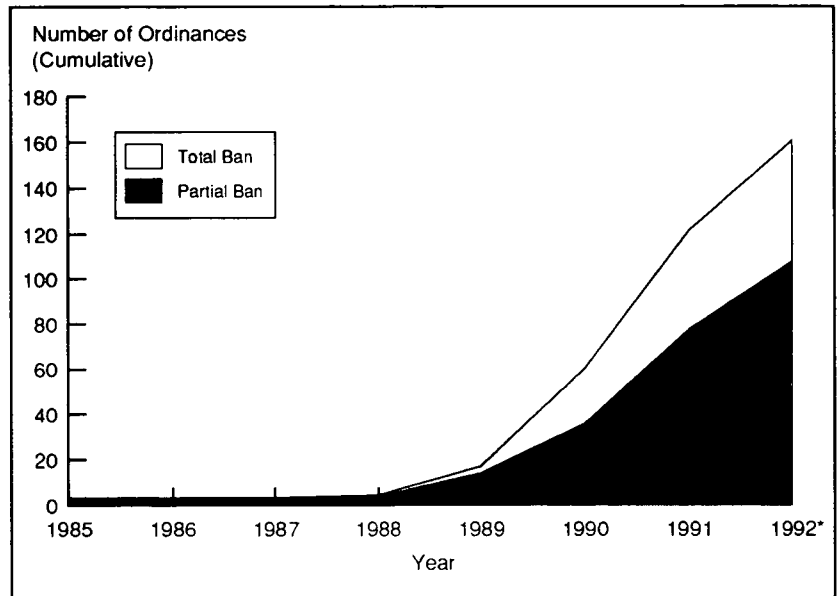
Studies on interventions to reduce youth access to tobacco show that the major predictor for success is active, local enforcement of laws prohibiting the sale of tobacco to minors (Altman et al., 1989; Jason et al., 1991). Civil penalties are preferable to criminal penalties, as youth access to tobacco is often a low priority for police and the court system (Feighery et al., 1991). Civil offenses are generally handled administratively, and many local jurisdictions designate the health department or the city manager as the enforcement agency. Rather than being found guilty by a court of law, an offender may pay a fine or lose his or her license to sell tobacco products.

Tobacco Vending Machine Ordinances

Former Secretary of Health and Human Services Louis Sullivan and former Surgeon General C. Everett Koop both called for a total ban on tobacco vending machines. Although vending machines account for a relatively small percentage of total tobacco sales, they account for 16 percent of sales to minors (Office of the Inspector General, 1990). Those sales are frequently to the youngest customers (US DHHS, 1989). Young children, often too intimidated to attempt over-the-counter purchases, have no such barrier when facing a vending machine. In fact, studies have found that children can purchase cigarettes through vending machines in 90 to 100 percent of their attempts (Contra Costa County HSD, 1991).

Findings: To date, 161 cities and counties have passed ordinances that partially or completely ban tobacco vending machines (see Chart IV). They are joined by the States of Hawaii, Nebraska, New York, and Utah.

Figure 3
Tobacco vending machine ordinances



*Through September 1992.

A significant number of vending machine ordinances are partial bans that permit the placement of machines in bars and other facilities from which minors are excluded by law (Figure 3). The effectiveness of a partial ban is limited: According to one study, minors succeed in buying tobacco 77 percent of the time from vending machines placed where minors are prohibited (Forster et al., 1992b). Several jurisdictions with partial bans have included a requirement that vending machines be placed a prescribed distance from the entrance to an exempted area, to avoid placement in unattended lobbies and entries.

A smaller number of ordinances require simply that cigarette vending machines be equipped with electronic locking devices designed to be operated by an attendant. Such devices have proven ineffective against sales to minors, primarily because they are often left on by retail stores and remain unmonitored (Forster et al., 1992a). The State of Utah and the City of Seattle, Washington, both passed legislation requiring locking devices, only to find them ineffective. Surveys found that some operators never installed the devices, while others disabled them, left them on continuously, or activated them without verifying the purchaser's age. Utah and Seattle went on to ban vending machines except in bars.

**Tobacco
Sampling
Bans**

Both cigarette and chewing tobacco manufacturers distribute free product samples as part of their advertising and promotional activities. Typically, distribution of free samples is conducted in locations where young people congregate: music concerts, county fairs, athletic events, and motor sports races (Davis and Jason, 1988).

Although most States prohibit the distribution of free samples to underage youth, there is significant evidence that such laws are poorly enforced (Davis and Jason, 1988). A survey of elementary and high school students found that 20 percent of high school students and 4 percent of elementary students reported receiving free samples, and approximately half of elementary and high school students reported having seen children and adolescents receive free samples (Davis and Jason, 1988). At one county fair, adults videotaped a distribution booth on the fairgrounds at which samples were given to 9 out of 13 children (aged 14 to 16) who asked for them.

Findings: Sixty-eight cities and counties have passed ordinances prohibiting the distribution of free tobacco product samples or coupons for free samples (see Chart V). These ordinances typically eliminate free sampling completely or, at minimum, do so on public property, such as sidewalks and fairgrounds.

**Licensing
Tobacco
Retailers**

Requiring a license to sell tobacco provides localities with a mechanism to enforce merchants' compliance with laws prohibiting tobacco sales to minors. Merchants more carefully monitor tobacco sales to minors when such sales jeopardize their license to sell tobacco to adults. Only those ordinances that actually provide a mechanism for revoking or suspending a tobacco license for selling to minors are included in this document.

One city, Woodridge, Illinois, has carefully monitored its licensing ordinance and has found it extremely effective in reducing tobacco sales to minors, particularly over-the-counter sales. Not only have the sales rates to children fallen since passage of the ordinance, but a survey of seventh- and eighth-grade students found a 50-percent decrease (from 46 percent to 23 percent) in experimentation with cigarettes and a 69-percent decrease (from 16 percent to 5 percent) in the number of regular smokers (Jason et al., 1991).

Findings: Thirty-three local jurisdictions have enacted licensing ordinances (see Chart V).

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