Effective tobacco control efforts have resulted in substantial declines in tobacco use and tobacco-related cancer deaths in the United States. Nearly 40% of reductions in male lung cancer deaths between 1991 and 2003 can be attributed to smoking declines in the last half century. Nevertheless, tobacco use still remains the single, largest preventable cause of disease and premature death in the United States. Each year, smoking and exposure to secondhand smoke result in nearly half a million premature deaths of which nearly one-third are due to cancer. In a previous report, we described youth and adult smoking prevalence and patterns and discussed policy measures that had proven effective in comprehensive tobacco control. In this report, we update trends in youth and adult smoking prevalence. We find that while adult smoking prevalence has declined overall, socioeconomic gradients in smoking still persist within race and ethnic subgroups. In addition, we describe the diffusion of tobacco-control strategies at the national, state, and community level. Although recent developments, such as the Food and Drug Administration’s (FDA) regulation of tobacco products, hold promise for tobacco control, there continues to be a need for broader dissemination of sustainably funded comprehensive national and state tobacco-control programs. CA Cancer J Clin 2009;59:352–365. ©2009 American Cancer Society, Inc.

Introduction

During the past 40 years, much progress has been made in reducing tobacco use in the United States through effective tobacco control initiatives.1,2 After 30 years of declining smoking rates (particularly in men) total US cancer deaths began to decline in the late 1990s, driven largely by a reduction in male lung cancer deaths.3 Although tobacco control has been recognized as a top public health achievement of the 20th century,4 tobacco use still remains the single largest preventable cause of disease and premature death in the United States, accounting for at least 30% of cancer deaths.5,6 Each year, smoking results in an estimated 443,000 premature deaths, of which about 49,400 are in nonsmokers as a result of exposure to secondhand smoke. Smoking also accounts for $193 billion in health-care expenditures and productivity losses.7

Despite the pervasive influence of the tobacco industry, there have been dramatic declines in smoking rates in the United States since the release of the Surgeon General’s Report on Smoking and Health in 1964.1 The overall US smoking rate in persons 18 years and older dropped to an estimated 20.5% in 2008, which is about half the rate in 1965 (42%).8,9 In a previous report,10 we discussed tobacco-control measures that have proven effective in curbing smoking initiation, in facilitating cessation, and in protecting nonsmokers from secondhand-smoke exposure. In this update, we present trends in youth and adult smoking and discuss progress in reducing socioeconomic disparities in adult smoking.
smoking. In addition, we describe the diffusion of effective tobacco-control strategies, including tobacco excise taxes, smoke-free laws, access to cessation services, and counter-advertising campaigns, at the national, state, and community level.

Patterns of Tobacco Use in Youth
Most smokers become addicted to tobacco before they are old enough to legally buy cigarettes, and the majority of those who become regular smokers continue to smoke into adulthood. Because the likelihood of developing smoking-related cancers, such as lung cancer, increases with the duration of smoking, those who start at younger ages and continue to smoke are at an increased risk for tobacco-related morbidity and mortality, including several cancers.

Current national estimates from the 2007 Youth Risk Behavior Survey show that 20% of high school students reported current cigarette smoking (smoked on at least 1 day in the past month) and 8.1% reported frequent smoking (smoked on 20 or more days in the past month). The historical pattern in adolescent smoking has been tracked since 1976 by the Monitoring the Future Survey. Long-term trends among 12th-grade students show that after declines between 1976 to 1992, smoking rates markedly increased until 1997 and then steadily declined through 2003 with little change thereafter. Cigarette smoking varies by race/ethnicity in adolescents, with prevalence being highest among non-Hispanic whites, lower among Hispanics/Latinos, and the lowest among African Americans (Fig. 1).

Research studies that examine trends in youth smoking have suggested that the increase in adolescent smoking prevalence during the early and mid 1990s can be attributed to intensive tobacco-industry promotional efforts targeted at youth, including price manipulations and surrogate marketing, while the decline through 2003–2004 coincided with increased tobacco control strategies such as price increases and counter-advertising directed at adolescents. Nonetheless, the tobacco industry continues to market to young smokers; studies have suggested that the recent leveling off in previous adolescent smoking declines may be due to effects of the tobacco industry’s increased spending on marketing and promotions (ie, price discounting to blunt the effect of excise taxes increases on price-sensitive smokers) coincident with declines in funding for comprehensive tobacco-control programs.

Patterns of Smoking in Adults
Current cigarette use estimates represent a dramatic decline in the prevalence of smoking in the United States. According to the 2008 National Health Interview Survey (NHIS), 20.5% of adults smoke cigarettes currently (22.9% of men, 18.2% of women). Large differences in smoking prevalence exist by certain characteristics such as education, race, and ethnicity. American Indians/Alaska Natives (37%) have the highest smoking prevalence; they are followed by whites (23%), blacks (25), Hispanics (18%), and Asians (16%). Also, adults without a high school degree were almost 3 times as likely to be current smokers than those with a college degree.

There are state-level variations in current adult-smoking prevalence. Among males, states with the lowest adult smoking prevalence are Utah (15.5%) and...
Connecticut (16.6%), and states with the highest are Kentucky (28.8%) and West Virginia (28.6%); among females, the lowest rates are in Utah (8.0%) and California (10.6%), and the highest rates are in Kentucky (27.8%) and West Virginia (25.5%) (see Table 2). Between 1997 and 2007, annual smoking prevalence declined significantly in men in 37 states and in women in 38 states, while rates in the remaining states remained stable. There was significant regional variation in sex-specific smoking trends. Among women, 9 of the 13 states with no change in smoking rates during this time were located in the South, and the remaining were in the Midwest. Among men, states with no significant change in prevalence were mainly concentrated in the South and the West (see Table 2). These state-level variations in smoking trends have implications with respect to lung cancer; for example, most states with increasing lung cancer death rates between 1996 and 2005 are in the South and Midwest, areas of the country where significant declines in smoking have not been observed among women.18

Trends in smoking by socioeconomics among US adults

Smoking prevalence and trends are strongly related to socioeconomic status (SES), a complex construct that is strongly related to health status and access to medical care.19–21 In addition, SES within and between race and ethnic groups is linked in complex ways to tobacco use and health disparities.19 Therefore, assessing smoking variations by SES highlights populations at risk from smoking and its deleterious health consequences. We calculated trends in smoking prevalence by 2 measures of SES—level of education and occupational class—within race and ethnic groups by using the Tobacco Use Supplements to the Current Population Surveys, national household surveys conducted by the US Census Bureau for the National Cancer Institute22 (Table 1).

The trend analysis showed that between 1992–1993 and 2006–2007, smoking rates among adults aged 18 years and older declined significantly by 26% and more quickly among non-Hispanic Blacks (NHB, 34%) and Hispanics (34%) than among non-Hispanic whites (NHW, 21%). Within each racial/ethnic group, the rate of decline varied by educational level and occupational class (Table 1). Among NHW and NHB, the largest declines were observed for college-educated adults (29% NHW and 58% NHB) and the lowest for those with less than a high school degree (4% NHW and 20% NHB). By occupational level, greater declines were observed in white-collar workers by race (24% NHW, 44% NHB) compared with service workers (19% NHW, 23% NHB) or blue-collar workers (14% NHW, 28% NHB). Among Hispanics, differences in smoking trends by educational level were not as pronounced; 46% for adults with a college degree and 37% for those with less than a high school degree compared with lower declines in other educational categories.

FIGURE 2. Cigarette advertising* versus promotional expenditures† as a percentage of total tobacco industry expenditures‡, United States, 1970–2005. *Advertising expenditures in traditional measured media included newspapers, magazines, outdoor, and transit. †Promotional expenditures and “others” included point of sale, promotional allowances, sampling distribution, specialty item distribution, public entertainment, direct mail, endorsements/testimonials, Internet, coupons, retail value added, and all others. ‡Adjusted to 2006 dollars, using the consumer price index. Source: The Role of the Media in Promoting and Reducing Tobacco Use. Tobacco Control Monograph No. 19. Bethesda, MD: US Department of Health and Human Services, National Institutes of Health, National Cancer Institute; June 2008. Original data: Federal Trade Commission, Federal Trade Commission Cigarette Report for 2004 & 2005, Washington, DC, 2007.
**TABLE 1. Trends in Prevalence and Disparities by Socioeconomic Status, 1992–1993 to 2006–2007, US Adults**

|                        | TOTAL | 1992–1993 | 2006–2007 | ABSOLUTE CHANGE (2006–2007 AND 1992–1993) | RELATIVE CHANGE % (95% CI OF % CHANGE) | NON-HISPANIC WHITE | 1992–1993 | 2006–2007 | ABSOLUTE CHANGE (2006–2007 AND 1992–1993) | RELATIVE CHANGE % (95% CI OF % CHANGE) |
|------------------------|-------|-----------|-----------|------------------------------------------|----------------------------------------|--------------------|-----------|-----------|------------------------------------------|----------------------------------------|
| Education (adults aged ≥25 y) |       |           |           |                                          |                                        |                    |           |           |                                          |                                        |
| Less than high school  | 28.9  | 22.5      | -6.4      | -22 (-25, -20)                           | 31.0                                   | 29.9               | -1.1*     | -4 (-8, 0) |                                        |                                        |
| HS diploma or GED     | 28.6  | 23.1      | -5.5      | -19 (-21, -17)                           | 29.0                                   | 25.0               | -4.0      | -14 (-16, -11) |                                        |                                        |
| Some college           | 24.4  | 19.3      | -5.1      | -21 (-23, -19)                           | 24.8                                   | 20.7               | -4.1      | -17 (-19, -14) |                                        |                                        |
| College degree         | 12.2  | 8.1       | -4.1      | -34 (-36, -32)                           | 12.0                                   | 8.5                | -3.5      | -29 (-31, -27) |                                        |                                        |
| Rate difference % (95% CI) | -16.7 (-17.3, -16.1) | -15 (-15.4, -14.6) | -19 (-19.8, -18.2) | -21.4 (-22.4, -20.4) |                                        |                    |           |           |                                          |                                        |
| Occupational class     |       |           |           |                                          |                                        |                    |           |           |                                          |                                        |
| White collar           | 20.2  | 14.6      | -5.6      | -28 (-30, -25)                           | 20.7                                   | 15.8               | -4.9      | -24 (-26, -21) |                                        |                                        |
| Service                | 30.4  | 22.6      | -7.8      | -26 (-28, -23)                           | 33.4                                   | 27.2               | -6.2      | -19 (-22, -16) |                                        |                                        |
| Blue collar            | 35.8  | 28.0      | -7.8      | -22 (-24, -20)                           | 38.3                                   | 33.1               | -5.2      | -14 (-16, -11) |                                        |                                        |
| Rate difference % (95% CI) | -15.6 (-16.3, -14.9) | -13.4 (-14.1, -12.7) | -17.6 (-18.3, -16.9) | -17.3 (-18.2, -16.4) |                                        |                    |           |           |                                          |                                        |
| NON-HISPANIC BLACK     |       |           |           |                                          |                                        |                    |           |           |                                          |                                        |
| Total                  | 25.6  | 17.0      | -8.6      | -34 (-37, -31)                           | 18.2                                   | 12.1               | -6.1      | -34 (-38, -29) |                                        |                                        |
| Education (adults aged ≥25 y) |       |           |           |                                          |                                        |                    |           |           |                                          |                                        |
| Less than high school  | 31.7  | 25.5      | -6.2      | -20 (-26, -13)                           | 19.9                                   | 12.5               | -7.4      | -37 (-43, -32) |                                        |                                        |
| HS diploma or GED     | 31.1  | 21.3      | -9.8      | -32 (-36, -27)                           | 20.4                                   | 14.4               | -6.0      | -29 (-37, -21) |                                        |                                        |
| Some college           | 26.1  | 16.8      | -9.3      | -36 (-42, -30)                           | 17.9                                   | 12.8               | -5.1      | -28 (-38, -19) |                                        |                                        |
| College degree         | 15.6  | 6.6       | -9.0      | -58 (-65, -50)                           | 13.6                                   | 7.3                | -6.3      | -46 (-58, -35) |                                        |                                        |
| Rate difference % (95% CI) | -16.1 (-17.9, -14.3) | -18.9 (-21.1, -16.7) | -6.8 (-9.3, -4.3) | -7.1 (-8.8, -5.4) |                                        |                    |           |           |                                          |                                        |
| Occupational class     |       |           |           |                                          |                                        |                    |           |           |                                          |                                        |
| White collar           | 20.3  | 11.3      | -9.0      | -44 (-49, -39)                           | 15.9                                   | 11.3               | -4.6      | -29 (-37, -21) |                                        |                                        |
| Service                | 27.2  | 21.0      | -6.2      | -23 (-30, -16)                           | 21.3                                   | 11.4               | -9.9      | -46 (-54, -39) |                                        |                                        |
| Blue collar            | 33.0  | 23.8      | -9.2      | -28 (-35, -21)                           | 24.6                                   | 16.2               | -8.4      | -34 (-41, -28) |                                        |                                        |
| Rate difference % (95% CI) | -12.7 (-14.7, -10.7) | -12.5 (-14.6, -10.4) | -8.7 (-10.7, -6.7) | -4.9 (-6.4, -3.4) |                                        |                    |           |           |                                          |                                        |

Absolute change is defined as the simple difference between rate of smoking in 2006–2007 and 1992–1993. Relative change is defined as the absolute change in smoking prevalence between 2006–2007 and 1992–1993 expressed as a percentage of the 1992–1993 prevalence. A rate difference, a summary measure of disparity, is defined as the absolute difference between the lowest rate and the highest rate, regardless of the socioeconomic status (SES) categories being compared. Current smoking is defined as having smoked at least 100 cigarettes in one’s entire life and now smoking every day or on some days.

*Significant absolute differences (P < .05 level) were observed among all racial and ethnic groups and, within these groups, for all SES categories except for the following group: non-Hispanic white adults with less than a high school degree.

†P < .05 for test of comparison between best and worst rate within survey year. Source: Estimates are for self and proxy respondents to the TUS-CPS 1992–1993 and 2006–2007 data surveys. For additional information on TUS-CPS survey methodology see Reference 22.
clines by occupational class among Hispanics were greater among service workers (46%) than white-collar workers (29%) (Table 1).

Socioeconomic status is associated with the likelihood of smoking initiation in adolescents, and there is evidence showing that tobacco-industry marketing tactics target low-income and minority communities to influence smoking-uptake patterns. Studies also show that smokers with the most socioeconomic resources are more likely to quit successfully, and over time, this has led to greater proportions of former smokers among the affluent and more educated segments of the population. This also has contributed to smoking rates falling at a faster rate among those with higher SES compared with those with lower SES. Data in Table 1 show that the socioeconomic gradients reflected in level of education or in occupational class have persisted during this time period and are evident across race and/or ethnicity. For instance, in 1992–1993, the rate difference (best rate—worst rate) across educational categories was 16.7% points compared with 15% points in 2006–2007; similarly, the rate difference across occupational categories was 15.6% points in 1992–1993 compared with 13.4% points in 2006–2007.

These persistent socioeconomic gradients make it clear that targeted interventions and tobacco-control policy approaches must be applied to reduce social inequalities in smoking and its health consequences. In recent years, national tobacco control organizations have funded initiatives intended to reduce tobacco’s burden on “priority” populations, typically including racial and ethnic minorities and low-income groups. Such research initiatives have led, for example, to the development of more effective smoking cessation interventions for blue-collar workers, which can be integrated within workers’ health and safety programs. Also, evidence from a systematic review has shown that certain population tobacco-control policies (ie, increasing excise tax on tobacco products) can be effective in reducing social inequalities in smoking and that smoking restrictions in workplaces and public places (although more effective among higher occupational groups) do not exacerbate differences in smoking by social class.

Other Tobacco Products
Cigars and smokeless (oral) tobacco products are less prevalent forms of tobacco use but are known to confer substantial health risks. The use of such products varies by demographic factors. Further details can be found in the Cancer Prevention & Early Detection Facts & Figures 2009 Web site http://www.cancer.org/downloads/STT/860009web_6-4-09.pdf. The tobacco industry has been marketing new and existing smokeless products as supplemental sources of nicotine in smoke-free settings or, misleadingly, as a low-risk option for smokers who are unable to quit. Among the new products being marketed by the tobacco industry in the United States is a smokeless product called snus, a “spitless” low-nitrosamine, moist powder, tobacco pouch placed between the user’s cheek and gum. Although such products are marketed as having lower risk than smoking, they may provide a gateway to smoking among nonsmokers, especially children, may discourage smokers from quitting, and may increase overall tobacco use by encouraging dual use of cigarettes and snus.

There is ongoing research that will help address important issues such as the impact of marketing these products on smoking prevention and cessation at the population level.

Comprehensive Tobacco Control Programs
Comprehensive tobacco-control programs aim to reduce tobacco use and its associated diseases, disability, economic costs, and death by applying an optimal mix of evidence-based economic, policy, regulatory, educational, social, and clinical strategies. Interventions that effectively reduce tobacco use include increases in excise taxes, restrictions on smoking in public places, prevention and cessation programs, and effective anti-tobacco media campaigns.

According to the 2000 Report of the US Surgeon General, the goals of comprehensive tobacco control include:

- Prevent initiation of tobacco use among young people.
- Promote quitting among young people and adults.
- Eliminate nonsmokers’ exposure to secondhand smoke.
- Identify and eliminate the disparities in tobacco use and its effects among different population groups.

There is more evidence than ever before on the effectiveness of comprehensive tobacco-control programs in relation to smoking prevalence and health-related outcomes. The latest evidence for comprehensive tobacco-control programs comes from
Washington, Maine, and New York, which have experienced declines in smoking rates of 15% to 25% among adults and 40% to 65% among youth after implementing such programs during the late 1990s and early 2000s. In addition, as a result of its long-standing comprehensive tobacco control program and increased excise taxes, California has experienced greater reductions in cigarette consumption among daily smokers aged 35 years or older and cessation rates among adult smokers aged 35 years or younger than have other states with high cigarette prices but no comprehensive tobacco-control programs or low cigarette prices and no comprehensive tobacco control programs. These reductions in smoking have, in turn, led to reductions in incidence of and mortality from tobacco-related cancers. Lung cancer incidence in California has declined more rapidly after the implementation of its comprehensive tobacco-control program than would have been predicted from prior trends in the state. Moreover, California’s lung cancer death rates in men and women have declined at a faster rate than nationally (or even in Southern and Midwest states; Fig. 3). The average percentage decrease in the lung cancer death rate among men in California from 1996 to 2005 was 2.8% per year compared with the average national rate of decline in men (2.0% per year). In women, the lung cancer death rate in California is declining more steeply (1.4% per year) than the national average decline for this period (0.1% per year). In addition, the California program’s estimated impact on reducing personal health-care expenditures has been approximately $86 billion to date.

In 2007, the Centers for Disease Control and Prevention (CDC) updated its recommendations on Best Practices for Comprehensive Tobacco Control Programs. This document provides guidelines to all states to aid them in strengthening their implementation of comprehensive tobacco-control programs by including these components: state and community interventions, health-communication interventions, cessation inter-
ventions, and surveillance and evaluation. Moreover, research clearly shows that increased spending on tobacco-control activities by states with such programs is associated with greater reductions in youth and adult smoking prevalence.\(^2\,48\) Despite growing evidence of their effectiveness, several comprehensive tobacco-control programs in the nation have now been jeopardized by severe budget cuts.\(^49\,50\) Tobacco-control advocates and experts, including the CDC, have long recognized the crucial need for adequate and sustained funding for these state programs. Although potential funding sources for these programs are tobacco excise taxes and Master Settlement (MSA) payments to states by the tobacco industry, states have experienced challenges in adequately funding their tobacco-control programs because of budgetary deficits and other political pressures.\(^49\,50\) As such, only 2.9% of tobacco-related revenue (excise taxes and MSA payments) has been allocated for tobacco-control funding. Among states’ allocation of revenue to tobacco control, Michigan ranked the lowest (0.4%), whereas Wyoming ranked the highest (14.7%) (Table 2).\(^51\) The CDC recommends funding levels for state tobacco-control programs that range from $9.23 to $18.02 per capita across all 50 states and the District of Columbia.\(^38\) Funding all state tobacco-control programs at levels recommended by the CDC for 5 years could result in an estimated 5 million fewer smokers in the United States.\(^38\) In 2009, states allocated a total of $718.1 million for tobacco-control programs, which constitutes just 19.4% of the minimum level of tobacco-control funding recommended by the CDC.\(^51\) Moreover, no state met or exceeded their minimum recommended funding levels. Only 9 states fund tobacco-control programs at the level of at least half their minimum recommended levels (Table 2), whereas the remaining 41 states and the District of Columbia fund at less than half their minimum recommended amount.\(^51\)

In 2007, The Institute of Medicine recommended 2 over-arching strategies to end the tobacco problem in the United States.\(^1\) The first was increased implementation of evidence-based tobacco-control strategies, including comprehensive state tobacco-control programs, tobacco excise taxes, smoking restrictions, youth smoking prevention, cessation support, and community action. The second strategy was a stronger federal presence in tobacco-control activities, including federal regulation of tobacco products and industry activities. In June 2009, the US president signed into law new federal legislation, referred to as the Family Smoking Prevention and Tobacco Control Act.\(^52\) It will grant the Food and Drug Administration (FDA) authority to regulate the sale and marketing of tobacco products. The legislation gives authority to the FDA to ban the marketing and sales of tobacco products to minors as well as granting states the authority to apply further restrictions on tobacco advertising and promotions. This legislation also will require the disclosure of ingredients of tobacco products and gives the FDA the authority to require changes to tobacco products, such as the removal of harmful ingredients or the reduction of nicotine levels to make them less harmful and/or less addictive. In addition, tobacco products will be required to have larger, more informative health warnings, and the tobacco industry will be prohibited from making any unsubstantiated and false health claims. The enactment of this new law by itself will not end the tobacco problem, but it is the strongest action the US government has ever taken to promote tobacco control at the federal level.

## Progress in dissemination of effective tobacco control measures

### Tobacco Excise Taxes

The price of cigarettes is inversely and predictably related to their consumption: a 10% increase in price reduces overall cigarette consumption by 3% to 5%.\(^25\) There is strong evidence that raising cigarette prices by increasing excise taxes reduces smoking prevalence, especially among children.\(^53\) Excise taxes on tobacco products are effective in preventing tobacco use among adolescents and young adults and increasing cessation among adults.\(^34\) Furthermore, increased excise taxes also raise governmental revenue that can be used for tobacco control.\(^1\,25\) In addition, cigarette price increases through taxation could potentially reduce socioeconomic disparities, given that low-income smokers and certain lower SES occupational classes are more responsive to tax increases compared with higher SES groups.\(^6\,29\,54\) However, given that lower SES smokers may have fewer opportunities to access effective tobacco-dependence treatments in order to quit, excise tax increases should be conjoined with state and federally funded efforts to provide evidence-based cessation services to these groups.\(^1\,55\)
TABLE 2. Current Smoking and Comprehensive Tobacco Control Measures by State, United States

| State            | CURRENT SMOKING | TOBACCO–CONTROL MEASURES |
|------------------|-----------------|--------------------------|
|                  | % MALE 2007     | MALE APC 1997–2007       | FEMALE 2007 | FEMALE APC 1997–2007 | CIGARETTE TAX PER PACK ($) | 100% SMOKE–FREE LAWS IN WORKPLACES AND/OR RESTAURANTS AND/OR BAR$ | FISCAL YEAR PER CAPITA TOBACCO–CONTROL FUNDING ($) | TOBACCO–CONTROL FUNDING AS A % OF TOBACCO REVENUE$ |
| Alabama          | 25.7            | -0.3                     | 19.7        | -1.0                  | 0.425                      | 0.52                        | 0.9                          |                                             |
| Alaska           | 24.6            | -0.7                     | 19.7        | -3.0§                 | 2.00¶                      | 14.67**                     | 8.9                          |                                             |
| Arizona          | 23.4            | -0.4                     | 16.3        | -2.2§                 | 2.00¶                      | W,R,B                       | 4.15                         | 4.2                          |
| Arkansas         | 24.8            | -2.6§                    | 20.2        | -2.3§                 | 1.15¶                      |                             | 6.32                         | 8.4                          |
| California       | 18.1            | -2.6§                    | 10.6        | -4.7§                 | 0.87¶                      | R,B                         | 2.31                         | 4.3                          |
| Colorado         | 19.7            | -2.7§                    | 17.7        | -3.0§                 | 0.84¶                      | R, B                        | 6.39**                       | 8.6                          |
| Connecticut      | 16.6            | -3.5§                    | 14.5        | -4.9§                 | 3.00                       | R, B                        | 2.44                         | 1.9                          |
| Delaware         | 17.6            | -4.2§                    | 20.3        | -2.2§                 | 1.60                       | W,R,B                       | 14.42**                      | 7.2                          |
| District of Columbia | 19.1         | -1.0                     | 15.7        | -1.6§                 | 2.50                       | W,R,B                       | 6.99                         | 5.1                          |
| Florida          | 21.3            | -0.9                     | 17.5        | -2.0§                 | 1.339¶                     | W,R                         | 3.77                         | 7.3                          |
| Georgia          | 21.2            | -3.0§                    | 17.5        | -1.7§                 | 0.37                       |                             | 0.39                         | 0.8                          |
| Hawaii           | 19.8            | -1.7§                    | 14.3        | -1.4§                 | 2.60¶                      | W,R,B                       | 9.33**                       | 7.1                          |
| Idaho            | 20.9            | -1.9§                    | 17.4        | -2.7§                 | 0.57¶                      | R                           | 2.01                         | 3.2                          |
| Illinois         | 22.1            | -1.8§                    | 18.4        | -2.5§                 | 0.98                       | W,R,B                       | 0.76                         | 1.0                          |
| Indiana          | 25.9            | -1.7§                    | 22.4        | -0.5                  | 0.999¶                     |                             | 2.63                         | 2.4                          |
| Iowa             | 21.4            | -2.6§                    | 18.3        | -1.5§                 | 1.36¶                      | W,R                         | 3.83                         | 3.6                          |
| Kansas           | 18.7            | -3.4§                    | 17.1        | -1.4§                 | 0.79                       |                             | 0.74                         | 1.1                          |
| Kentucky         | 28.8            | -2.3§                    | 27.8        | -0.4                  | 0.60¶                      |                             | 0.92                         | 1.3                          |
| Louisiana        | 26.4            | -1.1                     | 19.1        | -1.0                  | 0.36¶                      | W,R                         | 1.90                         | 2.8                          |
| Maine            | 21.0            | -2.1§                    | 19.3        | -1.3                  | 2.00                       | W,R,B                       | 9.18**                       | 5.7                          |
| Maryland         | 18.4            | -2.5§                    | 16.0        | -2.4§                 | 2.00                       | W,R,B                       | 3.89                         | 3.5                          |
| Massachusetts    | 17.4            | -2.3§                    | 15.5        | -2.4§                 | 2.51                       | W,R,B                       | 2.13                         | 1.6                          |
| Michigan         | 23.5            | -2.7§                    | 19.0        | -2.7§                 | 2.00¶                      |                             | 0.51                         | 0.4                          |
| Minnesota        | 18.3            | -2.0§                    | 14.7        | -0.8                  | 1.56¶                      | W,R,B                       | 4.37                         | 3.6                          |
| Mississippi      | 27.8            | 0.2                      | 20.5        | 0.9                   | 0.68                       |                             | 3.76                         | 5.9                          |
| Missouri         | 26.0            | -3.1§                    | 23.3        | -1.5§                 | 0.17                       |                             | 0.48                         | 1.0                          |
| Montana          | 19.8            | -0.7                     | 19.3        | -1.2§                 | 1.70                       | W,R,B                       | 10.31**                      | 7.4                          |
| Nebraska         | 23.2            | -1.8§                    | 16.8        | -1.8§                 | 0.64¶                      | W,R,B                       | 2.34                         | 3.4                          |
| Nevada           | 23.4            | -3.8§                    | 19.6        | -6.0§                 | 0.80                       | W,R                         | 2.05                         | 2.3                          |
| New Hampshire    | 20.2            | -3.4§                    | 18.6        | -3.0§                 | 1.78                       | R,B                         | 0.89                         | 0.5                          |
| New Jersey       | 19.4            | -1.9§                    | 15.2        | -2.7§                 | 2.70¶                      | W,R,B                       | 1.21                         | 1.0                          |
| New Mexico       | 23.6            | -0.5                     | 18.1        | -2.5§                 | 0.91¶                      | R,B                         | 5.77                         | 9.7                          |
| New York         | 21.6            | -2.4§                    | 16.5        | -3.5§                 | 2.75¶                      | W,R,B                       | 4.32                         | 3.9                          |
| North Carolina   | 25.3            | -1.9§                    | 20.7        | -2.1§                 | 0.45¶                      | R,B                         | 2.30                         | 4.7                          |
| North Dakota     | 22.2            | -1.3                     | 19.8        | -1.2                  | 0.44                       | W                           | 6.38                         | 7.1                          |
| Ohio             | 24.2            | -2.5§                    | 22.1        | -1.8§                 | 1.25                       | W,R,B                       | 0.63                         | 0.6                          |
| Oklahoma         | 28.0            | 1.0                      | 23.8        | 0.1                   | 1.03¶                      |                             | 5.54                         | 4.4                          |
In 2009, the federal tax on cigarettes was increased from a rate of $0.39 per pack to $1.066 per pack.\(^5\) There is wide variation in state cigarette excise taxes levied, ranging from 7 cents per pack in South Carolina to $3.46 per pack in Rhode Island (Table 2).\(^{100}\) Currently, 24 states have a state excise tax less than $1.00 per pack of cigarettes. These low-taxing states are mostly concentrated in the southeast and central United States, and they include several tobacco-grow ing states. Although 46 states and the District of Columbia have increased their cigarette taxes since 2002,\(^{56}\) only 24 states have laws requiring that a portion of their excise taxes be dedicated to cancer or tobacco-control programs.\(^{57}\) (Table 2)

Other tax policies to be considered are making tax rates for cigarettes and other tobacco products (smokeless products and cigars) equivalent for the purpose of preventing young smokers’ substituting...
or taking up new tobacco products in lieu of cigarettes and addressing bootlegging and illegal sales of single cigarettes in disadvantaged communities, both of which negate the benefits of increased tobacco taxes.

**Smoke-free Initiatives to Reduce Exposure to Secondhand Smoke**

The purpose of comprehensive smoke-free laws is to protect nonsmokers from secondhand smoke. Other benefits from such laws are to reduce the social acceptability of smoking, to deter the initiation of smoking by children, and to encourage smokers to cut back or quit. In 1964, there were no laws regulating smoking in schools, public transportation facilities, government buildings, restaurants, or bars. However, as the scientific evidence accumulated on the harmful health effects of secondhand smoke, many state and local governments began to enact smoke-free legislation, a practice that continues through the present time.

It has been reported that the widespread implementation of smoke-free laws and reductions in smoking prevalence may have contributed to the national decline, from 84% in 1988–1994 to 46% in 1999–2004, in exposure to secondhand smoke (SHS) among nonsmokers (as measured by detectable levels of cotinine, a metabolite of nicotine). A comprehensive statewide smoking ban in workplaces, restaurants, and bars in 2003 in New York resulted in a 47% reduction in exposure to secondhand smoke among nonsmokers. Several studies have documented a positive health effect of smoke-free ordinances, including associated reductions in heart attacks and respiratory symptoms. Smoking bans also change social norms about smoking and motivate smokers to reduce their consumption or quit completely. Numerous studies on the economic impact of smoke-free legislation on restaurants, bars, and other components of the hospitality industry have shown either no adverse effect or a positive effect on business.

As a result of the recent increases in comprehensive smoke-free legislation, it is estimated that 70.8% of the US population is covered by a 100% smoke-free provision in workplaces, and/or restaurants, and/or bars. About 3091 municipalities have passed some form of local smoke-free legislation. Currently, 351 municipalities in the country have passed local laws to establish 100% smoke-free workplaces, restaurants, and bars.

Thirty-three states, the District of Columbia, and Puerto Rico have either implemented or enacted statewide smoking bans that prohibit smoking in workplaces, and/or restaurants, and/or bars. Twenty-one of these states/territories, including the District of Columbia and Puerto Rico, provide comprehensive smoke-free protection, meaning that all workplaces, restaurants, and bars are 100% smoke-free (Table 2).

Comprehensive smoke-free legislation that covers all segments of society is the only way to eliminate the variation of workplace smoke-free policies by occupation. A recent study showed that greater than 85% of white-collar employees reported working under a smoke-free policy, compared with 75% of service workers, 63% of blue-collar workers, and 72% of food-service workers.

**Smoking Cessation**

Much of the risk of premature death from smoking could be prevented by smoking cessation. Smokers who quit can expect to live as many as 10 years longer than those who continue to smoke. In 2007, of the 43.4 million Americans who smoked, 39.8% reported having attempted to quit for at least 1 day in the past year. Unfortunately, only about 5% have been successful in quitting for at least 1 year.

Tobacco dependence is a chronic condition that often requires repeated interventions. The most effective interventions involve a combination of counseling and use of FDA-approved cessation medications, ie, nicotine replacement products, which include gum, patch, inhaler, nasal spray, and lozenges, or prescription medications, which include bupropion (Zyban) or varenicline (Chantix). For most smokers, addiction to nicotine is a true drug dependence; like other addictions, it can be clinically managed with effective treatments. Clinicians play a crucial role in assessing and advising smokers to quit and in providing or referring patients to appropriate counseling and treatment. Professional and pharmaceutical assistance with quitting is both efficacious and cost-effective. In addition, to enhance use of tobacco treatment, experts recommend implementation of systems-strategies that institutionalize cessation services; these may include training healthcare providers to deliver effective treatments and integrating cessation outcomes into overall health-quality standards and ratings.
There has been some progress in addressing tobacco use and dependence through the health-care system. National data show an increase in reported advice to quit smoking from a health-care provider from 40% in the mid-1990s to 61% in the mid-2000s, with similar increases across racial and ethnic groups. The 2006 Healthcare Effectiveness Data and Information Set (HEDIS) report, from the National Committee for Quality Assurance, showed 71% of smokers or recent quitters who had private insurance received advice to quit smoking from their health-care provider, and 39% reported discussing smoking cessation strategies; corresponding rates among Medicaid recipients were lower at 66% and 34%, respectively. However, the use of evidence-based treatments in quit attempts remains low, with an estimated 22% of smokers trying to quit by using cessation aids. This proportion was even lower among uninsured smokers (13%). Insurance coverage of tobacco-dependence treatments increases smokers’ likelihood of receiving treatment, making a quit attempt, and being abstinent from smoking. Among adults who ever smoked, those who currently have health insurance are much more likely to have stopped smoking, regardless of educational level (Fig. 4). This association is likely because of insured smokers’ greater access to and use of effective tobacco-dependence treatments. However, even insured smokers may bear a significant portion of the cost of pharmacotherapy because of deductibles and copayments or, in some cases, because of noncoverage. In some cases, coverage is extended only to certain groups of smokers. For example, Medicare covers smoking-cessation counseling and pharmacotherapy (excluding over-the-counter treatment) for seniors with tobacco-related illnesses, and in some states, the Medicaid program covers treatments only for pregnant women.

Among national surveys to assess health-insurance coverage of any tobacco-dependence treatments, estimates range from 88% among health-maintenance plans to 20% among employer-provided plans. State-specific estimates may be higher; in California, employer-sponsored coverage of any treatment increased from 44% in 2000 to 57% in 2005, while coverage for all forms of treatment increased from 11% to 22% during the same time period. In 2006, Medicaid programs in 38 states and the District of Columbia covered 1 or more treatments for tobacco dependence (medication or counseling) for all recipients, and only Oregon provided full coverage of all US Public Health Service (USPHS)-recommended medication and counseling treatments.

A promising strategy to facilitate cessation is to integrate population-wide cessation services into comprehensive tobacco-control programs. New York City’s experience with incorporating a cessation-servicest component into their program, which included physician outreach and education, quit-smoking clinics, and population-wide distribution of free nicotine-replacement therapy (NRT), was associated with greater use of cessation services, greater quit rates, and reductions in smoking prevalence, particularly among young women. Part of this strategy also includes implementation of statewide, tobacco-cessation, telephone counseling. These toll-free services, which have a broad reach, can deliver effective behavioral counseling to diverse groups of tobacco users, including low-income, rural, elderly, uninsured, and racial/ethnic subpopulations of
smokers. Recent studies show that integrating standard nicotine-replacement treatments into state quit-lines can improve quit rates and are cost effective. In addition to a national service (1-800–QUITNOW), as of 2007, all 50 states, the District of Columbia, and 5 US territories offered some degree of telephone-cessation counseling. The American Cancer Society’s Quitline® program (1-877–YES–QUIT, 1-877–937–7848) has offered free telephone-based cessation services since 2000 and has become the top provider of services with contracts in 12 states representing 27% of the US population. In addition, the American Cancer Society’s Quitline services are available to more than 100 employers and health plans nationwide.

Other key approaches to tobacco control

Exposure to industry marketing influences the likelihood that adolescents will initiate and continue tobacco use and increases cigarette-consumption levels in the population. The tobacco industry spent $13.1 billion on marketing expenditures in 2005, increasingly directing most of these funds toward promotional tactics that circumvent tobacco-control efforts; between 1970 and 2005, promotional expenditures increased from 18% to nearly 100% of total industry marketing expenditures (Fig. 2). One way to counter these marketing tactics is through antismoking media campaigns; effective campaigns have included messages that highlight the negative consequences of tobacco use, expose the industry’s deceptive marketing tactics, and foster social norms that reduce the acceptability of tobacco use. For example, the Florida “truth” antismoking campaign and the nationwide “truth” campaign developed messages that countered the perception of smoking as cool and rebellious by highlighting the tobacco industry’s misleading practices. These campaigns can reduce tobacco use in a population by curbing smoking initiation among youth and promoting adult cessation. When combined with other tobacco-control efforts as part of a comprehensive program, sustained antismoking campaigns can precipitate rapid declines in youth- and adult-smoking rates. However, budget cuts to such campaigns have resulted in increases in youth-smoking susceptibility and intentions to use tobacco. It is crucial that state programs continue to fund successful media campaigns in order to sustain the progress seen in reducing youth smoking.

School-based tobacco prevention programs that focus on the short-term as well as the long-term consequences of smoking can be useful as part of comprehensive tobacco-control programs. In addition, parental guidance is important in maintaining smoke-free households, setting nonsmoking expectations early, monitoring adolescents for signs of smoking, and countering the influence of glamorous or grown-up depictions of smoking in movies and other media.

Conclusion

There have been tremendous gains in reducing tobacco use in the United States. However, concerted efforts in tobacco control are needed to address tobacco use among those with lower socioeconomic status. Evidence-based tobacco-control measures could potentially prevent most of the approximately 30% of cancer deaths caused by smoking, could help reduce smoking-related socioeconomic disparities, and could reduce the overall toll of tobacco use in the United States. An increased federal presence in tobacco control, including—but not limited to—tax increases, access to cessation services, and the successful implementation of the FDA regulation of tobacco products hold great promise for tobacco control. FDA involvement, however, is likely to be most effective in conjunction with the expansion and sustenance of adequately funded, comprehensive, state tobacco-control programs.

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