Introduction

Burden of Tobacco Use

Tobacco use is the single most preventable cause of disease and death in the United States.[1] The health consequences of tobacco use include heart disease, multiple types of cancer, pulmonary disease, adverse reproductive effects, and the exacerbation of chronic health conditions.[1] Nearly one-half million Americans still die prematurely from tobacco use each year, and economic costs attributable to smoking and exposure to secondhand smoke now approach $300 billion annually.[2] Despite these known health and financial burdens, approximately one in four American adults currently use some form of tobacco, with one in five smoking cigarettes.[3,4]

This public health problem is compounded by the fact that the harmful effects of tobacco use do not end with the user. Although substantial progress has been made in the adoption of comprehensive smokefree policies that prohibit smoking in all indoor areas of workplaces and public places, millions of Americans not protected by such policies remain susceptible to involuntary secondhand smoke exposure in these areas, as well as private settings such as multiunit housing.[5,6] There is no risk-free level of secondhand smoke, and exposure can cause premature death and disease in nonsmoking adults and children.[7,8]

Nearly 90% of adult smokers begin smoking by the time they are 18 years of age.[9] Although the prevalence of cigarette smoking among youth decreased significantly from the late 1990s to 2003, the rate of decline has slowed in recent years.[10] In 2012, approximately 6.7% of middle school students and 23.3% of high school students reported using a tobacco product within the past 30 days.[11] Several factors may have contributed to this lack of continued decline, including smaller annual increases in the retail price of cigarettes, decreased exposure among youth to effective mass media tobacco control campaigns, and less funding for comprehensive statewide tobacco control programs.[12]

Additionally, actions by the tobacco industry, including substantial increases in expenditures on advertising and promotion at the point of sale, may also have played a role, especially given the industry's history of deceptive advertising. In the 2006 final opinion in United States v. Philip Morris, U.S. District Judge Gladys Kessler concluded that the major tobacco companies are adjudicated racketeers that had "mounted a coordinated, well-financed, sophisticated public relations campaign to attack and distort the scientific evidence demonstrating the relationship between smoking and disease."[13]

Goals of Comprehensive Tobacco Control Programs

In 2007, the Institute of Medicine (IOM) released the report, *Ending the Tobacco Problem: A Blueprint for the Nation,* which outlined a two-pronged strategy for eliminating the burden of tobacco use in the United States.[14] This strategy included: 1) strengthening and fully implementing traditional tobacco control measures; and 2) changing the regulatory landscape to permit policy innovations. The IOM Committee specifically concluded that there was compelling evidence that comprehensive state tobacco programs can achieve substantial reductions in tobacco use.[14]

The mission of comprehensive tobacco control programs is to reduce disease, disability, and death related to tobacco use. A comprehensive approach—one that optimizes synergy from applying a mix of educational, clinical, regulatory, economic, and social strategies—is the guiding principle for eliminating the health and economic burden of tobacco use.[15,16]

Goals for Comprehensive Tobacco Control Programs

- Prevent initiation among youth and young adults.
- Promote quitting among adults and youth.
- Eliminate exposure to secondhand smoke.
- Identify and eliminate tobacco-related disparities among population groups.

Impact of Comprehensive Tobacco Control Programs

States that have made larger investments in comprehensive tobacco control programs have seen larger declines in cigarettes sales than the United States as a whole, and the prevalence of smoking among adults and youth has declined faster as spending for tobacco control programs has increased.[17–19] For example, during 1998–2003, a comprehensive prevention program in Florida anchored by an aggressive youth-oriented health communications campaign reduced the prevalence of smoking among middle and high school students by 50% and 35%, respectively.[20] Similarly, during 2001–2010, the New York State Tobacco Control Program reported declines in the prevalence of smoking among adults and youth in the state that outpaced declines nationally. As a result, smoking-attributable personal health care expenditures in New York in 2010 were $4.1 billion less than they would have been had the prevalence of smoking remained at 2001 levels.[21]

In addition to the beneficial impact of larger investments in comprehensive tobacco control programs on smoking rates, research also shows that the longer states invest in such programs, the greater and quicker the impact.[16] For example, in California, the nation's first and longest-running comprehensive state tobacco control program, the prevalence of smoking among adults declined from 22.7% in 1988 to 11.9% in 2010.[22] Decreases in lung cancer incidence and the correlation between lung cancer incidence and quit ratios also provide compelling evidence of the value of sustained tobacco control efforts. Since 1998, lung cancer incidence in California has been declining four times faster than in the rest of the United States.[23]

National Initiatives to Support Comprehensive Tobacco Control Programs

A comprehensive approach to tobacco prevention and control requires coordination and collaboration across the federal government, across the nation, and within each state. The federal government has undertaken a number of important activities that provide a foundation for state action. For example, in 1999, the National Tobacco Control Program (NTCP) was launched, combining initiatives from the National Cancer Institute (NCI) and the Centers for Disease Control and Prevention (CDC) into one coordinated national program that CDC funds and manages.[24] CDC funding is designed to support and leverage state funding for evidence-based interventions and to help states evaluate their program efforts. NTCP provides technical assistance and limited funding to all 50 states, the District of Columbia, and seven territories, as well as Tribal Support Centers and National Networks of specific populations.

Similarly, The National Network of Tobacco Cessation Quitlines was developed through a partnership among CDC, the NCI Cancer Information Service, the North American Quitline Consortium, and the states.[25] This system provides callers from across the nation with a single, toll-free access point (1-800-QUIT NOW) that automatically routes them to their state's telephone-based cessation services.

In addition to these activities, several major advances were made in recent years through the enactment of national tobacco control legislation. Specifically, the 2009 Family Smoking Prevention and Tobacco Control Act gives the Food and Drug Administration authority to regulate the manufacture, distribution, and marketing of tobacco products.[26] In addition, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act and referred to collectively as the Affordable Care Act, provides expanded coverage for recommended clinical preventive services, including evidence-based smoking-cessation treatments, for many persons in the United States.[27] Finally, the Children's Health Insurance Program Reauthorization Act of 2009 raised the federal tax rate for cigarettes from $0.39 to $1.01 per pack.[28] Increasing the price of tobacco products is the single most effective way to prevent initiation among nonsmokers and to reduce consumption.[15,29]

Scientific data about the extent of tobacco use, its impact, and effective interventions to reduce its use have been generated and disseminated by several federal agencies, including CDC, the National Institutes of Health (NIH), the Substance Abuse and Mental Health Services Administration (SAMHSA), and the Agency for Healthcare Research and Quality. The federal government has also supported several national and state tobacco use surveys among adults and youth through the CDC (e.g. Behavioral Risk Factor Surveillance System, National

Health Interview Survey, Youth Risk Behavior Surveillance System, national and state Adult Tobacco Surveys, national and state Youth Tobacco Surveys), NIH (e.g. Tobacco Use Supplement to the Current Population Survey and Monitoring the Future), and SAMHSA (e.g. National Survey on Drug Use and Health). These surveys provide complementary data from various populations that are critical for surveillance and evaluation.

National partner organizations and many academic and research partners also play a critical role in tobacco prevention and control efforts. For example:

- The American Cancer Society, American Heart Association, and American Lung Association provide strong national, state, and local advocacy leadership on tobacco control policy issues as well as community support
- The American Legacy Foundation's truth® campaign reinforces state-based youth prevention efforts and has been independently associated with substantial declines in the prevalence of smoking among youth[30]
- The Americans for Nonsmokers' Rights Foundation provides technical assistance to states and localities as they engage in the process of implementing smokefree policies
- The Association of State and Territorial Health Officials, the National Association of County and City Health Officials, and the National Association of Local Boards of Health provide state and local health officials with support in developing and maintaining tobacco control policies and programs
- The Campaign for Tobacco-Free Kids provides legal, media, and research support to assist in promoting and implementing tobacco control policies
- The Robert Wood Johnson Foundation has supported research to document the effectiveness of policies and programs and also helps build tobacco control infrastructure
- The Tobacco Control Legal Consortium, a network of legal programs supporting tobacco control policy change, works to assist communities and increase legal resources available for tobacco control
- The Tobacco Technical Assistance Consortium supports the effectiveness of tobacco control programs by providing technical assistance to state and local programs, partners, and coalitions

Although a number of critical efforts to curb tobacco use occur at the national level, state and local community action is essential to ensure the success of tobacco control interventions. Most funding for tobacco control interventions comes from the states.[31] Furthermore, it is the policies, partnerships, and intervention activities that occur at the state and local levels that ultimately lead to social norm and behavior change. In acknowledging the essential and unique roles that states and communities play in tobacco control efforts, this report provides technical information and evidence-based benchmarks to assist states in designing comprehensive programs. Communities, in turn, support comprehensive programs by implementing evidence-based initiatives at the local level. For example, although the centralized quitline number and structure of the National Network of Tobacco Cessation Quitlines were established through partnerships at the national level, states still provide the foundation for this system by maintaining their quitline services and promoting their use through broadcast media. Communities can further promote this service through local channels, such as hospitals, health care systems, newspapers, and community organizations.

Implementing Best Practices for Comprehensive Tobacco Control Programs

Evidence-based, statewide tobacco control programs that are comprehensive, sustained, and accountable have been shown to reduce smoking rates as well as tobacco-related diseases and deaths. A comprehensive statewide tobacco control program is a coordinated effort to:

- Establish smokefree policies and social norms
- Promote cessation and assist tobacco users to quit
- Prevent initiation of tobacco use

CDC's *Best Practices for Comprehensive Tobacco Control Programs—2014* is an evidence-based guide to help states plan and establish comprehensive tobacco control programs. CDC has prepared this report to help states organize their tobacco control program efforts into an integrated and effective structure that uses and

maximizes interventions proven to be effective and to operate at the scale that would be required to reach the *Healthy People 2020* objective of reducing smoking to 12% or less by the year 2020.

In 1999, CDC first published *Best Practices for Comprehensive Tobacco Control Programs.* That report outlined the elements of an evidence-based state tobacco control program and provided a recommended state funding range to substantially reduce tobacco-related disease, disability, and death.[32] *Best Practices—1999* recommended that states invest a combined $1.6 to $4.2 billion annually in such programs. Subsequently, the recommendation was updated to $3.7 billion annually in 2007.[16]

After the 1999 report was published, overall funding for state tobacco control programs more than doubled, and states restructured their tobacco control programs to align with CDC's goals and programmatic recommendations.[16] To date, all 50 states and the District of Columbia have state tobacco control programs that are funded through various revenue streams, including tobacco industry settlement payments, cigarette excise tax revenues, state general funds, the federal government, and nonprofit organizations.[31]

However, in 2011, only two states funded tobacco control programs at CDC-recommended levels, whereas 27 states funded at less than 25% of these levels.[4] Many state programs have experienced and are facing substantial state government cuts to tobacco control funding, resulting in the near-elimination of tobacco control programs in those states.[31] In 2010, states appropriated only 2.4% of their state tobacco revenues for tobacco control. Reaching the *Best Practices—2007* funding goal would have required an additional 13.0% of tobacco revenues, or $3.1 billion of the $24 billion collected across all states.[31]

Investing in comprehensive tobacco control programs and implementing evidence-based interventions have been shown to reduce youth initiation, tobacco-related disease and death, and tobacco-related health care costs and lost productivity.[14,16,32] These interventions include:

- Increasing the price of tobacco products
- Enacting comprehensive smokefree policies
- Funding hard hitting mass-media campaigns
- Making cessation services fully accessible to tobacco users

Best Practices for Comprehensive Tobacco Control Programs—2014 updates the guidance provided in 2007, reflecting additional state experiences in implementing comprehensive tobacco control programs, new scientific literature, and changes in state populations, inflation, and the national tobacco control landscape.

This report draws upon best practices determined by evidence-based analysis of state tobacco control programs and published evidence of effective tobacco control strategies. On the basis of this analysis, experience, and evidence, CDC recommends that states establish and sustain comprehensive tobacco control programs that contain the following overarching components.

Overarching Components of Comprehensive Tobacco Control Programs

- State and community interventions.
- Mass-reach health communication interventions.
- Cessation interventions.
- Surveillance and evaluation.
- Infrastructure, administration, and management.

This report describes an integrated budget structure for implementing interventions proven to be effective, and the *minimum* and *recommended* state investment that would be required to reduce, and ultimately eliminate, tobacco use in each state. Information for each of these components includes:

- Justification for the program intervention
- Considerations for achieving equity to reduce tobacco-related disparities
- Budget recommendations for successful implementation
- References to assist with implementation

As with the funding guidance published in 2007, annual funding levels can vary within the lower and upper estimate provided for each state.[16] The levels of annual investment for state and community interventions factor in multiple state-specific variables, such as the proportion of individuals within the state living at or below 200% of the poverty level, the proportion of the population that is a racial/ethnic minority, average wage rates for implementing public health programs, geographic size, and the state's infrastructure as reflected by the number of local governmental health units.

The 2014 funding formulas are provided in Appendix A of this report. On the basis of these different factors, the annual investment needed to implement the recommended program components of a comprehensive tobacco control program has been estimated to range from $7.41 to $10.53 per capita for all 50 states and the District of Columbia combined.

The *minimum* and *recommended* funding levels presented in this report reflect the annual investment that each state can make in order to fully fund and sustain a comprehensive tobacco control program. The *minimum* funding level represents the lowest annual investment for attaining a comprehensive tobacco control program. The *recommended* funding level represents the annual level of investment for ensuring a fully funded and sustained comprehensive tobacco control program with resources sufficient to most effectively reduce tobacco use. These funding investment recommendations reflect, in aggregate, a nationally realistic level of investment. States that invest resources above the *recommended* level will accelerate their progress in eliminating tobacco use and reducing tobacco-related morbidity and mortality, and associated costs.

It is important to note that additional investments are also required at the societal level in order to most effectively reduce tobacco use. For example, the enactment of the Affordable Care Act has presented significant new opportunities to institutionalize tobacco use screening and interventions and to increase access to evidence-based cessation treatments through expanded insurance coverage. These costs are important to consider for the purposes of addressing tobacco use but are not necessarily within the purview of state tobacco control program funding parameters. In fact, the new opportunities realized through the Affordable Care Act, along with other factors, contributed to a decline in the recommended state funding levels for cessation interventions in *Best Practices for Comprehensive Tobacco Control Programs—2014.*

Although each state's analysis of their priorities can shape decisions about funding allocations for each recommended program component, it remains clear that more substantial investments in comprehensive state tobacco controls programs lead to quicker and greater declines in smoking rates and in smoking-related disease and death.[17–19]

This report provides evidence to support each of the five components of a comprehensive tobacco control program. While acknowledging the importance of the individual program components, it is critical to recognize why these individual components must work together to produce the synergistic effects of a comprehensive program. A comprehensive approach, with the combination and coordination of all five program components, has shown to be most effective at preventing tobacco use initiation and promoting cessation.[33–35]

Each day in the Unites States, the tobacco industry spends nearly $23 million to advertise and promote cigarettes.[36] During the same period, more than 3,200 youth younger than 18 years of age smoke their first cigarette and another 2,100 youth and young adults who are occasional smokers progress to become daily smokers.[2] However, the tobacco use epidemic can be stopped by implementing the interventions that we know work. Full implementation of comprehensive tobacco control policies and evidence-based interventions at CDC-recommended funding levels would result in a substantial reduction in tobacco-related morbidity and mortality and billions of dollars in savings from averted medical costs and lost productivity in the United States.[2,16]

References

1. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: A Report of the Surgeon General.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004.
2. U.S. Department of Health and Human Services. *The Health Consequences of Smoking – 50 Years of Progress: A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.
3. King BA, Dube SR, Tynan MA. Current tobacco use among adults in the United States: findings from the national Adult Tobacco Survey. *American Journal of Public Health* 2012;102(11):e93–e100.
4. Centers for Disease Control and Prevention. Current cigarette smoking among adults — United States, 2011. *Morbidity and Mortality Weekly Report* 2012;61(44):889–94.
5. Centers for Disease Control and Prevention. Vital signs: nonsmokers' exposure to secondhand smoke — United States, 1999–2008. *Morbidity and Mortality Weekly Report* 2010;59(35):1141–6.
6. Centers for Disease Control and Prevention. State smoke-free laws for worksites, restaurants, and bars — United States, 2000–2010. *Morbidity and Mortality Weekly Report* 2011;60(15):472–5.
7. U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006.
8. U.S. Department of Health and Human Services. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010.
9. U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Youth and Young Adults.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2012.
10. Centers for Disease Control and Prevention. Cigarette use among high school students — United States, 1991–2009. *Morbidity and Mortality Weekly Report* 2010;59(26):797–801.
11. Centers for Disease Control and Prevention. Tobacco product use among middle and high school students — United States, 2011 and 2012. *Morbidity and Mortality Weekly Report* 2013;62(45):893–7.
12. Centers for Disease Control and Prevention. Cigarette use among high school students — United States, 1991–2005. *Morbidity and Mortality Weekly Report* 2006;55(26):724–6.
13. *U.S. v. Philip Morris,* 449 F.Supp.2d 1. D.D.C. 2006.
14. Institute of Medicine. *Ending the Tobacco Problem: A Blueprint for the Nation.* Washington: National Academies Press, 2007.
15. U.S. Department of Health and Human Services. *Reducing Tobacco Use. A Report of the Surgeon General.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.
16. Centers for Disease Control and Prevention. *Best Practices for Comprehensive Tobacco Control Programs — October 2007.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2007.
17. Farrelly MC, Pechacek TF, Chaloupka FJ. The impact of tobacco control program expenditures on aggregate cigarette sales: 1981–2000. *Journal of Health Economics* 2003;22(5):843–59.
18. Tauras JA, Chaloupka FJ, Farrelly MC, Giovino GA, Wakefield M, Johnston LD, O'Malley PM, Kloska DD, Pechacek TF. State tobacco control spending and youth smoking. *American Journal of Public Health* 2005;954(2):338–44.

19. Farrelly MC, Pechacek TF, Thomas KY, Nelson D. The impact of tobacco control programs on adult smoking. *American Journal of Public Health* 2008;89(2):304–9.

20. Bauer UE, Johnson TM, Hopkins RS, Brooks RG. Changes in youth cigarette use and intentions following implementation of a tobacco control program. *JAMA: the Journal of the American Medical Association* 2000;284(6):723–8.

21. RTI International. *2011 Independent Evaluation Report of the New York Tobacco Control Program*. Albany, NY: New York State Department of Health, 2011.

22. California Department of Public Health. Smoking prevalence among California adults, 1984–2010; <http://www.cdph.ca.gov/Pages/NR11-031SmokingChart.aspx>; accessed: December 2, 2013.

23. Centers for Disease Control and Prevention. State-specific trends in lung cancer incidence and smoking — United States, 1999–2008. *Morbidity and Mortality Weekly Report* 2011;60(36):1243–7.

24. Centers for Disease Control and Prevention. National Tobacco Control Program; <http://www.cdc.gov/tobacco/tobacco_control_programs/ntcp/>; accessed: December 2, 2013.

25. U.S. Department of Health and Human Services. HHS Announces National Smoking Cessation Quitline Network; <http://archive.hhs.gov/news/press/2004pres/20040203.html>; accessed: December 2, 2013.

26. *Family Smoking Prevention and Tobacco Control and Federal Retirement Reform.* Public Law 111-31, *U.S. Statutes at Large* 123 (2009):1776; <http://www.gpo.gov/fdsys/pkg/PLAW-111publ31/pdf/PLAW-111publ31.pdf >; accessed: December 2, 2013.

27. *Patient Protection and Affordable Care Act.* Public Law 111-148, *U.S. Statutes at Large* 124 (2010):119; <http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/pdf/PLAW-111publ148.pdf >; accessed: December 2, 2013.

28. *Children's Health Insurance Program Reauthorization Act of 2009.* Public Law 111-3, U.S. Statutes at Large 123 (2009):8; <http://www.gpo.gov/fdsys/pkg/PLAW-111publ3/pdf/PLAW-111publ3.pdf>; accessed: December 2, 2013.

29. Centers for Disease Control and Prevention. Federal and state cigarette excise taxes — United States, 1995–2009. *Morbidity and Mortality Weekly Report* 2009;58(19):524–7.

30. Farrelly MC, Davis KC, Haviland L, Messeri P, Healton CG. Evidence of a dose-response relationship between "truth" antismoking ads and youth smoking prevalence. *American Journal of Public Health* 2005;95(3):425–31.

31. Centers for Disease Control and Prevention. State tobacco revenues compared with tobacco control appropriations — United States, 1998–2010. *Morbidity and Mortality Weekly Report* 2012;61(20):370–4.

32. Centers for Disease Control and Prevention. *Best Practices for Comprehensive Tobacco Control Programs — August 1999.* Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1999.

33. Zaza S, Briss PA, Harris KW, editors. *The Guide to Community Preventive Services: What Works to Promote Health?* New York: Oxford University Press, 2005.

34. Eriksen, M. Lessons learned from public health efforts and their relevance to preventing childhood obesity. In: Koplan JP, Liverman CT, Kraak VA, editors. *Preventing Childhood Obesity: Health in the Balance.* Washington: National Academy of Sciences; 2005:343–75.

35. National Cancer Institute. *Greater Than the Sum: Systems Thinking in Tobacco Control. Tobacco Control* Monograph No. 18. Bethesda (MD): U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Cancer Institute, 2007. NIH Publication No. 06-6085.

36. Federal Trade Commission. Federal Trade Commission Cigarette Report for 2011; <http://www.ftc.gov/os/2013/05/130521cigarettereport.pdf>; accessed: December 2, 2013.