



Fighting Tobacco Addiction through Public Policy

By E. Paul Amundson, MD

While many people are aware of the harmful effects of tobacco use, few understand the full impact of tobacco products – including secondhand smoke and smokeless tobacco utilization – and their negative impact on society in terms of lives lost and total cost.

The harmful effects of smoking cost our society millions of lives and millions of dollars each year. While research has shown that current anti-tobacco education programs and (health care) provider intervention have prevented and/or helped many to break the habit, these efforts have not been enough. To break the chain of tobacco utilization and to improve the health of our society as a whole, there must be:

1. Increased funding for community-based education programs for both adolescents and adults;
2. Restrictions on advertising and marketing, youth access to tobacco products, and smoking in public venues; and
3. Increased funding and/or coverage for smoking cessation programs offered through public health programs or private health insurance companies.

Understanding the Cost

Each year, tobacco use ends millions of lives prematurely. It is estimated that in the United States alone, tobacco utilization – primarily smoking – results in more than 5.6 million years of potential life lost each year.¹ Since 1964, there have been 94,000 tobacco-related fetal and infant deaths, 1.1 million tobacco-related respiratory disease deaths, 5.5 million tobacco-related cardiovascular disease deaths and 4.1 million tobacco-related cancer deaths.¹

On a global scale, an estimated 100 million lives were lost from tobacco use in the 20th century. If the current trend continues, it is estimated that an additional one billion people will be lost in the 21st century from direct utilization

or sidestream exposure to tobacco products.² Not only does smoking and the use of tobacco products end life prematurely, but it also has a considerable negative impact on the overall health of our population. An estimated 8.6 million people in the United States have serious illnesses attributed to smoking or tobacco use, including but not limited to 1.2 million former smokers with non-pulmonary cancers; 1.8 million former smokers who have had a heart attack; 3.7 million former smokers with chronic lung disease; 384,000 former smokers who have suffered a stroke, and 46,000 former smokers with lung cancer.^{2,3}

In terms of cost, tobacco utilization – again, primarily smoking – annually leaves approximately 31,000 children fatherless and 12,000 motherless.⁴ And while it is difficult to place a monetary value on the premature loss of a parent, research has been able to estimate accurately the financial impact tobacco use has on our society.

The following two examples illustrate smoking-attributable costs based on the Medicaid population.

According to research published by the American Legacy Foundation, the proportion of Medicaid spending is directly attributable to the current smoking rates (percentage of Medicaid recipients who smoke) and varies from 2.8 percent to 8.2 percent across all states. This translates into expenditures ranging from \$15 million (Wyoming) to \$1.5 billion annually (New York).⁵ On average, state Medicaid expenditures would be 5.6 percent lower five years after all beneficiaries successfully quit smoking. For the state of South Dakota, an estimated savings of \$22 million would be realized over five years after all current (Medicaid) smokers ceased smoking. Further, when considering all 50 states, nationwide Medicaid expenditures would be \$9.7 billion lower if all current smokers within the Medicaid system successfully quit smoking.

When calculating direct costs over the course of a life span, state Medicaid expenditures attributable to smoking for a 24-year-old male smoker will average \$353 over the course of his lifetime. Because the average 24-year-old male smoker is estimated to pay \$347 through income taxes over his lifetime to finance smoking-attributable Medicaid expenditures, the net Medicaid cost of smoking over the lifetime of a male smoker is about \$6. However, the figures for females are starkly different. On average, state Medicaid expenditures attributable to smoking for a 24-year-old female smoker will be \$1,581 over the course of her lifetime. Because the average 24-year-old female smoker is estimated to pay only \$209 through income taxes over her lifetime to finance smoking-attributable Medicaid expendi-

tures, the net cost of smoking to Medicaid over the lifetime of a female smoker is about \$1,372. If states could prevent all smoking among 24-year-olds, reductions in Medicaid expenditures over the course of their lifetimes would be between \$1.4 million (Alaska and Vermont) and \$125 million (Texas) in current dollars. South Dakota would realize an estimated savings of \$2.9 million. When summed across all states, the total lifetime costs of smoking to Medicaid for the current cohort of 24-year-old smokers is nearly \$1 billion.⁵ When taking into consideration the fact that Medicaid represents just 2 percent of the U.S. population – and the 24-year-old cohort even less – the financial impact of smoking-attributable expenditures is easily in the billions per year when you factor in Medicare and private payers.

Breaking the Chain

In 1993, Massachusetts introduced a comprehensive program that brought together four elements of tobacco control: tobacco product tax increase; mass media campaign; services for tobacco cessation and education; and the promotion of adopting local smoke-free ordinances. Prior to the program's implementation, the annual decline in cigarette consumption for Massachusetts adults was comparable to the rest of the nation (3 to 4 percent between 1988 and 1992). The year following the program's implementation (1992-1993), consumption in Massachusetts dropped 12 percent while it remained steady for the rest of the nation at 4 percent. After 1993, the annual decline in cigarette consumption leveled off in comparison states (declining less than 1 percent per year), while cigarette consumption in Massachusetts continued to decline by more than 4 percent per year.⁶

One of the keys to reducing smoking in the general population is to keep adolescents from starting. Contrary to popular belief, research conducted by Goteborg University found that social class status is statistically insignificant when predicting adolescent experimentation or the age of onset of smoking. The study also concluded that parental smoking correlates with individuals starting at an earlier age, but only if both parents are smokers.⁷ Further, males generally experiment and start smoking at an earlier age than females. Thus, to prevent the youth of our society from taking up the habit of smoking, more must be done to educate our youth and their parents. To accomplish this goal, state and federal governments need to provide more funding for our communities and schools, as there is an inherent need to institute and continue evidence-based smoking prevention programs.

In a 1974 tobacco industry document, one advertising company said that the 14- to 24-year-old age group

represented “tomorrow’s cigarette business.”⁸ Further, in a 1978 tobacco industry document, one company called high-school students “the base of our business.”⁹ Quite simply, the tobacco industry had no qualms in targeting those in our population who were at the highest risk. One tobacco company developed a marketing plan aimed at homeless people and gays referred to as project SCUM: Sub-Culture Urban Marketing.¹⁰

In addition to education, there need to be additional restrictions on advertising and marketing, youth access to tobacco products and smoking in public places. In 2003, the tobacco industry spent \$41.5 million each day on advertising and self-promotion.¹¹ Policy needs to be developed and enforced to prevent the tobacco industry from targeting adolescents through movies and other forms of media. Seventy-eight percent of middle-school students report seeing actors on television or in movies using tobacco,¹² and research indicates that smoking in movies has the greatest impact on youth who are normally the least likely to start smoking – those with non-smoking parents.¹³

While research indicates that tobacco pricing has little to no impact on the rates of adolescent tobacco/smoking experimentation, evidence does indicate that increasing the price of tobacco products decreases the prevalence of tobacco use, especially among adolescents and young adults. For example, after the most recent cigarette tax increase in Michigan (from \$1.25 to \$2 per pack) and Montana (\$0.70 to \$1.70), smoker calls to the state smoking quitlines skyrocketed. In the six months after the tax increase, the Michigan quit line received 3,100 calls, compared to just 550 in the previous six months. In Montana, more than 2,000 people called in the first 20 days after the tax increase, compared to just 380 calls per month previously.¹⁴ It also is clear that the efforts of smokers to quit after tax increases translate directly into lower future smoking rates. In the state of Washington, for example, the adult smoking rate fell from 22.6 percent to 19.7 percent within one year following a 60-cent cigarette tax increase, reducing the number of adult smokers in the state by 100,000, despite overall population increases.¹⁵

Second only to raising taxes on cigarettes, smoking restrictions have done more to reduce smoking than any other strategy. However, more restrictions should be enacted to limit exposure of both children and adults to sidestream and secondhand smoke. In 1996, a tobacco company executive answered the question of how infants can avoid secondhand smoke by saying, “at some point in time they begin to crawl.”¹⁶ By reducing the locations in which smoking is

allowed, and thus, the exposure of our society to sidestream and secondhand smoke, the general health of the population will be improved. Entirely smokefree workplaces are associated with a 3.8 percent reduction in smoking prevalence. Of those employees who continued to smoke, there was an average reduction in consumption of 3.1 fewer cigarettes per day. The combined effects of increased cessation and decreased consumption corresponded to a 29 percent relative reduction in tobacco use among all employees.¹⁷ This is a substantial reduction just through implementing a policy – with no financial outlay. Further, a tobacco study conducted in the state of California revealed that smoke-free ordinances significantly increased the rate of smoking cessation and did so along a “dose-response” relationship – the stronger the ordinance, the higher the rate of cessation. Overall, researchers found that smokers who worked in communities with strong ordinances were 38 percent more likely to quit smoking than smokers in communities with no ordinances.¹⁸ At a minimum, state and local governments need to regulate the retail point of sale for cigarettes and other tobacco products with the goal of making these products less accessible for purchase, especially to minors. The new regulations should include the licensing and monitoring of all cigarette outlets and the prohibition in these outlets of any advertising. Ideally, state and local governments will enact complete bans on smoking in all nonresidential indoor locations, including workplaces, retail stores, malls, restaurants and bars.

Finally, federal, state and local agencies need to work with health care partners – to include third-party payers – to increase demand for and participation in effective smoking cessation programs. In a research paper published by Levy and Friend in 2002, behavioral therapy coverage alone equates to only a 4.4 percent relative increase in quit rates.¹⁹ The relative small effect is due to the low percentage of smokers who use the method and the relatively small policy elasticity, both of which reflect the higher implicit costs associated with the time costs. The quit rate increases by 9 percent with policies covering prescription pharmacotherapy. When accompanied by required behavioral therapy coverage, the “comprehensive approach,” the quit rate increases by 13.6 percent. The quit rate increases by 13.5 percent when all pharmacotherapies, but not behavioral therapy, are covered, and the quit rate increases by 19.8 percent when all treatments, including behavioral therapy, are covered. The relatively large effect of these policies reflects the flexibility that it affords those attempting cessation and the relative desirability of pharmacotherapy use.¹⁸ Thus, Medicare, Medicaid and

other third-party payers should be encouraged to provide comprehensive and flexible options in smoking cessation coverage for their members.

Only through coordinated efforts and comprehensive programs can the harmful effects and substantial costs of tobacco utilization (smoking) be minimized. As public policy aimed at tobacco cessation continues to develop, it is imperative that local and federal governments continue to fund and support evidence-based educational programs that inform adolescents and adults about the hazards of tobacco utilization. Public policy must continue to further restrict tobacco company's advertising and marketing efforts and further limit the exposure of tobacco products to our youth.

We must also work to eliminate smoking in all public places (both indoor and outdoor). Lastly, public policy must ensure that all payers of health care provide comprehensive coverage to assist smokers and other tobacco users in their efforts to quit.

The final challenge – especially in a state such as South Dakota that cherishes and aggressively defends personal rights – is to balance the huge financial burden of tobacco products with the argument of personal rights, if a comprehensive tobacco ban is implemented. Our society at some point must put greater emphasis on personal health and responsibility. We cannot afford, as a country or a state, to allow these economic and health burdens to continue.

REFERENCES

1. U.S. Department of Health & Human Services. The Health Consequences of Smoking: A Report of the Surgeon General. Atlanta, GA:U.S. Department of Health & Human Services, Centers for Disease Control & Prevention, National Center for Chronic Disease Prevention & Health Promotion, Office on Smoking & Health, 2004.
2. McKay, J and Ericksen, M. The Tobacco Atlas. American Cancer Society, 2006.
3. Centers for Disease Control. Cigarette Smoking Attributable Morbidity – United States, 2000. MMWR 2003; 52(35) 842-844.
4. Leistikow, BN, Martin DC, Milano CE, 2000. Estimates of Smoking Attributable Deaths at Ages 15-24, Motherless or Fatherless Youths, and Resulting Social Security Costs in the United States in 1994. Preventative Medicine, 30(5) 252-360.
5. American Legacy Foundation. Saving Lives, Saving Money II: Tobacco-Free States Spend Less on Medicaid. Policy Report 4, November 2007.
6. Biener, Harris, and Hamilton, "Impact of the Massachusetts tobacco control programme: population based trend analysis," British Medical Journal, August 2000.
7. Hammar and Martinsson, "The effect of cigarette prices and antismoking policies on the age of smoking initiation," Working Papers in Economics no 62, November 2001.
8. MR. C.A. Tucker Presentation to RJRI of D – 9/30/71. Marketing Plan. 1975. Marketing Plan Presentation Hilton Head September 30, 1974. Legacy Tobacco Documents Library. R.J. Reynolds. September 30, 1974. Access Date: October 11, 2004 Bates No.:501421310/1335.
9. Product Information. Legacy Tobacco Documents Library. Lorillard. August 30, 1978. Access Date: September 17, 2004. Bates Number 83748281/8282.
10. Project SCUM. Legacy Tobacco Documents Library. R.J. Reynolds. December 12, 1995. Bates Number: 518021121/1129.
11. FTC. Federal Trade Report for 2003. Issued 2005.
12. Centers for Disease Control & Prevention. Tobacco Use, Access, and Exposure to Tobacco Media Among Middle School and High School Students United States, 2004. MMWR 2005;54:297-301.
13. Dalton, M.A., Sargent, J. and et. al (2003) Effect of Viewing Smoking in Movies on Adolescent Smoking Initiation: A Cohort Study. The Lancet 362(9380):281-285.
14. "Tobacco Tax Pushing Smokers to Quit, State Says," WMMT News, January 26, 2005; Ecke, R, "Phone Lines Smoking With Quit Line Calls," Great Falls Tribune, January 26, 2005.
15. CDC, Current Adult Smokers, Behavioral Risk Factor Surveillance System (BRFSS).
16. Quote from Charles Harper, R.J. Reynolds Chairman. "RJR Wins Fight", USA Today: Carrig, David. B., April 18, 1996.
17. Fichtenberg, C.M.: Glantz, S.A., "Effect of smoke-free workplaces on smoking behavior: systemic review," British Medical Journal 325: 188-191, July 27, 2002.
18. Moskowitz, Lin, and Hudes, "The Impact of Workplace Smoking Ordinances in California on Smoking Cessation," *American Journal of Public Health*, May 2000.
19. DT Leavy, K Friend, "Examining the effects of tobacco treatment policies on smoking rates and smoking related deaths using *SimSmoke* computer simulation model," Tobacco Control 2002; 11:47-54.5

The author would like to extend thanks to Mark East, MS.