



The Burden of Tobacco in Wisconsin

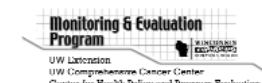


The health and economic toll of cigarette smoking is well documented and includes excessive rates of chronic disease, diminished productivity, and premature death. This report describes the health and economic burden of cigarette smoking in Wisconsin.



Health Impact of Cigarette Smoking

- In 2000, over 7,000 Wisconsin residents died from smoking-related diseases, making tobacco use the single most preventable cause of disease and premature death in Wisconsin.^{1,2}
- Approximately 16% of all Wisconsin deaths in 2000 were attributable to smoking. Cigarette smoking caused 81% of all lung cancer deaths and 15% of all deaths from heart disease.^{1,2}
- More than 95,000 years of life were lost from the potential lifespan of those who died of smoking-related diseases.¹
- Secondhand smoke is estimated to cause as many as 1,200 additional lung cancer and heart disease deaths in Wisconsin.³ Household fires caused by cigarettes killed an estimated 20 people in 2000.⁴



Economic Impact of Cigarette Smoking

- In 1998, an estimated \$1.6 billion in health care costs were a result of diseases caused by smoking. Wisconsin lost an additional \$1.4 billion in productivity costs due to illness and premature death from smoking-related diseases.^{1,5}
- In 1998, the estimated health care costs of cigarette smoking was \$1.6 billion, approximately \$300 for every man, woman and child in Wisconsin.^{1,5}
- Cigarette smoking cost nearly \$600 million for ambulatory care expenses, such as outpatient service, in 1998.^{1,5}

Table 1 outlines the number of Wisconsin residents who currently smoke cigarettes, the number of deaths attributable to smoking-related diseases and the overall economic costs of cigarette smoking.

Table 1: Smokers in Wisconsin

	# of Smokers	Percent Smokers
Total Number of Smokers	1,095,000	
Adult (18+) ^{6,7}	959,000	24%
Youth - High School ^{7,8}	107,000	33%
Youth - Middle School ^{7,8}	29,000	12%
Smoking During Pregnancy ^{7,9}	11,000	16%

Health Impact of Cigarette Smoking

Cause of Death (% due to smoking) ^{1,2}	Total Deaths	Due to Smoking
Cancers (26%)	10,620	2,730
Heart Disease (15%)	18,298	2,680
Respiratory Disease (45%)	4,294	1,940
Other Deaths Not Related to Smoking (0%)	13,193	0
All Causes (16%)	46,405	7,350

Economic Impact of Cigarette Smoking

Health Care Costs ^{1,5}	\$1.58 Billion
Lost Productivity ¹	\$1.41 Billion
Total Costs	\$2.99 Billion

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Health Impact of Cigarette Smoking

Table 2 outlines the number of deaths in 2000 for specific smoking-related diseases and provides an estimate of how many of those deaths were caused by cigarette smoking. Over 7,000 people or 16% of all deaths were the result of diseases caused by cigarette smoking. Over 2,600 people died of lung cancer with 81% of those deaths attributed to cigarette smoking. In addition, 15% of the 18,000 heart disease deaths and 45% of 4,300 respiratory disease deaths were due to smoking.^{1,2}

Table 2: Smoking Attributable Deaths in Wisconsin, 2000

Cause of Death (% due to smoking)	Total Deaths	Due To Smoking
Cancers		
Trachea, Lung, Bronchus (81%)	2,655	2,150
Esophagus (67%)	235	160
Pancreas (22%)	576	130
Urinary Bladder (40%)	241	100
Lip, Oral Cavity, Pharynx (62%)	137	80
Kidney and Renal Pelvis (25%)	246	60
Larynx (82%)	61	50
Cervix Uteri (12%)	50	6
Cancers Not Related to Smoking (0%)	6,419	0
Total Cancer (26%)	10,620	2,730*
Cardiovascular Disease		
Ischemic Heart Disease (16%)	9,434	1,530
Other Heart Disease (12%)	3,684	450
Cerebrovascular Disease (9%)	3,568	330
Aortic Aneurysm (58%)	393	230
Hypertension (12%)	728	80
Atherosclerosis (14%)	235	30
Other Arterial Disease (12%)	256	30
Total Cardiovascular Disease (15%)	18,298	2,680*
Respiratory Disease		
Chronic Airways Obstruction (78%)	1,890	1,470
Bronchitis, Emphysema (86%)	307	260
Pneumonia, Influenza (17%)	1,200	200
Respiratory Disease Not Related to Smoking (0%)	897	0
Total Respiratory Disease (45%)	4,294	1,940*
Other Deaths Not Related to Smoking (0%)	13,193	0
All Causes of Death (16%)	46,405	7,350

*Totals do not add due to rounding

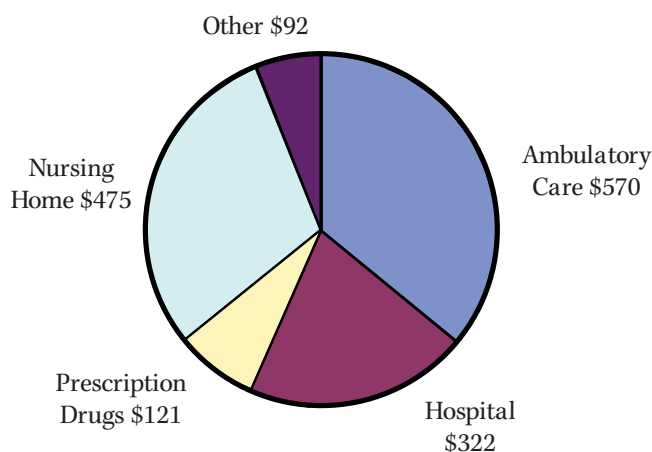
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Economic Impact of Cigarette Smoking

Cigarette smoking is estimated to cost Wisconsin \$3 billion each year in health care expenses and lost productivity. Approximately \$1.6 billion was paid in direct health care costs such as hospitalizations, outpatient care, prescription drugs, etc. Wisconsin lost an additional \$1.4 billion in productivity costs because of illness and premature death from smoking-related diseases. Overall, cigarette smoking costs each Wisconsin resident approximately \$300 each year in direct health care costs.^{1,5}

Figure 1: Smoking Attributable Health Care Costs, 1998

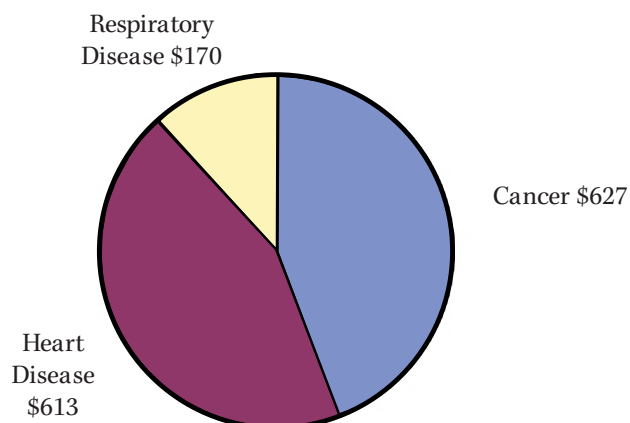
(In millions of dollars)



Total Health Care Costs due to Smoking \$1.58 Billion

Figure 2: Cost of Productivity Lost Due to Smoking, 1998

(In millions of dollars)



Total Costs from Lost Productivity \$1.41 Billion

In 1998, Wisconsin residents paid over \$1.5 billion in health care costs directly attributable to smoking. Cigarettes caused over 6% of all health care expenditures that year.^{1,5}

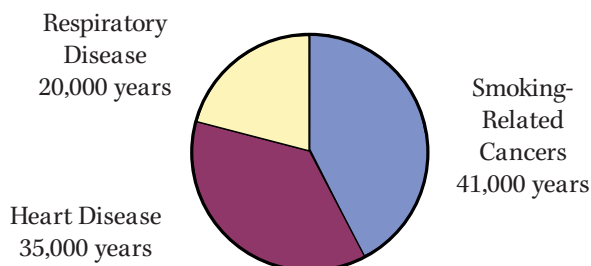
Over \$1.4 billion is lost from Wisconsin's economy due to the sickness and premature death of workers caused by cigarette smoking. Heart disease and cancer deaths take the greatest toll on productivity, due to their greater number and the young age at which they strike.¹

Years of Potential Life Lost

In Wisconsin, more than 95,000 years of life were lost from the potential lifespan of its residents. The majority of years of life lost to premature death occurred in those who died between the ages of 55 and 74. An average 35-year old may expect to live to the age of 77.

Smoking-related cancers accounted for the greatest number of years lost from people's lives, with lung cancer alone taking over 30,000 years from the lives of Wisconsin residents.¹

Figure 3: Years of Potential Life Lost by Disease Groups, 2000



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Summary

The health and economic toll of cigarette smoking continues to be significant in Wisconsin. With nearly 16% of all deaths in 2000 attributable to cigarette smoking, and \$1.6 billion paid in direct health care costs, most Wisconsin residents are or will be affected by cigarette smoking at some point. Since over one million people continue to smoke cigarettes in Wisconsin, including an estimated 136,000 youth, cigarette smoking will continue to be both a health and economic burden for Wisconsin. Programs and policies to prevent and reduce the number of people who smoke cigarettes are the most effective way to eliminate this burden.

Methods

This report estimates the burden of cigarette smoking using the most current version of the Centers for Disease Control and Prevention's Smoking Attributable Mortality, Morbidity and Economic Costs (SAMMEC) software program. The analysis used combined 1996-2000 current and former adult smoking prevalence estimates and previously published relative risk estimates for smoking-related diseases to calculate a smoking attributable fraction for each disease. This fraction was then multiplied by Wisconsin's 2000 mortality data (persons 35 years and older) to obtain the number of smoking-related deaths for 18 specific diseases. The SAMMEC model calculates the economic costs of smoking using 1998 state health expenditure data provided by the Center for Medicaid and Medicare Services. Direct cost estimates include hospitalizations, outpatient care, physician and health professional services, prescription drugs, and nursing homes. Mortality-related productivity costs are the estimated costs of lost future earnings from paid market and unpaid household labor resulting from premature death due to smoking-related diseases. Finally, the SAMMEC model calculates years of potential life lost based on potential life expectancy.

Data Sources

1. Centers for Disease Control and Prevention. Smoking Attributable Morbidity, Mortality and Economic Costs (SAMMEC): Adult SAMMEC software. Calculation was performed on January 24, 2002.
2. Mortality data are from 2000 Wisconsin death certificates, Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information.
3. Lung cancer and heart disease deaths from environmental tobacco smoke are from U.S. Environmental Protection Agency. *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*. Washington, D.C. Office of Research and Development, Office of Health and Environmental Assessment, 1992.
4. Deaths from cigarette started household fires are from Hall, JR. *The U.S. Smoking-Material Fire Problem*. National Fire Protection Association. Quincy, MA, 2001.
5. Direct health care costs of smoking were calculated using Adult SAMMEC software. The software used 1998 state personal health care expenditure data from the Center for Medicaid and Medicare Services, U.S. Department of Health and Human Services.
6. Adult smoking rates are from the 1996-2000 Wisconsin Behavioral Risk Factor Survey, Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information. A smoker is defined as having smoked 100 cigarettes in a lifetime and currently smoking cigarettes on some or every day.
7. The number of adult and youth smoking was determined by multiplying smoking prevalence by Wisconsin's 2000 population. Population estimates are from the 2000 U.S. Census Bureau.
8. High School and Middle School smoking rates are from the 2000 Youth Tobacco Survey, Wisconsin Department of Health and Family Services, Division of Public Health. A smoker is defined as smoking cigarettes on at least one of the past 30 days.
9. Maternal smoking rates are from 2000 Wisconsin birth certificates, Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information.

The *Burden of Tobacco in Wisconsin* is a collaborative report of the Wisconsin Division of Public Health, the University of Wisconsin Comprehensive Cancer Center, the American Cancer Society and the Wisconsin Tobacco Control Board. For more information contact Peter Rumm, MPH, MD, Chief Medical Officer, Bureau of Chronic Disease Prevention & Health Promotion, 608.267.3835.