



Surveillance Brief

Wisconsin's Comprehensive Cancer Control Program
Prevention • Screening & Detection • Treatment • Quality of Life • Palliative Care

January 2009

Volume 5 Number 1

TRENDS IN TOBACCO USE AMONG WISCONSIN YOUTH, 2000-2008

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BACKGROUND

Preventing tobacco use among children is important because of the risk of lifelong addiction and the development of smoking-related illnesses. Very few individuals initiate smoking as adults.¹ Indeed, the average age of first cigarette use was 13 to 14 years old among high school students who had ever smoked in 2008.² Moreover, it is well-established that quitting smoking, or cessation, is very difficult, even for young people who have only recently started smoking.³ Despite a strong desire to quit and multiple attempts, many smokers relapse and continue to smoke.

Between 1993 and 1999, smoking among high school students increased from 30% to nearly 40%.⁴ By 1999, smoking among high school students in Wisconsin was almost twice the rate as among adults.⁵ In response to these alarming findings, Wisconsin established the goal of decreasing the percent of Wisconsin high school youth who use tobacco to 29% by 2010 in the state health plan, *Healthiest Wisconsin 2010*.⁶ Due to the enormous social, health and economic costs associated with smoking, prevention of smoking among youth is a core objective of all tobacco control programs.⁷

In 2000, in response to the increase in youth smoking and the Master Settlement Agreement between tobacco companies and the state, Wisconsin initiated a comprehensive tobacco control program. Wisconsin made youth tobacco control a priority by identifying reductions in smoking rates as a priority in *Healthiest Wisconsin 2010*, and allocating significant resources to tobacco prevention programs. Between FY 2000-01 and FY 2002-03, the state appropriated \$45 million for tobacco control efforts.⁸ Television and radio-based ads were developed to “counter-market” against the tobacco industry’s efforts, and enhanced efforts to educate and organize youth were established in communities and in schools. Programs to assist the creation of smoke-free environments

were initiated in many communities throughout the state, serving to “denormalize” smoking as a social activity as well as reduced exposure to second hand smoke.

METHODS

Data included in this brief are from the Wisconsin Youth Tobacco Survey (YTS). The YTS uses a standardized methodology developed by the Centers for Disease Control and Prevention (CDC) and other tobacco control partners for constructing sampling frames, preparing questionnaires, conducting surveys, and processing data. The survey collects information on prevalence of cigarette and other tobacco use, perceptions and attitudes about tobacco, access to and availability of tobacco products, exposure to secondhand smoke, school curricula, media and advertising, and smoking cessation.⁹ The Wisconsin YTS was conducted in public high schools in 2000, 2002, 2004, 2006, and 2008. All public high schools containing grades 9, 10, 11, or 12 were included in the sample frames. Overall response rates were above 60% in all years. Current tobacco use was defined as having used any tobacco product during the 30 days prior to the survey.

Summary

Objective – To examine trends in youth tobacco use among high school students in Wisconsin.

Methods – Findings are from the Wisconsin Youth Tobacco Survey (YTS), conducted on even years between 2000 and 2008.

Findings – Overall youth tobacco use decreased sharply between 2000 and 2004, reaching the goal set in *Healthiest Wisconsin 2010*. Between 2004 and 2008, the prevalence of tobacco use remained flat. More specifically, cigarette smoking levels declined, and then leveled off during the observed period; use of cigars declined, and then began to increase; smokeless tobacco use remained the same.

Implications – Prevention of tobacco use in Wisconsin is a critical element in controlling future health care costs associated with tobacco-related illness and death. Further progress in reducing prevalence and consumption of tobacco may result from the January 2008 \$1 increase in the cigarette tax. However, development and evaluation of new strategies to prevent initiation of tobacco use and encourage quitting remain essential.

RESULTS

In 2000, the prevalence of overall current tobacco use among Wisconsin youth was 39%. By 2004, the prevalence had declined to 28%, and has remained at or below this level through 2008 (Figure 1). Thus, the state’s goal for 2010, to reduce overall current tobacco use among high school students to 29% has been met.

The trend in tobacco use among Wisconsin youth is similar to that observed in national trends: the average overall current tobacco use among high school students was 34% in 2000, and 26% in 2006, according to the National Youth Tobacco Survey.¹⁰ Though smoking prevalence among

Wisconsin high school students was higher than that observed among U.S. students in 2000, both groups had very similar prevalence rates by 2006.

Between 2000 and 2004, current cigarette smoking declined among students and then leveled off through 2008. During the same period, the percentage of frequent smokers (students who smoked on 20 or more days during the month prior to the survey) also declined by half, from 20% of high school students in 2000 to 9% in 2008 (data not shown). Between 2000 and 2004, the prevalence of current

cigar smoking (students who smoked cigars on at least one day during the month prior to the survey) decreased; however, it increased between 2004 and 2008. The prevalence of current smokeless tobacco use (students who used smokeless tobacco products on at least one day during the month prior to the survey) remained stable during the observed period, with about 7% of students using these products.

A higher proportion of high school students are avoiding experimentation with tobacco. In 2008, 46% of high school students never tried any form of tobacco

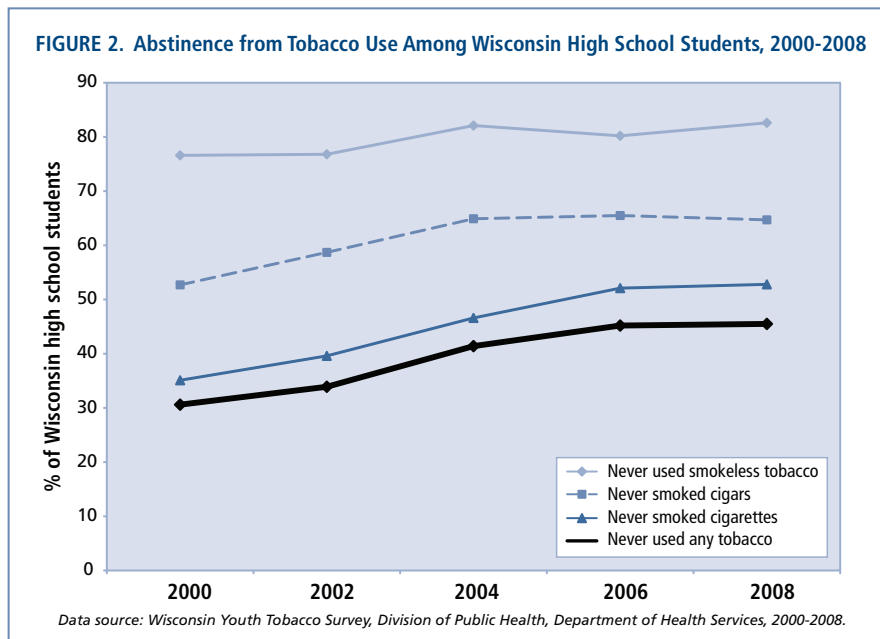
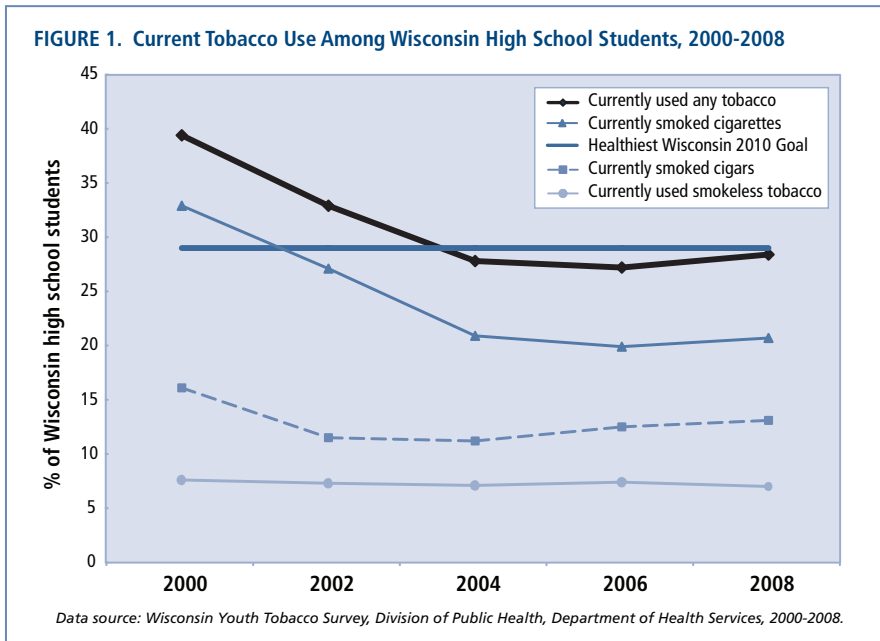
(Figure 2). This represents an important improvement from 31%, as recorded in 2000. The proportion of students who have never tried smoking cigarettes also increased during the observed period, from 35% to 65%. The proportion who had never tried cigars increased from 53% to 65% between 2000 and 2004, but remained flat between 2004 and 2008. The proportion of high school students who have never tried smokeless tobacco products has increased slightly, from 77% in 2000 to 83% in 2008.

COMMENTARY

After four years of steady decline (between 2000 and 2004), overall tobacco use among Wisconsin high school students has leveled off. More specifically, while cigarette smoking declined, the use of other tobacco products, particularly small cigars and smokeless tobacco has remained fairly constant between 2000 and 2008. Consumption data from the Wisconsin YTS suggests the number of cigarettes consumed by young smokers has also declined over the period (data not shown). High school smokers tended to smoke relatively fewer cigarettes per day on average (five or less). However, even small numbers of cigarettes smoked by a young person over a relatively short period of time have the potential to develop into an addiction.³

POLICY IMPLICATIONS

After a near-epidemic level increase in youth smoking during the latter part of the 1990's, the prevalence of youth smoking began to decline. This decrease coincided with the first large-scale tobacco control programs at the national level and in Wisconsin.¹¹ At the national level, the **truth** campaign waged a vigorous TV-based counter-marketing campaign, while in Wisconsin a similar program was mounted.¹¹ In Wisconsin, the effects of the invigorated tobacco control program on youth smoking may have been further enhanced by an 18-cent increase in the tobacco tax in 2001.¹² Beginning in 2004, due to funding reductions, state and national tobacco control programs substantially reduced television advertising and community-based programming.¹³ The fifty percent reduction in funding that occurred at this time coincided with four years of little change in tobacco use.



It is well established that young people are sensitive to cigarette price increases.¹⁴ This is because young people have limited disposable income and many young smokers are not yet strongly addicted to nicotine. As such, they can change the level of their smoking based on their available funds. Given this sensitivity to price changes, it is expected that the \$1 increase in cigarette taxes that went into effect on January 1, 2008, will decrease the prevalence of youth smoking and the amount of cigarettes consumed.¹⁵

It is possible, however, that the relatively lower prices of smokeless tobacco and cigars will accelerate substitution of these products for cigarettes.

The prevalence of youth tobacco use, as well as the factors influencing shifts in tobacco use patterns, change over time.¹⁶ Some factors that affect these changes include how the tobacco industry markets tobacco products, the chemical make-up of the products themselves, and changing social norms. This last factor is very important in regards to teen smoking because young people are heavily influenced by their perception of adult behavior. Social influences on young people are constantly changing; therefore, strategies that once worked may no longer be as effective as they were in prior years. For this reason, it is critically important to continually implement and evaluate new strategies to end tobacco use.

ACKNOWLEDGEMENTS

This study was conducted with support from the Wisconsin Tobacco Prevention and Control Program, Bureau of Community Health Promotion, Division of Public Health, Wisconsin Department of Health Services.

REFERENCES

1. Gilpin EA, Lee L, Evans N, Pierce JP. Smoking initiation rates in adults and minors: United States, 1944-1988. *Am J Epidemiol.* 1994;140:535-543.
2. Jones NR. Age of initiation of tobacco use among middle school and high school students in Wisconsin, 2000-2008. University of Wisconsin Comprehensive Cancer Center, Tobacco Surveillance and Evaluation Working Paper Series: A001.
3. DiFranza JR. Hooked from the first cigarette. *J Family Practice.* 2007;56(12):1017-1022.
4. Wisconsin Department of Public Instruction. 2007 Wisconsin Youth Risk Behavior Survey (YRBS): Trends (1993-2007). Accessed online at <http://dpi.wi.gov/sspw/yrbindex.html>.
5. Christiansen A, Malmstadt J, Rumm P, Eisenberg T, Ahrens D, Remington P. Trends in self-reported cigarette smoking, Wisconsin, 1984-1999. *Wis Med J.* 2001;100(3):24-29.
6. Wisconsin Department of Health Services and Wisconsin's Public Health System Partners. Healthiest Wisconsin 2010: A Partnership Plan to Improve the Health of the Public. 2002. Wisconsin Department of Health Services. Available online at <http://dhs.wisconsin.gov/statehealthplan>.
7. US Department of Health and Human Services. Preventing tobacco use among young people. A report of the Surgeon General, 1994. Atlanta, Georgia: Public Health Service, Centers for Disease Control and Prevention, Office on Smoking and Health, 1994.
8. Wisconsin Legislative Audit Bureau. State of Wisconsin. An Evaluation: Use of Tobacco Control Board Funds. 2003. Report 03-3.
9. Palmersheim KA, Ullsvik JC, Remington PL. Youth smoking in Wisconsin: An assessment of trends in youth smoking through 2004. Madison, Wisconsin: University of Wisconsin Comprehensive Cancer Center, Tobacco Surveillance and Evaluation Program, 2005.
10. Centers for Disease Control and Prevention. 2006 National Youth Tobacco Survey and Key Prevalence Indicators. Available online at http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/00_pdfs/indicators.pdf.
11. Farrelly MC, Davis KC, Haviland L, Messeri P, Heaton CG. Evidence of a dose-response relationship between "truth" antismoking ads and youth smoking prevalence. *Am J Public Health.* 2005;95:425-431.
12. Chaptman D. A budget built by smokers. Tobacco deal, cigarette tax help balance spending plan. *Milw J Sentinel.* July 27, 2001.
13. Bandi P, Remington PL, Moberg DP. Progress in reducing cigarette consumption: The Wisconsin Tobacco Control Program, 2001-2003. *Wis Med J.* 2006;105(5):45-49.
14. US Department of Health and Human Services. Reducing Tobacco Use: A Report of the Surgeon General. Atlanta, Georgia: US 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.
15. Marley P. State levy to jump by \$1 a pack starting January. *Milw J Sentinel.* December 19, 2007.
16. Kluger R. Ashes to Ashes: America's hundred-year cigarette war, the public health and the unabashed triumph of Philip Morris. New York: Random House; 1996.
Suggested Citation: Suggested Citation: Ahrens et al. Trends in Tobacco Use Among Wisconsin Youth, 2000-2008. UW Paul P. Carbone Comprehensive Cancer Center. 2008; 4-4.

Suggested citation: Ahrens, et al. Trends in Tobacco Use Among Wisconsin Youth. Surveillance Brief. UW Paul P. Carbone Comprehensive Cancer Center. 2009; 5-1.

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In This Issue:
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Layout and Design: Media Solutions

Funding is provided by The Centers for Disease Control and Prevention, The Wisconsin Department of Health and Family Services, The Wisconsin Healthier Partnership Fund, and the UW Paul P. Carbone Comprehensive Cancer Center.

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