

Abstract

In 2000 Minnesota began using funds from its tobacco industry settlement to introduce the key components of a comprehensive tobacco control program. The Minnesota Adult Tobacco Survey (MATS) was established as a surveillance instrument to measure outcomes of the program including population trends in the use of tobacco products, attitudes toward smoking restrictions, and exposure to secondhand smoke. MATS is a cross sectional survey that was first completed in 1999 with comparable data collected in 2003, 2007, and 2010. Since 1999 the adult smoking prevalence based on MATS has decreased 6.0 percentage points from 22.1% to 16.1%. This decrease represents a 27.1% change over 11 years. In parallel with the decline in adult smoking prevalence, Minnesota per capita cigarette pack sales have decreased about 40% since 1999. Nationally, per capita sales have also fallen and are now about 31% lower than 1999. We assert that several key factors have contributed to the falling smoking prevalence in Minnesota in contrast to the flat national prevalence. These include a telephone helpline that serves underinsured and uninsured residents, a ban on indoor smoking, a sustained media campaign, and a state-level price increase in tobacco products.

Methods

All rounds of the Minnesota Adult Tobacco Survey have used the following common methods:

- Computer-assisted telephone interviewing
- Consistent core questions asked in each survey
- Use of a random digit dialing sampling methodology
- Application of survey weighting based on the probability of selection.

In addition, samples for the individual rounds consisted of:

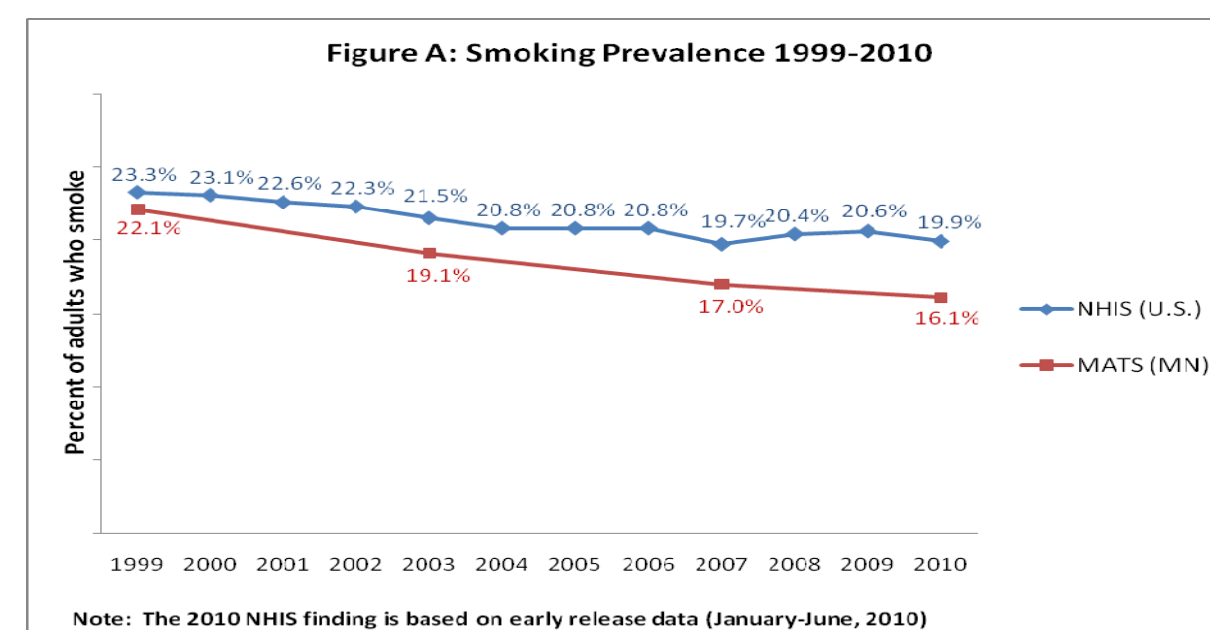
- 1999:** Statewide list-assisted RDD sample; n=5,968
- 2003:** Statewide list-assisted RDD sample + Blue Cross membership list; n=8,782
- 2007:** Statewide list-assisted RDD sample + Blue Cross membership list; n=12,580
- 2010:** Statewide landline + cell phone list-assisted RDD samples; n=7,057

Analysis: Statistical tests used overlapping confidence intervals, chi-square, and t-tests, as appropriate. Differences are statistically significant at p<0.05 unless otherwise noted.

A comprehensive description of the statistical methods can be found in the complete report, Tobacco Use in Minnesota: 2010 Update, which is available at www.mnadulttobaccosurvey.org

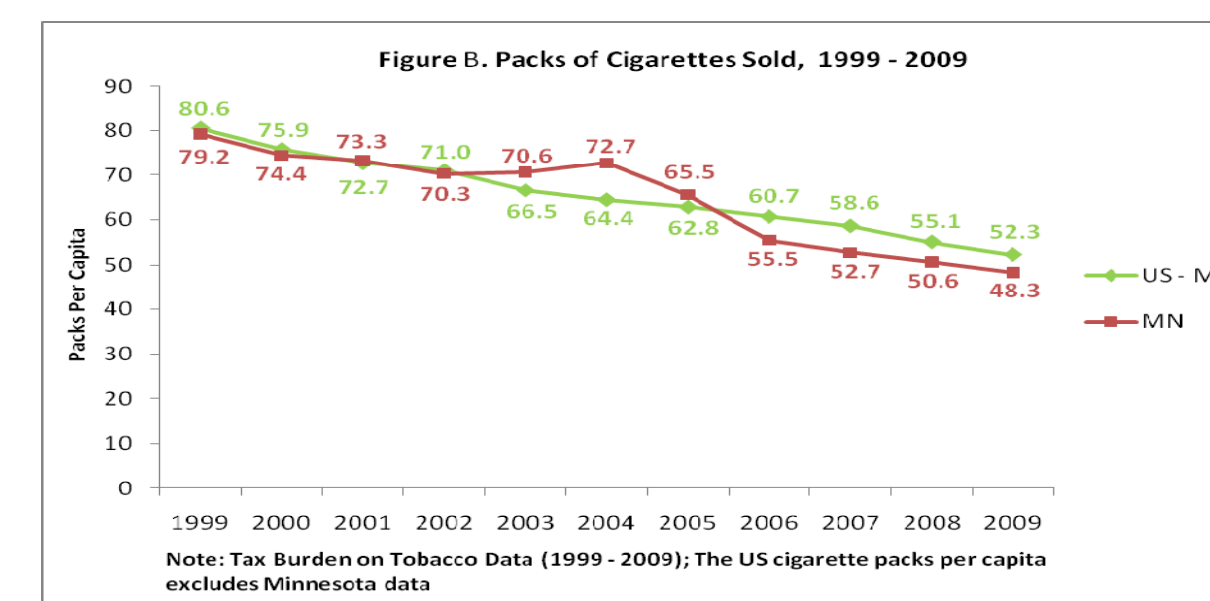
Results

Prevalence Rates – Minnesota and U.S.



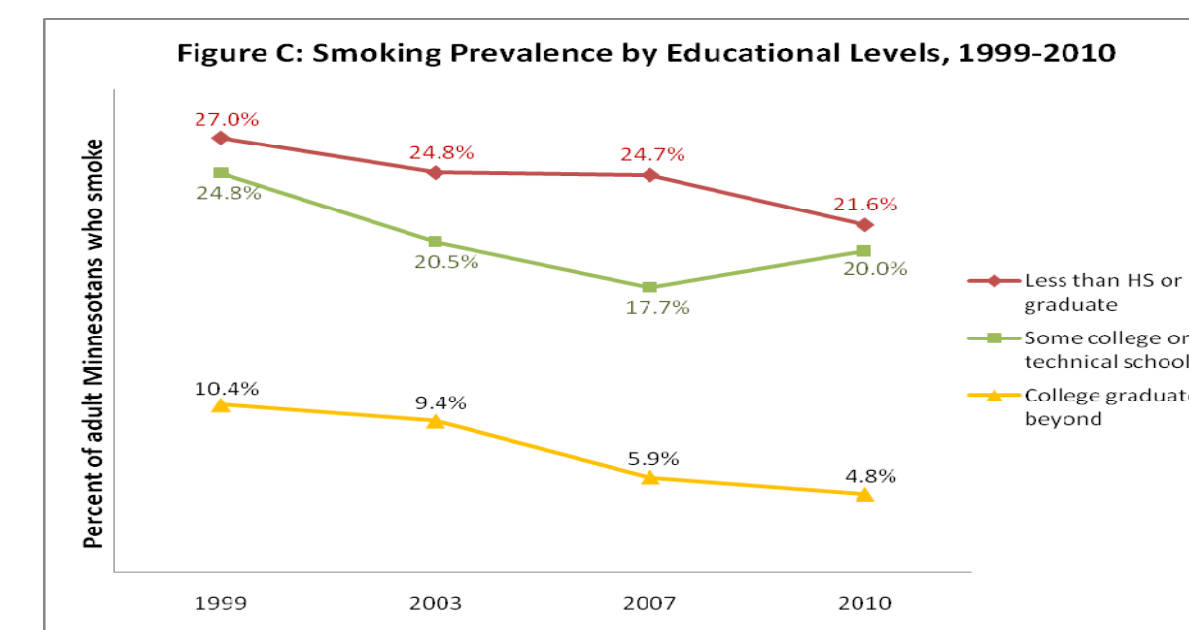
Since 1999 the adult smoking prevalence based on MATS has decreased 6.0 percentage points from 22.1% to 16.1% (Figure A). This decrease represents a 27.1% change (p = 0.012) over 11 years. The rate of decline was greatest between 1999 and 2003. Between 2007 and 2010, there was a non-significant decline in smoking prevalence from 17.0% to 16.1%. The national rate, based on data from the National Health Interview Survey, has declined to 19.9% in 2009 but has remained essentially unchanged since 2004.

Cigarette Sales – Minnesota and U.S.



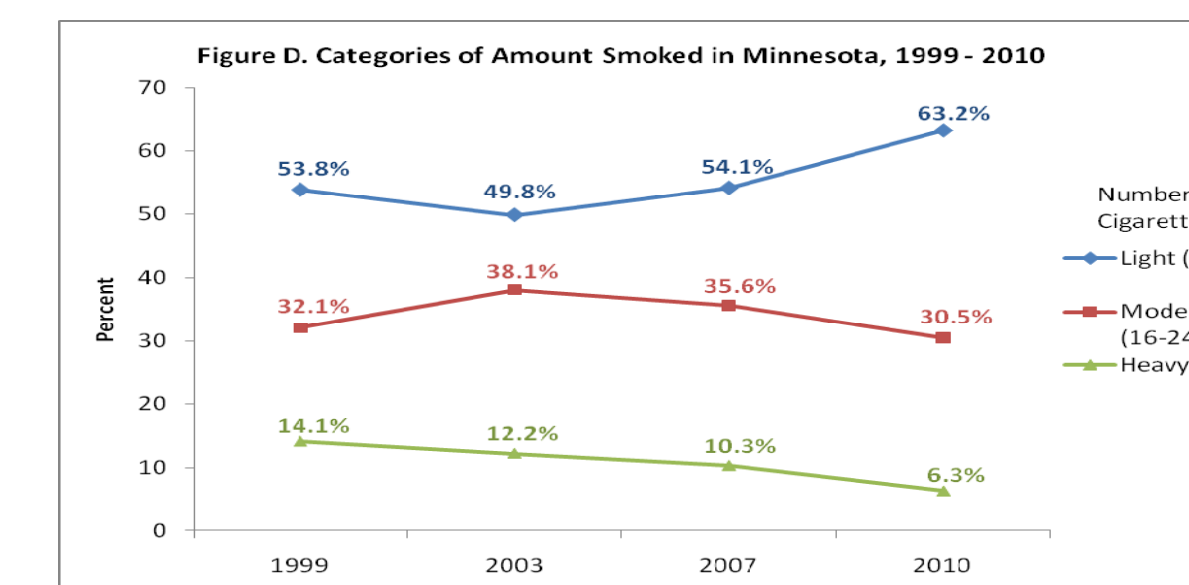
In parallel with the decline in adult smoking prevalence, Minnesota per capita cigarette pack sales have decreased about 40% since 1999. Nationally, per capita sales have also fallen and are now about 31% lower than in 1999 (Figure B).

Smoker Characteristics



Adult smokers in Minnesota tend to be male, younger, have lower incomes, and have completed fewer years of education. Similar to previous MATS findings, young adults (18-24 year-olds) in 2010 continue to have the highest smoking rate (21.8%) of all age categories. Smoking rates decline as education increases - individuals with college degrees are significantly less likely to be smokers than those in other education categories (Figure C).

Adult smokers in Minnesota are smoking fewer cigarettes per day. The average number of cigarettes smoked per day dropped 5.2% from 13.8 cigarettes in 2007 to 12.2 in 2010. In addition, the percentage of heavy smokers (defined as those who smoke 25 or more cigarettes per day) decreased from 10.3% in 2007 to 6.3% in 2010 (Figure D).



Exposure to Secondhand Smoke

In 2007, Minnesota passed and implemented a comprehensive smoke-free law that covers indoor public places and workplaces, including bars and restaurants. The percentage of Minnesotans who report that someone has smoked near them in the past seven days in any location dropped steadily from 67.2% in 2003, before any large municipalities banned indoor smoking, to 56.7% just before the state-wide ban, to 45.6% in 2010.

In addition most Minnesotans have implemented smoke-free rules in their homes. In 2010, 87.2% of all Minnesotans and 58.1% of Minnesota smokers have smoke-free rules at home.

Conclusions

MATS 2010 has identified several significant findings that suggest societal norms about smoking have changed in Minnesota. These encouraging trends occurred during a decade of tobacco control policy advances in Minnesota. These policies included local smoke-free ordinances, a comprehensive statewide smoke-free law, cigarette price increases, mass media campaigns to promote cessation, and statewide provision of cessation services. The next decade will be measured a success if tobacco use continues to decrease, exposure to secondhand smoke is a rare event, and all continuing tobacco users have access to the assistance they need to quit.

Acknowledgements

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For further information

Visit www.mnadulttobaccosurvey.org for a copy of the complete report, *Tobacco Use in Minnesota: 2010 Update*.

CDC Morbidity and Mortality Weekly Report: *Decrease in Smoking Prevalence in Minnesota, 1999 to 2010*; February 11, 2011.