

The Human and Economic Cost of Alcohol Use in Minnesota

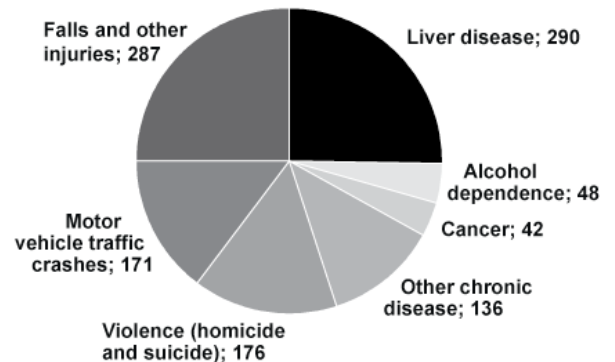
Highlights

- For the most recent year available, the economic costs associated with alcohol use in Minnesota are an estimated \$5.06 billion.
- This amounts to over \$975 for every person in the state.
- These costs are 17 times greater than the \$296 million in tax revenues collected from alcohol sales.

Consequences of alcohol use

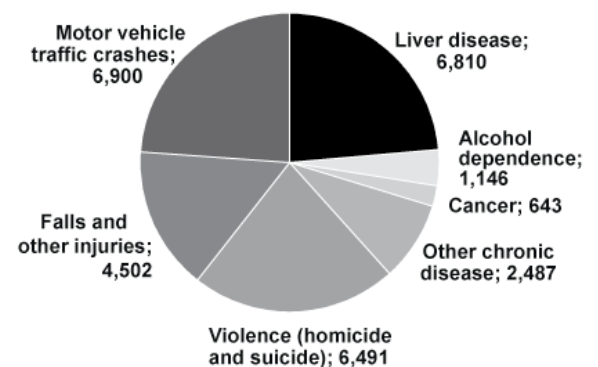
- Excessive alcohol consumption is the third leading preventable cause of death in the United States according to a 2004 national study.¹
- There were 1,150 alcohol-attributable deaths in Minnesota in 2007 (see Figure 1) and 28,979 years of potential life lost (see Figure 2).
- Alcohol use contributes to a number of negative consequences, including: unintentional injuries including falls, burns, drowning, and motor vehicle crashes; violent acts including homicide, suicide, and assault; chronic diseases including cancer, digestive disease and cardiovascular disorders; unintended pregnancies, sexually transmitted diseases; and alcohol related birth defects.²⁻³

Figure 1 - Alcohol Attributable Deaths by Cause, Minnesota 2007



Sources: Centers for Disease Control and Prevention, Division of Adult and Community Health, Alcohol and Public Health, Alcohol-Related Disease Impact (ARDI) Software; and Minnesota Department of Health, Minnesota Center for Health Statistics.

Figure 2 - Alcohol Attributable Years of Potential Life Lost by Cause, Minnesota 2007



Sources: Centers for Disease Control and Prevention, Division of Adult and Community Health, Alcohol and Public Health, Alcohol-Related Disease Impact (ARDI) Software; and Minnesota Department of Health, Minnesota Center for Health Statistics.

Note: Years of potential life lost (YPLL) estimate the average years a person would have lived if he or she had not died prematurely.



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Drinking patterns in Minnesota

Adults

- In 2009, 20 percent of Minnesota adults reported binge drinking, consuming five or more drinks for men and four or more for women on an occasion in the last month. One quarter of males over 18 reported binge drinking, compared to 15 percent of women.⁴
- Binge drinking in Minnesota is higher than the national median of all states and territories, which is 15.5 percent.⁴
- Five percent of Minnesota adults report being heavy drinkers in 2009, consuming an average of more than 2 drinks a day for men and more than 1 drink per day for women in the past 30 days.⁴
- From 2004 to 2009, individuals between the ages of 18 and 24 were more likely to report higher rates of binge drinking than any other age group.⁴
- In 2007, Minnesota's ethanol consumption among persons 14 and older was 1.16 gallons of beer per capita, 0.32 gallons of wine per capita, and 0.97 gallons of spirits per capita.⁵

Youth

- In 2010, 19 percent of 9th graders and 41 percent of 12th graders in Minnesota reported consuming alcoholic beverages on at least one occasion in the past 30 days.⁶
- Minnesota 12th graders are drinking at as high of a rate as 12th graders nationally.⁶⁻⁷
- In 2010, 10 percent of 9th graders and 24 percent of the 12th graders in Minnesota reported binge drinking, consuming 5 or more drinks in a row, in the past 2 weeks.⁶
- In 2010, 19 percent of 12th graders in Minnesota reported driving a motor vehicle after using alcohol or drugs.⁶
- Among 9th graders in Minnesota, more American Indian and Hispanics report drinking in the past 30 days (31 percent and 29 percent respectively) than Asian, African American or White 9th graders (15 percent, 17 percent and 18 percent respectively).⁶

Cost of alcohol use in Minnesota

- The human and economic costs associated with alcohol use in 2007 (the most recent year data is available) amounted to an estimated \$5.06 billion, or \$975 per person in Minnesota. (See Table 1)⁸⁻⁹
 - The vast majority, 73 percent, of the costs associated with alcohol use was attributed to lost productivity (\$3.7 billion). Most of these lost productivity costs were due to alcohol-related illnesses and premature death due to alcohol use.
 - Healthcare expenditures for medical consequences of alcohol use and the treatment, prevention, and support for alcohol use disorders amounted to \$938 million.
 - Another eight percent of the costs of alcohol use were attributed to other impacts on society, such as property and administrative costs of alcohol-related motor vehicle crashes, social welfare administration, fire destruction, and various criminal justice system costs of alcohol-related crime.
- For fiscal year 2007, Minnesota collected \$296,000,000 in excise and sales tax revenue from alcohol sales.¹⁰ This revenue is a fraction of the economic cost of alcohol use during that same year—\$5.06 billion—which is 17 times greater than the tax revenue.

- A national report from 2009 on the economic costs of substance abuse (including alcohol and other drugs) found that for every dollar spent by federal and state governments on substance abuse and addiction, 95.6 cents paid for the burden on public programs. The report also found that in 2005, federal, state, and local governments spent 11 percent of their allotted budgets on substance abuse and addictions.¹¹

Table 1: Estimated economic costs of alcohol abuse in Minnesota*

Economic Cost	
Health Care Expenditures	
Alcohol and drug abuse services	266,000,000
Medical consequences of alcohol consumption	672,000,000
Total	\$938,000,000
Productivity Effects (Lost Earnings)	
Impaired productivity	2,783,000,000
Lost future earnings due to premature deaths**	729,000,000
Lost productivity due to alcohol-related crime	196,000,000
Total	\$3,707,000,000
Other impacts on society	
Motor vehicle crashes	278,000,000
Criminal justice	117,000,000
Fire destruction	8,000,000
Social welfare program administration	15,000,000
Total	\$417,000,000
Total Costs***	\$5,062,000,000

* MDH estimated the economic costs of alcohol abuse for 2007 based upon national estimates for other years, adjusting for inflation, population change, and incidence adjustment factors. Incidence adjustment factors are rate ratios comparing incidence of a given variable (such as deaths or traffic crashes) in Minnesota to that of the nation.

** Present discounted value of future earnings calculated using a 4.75-percent discount rate.

***The cost per person in Minnesota is \$975.

How to calculate the economic cost of alcohol in a community

To estimate the economic cost of alcohol in a community, multiply the cost of alcohol per person in Minnesota (\$975) by population estimate for the community.

Additional information

A full report, *The Human and Economic Cost of Alcohol Use in Minnesota*, is available. This comprehensive report describes the scope of the cost estimation project, a review of the literature, a description of and justification for the methodology used, the findings of the cost estimate study, and a discussion section including limitations and recommendations.

Endnotes

1. Mokdad A, Marks J, Stroup D, Gerberding J. Actual causes of death in the United States, 2000. *JAMA* 2004;291:1238–45.
2. Centers for Disease Control and Prevention. Alcohol-Attributable Deaths and Years of Potential Life Lost—United States, 2001. *Morbidity and Mortality Weekly Report*: September 24, 2004. 53(37); 866-870.
3. Marin Institute. Alcohol-Related Harm in the United States. September, 2009. Retrieved on January 28, 2011 from https://www.marininstitute.org/site/images/stories/pdfs/alcohol_harm.pdf
4. Centers for Disease Control and Prevention, Office of Surveillance, Epidemiology and Laboratory Services. Behavioral Risk Factor Surveillance System: Prevalence and Trends Data. Retrieved on March 18, 2011 from <http://apps.nccd.cdc.gov/brfss/>
5. National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism. Per Capita Ethanol Consumption for States, Census Regions and the United States, 1970-2007 (Gallons of Ethanol, Based on Population Aged 14 and Older). Retrieved on March 18, 2011 from <http://www.niaaa.nih.gov/Resources/DatabaseResources/QuickFacts/AlcoholSales/consum03.htm>
6. Minnesota State Epidemiological Outcomes Workgroup. Substance Use in Minnesota. Retrieved on March 15, 2011 from www.sumn.org. Minnesota Student Survey data accessed using Data by Topic. Detailed Minnesota Student Survey data source information are available in the Substance Use in Minnesota Toolbox, in the SUMN Toolkit.
7. Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2011). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2010*. Ann Arbor: Institute for Social Research, The University of Michigan.
8. MDH contracted with the Minnesota Institute of Public Health to estimate the human and economic cost of alcohol using national estimates for other years, adjusting for inflation, population change, and state incidence adjustment factors. The adjusted national estimates are based on estimates, analyses, and data reported in Harwood, H.; Fountain, D.; and Livermore, G. *The Economic Costs of Alcohol and Drug Abuse in the United States 1992*. Report prepared for the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Department of Health and Human Services. NIH Publication No. 98-4327. Rockville, MD: National Institutes of Health, 1998.
9. National estimates of alcohol-related economic costs were adjusted by Minnesota to U.S. incidence rate ratios as follows. Healthcare services, impaired productivity due to illness or injury, and social welfare administration costs were adjusted by alcohol abuse or dependence rate ratio from the Substance Abuse and Mental Health Services Administration, Office of Applied Studies, National Survey on Drug Use and Health, 2006 and 2007. <http://www.oas.samhsa.gov/2k7/State/AppB.htm> Lost productivity due to alcohol-related premature death, and estimates of the cost of alcohol-related fires, were adjusted by the alcohol-related death rate ratio utilizing data obtained upon request from the Minnesota Department of Health, Minnesota Center for Health Statistics, and utilizing the Centers for Disease Control and Prevention, Division of Adult and Community Health, Alcohol and Public Health, Alcohol-Related Disease Impact (ARDI) Software. <https://apps.nccd.cdc.gov/ardi/Homepage.aspx> Alcohol related criminal justice, and lost productivity due to alcohol related crime and crime victims, were adjusted using the crime rate ratio from the Federal Bureau of Investigation, Uniform Crime Reporting Statistics. <http://www.ucrdatatool.gov/Search/Crime/State/OneYearofData.cfm> Alcohol-related motor vehicle crashes were adjusted using the alcohol-related motor vehicle crash rate ratio from the National Highway Traffic Safety Administration, Fatality Analysis Reporting System Encyclopedia. <http://www-fars.nhtsa.dot.gov/States/StatesAlcohol.aspx> The Minnesota mean hourly wage for all occupations was obtained from the U.S. Bureau of Labor Statistics, May 2007 State Occupational and Employment Wage Estimates. http://www.bls.gov/oes/2007/may/oes_mn.htm The Consumer Price Index was obtained from the U.S. Bureau of Labor Statistics, Archived Consumer Price Index Detailed Report Information. http://www.bls.gov/cpi/cpi_dr.htm
10. Minnesota House of Representatives Research Department. Michael, J. House Research Short Subjects: Alcohol Beverage Taxes. January, 2009. <http://www.house.leg.state.mn.us/hrd/pubs/ss/ssalbvtx.pdf>. A Report to the 2003 Minnesota Legislature. Taxation of Beverage Alcohol in Minnesota: Replacing Current Alcohol Excise Taxes and the Additional 2.5 Percent Sales Tax on Alcoholic Beverages. January, 2003. http://taxes.state.mn.us/special/alcoholic/Documents/publications_alcohol_report.pdf Minnesota history of tax collections (Table 1) and alcohol collections by excise tax (Table 2). http://taxes.state.mn.us/legal_policy/pages/research_reports_handbook_cover.aspx
11. Center on Addiction and Substance Abuse. Shoveling Up II. Columbia University; 2009. Retrieved January 29, 2011 from <http://www.casacolumbia.org/su2report/>