

The Human and Economic Cost of Alcohol Use in Minnesota

Highlights

- * The economic costs associated with alcohol use in Minnesota in 2001 amounted to an estimated \$4.5 billion.
- * This amounts to over \$900 for every person in the state.
- * These costs are 19 times greater than the \$234 million in tax revenues collected from alcohol sales.

Consequences of alcohol use

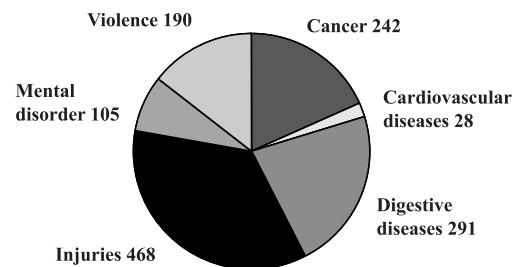
- Alcohol use and misuse is the third leading cause of preventable death in the U.S.¹
- There were 1,324 alcohol attributable deaths in Minnesota in 2001 (see Figure 1) and 32,425 years of potential life lost (see Figure 2).
- Alcohol contributes to injuries resulting from motor-vehicle crashes, fires, falls, and drowning. Alcohol also contributes to violence such as child abuse, homicide, suicide and personal assault.²
- Many chronic conditions are attributable to alcohol use, including digestive diseases, certain cancers, mental disorders, and certain cardiovascular diseases.²



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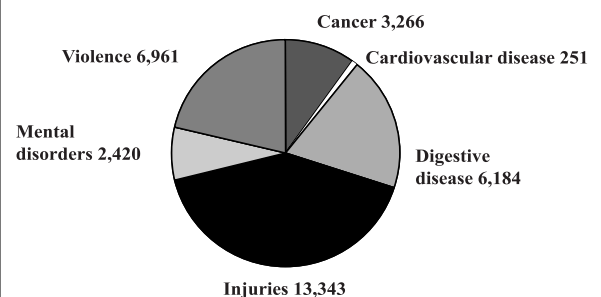


Figure 1 - Alcohol attributable deaths by cause, Minnesota, 2001



Alcohol attributable deaths by cause were calculated using 2001 Minnesota mortality data research files and alcohol attributable fractions available from "Alcohol use in Minnesota: Extent and cost" from the Minnesota Department of Health (1995) and "New Mexico Alcohol-Related Hospitalization Charges for 1998" from the New Mexico Department of Health (December 27, 2000) and consultation with the CDC for the crosswalk of ICD-9 to ICD-10 codes.

Figure 2 - Alcohol attributable years of potential life lost (YPLL), by cause of death, Minnesota



Alcohol attributable years of potential life lost by cause were calculated using 2001 Minnesota mortality data research files, gender specific life expectancy tables available from "Deaths: Preliminary Data for 2001" V 51, number 5, National Vital Statistics Reports, CDC, and alcohol attributable fractions available from "Alcohol use in Minnesota: Extent and cost" Minnesota Department of Health (1995) and "New Mexico Alcohol-Related Hospitalization Charges for 1998" from the New Mexico Department of Health (December 27, 2000) and consultation with the CDC for the crosswalk of ICD-9 to ICD-10 codes.

* Cost Data released January 2004. Data on alcohol use in Minnesota was updated March 2006.

Drinking patterns in Minnesota

Adults

- In 2004, 20 percent of Minnesota adults reported binge drinking, consuming five or more drinks on an occasion in the last month.³
- Binge drinking in Minnesota is higher than the national median of all states and territories, which is 16.5 percent.⁴
- Nearly 6 percent of Minnesota adults report being heavy drinkers in 2004, 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.³
- In 2002, 3 percent of Minnesotan adults reported that they have driven after drinking too much at least once in the past month.³
- Men are more likely than women to report binge drinking and heavy drinking.³
- Individuals between the ages of 18 and 24 are more likely to report engaging in binge drinking and heavy drinking than any other age group.⁵

Youth

- In 2004, 28 percent of 9th graders and 47 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 about the same rate as 12th graders nationally (47 percent vs. 48 percent).⁷
- In 2004, 15 percent of 9th graders and 30 percent of the 12th graders in Minnesota reported binge drinking, consuming 5 or more drinks in a row, in the past 2 weeks.⁸
- In 2004, 28 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 (41 percent and 38 percent respectively) than Asian, African American or White 9th graders (21 percent, 26 percent and 31 percent respectively).⁹

Cost of alcohol use in Minnesota

- The human and economic costs associated with alcohol use in 2001 amounted to an estimated \$4.5 billion. This amounts to over \$900 per person in Minnesota. (See Table 1)^{10,11}
- A breakdown of economic cost of alcohol abuse from Table 1 shows^{10,11}:
 - The vast majority, 65 percent, of the costs associated with alcohol use was attributed to lost productivity (\$2.9 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 nearly \$650 million.
 - Nearly one billion dollars 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 2002, Minnesota collected \$234,000,000 in excise and sales tax revenue from alcohol sales.¹² This revenue is miniscule when compared to the economic cost of alcohol use during that same year -- \$4.5 billion-- which is 19 times greater than the tax revenue.

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- A national study, based on 1992 data, found that much of the economic burden of alcohol abuse is borne by segments of the population other than the alcohol abusers themselves. About 45 percent of the estimated total costs were borne by alcohol abusers and their families, almost all of which was due to lost or reduced earnings. About 20 percent was absorbed by the Federal government and 18 percent by State and local government. About 10 percent was absorbed by private insurance and 6 percent by victims of alcohol-related crimes and by non-drinking victims of alcohol-related motor vehicle crashes.¹³

Table 1: Estimated economic costs of alcohol abuse in Minnesota, 2001*

Economic Cost	2001
Health Care Expenditures	
Alcohol use disorders: treatment, prevention, and support	180,000,000
Medical consequences of alcohol consumption	469,000,000
Total	\$649,000,000
Productivity Impacts	
Lost productivity due to alcohol-related illness	2,002,000,000
Lost future earnings due to premature deaths**	885,000,000
Lost productivity due to alcohol-related crime	62,000,000
Total	\$2,949,000,000
Other impacts on society	
Motor vehicle crashes	424,000,000
Crime	94,000,000
Fire destruction	155,000,000
Social welfare administration	290,000,000
Total	\$963,000,000
Total Costs***	\$4,561,000,000

* MDH estimated the economic costs of alcohol abuse for 2001 based upon national estimates for other years, adjusting for inflation, population change, and other factors. Other data sources were used to disaggregate national level data to the state level or calculate a specific state costs when available.

** Present discounted value of future earnings calculated using a 3-percent discount rate.

***The cost per person in Minnesota is over \$900.

How to calculate the economic cost of alcohol for your community

To estimate the economic cost of alcohol in your community, multiply the cost of alcohol per person in Minnesota (\$900) by the 2001 population estimate for your community.

Endnotes

1. Mokdad, A.H., Marks, J.S., Stroup, D.F., Gerberding, J.L. Actual Causes of Death in the United States, 2000. *Journal of the American Medical Association* 2004; 291(10): 1238-1245.
2. Centers for Disease Control and Prevention, Alcohol General Information Fact Sheet, available at: http://www.cdc.gov/alcohol/factsheets/general_information.htm#02. Also see the Alcohol-Related Disease Impact Software (ARDI) at <http://apps.nccd.cdc.gov/ardi/Homepage.aspx>.
3. Behavioral Risk Factor Surveillance System, Center for Health Statistics, Minnesota Department of Health.
4. Jiles, R., et al. Surveillance for Certain Health Behaviors Among States and Selected Local Areas –Behavior Risk Factor Surveillance System, United States, 2003. *Morbidity and Mortality Weekly Report* 2005, 54 (SS08): 1-116.
5. Behavioral Risk Factor Surveillance System, Center for Health Statistics, Minnesota Department of Health.
6. Minnesota Student Survey 2004. To access Statewide Tables, go to <http://www.mnschoolhealth.com/resources.html?ac=data>.
7. Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2005). Monitoring the Future national results on adolescent drug use: Overview of key findings, 2004 (NIH Publication No. 05-5726). Bethesda, MD: National Institute on Drug Abuse. 2005.
8. Minnesota Student Survey 2004. To access Statewide Tables, go to <http://www.mnschoolhealth.com/resources.html?ac=data>.
9. Minnesota Department of Health Community Health Division, Center for Health Statistics. Adolescent Health Among Minnesota's Racial/Ethnic Groups: Progress and Disparities. *Population Health Assessment Quarterly* 2003; 4 (1).
10. A private consultant working with MDH estimated the human and economic cost of alcohol using national estimates for other years, adjusting for inflation, population change, and other factors. (A description of the methodology appears in Harwood, H. Updating Estimates of the Economic Costs of Alcohol Abuse in the United States: Estimates, Update Methods, and Data. Report prepared by The Lewin Group for the National Institute on Alcohol Abuse and Alcoholism, 2000. 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.)
11. Lost productivity due to premature death in Minnesota was calculated using 2001 Minnesota mortality data research files, gender specific life expectancy tables available from Arias, E, Smith, B. Deaths: Preliminary Data for 2001. *National Vital Statistics Reports*, CDC 51(5). Alcohol attributable fractions were available from Minnesota Department of Health. Alcohol use in Minnesota: Extent and cost. Minnesota Department of Health 1995, and New Mexico Department of Health. New Mexico Alcohol-Related Hospitalization Charges for 1998. New Mexico Department of Health (December 27, 2000). The crosswalk of ICD-9 to ICD-10 codes was provided through personal communication with Bob Brewer at the CDC. Present value of future earnings was estimated using 1990 amounts from Haddix, A., Teutsch, S. and Corso, P, "Prevention Effectiveness". New York: Oxford University Press, 2003 and adjusting for the Economic Cost Index available in Bureau of Labor Statistics, Office of Compensation Levels and Trends. *Employment Cost Index*, July 31, 2003.
12. Minnesota Department of Revenue, 2003.
13. National Institute on Alcohol Abuse and Alcoholism. 10th Special Report to the U.S. Congress on Alcohol and Health. U.S. Department of Health and Human Services 2000.