



# Introduction

# 1 Introduction

## Methods

### Purpose of the State Epidemiological Profile of Substance Use

Minnesota's State Epidemiological Profile of Substance Use (Profile) has been created under the supervision of the State Epidemiological Outcomes Workgroup (SEOW) with assistance from the Substance Abuse and Mental Health Services Administration's (SAMHSA) Center for Substance Abuse Prevention (CSAP).

Minnesota's SEOW membership is wide and varied. It is led by the Department of Human Services Chemical Health Division and staffed through a subcontract with the Minnesota Institute of Public Health. The SEOW works closely with the Minnesota ATOD Prevention Coordinating Council (MAPCC); representatives from state agencies, coalitions and other organizations also helped provide data and input on the Profile and inform the overall work of the SEOW. A listing of agencies and individuals can be found under **Acknowledgements**.

### Evidence-based Planning and Needs Assessment

The Profile is grounded in CSAP's Strategic Prevention Framework (SPF). The SPF is a five-step prevention planning model consisting of 1) Assessment (of both need and resources), 2) Capacity Building, 3) Planning, 4) Implementation, and 5) Evaluation. The Profile serves as an integral step in the Needs Assessment phase of the SPF. The Profile has been created

to summarize and characterize consumption patterns and consequences related to the use of alcohol, tobacco and other drugs in Minnesota.

As the first step in the SPF process, needs assessments generally aim to "profile" population needs and resources. The Profile was created to help the state and communities determine prevention needs based upon available data on substance use and related outcomes. Accordingly, the Profile can be used by a variety of audiences for related, but different, purposes. State-level administrators may use the profile to prepare applications for federal funding or they may use it to monitor prevention-related trends in local communities to which they administer grants. Community-level prevention planners may use the profile to assess the relative importance of substance related problems in their communities or to apply for grant funding themselves. Overall, the Profile is intended to help all audiences in Minnesota make decisions based on existing evidence and demonstration of need.

The SEOW views this Profile as a "living document." That is, it will be updated and revised annually. The SEOW intends to improve upon the current content and structure of the Profile based upon the availability of data and feedback from experts and users. The Profile and related documents will also be made available on the World Wide Web at [www.emprc.org](http://www.emprc.org) and updated on an annual basis.

## Profile Overview and Format

In order to provide users with a variety of data, the Profile casts a wide net over the universe of available substances and related consequences. Substances and consequences in the Profile are grouped in the following categories: Alcohol, Tobacco or Other Drugs (ATOD).

This document is formatted with these categories in mind. The Profile is divided into sections pertaining to statewide ATOD *consumption* patterns (measures of substance use) and related *consequences* (negative outcomes associated with use). For each substance, consumption patterns are presented first, followed by consequence measures. Sections 2 and 3 pertain to alcohol; sections 4 and 5 pertain to tobacco, and sections 6 and 7 pertain to illicit drugs.

The 8th section includes county-level tables when indicators are available at the county level.

The 9th section includes cost data and is presented by county.

For audiences familiar with outcomes based prevention, it is important to note that the 2007 Profile does not contain data on risk and protective factors. Risk and protective factors are an important component of substance abuse prevention theory and programming. Future versions of the Profile may include data on risk and protective factors.

## Data Descriptions

Each section containing statewide data includes various data indicators (the unit of measurement). Indicators, data sources and key findings are presented in data descriptions followed by raw indicator data. Data descriptions include a brief overview about the indicator(s), citations of data sources and bullets with some key findings. It is important to note that the key findings provide a snapshot of the data and are not intended to be exhaustive. The profile user should review the raw data from their own community's perspective and supplement these key findings with their own.

## Data Presentation

The level of detail for each indicator presented in the Profile varies according to the data source. Overall, more detailed information is presented when the source of data comes directly from the state (e.g. Minnesota Student Survey; Minnesota Office of Traffic Safety) as opposed to data from national sources (e.g. Behavioral Risk Factor Surveillance System; National Survey on Drug Use and Health). When national data is presented, it is done so in conjunction with comparable state-level data. To the extent that it is available, the Profile also provides county charts in section 8.



It is important to note that the key findings provide a snapshot of the data and are not intended to be exhaustive. The profile user should review the raw data from their own community's perspective and supplement these key findings with their own.

Whenever possible, the Profile presents data according to as many dimensions as possible.

These include: gender, age, race/ethnicity, metro/non-metro, county and some combinations thereof. Breaking-out data along these dimensions can be a helpful tool for persons or communities interested in specific populations or making comparisons among groups. However, sometimes they produce numbers so small that they are unsuitable for publication in the Profile. Small numbers and rates can be misleading and are questionable for planning and assessment purposes. For example, an indicator with a small count can look like a very high rate in a small county. Alternatively, an indicator presented by race may be unrepresentative if the race sample from which it is drawn is too small.

Thresholds for presenting and withholding data vary according to the data source and the nature of the original sample. Refer to the Data Source section for specific rules used in the Profile.

## Definitions and Technical Notes

### Survey Sample

A sample refers to the population researched in a particular study. Usually, attempts are made to select a "sample population" considered representative of groups of people to whom results can be generalized. National studies, such as the Behavioral Risk Factor Surveillance System (BRFSS) or the National Survey on Drug Use and Health (NSDUH) utilize samples to represent the population at large. In cases where data is presented from such studies, the reader is provided with the percent of the population only, not raw number of respondents.

### Census

A census is an enumeration of people at a particular time. Unlike a sample, a census surveys an entire population. The Minnesota Student Survey (MSS) is a census of all schools in Minnesota. In a census, schools may decline to participate. In 2004, 88% of publicly operating school districts participated in the MSS. Because answers to MSS questions were derived from a census of all schools, data is presented both in raw number and in percent terms.

### Rate

All rates are ratios, calculated by dividing the numerator by the denominator. In epidemiology, a rate is the frequency with which a health event occurs in a defined population. The components of the rate are the raw number (numerator) and the population (denominator). In the Profile, rates are presented per 1,000 or 100,000 of the population and are noted accordingly. Be sure to reference each data sheet for the denominator.

### Counts

Many data sources in the Profile present official count data. These include, but are not limited to, death, arrest and corrections data. These data provide actual raw numbers reported to and collected by various state agencies. Whenever possible, raw numbers are provided along with percentages.

### Data Sources

In order to best utilize the data presented in the Profile, we recommend the reader take time to review the following data sources and descriptions.

## Data Source: Alcohol-Related Disease Impact (ARDI)

Description:	The Centers for Disease Control and Prevention (CDC) calculate Alcohol-Related Disease Impact (ARDI) estimates of alcohol-related deaths due to alcohol consumption. To do this, ARDI either calculates or uses pre-determined estimates of Alcohol-Attributable Fractions (AAFs)—that is, the proportion of deaths from various causes that are due to alcohol. These AAFs are then multiplied by the number of deaths caused by a specific condition (e.g., liver cancer) to obtain the number of alcohol-attributable deaths.
Sponsored by:	Centers for Disease Control and Prevention (CDC)
Geographic level:	National, State
Frequency:	ARDI estimates were last calculated in 2001
Strengths/weaknesses:	<p>Strengths</p> <ul style="list-style-type: none"><li>• Provides alcohol-attributable mortality estimates for a number of diseases in addition to the total alcohol-related deaths</li></ul> <p>Weaknesses</p> <ul style="list-style-type: none"><li>• Last available data 2001</li></ul>
Link to source:	<a href="http://apps.nccd.cdc.gov/ardi/HomePage.aspx">http://apps.nccd.cdc.gov/ardi/HomePage.aspx</a>

## Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

Description:	The BRFSS is a confidential telephone survey of adults age 18 years and older. Respondents are randomly selected in order to reflect the population of Minnesota.
Sponsored by:	Centers for Disease Control and Prevention (CDC)
Geographic level:	National, State
Frequency:	Data collected and reported annually
Missing values:	In order to capture population characteristics such as race and ethnicity, percentages are weighted to reflect the composition of the state. Accordingly, small values are omitted from the Profile to avoid inaccurate representation of gender, age or racial and ethnic groups. On data sheets which include BRFSS data, the Profile omits values where the unweighted sample size for the denominator was less than 50. This rule is also employed by the BRFSS.
Strengths/weaknesses:	<p>Strengths</p> <ul style="list-style-type: none"><li>• Standardized and comparable across states</li><li>• Trend data available since 1984</li></ul> <p>Weaknesses</p> <ul style="list-style-type: none"><li>• Telephone non-coverage - (e.g., 2000 Census estimates that MN had 1.1% households with no phone)</li><li>• Non-response bias; bias is reduced by weighting</li><li>• Self-report/response bias</li></ul>
Link to source:	<a href="http://www.cdc.gov/brfss">http://www.cdc.gov/brfss</a>

## Data Source: Fatality Analysis Reporting System (FARS)

Description:	FARS data are derived from a census of fatal traffic crashes within the 50 States, District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a roadway customarily open to the public and result in the death of a person (occupant of a vehicle or a non-motorist) within 30 days of the crash.
Sponsored by:	National Center for Statistics and Analysis (NCSA) of the National Highway Traffic Safety Administration (NHTSA).
Geographic level:	National, State, County
Frequency:	Data collected and reported annually
Strengths/weaknesses:	<p>Strengths</p> <ul style="list-style-type: none"><li>• Standardized and comparable across states</li><li>• Data are gathered from the State's own source documents and are coded on standard FARS forms</li><li>• Trend data available since 1975</li></ul> <p>Weaknesses</p> <ul style="list-style-type: none"><li>• Includes fatalities only, not all crashes from impaired driving</li></ul>
Link to source:	<a href="http://www-fars.nhtsa.dot.gov">http://www-fars.nhtsa.dot.gov</a>

## Data Source: Minnesota Department of Corrections Data - Probation Survey and Inmate Profile

**Description:** The probation survey is designed to collect data on Minnesota probationers. The definition of probationer is: "All probationers, regardless of conviction status, who were under the supervision of a probation agent as part of a court order at any time including those ordered to pay restitution, complete community service or monitoring."

The inmate profile captures the number of incarcerated persons in the state of Minnesota twice a year.

**Sponsored by:** Minnesota Department of Corrections

**Geographic level:** State, County

**Frequency:** Probation survey data are collected and reported annually. The inmate profile is compiled bi-annually.

**Strengths/weaknesses:** Strengths

- Trend data available since 1991 for inmate profile and 1983 for probation survey

Weaknesses

- Both the probation survey and the inmate profile count offenders only once and may exclude cases that involve drug or chemical convictions. The probation survey counts an offender once in the most serious category. The inmate profile counts an inmate once, by governing sentence which is typically the sentence with the greatest release date (which may or may not be the most serious offense).

**Link to source:** <http://www.doc.state.mn.us>

## Data Source: Minnesota Office of Traffic Safety Data - Minnesota Motor Vehicle Crash Facts and Minnesota Impaired Driving Facts

Description:	Crash Facts provides summary statistical information on crashes, deaths and injuries in Minnesota. Impaired Driving Facts provides similar statistics, all focused on incidences and consequences of impaired driving in Minnesota.
Sponsored by:	Minnesota Office of Traffic Safety
Geographic level:	State, County
Frequency:	Data collected and reported annually
Strengths/weaknesses:	<p>Strengths</p> <ul style="list-style-type: none"><li>• Crash Facts is comparable across all states as a component of Fatality Analysis Reporting System (FARS)</li><li>• Impaired Driving Facts provides detailed information about impaired driving incidents/arrests, crashes, injuries and fatalities</li><li>• Fatality trend data available since 1984; impaired driving trend data available since 2000</li></ul> <p>Weaknesses</p> <ul style="list-style-type: none"><li>• Alcohol-related injuries are less well documented than fatalities</li></ul>
Link to source:	<a href="http://www.dps.state.mn.us/ots">http://www.dps.state.mn.us/ots</a>

## Data Source: Minnesota Department of Health Data - The Human and Economic Cost of Alcohol Use in Minnesota

Description:	<p>In 2004, the Minnesota Department of Health (MDH) created an estimate of the economic cost of alcohol use in Minnesota based on data from 2001. The estimate was based upon national estimates for other years adjusting for inflation, population change, and other factors.</p> <p>The county level estimates presented here are based upon the MDH cost estimate of \$900 per person and the 2001 population estimates for Minnesota counties.</p>
Sponsored by:	Minnesota Department of Health
Geographic level:	State, County
Frequency:	Calculated in 2004, based on 2001 data
Strengths/weaknesses:	<p><b>Strengths</b></p> <ul style="list-style-type: none"><li>• Presents a comprehensive calculation based on costs from a variety of alcohol-related consequences</li><li>• Cost estimate includes health care expenditures, productivity impacts, and other impacts on society such as motor vehicle crashes, crime, fire destruction and social welfare administrative costs</li></ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"><li>• Last estimate released based on 2001 data</li><li>• No trend data available</li></ul>
Link to source:	<a href="http://www.health.state.mn.us/divs/hpcd/chp/alcohol/pdf/final2004costfactsheet.pdf">www.health.state.mn.us/divs/hpcd/chp/alcohol/pdf/final2004costfactsheet.pdf</a>

## Data Source: Minnesota Student Survey (MSS)

**Description:** The MSS is a confidential and anonymous self-administered survey given to 6th, 9th and 12th grade students attending Minnesota public, charter and tribal schools. Most schools elect to participate in the survey; in 2004, this included 88% of eligible schools.

Although the data are not presented here, the survey is also administered to area learning centers, juvenile correction facilities and private schools electing to participate.

**Sponsored by:** Minnesota Department of Education

**Geographic level:** State, County, Regional

**Frequency:** Data collected and reported every three years

**Missing values:** The Profile omits values where the cell size (number of respondents) is less than 30. This is a rule imposed by the SEOW in order to protect the confidentiality of the survey respondents.

The results of the Minnesota Student Survey are also available at a county level. Data Privacy requirements mandate that data is presented in a manner such that no individual student can be identified through the presentation of the results. As part of the Data Privacy practices, the results are also presented in a manner that no individual school district could be identified through the results. Therefore, for counties that have only one school district, the results are not presented. Results are also withheld for counties in which the minimum number for student participation was not met.

**Strengths/weaknesses:** Strengths

- “Census” of schools, not sample
- School districts get their own data
- Trend data available since 1992 on some questions

Weaknesses

- 6th graders not asked all drug questions
- Some school districts do not participate. (In 2004, 12% of the school districts declined to participate.)
- Student participation within the school district can vary widely; In 2004, 76% of 6th graders, 75% of 9th graders and 55% of 12th graders participated
- Reporting biases associated with self-report data

Link to source: [http://education.state.mn.us/mde/Learning\\_Support/Safe\\_and\\_Healthy\\_Learners/Minnesota\\_Student\\_Survey](http://education.state.mn.us/mde/Learning_Support/Safe_and_Healthy_Learners/Minnesota_Student_Survey)

Demographics: As the only statewide survey of youth, the Profile relies heavily on data collected from the Minnesota Student Survey.

Characteristics of students who participated in the 2004 Minnesota student survey are follows:

**ALL MINNESOTA STUDENT SURVEY RESPONDENTS (2004)**

		MALE		FEMALE	
		N (#)	%	N (#)	%
<b>Total</b>		65278	49.5%	66584	50.5%
<b>Grade</b>	6th	24234	18.4%	23897	18.1%
	9th	23999	18.2%	25211	19.1%
	12th	17045	12.9%	17476	13.3%
<b>Race/Ethnicity</b>	White	49367	37.4%	51214	38.8%
	African-American or Black	3038	2.3%	2754	2.1%
	Native American	1042	0.8%	930	0.7%
	Asian American/Pacific Islander	3091	2.3%	3194	2.4%
	Hispanic/Latino	1944	1.5%	1842	1.4%
	Bi-racial/Multi-racial	2983	2.3%	3794	2.9%
	Don't know/No Answer	3813	2.9%	2856	2.2%
<b>Region<sup>1</sup></b>	Metro	34211	25.9%	35340	26.8%
	Non-Metro	31067	23.6%	31244	23.7%

<sup>1</sup>Metro refers to the 7-county Twin Cities metropolitan area (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington counties). Non-metro refers to counties outside of the Metro area.

## Data Source: National Survey on Drug Use and Health (NSDUH)

Description:	NSDUH is a nationwide survey involving in-home interviews with approximately 70,000 randomly selected individuals age 12 and older. Data are presented as two-year averages. Accordingly, the Profile presents combined data from 2002/2003 and 2004/2005.
Sponsored by:	Substance Abuse and Mental Health Services Administration (SAMHSA)
Geographic level:	National, State
Frequency:	Data are presented as two-year averages
Strengths/weaknesses:	<p>Strengths</p> <ul style="list-style-type: none"><li>• Trend data available since 1972</li></ul> <p>Weaknesses</p> <ul style="list-style-type: none"><li>• No state data on Race/Ethnicity</li></ul>
Link to source:	<a href="http://oas.samhsa.gov/NSDUH.htm#NSDUHinfo">http://oas.samhsa.gov/NSDUH.htm#NSDUHinfo</a>

## Data Source: National Vital Statistics System (NVSS)

Description:	The NVSS is an inter-governmental data sharing system. Data are provided through contracts between the National Center for Health Statistics (NCHS) and vital registration systems operated in the various jurisdictions legally responsible for the registration of vital events—births, deaths, marriages, divorces, and fetal deaths.
Sponsored by:	National Center for Health Statistics (NCHS)
Geographic level:	National, State, County
Frequency:	Data are collected and reported annually
Missing values:	In order to avoid unrepresentative death rate calculations, the Profile omits values for death data where the annual count is equal to less than two (2). This rule is imposed by the SEOW.
Strengths/weaknesses:	<p>Strengths</p> <ul style="list-style-type: none"><li>• Trend data available for homicide, suicide &amp; lung cancer since 1933; Drug-related death data available since 1960</li><li>• All states use standard forms for data collection and model procedures for the uniform registration of the events</li></ul>
Link to source:	<a href="http://www.cdc.gov/nchs/nvss.htm">http://www.cdc.gov/nchs/nvss.htm</a>

## Data Source: Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC)

Description:	SAMMEC derives smoking-attributable mortality (SAM) using an attributable-fraction formula. The smoking-attributable fractions (SAFs) of deaths for 19 smoking-related diseases are calculated using sex-specific smoking prevalence and relative risk (RR) of death data for current and former smokers aged 35 and older.
Sponsored by:	Centers for Disease Control and Prevention (CDC)
Geographic level:	National, State
Frequency:	SAMMEC estimates were last calculated in 2001
Strengths/weaknesses:	<p>Strengths</p> <ul style="list-style-type: none"><li>• Provides smoking attributable mortality rate (SAM) for each of the 19 diseases in addition to the total SAM rate</li></ul> <p>Weaknesses</p> <ul style="list-style-type: none"><li>• Last available data 2001</li></ul>
Link to source:	<a href="http://apps.nccd.cdc.gov/sammec/index.asp">http://apps.nccd.cdc.gov/sammec/index.asp</a>

## Data Source: Uniform Crime Reports (UCR)

**Description:** The Minnesota Bureau of Criminal Apprehension collects activity information from law enforcement agencies throughout the State of Minnesota. Uniform Crime Reports measure the amount of criminal activity within the State as collected and prepared from data submitted by individual law enforcement agencies.

The offense categories presented in the Profile are all Part I offenses, a grouping of eight generally more serious crimes. We do not include Part II offenses, which consist of 16 generally less serious offenses that occur less frequently.

**Sponsored by:** Minnesota Bureau of Criminal Apprehension (BCA)

**Geographic level:** State, County

**Frequency:** Data are collected and reported annually

**Strengths/weaknesses:** Strengths

- Trend data available since 1935
- UCR data for Minnesota are captured nationally in Crime in the United States, an annual publication of the Federal Bureau of Investigation (FBI)

Weaknesses

- “Criminal activity” consists of measurements involving offenses, clearances, and arrests all of which are subject to reporting biases

**Link to source:** Minnesota Uniform Crime Reports: <http://www.dps.state.mn.us/bca/CJIS/Documents/Page-15-02.html>

Crime in the United States: <http://www.fbi.gov/ucr/ucr.htm>

## Questions and Comments

Please direct questions and comments to the Minnesota Institute of Public Health:

763-427-5310

1-800-782-1878