

## Alcohol Consequences

<b>Indicator RECOMMENDED</b>	<b>Chronic Liver Disease Death Rate</b>
<b>Justification</b>	Long term, heavy alcohol consumption is the leading cause of chronic liver disease, in particular cirrhosis, one of the 12 leading causes of death. Approximately 15,000 people in the U.S. die from cirrhosis each year.
<b>Definition</b>	Number of deaths from chronic liver disease per 1,000 population
<b>Numerator</b>	Annual number of deaths with ICD-9 codes 571.0-571.9 or ICD-10 codes K70 and K73-K74 as underlying cause of death
<b>Denominator</b>	Total resident population for same calendar year
<b>Data Sources</b>	Death certificate data from the National Center for Health Statistics National Vital Statistics System as reported in the Mortality Detail Files (numerator) and population estimates from the U.S. Bureau of the Census (denominator)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	Age by Gender by Race/Ethnicity
<b>Strengths</b>	Readily available for many years in all states. The measure has been used consistently as an indicator of heavy chronic drinking for many years.
<b>Limitations</b>	This indicator is only based on deaths; cases of cirrhosis morbidity are not reflected in this indicator. Alcohol-related cirrhosis may have a long latency; there may be a lag of several years between changes in behavior and population mortality. The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of annual deaths, especially when used for demographic subgroups. There also is variability in the procedures used within and across each state to determine cause of death.

<b>Indicator</b> <i>Recommended with Reservations</i>	<b>Suicide Death Rate</b>
<b>Justification</b>	<p>The association between alcohol use and suicide has been well documented. Suicidal individuals have high rates of alcohol use and abuse and alcohol abusers have high rates of suicidal behavior. It is estimated that about 23 percent of suicides are attributable to alcohol.</p>
<b>Definition</b>	<p>Number of deaths from suicide per 1,000 population. Suicide includes all means of self-inflicted injuries that result in death.</p>
<b>Numerator</b>	<p>Annual number of suicide deaths with ICD-9 codes E950-959 or ICD-10 codes X60-X84 and Y87.0 as underlying cause of death</p>
<b>Denominator</b>	<p>Total resident population for same calendar year</p>
<b>Data Sources</b>	<p>Death certificate data from the National Center for Health Statistics Mortality Detail Files (numerator) and population estimates from the U.S. Bureau of the Census (denominator)</p>
<b>Frequency</b>	<p>Annual</p>
<b>Geographic Levels</b>	<p>National, State, and County</p>
<b>Demographic Categories</b>	<p>Age by Gender by Race/Ethnicity</p>
<b>Strengths</b>	<p>Readily available for many years in all states</p>
<b>Limitations</b>	<p>This indicator does not involve a direct assessment of alcohol involvement, but rather is justified on the assumption that 20 percent of all suicides are attributable to alcohol. This attributable fraction (20%) could vary substantially across geographic areas and subgroups. The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of annual suicides, especially when used for demographic subgroups.</p>

<b>Indicator</b> <i>Recommended with Reservations</i>	<b>Homicide Death Rate</b>
<b>Justification</b>	It is estimated that approximately 47 percent of homicides are attributable to alcohol. In 1999, there were 17,000 homicides in the U.S.
<b>Definition</b>	Number of deaths from homicide per 1,000 population. Homicide includes injuries inflicted by others that result in death.
<b>Numerator</b>	Annual number of homicides with ICD codes E960-969 or ICD-10 codes X85-Y09 and Y87.1 as underlying cause of death
<b>Denominator</b>	Total resident population for same calendar year
<b>Data Sources</b>	Death certificate data from the National Center for Health Statistics Mortality Detail Files (numerator) and population estimates from the U.S. Bureau of the Census (denominator)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	Age by Gender by Race/Ethnicity
<b>Strengths</b>	Readily available for many years in all states
<b>Limitations</b>	This indicator does not involve a direct assessment of alcohol involvement, but rather is justified on the assumption that 47 percent of all homicides are attributable to alcohol. This attributable fraction (47 %) could vary substantially across geographic areas and subgroups.
<b>Limitations</b>	The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of annual homicides, especially when used for demographic subgroups.

Indicator RECOMMENDED	Percent of Fatal Motor Vehicle Crashes That are Alcohol Related
<b>Justification</b>	Approximately 2.2 million crashes in the U.S. involved alcohol in 1999. Approximately 41 percent of traffic fatalities are the result of drinking and driving. Almost 17,000 people die from alcohol-related crashes each year. Alcohol-related traffic crashes remain the single greatest cause of death among youth and young adults.
<b>Definition</b>	Percent of fatal motor vehicle crashes (i.e., in which at least one person died) for which at least one driver, pedestrian, or cyclist had been drinking (Blood Alcohol Concentration >0.00)
<b>Numerator</b>	Annual number of fatal crashes involving alcohol
<b>Denominator</b>	Annual number of fatal crashes
<b>Data Sources</b>	Crash data from the Fatality Analysis Reporting System (FARS), National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation, (numerator and denominator)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	NA
<b>Strengths</b>	Data on fatal traffic crashes have been systematically collected by NHTSA for many years in every state (though states vary in the number of years in which they have participated in FARS).
<b>Limitations</b>	While considerable effort has been made to obtain the BAC values for all drivers involved in fatal crashes, these data are not complete. Therefore, NHTSA has estimated driver BAC for cases missing data. The stability of this indicator is directly related to the size of the population in which these fatal crashes occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of annual fatal crashes.

Indicator RECOMMENDED	Alcohol-Related Vehicle Death Rate
<b>Justification</b>	Approximately 2.2 million crashes in the U.S. involved alcohol in 1999. Approximately 41 percent of traffic fatalities are the result of drinking and driving. Almost 17,000 people die from alcohol-related crashes each year. Alcohol-related traffic crashes remain the single greatest cause of death among youth and young adults.
<b>Definition</b>	Number of vehicle deaths in which at least one driver, pedestrian, or cyclist had been drinking (Blood Alcohol Concentration >0.00) per 1000 population
<b>Numerator</b>	Annual number alcohol-related vehicle deaths
<b>Denominator</b>	Total resident population for same calendar year
<b>Data Sources</b>	Number of alcohol-related vehicle deaths from the Fatal Accident Reporting System (FARS), National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation, (numerator). Population estimates from the U.S. Bureau of the Census (denominator).
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	Age by Gender (of persons killed)
<b>Strengths</b>	Data on fatal traffic crashes have been systematically collected by NHTSA for many years in every state (though states vary in the number of years in which they have participated in FARS).
<b>Limitations</b>	<p>While considerable effort has been made to obtain the BAC values for all drivers involved in fatal crashes, these data are not complete. Therefore, NHTSA has estimated driver BAC for cases missing data.</p> <p>The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of annual vehicular deaths, especially when used for demographic subgroups.</p>

Indicator RECOMMENDED	Percent of Alcohol-Involved Drivers Among All Drivers in Fatal Crashes
<b>Justification</b>	Approximately 2.2 million crashes in the U.S. involved alcohol in 1999. Approximately 41 percent of traffic fatalities are the result of drinking and driving. Almost 17,000 people die from alcohol-related crashes each year. Alcohol-related traffic crashes remain the single greatest cause of death among youth and young adults.
<b>Definition</b>	Percent of drivers involved in fatal crashes (i.e., in which at least one person died) who were found to have Blood Alcohol Concentrations >0.00.
<b>Numerator</b>	Annual number of alcohol-involved drivers in crashes in which at least one person died
<b>Denominator</b>	Annual number of drivers in crashes in which at least one person died
<b>Data Sources</b>	Driver data from the Fatality Analysis Reporting System (FARS), National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation, (numerator and denominator)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	Age by Gender (of driver)
<b>Strengths</b>	Data on fatal traffic crashes have been systematically collected by NHTSA for many years in every state (though states vary in the number of years in which they have participated in FARS).
<b>Limitations</b>	While considerable effort has been made to obtain the BAC values for all drivers involved in fatal crashes, these data are not complete. Therefore, NHTSA has estimated driver BAC for cases missing data. The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of fatal crashes, especially when used for demographic subgroups.

<b>Indicator</b> <i>Recommended with Reservations</i>	<b>Violent Crime Rate</b>
<b>Justification</b>	<p>Violence is associated with alcohol, though the causal pathway is not completely understood. Drinking on the part of the victim or a perpetrator can increase the risk of assaults and assault-related injuries. Approximately 23% of sexual assaults, 30% of physical assaults, and 3% of robberies are attributable to alcohol.</p>
<b>Definition</b>	<p>Number of simple and aggravated assaults, sexual assaults, and robberies reported to the police per 1,000 population</p>
<b>Numerator</b>	<p>Annual number of simple and aggravated assaults, sexual assaults, and robberies reported to the police per 1,000 population</p>
<b>Denominator</b>	<p>Total resident population for same calendar year</p>
<b>Data Sources</b>	<p>Crimes reported to police from the Uniform Crime Reports (numerator) and population estimates from the U.S. Bureau of the Census (denominator)</p>
<b>Frequency</b>	<p>Annual</p>
<b>Geographic Levels</b>	<p>National, State, and County</p>
<b>Demographic Categories</b>	<p>NA</p>
<b>Strengths</b>	<p>Violent crimes reported to the police are available annually and can be disaggregated to the county and community levels.</p>
<b>Limitations</b>	<p>Reported violent crimes are an under report of the total number of actual violent crimes. No information on the perpetrator is available to determine if they have been drinking or to disaggregate these data by demographic subgroups. Estimates of the percentage of crimes attributable to alcohol are derived primarily from self-reports of incarcerated perpetrators of the crimes. The percentage actually attributable to alcohol may vary across geographic units. Although most police departments do report UCR data, there are a few jurisdictions each year for which data are not provided.</p>

<b>Indicator</b> <i>Recommended with Reservations</i>	<b>Alcohol Abuse or Dependence</b>
<b>Justification</b>	<p>Abuse and dependence are clinical terms used to characterize patterns of alcohol use associated with significant social, psychological, and physical problems for the user and/or others that may be negatively impacted by the user.</p>
<b>Definition</b>	<p>Percent of persons aged 12 and older meeting DSM-IV criteria for alcohol abuse or dependence</p>
<b>Data Source</b>	<p>National Survey on Drug Use and Health (NSDUH)</p>
<b>Frequency</b>	<p>Annual</p>
<b>Geographic levels</b>	<p>National and State</p>
<b>Demographic Categories</b>	<p>Age</p>
<b>Strengths</b>	<p>NSDUH is the only national source that currently provides statewide prevalence estimates of alcohol abuse or dependence.</p>
<b>Limitations</b>	<p>Concerns have been raised about the accuracy of assessing clinical conditions through survey methodology. Responses have, however, been shown to be consistent with information obtained from peers, parents, and archival records. State-level estimates for most states are based on relatively small samples. Although augmented by model-based estimation procedures, estimates for specific age groups have relatively low precision (i.e., large confidence intervals). The estimates are provided directly by SAMHSA and raw data that could be used for alternative calculations (e.g., different age categories and/or other demographic subgroups) are not available. The estimates are subject to bias due to self-report and non-response (refusal/no answer).</p>

## Alcohol Consumption

<b>Indicator RECOMMENDED</b>	<b>Current Use of Alcohol by Persons Aged 12 and Older</b>
<b>Justification</b>	Approximately 100,000 deaths each year in the U.S. are attributed to alcohol misuse. Studies have shown that youth who begin drinking at an early age are at increased risk of problem drinking later in life. Purchase and consumption of alcohol by persons under the age of 21 is illegal.
<b>Definition</b>	Percent of persons aged 12 and older reporting any use of alcohol within the past 30 days
<b>Data Source</b>	National Survey on Drug Use and Health (NSDUH), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Age
<b>Strengths</b>	NSDUH is the only national source that currently provides prevalence of use estimates for both adolescents and adults for every state.
<b>Limitations</b>	State-level estimates for most states are based on relatively small samples. Although augmented by model-based estimation procedures, estimates for specific age groups have relatively low precision (i.e., large confidence intervals). The estimates are provided directly by SAMHSA and raw data that could be used for alternative calculations (e.g., demographic subgroups) are not available. The estimates are subject to bias due to self-report and non-response (refusal/no answer).

<b>Indicator RECOMMENDED</b>	<b>Current Use of Alcohol by High School Students</b>
<b>Justification</b>	Approximately 100,000 deaths each year in the U.S. are attributed to alcohol misuse. Alcohol misuse results in injuries, violence, fetal alcohol spectrum disorder, and other negative health and safety consequences. Purchase of alcohol by persons under the age of 21 is illegal. Young people who consume alcohol are more likely than adults to drink heavily.
<b>Definition</b>	Percent of students in grades 9 through 12 reporting any use of alcohol within the past 30 days
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, Race/Ethnicity
<b>Strengths</b>	YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.
<b>Limitations</b>	As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for some subgroups may have relatively low precision (i.e., large confidence intervals).

<b>Indicator RECOMMENDED</b>	<b>Current Use of Alcohol by Persons Aged 18 and Older</b>
<b>Justification</b>	Approximately 100,000 deaths each year in the U.S. are attributed to alcohol misuse.
<b>Definition</b>	Percent of persons aged 18 and older reporting any use of alcohol within the past 30 days
<b>Data Source</b>	Behavioral Risk Factor Surveillance System (BRFSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Age, Gender, and Race/Ethnicity
<b>Strengths</b>	BRFSS provides prevalence estimates of adult use for every state. State-level estimates are typically based on larger samples than the National Survey on Drug Use and Health and may be further broken down by age, gender, and race/ethnicity.
<b>Limitations</b>	BRFSS is a telephone survey subject to potential bias due to self-report, non-coverage (households without phones), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals).

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Current Binge Drinking by Persons 12 and Older</b>
<b>Justification</b>	Binge drinking, as indicated by consumption of five drinks or more within a short time span, is strongly associated with injuries, motor vehicle crashes, violence, fetal alcohol spectrum disorder, chronic liver disease, and a number of other chronic and acute conditions. Approximately 100,000 deaths per year are attributed to alcohol use.
<b>Definition</b>	Percent of persons aged 12 and older reporting having five or more drinks on at least one occasion within the past 30 days
<b>Data Source</b>	National Survey on Drug Use and Health (NSDUH), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Age
<b>Strengths</b>	<p>This measure has been used consistently for many years, and by many different surveillance systems, as an easily obtained indicator of an alcohol use behavior that is almost certain to cause impairment. The NSDUH is the only national source that currently provides prevalence estimates for both adolescents and adults for every state.</p>
<b>Limitations</b>	<p>This measure does not capture the frequency of binge drinking or amount consumed on any one occasion. State-level estimates for most states are based on relatively small samples. Although augmented by model-based estimation procedures, estimates for specific age groups have relatively low precision (i.e., large confidence intervals). The estimates are provided directly by SAMHSA and raw data that could be used for alternative calculations (e.g., demographic subgroups) are not available. The estimates are subject to bias due to self-report and non-response (refusal/no answer).</p>

Indicator <b>RECOMMENDED</b>	<b>Current Binge Drinking by Adults Aged 18 and Older</b>
<b>Justification</b>	Binge drinking, as indicated by consumption of five drinks or more within a short time span, is strongly associated with injuries, motor vehicle crashes, violence, fetal alcohol spectrum disorder, chronic liver disease, and a number of other chronic and acute conditions. Approximately 100,000 deaths per year are attributed to alcohol misuse.
<b>Definition</b>	Percent of persons aged 18 and older reporting having five or more drinks on at least one occasion within the past 30 days
<b>Data Source</b>	Behavioral Risk Factor Surveillance System (BRFSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Annual
<b>Geographic levels</b>	National and State
<b>Demographic Categories</b>	Age, Gender, and Race/Ethnicity
<b>Strengths</b>	This measure has been used consistently for many years, and by many different surveillance systems, as an easily obtained indicator of an alcohol use behavior that is almost certain to cause impairment. The BRFSS provides prevalence estimates of adult use for every state. State-level estimates may be further broken down by age, gender, and race/ethnicity.
<b>Limitations</b>	This measure does not capture the frequency of binge drinking or amount consumed on any one occasion. The BRFSS is a telephone survey subject to potential bias due to self-report, non-coverage (households without phones), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals).

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Current Binge Drinking by High School Students</b>
<b>Justification</b>	Binge drinking, as indicated by consumption of five drinks or more within a short time span, is strongly associated with injuries, motor vehicle crashes, violence, fetal alcohol spectrum disorder, chronic liver disease, and a number of other chronic and acute conditions. Approximately 100,000 deaths per year are attributed to alcohol misuse. Purchase of alcohol by persons under the age of 21 is illegal. Young people who consume alcohol are more likely than adults to binge drink.
<b>Definition</b>	Percent of students in grades 9 through 12 reporting having five or more drinks in a row (i.e., within a couple hours) on at least one occasion within the past 30 days
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, and Race/Ethnicity
<b>Strengths</b>	<p>This measure has been used consistently for many years, and by many different surveillance systems, as an easily obtained indicator of an alcohol use behavior that is almost certain to cause impairment. YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>This measure does not capture the frequency of binge drinking or amount consumed on any one occasion. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals).</p>

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Current Heavy Use of Alcohol by Adults Aged 18 and Older</b>
<b>Justification</b>	Heavy use of alcohol pertains to a pattern of regular use at levels that exceed U.S. Dietary Guidelines and are associated with heightened levels of all-cause mortality. Heavy drinkers are at increased risk for a variety of adverse health outcomes, including alcohol abuse and dependence.
<b>Definition</b>	Percent of women aged 18 and older reporting an average daily alcohol consumption greater than one drink per day
	Percent of men aged 18 and older reporting an average daily alcohol consumption greater than two drinks per day
<b>Data Source</b>	Behavioral Risk Factor Surveillance System (BRFSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Age, Gender, and Race/Ethnicity
<b>Strengths</b>	BRFSS provides prevalence estimates of adult use for every state. State-level estimates are typically based on larger samples than the National Survey on Drug Use and Health and may be further broken down by age, gender, and race/ethnicity.
<b>Limitations</b>	Average daily consumption does not capture variations in how the amounts of alcohol consumed are distributed over multiple days. BRFSS is a telephone survey subject to potential bias due to self-report, non-coverage (households without phones), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals).

Indicator <b>RECOMMENDED</b>	<b>Early Initiation of Alcohol Use</b>
<b>Justification</b>	Initiation of alcohol use at young ages, especially in pre-adolescence, has been linked to more intense and problematic levels of use in adolescence and adulthood. Young people who consume alcohol are more likely than adults to binge drink. Purchase of alcohol by persons under the age of 21 is illegal.
<b>Definition</b>	Percent of students in grades 9 through 12 who report first use of alcohol before age 13 (more than just a few sips)
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, and Race/Ethnicity
<b>Strengths</b>	This measure may be defined for all respondents, unlike average age of first use, which can only be defined for users. YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.
<b>Limitations</b>	Cut-point of 13 years may not be sensitive to changes in average age of first use across the age continuum. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals).

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Drinking and Driving Among Adults 18 and Older</b>
<b>Justification</b>	Alcohol consumption impairs a person’s ability to operate a motor vehicle in a safe manner. Approximately 2.2 million crashes in the U.S. involved alcohol in 1999. Approximately 41 percent of traffic fatalities are the result of drinking and driving. Almost 17,000 people die from alcohol-related crashes each year.
<b>Definition</b>	Percent of adults aged 18 and older reporting driving one or more times in the past 30 days when they “have perhaps had too much to drink”
<b>Data Source</b>	Behavioral Risk Factor Surveillance System (BRFSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Age, Gender, and Race/Ethnicity
<b>Strengths</b>	<p>The BRFSS provides prevalence estimates of adult use for every state. State-level estimates are typically based on larger samples than the National Survey on Drug Use and Health and may be further broken down by age, gender, and race/ethnicity.</p> <p>The item used to measure this behavior relies on a somewhat subjective assessment by the respondent of “perhaps too much to drink.”</p>
<b>Limitations</b>	The BRFSS is a telephone survey subject to potential bias due to self-report, non-coverage (households without phones), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals).

Indicator <b>RECOMMENDED</b>	<b>Drinking and Driving Among High School Students</b>
<b>Justification</b>	Alcohol consumption impairs a person's ability to operate a motor vehicle in a safe manner. Motor vehicle crashes are the leading cause of death for people ages 15-19. Approximately 2.2 million crashes in the U.S. involved alcohol in 1999. Approximately 41 percent of traffic fatalities are the result of drinking and driving. Almost 17,000 people die from alcohol-related crashes each year.
<b>Definition</b>	Percent of students in grades 9 through 12 reporting driving a car within the past 30 days one or more times when they had been drinking
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, and Race/Ethnicity
<b>Strengths</b>	<p>The YRBSS is the only national survey that provides state-level estimates on the prevalence of driving after drinking among adolescents. YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals).</p>

Indicator <b>RECOMMENDED</b>	<b>Riding in Car with Drinking Driver Among High School Students</b>
<b>Justification</b>	Alcohol consumption impairs a person’s ability to operate a motor vehicle in a safe manner. Motor vehicle crashes are the leading cause of death for people ages 15-19. There are over 17,000 alcohol-related traffic deaths per year. Nationally, 30% of students report riding with a drinking driver one or more times in the past month.
<b>Definition</b>	Percent of students in grades 9 through 12 reporting getting in a car within the past 30 days one or more times with someone who had been drinking
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, and Race/Ethnicity
<b>Strengths</b>	<p>The applicability of this measure is not limited only to students who drive. It therefore may provide a more accurate assessment of the overall prevalence of risk for injury or death due to involvement in an alcohol-related crash. YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals).</p>

<b>Indicator RECOMMENDED</b>	<b>Alcohol Use by Pregnant Women During Last 3 Months of Pregnancy</b>
<b>Justification</b>	Alcohol use during pregnancy can produce a range of physical and mental effects on the fetus. Frequent prenatal alcohol use has been associated with adverse reproductive outcomes, including spontaneous abortions, birth defects, growth deficits, and neurodevelopmental disorders.
<b>Definition</b>	Percent of pregnant women reporting any use of alcohol during last 3 months of pregnancy
<b>Data Source</b>	Pregnancy Risk Assessment Monitoring System (PRAMS), Center for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services (DHHS)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	State
<b>Demographic Categories</b>	N/A
<b>Strengths</b>	PRAMS is the only standardized source that provides prevalence of use estimates for alcohol use during pregnancy at the state level for participating states. All of the participating states in PRAMS have large enough sample to generate valid statewide estimates.
<b>Limitations</b>	Only 37 States currently participate in PRAMS. The published CDC report contains data only for those states which fully implemented PRAMS data collection procedures and achieved weighted survey response rate of at least 70% (27 of 37). PRAMS uses mailed questionnaires for data collection and is subject to non-coverage, non-response, and self-report bias.

<b>Indicator</b> <i>Recommended with Reservations</i>	<b>Total Sales of Ethanol per Year per Capita</b>
<b>Justification</b>	<p>Per capita consumption of absolute alcohol has been used historically as an indicator of overall drinking within a state and has been shown to be correlated with many types of alcohol problems.</p>
<b>Definition</b>	<p>Total sales of ethanol in beer, wine, and spirits per year, estimated in gallons of ethanol, per 10,000 population age 14 and older</p>
<b>Data Source</b>	<p>Alcohol Epidemiologic Data System (AEDS)</p>
<b>Frequency</b>	<p>Annual</p>
<b>Geographic Levels</b>	<p>National and State</p>
<b>Demographic Categories</b>	<p>NA</p>
<b>Strengths</b>	<p>The indicator is consistently defined and readily available from archival data for all states and for many years.</p>
<b>Limitations</b>	<p>Findings regarding the association between per capita alcohol consumption and negative consequences have been inconsistent. Average consumption levels may not be sensitive in identifying areas with a high prevalence of heavy use where there are also high rates of abstinence. Estimates may be inflated due to consumption by non-residents (e.g., tourists and other visitors). Untaxed alcohol (e.g., products that are smuggled or homemade) are not captured in this indicator.</p>

## Tobacco Consequences

<b>Indicator RECOMMENDED</b>	<b>Deaths from Lung Cancer</b>
<b>Justification</b>	Lung cancer results from long-term tobacco use, and is the most common form of cancer mortality in the U.S. Eighty to 90 percent of all lung cancer is attributable to cigarette smoking. In 1998, there were slightly more than 125,000 smoking-attributable lung cancer deaths.
<b>Definition</b>	Number of deaths from lung cancer per 1,000 population
<b>Numerator</b>	Resident deaths during a calendar year with ICD-9 codes of 162.2-169.9 or ICD-10 codes C34 as the underlying cause of death
<b>Denominator</b>	Total resident population for the same calendar year
<b>Data Sources</b>	Death certificate data from the National Center for Health Statistics Mortality Detail Files (numerator) and population estimates from the U.S. Bureau of the Census (denominator)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	Age by Gender by Race/Ethnicity
<b>Strengths</b>	Readily available for many years in all states
<b>Limitations</b>	Death from lung cancer reflects long-term, chronic cigarette smoking, and lung cancer has a long latency period. Therefore, it may be many years before changes in smoking affect population mortality. The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of annual deaths, especially when used for demographic subgroups. There also is variability in the procedures used within and across each state to determine cause of death.

Indicator RECOMMENDED	Deaths from COPD and Emphysema
<b>Justification</b>	Approximately 80 percent of chronic obstructive pulmonary (COPD) and emphysema disease deaths are attributable to smoking. In 1998, there were approximately 100,000 deaths due to smoking-related COPD and related respiratory diseases.
<b>Definition</b>	Number of deaths from COPD and emphysema per 1,000 population
<b>Numerator</b>	Resident deaths during a calendar year with ICD-9 codes of 490-491, 492, 496 or ICD-10 codes J40-J42, J43, J44, J47 as the underlying cause of death
<b>Denominator</b>	Total resident population for the same calendar year
<b>Data Sources</b>	Death certificate data from the National Center for Health Statistics Mortality Detail Files (numerator) and population estimates from the U.S. Bureau of the Census (denominator)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	Age by Gender by Race/Ethnicity
<b>Strengths</b>	Readily available for many years in all states
<b>Limitations</b>	This indicator is only based on deaths; cases of morbidity from respiratory disease are not reflected in this indicator. Death from respiratory disease reflects long-term, chronic cigarette smoking; it may be many years before changes in smoking affect population mortality. The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of annual deaths, especially when used for demographic subgroups. There also is variability in the procedures used within and across each state to determine cause of death.

<b>Indicator</b> <i>Recommended with Reservations</i>	<b>Deaths from Cardiovascular Diseases</b>
<b>Justification</b>	<p>Cigarette smoking is considered the most preventable cause of cardiovascular disease. There were approximately 113,000 smoking-attributable cardiovascular disease deaths in 1998.</p>
<b>Definition</b>	<p>Number of deaths from cardiovascular disease per 1,000 population</p>
<b>Numerator</b>	<p>Resident deaths during a calendar year with ICD-9 codes of 390-398, 402, 404-405, 410-414, 420-429, 429.2, 430-438 or ICD-10 codes I00-I09, I11, I13, I20-I51, I60-I69 as the underlying cause of death</p>
<b>Denominator</b>	<p>Total resident population for the same calendar year</p>
<b>Data Sources</b>	<p>Death certificate data from the National Center for Health Statistics Mortality Detail Files (numerator) and population estimates from the U.S. Bureau of the Census (denominator)</p>
<b>Frequency</b>	<p>Annual</p>
<b>Geographic Levels</b>	<p>National, State, and County</p>
<b>Demographic Categories</b>	<p>Age by Gender by Race/Ethnicity</p>
<b>Strengths</b>	<p>Readily available for many years in all states</p>
<b>Limitations</b>	<p>This indicator is only based on deaths; cases of morbidity from cardiovascular disease are not reflected in this indicator. Cardiovascular disease is not a single disease, but rather numerous diseases with different causes and risk factors. Cigarette smoking is one of many risk behaviors which may contribute to cardiovascular disease. The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and counties that have low numbers of annual deaths, especially when used for demographic subgroups. There also is variability in the procedures used within and across each state to determine cause of death.</p>

## Tobacco Consumption

<b>Indicator RECOMMENDED</b>	<b>Current Cigarette Smoking by Persons Aged 12 and Older</b>
<b>Justification</b>	More than 400,000 deaths each year are attributed to cigarette smoking; making it the leading preventable cause of death in the U.S. Smoking increases the risk of heart disease, cancer, stroke, and chronic lung disease. Environmental tobacco smoke has been shown to increase the risk for heart disease and lung cancer among nonsmokers. Careless smoking is the leading cause of fatal fires in the United States.
<b>Definition</b>	Percent of persons age 12 and over reporting smoking a cigarette on one or more days within the past 30 days
<b>Data Source</b>	National Survey on Drug Use and Health (NSDUH), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Age
<b>Strengths</b>	NSDUH is the only national source that currently provides prevalence of use estimates for both adolescents and adults for every state.
<b>Limitations</b>	This measure does not convey the lifetime or current number of cigarettes smoked. State-level estimates for most states are based on relatively small samples. Although augmented by model-based estimation procedures, estimates for specific age groups have relatively low precision (i.e., large confidence intervals). The estimates are provided directly by SAMHSA and raw data that could be used for alternative calculations (e.g., different age categories and/or other demographic subgroups) are not available. The estimates are subject to bias due to self-report and non-response (refusal/no answer).

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Current Use of Cigarettes by High School Students</b>
<b>Justification</b>	<p>More than 400,000 deaths each year are attributed to cigarette smoking, making it the leading preventable cause of death in the U.S. Smoking increases the risk of heart disease, cancer, stroke, and chronic lung disease. Environmental tobacco smoke has been shown to increase the risk for heart disease and lung cancer among nonsmokers. Careless smoking is the leading cause of fatal fires in the United States. It is also illegal for youth under the age of 18 to purchase tobacco products. Among adults in the U.S. who ever smoked daily, 82% tried their first cigarette prior to age 18.</p>
<b>Definition</b>	<p>Percent of students in grades 9 through 12 reporting smoking a cigarette on one or more days within the past 30 days.</p>
<b>Data Source</b>	<p>Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)</p>
<b>Frequency</b>	<p>Biennial</p>
<b>Geographic Levels</b>	<p>National and State</p>
<b>Demographic Categories</b>	<p>Grade Level, Gender, and Race/Ethnicity</p>
<b>Strengths</b>	<p>YRBSS estimates typically are based on larger samples than the NSDUH, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>This measure does not convey the lifetime or current amount of cigarettes smoked. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).</p>

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Current Use of Cigarettes by Adults Aged 18 and Older</b>
<b>Justification</b>	<p>More than 400,000 deaths each year are attributed to cigarette smoking, making it the leading preventable cause of death in the U.S. Smoking increases the risk of heart disease, cancer, stroke, and chronic lung disease. Environmental tobacco smoke has been shown to increase the risk for heart disease and lung cancer among nonsmokers. Careless smoking is the leading cause of fatal fires in the United States</p>
<b>Definition</b>	<p>Percent of persons aged 18 and older who report smoking 100 or more cigarettes in their lifetime and also now smoke cigarettes either every day or on “some days.”</p>
<b>Data Source</b>	<p>Behavioral Risk Factor Surveillance System (BRFSS), Centers for Disease Control and Prevention (CDC)</p>
<b>Frequency</b>	<p>Biennial</p>
<b>Geographic levels</b>	<p>National and State</p>
<b>Demographic Categories</b>	<p>Age, Gender, and Race/Ethnicity</p>
<b>Strengths</b>	<p>BRFSS provides prevalence estimates of adult use for every state. State-level estimates typically are based on larger samples than the National Survey on Drug Use and Health and may be further broken down by age, gender, and race/ethnicity.</p>
<b>Limitations</b>	<p>This measure does not convey the lifetime or current amount of cigarettes smoked. The BRFSS is a telephone survey subject to potential bias due to self-report, non-coverage (households with out phones) and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).</p>

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Current Use of Smokeless Tobacco by High School Students</b>
<b>Justification</b>	<p>Approximately 75% of oral cavity and pharyngeal cancers are attributed to the use of smoked and smokeless tobacco. Use of smokeless tobacco also causes gum recession and an increased risk of heart disease and stroke.</p>
<b>Definition</b>	<p>Percent of students in grades 9 through 12 reporting use of “chewing tobacco, snuff, or dip” on one or more days within the past 30 days</p>
<b>Data Source</b>	<p>Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)</p>
<b>Frequency</b>	<p>Biennial</p>
<b>Geographic Levels</b>	<p>National and State</p>
<b>Demographic Categories</b>	<p>Grade Level, Gender, and Race/Ethnicity</p>
<b>Strengths</b>	<p>YRBSS is the only national source that currently provides state-level prevalence estimates on current use of smokeless tobacco among youth. YRBSS estimates typically are based on larger samples than the National Survey of Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>This measure does not convey the lifetime or current amount of chewing tobacco used. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).</p>

**Indicator**  
**RECOMMENDED**

**Current Daily Use of Cigarettes Among Adults**

**Justification**

More than 400,000 deaths each year are attributed to cigarette smoking, making it the leading preventable cause of death in the U.S. Smoking increases the risk of heart disease, cancer, stroke, and chronic lung disease. Environmental tobacco smoke has been shown to increase the risk for heart disease and lung cancer among nonsmokers. Careless smoking is the leading cause of fatal fires in the United States. Daily smoking is indicative of relatively high levels of exposure to risks for all documented adverse health effects caused by smoking. Daily smokers are also more likely to be addicted to nicotine.

**Definition**

Percent of adults aged 18 and older who report smoking 100 or more cigarettes in their lifetime and also now smoke cigarettes every day.

**Data Source**

Behavioral Risk Factor Surveillance System (BRFSS), Centers for Disease Control and Prevention (CDC)

**Frequency**

Annual

**Geographic Levels**

National and State

**Demographic Categories**

Age, Gender, and Race/Ethnicity

**Strengths**

BRFSS is the only national survey that currently provides state-level estimates on the prevalence of daily smoking of cigarettes among adults. BRFSS provides prevalence estimates of adult use for every state. State-level estimates typically are based on larger samples than the National Survey of Drug Use and Health and may be further broken down by age, gender, and race/ethnicity.

**Limitations**

BRFSS is a telephone survey subject to potential bias due to self-report, non-coverage (households with out phones) and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).

Indicator <b>RECOMMENDED</b>	<b>Current Daily Use of Cigarettes Among Adolescents</b>
<b>Justification</b>	<p>More than 400,000 deaths each year are attributed to cigarette smoking, making it the leading preventable cause of death in the U.S. Smoking increases the risk of heart disease, cancer, stroke, and chronic lung disease. Environmental tobacco smoke has been shown to increase the risk for heart disease and lung cancer among nonsmokers. Careless smoking is the leading cause of fatal fires in the United States. Daily smokers are more likely to become addicted to nicotine. It is illegal for youth under the age of 18 to purchase tobacco products.</p>
<b>Definition</b>	<p>Percent of students in grades 9 through 12 who report smoking cigarettes on 20 days or more within the past 30 days</p>
<b>Data Source</b>	<p>Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)</p>
<b>Frequency</b>	<p>Biennial</p>
<b>Geographic Levels</b>	<p>National and State</p>
<b>Demographic Categories</b>	<p>Grade Level, Gender, and Race/Ethnicity</p>
<b>Strengths</b>	<p>YRBSS is the only national survey that currently provides state-level estimates on the prevalence of daily smoking of cigarettes among adolescents. YRBSS estimates typically are based on larger samples than the National Survey of Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).</p>

Indicator <b>RECOMMENDED</b>	<b>Early Initiation of Cigarette Use</b>
<b>Justification</b>	<p>More than 400,000 deaths each year are attributed to cigarette smoking, making it the leading preventable cause of death in the U.S. Smoking increases the risk of heart disease, cancer, stroke, and chronic lung disease. Initiation of cigarette use at young ages, especially in pre-adolescence, has been linked with regular use of cigarettes in adolescence and adulthood. Among adults in the U.S. who ever smoked daily, 82% tried their first cigarette prior to age 18. It is also illegal for youth under the age of 18 to purchase tobacco products</p>
<b>Definition</b>	<p>Percent of students in grades 9 through 12 reporting that they smoked a whole cigarette for the first time before age 13</p>
<b>Data Source</b>	<p>Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)</p>
<b>Frequency</b>	<p>Biennial</p>
<b>Geographic Levels</b>	<p>National and State</p>
<b>Demographic Categories</b>	<p>Grade Level, Gender, and Race/Ethnicity</p>
<b>Strengths</b>	<p>This measure may be defined for all respondents, unlike average age of first use, which can only be defined for users. YRBSS is the only national source that currently provides state-level prevalence estimates on early initiation of cigarette use. YRBSS estimates typically are based on larger samples than the National Survey of Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>Cut-point of 13 years may not be sensitive to changes in average age of first use across the age continuum. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).</p>

<b>Indicator RECOMMENDED</b>	<b>Smoking by Pregnant Women During Last 3 Months of Pregnancy</b>
<b>Justification</b>	Cigarette smoking during pregnancy contributes to a number of adverse birth outcomes, including spontaneous abortion, stillbirth, fetal death, low birthweight, prematurity and intrauterine growth retardation. Smoking is the most important known preventable risk factor for low birthweight, a leading cause of fetal and neonatal deaths. Smoking accounts for 20%–30% of low-birthweight births.
<b>Definition</b>	Percent of pregnant women reporting smoking during last 3 months of pregnancy
<b>Data Source</b>	Pregnancy Risk Assessment Monitoring System (PRAMS), Center for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services (DHHS)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	State
<b>Demographic Categories</b>	N/A
<b>Strengths</b>	PRAMS is a standardized source that provides prevalence of smoking during pregnancy at the state level for participating states. All of the participating states in PRAMS have large enough sample to generate valid statewide estimates.
<b>Limitations</b>	Only 37 States currently participate in PRAMS. The published CDC report contains data only for those states which fully implemented PRAMS data collection procedures and achieved weighted survey response rate of at least 70% (27 of 37). PRAMS uses mailed questionnaires for data collection and is subject to non-coverage, non-response, and self-report bias.

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Smoking by Pregnant Women Any Time During Pregnancy</b>
<b>Justification</b>	Cigarette smoking during pregnancy contributes to a number of adverse birth outcomes, including spontaneous abortion, stillbirth, fetal death, low birthweight, prematurity and intrauterine growth retardation. Smoking is the most important known preventable risk factor for low birthweight, a leading cause of fetal and neonatal deaths. Smoking accounts for 20%–30% of low-birthweight births.
<b>Definition</b>	Percent of pregnant women reporting smoking any time during pregnancy
<b>Data Source</b>	Morbidity and Mortality Weekly Report (MMWR), 2004, Volume 53(39), 911-915; Center for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services (DHHS)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	State
<b>Demographic Categories</b>	N/A
<b>Strengths</b>	Only report that summarizes prevalence of smoking during pregnancy for all states (except California).
<b>Limitations</b>	Validity concerns have been raised regarding data on sensitive questions collected for birth certificates. Prenatal smoking is considered to be underreported on birth certificates due to wording of question, timing of data collection, stigma associated with smoking during pregnancy, etc. which may limit the accuracy of the estimate.

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Packs of Cigarettes Taxed per Capita</b>
<b>Justification</b>	<p>More than 400,000 deaths each year are attributed to cigarette smoking, making it the leading preventable cause of death in the U.S. Smoking increases the risk of heart disease, cancer, stroke, and chronic lung disease. Environmental tobacco smoke has been shown to increase the risk for heart disease and lung cancer among nonsmokers. Careless smoking is the leading cause of fatal fires in the United States.</p>
<b>Definition</b>	<p>Number of packs of cigarettes taxed at the wholesale level by each state per capita age 18 and older</p>
<b>Data Source</b>	<p>Data on wholesale distribution of cigarettes by states provided by the University of California at San Diego Social Sciences and Humanities Library as compiled from The Tax Burden on Tobacco annual volume for 2002 (numerator) and population estimates from the U.S. Bureau of the Census (denominator)</p>
<b>Frequency</b>	<p>Annual</p>
<b>Geographic Levels</b>	<p>National and State</p>
<b>Demographic Categories</b>	<p>None</p>
<b>Strengths</b>	<p>This indicator is consistently defined and readily available from archival data for all states and for many years. It provides an independent measure of a population's consumption of cigarettes.</p>
<b>Limitations</b>	<p>Average consumption levels may not be sensitive in identifying areas with a high prevalence of heavy use where there are also high rates of abstinence. Estimates may be inflated due to consumption by non-residents (e.g., tourists and other visitors). Untaxed cigarettes (e.g., products that are smuggled or homemade) are not captured in this indicator.</p>

## Drug Related Consequences

<b>Indicator RECOMMENDED</b>	<b>Deaths due to Drug Related Behavior</b>
<b>Justification</b>	Behavioral/Mental disorder deaths directly (100%) attributable to drug use behavior include drug psychoses, drug dependence, nondependent abuse of drugs, and polyneuropathy due to drug use.
<b>Definition</b>	Number of deaths due to drug related behavior per 1,000 population
<b>Numerator</b>	Resident deaths during a calendar year with ICD-9 codes 292, 304, 305.2-305.9, and 357.6 or ICD-10 codes F11.5-F11.9, F12.5-F12.9, F13.5-F13.9, F14.5-F14.9, F15.5-F15.9, F16.5-F16.9, F18.5-F18.9, F19.5-F19.9, F11.2-F11.4, F12.2-F12.4, F13.2-F13.4, F14.2-F14.4, F15.2-F15.4, F16.2-F16.4, F18.2-F18.4, F19.2-F19.4, F55, F11.0-F11.1, F12.0-F12.1, F13.0-F13.1, F14.0-F14.1, F15.0-F15.1, F16.0-F16.1, F18.0-F18.1, F19.0-F19.1 or G62.0 as the underlying cause of death
<b>Denominator</b>	Total resident population for the same calendar year
<b>Data Sources</b>	Death certificate data from vital statistics agencies (numerator) and population estimates from the U.S. Bureau of the Census (denominator)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	Age by Gender by Race/Ethnicity
<b>Strengths</b>	Readily available for many years across all states
<b>Limitations</b>	Indicator only includes deaths; drug-related morbidity is not reflected. The stability of this indicator is directly related to the size of the population in which these deaths occur. Therefore, this indicator may be unstable for less populated states and communities that have low numbers of annual deaths, especially when used for demographic subgroups. There also is variability in the procedures used within and across each state to determine cause of death.

<b>Indicator</b> <b>RECOMMENDED</b>	<b>Deaths from All Drug Related Poisonings</b>
<b>Justification</b>	In year 2005, poisoning continued to be the second leading cause of injury related death (after motor vehicle crashes) accounting for a total of 32,691 deaths*. According to DAWN, approximately 56% (816, 696) of all drug related ED visits in year 2005 involved an illicit drug either alone or in combination with another drug type.
<b>Definition</b>	Number of drug related poisoning deaths per 1,000 population
<b>Numerator</b>	Resident deaths during a calendar year with ICD-9 codes E850.0-E850.5, E850.8, E850.9, E851-E858, E935.0-E935.2, E937-E940, E950.0-E950.5, E980.0-E980.4 and E980.9 or ICD-10 codes X40-X44, X46, X60-X64, X66, Y10-Y14, Y16 as the underlying cause of death
<b>Denominator</b>	Total resident population for the same calendar year
<b>Data Sources</b>	Death certificate data from vital statistics agencies (numerator) and population estimates from the U.S. Bureau of the Census (denominator)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National, State, and County
<b>Demographic Categories</b>	Age by Gender by Race/Ethnicity
<b>Strengths</b>	Readily available for many years across all states
<b>Limitations</b>	Drug related poisonings often involve multiple drugs which may not be captured in the primary cause of death field. This indicator only includes deaths; drug-related morbidity is not reflected. There also is variability in the procedures used within and across each state to determine cause of death.

\* <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/injury99-05/injury99-05.htm>

<b>Indicator</b> <i>Recommended with Reservation</i>	<b>Property Crime Rate</b>
<b>Justification</b>	<p>Drug-related property crimes include burglary, larceny, and motor vehicle theft. These crimes frequently are committed in order to obtain money to purchase drugs. Drug-attribution rates for property crime range from approximately seven percent for motor vehicle theft to 30 percent for burglary and larceny.</p>
<b>Definition</b>	<p>Number of property crimes per 1,000 population</p>
<b>Numerator</b>	<p>Annual number of larcenies, burglaries, and motor vehicle thefts</p>
<b>Denominator</b>	<p>Total resident population for same calendar year</p>
<b>Data Sources</b>	<p>Crimes reported to police from the Uniform Crime Reports (numerator) and population estimates from the U.S. Bureau of the Census (denominator)</p>
<b>Frequency</b>	<p>Annual</p>
<b>Geographic Levels</b>	<p>National, State, and County</p>
<b>Demographic categories</b>	<p>NA</p>
<b>Strengths</b>	<p>Crimes reported to the police are available annually and can be disaggregated to the county and community levels.</p>
<b>Limitations</b>	<p>Reported property crimes are an under report of the total number of actual crimes. No information on the perpetrator is available to determine if they have been using illicit drugs or to disaggregate these data by demographic subgroups. Estimates of the percentage of crimes attributable to illicit drugs are derived primarily from self-reports of incarcerated perpetrators of the crimes. The percentage actually attributable to drug use may vary across geographic units or subpopulations. Although most police departments do report UCR data, there are a few jurisdictions each year for which data are not provided.</p>

<b>Indicator</b> <i>Recommended with Reservations</i>	<b>Drug Abuse or Dependence</b>
<b>Justification</b>	Abuse and dependence are clinical terms used to characterize patterns of drug use associated with significant social, psychological, and physical problems for the user and/or others who may be negatively impacted by the user.
<b>Definition</b>	Percent of persons aged 12 and older meeting DSM-IV criteria for drug abuse or dependence
<b>Data Source</b>	National Survey on Drug Use and Health (NSDUH)
<b>Frequency</b>	Annual
<b>Geographic levels</b>	National and State
<b>Demographic Categories</b>	Age
<b>Strengths</b>	NSDUH is the only national source that currently provides statewide prevalence estimates of drug abuse or dependence.
<b>Limitations</b>	Concerns have been raised about the accuracy of assessing clinical conditions through survey methodology. Responses have, however, been shown to be consistent with information obtained from peers, parents, and archival records. State-level estimates for most states are based on relatively small samples. Although augmented by model-based estimation procedures, estimates for specific age groups have relatively low precision (i.e., large confidence intervals). The estimates are provided directly by SAMHSA and raw data that could be used for alternative calculations (e.g., different age categories and/or other demographic subgroups) are not available. The estimates are subject to biases due to self-report and non-response (refusal/no answer).

## Illicit Drug Consumption

<b>Indicator RECOMMENDED</b>	<b>Current Use of Marijuana by Persons Aged 12 and Older</b>
<b>Justification</b>	The use of marijuana can produce adverse physical, mental, emotional, and behavioral changes, and can be addictive. Adverse health effects include respiratory illnesses, memory impairment, and weakening of the immune system.
<b>Definition</b>	Percent of persons aged 12 and older reporting any use of marijuana within the past 30 days
<b>Data Source</b>	National Survey on Drug Use and Health (NSDUH), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Age
<b>Strengths</b>	NSDUH is the only national source that currently provides prevalence of use estimates for both adolescents and adults for every state.
<b>Limitations</b>	<p>This measure does not capture the frequency or amount of marijuana use.</p> <p>State-level estimates for most states are based on relatively small samples. Although augmented by model-based estimation procedures, estimates for specific age groups have relatively low precision (i.e., large confidence intervals). The estimates are provided directly by SAMHSA and raw data that could be used for alternative calculations (e.g., different age categories and/or other demographic subgroups) are not available. The estimates are subject to bias due to self-report and non-response (refusal/no answer).</p>

Indicator RECOMMENDED	Current Use of Marijuana by High School Students
<b>Justification</b>	The use of marijuana can produce adverse physical, mental, emotional, and behavioral changes, and can be addictive. Adverse health effects include respiratory illnesses, memory impairment, and weakening of the immune system.
<b>Definition</b>	Percent of students in grades 9 through 12 reporting any use of marijuana within the past 30 days
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, and Race/Ethnicity
<b>Strengths</b>	YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.
<b>Limitations</b>	This measure does not capture the frequency or amount of marijuana use. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).

Indicator <b>RECOMMENDED</b>	<b>Current Use of Illicit Drugs Other Than Marijuana by Persons Aged 12 and Older</b>
<b>Justification</b>	Use of classes of illicit drugs included here has varying degrees of negative physical and psychological effects. Chronic drug use can lead to dependence and serious medical conditions. Both chronic and occasional use can result in serious medical conditions stemming from the drug itself, the method of drug administration, or the use of contaminated equipment.
<b>Definition</b>	Percent of persons aged 12 and older reporting use of any illicit drug other than marijuana, or an abusable product that may be obtained legally, on one or more days within the past 30 days. Other illicit drug categories include cocaine, heroin, and hallucinogens (LSD, PCP, peyote, mescaline, mushrooms, and ecstasy). Abusable legal products include prescription drugs (pain relievers, tranquilizers, stimulants, and sedatives) and inhalants (amyl nitrate, cleaning fluids, gasoline, paint, and glue).
<b>Data Source</b>	National Survey on Drug Use and Health (NSDUH), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS)
<b>Frequency</b>	Annual
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Age
<b>Strengths</b>	NSDUH is the only national source that currently provides prevalence of use estimates for both adolescents and adults for every state.
<b>Limitations</b>	The inclusion of multiple categories of substances within a single measure lacks specificity and similar values for this indicator could be obtained through very different patterns of use across the categories. State-level estimates for most states are based on relatively small samples. Although augmented by model-based estimation procedures, estimates for specific age groups have relatively low precision (i.e., large confidence intervals). The estimates are provided directly by SAMHSA and raw data that could be used for alternative calculations (e.g., different age categories and/or other demographic subgroups) are not available. The estimates are subject to bias due to self-report and non-response (refusal/no answer).

Indicator <b>RECOMMENDED</b>	<b>Current Use of Cocaine by High School Students</b>
<b>Justification</b>	Cocaine use can result in serious negative health consequences and is highly addictive. Physical symptoms may include chest pain, nausea, blurred vision, fever, muscle spasms, convulsions, and coma. Death from a cocaine overdose can occur from convulsions, heart failure, or the depression of vital brain centers controlling respiration.
<b>Definition</b>	Percent of students in grades 9 through 12 reporting any use of cocaine within the past 30 days
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, and Race/Ethnicity
<b>Strengths</b>	<p>A cocaine-specific measure provides more useful information for purposes of prevention planning and monitoring than a single global measure of illicit drug use. YRBSS estimates are typically based on larger samples than the National Survey of Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>Prevalence rates for current use of cocaine among high school students are relatively low and may be unstable due to small numbers of users. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer).</p>

Indicator RECOMMENDED	Current Use of Inhalants by High School Students
<b>Justification</b>	Both immediate and long-term negative health consequences are known to occur from the use of inhalants. Long-term consequences of chronic exposure to inhalants has been associated with brain and other organ damage, neurocognitive impairment, congenital defects in children of abusers, and compromised immune system response. Even a single prolonged exposure by otherwise healthy individuals has been known to cause death as a result of cardiac arrhythmia, asphyxiation, or suffocation.
<b>Definition</b>	Percent of students in grades 9 through 12 reporting that they sniffed glue, breathed the contents of aerosol cans, or inhaled paints or sprays, to get high within the past 30 days
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, and Race/Ethnicity
<b>Strengths</b>	An inhalant-specific measure provides more useful information for purposes of prevention planning and monitoring than a single global measure of illicit drug use. YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.
<b>Limitations</b>	Prevalence rates for current use of inhalants among high school students are relatively low and may be unstable due to small numbers of users. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer).

Indicator RECOMMENDED	Percent of High School Students Reporting Any Use of Specific Classes of Illicit Drugs in Their Lifetime
<b>Justification</b>	<p>Use of classes of illicit drugs included here has varying degrees of negative physical and psychological effects. Chronic drug use can lead to dependence and serious medical conditions. Both chronic and occasional use can result in serious medical conditions stemming from the drug itself, the method of drug administration, or the use of contaminated equipment.</p>
<b>Definition</b>	<p>Percent of students in grades 9 through 12 reporting using:</p> <ul style="list-style-type: none"> <li>• cocaine</li> <li>• inhalants</li> <li>• steroids</li> <li>• methamphetamine</li> <li>• ecstasy (MDMA)</li> <li>• heroin</li> <li>• any drugs via injection</li> </ul> <p>one or more times during the lifetime (each category assessed separately)</p>
<b>Data Source</b>	<p>Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)</p>
<b>Frequency</b>	<p>Biennial</p>
<b>Geographic Levels</b>	<p>State</p>
<b>Demographic Categories</b>	<p>Grade Level, Gender, and Race/Ethnicity</p>
<b>Strengths</b>	<p>Prevalence rates of lifetime use are higher and more stable than for current use. Due to the rarity of their use and the potentially serious consequences of use among adolescents, lifetime use measures for adolescents are appropriate for these substances. The YRBSS is the only national source that currently provides state-level prevalence estimates on lifetime use of specific categories of illicit drugs and among high school student. YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>Lifetime users include persons who have used substances only once or on rare occasions, and may not reflect current risk. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).</p>

Indicator <b>RECOMMENDED</b>	<b>Early Initiation of Marijuana Use</b>
<b>Justification</b>	Initiation of marijuana use at young ages, especially in pre-adolescence, has been linked to more intense and problematic levels of use of marijuana and other substances in adolescence and adulthood.
<b>Definition</b>	Percent of students in grades 9 through 12 reporting first use of marijuana before age 13
<b>Data Source</b>	Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
<b>Frequency</b>	Biennial
<b>Geographic Levels</b>	National and State
<b>Demographic Categories</b>	Grade Level, Gender, and Race/Ethnicity
<b>Strengths</b>	<p>This measure can be defined for all respondents, unlike average age of first use, which can only be defined for users. YRBSS estimates are typically based on larger samples than the National Survey on Drug Use and Health, and can be further broken down by grade level, gender, and race/ethnicity. Some states also collect YRBSS data for individual communities or school districts, which can be compared with their state-level data.</p>
<b>Limitations</b>	<p>A cut-point of 13 years may not be sensitive to changes in average age of first use across the age continuum. As of 2005, weighted representative samples were available for only 40 states. Not all states participate, and some participating states do not provide representative samples. YRBSS is a school-based survey, so students who have dropped out of school are not represented. It is also subject to bias due to self-report, non-coverage (refusal by selected schools to participate), and non-response (refusal/no answer). Estimates for some demographic subgroups may have relatively low precision (i.e., large confidence intervals).</p>