SUBSTANCE USE AND OUTCOMES

2013 MARYLAND STATE EPIDEMIOLOGICAL PROFILE

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Executive Summary

The Maryland Statewide Epidemiological Outcomes Workgroup (SEOW) is pleased to present Substance Use and Outcomes: 2013 Maryland State Epidemiological Profile. This report provides the latest findings on the use of and consequences associated with alcohol, tobacco, and drug use in Maryland. The purpose of the SEOW is to provide current and useful data to policy makers, providers, and citizens in order to support evidence-based information necessary for state and county planners and other interested stakeholders in determining substance use prevention and treatment priorities. To achieve this mandate, the SEOW monitors and analyzes over a dozen different data sources to provide information on key indicators in five domains: substance use disorders; consequences of use; factors associated with use and consequences; treatment for substance use disorders; and mental health status.

Consumption of alcohol, tobacco, and illicit drugs can result in increased risk for addiction, serious morbidity, and mortality. In this report we examine substance use overall, as well as focusing on at-risk populations—underage children and young adults. The manner and frequency with which individuals consume harmful substances can lead to substance-related consequences, the social, economic, and health problems associated with the excess use of alcohol, tobacco, and illicit drugs. We provide insight into criminal activity, hospitalizations, poisonings, motor vehicle crashes, and other fatalities associated with substance use. Substance use prevention research has begun to identify factors that may influence substance use and the consequences associated with use; in this report, we focus on two such factors—access to substances and perceptions of risk of use. Treatment indicators provide valuable information on treatment patterns, substances implicated in substance use disorders, and met and unmet needs. Finally, in response to national and state mandates to integrate prevention, treatment, and recovery efforts for substance use and mental health, we provide first-time data on mental health status among Maryland citizens.

Key Findings

Consumption of Substances
- Over half of Maryland citizens aged 12 or over consume alcohol every month.
- Binge drinking among young adults aged 18-25 is on the rise; however, both drinking and binge drinking among underage drinkers aged 12-20 has declined in recent years.
- Tobacco use by Maryland citizens remains lower than the national average.
- Although illicit drugs, including marijuana, prescription pain-killers, and cocaine, are used less frequently by Maryland citizens compared to the rest of the nation, use by young adults aged 18-25 remains high.
- Marijuana use appears to be rising among youth aged 12-17.

Consequences of Substance Use Disorders
- Alcohol-related arrests, including impaired driving and liquor violations, have declined
or remained stable over the past 5 years, as have arrests for drug sales and manufacture; however, drug possession arrests are on the rise.

- Although drug-related hospital admissions, including opioid-related admissions, have remained stable over the past several years, hospital admissions associated with alcohol use have steadily increased.
- Substances implicated most frequently in intentional poisonings include alcohol, marijuana and marijuana homologs (synthetic marijuana), heroin, prescription opioid analgesics, benzodiazepines, and dextromethorphan combinations.
- Although the total number of motor vehicle crashes involving alcohol and/or drugs continues to decline in Maryland, the proportion of these crashes resulting in at least one fatality has steadily increased, with fatal crashes accounting for more than one-third of all alcohol and/or drug involved crashes. This trend is particularly notable among underage drinkers.
- Maryland mortality rates for chronic diseases associated with substance and alcohol use remain lower than the national average and continue to show reductions over time.

**Factors Contributing to Substance Use Disorders**

- Maryland citizens perceive the harms of smoking at higher levels than the national average. This healthy appreciation for the risks of smoking is apparent in steady trends of reduced cigarette use in the state.
- Perceptions of the risks of smoking marijuana have declined in Maryland, especially among young adults aged 18-25. Indeed, in this age group marijuana use has increased markedly over the past 4 years, with more than one-third reporting marijuana use.
- Per capita alcohol sales in Maryland remain lower than the national average. Spirits sales have increased in the past year, and are purchased more frequently than either beer or wine.
- Minor Maryland youth most frequently obtain cigarettes by others who purchase on their behalf, bumming them from acquaintances, or buying themselves.

**Mental Health, Suicide, and Co-occurring Disorders**

- In Maryland, one out of five adults aged 18 or older report having at least one indicator of mental illness; of these, 25% meet DSM-IV criteria for serious mental illness.
- Maryland youth aged 12-17 are more likely than adults to have had at least one major depressive episode in the past year.
- Among Maryland residents in treatment for a substance use disorder, the prevalence of a co-existing mental health disorder has increased from 35.3% in fiscal year 2008 to 44.3% in fiscal year 2012.

**Treatment Admissions for Substance Use Disorders**

- Alcohol remains the primary substance among those entering a treatment program for a substance use disorder, followed by heroin, marijuana/hashish, and prescription opioids.
- In 2011, 2.6% of Maryland residents met criteria for substance use disorders and/or dependence, signifying a population in need of treatment.
• In 2011, more than 2% of Maryland citizens reported they needed treatment for substance use but did not receive it. Unmet treatment need is highest among the population with the highest prevalence of substance use: young adults aged 18-25.

Conclusions

This report provides the latest estimates of alcohol, tobacco, and drug use and the consequences of use in the state of Maryland. Findings suggest that alcohol use-and the consequences of use - remain problematic, especially among young adults aged 18-25. As well, young adults remain the highest users of all substances monitored in this report, including marijuana. Given recent legislation in the state to allow use of marijuana for medical purposes, young adults’ lax perceptions of marijuana risk may decline even further, and use may increase even more. Finally, the non-medical use and misuse of prescription opioid analgesics and benzodiazepines remain current and growing problems. As the state implements its Prescription Drug Monitoring Program, monitoring the use of and treatment admissions for prescription medications with addiction potential will become increasingly important. Accordingly, identifying trends in overdose deaths and hospitalizations related to prescription medications will be a focus of future SEOW efforts, as will the use of potential 'substitute' substances (such as prescription opioids for heroin and benzodiazepines for alcohol or marijuana).
Purpose of the Report

The purpose of the State Epidemiological Outcomes Workgroup (SEOW) is to provide current and useful information to policy makers, providers, and citizens about the use of and consequences associated with substance use and misuse in Maryland. Such data are necessary for state and county prevention planners and other interested stakeholders in determining substance use prevention and treatment priorities. An important mandate of the SEOW is to identify, monitor, and interpret key indicators or benchmarks that provide information on both consequences of alcohol and substance use as well as measures of use. The availability of such data allows state and jurisdictional prevention planners to assess needs, develop interventions, and evaluate prevention efforts using a data-driven or empiric approach. This document summarizes the SEOW ‘toolbox’ by providing an overview of the data sources and indicators needed to assess prevention and treatment needs for the state. Reported in this document are the most current estimates of substance use and consequences of use for the state of Maryland. It is hoped these indicators demonstrate the current state of substance use and consequences in Maryland, highlight trends over time, as well as help to carve a future path.
Data Sources, Indicators, and Selection Criteria

The report utilizes a number of data sources to provide the most current estimates of substance use and consequences of use in the state of Maryland. Data are made available by national and state agencies. The SEOW analyzes the data to provide information on key indicators of substance use disorders and dependence; outcomes of use; and treatment. As well, we provide indicators of mental health status and comorbidity with substance use disorders.

There are many data sources available to assess the consumption of substances and their associated consequences. The availability of data, however, does not necessarily mean the data has value. As well, the presentation of too much data has the tendency to overwhelm the end user. Thus, selecting both data and useful measures, or indicators, within these data sources proves a challenge for the SEOW. Each data source is briefly described below.

DATA SOURCES

Alcohol Epidemiologic Data System (AEDS): The AEDS reports trends in consumption of alcohol in the United States using alcoholic beverage sales. The data are collected annually and reported in the autumn with a lag time of two years. Data are current through 2010. The report provides data on national consumption of beer, wine, and distilled spirits as well as for all alcoholic beverages combined. [http://pubs.niaaa.nih.gov/publications/manual.htm](http://pubs.niaaa.nih.gov/publications/manual.htm)

Behavioral Risk Factor Surveillance System (BRFSS): Initiated in 1984, BRFSS is an ongoing representative sample providing national- and state-level prevalence estimates of major behavioral risks associated with premature morbidity and mortality among adults aged 18 or older. Factors assessed by the BRFSS include alcohol and tobacco use, health care coverage, test results for HIV/AIDS, physical activity, and fruit and vegetable consumption. The Centers for Disease Control and Prevention (CDC) developed standard core questions for states to use in collecting data that could be compared across states. Initially conducted with paper-administered survey forms, interviews are now conducted through computer-assisted telephone interviewing (CATI). The typical statewide sample size is approximately 8,900 households in Maryland. The survey is administered annually and includes county level data starting in 2002. Data are current through 2011. [http://www.cdc.gov/brfss/](http://www.cdc.gov/brfss/)

Health Services Cost Review Commission (HSCRC)/State Inpatient Databases (SID): The State Inpatient Databases (SID) are a powerful set of hospital databases from data organizations in participating states developed as part of the Healthcare Cost and Utilization Project (HCUP). The SID contains the universe of inpatient discharge abstracts translated into a uniform format
to facilitate multi-state comparisons and analyses. Together, the SID encompasses about 90 percent of all U.S. community hospital discharges. In Maryland, the HSCRC an independent agency is charged with regulating hospital rates for all payers and is responsible for maintaining both the inpatient and outpatient facility data sets. The inpatient dataset contains discharge medical record abstracts and billing data on each of the state's approximately 800,000 yearly inpatient admissions. Hospitals submit data to the HSCRC on a quarterly basis and the agency generates research-ready datasets for public use. Access to the research level version of the inpatient or outpatient data requires the submission of a application to the HSCRC. Data is available through 2011. http://www.hscrc.state.md.us/

**Maryland Automated Accident Reporting System (MAARS):** The MAARS data is comprised of information extracted from motor vehicle accident reports submitted by over 200 Maryland law enforcement agencies. All accidents resulting in a vehicle being towed away, personal injury, or fatality are reported. Accident data is recorded by federal, state, county or local law enforcement officers at the scene of the reportable accident. Typically, within 10 days of the accident occurrence, the report is submitted to the Maryland State Police Central Records Division for transfer into the Maryland Automated Accident Reporting System (MAARS) database file. Within 30 days, the data is uploaded to the Maryland State Highway Administration's database. The Central Records Division of the Maryland State Police manages the MAARS database and maintains the electronic accident database, which is shared with Transportation Safety Analysis Division and other agencies for analysis. This data is reported to National Highway Traffic Safety Administration and the national Fatality Analysis Reporting System. MAARS data are current through 2011.

**Maryland Poison Center (MPC):** The MPC, one of the regional poison centers that is certified by American Association of Poison Control Centers, collects information on poisoning and overdose cases through voluntary calls from Maryland residents. From over 60,000 calls annually, most exposure calls are from the public at the patient’s residence, followed by calls from providers in health care facilities (e.g., emergency departments; inpatient hospital settings, including intensive care units; and doctors’ offices). There are over 2,000 calls yearly from pre-hospital providers. The MPC database consists of information regarding the names of the product(s) involved, all reported ingredients, the amount of product(s) involved, the time of the potentially toxic exposure, clinical effects, treatments, and outcomes. In addition, the MPC collects information on demographics (e.g., age, gender, and zip code), which is useful in examining the types of poisoning events in specific age groups and county regions. MPC data are current through 2012 and available upon request. http://www.mdpoison.com/

**Maryland Violent Death Reporting System (MVDRS):** The MVDRS is one of 18 statewide programs funded by the CDC to feed into the National Violent Death Reporting System
(NVDRS). The purpose of the NVDRS is to address the burden of potentially preventable deaths by creating opportunities to study and monitor the violent deaths in the United States. The MVDRS reports violent deaths only among Maryland residents, and data collection began in 2003. The types of violent death reported include homicides, suicides, and deaths of undetermined manner. The data for the MVDRS are collected from medical examiner’s records, death certificates, police reports, and various supplemental homicide reports. http://www.cdc.gov/ViolencePrevention/NVDRS/index.html

**Maryland Youth Tobacco Survey (MYTS):** This is a biennial survey of public middle school and high school students in Maryland. It was initially administered in the fall of 2000 (baseline survey) and then replicated in the fall of 2002. The MYTS is the only survey that is able to generate statewide estimates of tobacco use for underage youth as required by statute for the state as well as each local jurisdiction. Limited data on other substance use also is available. Schools are randomly selected, and then classes within selected schools are randomly selected. All students in selected classrooms are eligible to participate if they can do so without assistance. Data are current through 2010.

**National Survey on Drug Use and Health (NSDUH):** The NSDUH provides national- and state-level data on mental health as well as the use of tobacco, alcohol and illicit drugs (including non-medical use of prescription drugs) in the United States. NSDUH is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA), an agency of the U.S. Public Health Service within the U.S. Department of Health and Human Services. A random sample of households is selected across the United States, and a professional field interviewer makes a personal visit to each selected household. After answering a few general questions during the in-person visit by the interviewer, residents of the household may be asked to participate. Participants answer most of the interview questions in private by entering their responses directly into a computer. The survey is conducted annually, with state-level data available from 1999-2011, substate-level data available every 2 years from 1999-2010 and national data available 1999-2011. http://www.samhsa.gov/data/NSDUH.aspx

**National Vital Statistics System (NVSS):** The National Center for Health Statistics, a division of the CDC, collects data from vital registration systems operated across the nation and from various jurisdictions legally responsible for the registration of vital events: births, deaths, marriages, divorces, and fetal deaths. NCHS provides important surveillance information that helps identify and address critical health problems including those related to the consequences of substance use. Data are current through 2010. http://www.cdc.gov/nchs/nvss.htm. The data in this report were accessed through the CDC's Wide-ranging Online Data for Epidemiologic Research (WONDER) internet system. http://wonder.cdc.gov/
State of Maryland Automated Record Tracking (SMART): SMART data include treatment admissions from all substance use disorder treatment facilities that receive state alcohol and/or drug agency funds (including Federal Block Grant funds) for the provision of treatment for substance use disorders. SMART does not include data from private or for-profit treatment facilities, hospitals, the state correctional system (unless licensed through the state substance use disorders agency) or federal agencies (the Bureau of Prisons, the Department of Defense, and the Veterans Administration). Data elements in SMART include: reason for admission, primary and secondary substances of use, sociodemographic information, the presence or absence of mental illness and treatment modality. Data are current through 2012. [http://adaa.dhmh.maryland.gov/SitePages/SMART.aspx](http://adaa.dhmh.maryland.gov/SitePages/SMART.aspx)

Uniform Crime Report (UCR): The UCR program was conceived in 1929 by the International Association of Chiefs of Police to meet a need for reliable, standardized crime statistics for the nation. Since 1930, the Department of Justice’s Federal Bureau of Investigation has administered the UCR program. The UCR program is a nationwide, cooperative, statistical effort of over 17,000 law enforcement agencies that voluntarily report data on crimes. The program’s primary objective is to generate reliable information for use in law enforcement administration, operation, and management. However, over the years, UCR data have become one of the country's leading social indicators. Arrest data related to substance use and violent crime is available from these reports. Data are current through 2011. [http://www.fbi.gov/about-us/cjis/ucr/ucr](http://www.fbi.gov/about-us/cjis/ucr/ucr)

INDICATORS
In identifying and selecting potential indicators of tobacco, alcohol, and drug use and consequences of use, we relied on the availability of data to operationalize the indicators, as well as materials and guidance provided by SAMHSA for statewide epidemiological initiatives. In selecting primary indicators for alcohol and substance use, we applied the following epidemiologically-driven criteria:

1) **Relevance**: To be included in this report, each indicator must be directly related to substance use and/or consequences of use. As well, the proposed indicator must be evaluable. The chosen indicator must be related to the problem being assessed. That is, if an indicator is too broadly defined, inferences about its relationship to alcohol and/or substances may not be clear or direct.

2) **Generalizability**: The proposed indicator must be available at the state level AND national and/or sub-state levels. The ability to generalize the prevalence of an indicator to the nation provides both context and an assessment of a particular indicator’s relative severity.
National comparisons help provide some idea of whether a particular problem (e.g., binge drinking among young adults) is significant in the state. Such knowledge helps prioritize prevention efforts, as well as evaluate efforts that have active prevention initiatives. Similarly, comparison of sub-state regions can help identify areas to target resources and initiatives.

3) **Timeliness:** The proposed indicator must be available over time. Evaluation of indicators over time provides a sense of change, and hence the effectiveness of prevention and policy initiatives. The proposed indicator must be current and available. The lag time between data collection and availability is important for states and their jurisdictions in prioritizing prevention efforts. Currently available data provides a more accurate snapshot of consequences and consumption of alcohol and substances.

4) **Reliability and Validity:** The data from which the proposed indicator derives must have accepted validity and reliability. An indicator is only as good as its data source. If sample sizes are inadequate, then reliable estimates cannot be made. If the data are not collected uniformly or routinely, then the indicator may not be valid.

5) **Availability:** For an indicator to be included in this report, data regarding its use must be available from a regular and reliable source.

In addition to primary indicators evaluated in this report, the SEOW also recognizes the changing needs of SAMHSA and ADAA to include mental health, recovery, and treatment imperatives. To address these mandates, the SEOW has identified additional secondary indicators. Although these secondary indicators do not meet all the criteria established for the primary indicators, they have intrinsic value to the state. For this report, the secondary indicators serve as benchmark for future epidemiological profiles. Secondary indicators incorporated in this report include those reported in the sections on mental health, suicide, and co-occurring disorders.
Alcohol, Tobacco, and Drugs: Use Disorders and Dependence

Consumption of alcohol, tobacco, and illicit drugs can result in serious morbidity, increased risk for addiction, and mortality. The manner and frequency with which individuals consume harmful substances can lead to substance-related consequences that are detrimental to society as a whole. Such consequences include excess criminal activity, health care resource overutilization, motor vehicle accidents and other detrimental consequences. In order to comprehend the levity and magnitude of individual and societal consequences, it is necessary to understand the prevalence of use disorders and dependence of potentially harmful substances.

These ideas are demonstrated by the following indicators:

- Alcohol is the most commonly used substance by Maryland citizens, with 55% of Marylanders aged 12 or older reporting at least one alcohol drink in the past 30 days, higher than the national average. In particular, binge drinking by young adults aged 18-25 is on the rise; however, both drinking and binge drinking among underage drinkers aged 12-20 has declined in recent years.
- Tobacco use by Maryland citizens remains lower than the national average.
- Illicit drugs—including marijuana, prescription pain-killers, and cocaine—are used less frequently by Maryland citizens than across the nation. Young adults aged 18-25 are the highest users of all substances. Marijuana use appears to be rising among youth aged 12-17.
**ALCOHOL**

**Indicator Description:** PAST-MONTH ALCOHOL USE. This measure examines the percentage of individuals aged 12 or older in Maryland and the United States who reported alcohol use in the past month.

**Why Indicator is Important:** Past-month alcohol use is an indicator of changes in alcohol use, and thus serves as a benchmark for potential issues.

**Summary:** Compared to the United States as a whole, Maryland citizens aged 12 or older reported consistently higher past-month alcohol use. The 3.0% spike in 2011 in Maryland suggests past-month alcohol use in Maryland is rising.

**Past-Month Alcohol Use Among 12+ Year-Olds, MD vs. U.S.**

Data Source: NSDUH 2003-2011

- In 2011, 54.9% of Maryland citizens reported using alcohol in the past-month, compared to 51.8% across the nation. This represents a 3.0% increase from 2010, which in turn represents a decrease from 2009.
**Indicator Description:** PAST-MONTH ALCOHOL USE AMONG UNDERAGE DRINKERS. This measure examines the percentage of individuals in Maryland and the United States aged 12-20 who reported alcohol use in the past month.

**Why Indicator is Important:** Past-month alcohol use by underage youth represents an important indicator of illegal drinking, as well as drinking in a vulnerable population.

**Summary:** Compared to the United States as a whole, underage drinkers in Maryland reported a slightly lower rate of current drinking.

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**Past-Month Alcohol Use Among 12-20 Year-Olds, MD vs. U.S.**

Data Source: NSDUH 2004-2011

- As with the US, past-month underage drinking in Maryland has declined since 2007. In 2011, one out of four Maryland citizens aged 12 to 20 reported drinking at least once in the past month. This figure is the same as in 2010, suggesting the rate of underage drinking has stabilized.
**Indicator Description:** PAST-MONTH BINGE DRINKING. This measure examines the percentage of individuals aged 12 or older in Maryland and the United States who report engaging in at least one episode of binge drinking in the past month.

**Why Indicator is Important:** Past-month alcohol binge drinking is a dangerous behavior associated with motor vehicle crashes, injury, other morbidities and mortality.

**Summary:** Compared to the United States as a whole, drinkers in Maryland report significantly lower rates of past-month binge drinking.

**Data Source: NSDUH 2003-2011**

- In 2011, one out of five Maryland drinkers aged 12 or older reported at least one incident of binge drinking in the prior month. Compared to the United States overall, Maryland binge drinking has remained consistently lower by 2-3 percentage points. A slight uptick in Maryland binge drinking from 2010 (0.7%) merits further monitoring.
**Indicator Description:** PAST-MONTH BINGE DRINKING AMONG ADULTS AGED 18-25. This measure examines the percentage of individuals aged 18-25 who report engaging in at least one episode of binge drinking in the past month in Maryland and the United States.

**Why Indicator is Important:** Past-month alcohol binge drinking is a dangerous behavior associated with motor vehicle crashes, injury, other morbidities and mortality. This age group is particularly vulnerable, due to their ability to drive, as well as their new freedom associated with young adulthood.

**Summary:** Compared to their peers across the United States, drinkers aged 18-25 in Maryland report lower rates of past-month binge drinking.

**Past-Month Binge Drinking Among 18-25 Year-Olds, MD vs. U.S.**

**Data Source: NSDUH 2003-2011**

- In 2011, more than one out of three Maryland drinkers aged 18-25 reported at least one incident of binge drinking in the prior month. This approximates the rate in the United States and represents a significant increase from 3.5% in 2010. The increase in binge drinking among Maryland young adults is what drives the increase in overall past-month binge drinking and suggests the need for increased surveillance of this population as well as possible educational and prevention activities.
Indicator Description: PAST-MONTH BINGE DRINKING AMONG UNDERAGE DRINKERS. This measure examines the percentage of underage drinkers in Maryland and the United States aged 12-20 who report engaging in at least one episode of binge drinking in the past month.

Why Indicator is Important: Past-month alcohol binge drinking among underage youth is both illegal and a dangerous behavior associated with motor vehicle crashes, injury, other morbidities and mortality. Underage drinkers are particularly vulnerable due to their developing mental and physical maturity as well as their relative lack of experience in driving, which places them at increased risk for injury and mortality.

Summary: Compared to their peers across the United States, underage drinkers aged 12-20 in Maryland report lower rates of past-month binge drinking.

Data Source: NSDUH 2004-2011

- In 2011, one out of six Maryland underage drinkers reported at least one incident of binge drinking in the prior month. Binge drinking among underage Maryland youth has generally been lower than that reported across the United States since 2003. Since 2008, there has been a marked reduction in binge drinking by underage Maryland youth, with this practice declining from 17.9% (2008) to 14.6% (2011).
**Indicator Description:** AVERAGE NUMBER OF ALCOHOLIC DRINKS PER DAY IN THE PAST 30 DAYS BY AGE. This measure examines the average number of alcoholic beverages consumed by individuals (on the days when they drank) in Maryland and the United States who report having consumed alcohol on at least one occasion in the past 30 days. One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor.

**Why Indicator is Important:** The average number of alcoholic drinks per day indicates the intensity of alcohol consumption.

**Summary:** Underage drinkers had the highest average number of alcoholic drinks per day, in both Maryland and the United States. The average number of drinks consumed per day decreases with age. The average number of drinks per day among Maryland drinkers is lower or the same as the United States across all age groups except those aged 65 years or older.

**2011: Average Number of Alcoholic Drinks per Day in the Past 30 Days by Age Group, MD vs. U.S.**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Maryland (MD)</th>
<th>United States (US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-20</td>
<td>6.5</td>
<td>6.1</td>
</tr>
<tr>
<td>21-25</td>
<td>5.6</td>
<td>5.5</td>
</tr>
<tr>
<td>26-44</td>
<td>4.0</td>
<td>3.4</td>
</tr>
<tr>
<td>45-64</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>65+</td>
<td>3.0</td>
<td>3.2</td>
</tr>
<tr>
<td>18+</td>
<td>3.9</td>
<td>3.7</td>
</tr>
</tbody>
</table>

**Data Source: BRFSS 2011**

- Among those who drank alcohol recently, youths aged 25 and under reported a higher intensity of consuming alcoholic drinks per day in the past 30 days compared to older adults. On average, individuals aged 18-20 consumed the largest quantities of alcoholic drinks; this warrants further monitoring and investigation into the sources of alcohol for underage drinkers.
**Indicator Description:** MOST DRINKS ON A SINGLE OCCASION IN PAST 30 DAYS BY AGE. This measure examines the largest number of alcoholic drinks consumed on a single occasion during the past 30 days, among individuals in Maryland and the United States who report having consumed alcohol on at least one occasion.

**Why Indicator is Important:** Consumption of more than 5 alcoholic drinks by men or more than 4 drinks by women on a single occasion is considered binge drinking, a dangerous behavior associated with motor vehicle crashes, injury, and other morbidity and mortality.

**Summary:** In both Maryland and the United States, the maximum number of drinks consumed on a single occasion decreases with age. On average, Maryland young adults aged 18-25 consume more drinks per occasion compared to their peers in the United States.

**Data Source: BRFSS 2011**

- Underage drinkers and 21-25 year olds are the most susceptible to binge drinking behavior compared to other age groups. On average, Maryland young adults 18 to 20 years old reported consuming 3 more alcoholic drinks on a single occasion compared to their peers in the United States. Overall, comparing Maryland and the United States, the average maximum number of drinks is essentially the same across all age groups. However, the intensity of drinking among 18-25 years in Maryland was greater than in the rest of the United States.
**TOBACCO**

**Indicator Description:** PAST-MONTH TOBACCO PRODUCT USE BY AGE GROUP. This measure examines the percentage of individuals aged 12 or older in Maryland and the United States who report past-month tobacco product use, including cigarettes, smokeless tobacco (e.g., chewing tobacco or snuff), cigars, or pipe tobacco.

**Why Indicator is Important:** Past-month tobacco product use is an indicator of changes in tobacco product use, and thus serves as a benchmark for potential issues.

**Summary:** Compared to the United States, Maryland citizens aged 12 or older report lower past-month tobacco product use overall and in all age groups.

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2011: Tobacco Product Use in the Past Month by Age Group, MD vs. U.S.

![Bar Chart](image)

**Data Source: NSDUH 2011**

- In 2011, 23.2% of Maryland citizens aged 12 or older reported using tobacco product in the past-month, compared to 27.0% across the nation. Maryland citizens aged 18-25 have the highest proportion of any tobacco product use (35.9%), followed by those aged 26 or older (23.0%).
**Indicator Description:** PAST-MONTH CIGARETTE USE BY AGE GROUP. This measure examines the percentage of individuals aged 12 or older who report past-month cigarette use in Maryland and the United States.

**Why Indicator is Important:** Past-month cigarette use is an indicator of changes in cigarette use, and thus serves as a benchmark for potential issues.

**Summary:** Compared to the United States, Maryland citizens aged 12 or older report lower past-month cigarette use overall and in all age groups.

**2011: Cigarette Use in the Past Month by Age Group, MD vs. U.S.**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>US</th>
<th>MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>12+</td>
<td>22.5</td>
<td>19.4</td>
</tr>
<tr>
<td>12-17</td>
<td>8.1</td>
<td>5.9</td>
</tr>
<tr>
<td>18-25</td>
<td>33.9</td>
<td>30.1</td>
</tr>
<tr>
<td>26+</td>
<td>22.4</td>
<td>19.3</td>
</tr>
</tbody>
</table>

**Data Source: NSDUH 2011**

- In 2011, 19.4% of Maryland citizens reported using cigarettes in the past-month, compared to 22.5% across the nation. Maryland citizens aged 18-25 have the rate of any cigarette use (30.1%), followed by those aged 26 or older (19.3%).
**Indicator Description:** FREQUENCY OF CURRENT SMOKING BY AGE GROUP. This measure examines the percentage of individuals, in Maryland and the United States, who report smoking cigarettes every day or on some days, among those who smoked at least 100 cigarettes (5 packs) in their entire life.

**Why Indicator is Important:** Frequent use of cigarettes magnifies the risk of potential harm, including smoking-related diseases and mortality.

**Summary:** In both Maryland and the United States, the proportion of individuals who smoke cigarettes daily or on some days declines with age.

![Bar chart: 2011: Current Smoker (Every Day or Some Days) by Age Group, MD vs. U.S.](chart)

**Data Source: BRFSS 2011**

- The largest difference between Maryland and the United States is among 18-25 year olds, with Maryland young adults exceeding their peers in current smoking status. Overall, across age groups a slightly higher percentage of Maryland smokers (those who smoked at least 100 cigarettes in their lifetime) currently smoke frequently compared to other smokers in the United States.
**Indicator Description:** QUIT OR TRIED TO QUIT SMOKING IN THE PAST YEAR, BY AGE. Among those in Maryland and the United States who report current cigarette smoking, the percentage of individuals who stopped smoking for one day or longer during the past 12 months in an attempt to quit smoking.

**Why Indicator is Important:** Quitting smoking reduces the risk of harm from smoking-related conditions. This measure is an indicator of changes in cigarette use.

**Summary:** Overall, in 2011 a lower proportion of current smokers in Maryland (56.5%) tried to quit smoking cigarettes compared to smokers in the United States (59.3%).

**2011: Quit or Tried to Stop Smoking in the Past 12 Months by Age Group, MD vs. U.S.**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>US (%)</th>
<th>MD (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>67.4</td>
<td>53.1</td>
</tr>
<tr>
<td>26-44</td>
<td>61.4</td>
<td>58.6</td>
</tr>
<tr>
<td>45-64</td>
<td>55.0</td>
<td>54.0</td>
</tr>
<tr>
<td>65+</td>
<td>51.4</td>
<td>63.7</td>
</tr>
<tr>
<td>18+</td>
<td>59.3</td>
<td>56.5</td>
</tr>
</tbody>
</table>

**Data Source: BRFSS 2011**

- In the United States, fewer current smokers quit smoking or attempted to stop smoking with increasing age. Among 18 to 25 year olds in the United States, 67.4% of smokers attempted to quit smoking compared to 51.4% among those 65 years or older. However a different trend was observed in Maryland, whereby the proportion of current smokers who attempted to quit smoking generally increases with age. In 2011, among 18 to 25 year olds in Maryland, 53.1% of smokers attempted to quit smoking compared to 63.7% among those 65 years or older. These data suggest the need for more smoking cessation interventions targeting 18 to 25 year olds.
**Indicator Description:** USE OF SMOKELESS TOBACCO PRODUCTS BY AGE GROUP. This measure examines the percentage of individuals in Maryland and the United States who have smoked less than 100 cigarettes in their lifetime and report current use of chewing tobacco, snuff, or snus (Swedish for snuff) every day or some days. Snus is a moist, smokeless tobacco placed between the lip and the gums that is usually sold in small pouches.

**Why Indicator is Important:** Use of smokeless tobacco products is an alternative to smoking cigarettes. Personal preference, economic factors and health reasons influence the substitution of cigarettes with smokeless tobacco.

**Summary:** The use of smokeless tobacco products is less common in Maryland compared to the United States.

**2011: Use of Smokeless Tobacco Products by Age Group, MD vs. U.S.**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>US</th>
<th>MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>5.5</td>
<td>2.2</td>
</tr>
<tr>
<td>26-44</td>
<td>4.8</td>
<td>2.9</td>
</tr>
<tr>
<td>45-64</td>
<td>2.9</td>
<td>1.9</td>
</tr>
<tr>
<td>65+</td>
<td>1.9</td>
<td>1.1</td>
</tr>
<tr>
<td>18+</td>
<td>3.7</td>
<td>2.1</td>
</tr>
</tbody>
</table>

**Data Source: BRFSS 2011**

- In Maryland, 26 to 44 year olds report the highest rate of smokeless tobacco products use. The difference in the rate of smokeless tobacco products use between Maryland and the United States diminishes with age.
**Indicator Description:** PERCENT OF CURRENTLY SMOKING YOUTH WHO TRIED TO QUIT WITHIN THE PAST 12 MONTHS. This measure examines the percentage of middle school and high school students who have tried to quit smoking cigarettes for good during the past 12 months.

**Why Indicator is Important:** Stopping smoking greatly reduces the risk for various diseases as well as premature death. Although the health benefits are greater for those who stop at earlier ages, the rates of self-initiated cessation among youth are low.

**Summary:** This indicator demonstrates that nearly half of Maryland youth attempted unsuccessfully to quit during the previous year. More middle school students report having attempted to quit in the past 12 months than high school students, and females in both middle school and high school are more likely than males to have attempted to quit. This indicator emphasizes need to target middle school and high school students for improved access to smoking cessation services and prevention programs.

### Current Youth Smokers in Maryland Who Have Tried to Quit in the Past 12 Months

<table>
<thead>
<tr>
<th></th>
<th>% Male</th>
<th>% Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle School</td>
<td>42.7</td>
<td>50.2</td>
</tr>
<tr>
<td>High School</td>
<td>42.3</td>
<td>45.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>42.4</td>
<td>46.1</td>
</tr>
</tbody>
</table>

**Data Source:** MYTS 2010

- Half of currently-smoking middle school females (50.2%) reported an unsuccessful attempt to quit smoking during the past year, compared to 42.7% of male middle school students. Similarly, 45.4% of high school females reported an unsuccessful attempt to quit smoking during the past year compared to 42.3% of high school males.
Indicator Description: PERCENT OF CURRENTLY SMOKING STUDENTS WHO LIVE WITH A CURRENT SMOKER. This measure examines the current smoking status of middle school and high school youth who live with a current smoker.

Why Indicator is Important: Parental cigarette use has a significant effect on adolescents' cigarette use during middle school, junior high school and high school. This indicator highlights opportunities to promote more positive parenting and the need to help students who live with a smoker resist influences to smoke.

Summary: Nearly a third of Maryland students live with a current smoker.

Data Source: MYTS 2010

- Among students who live with a smoker, more than twice as many students (53.2% of males and 60.4% of females) are current smokers, compared to those who have never smoked (25.7% of males and 28.0% of females).
DRUGS

ILLICIT DRUGS

Indicator Description: PAST-MONTH ILLICIT DRUG USE. This measure compares the percentage of individuals aged 12 or older in Maryland and the United States who report use of illicit drugs in the past month, including marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, and prescription-type psychotherapeutics used non-medically.

Why Indicator is Important: Past-month illicit drug use is an epidemiological benchmark that illustrates the rate of current drug use in the population. Changes in this indicator signify changes in risk for adverse outcomes.

Summary: Respondents in Maryland report a lower rate of past-month illicit drug use when compared to the national rate.

Illicit Drug Use in Past Month Age 12+ Years, MD vs. U.S.

Data Source: NSDUH 2003-2011

- In 2011, 7.4% of Maryland respondents aged 12 or older reported past-month use of illicit drugs and/or non-medical prescription medication use, 1.4% lower than the national rate. Between 2006 and 2010, rates of illicit drug use generally increased in Maryland as well as across the nation.
**Indicator Description:** PAST-MONTH ILLICIT DRUG USE BY AGE GROUP. This measure compares the percentage of individuals aged 12-17, 18-25, or 26 or older in Maryland who report past-month use of illicit drugs, including marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type psychotherapeutics used non-medically.

**Why Indicator is Important:** Age is an important risk factor for development of substance use disorders. Examining changes in past-month illicit drug use by age can help identify groups at risk for developing substance use disorders and adverse outcomes.

**Summary:** In Maryland, individuals aged 18-25 consistently report the highest rates of past-month illicit drug use.

**Illicit Drug Use in Past Month, by Age Group**

<table>
<thead>
<tr>
<th>Year</th>
<th>12-17</th>
<th>18-25</th>
<th>26+</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>10.8</td>
<td>4.9</td>
<td>4.6</td>
</tr>
<tr>
<td>04</td>
<td>9.6</td>
<td>4.5</td>
<td>4.6</td>
</tr>
<tr>
<td>05</td>
<td>9.1</td>
<td>4.8</td>
<td>5.1</td>
</tr>
<tr>
<td>06</td>
<td>8.1</td>
<td>4.4</td>
<td>4.8</td>
</tr>
<tr>
<td>07</td>
<td>8.8</td>
<td>4.8</td>
<td>5.1</td>
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<td>08</td>
<td>9.1</td>
<td>5.1</td>
<td>4.6</td>
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<td>09</td>
<td>9.1</td>
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<td>5.6</td>
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<tr>
<td>10</td>
<td>10.1</td>
<td>5.6</td>
<td>5.1</td>
</tr>
<tr>
<td>11</td>
<td>8.9</td>
<td>5.1</td>
<td>5.1</td>
</tr>
</tbody>
</table>

**Data Source: NSDUH 2003-2011**

- In 2011, 8.9%, 20.3% and 5.1% of Maryland respondents aged 12-17, 18-25, or 26+, respectively, reported past-month use of illicit drugs and/or non-medical prescription medication use. The rates for all age groups declined from 2010 to 2011, and this is the first decline since 2006 for the 12-17 age group.
- In 2011, 3.7%, 6.1% and 2.3% of Maryland respondents aged 12-17, 18-25, or 26+, respectively, reported past-month use of illicit drugs other than marijuana and/or non-medical prescription medication use. The rates for all age groups declined from 2010 to 2011 (data not shown).
**Indicator Description:** ILLICIT DRUG DEPENDENCE OR ABUSE IN PAST YEAR. This measure compares the percentage of individuals aged 12 or older in Maryland and the United States who meet 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria for illicit drug use disorder and/or substance dependence in the past year. Illicit drugs include marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, and prescription-type psychotherapeutics used non-medically.

**Why Indicator is Important:** Illicit drug use disorder and dependence are important markers of the need for treatment of substance use disorders.

**Summary:** Current illicit drug use disorder or dependence trends in Maryland mirror those seen across the nation.

**Illicit Drug Dependence or Abuse in Past Year, Age 12+ Years, MD vs. U.S.**

![Graph showing illicit drug dependence or abuse trends in Maryland vs. U.S. from 2003 to 2011.](image)

**Data Source: NSDUH 2003-2011**

- In 2011, 2.6% of Maryland respondents met diagnostic criteria for illicit drug abuse or dependence, similar to the United States. Since 2007, Maryland rates of illicit drug abuse or dependence exceeded or were the same as rates across the United States.
MARIJUANA

**Indicator Description:** PAST-YEAR MARIJUANA USE. This measure compares the percentage of individuals aged 12 or older in Maryland and the United States who report any past-year use of marijuana.

**Why Indicator is Important:** Past-year marijuana use provides prevalence estimates of use in the population. Prevalence of use over time provides evidence of a substance’s popularity, and changes in prevalence signify changes in risk for adverse outcomes, such as use disorders and dependence, as well as need for treatment resources.

**Summary:** Compared to the United States, respondents in Maryland report lower rates of marijuana use.

![Marijuana Use in Past Year Age 12+ Years, MD vs. U.S.](image)

**Data Source: NSDUH 2003-2011**

- In 2011, 10.0% of the Maryland population used marijuana at least once in the past year, compared to 11.6% of the United States population. After an increase in prevalence from 2006-2008, marijuana use among Maryland citizens has remained stable, despite an increase in marijuana use across the United States from 10.2% in 2008 to 11.6% in 2011.
**Indicator Description:** PAST-MONTH MARIJUANA USE. This measure compares the percentage of individuals aged 12 or older in Maryland and the United States who report any past-month use of marijuana.

**Why Indicator is Important:** Past-month marijuana use provides current estimates of use in the population. Prevalence of use over time provides evidence of a substance's popularity, and change in prevalence signifies changes in risk for adverse outcomes, such as use disorders and dependence, as well as need for treatment resources.

**Summary:** Compared to the United States, respondents in Maryland report consistently lower rates of marijuana use.

**Marijuana Use in Past Month Age 12+ Years, MD vs. U.S.**

![Graph showing marijuana use in past month for ages 12 and older in Maryland vs. United States from 2003 to 2011.](image)

*Data Source: NSDUH 2003-2011*

- In 2011, 5.6% of Maryland respondents aged 12 or older used marijuana at least once in the past month, compared to 6.9% of the United States. After a steady increase in prevalence from 4.8% in 2006 to 6.1% in 2010, marijuana use among Maryland citizens decreased 0.5% in 2011 while the national rates have continued to rise.
**Indicator Description:** Past-month marijuana use by age group. This measure compares the percentage of individuals in Maryland aged 12-17, 18-25, or 26 or older who report any past-month use of marijuana.

**Why Indicator is Important:** Past-month marijuana use provides current estimates of use in the population. Stratifying by age group demonstrates the vulnerability of youth, young adults, and older respondents. Prevalence of use over time provides evidence of a substance’s popularity, and changes in prevalence signify changes in risk for adverse outcomes, such as use disorders and dependence, as well as need for treatment resources.

**Summary:** In Maryland, young adults aged 18-25 report the highest past-month use of marijuana.

---

**Marijuana Use in Past Month, by Age Group**

<table>
<thead>
<tr>
<th>Year</th>
<th>12-17</th>
<th>18-25</th>
<th>26+</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>7.9</td>
<td>19.4</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>7.4</td>
<td>18.1</td>
<td></td>
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<td>05</td>
<td>6.9</td>
<td>13.9</td>
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<td>06</td>
<td>5.6</td>
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<td>07</td>
<td>5.8</td>
<td>15.9</td>
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<td>08</td>
<td>6.3</td>
<td>16.4</td>
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<td>6.9</td>
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<td>7.1</td>
<td>19.0</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>6.1</td>
<td>17.8</td>
<td></td>
</tr>
</tbody>
</table>

**Data Source: NSDUH 2003-2011**

- In 2011, 17.8% of Maryland respondents aged 18-25 used marijuana at least once in the past month. This represents a 1.2% decline from the previous year. Past-month use among adults aged 26 or older has remained relatively stable since 2003, with the exception of 2010, when past-month use peaked at 3.8%. Among youth aged 12-17, past-month marijuana use declined from 7.1% in 2010 to 6.1% in 2011.
**Indicator Description:** AGE AT FIRST USE OF MARIJUANA. This measure compares the percentage of individuals aged 12-17 and 18-25 in Maryland and the United States who report their current age as the first time they used marijuana.

**Why Indicator is Important:** Age at first use of marijuana provides a profile of new users of marijuana in the population. Like prevalence, the incidence of use over time provides evidence of a substance’s popularity, and change in incidence signifies changes in risk for adverse outcomes, such as use disorders and dependence, as well as need for treatment resources.

**Summary:** Overall, youth aged 12-17 are less likely to initiate marijuana use than young adults aged 18-25. Since 2009, youth in Maryland report a lower rate of first use of marijuana compared to their peers across the United States. However, during the same period, the rate of marijuana first use among youth aged 12-17 in both Maryland and the United States increased by 0.2% yearly, from 5.4% in 2009 for Maryland and 5.7% in 2009 for the United States. On the other hand, young adults in Maryland reported a higher prevalence of first marijuana use than in the United States until 2011.

**First Use of Marijuana by Age Group, MD vs. U.S.**

<table>
<thead>
<tr>
<th>Year</th>
<th>US, Age 18-25</th>
<th>US, Age 12-17</th>
<th>MD, Age 18-25</th>
<th>MD, Age 12-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>7.2</td>
<td>6.6</td>
<td>6.8</td>
<td>6.6</td>
</tr>
<tr>
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<td>8.0</td>
<td>7.3</td>
<td>7.3</td>
<td>7.3</td>
</tr>
</tbody>
</table>

**Data Source:** NSDUH 2003-2011

- In 2011, 5.8% and 6.6% of Maryland respondents aged 12-17 and 18-25, respectively, first used marijuana. The former represents the second consecutive 0.2% annual increase, and the latter reveals a significant 1.4% drop from the previous year to a rate below the national average.
PRESCRIPTION PAIN MEDICATIONS

Indicator Description: NON-MEDICAL USE OF PAIN MEDICATIONS. This measure compares the percentage of individuals aged 12 or older who report any past-year non-medical use of prescription opioid pain medications in Maryland and the United States.

Why Indicator is Important: Past-year non-medical pain medication use provides annual estimates of use in the population. Changes in prevalence over time provide evidence of substances popularities, and may signify changes in risk for adverse outcomes, such as use disorders and dependence, as well as need for treatment resources.

Summary: Maryland citizens consistently report lower rates of non-medical use of pain medications compared to the nation as a whole.

Data Source: NSDUH 2004-2011

- In 2011, 3.9% of Maryland and 4.6% of United States respondents aged 12 or older used a prescription pain medication non-medically in the past year. In both Maryland and the United States, the rates of non-medical use in 2011 declined 0.3% from 2010.
**Indicator Description:** NON-MEDICAL USE OF PRESCRIPTION PAIN MEDICATIONS BY AGE GROUP. This measure compares the percentage of individuals aged 12-17, 18-25, and 26 or older who report any past-year non-medical use of pain medications in Maryland and the United States.

**Why Indicator is Important:** Past-year pain medications use provides annual estimates of use in the population. Age is an important risk factor for development of substance use disorders such as use disorders and dependence, and helps target prevention and treatment resources efficiently.

**Summary:** In all three age groups, Maryland citizens consistently report lower annual nonmedical use of pain medications compared to their peers across the nation.

**2011: Non-medical Use of Pain Medications in Past Year by Age Group, MD vs. U.S.**

<table>
<thead>
<tr>
<th>Year</th>
<th>% Reporting Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-17</td>
<td>6.1 US, 4.6 MD</td>
</tr>
<tr>
<td>18-25</td>
<td>10.4 US, 9.1 MD</td>
</tr>
<tr>
<td>26+</td>
<td>3.4 US, 2.9 MD</td>
</tr>
</tbody>
</table>

**Data Source: NSDUH 2011**

- In 2011, the 18-25 age group reported the highest rate of non-medical prescription pain medication use in the past year: 9.1% in Maryland and 10.4% in United States. Youth aged 12-17 reported lower rates: 4.6% in Maryland and 6.1% nationally. Use among older adults was relatively low in both Maryland and the United States.
COCAINE

Indicator Description: PAST-YEAR COCAINE USE. This measure compares the percentage of individuals aged 12 or older who report any past-year cocaine use in Maryland and the United States.

Why Indicator is Important: Past-year cocaine use provides annual estimates of use in the population.

Summary: Maryland citizens consistently report lower past-year cocaine use than across the nation as a whole.

Cocaine Use in Past Year Age 12+ Years, MD vs. U.S.

Data Source: NSDUH 2003-2011

- In 2011, 1.5% of Maryland and 1.6% of United States respondents reported cocaine use in the past year. Both estimates present a declining trend since 2007.
**Indicator Description:** PAST-YEAR COCAINE USE BY AGE GROUP. This measure compares the percentage of individuals aged 12-17, 18-25, or 26 or older in Maryland and the United States who report any past-year cocaine use.

**Why Indicator is Important:** Past-year cocaine use provides annual estimates of use in the population. Age is an important risk factor for development of substance use disorders such as use disorders and dependence, and helps target prevention and treatment resources efficiently.

**Summary:** For all three age groups, the latest data show that Maryland citizens report past-year cocaine use lower than or similar to the nation as a whole.

### 2011: Cocaine Use in Past Year by Age Group, MD vs. U.S.

![Graph showing cocaine use by age group in 2011 for Maryland (MD) and the United States (US).](image)

**Data Source: NSDUH 2011**

- In 2011, the 18-25 age group reported the highest rate of past-year cocaine use: 3.8% in Maryland and 4.6% in the United States. Youth aged 12-17 reported lowest rates: 0.7% in Maryland and 1.0% in the United States. Adults in Maryland aged 26+ showed a slightly higher past-year use than the US.

(Contents revised 10/20/2015)
Alcohol, Tobacco, and Drugs: Consequences

Both individuals and society as a whole suffer the consequences of substance use disorders, such as increased pressures on the criminal justice system, health care systems, and social services. The social, economic, and health consequences associated with the use of alcohol, tobacco, and illicit drugs include increased crime, morbidity, poisonings/overdoses, motor vehicle crashes, and hospitalizations.

A review of the indicators of substance use consequences reveals the following:

- Alcohol-related arrests (liquor law violations and driving under the influence) have declined or remained stable over the past 5 years, as have arrests for drug sales and manufacture; however, drug possession arrests have increased by 0.5% in the past year.
- Over the past 4 years, drug-related hospital admissions, including opioid-related admissions, have remained stable. Hospital admissions associated with alcohol use, however, have increased steadily over the same time period.
- Substances most frequently implicated in intentional abuse poisonings include alcohol, marijuana and marijuana homologs (synthetic marijuana), benzodiazepines, dextromethorphan combinations, heroin, oxycodone (alone and in combination with other substances), methadone, and other opioid products.
- Although the total number of motor vehicle crashes involving alcohol and/or drugs continues to decline in Maryland, the proportion of these crashes resulting in at least one fatality has steadily increased, with fatal crashes accounting for more than one-third of all alcohol and/or drug involved crashes. This trend is particularly notable among underage drinkers.
- Mortality rates in Maryland for chronic diseases associated with substance and alcohol use remain lower than the national average and continue to show reductions over time.
CRIMINAL ACTIVITY

**Indicator Description:** DRUG USE VIOLATION ARRESTS. This measure shows the percentage of total arrests in Maryland that involve a drug use violation, including the possession and sales/manufacture of drugs.

Why Indicator is Important: This indicator estimates the annual rate of drug use violation arrests in the population and illustrates the profile of drug-related crime in Maryland. Implications include drug diversions and substance use disorders at the state level.

Summary: Drug use violation arrests in Maryland, particularly drug possession arrests, declined between 2008 and 2010. However, a slight uptick for drug use violation arrests due to possession of drugs from 12.7% in 2010 to 13.1% in 2011 of the total arrests suggests a rebound.

**Drug Use Violation Arrests in Maryland**

- In 2011, 13.1% and 3.1% of total arrests in Maryland involved possession and sales/manufacture of drugs, respectively. A rebound in 2011 of drug use violation arrests involving possession of drugs from the previously declining trend requires further attention of related law enforcement authorities.

**Data Source: UCR 2007-2011**
**Indicator Description:** ALCOHOL VIOLATION ARRESTS. This measure shows the percentage of total arrests that involve alcohol violation, including driving under influence and liquor laws, in Maryland.

**Why Indicator is Important:** This indicator estimates the annual rate of alcohol violation arrests in the population and illustrates the profile of alcohol-related crime in Maryland.

**Summary:** Alcohol violation arrests due to driving under influence declined in recent years from 9.2% of total arrests in Maryland in 2007 to 7.1% in 2011. However, arrests due to liquor law violations remained stable over the past several years, comprising 2.5% of the total arrests in Maryland in 2011.

**Alcohol Violation Arrests in Maryland**

- **Driving under Influence**
  - 2007: 9.2%
  - 2008: 8.9%
  - 2009: 8.2%
  - 2010: 7.2%
  - 2011: 7.1%

- **Liquor Laws**
  - 2007: 2.6%
  - 2008: 2.5%
  - 2009: 2.7%
  - 2010: 2.4%
  - 2011: 2.5%

**Data Source:** UCR 2007-2011

- In 2011, arrests due to driving under influence were the lowest in Maryland since 2007, comprising 7.1% of total arrests. Arrests due to violations of liquor laws made up 2.5% of Maryland's total arrests, a rate similar to previous years.
HOSPITALIZATIONS

Indicator Description: DRUG-RELATED HOSPITALIZATIONS. This measure shows the percentage of inpatient admissions in Maryland that involved the use of drugs such as opioid, cocaine, cannabis, heroin, methadone, sedative-hypnotics, anxiolytics, psychotropics, amphetamines and psychostimulants, hallucinogens, and other drugs causing poisoning and death. Drug-related admissions are defined using ICD-9 codes: 2920, 304.x, 305.x, 965.x, 967.x, 968.x, 969.x, 970.x, E850-E858, E950.0-E950.5, E9394, E9620, and E980.0-E980.5. Also examined were hospitalizations related to the use of opioids.

Why Indicator is Important: This indicator estimates the annual rate of drug-related inpatient admissions in the population. Hospitalizations are an important outcome for understanding the impact of substance use and may help target prevention and treatment resources more efficiently.

Summary: The annual rate of hospitalizations in Maryland related to drug substance rose steadily from 2008 to 2011. There was a similar but smaller increase in the rate of hospitalizations in Maryland related to opioid drugs.

Drug-Related Hospitalizations in Maryland

<table>
<thead>
<tr>
<th>Year</th>
<th>Any drug</th>
<th>Opioid</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>7.2</td>
<td>3.3</td>
</tr>
<tr>
<td>2009</td>
<td>7.3</td>
<td>3.4</td>
</tr>
<tr>
<td>2010</td>
<td>7.6</td>
<td>3.4</td>
</tr>
<tr>
<td>2011</td>
<td>7.7</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Data Source: HSCRC 2008-2011

- In 2011, 7.7% of inpatient admissions to Maryland hospitals were due to drug/substance use, and 3.5% were due to opioid drug use. Overall, the percentage of drug/substance-related hospitalizations increased by 0.4% from 2008 to 2011, whereas the change in opioid-related hospitalizations increased by only 0.2%. 

- 43 -
**Indicator Description:** ALCOHOL-RELATED HOSPITALIZATIONS. This measure shows the percentage of inpatient hospitalizations that involve alcohol use disorders in Maryland. Alcohol-related admissions are defined using ICD-9 codes: 291.x, 303, 305.0x, 535.3, 655.4, 760.71, 790.3, 980.x, and E860 (acute, short-term alcohol-related conditions), as well as 357.5, 425.5, and 571.0-571.3 (chronic, long-term alcohol-related conditions).

**Why Indicator is Important:** This indicator estimates the annual rate of alcohol-related inpatient admissions in the population. Hospitalizations are an important outcome for understanding the impact of alcohol use disorders and may help target prevention and treatment resources more efficiently.

**Summary:** The annual rate of hospitalizations in Maryland related to alcohol use disorder increased between 2008 and 2011, overall as well as for both subgroups of long-term and short-term consequences of alcohol.

**Data Source: HSCRC 2008-2011**

- In 2011, 5.4% of all inpatient admissions in Maryland hospitals were related to alcohol use disorders. 4.8% of alcohol-related admissions were due to acute, short-term alcohol symptoms, whereas 1.2% admissions were due to chronic, long-term alcohol conditions. The overall alcohol-related hospitalization rate increased slightly between 2008 and 2011, as did hospitalizations for both acute short-term and chronic long-term alcohol symptoms.
POISONINGS

Indicator Description: INTENTIONAL POISONINGS. This measure summarizes the reasons for intentional poisonings in Maryland, excluding those where the intention was unknown or not specified.

Why Indicator is Important: Intentional poisonings include those related to substance use and misuse and may help quantify the substance use and misuse-related poisoning in Maryland as well as provide direction for public health prevention work.

Summary: The total number of poisonings in Maryland due to suicide attempts and misuse remain somewhat consistent over the past four years, although poisonings due to use disorders have increased. Intentional poisoning cases increased from 6,175 cases (17% of total cases reported to the Maryland Poison Center, data not shown) in 2009 to 6,645 cases (20% of total cases).

Substance Use Disorder-Related Reasons for Poisonings in Maryland

<table>
<thead>
<tr>
<th>Year</th>
<th>Abuse</th>
<th>Misuse</th>
<th>Suicide</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>808</td>
<td>1,013</td>
<td>4,354</td>
<td>6,175</td>
</tr>
<tr>
<td>2010</td>
<td>902</td>
<td>1,056</td>
<td>4,299</td>
<td>6,257</td>
</tr>
<tr>
<td>2011</td>
<td>1,152</td>
<td>984</td>
<td>4,428</td>
<td>6,564</td>
</tr>
<tr>
<td>2012</td>
<td>1,282</td>
<td>1,017</td>
<td>4,346</td>
<td>6,645</td>
</tr>
</tbody>
</table>

Data Source: MPC 2009-2012

- In 2012, poisonings related to use disorders in Maryland were 59% more frequent than in 2008. Intentional poisonings accounted for a higher proportion of calls to the poison center in 2012 than in previous years.
**Indicator Description:** SUBSTANCES IMPLICATED IN INTENTIONAL SUBSTANCE USE POISONINGS. This measure shows substances implicated in intentional substance use poisonings in Maryland.

Why Indicator is Important: This indicator reveals the substances most frequently implicated in intentional substance use as well as appropriate targets for public health interventions.

Summary: Among the identifiable substances implicated in intentional substance use in Maryland, prescription medications account for almost one-third of the total cases. Opioids (including oxycodone alone or in combination with acetaminophen (APAP), methadone, buprenorphine, and other opioids) are the leading medications subject to intentional substance use, followed by benzodiazepine and products containing antihistamines, decongestants and/or dextromethorphan.

**Data Source:** MPC 2012

- In 2012, identifiable substances most frequently implicated in intentional substance use in Maryland were ethanol, opioids, THC (tetrahydrocannabinol) homologs, benzodiazepine, antihistamine/decongestant/dextromethorphan combination products, and heroin.
**Indicator Description:** DRUG POISONING-RELATED HOSPITALIZATIONS. This measure shows the percentage of total inpatient admissions resulting from drug poisonings in Maryland. Drug poisoning-related admissions are defined using ICD-9 codes: 965.x, 967.x, 968.x, 969.x, 970.x, E850-E858, E939.4, E950.0-E950.5, E9620, and E980.0-E980.5.

**Why Indicator is Important:** This indicator estimates the annual rate of drug poisoning-related inpatient admissions in the population. Hospitalizations are an important outcome for understanding the impact of drug overdose and may help target prevention and treatment resources more efficiently.

**Summary:** The annual rate of hospitalizations in Maryland related to drug poisonings was essentially constant between 2008 and 2011.

**Drug Poisoning-Related Hospitalizations in Maryland**

![Bar chart showing the percentage of inpatient admissions related to drug poisonings from 2008 to 2011: 0.9% in 2008 and 2009, 0.9% in 2010, and 1.0% in 2011.]

**Data Source: HSCRC 2008-2011**

- In 2011, 1% of inpatient admissions reported from Maryland hospitals were due to drug poisonings. The rate had been steady at 0.9% since 2008 except for an increase of 0.1 percentage point in 2011.
MOTOR VEHICLE CRASHES

Indicator Description: FATAL AND NON-FATAL INJURY CRASHES AS A PERCENT OF ALL CRASHES INVOLVING ALCOHOL AND/OR DRUGS: This measure shows the percentage of fatal and nonfatal injury crashes in Maryland from 2007-2011 as a proportion of all crashes that involved alcohol and/or drugs.

Why Indicator is Important: Impaired driving results in needless morbidity, mortality, and costs. An examination of trends in crashes estimates the prevalence of impaired driving as well as the extent to which prevention and education efforts may or may not be effective.

Summary: Although the proportion of crashes involving alcohol and/or drugs out of all crashes in Maryland has declined from 4.8% (2007) to 4.6% (2011) (data not shown), the proportion of crashes that resulted in at least one fatality has slightly increased while the proportion of non-fatal crashes that resulted in at least one injury has declined.

Fatal and Nonfatal-Injury Crashes as a Percent of Total Crashes that Involved Alcohol/or Drugs

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Crashes</th>
<th>Injury Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>2.4</td>
<td>37.6</td>
</tr>
<tr>
<td>2008</td>
<td>2.2</td>
<td>36.3</td>
</tr>
<tr>
<td>2009</td>
<td>2.4</td>
<td>35.0</td>
</tr>
<tr>
<td>2010</td>
<td>2.6</td>
<td>35.3</td>
</tr>
<tr>
<td>2011</td>
<td>2.6</td>
<td>35.2</td>
</tr>
</tbody>
</table>

Data Source: MAARS 2007-2011

- In 2011, 2.6% of all crashes involving alcohol and/or drugs resulted in at least one fatality and an additional 35.2% resulted in at least one non-fatal injury.
**Indicator Description:** FATAL AND INJURY CRASHES AS A PERCENT OF ALL CRASHES INVOLVING ALCOHOL AND/OR DRUGS AMONG DRIVERS UNDER 21 YEARS OLD. This measure shows the percentage of fatal and nonfatal injury crashes in Maryland from 2007-2011 as a proportion of all crashes involving alcohol and/or drugs and at least one driver younger than 21 years old.

**Why Indicator is Important:** Younger drivers have less experience and may have different driving patterns than their older counterparts. Examining the trends of crashes in which at least one of the drivers was illegally under the influence of drugs and/or alcohol may demonstrate the extent to which impaired driving among underage drinkers occurs and may help identify prevention and education opportunities for this at-risk population.

**Summary:** Among all crashes involving at least one driver under the age of 21, the proportion of crashes involving alcohol and/or drugs has declined from 4.1% in 2007 to 3.5% in 2011 (data not shown).

![Injury and Fatal Crashes as a Percent of Total Crashes that Involved Alcohol and/or Drugs Among Drivers <21](image)

**Data Source:** MAARS 2007-2011

Among crashes involving alcohol and/or drugs and at least one driver younger than 21, the proportion of crashes that resulted in at least one fatality increased 1.4 percentage points, while non-fatal crashes resulting in at least one injury increased from 37.9% (2007) to 41.9% (2011).
**FATALITIES**

**Indicator Description:** DRUG-RELATED HOSPITALIZATIONS RESULTING IN DEATH. This measure shows the percentage of drug-related hospitalizations in Maryland that resulted in death, defined as a claim with an ICD-9 code of E850-858, E950.x, E962.0 or E980.x OR a claim indicating death with an ICD-9 code of 292.0, 304.x, 305.x, 965.x, 967-969, 970.x, or E939.4. Hospitalizations related to opioid use that resulted in death are reported as well.

**Why Indicator is Important:** Drug-related hospitalization resulting in death provides annual estimates of drug-related mortality in the population. Mortality is important for understanding the impact of drug overdose, and may help target prevention and treatment resources.

**Summary:** Maryland citizens hospitalized for drug/substance use disorders had relatively unchanged annual mortality rates between 2008 and 2011, with a small decrease from 2009 to 2010. Similarly, the rate of opioid-related hospital deaths over the 4-year period remained relatively stable.

**Mortality Among Drug-Related Hospitalizations in Maryland**

![Bar chart showing mortality rates from 2008 to 2011 for any drug and opioid-related hospitalizations.]

**Data Source:** HSCRC 2008-2011

- In 2011, 8.9% of drug-related admissions in Maryland hospitals resulted in death, 28% of which were due to opioid use (2.3% of drug-related admissions). Overall, the mortality rate dropped by 0.4 percentage point, from 9.3% in 2008 to 8.9% in 2011 but the change in opioid-related hospital deaths remained constant at around 2.3%.
**Indicator Description:** ALCOHOL-INDUCED DEATHS. This measure examines deaths with an underlying cause of death from chronic diseases associated with alcohol use. The conditions captured include alcohol-induced chronic pancreatitis, alcoholic liver cirrhosis, alcoholic cardiomyopathy, alcoholic polyneuropathy, alcoholic gastritis, alcoholic fatty liver, alcoholic hepatitis, alcoholic hepatic failure, alcoholic liver disease, alcoholic fibrosis and sclerosis of the liver. Age-adjusted rates for alcohol-induced mortality in Maryland and the United States are presented.

**Why Indicator is Important:** Excessive intake of alcohol over a long period of time is associated with several diseases that are often cited as underlying causes of death.

**Summary:** In Maryland, from 2008 to 2010 mortality due to chronic diseases related to alcohol use occurred at nearly half the rate of the deaths in the United States. Marginal increases in mortality rates were observed in both Maryland and the United States.

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**Age-Adjusted Estimates of Alcohol-Induced Chronic Disease Mortality Rates, MD vs. U.S.**

![Bar chart showing the comparison of age-adjusted mortality rates between Maryland (MD) and the United States (US) from 2008 to 2010.](chart.png)

**Data Source:** NVSS, CDC WONDER 2008-2010

- While the rate of mortality in Maryland due to alcohol-induced chronic disease rose from 2.4 to 2.8 deaths per 100,000 people from 2008 to 2009, there was a decline to 2.6 deaths per 100,000 between 2009 and 2010.
**Indicator Description:** AGE-ADJUSTED SMOKING ATTRIBUTABLE MORTALITY. This measure examines deaths with an underlying cause of death from chronic diseases associated with tobacco use. The conditions captured include malignant neoplasms (e.g., lung, pharynx, and trachea), respiratory diseases (e.g., bronchitis, emphysema, chronic airway obstruction) and cardiovascular diseases (e.g., ischemic heart disease, atherosclerosis, arterial disease). Age-adjusted rates for smoking attributable mortality in Maryland and the United States are presented.

**Why Indicator is Important:** Excessive smoking over a long period of time is associated with several diseases that are often cited as underlying causes of death.

**Summary:** From 2008 to 2010, both Maryland and the United States experienced declines in smoking attributable mortality. In Maryland, smoking related deaths occurred at slightly lower rates than the United States.

![Age-Adjusted Estimates of Smoking-Attributable Mortality Rates, MD vs. U.S.](image)

**Data Source:** NVSS, CDC WONDER 2008-2010

- Between 2008 and 2010, the reduction in smoking attributable mortality was 23.3 per 100,000 people in the United States and 22.4 per 100,000 people in Maryland.
**Indicator Description:** TEST RESULTS FOR ALCOHOL AND DRUGS IN HOMICIDE AND SUICIDE VICTIMS. This measure examines the proportion of homicide and suicide victims who tested positive for alcohol and/or drugs, among those given the test.

**Why Indicator is Important:** Positive test results for alcohol and/or drugs in homicide and suicide victims indicate that these substances were potentially related to the violent death.

**Summary:** From 2008 to 2010, there were overall reductions in the percentage of both homicide and suicide victims who tested positive for cocaine or opioids, among those tested. The proportion of homicide victims testing positive for alcohol increased over the same period.

**Data Source: MVDRS 2008-2010**

- An increasing percentage of homicide victims (2.3%) testing positive for alcohol was observed between 2009 and 2010. Conversely, consistent declines (4.5%) occurred in the percentage of suicide victims who tested positive for alcohol.
- Among all substances tested, alcohol remains the most common substance in victims of a violent death.
**Indicator Description:** ASSOCIATED SUBSTANCE USE DISORDERS SURROUNDING SUICIDES. This measure examines known substance use circumstances associated with suicides in Maryland.

Why Indicator is Important: The use of drugs and alcohol causes impaired judgment, potentially increases acts on violence against oneself or others, and may lead to suicides or homicides. Individuals with known substance use disorders need appropriate treatment to protect against potential issues.

Summary: From 2008 to 2010, there was a 4.7% decline in cases of suicide where the victims had a known alcohol problem. On the contrary, there was a 1% rise in the proportion of suicides where a victim had a known substance (other than alcohol) use disorder.

**Known Substance Use Disorders Surrounding Suicides Among Maryland Residents**

<table>
<thead>
<tr>
<th>Year</th>
<th>Alcohol problem</th>
<th>Other substance abuse problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>21.4</td>
<td>18.1</td>
</tr>
<tr>
<td>2009</td>
<td>21.8</td>
<td>19.1</td>
</tr>
<tr>
<td>2010</td>
<td>19.1</td>
<td>16.7</td>
</tr>
</tbody>
</table>

**Data Source: MVDRS 2008-2010**

- In 2010, nearly one out of five decedents of a suicide had a known substance use disorder that was not alcohol. The increase from 2008 suggests that more effort is required to provide sufficient treatment and other interventions targeting non-alcohol substance use disorders.
- Individuals with a known substance use disorder belong to a vulnerable population that is particularly susceptible to acts of violence and therefore requires careful attention.
Factors Contributing to Substance Use and Consequences

Substance use prevention research has begun to identify factors which may influence substance use and the consequences associated with use, such as social access to substances and perceptions of the risk of use. In Maryland, substance use prevention efforts assume that making changes in these and other factors at the community level results in changing individual behaviors regarding substance use and consequences. In turn, changes in individual behaviors translate into population-level changes.

In Maryland, review of factors associated with substance use and consequences of use reveal:

- Maryland perceptions of harm associated with smoking remain above the national average, with females more likely than their male peers to feel that smoking is a risky behavior. This healthy appreciation for smoking risks in Maryland is indicated by a steady trend of reduced cigarette consumption.
- Perceptions of risk from smoking marijuana have declined in Maryland, especially among young adults aged 18-25. Indeed, over one-third of this age group report marijuana use—a rate that is higher than the perceived risk of harm. Marijuana use in this age group has increased markedly over the past 4 years.
- Benzodiazepines, oxycodone, and antihistamines remain the most commonly reported substances in drug identification requests logged by the Maryland Poison Center.
- Per capita alcohol sales in Maryland remain lower than the national average. Spirits sales have increased in the past year, and are purchased more frequently than either beer or wine.
- Minor Maryland youth most frequently obtain cigarettes by others who purchase on their behalf, by obtaining them from acquaintances, or by buying cigarettes themselves.
PERCEPTIONS OF RISK

TOBACCO

**Indicator Description:** PERCENT OF STUDENTS WHO THINK PEOPLE RISK HARM IF THEY SMOKE 1-5 CIGARETTES PER DAY. This measure examines the current smoking status of middle school and high school youth and their perception of risking harm from smoking 1-5 cigarettes per day.

**Why Indicator is Important:** There is no risk-free level of exposure to tobacco smoke; even small amounts of smoking or exposure to secondhand smoke can have immediate health consequences at the cellular and organ level. Adolescents who perceive the risk of harm may be less likely to initiate tobacco use and/or more likely to attempt cessation if currently using tobacco products.

**Summary:** A majority of Maryland middle school and high school students believe that people definitely or probably risk harm if they smoke even 1-5 cigarettes per day.

**Data Source:** MYTS 2010

- More than 90% of non-smoking Maryland middle school and high school students believe that young people risk harm from smoking; compared to 72.2% of male students and 80.3% of female students who currently smoke.
**Indicator Description:** PERCEPTIONS OF GREAT RISK FROM SMOKING ONE OR MORE PACK OF CIGARETTES PER DAY. This measure examines the percentage of individuals aged 12 or older in Maryland who perceive that smoking one or more packs of cigarettes per day is a great risk.

**Why Indicator is Important:** Perceptions of great risk from smoking one or more pack of cigarettes per day is an indicator of the overall perceived risk from smoking and thus serves as a benchmark for a wide variety of potential health-related issues.

**Summary:** Perceptions of great risk from smoking one or more pack of cigarettes per day was generally high over the years—around 75% of Maryland citizens reported perceiving great risk from smoking one or more pack of cigarettes per day. The parallel trends in overall tobacco consumption and cigarette consumption correspond to this fact and remain constantly lower than estimates at the national level, as indicated previously.

**Data Source: NSDUH 2003-2011**

- In 2011, approximately three-quarters of Maryland citizens reported perceiving great risk from smoking one or more pack of cigarettes per day. Current use of tobacco products in Maryland, including cigarettes, is below the national average at 23.2%.
**Indicator Description:** PERCEPTIONS OF GREAT RISK FROM SMOKING ONE OR MORE PACK OF CIGARETTES PER DAY BY AGE GROUP. This measure examines the percentage of individuals aged 12-17, 18-25, or 26 or older in Maryland who perceive that smoking one or more pack of cigarettes per day carries a great risk.

**Why Indicator is Important:** Perceptions of great risk from smoking one or more pack of cigarettes per day is an indicator of the overall perceived risk of smoking and thus serves as a benchmark for a wide variety of potential health-related issues. A breakdown into several age groups may help identify target populations for prevention and intervention work.

**Summary:** Perceptions of great risk from smoking one or more pack of cigarettes per day increase with age—adults aged 26+ reported the highest perception of great risk, followed by younger adults aged 18-25 and then youth aged 12-17. As one might expect, younger adults have the highest current use of tobacco products, including cigarettes. This finding suggests that determinants of tobacco product use other than the perceived risk from use should be considered in both younger adults and youth.

**Data Source: NSDUH 2011**

- In 2011, 76.5% of Maryland citizens aged 26+ perceived that smoking one or more pack of cigarettes per day carries great risk. The higher risk perceptions were associated with lower current use of tobacco product, but this observation was limited to citizens aged 18 or older.
MARIJUANA

Indicator Description: PERCEPTIONS OF GREAT RISK FROM SMOKING MARIJUANA ONCE A MONTH. This measure examines the percentage of individuals aged 12 or older in Maryland who perceive that smoking marijuana once a month carries a great risk.

Why Indicator is Important: Perceptions of great risk from smoking marijuana once a month is an indicator of the overall perceived risk of marijuana use and thus serves as a benchmark for potential issues.

Summary: Perceptions of great risk from smoking marijuana once a month has been moderate over the years but has declined since 2007. However, on average, among adults aged 12 or older, current and past-year marijuana use has remained stable over the years, indicating there may be specific age group causing the decrease in the perception of great risk.

Use vs. Perception of Great Risk from Smoking Marijuana Once a Month among Maryland Residents Aged 12+ Years

Data Source: NSDUH 2003-2011

- In 2011, only 32.5% of Maryland citizens reported a perception that smoking marijuana once a month carries great risk, the lowest rate since 2003.
**Indicator Description:** PERCEPTIONS OF GREAT RISK FROM SMOKING MARIJUANA ONCE A MONTH AMONG 18-25 YEAR OLDS. This measure examines the percentage of individuals aged 18-25 in Maryland who perceive that smoking marijuana once a month carries a great risk.

**Why Indicator is Important:** Perceptions of great risk from smoking marijuana once a month is an indicator of the overall perceived risk of smoking marijuana and thus serves as a benchmark for potential issues. A breakdown into several age groups may help identify target populations for prevention and intervention work.

**Summary:** Similar to the trend for Maryland citizens aged 12 or older, the percentage of those aged 18-25 who reported the perception of great risk from smoking marijuana once a month decreased over the years. However, current and past-year marijuana use in this age group has trended upwards since 2006.

---

**Data Source: NSDUH 2003-2011**

- In 2011, only 16.9% of Maryland citizens aged 18-25 perceived that smoking marijuana once a month carries a great risk, the nadir in a downward trend starting in 2004. Generally, rates of both current and past-year marijuana use are trending upwards, as evidenced by past-year marijuana use reaching a peak of 31.4% in 2011.
SUBSTANCE ACCESS AND AVAILABILITY

**Indicator Description:** DRUGS MENTIONED IN DRUG IDENTIFICATION CALLS. This measure shows the number of calls to the Maryland Poison Center to identify a drug.

**Why Indicator is Important:** Drugs mentioned in drug identification calls indicate medications that may be commonly used in a non-medical fashion and possibly provide target medications for public health interventions.

**Summary:** Opioids (including oxycodone alone or with acetaminophen (APAP), tramadol and hydrocodone/acetaminophen) are the most frequently mentioned medication class in drug identification calls—accounting for 5,760 drug identification calls—followed by benzodiazepines. Among the top ten medications most frequently mentioned in drug identification calls, 4 are opioid analgesics and three are psychopharmacological medications (benzodiazepines, selective serotonin reuptake inhibitors (SSRIs) and clonidine).

**Top 10 Drugs Mentioned in Drug Identification Calls in Maryland**

Data Source: MPC 2012

- In 2012, the top five drugs mentioned in drug identification calls to the Maryland Poison Center were opioids, benzodiazepines, antihistamines, clonidine and antibiotics.
**Indicator Description:** ANNUAL SALES OF ALCOHOLIC BEVERAGES. This measure examines the quantities of ethanol (beer, spirits or wine) sold among adults aged 21 years or older in Maryland and the United States.

**Why Indicator is Important:** The annual number of gallons of ethanol (pure alcohol) sold is a proxy for per capita consumption of each type of alcoholic beverage by state.

**Summary:** Between 2007 and 2010, Maryland experienced lower rates of beer and wine sales per capita compared to the United States. However, sales of spirits were consistently higher for Maryland than the United States.

**Annual Sales Rate of Alcoholic Beverages in the Population ≥21 Years Old (per 10,000), MD vs. U.S.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Beer</th>
<th>Spirits</th>
<th>Wine</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1.15</td>
<td>0.96</td>
<td>0.41</td>
</tr>
<tr>
<td>2008</td>
<td>1.38</td>
<td>0.96</td>
<td>0.43</td>
</tr>
<tr>
<td>2009</td>
<td>1.37</td>
<td>0.98</td>
<td>0.43</td>
</tr>
<tr>
<td>2010</td>
<td>1.29</td>
<td>1.01</td>
<td>0.44</td>
</tr>
</tbody>
</table>

**Data Source: AEDS 2007-2010**

- Maryland sales of beer declined between 2007 and 2010, from 1.15 to 1.07 gallons per 100,000 individuals at least 21 years old. A small increase in wine sales was observed, from 0.41 to 0.43 gallons per 100,000. Sales for spirits grew from 0.96 to 1.01 gallons per 100,000 individuals.
Indicator Description: HOW MIDDLE SCHOOL AND HIGH SCHOOL STUDENTS OBTAINED CIGARETTES IN THE PAST 30 DAYS. This measure examines how Maryland middle school and high school students usually obtain their cigarettes.

Why Indicator is Important: Youth smoking is reduced by several methods: raising cigarette prices, strict enforcement of tobacco sale laws, keeping cigarettes behind a sales counter, and bans on cigarette vending machines except in adult-only locations. Young adult smokers who buy their own cigarettes can be major tobacco suppliers for youth. (http://www.tobaccofreekids.org/research/factsheets/pdf/0073.pdf).

Summary: The most common method of obtaining cigarettes for Maryland youth is usually to have someone else buy their cigarettes for them, followed by asking someone to give them cigarettes or purchasing the cigarettes themselves.

Data Source: MYTS 2010

- Among Maryland middle school and high school current smokers, 41.8% of females and 33.3% of males report that someone else bought their cigarettes in the past 30 days. Another common method, asking someone to give them cigarettes was reported by 37% of females and 30%. Similarly, 31.9% of males and 21.8% of females bought the cigarettes themselves.
Mental Health, Suicide, and Co-Occurring Disorders

The association between mental health and substance use has been well documented. A mandate of SAMHSA, as well as the Maryland Department of Health and Mental Hygiene (DHMH), is to better integrate prevention, treatment, and recovery efforts for substance use and mental health. At the individual level, it is imperative to understand if either or both disorders exist, as the symptoms of one can likely influence the other. Along the same lines, treatment often varies depending upon the co-existence of substance use and mental health conditions. At the population level, understanding the prevalence of both substance use and mental health conditions in order to best prioritize, develop, and implement meaningful prevention and treatment initiatives. The following indicators represent the first time mental health, suicide, and co-occurring disorders have been reported as part of the Maryland Epidemiological Profile.

- The prevalence of mental illness—including past year serious mental illness, depressive symptoms, and thoughts of suicide—are similar between Maryland and the United States.
- In Maryland, one out of five adults aged 18 or older report having at least one indicator of mental illness; of these, 25% meet DSM-IV criteria for serious mental illness.
- Maryland youth aged 12-17 are more likely than adults to have at least one major depressive episode in the past year.
- In Maryland, mental illness indicators show upwards trends (with the exception of past-year major depressive episode among adults aged 18+).
- Among Maryland residents in treatment for a substance use disorder, the prevalence of a co-existing mental health disorder increased from 35.3% in fiscal year 2008 to 44.3% in fiscal year 2012.
PREVALENCE AND INCIDENCE OF MENTAL ILLNESS

Indicator Description: SERIOUS OR ANY MENTAL ILLNESS, SERIOUS THOUGHTS OF SUICIDE, OR AT LEAST ONE MAJOR DEPRESSIVE EPISODE IN PAST YEAR. These measures compare the percentage of individuals aged 18 or older in Maryland and the United States who had serious thoughts of suicide, report a serious/any mental illness or had at least one major depressive episode that meets DSM-IV criteria in past year. An additional measure for youth aged 12-17 who report at least one major depressive episode in the past year is also included.

Why Indicator is Important: Mental health events or measures, such as serious or any mental illness, serious thoughts of suicide, and at least one major depressive episode in past year, help construct national and state-level prevalence estimates for related mental disorders.

Summary: All prevalence estimates are similar between Maryland and the United States. Roughly one-fifth of adults aged 18+ report having at least one kind of mental illness; among these, 25% meet DSM-IV criteria for serious mental illness. Youth are more likely than adults to have at least one major depressive episode in the past year.

Data Source: NSDUH 2010-2011

- The latest data show that 20.1% of Maryland adults reported having at least one kind of mental illness, 4.5% reported having a serious mental illness, 3.6% reported having serious thoughts of suicide, and 6.1% reported having at least one major depressive episode in past year.
**Indicator Description:** SERIOUS OR ANY MENTAL ILLNESS, SERIOUS THOUGHTS OF SUICIDE, OR AT LEAST ONE MAJOR DEPRESSIVE EPISODE IN PAST YEAR. These measures examine a three-year trend for the percentage of individuals aged 18 or older in Maryland who had serious thoughts of suicide, report a serious/any mental illness, or had at least one major depressive episode that meet DSM-IV criteria in past year. An additional measure for youth aged 12-17 who report at least one major depressive episode in the past year is also included.

**Why Indicator is Important:** Mental health events or measures, such as serious or any mental illness, serious thoughts of suicide, and at least one major depressive episode in past year, help construct national and state-level prevalence estimates for related mental disorders.

**Summary:** All prevalence estimates have increasing trends within this time period, except for adults having at least one past-year major depressive episode. Among these indicators, adults reporting any mental illness had the largest relative increase between 2009 and 2011.

**Trends and Prevalence of Mental Illness in Maryland**

Data Source: NSDUH 2009-2011

- In 2011, 20.1% Maryland adults reported having any mental illness. Among these, approximately one-fifth (4.5%) reported having a serious mental illness.
**Indicator Description:** EVER TOLD TO HAVE DEPRESSIVE DISORDER AMONG ADULTS. This measure examines the percentage of adults in Maryland and the United States who report ever being told they had a depressive disorder, including depression, major depression, minor depression and dysthymia.

**Why Indicator is Important:** The proportion of individuals ever being told they had a depressive disorder is an estimator of the population prevalence of the condition.

**Summary:** Across all age groups, a lower percentage of Maryland residents were ever told they had a depressive disorder compared to the United States.

![2011: Percent of Adults Ever Told They Had A Depressive Disorder, MD vs. U.S.](image)

**Data Source:** BRFSS 2011

- For those less than 65 years of age, the proportion of individuals reporting they were ever told to have a depressive disorder increases with age, but this observation may be a result of the likelihood of developing the condition and being diagnosed increasing with age.
- Contrary to the trend of rising prevalence of depressive disorder with increasing age, those 65 years or older had the lowest prevalence of ever being told they had a depressive disorder compared to other age groups.
MENTAL HEALTH AND SUBSTANCE USE DISORDER CO-OCCURRENCE

Indicator Description: CO-OCCURRING MENTAL ILLNESS AMONG TREATMENT ADMISSIONS FOR SUBSTANCE USE DISORDERS. This measure is a counselor's assessment of existing or suspected mental health problems when an individual is admitted for substance use disorder treatment.

Why Indicator is Important: Co-occurring mental illness affects how an individual responds to the treatment for substance use disorders.

Summary: For the fiscal years 2008 to 2012, there was a rise (35.3% to 44.3%, respectively) in the percentage of admissions where a mental health problem was deemed to exist, according to a counselor’s evaluation.

Data Source: SMART 2008-2012

- The rising co-occurrence of mental health problems and substance use disorders calls for adaptations in treatment strategies to address the increasing complexity of providing effective treatment.
Treatment for Substance Use Disorders

Substance use treatment admissions are an indicator of how many individuals receive treatment for a substance use disorder. Treatment admissions should not be considered an indicator of the magnitude of substance use; rather, treatment admissions should be perceived as a consequence stemming from substance use that requires resources. Substance use treatment admissions can also provide valuable information on patterns of substance among various populations.

In Maryland, a review of treatment admissions for substance use problems revealed:

- Alcohol remains the primary substance among those entering treatment, followed by heroin, marijuana/hashish, and prescription opioids
- In 2011, 2.6% of Maryland residents met criteria for substance use disorders and/or dependence, signifying a population in need of treatment
- In 2011, 2.3% of Maryland citizens reported they felt they needed treatment for a substance use problem but did not receive it. Unmet treatment need is highest among the population with the highest prevalence of substance use: young adults aged 18-25.
NEED FOR TREATMENT

**Indicator Description:** NEEDING BUT NOT RECEIVING TREATMENT FOR ILLICIT DRUG USE IN PAST YEAR. This measure compares the percentage of individuals aged 12 or older in Maryland who report needing but not receiving treatment for illicit drug use in past year.

**Why Indicator is Important:** Needing but not receiving treatment for illicit drug use in past year is an indicator of unmet need for potential drug misuse or use disorders and thus serves as a benchmark for potential issues.

**Summary:** The proportion of Maryland citizens reporting needing but not receiving treatment for illicit drug use parallels those reporting illicit drug dependence or abuse over the years. The finding may suggest that a fairly fixed number of people who have illicit drug dependence or abuse problems receive treatment every year.

![Graph showing Illicit Drug Dependence or Abuse in Past Year vs. Needing but not Receiving Treatment for Illicit Drug Use in the Past Year Among Maryland Residents Aged 12+ Years](image)

**Data Source:** NSDUH 2003-2011

- In 2011, 2.3% of Maryland citizens reported needing but not receiving treatment for illicit drug use in the past year, a 0.3% decrease from the previous year, and the lowest since 2007.
**Indicator Description:** NEEDING BUT NOT RECEIVING TREATMENT FOR ILLICIT DRUG USE IN PAST YEAR BY AGE GROUP. This measure compares the percentage of individuals in Maryland and the United States in three age groups who report needing but not receiving treatment for illicit drug use in past year.

**Why Indicator is Important:** Needing but not receiving treatment for illicit drug use in past year is an indicator of unmet need for potential drug misuse or use disorder and thus serves as a benchmark for potential issues.

**Summary:** Maryland citizens aged 18-25 report a higher unmet need for treatment for illicit drug use than the national average, while those aged 12-17 report a lower need.

**2011: Needing but not Receiving Treatment for Illicit Drug Use in Past Year by Age Group, MD vs. U.S.**

<table>
<thead>
<tr>
<th>Year</th>
<th>US</th>
<th>MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-17</td>
<td>4.7</td>
<td>4.2</td>
</tr>
<tr>
<td>18-25</td>
<td>7.7</td>
<td>8.0</td>
</tr>
<tr>
<td>26+</td>
<td>1.6</td>
<td>1.5</td>
</tr>
</tbody>
</table>

*Data Source: NSDUH 2011*

- In 2011, 8.0% of Maryland citizens aged 18-25 reported an unmet need for treatment for illicit drug use, nearly double the rate for those aged 12-17 and over five times the rate for those 26 or older.
TREATMENT ADMISSIONS

Indicator Description: PRIMARY SUBSTANCES USED REPORTED UPON ALCOHOL OR DRUG USE DISORDER TREATMENT ADMISSION. This measure examines trends for the substances reported as the primary substance among admissions for treatment at state-supported substance use disorder treatment facilities.

Why Indicator is Important: Primary substances used reported at treatment indicate changes in use disorders of different substances.

Summary: Alcohol, heroin and marijuana/hashish remain the most commonly-reported primary substances used. From fiscal years 2008 to 2012, there was a decline (32.5% to 29.9%, respectively) in the percentage of all admissions where alcohol was the primary substance used. Notably, the percentage of admissions with prescription opioid analgesics as the primary substance used more than doubled in the same time frame. Increases also occurred for marijuana/hashish and benzodiazepines as the primary substance. Admissions with cocaine/crack as the primary substance declined sharply from 16.8% in 2008 to 9.7% in 2012.

Primary Substance Reported upon Admission to Maryland State-Supported Alcohol and Drug Use Disorder Treatment Programs

Data Source: SMART 2008–2012

- In Maryland, nearly one out of three of treatment admissions involved alcohol as the primary substance used. Admissions with prescription opioids as the primary substance doubled from 2008 to 2012.
Data Limitations and Next Steps

The SEOW utilizes numerous data sources available from federal and state agencies. These data, summarized at the beginning of this report, are considered to be among the most comprehensive data available on substance use and consequences. That said, shortcomings of these data include lack of currency, small sample sizes that limit detailed analyses, lack of specific categories of substances (e.g., drug-specific versus therapeutic category) and overly general population categories that tend to hamper deriving age- and gender-specific utilization patterns. For example, the NSDUH data reported at the state-level contain only 25 indicators the HSCRC data are limited to event-level (rather than person-level) analyses, and outpatient event files of the HSCRC are not linkable, preventing reliable estimates of substance-related emergency department and other hospital outpatient events.

The University of Maryland School of Pharmacy, which has housed the SEOW since May 2011, continues to develop relationships with federal, state, and other agencies and groups in order to obtain and/or work with their data. In the future, we expect to provide further benchmarks of substance use and consequences related to: pregnant women and their offspring; HIV/AIDS patients; overdose deaths; association of liquor sales outlets and motor vehicle crashes; and utilization of prescription opioids, benzodiazepines, and other prescription controlled medications through the Maryland Prescription Drug Monitoring Program.
Conclusions

This report provides the latest estimates of alcohol, tobacco, and drug use and the consequences of use in the state of Maryland. Findings suggest that alcohol remains problematic in the state, especially binge drinking among young adults aged 18-25. Inpatient hospital admissions related to alcohol have increased, mirroring the ubiquitous use of the substance. Finally, although motor vehicle crashes related to impaired driving has declined in recent years, the proportion of crashes resulting in a fatality have climbed and now account for more than one-third of all substance-related crashes. Prevention and education efforts should be encouraged, including increased DUI surveillance and better understanding of environmental and legal efforts to reduce impaired driving.

Young adults aged 18-25 remain the highest users of all substances monitored in this report. In particular, this age group perceives marijuana to be relatively 'safe' and, as such, have increased their use of marijuana over the past several years. Given recent legislation in the state to allow use of marijuana for medical purposes, young adults’ perceptions of marijuana risk may decline even further. It will be important to monitor marijuana perceptions of risk, use, consequences of use, and treatment admissions in young adults, as well as in youth, as the substance becomes increasingly available for medical purposes in Maryland.

The non-medical use of prescription opioid analgesics and benzodiazepines remain current and growing problems. As the state implements its Prescription Drug Monitoring Program, monitoring the use of and treatment admissions for prescription medications with addiction potential will become increasingly important. Accordingly, identifying trends in overdose deaths and hospitalizations related to prescription medications will be a focus of future SEOW efforts, as will the use of potential 'substitute' substances (such as prescription opioids for heroin and benzodiazepines for alcohol or marijuana).

More than 40 percent of Maryland citizens in treatment for a substance use disorder have evidence of a concurrent mental health problem. The need to treat both conditions is important, as an individual's substance use behavior may be due to self-medicating for the mental health problems. Focusing on this at-risk population will also be a focus of future SEOW initiatives to provide evidence-based information to state policy-makers, researchers, and citizens.
Useful Links and Resources

Data Resources


HSCRC/State Inpatient Databases (SID): http://www.hsrc.state.md.us/

Fatality Analysis Reporting System (FARS): http://www.nhtsa.gov/FARS


Maryland Youth Tobacco Survey (MYTS): http://www.cdc.gov/tobacco/data_statistics/surveys/yts/index.htm

Maryland’s Tobacco Resource Center: http://mdquit.org/

National Survey on Drug Use and Health (NSDUH): http://www.samhsa.gov/data/NSDUH.aspx


CDC Wide-ranging Online Data for Epidemiologic Research (WONDER): http://wonder.cdc.gov/

State of Maryland Automated Record Tracking (SMART): http://adaa.dhmh.maryland.gov/SitePages/SMART.aspx


State Resources

Maryland Statewide Epidemiological Outcomes Workgroup (SEOW): http://www.pharmacy.umaryland.edu/programs/seow/

Maryland Poison Center (MPC): http://www.mdpoison.com/

Department of Health and Mental Hygiene (DHMH): http://www.dhmh.maryland.gov/SitePages/Home.aspx
Alcohol and Drug Abuse Administration (ADAA):
http://adaa.dhmh.maryland.gov/SitePages/Home.aspx

Opioid Overdose Prevention:
http://adaa.dhmh.maryland.gov/SitePages/Data%20and%20Reports.aspx

Maryland Strategic Prevention Framework (MSPF):
http://adaa.dhmh.maryland.gov/mspf/SitePages/Home.aspx

Federal Resources

Substance Abuse and Mental Health Services Administration (SAMHSA):
http://www.samhsa.gov/

National Institute on Drug Abuse (NIDA): http://www.drugabuse.gov/

National Institute on Alcohol Abuse and Alcoholism: http://www.niaaa.nih.gov/