

**SPF/SIG MICHIGAN STATE EPIDEMIOLOGICAL WORKGROUP (SEW)  
SUMMARY TO THE STATE SIG ADVISORY COUNCIL (SAC)  
DECEMBER 2005**

**DESCRIBING THE BURDEN OF ALCOHOL, TOBACCO AND OTHER  
DRUGS ON THE STATE OF MICHIGAN**

## General Explanation of Format

Upon extensive review of the available data and data systems, the accompanying pages detail the indicators that best describe the burden of alcohol, tobacco and illicit drugs within the State of Michigan. The problem statements are organized categorically detailing the consequences of the respective drug (alcohol, tobacco, illicit) and include a brief summary of the consumption patterns. A more comprehensive explanation of consumption patterns for each drug category has been provided for reference in attachments (A, B and C) appended to this report. The identified risk factors for use/abuse have been determined to apply to all categories are also summarized in a separate attachment (D).

## Systemic Information Gap

The Strategic Prevention Framework State Incentive Grant State Epidemiology Workgroup (SPF SIG/SEW) has found that information gaps exist in ATOD data available within Michigan at the state and local level. These gaps in information may limit the ability of Michigan communities to completely address the first step in the Strategic Prevention Framework; the profiling of population needs, resources, and readiness. These information gaps have been identified through this process and will be addressed in future activities of the SPF SIG/SEW. Subsequently, these gaps may have impacted the formulation of statewide and local community indicators and need statements. It is important to describe these information gaps as systemic needs because they have a bearing on the formulation of priorities for the capacity building phase of the Michigan SIG process. It is the recommendation of the State Epidemiological Workgroup (SEW) that when the strategic plan is formulated these systemic information gaps be addressed as capacity building activities. Therefore, given the availability, quality and periodicity of data and data systems, the SEW assessed various alcohol tobacco and other drugs indicators and derived problem statements that would best describe the burden of alcohol, tobacco and other drugs within the State of Michigan. These indicators are to be used as preliminary measures until these information gaps are addressed. Some of the areas that the SEW has identified as information gaps at this stage of the process include:

- Lack of adequate data on specific demographic subsets of the Michigan population. Since significant differences on ATOD rates and consequences often exist between racial groups it is important to improve the collection of this data for all Michigan ATOD indicators. This lack of data has been a longstanding systemic problem for all minority populations in Michigan and especially for American Indians, Hispanics, and Arab Americans.
- Limited use of tools that are available (such as the YRBS and school districts/communities) which can create problems in getting data where there are gaps. A recommendation is to work on community readiness issues in order to be responsive to conducting either the YRBS or the MPHY when available.
- Lack of methamphetamine specific data being collected (other than lab busts and treatment admissions), and in some areas of the state, there is a need for more specific information on this data evident/desired.
- Specific items related to fetal alcohol syndrome/fetal alcohol effects (FAS/FAE) and link between child health and maternal alcohol consumption
- Additional data on Department of Human Services cases and linkage to substance use/abuse (child abuse and neglect cases, in particular)
- Treatment admission data on privately funded facilities
- Ongoing collection of local level risk and protective factors data incorporation all domains: environmental, school, community and individual

- Data on intervening and risk factors among all populations; youths, college age, students, young adults, middle-aged adults, and elderly populations
- More tobacco health indicators are needed such as tobacco related cardiovascular disease, emphysema, cervical cancer, and asthma
- Need data on Years of Potential Life Loss (YPLL) as a result of tobacco related diseases
- Socio-economic data that would provide indicators by poverty level
- Academic failure (elementary, middle and high school as well as college)
- Replication of Social Indicator Study to provide more up to date measures
- College student data on use/abuse
- Lesbian/Gay/Bisexual/Transgender (LGBT) substance use / abuse data
- Information on prescription pharmaceuticals (primarily Schedule II drug classifications) and over-the-counter drugs of abuse
- Data that provide a link between substance use/abuse and suicides
- Need for a statewide plan on tobacco that build capacities between various intervention programs currently doing work
- Need for treatment data that is not limited to publicly funded programs (and a disclaimer to be added to current data on this current limitation)

#### **Additional gaps identified through review of prior meeting minutes**

- Secretary of State Minor in Possession data
- Liquor Control Commission 'sell-sites'
- Youth data when not in public school system
- Adult illicit drug use (may partly be available through pharmaceutical information noted above)
- Standardized reporting of emergency room/hospital data
- ATOD link to assault/violence
- Additional information on older adults (primarily prescription medication misuse)

#### **Additional items that have been identified for SEW to focus on in next four year project years:**

- Create a central web-based repository for data (local, regional, state, federal)
- Conduct a 10-year 'look back' for trend analysis

## PROBLEM STATEMENTS

### I. Alcohol Consequences

- a. **Alcohol Related Acute Unintentional Deaths - Alcohol Related Motor Vehicle Deaths.** According to the National Highway Traffic Administration, in Michigan 45% of statewide vehicle accident deaths involved alcohol. Research also shows that the risks of being in a motor vehicle crash increases as the blood alcohol concentration increases. In 2003, the rate of motor vehicle crash deaths was 0.8 per 100,000 persons for crashes involving persons with blood alcohol concentration between 0.01 – 0.07. The death rate increased dramatically for crashes involving persons with blood alcohol concentration above 0.08 at 4.03 per 100,000 persons (FARS, 1990- 2003). Although both males and females death rates have been on a slow and steady decline over the past 10 years, alcohol related motor vehicle crash deaths among males have remained consistently higher at a rate three times that of females. Younger populations are also disproportionately affected by this rate. As a result of alcohol related MVC, there was an average of 42 years of potential life loss (YPLL) per death in 2003 (ARDI, 2003). Among males, persons between the ages 21 – 29 had the highest death rate at 16.20 per 100,000 persons. The age group 18 – 20 had the highest alcohol related motor vehicle crash death rate among females at 6.20 per 100,000 persons. **(For related consumption indicators, see Attachment A, Alcohol Consumption, Underage Drinking: Lifetime Use, Early use, Binge Drinking, Drinking and Riding, Drinking and Driving, Adult Binge Drinking, Adult Heavy Drinking)**
- b. **Alcohol Related Acute Intentional Deaths - Alcohol Related Homicide Deaths.** In 2003, the rate of alcohol related homicide death was 2.9 per 100,000 persons in Michigan. Also affecting younger populations, there was an estimated 44 years of potential life loss (YPLL) per death in Michigan due to alcohol related homicides (ARDI, 2003). Of the total deaths, 64 percent were among persons between the ages 20 -34. Males are also disproportionately affected by alcohol related homicides. Of the total deaths due to homicide in 2003, 80 percent were males at a rate of 4.8 per 100,000 persons. **(For related consumption indicators, see Attachment A, Alcohol Consumption, Underage Drinking: Juvenile Lifetime Use, Juvenile Current use; Juvenile Early Use, Juvenile Binge Drinking, Juvenile Drinking and Riding, Juvenile Drinking and Driving, Adult Drinking: Adult Heavy Drinking).**
- c. **Alcohol Related Acute Intentional Deaths – Alcohol Related Suicides.** In 2003, there were 2.3 alcohol related suicide deaths per 100,000 persons in Michigan (ARDI, 2003). Death rates among males have been consistently higher than females, at 3.9 per 100,000 persons and 0.9 per 100,000 persons respectively. Young adults and middle-aged populations are disproportionately affected by this rate. As a result of alcohol related suicide, there was an estimated average of 35 years of potential life loss (YPLL) per death in 2003. The highest rates are among persons between the ages 20 – 65 at an estimated rate of 2.6 per 100,000 persons. **(For related consumption indicators, see Attachment A, Alcohol Consumption, Underage Drinking: Binge Drinking, Early Use, Lifetime Use, Current use, Adult Consumption: Binge Drinking, Adult Heavy Drinking)**

- d. **Alcohol Related Chronic Disease Deaths – Alcohol Liver Disease.** In Michigan, there was an estimated alcohol related chronic disease death rate of 12.8 per 100,000 persons in 2003 (ARDI, 2003). Highly attributable to this rate were deaths due to alcohol liver disease. In 2003, there was an estimated 3.9 per alcohol liver disease deaths 100,000 persons. Males are disproportionately affected contributing to 76 percent of the total deaths. Middle-aged populations are also disproportionately affected by this rate. Contributing to an estimated 36 years of potential life loss per deaths, alcohol liver disease deaths rates are highest among persons between the ages 35 -64 years. **(For related consumption indicators, see Attachment A, Underage Drinking, Alcohol Consumption: Lifetime Use, Early Use, and Adult Heavy Drinking).**
- e. **Hospitalization of Pregnant Women Due to Drinking Alcohol.** In 2003, the rate of hospital discharge of pregnant women due to drinking alcohol was an estimated 523.2 per 100,000 pregnant women in Michigan. Women ages 21 and over were admitted at a rate four times higher (425 per 100,000 pregnant women) than that of women between the ages of 15 – 20 (98.2 per 100,000 pregnant women). Between 1992 and 2003, the rate of hospital discharge of pregnant women due to drinking alcohol has been on a steady increase among women ages 21 and over. Rate among women 15 –20 has been unstable between 1992 and 2000 but has remained steady since 2001 1992-2003 Michigan Inpatient Database, MHHA). **(For related consumption indicators, see Attachment A, Binge Drinking Prior to Pregnancy and Binge Drinking During Pregnancy).**
- f. **Alcohol Abuse Treatment Admissions.** Alcohol is the most common substance resulting in treatment admissions in Michigan and in the US. In 2003, the estimated rate of treatment admissions as a result of alcohol abuse in Michigan was 314.6 per 100,000 persons. Among males, Native Americans were admitted at a higher rate of 1289.7 per 100,000 persons, followed by Black males at a rate of 543.7 and White males at a rate of 406.4 per 100,000 persons. Among females, Native Americans females were also admitted at a higher rate of 704.7 per 100,000 persons, followed by Black females at 202.3 per 100,000 persons and White females at a rate of 179.5 per 100,000 persons. Persons between the ages 18 – 64 years were admitted at a rate of 486.8; while persons under 18 years were admitted at rate of 35.0 per 100,000 persons. The total number of alcohol treatment admission in Michigan has been on a decreasing trend since 1999 (Treatment Episodes Admissions, ODCP 1999-2003). **(For related consumption indicators, see Attachment A, Alcohol Consumption, Underage Drinking: Juvenile Lifetime Use, Juvenile Current use; Juvenile Early Use, Juvenile Binge Drinking, Juvenile Drinking and Riding, Juvenile Drinking and Driving, Adult Drinking: Adult Heavy Drinking)**
- g. **Alcohol/Drug Related Crimes.** According to the Uniform Crime Report 2003, there were a total of 50, 727 DWI alcohol/narcotics arrests in Michigan. Arrest rates were higher by race. Among males, white males had the highest rate of 806.8 arrests per 100,000 persons. Among females, white females had the highest number and rate of arrest with 7552 arrests per 100,000 persons. Arrests among youth were also highest among whites. **(For related consumption indicators, see Attachment Alcohol Consumption, Underage and Adult Drinking, all indicators related to juveniles and adults).**

- h. Expulsions (ODCP Strategic Plan Report, 2005 – 2009).** According to school year 2003 Center for Educational Performance and Information (CEPI) data, there were 1,386 out of school expulsions among Michigan’s school age children of which 325 were alcohol and illicit drug related. Hundreds of Michigan students missed a substantial amount of academic instruction in 2003 due to being expelled for alcohol or illicit drug related behaviors. **(For related consumption indicators, see Attachment A, Alcohol Consumption, Underage Drinking: Current Use, Early Use, Juvenile Lifetime Use, Juvenile Current Use, Juvenile Early Use, Juvenile Binge Drinking and Illicit drug use indicators)**

## II. Illicit Drugs Consequences

- a. **Drug Related Deaths.** Michigan's drug related death rate was 2.9 per 100,000 persons in 2003. Death rates from drug related causes dramatically increase with race and sex. Blacks have consistently had the highest death rates over the past 10 years. In 2003, drug related deaths among black males were at a rate of 10.9 per 100,000 persons and 6.6 per 100,000 persons among black females. Deaths among white males were at a rate of 2.9 per 100,000 persons and 1.0 per 100,000 persons among white females. Data on rates of deaths by drug type is not consistently reported.
- b. **Drug Related Hospitalizations.** Although the data available for drug related hospitalizations is limited in utility due to lack of reporting on race information, it provides beneficial information about drug related burden on Michigan. Drug related hospitalizations include overdose and injuries due to illicit, prescription and over the counter drugs. In 2003 alone, there were a total of 44,966 hospitalizations due to drug related injuries. Rate of hospitalizations among males have remained consistently higher than females over the past 10 years. In 2003, males were admitted at a rate almost twice the rate of females at 40.2 per 100,000 persons and 25.5 per 100,000 persons respectively. Males between the ages 25 -44 and 45 - 65 had the highest number of drug related hospitalizations. Among females, persons between the ages 25 – 44 had the highest number of drug related hospitalizations. In Michigan, a substantial amount of drug related hospitalizations occurs within the southeast region. According to the Drug Abuse Warning Network, alcohol in combination with another drug is the most common reason for drug related hospitalizations. The single most common drug of abuse that results in drug related hospitalization is cocaine, followed by marijuana and heroin. **(For related consumption indicators, see Attachment B, Illicit Drug Consumption: Youth Cocaine Use, Youth Inhalant use, Youth Methamphetamine Use)**
- c. **Intravenous Drug Use HIV cases.** Behavior associated with drug abuse is now the single largest factor in the spread of HIV infection in the United States. Using or sharing unsterile needles such as when injecting heroin, cocaine, or other drugs, leaves a drug abuser vulnerable to contracting or transmitting HIV. Another way people may be at risk for contracting HIV is simply by using alcohol or drugs, regardless of whether a needle and syringe are involved (National Institute of Drug Abuse, 2004). Injection use is the second most common direct mode of transmission of HIV/AIDS. Although there has been a significant percent decrease in incidences between 1998 and 2002, the burden of IDU acquired AIDS on the state of Michigan persists. In Michigan, there was 16,200-estimated prevalence of persons living with HIV and 5,976 reported living with AIDS in 2005. Of the HIV cases, 2,200 acquired HIV via injection drug use. Gender, race and age are major factors in determining where the problem lies. In 2005, 70 percent of the total IDU acquired cases were among males. The number of cases among blacks were also significantly higher than any other races. In 2004, 54 percent of all IDU acquired cases were among blacks and 12 percent were among whites. Seventy three percent of IDU cases among males were between the ages 30-49. Females between the ages 40 –50 had the highest number of cases among females. Injection drug use has also been linked to high rates of Hepatitis C transmission however; consistent data reporting number of cases acquired through IDU is not yet available. **(For related consumption indicators, see Attachment B, Illicit Drug Consumption: Adult Marijuana Use).**

- d. **Drug Abuse Treatment Admissions.** In Michigan, the three most common illicit drugs of abuse that result in severe negative consequences such as drug treatment admissions, drug related deaths, drug related hospitalizations and IDU acquired AIDS are cocaine/crack, marijuana and heroine. In 2003, the highest number of treatment admissions was a result of cocaine/crack use with total admissions of 11,708, followed by marijuana with total admissions of 10,262 and heroin with total admissions of 7937. The total number of males admitted as a result of cocaine use was not significantly different from total admissions for females. However, males were significantly more likely to be admitted due to marijuana use than females with total admission of 7101 and 2510 respectively. Males are also more likely to be admitted to treatment as a result heroin than their counterparts. Race is also a factor that provides indication of treatment admission by primary drug type. In 2003, there were more blacks admitted as a result of cocaine/crack use than whites while more whites were admitted as a result of marijuana use than blacks. The total number of admissions as a result of heroin use was similar for both blacks and whites. **(For related consumption indicators, see Attachment B, Illicit Drug Consumption: Youth Lifetime Use of Marijuana, Current Use of Marijuana, Early Use of Marijuana; Youth Cocaine Use; Adult Cocaine Use)**
- e. **Drug Abuse Treatment Admissions – Methamphetamine.** Methamphetamine is the fastest growing drug of abuse involved in treatment admissions. Treatment admissions as a result of methamphetamine use have increase by more than 200 admissions each year since 1999 in Michigan. In 2005, there were a reported 1591 methamphetamine involved treatment admissions, a 500 percent increase since 1999. Of the total 2005 admissions, 856 were males and 735 were females. Number of treatment admissions varied significantly by race. Ninety four percent of treatment admissions as a result of methamphetamine use were among whites. In 2005, the 53 admissions of persons 17 and under, a 3.3 percent of total admissions as a result of methamphetamine use. **(For related consumption indicators, see Attachment B, Illicit Drug Consumption: Youth and Juvenile Methamphetamine Use).**
- f. **Drug Abuse Treatment Admission– Corrections.** Illicit substance use of convicted offenders also poses a burden on Michigan. In 2001, there were 4,441 probationers and 8,656 parolees who reentered the community and were admitted to drug treatment, thus putting a strain on the State's capacity to provide adequate treatment at the community level. Approximately 60 percent of persons receiving substance abuse treatment through the coordinating agency network are justice system involved. (Department of Corrections, 2001). **(For related consumption indicators, see Attachment B, Illicit Drug Consumption: Drug Use – Corrections, Juvenile Use of marijuana, Juvenile Cocaine Use)**
- g. **Juvenile Justice –Treatment Services.** (ODCP Strategic Plan Report, 2005 – 2009) DHS for youth in juvenile justice settings identified 37 percent having experienced substance abuse related problems. Of those adolescents receiving substance abuse treatment through Regional Substance Abuse Coordinating Agencies in FY 2004, 73 percent were involved in the juvenile justice system and 197 were reported to be residing in a juvenile detention center. **(For related consumption indicators, see Attachment B, Illicit Drug Consumption: All indicators for Juveniles)**





### III. Tobacco Consequences

- a. **Tobacco Related Deaths – Lung Cancer Deaths.** Lung cancer death rates in Michigan have remained consistently higher than the national rate over the past 10 years. In 2003, the rate of lung cancer deaths was 56.1 per 100,000 persons in Michigan. Death rates among males were substantially higher than rates among females. Between 1993 and 1997, lung cancer death rates among males were an average 70.7 per 100,000 persons and 35.4 per 100,000 persons among females. However, the death rates among males have been on a steady decline over the past 10 years while on an increasing trend among females. **(For related consumption indicators, see Attachment C, Tobacco Consumption: All Tobacco Use indicators)**
  
- b. **Tobacco Related Death – Chronic Obstructive Pulmonary Disease Deaths (COPD).** Death by COPD is the fourth leading cause of death in Michigan. In 2003, the rate of COPD death was 43.8 per 100,000 persons. Death rates by males were 1.4 times higher than females. The death rate among whites at 45.7 per 100,000 persons was significantly higher than rate among blacks at 28.6 per 100,000 persons. Significantly affected by COPD deaths are persons between the ages 75 years and up with rate at 45.8 per 100,000 persons. **(For related consumption indicators, see Attachment C, Tobacco Consumption: All Tobacco Use indicators)**

# Attachment A – Alcohol Consumption

## Attachment A: Alcohol Consumption

**Underage Drinking.** Among all substance of abuse, alcohol is the most frequently used substance by youths. Although the trend in underage drinking in Michigan is on a steady decline, the percent of students who reported ever drinking alcohol has remained consistently higher than the national average since the initiation of the survey in 1997. The percentage of students who reported early use is also on a decreasing trend but at a decreasing rate. Risk factors highly associated and prevalent with underage drinking and prevalent in Michigan are "perceive availability of drugs and handguns", "norms favorable toward substance use", "poor discipline", "sensation seeking" and "friends' substance use" (Michigan Substance Abuse Risk and Protective Factors Survey 2000/2001). The following categories for underage drinking provide prevalence on consumption patterns by year, gender, race, ethnicity and grade.

- a. **Lifetime Use.** Lifetime use is categorized as having one drink on one or more days in their life. According to the 2005 Michigan Youth Risk Behavior Survey, 73 percent of public high school students reported lifetime use of alcohol; this is a 6 percent decrease from the previous survey year in 2003. Prevalence of youth lifetime use varies in Michigan also by gender, race, ethnicity and grade. The 2005 survey shows higher lifetime alcohol use among females than males, at 76 percent and 70 percent respectively. Hispanic students also reported the highest rate of lifetime use at 80 percent than American Indians at 78 percent, whites at 73 percent, and blacks at 71 percent. Although 2005 data on prevalence estimates by grades have not yet been nationally released, previous data from 2003 showed alcohol lifetime use among 84 percent of 12<sup>th</sup> graders, 78 percent of 11<sup>th</sup> graders, 76 percent of 10<sup>th</sup> graders and 67 percent of 9<sup>th</sup> graders. Previous year data has also showed Michigan's youth lifetime use prevalence to be above the national rates although on a decreasing trend.
- b. **Youth in Justice Systems Lifetime Use.** According to the 2002 Michigan Bureau of Juvenile Justice Youth Risk Behavior Survey, 81 percent of youth within the justice system reported lifetime use of alcohol. The survey also showed that 77 percent of public high school students reported lifetime use; a 4-percentage point difference from the previous survey year. Michigan's prevalence for juvenile lifetime alcohol use was lower than the national average of 91 percent in 2002. Consistent with the MYRBS, females were more likely to report lifetime use than males at rates of 90 percent and 78 percent respectively. The 2002 survey categorized race by white and non-white racial groups. Of Non-whites youth 81 percent reported lifetime use while 80 percent of Whites reported use.
- c. **Current Use.** Current use is categorized as having at least one drink of alcohol on one or more days of the past 30 days. According the 2005 Michigan Youth Behavior Risk Survey, 38 percent of public high school students reported current use of alcohol; this is a decrease of 6 percentage points form the previous survey in 2003. Prevalence rates for youth current use also varies by gender, race, ethnicity and grade. In 2005, females reported higher current use than males at the rates of 40 percent and 36 percent respectively. Prevalence of current use among Hispanics and American Indians youth are significantly higher at 54 percent than among whites youth at 39 percents and black youth at 32 percent. Although 2005 consumption prevalence by grade have not been published, 2003 Michigan Youth Risk Behavior Survey showed that 12 graders reported higher current use at 55 percent; followed by 11<sup>th</sup> grader at 44 percent; 10<sup>th</sup> graders at 42 percent

and 9<sup>th</sup> graders at 37 percent. Prevalence rates of youth current use in Michigan have been on a decreasing trend and have remained consistently below the national average.

- d. **Youth in Justice Systems Current Use.** In 2002, 48 percent of youth within the juvenile justice system reported drinking alcohol 30 days before entry in Michigan. Comparison 2002 Michigan Youth Risk Behavior Survey showed that public school high student reported current use of alcohol at a prevalence of 46 percent. Youth within Michigan's justice system were less likely to report current use compared to the justice system national average at 65 percent. Females within the juvenile justice system reported higher current use than males at 62 percent and 45 percent respectively. Non-whites reported higher use than whites at 48 percent and 47 percent respectively.
- e. **Early Use.** Early use is categorized as having first drink of alcohol, other than a few sips, before age 13. Recent research has focused on the association between the age at which a person first uses alcohol and alcohol problems later in life. Results from these studies have shown alcohol dependence and problems to be highly associated with age of first use and therefore, delaying the onset of alcohol use has been proposed as a strategy to prevent alcohol dependence or abuse in adulthood (The National Survey on Drug Use and Health report, 2004). According to the 2005 Michigan Youth Risk Behavior Survey, 23 percent of students reported drinking prior to age 13. Males reported higher early use than females, at 25 percent and 20 percent respectively. Reported prevalence among American Indians was significantly higher at a rate of 50 percent, followed by Blacks at 32 percent, Hispanics at 28 percent, and Whites at 20 percent. Younger students were also more likely to report early use than older students. According to the 2003 Michigan Youth Risk Behavior Survey, 35 percent of 9<sup>th</sup> graders reported early use, followed by 27 percent of 10<sup>th</sup> graders, 24 percent of 11<sup>th</sup> graders, and 19 percent of 12<sup>th</sup> graders. The prevalence of early use in Michigan has been on a decreasing trend and has remained lower than national average.
- f. **Youth in Justice Systems Early Use.** According the 2002 Michigan Youth Behavior Survey on juvenile use, 74 percent of youth within Michigan's justice systems reported early use compare to 27 percent of public high school students not within the system; the highest percent difference among categories of alcohol use. Michigan's rate was also significantly higher than the national average for juvenile justice early use at 46 percent. Females were more likely to report higher early use than males at 80 percent and 73 percent respectively. Whites reported higher use at 76 percent compared to nonwhites at 72 percent.
- g. **Binge Drinking.** Binge drinking is categorized as having 5 or more drinks of alcohol in a row, within a couple of hours, on one or more of the past 30 days. Binge drinking have been shown to contribute to many negative health consequences such as motor vehicle crashes, alcohol poisoning, and a host of alcohol related chronic diseases. According to the Michigan Youth Risk Behavior Survey, 23 percent of student reported binge drinking. Prevalence rates reported by males and females were 23 percent and 22 percent respectively. Rates significantly varied with race, ethnicity and grade. Hispanics student were more likely to report binge drinking at a rate of 35 percent followed by American Indians at 31 percent; Whites at 24 percent and Blacks at 11 percent. According to the 2003 Michigan Youth Risk Behavior Survey, 12<sup>th</sup> graders were more likely to drink at a rate of 38 percent, followed by 11<sup>th</sup> graders at 29 percent, 10 graders at 24

percent and 9 graders at 21 percent. Michigan's student binge drinking rates have been on a decreasing trend since 1997 and have remained below the national average.

- h. **Youth in Justice Systems Binge drinking.** Binge drinking is categorized as binge drinking 30 days before entry. In 2002, 40 percent of youth within Michigan's justice systems reported binge-drinking compare to 29 percent of public school student. Michigan's youth within the justice system were less likely to report binge drinking than the nation's average of 50 percent. Females were significantly more likely to report binge drinking than males at a rate of 54 percent and 37 percent respectively. Whites reported higher prevalence of binge at 41 percent than nonwhites at 39 percent.
- i. **Alcohol or drug use before last intercourse.** Alcohol or drug use before last intercourse is categorized as having had intercourse during the past 3 months and drank alcohol or used drugs before last sexual intercourse. In 2005, 22 percent of Michigan's students reported drinking or using drugs before last sexual intercourse (MYRBS, 2005). Males were more likely to report drinking or using drug before sexual intercourse than females at the rates of 26 percent and 19 percent respectively. Prevalence among White students was higher than among Blacks at 25 percent and 14 percent respectively. There is no data available for Hispanics and American Indian students. Prevalence rates among students in Michigan have remained on decreasing trend since 1997 and remained slightly below the national average.
- j. **Youth in Justice Systems Alcohol or drug use before last intercourse.** In 2002, among those who have sex, 61 percent of youth within Michigan's justice systems reported using alcohol or drugs before intercourse compared to 24 percent of public high school student. Michigan's prevalence at 61 percent was significantly higher than the national average at 40 percent. Males reported alcohol or drug use more frequently than females at 64 percent and 56 percent respectively. Nonwhites were more likely to report higher use at 67 percent than whites at 52 percent.
- k. **Drinking and Riding.** In 2005, 25 percent of high school students reported riding with a person who has been drinking in Michigan (MYBRS, 2005). Prevalence increased with increasing grade. According to the 2003 survey, 12<sup>th</sup> graders were more likely to report drinking and riding at 33 percent, followed by 11<sup>th</sup> graders at 31 percent, 10<sup>th</sup> graders at 30 percent and 9<sup>th</sup> graders at 26 percent. In 2005, females were more likely to report drinking and riding than males at 25 percent and 24 percent respectively. Hispanics and American Indians reported higher rates of drinking and riding at 41 percent and 40 percent respectively; followed by Blacks at 30 percent and Whites at 23 percent. Michigan's prevalence for drinking and riding has remained slightly below the national average since 1997.
- l. **Youth in Justice Systems Drinking and Riding.** In 2002, 75 percent of youth within the justice system reported drinking and riding compared to 32 percent of high school students. Females reported at a higher prevalence than males at 87 percent and 73 percent respectively. Whites and nonwhites both reported drinking and riding at a prevalence of 76 percent. No national comparison data was reported (Michigan Bureau of Juvenile Justice Youth Risk Behavior Survey, 2002)

- m. **Drinking and Driving.** According to the 2005 Michigan Risk Behavior Survey, 9 percent of public high school students reported drinking and driving. Males were more likely to report drinking and driving than females at rates of 10 percent and 7 percent respectively. Hispanics students reported drinking and driving at a rate of 15 percent, followed by Whites at 8 percent, Blacks at 7 percent and American Indian at 4 percent. Drinking and driving rates varied significantly with grade. Student in grade 12 reported at a rate of 17 percent, grade 11 at 13 percent, grade 10 at 8 percent and 9 at 7 percent.
- n. **Youth in Justice Systems Drinking and Driving.** In 2002, 42 percent of youth in Michigan's justice systems reported drinking and driving compared with 9 percent of public school students. Females were more likely to report drinking and driving than males at rates of 55 percent and 44 percent respectively. Nonwhites reported higher rates than Whites at rates of 49 percent and 44 percent respectively. No national data is available.

**Adult Drinking.** Adult drinking has been linked to some of the most adverse consequences of alcohol such motor vehicles crashes, homicide, suicide, and alcohol poisonings. Although adult binge drinking rates has remained stable since 1993, it has remained consistently higher than the national rate.

- a. **Adult Binge Drinking.** In adults, binge drinking is categorized at having 5 or more drinks on one occasion. According to the 2004 Behavioral Risk Factor Surveillance System survey, Michigan's adults reported a higher binge-drinking rate of 16.1 percent compared to the national average of 14.9 percent. Males were significantly more likely to report binge drinking than females, at rates of 23.9 percent and 8.8 percent respectively. Prevalence of binge drinking in Michigan also increases as age decreases. Hispanics reported higher rates of binge drinking at 17.8 percent than other racial and ethnic groups, followed by Whites at 17.1 percent, Blacks at 10.9 percent and other group at 7.4 percent. The highest reported prevalence of binge drinking in 2004 were among persons between the ages 18 – 24 at 31.6 percent, followed by 21.8 percent among persons 25-34, 18.4 percent among persons 35 – 44 and 9.0 percent among 55 –64 years. The lowest reported prevalence were among the age group 65 and above of 3.4 percent.
- b. **Adult Heavy Drinking.** Heavy drinking is categorized as adult men having more than two drinks per day and adult women having more than one drink per day. According to the 2004 Behavioral Risk Factor Surveillance System survey, 4.7 percent of Michigan's adult reported heavy drinking compared to the national prevalence of 4.8 percent. Males were more likely to report heavy drinking than females at prevalence 5.3 percent and 4.2 percent respectively. Whites reported higher rate of heavy drinking at 4.9 percent, followed by Hispanic at 4.7 percent, Blacks at 3.4 percent and other racial and ethnic groups at 0.3 percent. The prevalence of heavy drinking varied significantly with age. Persons between the ages 18 – 24 reported significant high rates of heavy drinking at 9.8 percent, followed by persons between the ages 45 – 54 at 4.4 percent, 25 – 34 at 4.3 percent, 55 – 64 at 4.1 percent and 65 and older at 3.0 percent.
- c. **Binge Drinking Prior to Pregnancy.** In 2002, approximated 39.8 percent of women reported drinking 5 or more drinks in one sitting 3 months prior to their pregnancy in Michigan. In addition, 56.7 percent of women reported ever drinking in the three month preceding pregnancy. Among racial groups, Hispanic women were the most likely to report binge drinking (49.0 percent), while Non-Hispanic White reported a rate of 39.7 percent, followed by Non-Hispanic Blacks at 34.2 percent. Maternal age had an inverse relationship to binge drinking with women younger than 20

years of age were most likely to report binge drinking in the 3 months preceding their pregnancy (50.9 percent). Women older than 35 years were the least likely to report an episode of binge drinking. Also, more non-married women reported an episode of binge drinking three months prior to their pregnancy (54.5 percent) when compared to women classified as married (33.6 percent). When comparing education status, binge drinking decreases as mother's education increases.

- d. **Binge Drinking During the Last Three Months of Pregnancy.** In Michigan, 3.7 percent of women reported drinking 5 or more alcoholic drinks in one sitting during the last 3 months of pregnancy in 2002. Over the past 8 years, the prevalence of binge drinking 3 months prior to pregnancy has been unstable. The highest peak in binge drinking during the last 3 months of pregnancy was during 1997 and 1998 at 6.8 percent. There has been a drastic decline over the years reaching its lowest prevalence in 2002 at 2.2 percent. Rate has remained stable since 2002.



# Attachment B – Illicit Drug Consumption

## Attachment B: Illicit Drug Consumption

**Youth Marijuana Use.** The burden of marijuana use especially in younger populations is substantial in Michigan. Marijuana has consistently been the most common primary drug in treatment admission among persons under 18 years of age. In 2003, there were 1929 treatment admissions as a result of marijuana among this population in Michigan. Correlated with this adverse outcome is the prevalence of marijuana consumption among youth. Highly associated and prevalent with marijuana use in Michigan is poor academic performance. According to the Michigan Youth Risk and Behavioral Survey 2001, students who report poor academic performance are 3 times more likely to use marijuana than their counterpart. In 2001, 20.7 percent of public school students reported poor academic performance (Michigan Substance Abuse Risk and Protective Factors Survey).

- a. **Youth Lifetime Use.** Lifetime marijuana use is categorized as having use marijuana one or more times during one's life. According to the 2005 Michigan Youth and Behavioral Survey, 37 percent of public high school student reported lifetime use of marijuana. Males were more likely to report lifetime use than females at rates of 40 percent and 35 percent respectively. Hispanics reported higher rates of use at 54 percent, followed by Blacks at 49 percent, American Indians at 46 percent and Whites at 34 percent. Prevalence of lifetime use also varied by grade. Students in the 12 grades reported lifetime use at 55 percent, followed by 11<sup>th</sup> graders at 48 percent, 10<sup>th</sup> graders at 43 percent and 9<sup>th</sup> graders at 33 percent. Michigan's lifetime use of marijuana remained consistently above the national average since 1997.
- b. **Youth in Justice Systems Lifetime Use.** In 2002, 78 percent of youth within juvenile systems in Michigan report lifetime use of marijuana compare to 44 percent of high school students. Females were more likely to report lifetime use than males at rates 90 percent and 75 percent respectively. Nonwhites reported higher rates than Whites at 82 percent and 73 percent respectively. Michigan's rate was below the national average rate of 85 percent in 2002 (Michigan Bureau of Juvenile Justice Youth Risk Behavior Survey, 2002).
- c. **Current Use of Marijuana.** Current use of marijuana is categorized as having used marijuana one or more time during the past 30 days. According to the 2005 Michigan Youth Risk Behavior Survey, 19 percent of public high school students reported current use of marijuana. Males were more likely to report current use than females at rates of 20 percent and 18 percent respectively. American Indians reported higher rates at 32 percent, followed by Hispanics at 29 percent, Blacks at 22 percent and Whites at 18 percent. Rates of current use have remained similar to the national average.
- d. **Youth in Justice Systems Current Use of Marijuana.** In 2002, 51 percent of youth within justice system in Michigan reported using marijuana 30 days prior to entry compared to systems 24 percent of public high school students. Females were more likely among youth within juvenile system to report current use than males at rates of 67 percent and 47 percent respectively. Nonwhites reported higher rates than Whites at 51 percent and 50 percent respectively. Michigan's rate was below the national rate at 53 percent.
- e. **Early Use of Marijuana.** According to the 2005 Michigan Risk Behavior Survey, 9 percent of Michigan's public high school students reported using marijuana before the age of 13. Males reported higher early use than females at 11 percent and 6 percent respectively. Hispanic student reported at a significantly higher rate of 22 percent, followed by American Indian at 20 percent, Blacks at 18 percent

and Whites at 6 percent. Michigan's early use rate has remained steady since 1997 and has remained above the national average.

- f. **Youth in Justice Systems Early Use of Marijuana.** In 2002, 54 percent of youth within justice systems in Michigan reported using marijuana before the age of 13 compared to 12 percent of public high school students. Females were more likely than males to report early use at rates of 59 percent and 53 percent respectively. Nonwhites were more likely to report early use than Whites at 55 percent and 53 percent respectively. Michigan's prevalence of early use among youth within juvenile system was lower than the national prevalence of 53 percent in 2002 (Michigan Bureau of Juvenile Justice Youth Risk Behavior Survey, 2002).
- g. **Youth Cocaine Use.** According to the 2005 Michigan Youth Risk Behavior Survey, 7 percent of public high school students report use of cocaine. Males and females reported cocaine use at a rate of 7 percents. American Indians reported significantly higher use of cocaine at a rate of 18 percent, followed by Hispanics at 15 percent, Whites at 7 percent and Blacks at 4 percent. Rates slightly varied with age. In 2003, 8 percent of 12<sup>th</sup> graders reported cocaine use; followed by 7 percent of 11<sup>th</sup> graders, and 6 percent of 10<sup>th</sup> and 11<sup>th</sup> graders. Prevalence of use has fluctuated since 1997 but has remained consistently above the national average.
- h. **Youth in Justice Systems Cocaine Use.** In 2002, 35 percent of youth in justice systems in Michigan reported lifetime use of cocaine compared to 8 percent of public high school students. Females reported at a significantly higher rate than males at 51 percent and 31 percent respectively. Whites reported higher rates than Nonwhites at rates of 41 percent and 29 percent respectively. Michigan's prevalence of lifetime cocaine use was below the national prevalence of 36 percent.
- i. **Youth Heroin Use.** In 2005, 4 percent of Michigan's public high school students reported using heroin one or more time in their lifetime. Males reported at a rate of 4 percent and females at a rate of 3 percent. Hispanics reported the highest percent use at 7 percent, followed by Blacks at 6 percent, Whites at 3 percent and American Indian at 1 percent. Although 2005 estimates by grade have not yet been released, 2003 estimates showed that 9<sup>th</sup> graders reported the highest lifetime use of heroin at 5percent, followed by 11<sup>th</sup> and 12<sup>th</sup> graders at 4 percent. Tenth graders reported the lowest lifetime use of heroin at a rate of 2 percent.
- j. **Youth in Justice Systems Heroin Use.** In 2002, 17 percent of youth in Michigan's justice systems reported using heroin one or more times in their lifetime compare to 3 percent among public high school students. Females reported at a significantly higher rate than males at rates of 29 percent and 14 percent respectively. Whites reported higher use than Nonwhites at rates of 18 percent and 16 percent respectively.
- k. **Youth Inhalant Use.** In 2005, 12 percent of Michigan's public high school students reported use of inhalants. Females reported inhalant use than males at 13 percent and 12 percent respectively. American Indians reported significantly higher rates at 26 percent, followed by Hispanics at 22 percent, Whites at 12 percent, and Blacks at 8 percent. Inhalant use also varied by grades. Ninth graders were more likely to report inhalant use at a rate of 15 percent, followed by 12<sup>th</sup> graders at 14 percent, 10<sup>th</sup> graders at 12 percent and 11<sup>th</sup> graders at 10 percent.

- l. **Youth in Justice Systems Inhalant Use.** In 2002, 37 percent of youth in Michigan's justice systems reported inhalant use compared to 13 percent of public high school student. Females were more likely to report use than males at 46 percent and 34 percent respectively. White reported at a higher rate than Nonwhites at 44 percent and 29 percent respectively. Prevalence rates in Michigan were above the national average of 27 percent in 2002.
- m. **Youth methamphetamine Use.** Methamphetamine use is categorized as using one or more time during a lifetime. In 2005, 4 percent of public high school students in Michigan reported using methamphetamines. Males reported use at a higher rate than females at 5 percent and 3 percent respectively. Hispanics were more likely report using methamphetamines at a rate of 8 percent, followed by 7 percent among American Indians, 4 percent among Whites and 3 percent among Blacks. Prevalence of methamphetamines use has been decreasing since 1999 and consistently remained below the national average.
- n. **Youth in Justice Systems methamphetamine use.** In 2002, 29 percent of youth in Michigan's justice systems reported using methamphetamine compared to 8 percent of public school students. Females were more likely to report using than males at prevalence of 44 percent and 25 percent respectively. Whites were also more likely to report use than Nonwhites at 34 percent and 25 percent respectively.
- o. **Adult Marijuana Use.** Marijuana use among adults has also remained above the national average between the years 1999 –2001. According to the National Survey on Drug Use and Health, 7.1 percent of persons aged 12 and up reported current use of marijuana. Persons between the ages 18 –25 reported the highest current use of marijuana at 19.3 percent. In 2001, 4.7 percent of persons 26 or older reported current use of marijuana.
- p. **Adult Cocaine Use.** Adult cocaine use has been on a slow increasing trend over the since 1992. According to the 2003 National Survey on Drug Use and Health 6.26 percent of persons aged 18 – 25 reported past year cocaine while persons 26 years or older reported use at a rate of 2 percent.
- q. **Drug Use – Corrections.** Random drug testing is a routine practice in correctional systems in Michigan. In 2004, such testing indicated that 9.9 percent of parolees tested positive and 11.9 percent of probationers tested positive for illicit drug use. The most common drugs detected were marijuana, cocaine and opiates. Of the persons who tested positive on parole, 49.2 percent tested positive for cocaine, 46.2 percent for marijuana and 19.3 for opiates. Of the persons who tested positive on probation, 34.9 percent tested positive for cocaine, 53.9 percent tested positive for marijuana and 23.4 percent for opiates. Consequently, we have a significant number of men and women who reentered the community with substance prevention, early intervention, treatment and recovery support needs. Without these interventions and community supports, these individuals are at greater risk of recidivism than the probationers and parolees who do not use drugs.

# Attachment C – Tobacco Consumption

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- a. **Adult Tobacco Use.** In Michigan, smoking related deaths from lung cancer and COPD have remained consistently above the national rates over the past 10 years. Highly correlated with these high death rates is the prevalence of smoking among adult and youth populations in Michigan. According to the Behavioral Risk Factor Surveillance System Survey, smoking among Michigan adults has also remained consistently higher at a 2004 prevalence of 23.2 percent and ranking six nationally among the states in prevalence of smoking in 2003. The prevalence of smoking among persons between the ages 18 - 24 are significantly higher at 40.6 percent than other age groups, followed by 25.7 percent among persons 35 –44, 24.4 percent among persons 25 – 34 years and 19.5 percent among persons 55 – 64 years. The lowest prevalence of smoking is among persons 75 and over of 5.7 percent.
- b. **Youth Tobacco Use.** Many studies have shown that most adolescents who begin smoking regularly in their youth will continue smoking into adulthood. In Michigan, although the prevalence of smoking among students has declined dramatically since 1997, the prevalence rate of current and early use has remained significantly above the national rate over those years. Y
- c. **Youth Lifetime Tobacco Use.** Lifetime tobacco use is categorized as having ever tried cigarette smoking, even one or two puffs. In 2005, 52 percent of Michigan's public high school student reported lifetime smoking. Males reported higher rates of smoking than females at prevalence of 54 percent and 50 percent respectively. Hispanic and American Indian students reported significantly higher smoking prevalence at 75 percent and 71 percent respectively, followed by Black at 58 percent and Whites at 50 percent. Prevalence of lifetime use increase with increasing grades. In 2003, 67 percent of 12<sup>th</sup> reported lifetime use, followed by 65 percent of 11<sup>th</sup> graders, 58 percent of 10<sup>th</sup> graders and 53 percent of 9<sup>th</sup> graders. Michigan's prevalence of lifetime smoking has remained below the national average.
- d. **Youth in Justice Systems Tobacco Use.** In 2002, 89 percent of youth in Michigan's juvenile systems reported ever trying cigarettes compared to 64 percent of public high school students. Females reported higher rates of smoking than males at prevalence of 96 percent and 87 percent respectively. Nonwhites reported at a higher rate than White at 89 percent and 88 percent respectively. Michigan's prevalence was below the national prevalence of 91 percent.
- e. **Early Tobacco Use.** Early use is categorized as smoking a whole cigarette for the first time before age 13. According to the 2005 Michigan Youth Risk Behavior Survey, 16 percent of public high school students reported early use of tobacco. Males reported at a higher rate than females at prevalence of 18 percent and 14 percent respectively. American Indian students were more likely to report early use of cigarettes at a prevalence of 34 percent, followed by Hispanics at 28 percent, Blacks at 22 percent and Whites at 14 percent. By grades 23 percent of 9<sup>th</sup> graders reported early use, followed by 21 percent of 11<sup>th</sup> graders, and 20 percent of 10<sup>th</sup> and 12<sup>th</sup> graders.
- f. **Youth in Justice Systems Early Tobacco Use.** In 2002, 75 percent of youth in Michigan's juvenile systems reported early use to cigarettes compared to 23 percent of public high school students. Females were more likely to report higher early use than males at prevalence of 80 percent and 73 percent respectively. Whites were more likely to report early use than nonwhites at prevalence of 77 percent and 72 percent. Michigan's prevalence of early use among youth in juvenile systems was significantly above the national average of 43 percent in 2002 Michigan Bureau of Juvenile Justice Youth Risk Behavior Survey, 2002).

- g. Youth Current Tobacco Use.** Current use is categorized as smoking one or more cigarettes in the past 30 days. In 2005, 17 percent of Michigan's public high school students reported current use of cigarettes. Males were more likely to report current use than females at prevalence of 18 percent and 16 percent. Cigarette use among American Indians was significantly high at a prevalence of 41 percent, followed by Hispanics at 27 percent, Whites at 18 percent and Blacks at 8 percents.
- h. Youth in Justice Systems Current Tobacco Use.** In 2002, 55 percent of youth in Michigan's juvenile systems reported cigarette use 30 prior to entry compared to 26 percent of public high school students. Females reported higher current use than males at 68 percent and 52 percent respectively. Whites reported higher rates than Nonwhites at prevalence of 57 percent and 53 percent respectively. Michigan's prevalence for current smoking among youth in the juvenile system was lower than the national average of 64 percent.

# Attachment D – Risk Factors for Alcohol, Tobacco & Illicit Drug Use



## Attachment D: Risk Factors/Intervening Variables highly associated with ATOD Consumption among youth in Michigan

- a. Individual Domain: **Lack of Academic Achievement.** Poor academic performing students are up to eight times more likely than their peers to be engaged in alcohol and drug use, violent behaviors and other high-risk behavior. As part of the 2001 Michigan YRBS, students reported typical grades they received, as well as the risk behaviors they engaged in. Compared to students with high grades (mostly As/Bs), low performing (mostly Ds/Fs), students were: three times more likely to have started marijuana use before age 13; two times more likely to have started drinking alcohol before age 13; and three times more likely to have smoked cigarettes recently.
- b. Community Domain: **Perceived Availability of drugs and handguns and Laws and norms favorable toward substance use.** According the Michigan Substance Abuse Student Risk and Protective Factor Survey 2000/2001, “perceive availability of drugs and handguns” and “laws and norms favorable toward substance use” were factors highly associated with increase risk of substance abuse. The odds of alcohol use among youth are 7.7 times higher and 7.4 times higher in drug use among youth who “perceive availability of drugs and handguns” in their community. In students who reported that “laws and norms favorable toward substance use” are 5.7 times more likely to use alcohol and 8.5 times more likely to use drug. In Michigan, 42.5 percent of students reported “perceived availability of drugs and handguns” and 17.6 percent reported “laws and norms favorable toward substance use”.
- c. Community Domain: **Poverty.** Of the 59,544 persons in Michigan who received substance abuse treatment services in FY 2005, 44,451, or 75 percent, were receiving income-based assistance programs provided by the Department of Human Services. This is an indicator of poverty, which is a known risk factor for, and predictor of alcohol, tobacco and illicit drug use and abuse.
- d. Family Domain: **Poverty and Children living with substance abusers...** In 2005, there were 47,000 known substance abusers identified as receiving some type of assistance through the Department of Human Services (DHS). Of the 47,000 known substance abusers receiving assistance, 16,000 were recipients of Medicaid. DHS estimated that 15,600 children under the age of 18 were listed on the Medicaid cases of the 16,000 recipients. This is another indicator of poverty, which is a known risk factor for, and a predictor of use and abuse of alcohol, tobacco and illicit drugs. The National Institute on Drug Abuse research has shown that children living with or closely associated with substance abusers are at high risk for using and abusing alcohol, tobacco and illicit drugs.
- e. Family Domain: **Poor discipline.** According to the Michigan Substance Abuse Student Risk and Protective Factor Survey, 25.9 percent of students reported poor discipline. Persons who reported poor discipline were 4.4 times more likely to use alcohol and other drugs.
- f. Peer Domain: **Sensation seeking and friends’ substance use.** Peer factors that are most prevalent in Michigan and highly associated with alcohol and drug use are sensation seeking and friends’ substance use. Persons who report sensation seeking are 5.7 times likely to use alcohol and 5.8 more likely to use drugs. According to the Michigan Substance Abuse Student Risk and Protective Factor Survey, 22.9 percent of the students reported sensation seeking and 18.7 reported having friends who use substances.