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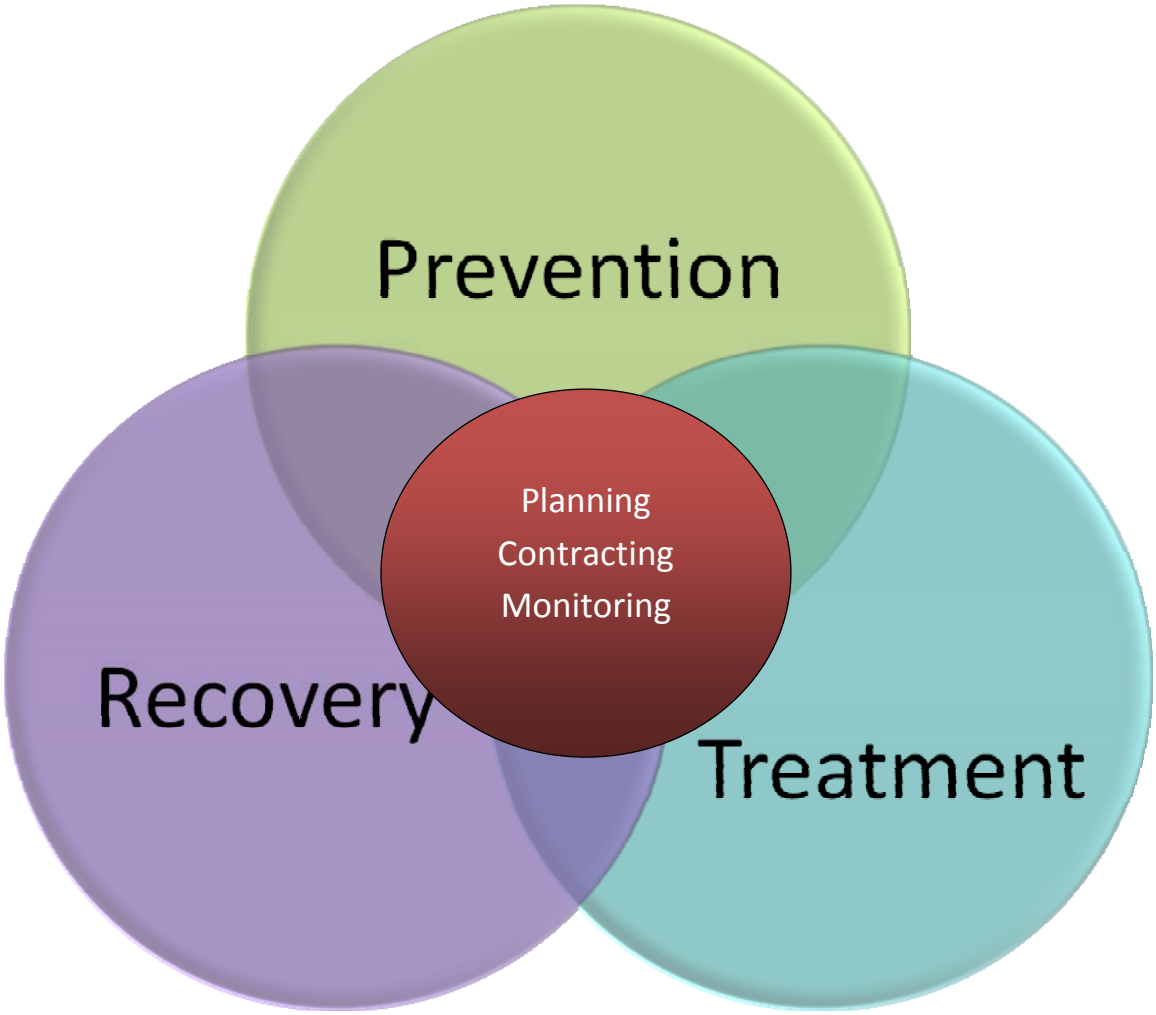

ASSESSING THE BURDEN OF ILLICIT DRUGS AND ALCOHOL ABUSE:

A Focus on Heroin and Prescription Drug Abuse

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BACKGROUND

In 2007, with support from the Michigan Department of Community Health, Mental Health & Bureau of Substance Abuse and Addiction Services (BSAAS), the Macomb County Community Mental Health, Office of Substance Abuse (MCOSA) led a countywide effort via the Strategic Prevention Framework, State Incentive Grant (SPFSIG) to profile substance abuse issues, specifically issues related to underage drinking and alcohol related traffic crashes, build and strengthen community and statewide capacity, and develop a strategic plan to address and sustain action around substance abuse issues around communities.

As a result, a Needs Assessment Data Report which identified high-risk groups and geographic areas "hot spots" to target prevention efforts and resources and a Community Strategic Plan which set forth four goals: 1) To decrease alcohol related traffic crash deaths in Macomb County; 2) To decrease over time the number of Driving Under the Influence (DUI) arrests in Macomb County (especially for teenagers and young adults); 3) To decrease alcohol use among middle school and high school students; 4) To decrease alcohol use among 18-20 year olds, were developed.

This updated data report is an evaluative review of those substance abuse indicators related to alcohol related traffic crashes and underage drinking, identified in the 2007 needs assessment data report. Findings in the report should be used to measure the impact of the collaborative and sustained efforts to address substance abuse issues related to underage drinking and alcohol related traffic crashes as stated by strategic plan goals over time.

In addition, as a result of ongoing monitoring and reporting of substance abuse problems throughout Macomb County, illicit drug issues related to increases in the use of opioids, specifically heroin and prescription pain relievers have been identified over the years. This report also explores this emerging trend from an epidemiologic prospective.

EXECUTIVE SUMMARY

This report marks the second data profile of alcohol and illicit drugs burden in Macomb County. The first report produced in 2007 detailed estimates related to alcohol related traffic crash deaths and underage drinking to allow for countywide strategic planning via the Strategic Prevention Framework State Incentive Grant (SPFSIG).

There is an emerging national trend in the increased use, misuse, and prescribing of opioid based pain relievers. There is also a statewide trend in the increased treatment admissions of heroin and other opioid involved illicit drugs. This 2010 data profile presents estimates on indicators related heroin and prescription pain reliever mortality (deaths), morbidity (hospitalizations), arrests, and illicit drugs consumption patterns in Macomb County for the period of 2004 to 2008. This report also provides an assessment of the 2007 SPFSIG goals to reduce alcohol related traffic crashes and underage drinking in Macomb. Key findings in this report include:

Opioids

- Opioid abuse poses the greatest drug-related threat to Macomb County. Opioid poisonings accounted for 59 percent of drug-related deaths in Macomb County in 2008. Between 2004 and 2008, there was a 102 percent increase in opioid poisoning deaths in the County.

Heroin

- Heroin deaths, hospitalizations, and treatment admissions rates are on an increasing trend. The County-wide heroin poisoning death rate was 6.26 per 100,000 population in 2008, a 200 percent increase from 2004 to 2008. In 2008, heroin accounted for 63 percent of the total opioid related poisoning deaths in the County.

- Heroin deaths and hospitalizations are higher among males (5.7 deaths per 100,000 population and 7.3 hospitalizations per 100,000 population) when compared to females (1.4 deaths per 100,000 population and 4.0 hospitalizations per 100,000 population).

- Persons aged 21-24 years had the highest heroin poisoning death rate at 8.97 per 100,000 population, followed by persons age 35-44 years at 6.01 per 100,000 population.

- Persons aged 15-24 years were hospitalized at a higher rate (14.5 hospitalizations per 100,000 population) compared to persons aged 25-44 years (9.1 hospitalizations per 100,000 population) and persons 45-65 years (4.6 hospitalizations per 100,000 population).

- The city of Warren had the highest number of heroin poisoning deaths (37 total deaths at 5.5 deaths per 100,000 population) during the period of 2004-2008. However, the city of Roseville had a higher death rate at 5.9 deaths per 100,000 population (14 total deaths) over the five year period. Warren and Roseville also experienced the highest hospitalization rates, 11.02 and 10.6, respectively.

Prescription Pain Relievers

- Prescription pain relievers accounted for 32 percent of the total opioid involved poisoning deaths in 2008. Prescription pain reliever death rates are however on a declining since 2006 while hospitalization rates are currently on an increasing trend.

- The 2008 deaths rate due to prescription pain reliever poisonings was 1.6 deaths per 100,000 population while the 2008 hospitalization rate was 16.3 hospitalizations per 100,000 population, a rate two times higher than the heroin hospitalization rate.

- Prescription drug pain reliever poisoning deaths were higher among males (2.8 deaths per 100,000 population) when compared to females (1.8 deaths 100,000 per population) however, hospitalizations were higher among females (7.9 hospitalizations per 100,000 population) when compared to males (6.42 hospitalizations per 100,000 population) for the five year period of 2004-2008.

- Mortality was highest among persons aged 35-44 years (4.75 deaths per 100,000 population), followed by persons aged 45-64 years (3.83 per 100,000 population) for the period of 2004 to 2008.

- Hospitalizations were highest among persons aged 45-64 years (12.0 per 100,000 populations), followed by persons 65 years and older (11.2 per 100,000) for the period of 2004 to 2008.

- For the period of 2004 to 2008, the city of Warren had the highest number of prescription pain reliever poisoning deaths (26 deaths, a rate of 3.9). However, the cities of Eastpointe had

a higher death rate (5.49 deaths per 100,000 population), followed by Roseville (5.09 deaths per 100,000 population) and Sterling Heights (4.88 deaths per 100,000 population).

Opioid Involved Treatment

- Macomb County ranked second among the regional agencies for the highest number of opioid involved treatment admissions.
- There was a 12.2 percent increase in opioid involved treatment admissions from 2008 (5,673 admissions) to 2009 (5,058 admissions).
- Of all admissions, heroin admissions were highest (36 percent), followed by alcohol abuse (31 percent); 11 percent of admissions were due to prescription pain relievers in 2009.
- A higher proportion of males (59.8 percent) were in treatment compared to females (42.2 percent) for opioid involved drug abuse in 2009.
- Persons aged 21-25 years accounted for the largest proportion (22.3 percent) of those in treatment for opioid involved drugs, followed by persons aged 26-29 years (16.4 percent).

Illicit Drugs Consumption

- Five (5) percent of youth aged 12-17 years reported current illicit drug use other than marijuana during the period 2004-2006, an 8.5 percent increase from the period of 1999-2002 in Macomb County (NSDUH).
- Illicit drug use was highest among persons aged 18-25 years (9.6 percent) compared to persons aged 12-17 years (5.0 percent) and person aged 26 and older (2.8 percent) in Macomb County for the period 2004-2008.
- Macomb County residents aged 18-25 years also presented higher current illicit drug use rates when compared Michigan (9.3 percent) and the U.S. (8.5 percent) rates for current use (NSDUH).
- Persons aged 18-25 years also reported higher rates of past year non-medical use of pain relievers (15.4 percent) when compared to persons aged 12-17 years (7.6 percent) and persons 26 and older (4.3 percent) for the period of 2004 -2006 (NSDUH). The rate among

this age group was higher in Macomb when compared to the U.S. (12.2 percent) and Michigan (13.9 percent).

- There was an increase in heroin use among Macomb high school students from 1.9 percent in 2007 to 3.4 percent in 2009 (YRBS). Macomb students also reported higher heroin use than the national rate (2.5 percent) but lower than Michigan's rate of five (5) percent.
- There was a decrease in current non-medical use of prescription pain relievers among Macomb students from the period of 2008 to 2010 (MiPHY).

Alcohol related Traffic Crash Fatalities

- Macomb County experienced a substantial reduction (71 percent) in alcohol related traffic crash fatalities and serious injuries when comparing the period of 2001-2005 (605 total fatalities or serious injuries, an average of 121 per year) to the period of 2006-2009 (139 total fatalities or serious injuries, an average of 35 fatalities or injuries per year).
- There was also a 12.5 percent reduction in the number of alcohol related traffic crashes between the two periods.

Driving Under the Influence Arrests

- DUI arrest is on a steady decline in Macomb County. Macomb experienced a 12.5 percent decrease in the number of arrests from the year 2005 to 2009 (Michigan Drunk Driving Audit).
- Persons aged 21-24 year are still at highest risk for DUI arrests. Between the year 2005 and 2006, there was a 10.6 percent decrease in number of arrest made to this age group.
- However, DUI arrests among underage persons aged 13-20 years increased by 29 percent from 308 total arrests in 2005 to 397 total arrest in 2006. More recent arrests data is needed to assess this indicator to date.

Alcohol Use Among Middle and High School Students

- According to the NSDUH Survey, current alcohol use among youth aged 12-17 years increased slightly when comparing the period of 1999-2001 (18.6 percent) to 2004-2006 (19.0 percent).

- More recent data from the YRBS and MiPHY surveys in 2010 showed that Macomb County students reported lower rates of current alcohol use (31.2 percent) when compared to the national rate of 41.8 percent and the Michigan rate of 37.0 percent.

Alcohol Use Among Persons 18-20 Years

- More detailed consumption data is needed to assess use among persons aged 18-20 years. NSDUH provides data on alcohol consumption for persons aged 18-25 years. The data shows higher current alcohol use among persons aged 18-25 years (71.6 percent) when compared to other age groups and when compared to Michigan and the national rates, 67.5 and 61.0 percent, respectively (2004-2006).

- Past month binge drinking was also higher among persons aged 18-25 years (49.4 percent) when compared to persons aged 26 or older (25.5 percent) and persons aged 12-17 (11.5 percent) in Macomb County. Binge drinking rates for Macomb residents of this age group were also higher when compared to Michigan (46.9 percent) and the U.S. (41.6 percent).

Data Gaps and Limitations

There were data gaps that limited evaluation of certain SPFSIG goals, specifically alcohol and illicit drugs consumption among persons aged 18-20 years. These were the data limitations identified in this assessment:

- Alcohol and illicit drugs consumption data are not available specifically for persons aged 18-20 years. Currently, NSDUH is the only source for information on these young adults; however NSDUH uses the age category of persons aged 18-25 years. As 21-25 year olds may have higher consumption rates than 18-20 year olds, use of the NSDUH estimates for the 18-25 year olds may overestimate true prevalence in the younger adults aged 21-25 years. NSDUH data is also outdated (2004-2006) which limits real time assessment of the consumption patterns within adult populations.

- More recent data is needed to assess narcotic and alcohol related arrests by age, gender and race. The most recent data made available is for the year 2006. Lack of current data on narcotic arrests limits the ability to assess changes that may have occurred to date.

- Findings from the Michigan Profile on Healthy Youth Survey (MiPHY) may be only representative of participating schools and may not be generalized to all public schools in the County. MiPHY does not randomly select schools for participation as the Youth Behavioral Risk Factor Survey (YRBS), but rather invite schools to voluntarily participate. Convenient

(Non-Probability) samples, such as MiPHY, are subject to self-selection bias; and findings from this type of survey may not represent schools that "opted out" of participating. Caution should be taken when generalizing these findings to entire populations.

- Maps that indicate cause of death represent the zip code where the person resides.
- MDCH, Division of Vital Records and Statistics uses death certificates which captures "underlying cause of death" proximate cause of death for analysis. Poisoning death (ICD 10 codes, T40.0- T40.9) may not be captured as a drug death if it was listed as a poisoning.

DATA SOURCES

CONSEQUENCES: ALCOHOL AND ILLICIT DRUG MORTALITY, HOSPITALIZATIONS AND TREATMENT

Michigan Department of Community Health, Division of Vital Statistics, County Death Files, 2004-2008

Michigan Department of Community Health, Michigan Resident Inpatient Files, 2004-2008

Michigan Department of Community Health, Bureau of Substance Abuse Services, Treatment Episode Admissions Data, 2008-2009

Substance Abuse and Mental Health Administration, Drug Abuse Warning Network Report, Area Profiles of Drug-related Mortality, 2008

ALCOHOL AND NARCOTIC LAW ARRESTS

Michigan State Police, Michigan Drunk Driving Audit, 2005-2009

Michigan State Police, Uniformed Crime Reporting Program, 2005-2006

ALCOHOL RELATED TRAFFIC CRASHES

Office of Highway Safety Planning, Michigan Traffic Crash Facts, 2003-2009

Michigan State Police, Michigan Drunk Driving Audit, 2005-2009

ALCOHOL AND ILLICIT DRUG CONSUMPTION

Office of Applied Studies. (2008). Sub-State estimates from the 1999-2002 and 2004-2006 National Surveys on Drug Use and Health. Rockville, MD: Substance Abuse and Mental Health Services Administration

Michigan Department of Education, Michigan Profile on Healthy Youth, County Estimates, 2008 and 2010

Centers for Disease Control, Youth Risk Behavioral Factor Survey, 2009

Macomb Intermediary School Department, Youth Risk Behavioral Survey, 2003

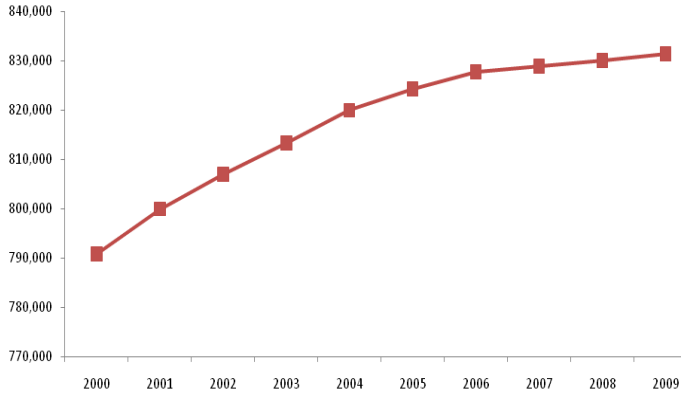
POPULATION ESTIMATES

The US Census Bureau, American Fact Finder Population Estimates, 2004-2009

ABOUT MACOMB COUNTY

Macomb County is the third most populous County in Michigan with 829,436 residents; however geographically, it is the ninth smallest County in Michigan (570 sq mi). Over the past decade, Macomb County's population has grown exponentially, by 40,000 persons. Although unknown, it is believed that the new residents are moving from nearby cities such as Detroit and its surrounding metropolitan area.

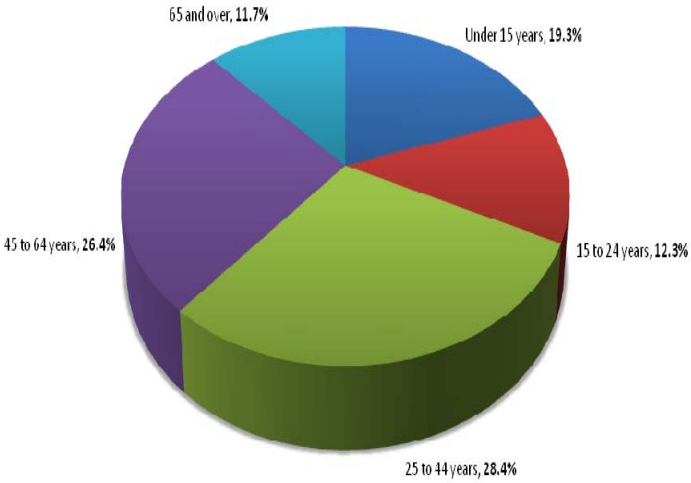
Figure 1.
Macomb County
Population Trend: 2000 - 2009



Source: US Census Bureau, 2006-2008 American Community Survey

Macomb County's population is 50.8% female and 49.2% male. The median age of the residents is 38.6 years old. **Figure 2** details the age distribution of Macomb County.

Figure 2.
Macomb County
2006-2008 Population Estimates by Age Group

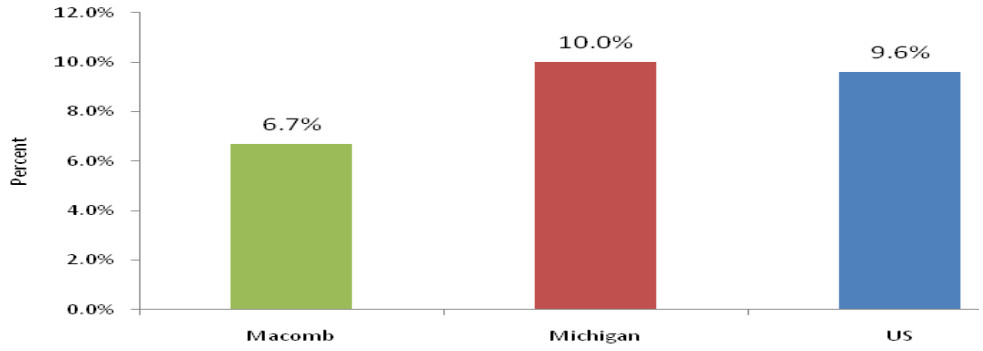


When compared to Michigan and the U.S., Macomb County's high school graduation rate is equivalent to other regions with 87.2% of Macomb County residents being high school graduates compared to 87.6% of Michigan residents, and 84.5% of U.S. residents. A majority of Macomb County residents reside in owner occupied units, 79.3%, compared to 74.7% of Michigan residents, and 67.1% of U.S. residents, suggesting a higher level of neighborhood stability.

Similar to other Michigan counties, Macomb County has a high unemployment rate due to the loss of jobs in the auto industry. However, the

County's unemployment rate is comparable to the State and the U.S. unemployment rate at 9.3%, 9.5%, and 9.6% respectively. Macomb County's median household income is $56,377 compared to $49,694 in the State of Michigan and $52,175 at the U.S. level. When compared to Michigan and the U.S., fewer families live below the federal poverty level as seen in **Figure 3**.

Figure 3.
Macomb County
Percent Families Living Below Poverty Level, 2006-2008 Poverty Estimates



Source: US Census Bureau, 2006-2008 American Community Survey

Socioeconomic status is a social determinant of health. Areas with high unemployment, low high school graduation rates, and low neighborhood stability are more likely to experience poor health, and risky or maladaptive behaviors, which can be demonstrated through increased rates of drug use and abuse.

COMBATING DRUG ABUSE IN MACOMB COUNTY: A POLICY PERSPECTIVE

Macomb County has an invested interest in preventing prescription drug abuse within its population. Prescription drug is the second most common drug of abuse among youth, behind marijuana use *(NSDUH 2008*). According to the American Census Bureau, 31.6% of Macomb County residents are under 24 years of age which places them at a high risk for prescription drug abuse *(United States Census Bureau, 2008).*

STATE LEGISLATION

State legislators that represent Macomb County, frequently introduce legislation that will impact drug abuse in youth. Given the knowledge that social pressures such as bullying could potentially cause behavioral problems with youth, Macomb County legislators have introduced legislation that directly impacts bullying. House Bill 4580 was passed by the House on May 13, 2010 which requires schools to implement policies to prevent bullying; currently the Senate is reviewing the bill in the Education Committee. In addition to legislation that impacts bullying and peer pressure, the State Senate received House Bills 4316-4318, which together would:

- Eliminate the current immunity against product liability lawsuits that specifically applies to drugs approved by the federal Food and Drug Administration (FDA).
- Create a three-year window in which claims could be filed for injuries attributable to FDA-approved drugs during the time the immunity was in place.
- Allow civil suits to be filed under the Consumer Protection Act if a business misrepresented risks associated with a drug, herb, dietary supplement, or botanical supplement.

If passed this legislation would establish protections for residents that consume prescription drugs that result in detrimental effects. Though this does not directly address drug abuse, some pharmaceuticals have addictive effects even when not misused.

Falling along the same line of House Bill 4580 and House Bills 4316-4318, the State House passed House Bills 5198-5199 which would suspend the driver's license of a person that is caught buying alcohol for a minor (person under 21). The license suspension will serve in addition to the buyer facing fines and potential jail time. If passed by the State Senate and signed by the Governor, these

stiffer penalties would serve as a further deterrent against supplying alcohol to minors. Additional bills that would impact drug use, if passed, are House Bills 6226 and the tie-barred House Bill 6038. Together these bills will consider more drugs to be Schedule I drugs in Michigan. The U.S. Department of Justice defines a Schedule I Drug as:

- The drug or other substance has a high potential for abuse.
- The drug or other substance has no currently accepted medical use in treatment in the United States.
- There is a lack of accepted safety for use of the drug or other substance under medical supervision.
- Examples of Schedule I substances include heroin, lysergic acid diethylamide (LSD), and marijuana (*United States Drug Enforcement Administration, 2010*).

Some of the drugs that the bills would add to the list due to their mimicry to marijuana include K2 and BZP. Adding these drugs to the Schedule I list will serve as a formal update making the list more comprehensive and up-to-date with current trends of use.

RESOURCES

The State of Michigan also publishes and endorses resource guides for parents and youth. One such guide is *Drug and Alcohol Abuse: A Parent/Child Guide to Michigan Law*. This resource guide details why some youth will try drugs, what parents/guardians can do to prevent illicit drug use, what Michigan Law States regarding substance abuse, and what resources are available for youth that abuse drugs. Another guide that the State of Michigan endorses is the *Parents Unite to Prevent Underage Drinking*. This guide is geared towards parents and describes what they can do if they suspect alcohol abuse occurring in youth. Included in the manual are methods for talking to youth and those that influence them as well as resources for youth who abuse alcohol.

In March 2009, The Michigan Department of Community Health, Mental Health & Substance Abuse Administration Bureau of Substance Abuse & Addiction Services (BSAAS) held a Prescription and Over-the-Counter Drug Abuse Summit, to raise awareness and provide the attendees with resources. The summit recognized the growing need for prescription drug abuse intervention and as a result the BSAAS is in the beginning stages of establishing a taskforce at the State-level aimed at identifying and recommending evidence-based prevention interventions and law enforcement strategies that will

reduce the availability and illegal access to prescription and over-the-counter drugs. The taskforce will provide recommendations to BSAAS which will in turn support strategies that meet local and regional needs. The goal of this coordinated effort is a reduction of prescription and over-the-counter drug abuse, by youth and adults. Currently, this taskforce is not operational, but full operation is expected for Fall 2010.

OVERVIEW

Drug abuse has deleterious effects on communities, families and individuals and is a major burden to society. Drug abuse is associated with numerous negative health and social consequences including increased mortality, injuries, overdose, sexually transmitted infections, spontaneous abortions, hepatitis, and liver and cardiovascular diseases and other life-threatening conditions. The social consequences of substance abuse are also significant, which include loss of employment and productivity, failure in school, increased crime and imprisonment, decreased safety, family disintegration, domestic abuse, child abuse, and a host of mental and physical disabilities *(Williams, 2007)*. In addition to severe health and social consequences, the National Institute on Drug and Addiction (NIDA) estimates the total overall cost of drug abuse in the United States to exceed half a trillion dollars. This includes approximately $181 billion for illicit drugs, $168 billion for tobacco, and $185 billion for alcohol *(National Institute on Drug Abuse, 2008)*. Drug abuse is non-discriminatory; it affects every culture, socio-economic background, region, race, ethnicity, culture, and education level.

Opioids, which include narcotics, are drugs that produce analgesic and sedative effects. Although opioids are often prescribed and manufactured as medications, they can also be manufactured and obtained illegally. As a substance of abuse, opioids are generally separated into two categories 1) heroin and 2) opioids other than heroin, which consist almost entirely of prescription pain relievers *(Substance Abuse and Mental Health Administration , 2009)*. Heroin particularly is highly addictive and has a large potential for abuse. Heroin compared to morphine and other opioids is more fat soluble and crosses the blood-brain barrier quickly. It therefore works more quickly but for a shorter time and results a proportion of the opioid-related overdose, deaths, injuries, and treatment.

Heroin is notably the greatest drug threat to communities and its abuse remains widespread, affecting both suburban and urban areas. Demand for heroin is high and easily accessible. The popularity of heroin is due, in part, to increased availability of low cost, high purity heroin that can be effectively snorted or smoked rather than injected. Heroin is sold on the street in small glassine bags with some type of marking or brand name on the package (Office of National Drug Control Policy Clearinghouse, 2008).

Non-medical use of prescription pain relievers is an emerging trend and has captured national and media attention. Studies have shown a significant increase in prescriptions for pain relievers such as Vicodin, Hydrocodone, OxyContin over the past five years. Data from the Michigan Automated Prescription Service (MAPS) reports that 15,989,795 prescriptions were written in 2006; this number

increased to 17,254,281 in 2008 (State Epidemiology Workgroup, 2010). National studies also confirmed that giving away and loaning of prescription pain relievers are prevalent among youths and young adult populations.