

Substance Use Disorders and Pregnancy

CONSENSUS STATEMENT

EXECUTIVE SUMMARY

March 2007

POSITION

Poor birth outcomes related to substance use are 100% preventable. The only way to proactively prevent poor outcomes is to universally screen all pregnant women for alcohol, tobacco and other drugs (ATOD) usage. There is no other reliable method to determine substance use disorders. Every pregnant woman in Indiana should have the opportunity to discuss and be screened for usage of alcohol, tobacco and other drugs (ATOD) with her primary care provider.

PURPOSE

The purpose of this statement is to alert all healthcare providers, legislators, child welfare staff and consumers about the incidence and significance of substance abuse during pregnancy, and recommended interventions that can be taken at the public policy, provider and consumer level. Substance abuse is a disease that requires special attention and treatment. Proper care of women who suffer from substance use disorders before, during and after pregnancy, is essential in preventing unnecessary damage to the pregnant woman, newborn, immediate family and the community. Policy makers, health care providers and others who directly impact pregnant women affected by substance abuse should utilize all possible resources for proper identification of signs and symptoms, screening, referrals and interventions.

SCOPE OF THE PROBLEM

Alcohol, tobacco and other drug (ATOD) use during pregnancy is a major public health and social problem in Indiana. Several nationally published reports indicate that the use of ATOD is present in as many as 10 to 30 percent of all pregnancies⁴⁻¹². The estimated costs associated with caring for a baby that has been prenatally exposed to ATOD, over their lifetime, range from \$750,000 to \$1.4 million¹³.

RECOMMENDATIONS

The following recommendations regarding Substance Use Disorders and Pregnancy were developed from the many meetings of the Indiana Perinatal Network's Substance Abuse and Pregnancy Committee, a committee of experts from around the state.

I. Public Education and Awareness:

Education is the key to primary prevention/intervention for substance use disorders. It is imperative to better understand the special needs of pregnant women suffering from substance use disorders while discouraging initial and continued inappropriate substance use during pregnancy.

- a. Educate all healthcare providers, legislators, employees of the criminal justice system and social welfare workers in Indiana on the prevalence and incidence of and issues related to addiction in the state, with an emphasis on addiction as a chronic relapsing disease.
- b. Implement a state-wide consumer education campaign that encourages substance abusing women to seek care for their addiction, and creates a more supportive community.
- c. Implement a state-wide public awareness campaign to educate the community, including churches and schools, about the harm of substance use and its effect during pregnancy. The campaign should have age and gender appropriate messages for children, teenagers, adults and seniors.

- d. Develop and maintain an up-to-date resource list of available residential and non residential treatment and/or recovery programs with name, address, telephone number, email address and cost on Indiana Perinatal Network and other state-wide agency websites, 211 Helpline directories, Indiana Family Helpline directories and in all public libraries.

II. Screening:

Every health care provider in Indiana has a responsibility to screen each of their pregnant and postpartum patients for substance use.

- a. Develop and adopt consistent state wide verbal prenatal and postpartum screening and testing protocols that adequately identify women and newborns in need of services. Make verbal screening for substance use throughout pregnancy, as well as counseling and drug use treatment, a consistent component of prenatal care.
- b. Disseminate information about screening in order to give all pregnant and postpartum women in Indiana the option to receive addiction treatment. The 4P's and T-ACE are two tools that have been shown to be consistently effective with pregnant women.
- c. Expand PSUPP (Prenatal Substance Use Prevention Program) to all Maternal and Child Health prenatal clinics in the state.

III. Treatment:

Addiction is a medical disorder and specifically, a chronic relapsing disease of the brain therefore, intervention and treatment is a necessity in rehabilitating brain function.

- a. Establish residential treatment programs that are geographically available throughout the state of Indiana. The programs should be family centered and **allow women and children to stay together** in the facility while addiction treatment is being administered. Treatment programs should also be affordable, on a sliding scale, and resources should be available for services to patients who can not afford to pay themselves.
- b. Reassess the policies and practices of the Hoosier Assistance Program (HAP) as a mechanism to ensure that women are eligible to receive necessary services and the cost to the provider is not burdensome.

IV. Provider Education and Training:

Initial and on-going training of medical professionals is required for continued screening and identification of pregnant and post-partum women in need of addiction treatment.

- a. Emphasize and expand education and information regarding substance use and pregnancy in medical schools, nursing schools and on-going residency programs.
- b. Allocate sufficient resources to provide ongoing training of hospital personnel in ways to screen, test and assist women into needed treatment services.

V. Research and Data:

Further development of successful screening and treatment services will be enhanced by improved monitoring of substance use disorders in Indiana.

- a. Implement pilot studies, risk screening and laboratory testing to show the prevalence of substance use and the need for universal screening.
- b. Create a consistent and more comprehensive data collection system to more closely monitor prevalence and impact of treatment efforts, and participate in national surveys.

VI. Legal:

Laws that criminalize maternal conduct do not resolve the issue of drug use in pregnancy. The greatest risk is that such laws create an adversarial situation and drive patients away from prenatal care.

- a. Work closely with Indiana Division of Child Services officials to better understand and assess their current approach and develop a consistent policy and CPS protocol regarding the screening, testing and treatment of substance using pregnant women and exposed newborns
- b. Develop guidelines and enact legislation as needed to adopt a consistent, statewide policy and response to detecting substance use during pregnancy, and placement of substance-exposed newborns. Policies that emphasize treatment rather than a purely punitive approach should take precedence. Key organizations should include DCS, law enforcement, prosecutors, healthcare and treatment facilities.

⁴Chasnoff IJ, Landress HJ, Barrett ME. The Prevalence of illicit-drug and alcohol use during pregnancy and discrepancies in mandatory reporting in Pinellas County, Florida. *N Eng J Med* 322:1202-6, 1990.

⁵George S, Price J, Hauth JC, Barnette DM, Preston BS: Drug abuse screening of childbearing-age women in Alabama Public Health Clinics. *American Journal of Obstetrics and Gynecology*. 165:924-7, 1991.

⁶Glick B: Statewide Prenatal Substance Use Prevalence and Health Service Needs Studies. 1994.

⁷ Hawthorne JL, Maier, RC: Drug abuse in an obstetric population of a midsized city. *Southern Medical Journal*, 86(12): 1334-38, Dec 1993.

⁸ Hollinshead WH, Griffin JF, Scott HD, Burke ME: Statewide prevalence of illicit drug use by pregnant women — Rhode Island. *MMWR* 1991; 40:77-80.

⁹ O'Campo P, Guyer B, Squires B, Weiss J, Sweitzer J, Coyle T: Needs assessment for reducing infant mortality in Baltimore City: The healthy start program. *Southern Medical Journal*, 86(12): 1342-49, Dec 1993.

¹⁰ Pegues DA, Engelgau MM, Woernle, CH Prevalence of illicit drugs detected in the urine of women of child bearing age in Alabama Public Health Clinics. *Journal of the U.S. Public Health Service*. 109(4): 530-08, Jul 1994.

¹¹ Rubin JD, Ferencz C: Use of prescription and non prescription drugs in pregnancy. The Baltimore-Washington Infant Study Group. *Journal of Clinical Epidemiology*. 48(6):581-9, June 1993.

¹²Buchi KR, Varner MW, Chase RA: The prevalence of substance abuse among pregnant women in Utah. *Obstetrics and Gynecology*, 81(2): 239-42, Feb. 1993.

¹³ Kalotra C. Estimated costs related to the birth of a drug/or alcohol exposed baby, Office of Justice Programs Drug Court Clearinghouse and Technical Assistance Project 2002.

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SMOKING

Adverse pregnancy outcomes caused by maternal smoking are 100% preventable. Smoking during pregnancy can adversely affect the health of both the mother and infant leading to death, illness, and disability.

Estimates suggest that the elimination of smoking during pregnancy could prevent approximately: 5 percent of perinatal deaths, 20 percent of low birth weight births, and 8 percent of preterm deliveries in the United States.¹ Women who stop smoking before pregnancy or during the first three months of pregnancy reduce their risk of having a low birth weight baby to the same risk as women who never smoked.¹ The more a pregnant woman smokes, the greater the risk to the baby.

In 2003, 18.5% of pregnant women (15,954) in Indiana smoked compared to 10.7% of pregnant in the United States.² Individual county rates ranged from a high of 35.5% in Vermillion County to a low of 5.4% in Hamilton County.² Sixty-four (64) of Indiana's 92 counties have a smoking during pregnancy rate higher than the Indiana average. All but five Indiana counties have a smoking during pregnancy rate higher than the United States average.² Higher smoking rates have been found among low income, poorly educated, young women. According to a 12 year trend analysis in 2000, Indiana smokers were 1.3 times more likely to have a preterm birth, 2.1 times more likely to have a low birth weight baby, and 2.4

times more likely to have a small for gestational age baby.³

ALCOHOL

FASD (Fetal Alcohol Spectrum Disorder) is the leading known preventable cause of mental retardation and birth defects. The 2003 birth certificate data states that there were 86,382 births in Indiana and 539 women (0.6%) acknowledged alcohol use during pregnancy. However, birth certificate data on substance use is not an accurate count of all users because the information is obtained by self report. It is estimated that FASD affects 1 in 100 live births or as many as 40,000 infants each year nationally (or 800+ infants in Indiana) (NOFAS). Children do not outgrow FASD. The physical and behavioral problems can last for a lifetime. FAS and FASD are found in all racial and socio-economic groups. FAS (Fetal Alcohol Syndrome), the most serious alcohol related disorder, and FASD are not genetic disorders. Women with FAS or affected by FASD have healthy babies if they do not drink alcohol during their pregnancy.

The Centers for Disease Control and Prevention (CDC) and Indiana State Department of Health (ISDH) monitor the prevalence of alcohol use among women of childbearing age through the Indiana Behavior Risk Factors State Survey (BRFSS). In 2002, family planning was included on the core set of questions in the BRFSS survey to help assess the alcohol consumption patterns among pregnant women and also among women who might become pregnant. The average prevalence rate in the U.S. for binge drinking (5 or more drinks on any one occasion) among child-bearing aged women (18 – 44) was 12.4%; with states ranging from 5.4% to 21.6%. (Source: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5350a4.htm>)

DRUGS

The only actual prevalence study conducted in Indiana was done in 1997. Haywood Brown, MD and his colleagues at the Indiana University (IU) Medical Center looked at the prevalence of drug use in pregnant women in Indiana. Thirteen counties were grouped by population into metropolitan, medium-sized, and rural counties. The meconium of newborns was tested along with the urine samples of the mother. They found that marijuana was present in over four percent of births, impacting approximately 3,700 babies, while cocaine was present in little over one percent of births, impacting approximately 1,000 babies. Opiates, PCP and amphetamines were rarely found in meconium or prenatal urine in 1997. The study also found that no Indiana county, regardless of size, is immune to drug exposure among pregnant women.¹³

In 1997, the Indiana General Assembly passed PL 260-1997(now PL 246-2005) requiring hospitals to submit a meconium specimen for every infant under their care who meets a certain set of high risk criteria. Data from the 4337 newborn meconium screens conducted in 2004 revealed that 20% were positive for the following substances: marijuana (10.5%), cocaine (7.2%), opiates (3.5%) and methamphetamine (0.9%). A total of 1007 referrals were made to Child Protective Services, First Steps and/or treatment services for mother.¹⁴

Methamphetamine abuse is rapidly increasing in Indiana, particularly in Evansville, Terre Haute, and other southwestern and rural areas. The U.S. Attorney for the Southern District reports that methamphetamine abuse is spreading from rural to more urban areas like Indianapolis. Fifty percent of the drug overdoses in the Lake County HIDTA (High Intensity Drug Trafficking Area) area of responsibility involved methamphetamine.

SCREENING

Health care providers have a responsibility to screen all pregnant and postpartum women for substance use, just as mothers have the responsibility to accept the help that is provided. The American College of Obstetricians and Gynecologists (ACOG) Committee Opinion 294 addresses the ethical rationale for universal

screening for at-risk drinking and illicit drug use.¹⁵ The American Medical Association also endorses universal screening.¹⁶ Universal screening offers each patient an opportunity to discuss the risks of alcohol, drug use, smoking, prescription drug use and other at-risk behaviors. When incorporated into the initial obstetrical history, structured screening tests identify substance users and promote earlier intervention and treatment. Most important, when identified and treated, the rate of abstinence increases, maternal and fetal complications decrease, and for each dollar spent on treatment, \$7 dollars are saved.¹⁷

Although a compassionate practitioner may be best able to detect substance use disorders, there are numerous factors that obscure this problem. First, many health care providers are not well trained or lack the skills to detect substance use. Second, many practitioners consider detection and screening to be time consuming and reimbursement is poor. Finally, they are not aware of treatment resources and do not have the time required to make referrals. Likewise, pregnant patients are often reluctant to disclose their drug and alcohol use. They are subjected to considerable social stigma for alcohol use and smoking. Drug use also carries a risk of losing custody of their children as well as criminal prosecution.¹⁸ Fortunately, universal screening is easy to learn and implement and in a compassionate setting, social stigma is reduced and compliance with care is increased.¹⁹

The most reliable methods of screening for substance use are the interview (history) and self-reporting (questionnaire). Although clinical observations are helpful and include alcohol on the breath, poor hygiene, slurred speech, tremors, pinpoint or dilated pupils, among others, most drug or alcohol users show no signs on physical examination. Thus, a screening tool should be used with every patient.

There is a plethora of screening tools; most screening tools are specific for alcohol use and were originally developed for male patients. The CAGE questions are probably the best known but do not assess the problem of tolerance. Two modifications of the CAGE test for screening female patients are the T-ACE and TWEAK tests (the T stands for tolerance). In addition, the National Institute of Alcohol Abuse and Alcoholism (NIAAA questions) established guidelines for at-risk drinking in women.

Tools that screen for both drugs and alcohol are called conjoint tools. The rationale for a conjoint test is especially appealing. Patients may be forthright with answers about use of legal substances (alcohol and nicotine) but are often less than candid with respect to illegal drug use. By combining the two, patients tend to be more open in their answers. In addition, there are very easy screening tools to integrate into the patient interview. The easiest and most reliable are the FOUR P's Plus and the TWO-ITEM Screen. Each of these tools takes less than 5 minutes to complete. The table in Appendix A contains screening tools which could be used to detect perinatal substance abuse.

Screening does require some skill with interviewing techniques. Most important, screening works best when the practitioner has an ongoing relationship with the patient and can thereby create a respectful and confidential environment. Screening is optimal when performed at every prenatal visit and can include inquiries about substance use in family members as well as for risks of domestic violence. It is well documented that sexual, emotional and physical abuse are often precursors to substance use.

URINE TESTING

The most common form of laboratory testing is urine testing. Sensitivity for detecting drug use, however, depends directly on timing of drug use and the urinary excretion of drug metabolites. With the exception of THC (delta-9-tetrahydrocannabinol), almost all other substances are excreted within 72 hours. Various techniques may be employed by drug users who wish to avoid detection that further reduce the sensitivity

of urine testing e.g. abstaining from drug use, etc. False-positive results from urine drug screening are possible due to cross-reaction with other medications or naturally occurring compounds in foods. However, repeated urine testing will eventually reveal the majority of common substance use.

Urine testing does have significant benefits including confirming the presence of a substance and revealing the use of multiple substances. It is most effective in monitoring compliance with treatment. When the patient states that she is “clean” and the urine tests are consistently negative, the patient has created a record of compliance. This also serves as a measure of the effectiveness of the prenatal recovery program.

Alcohol and substance use appear to be far more common than the disorders for which we routinely perform urine screening e.g. diabetes, preeclampsia, and urinary tract infection. If urine substance testing was as inexpensive and simple as these dipstick tests, one could argue for universal urine testing as a routine part of prenatal care. The issue then becomes one of consent, autonomy and justice.

Legal and Ethical Issues in Urine Testing:

There is no uniform policy on maternal or newborn drug testing. It is well established that patients may refuse even life saving care.²⁰ When it comes to childbearing, the most prominent issue places the mother’s right to autonomy against a fetus’ right to physical integrity. This is especially true for issues such as court order cesarean delivery, abortion, employment in the toxic workplace and criminalization of maternal drug use.²¹

Current opinions indicate two lines of thought about drug testing:

Focus on autonomy: A specific and informed consent needs to be obtained for maternal or newborn testing. Such a consent must also inform the patient that positive results may be reported to Child Protective Services or may be used for legal action if the state enacts criminal penalties for drug use in pregnancy.

Focus on Beneficence and Justice: In contrast, the other opinion holds that the signed consent for prenatal and obstetrical care covers all tests necessary for medical diagnosis and treatment. Implied in this opinion is that all information acquired by the physician remains “privileged” and confidential between the patient and physician.

Legal Issues

It is clear that state laws that criminalize maternal conduct (i.e. that make illegal substance use a felony) do not resolve the issue of drug use in pregnancy. The greatest risk is that such laws create an adversarial situation and drive patients away from prenatal care. Thus, it is most important to identify alcohol and drug use within the “privileged” and confidential clinical setting and this appears to be best achieved by universal screening at each prenatal visit.

South Carolina enacted a law that makes the use of an illegal or illicit substance during pregnancy a Class D felony. Two issues became clear as a result of this law and they were noted in a United States Supreme Court decision, *Ferguson v. City of Charleston*.²² The case noted that 40 out of 41 women arrested as a result of postpartum drug testing for cocaine were African-American. In contrast, when tests were positive for heroin or methamphetamine, more often used by white women, patients were more likely referred to social services. The second issue in this case involved a point of law. The Court held that if the drug test was obtained without the patient’s consent, then the patient cannot be subject to criminal prosecution

because it constitutes an unlawful search under the Fourth Amendment.

This Supreme Court decision is, in fact, the law of the land and it creates an ethical dilemma. If a physician obtains informed consent for urine drug screening, the patient may be liable for criminal sanction and the physician may become the patient's adversary. If the physician obtains the drug test without consent, then the patient is not subject to legal penalty. Although her autonomy is compromised, the physician remains the patient's advocate.

INTERVENTION AND TREATMENT

There are three aspects of treatment for all forms of addiction:

- Intervention
- Abstinence
- Harm reduction.

During the last five years, research has revealed substantial evidence that addiction is a medical disorder and specifically, a disease of the brain.²³ Positron emission tomography (PET) scans have mapped the location in the brain where drugs and addictive behaviors leave their mark.²⁴ Addiction is a chronic relapsing disease and successful treatment is comparable to, or better than, compliance with treatment plans for hypertension or diabetes.²⁵ Thus, aggressive screening, detection and intervention are critical to initiating the treatment process.

It is unusual to find a pregnant addict in denial of either her addiction or the pregnancy. The overwhelming majority is ambivalent; that is, they do not want to hurt the fetus but they still want their drug. This paradoxical energy creates an ideal setting for intervention. Positive support will enhance the patient's motivation to remain abstinent beyond the pregnancy.²⁶

Intervention and treatment of addiction has changed markedly over the last two decades. The most important shifts include the evaluation and treatment of medical and psychiatric co-morbid conditions such as depression, bipolar disorders and post traumatic stress disorders, increased social and spiritual support (12 Step programs) and a shift from cognitive behavioral therapy to motivational enhancement therapy (MET).²⁷ In MET, treatment strategies are matched to the patient's awareness and readiness to accept change.²⁸

A current model of how people change, developed by Prochaska, DiClemente and Norcross, indicates that people go through various distinctive stages in changing behavior.²⁹ This is often called the Stages-of-Change approach. The majority of patients will change when they are ready to do so. Thus, the goal of the clinician is enhance the patient's motivation to change and match the treatment strategy to the stage of awareness and readiness to change.

The American College of Obstetricians created a presentation that describes and endorses the use of motivational enhancement therapy with a Stages-of-Change approach to illicit drug use in women.³⁰ The basic interviewing skills include: the ability to express empathy, avoid argumentation and to motivate the patient to move from one stage to the next. MET and Stages of Change are described in more detail in Appendix B.

ADDITIONAL CONSIDERATIONS

LABOR AND DELIVERY — Many patients in recovery are fearful that pain medications in labor will lead to relapse and may resist medications. Many addicts appear to have a low tolerance for pain and a high tolerance for opioid analgesics. For the patient in recovery, many believe that the best approach is to give

her “whatever it takes,” to relieve her discomfort. This may require large doses of narcotics. Regional blocks, such as epidurals are most effective. Agonist/antagonist analgesia such as nalbuphine (Nubain) in the methadone or buprenorphine maintenance patient must be avoided. This will initiate a rapid and distressing withdrawal and is associated with fetal distress.

The active substance user poses special problems for the anesthesiologist.³¹ Thus, it is imperative that the clinician is aware of a patient’s substance use history. In one study, 27 out of 32 (84.3%) methadone maintenance patients were positive for other drugs of abuse at the last screen or at delivery.³² Interestingly, a subsequent study in the same institution using a motivational enhancement approach found only 2 out of 14 (14.2%) methadone patients positive³³.

BREAST FEEDING — Breastfeeding can be supported as appropriate depending on the substance. Ultimately, the decision to breastfeed should be made after serious consideration and consultation from a physician. Protocols vary by hospital and substance. There is no prohibition to breastfeeding in the methadone or buprenorphine maintenance baby.³⁴ However, methadone babies often experience neonatal abstinence syndrome (NAS) or withdrawal, which is dose related and often results in prolonged stays in the neonatal units at great expense. Interestingly, breast milk with methadone is often used to treat withdrawal.³⁵ Methadone breast-feeding mothers must be warned that abrupt cessation of breastfeeding may result in abrupt onset of withdrawal in the infant.³⁶

In contrast, the studies evaluating the effects of buprenorphine maintenance indicate it is safe for the mother and newborn and NAS is noted to be minimal to absent.³⁷ Minimal to no NAS results in less morbidity to the newborn, better bonding with the mother and normal length of stay in a normal nursery. Financially, this results in a huge cost savings for the patient. This makes buprenorphine highly cost effective compared to methadone, even though methadone is less expensive to prescribe.³⁸

COST BENEFIT

The Office of Justice Programs Drug Court Clearinghouse and Technical Assistance Project estimates that the costs associated with caring for babies that were prenatally exposed to drugs or alcohol over their lifetime range from \$750,000 to \$1.4 million per child. The costs associated with the birth of a drug-addicted baby include: hospital costs relating to delivery and immediate intensive care of the infant; detox costs for drug-exposed infants; foster care costs; first year medical costs; special education costs; costs relating to developmental deficiencies³⁹. A detailed description of these costs can be found in Appendix C.

One study, done by the John Hopkins University School of Medicine, found that infants born to women who received treatment for substance use disorders showed better clinical outcomes at delivery with less drug use and higher gestational age, birth weight and Apgar scores. Infants of treatment patients were less likely to be admitted to the NICU and the length of stay for those who were admitted to the NICU was shorter. Treating women for substance abuse resulted in a mean net savings of \$4,644 per mother/infant pair, in the peripartum period. It was also reported that additional savings could potentially be made “if strategies are developed to encourage more women to enroll in drug treatment earlier in their pregnancy.”⁴⁰ Another study conducted on the impact of substance abuse treatment modality on birth weight and health care expenditures found a near linear relationship between birth weight and the amount of treatment received. Women who received a combination of both residential and outpatient care showed the greatest impact on improving birth weight, although outpatient programs alone proved to be the most cost-effective.⁴¹

In the case of Fetal Alcohol Syndrome alone, it has been found that an individual with fetal alcohol syndrome can incur a lifetime health cost of over \$800,000. In 2003, fetal alcohol syndrome cost the United States \$5.4 billion; direct costs were \$3.9 billion, while indirect costs added another \$1.5 billion. (site)

The investment in prevention and treatment is the best way to reduce the burden of substance abuse on public programs. Targeted interventions on select populations hold the highest promise for return on investment. Getting women who suffer from substance use disorders into treatment would multiply the state investment and avoid future costs to the currently taxed state burden.

RECOMMENDATIONS

The following recommendations regarding Substance Use Disorders and Pregnancy were developed from the many meetings of the Indiana Perinatal Network's Substance Abuse and Pregnancy Committee.

I. Public Education and Outreach:

Education is the key to primary prevention/intervention for substance use disorders. It is imperative to better understanding the special needs of pregnant women suffering from substance use disorders and the need to outreach to those women.

- a. Educate all healthcare providers, legislators, employees of the criminal justice system and social welfare workers in Indiana on the prevalence and incidence of and issues related to addiction in the state, with an emphasis on addiction as a chronic relapsing disease.
- b. Implement a state-wide consumer education campaign that encourages substance abusing women to seek care for their addiction, and creates a more supportive community.
- c. Implement a state-wide public awareness campaign which will educate the community, including churches and schools, about the harm of substance use and its affects during pregnancy. The campaign should have age and gender appropriate messages for children, teenagers, adults and seniors.
- d. Develop and support programs that use traditional and non-traditional methods of outreaching to the most resistant and difficult to reach women suffering from addiction.
- e. Develop and maintain an up-to-date resource list of available residential and non residential treatment and/or recovery programs with name, address, telephone number, email address and cost on Indiana Perinatal Network and other state-wide agency websites, 211 Helpline directories, Indiana Family Helpline directories and in all public libraries.

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RESOURCES

The Substance Abuse and Mental Health Service (SAMHSA) maintains an on-line resource for finding drug and alcohol abuse treatment programs throughout the nation. All information in the Locator is completely updated each year, based on facility responses to SAMHSA's National Survey of Substance Abuse Treatment Services. New facilities are added monthly. Updates to facility names, addresses, and telephone numbers are made monthly, if facilities inform SAMHSA of changes. SAMHSA's Center for Substance Abuse

Treatment also operates Referral Helplines, for anyone seeking additional information.

- 1-800-662-HELP
- 1-800-662-9832 (Español)
- 1-800-228-0427 (TDD)

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¹The Health Benefits of Smoking Cessation. A report of the Surgeon general, 1990. United States Public Health Service, Office of the Surgeon general. DHHS publication No (CDC) 90-8416.

²Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team. Indiana Natality Report 2003, Table 32. Outcome Indicators by Race of Mother: Indiana Counties.

³Rahmanifar, A. Smoking during pregnancy: Indiana, 1989-2000. Indiana State Department of Health Epidemiology Resource Center, Special Report. March 2002.

⁴Chasnoff IJ, Landress HJ, Barrett ME. The Prevalence of illicit-drug and alcohol use during pregnancy and discrepancies in mandatory reporting in Pinnellas County, Florida. *N Eng J Med* 322:1202-6, 1990.

⁵George S, Price J, Hauth JC, Barnette DM, Preston BS: Drug abuse screening of childbearing-age women in Alabama Public Health Clinics. *American Journal of Obstetrics and Gynecology*. 165:924-7, 1991.

⁶Glick B: Statewide Prenatal Substance Use Prevalence and Health Service Needs Studies. 1994.

⁷Hawthorne JL, Maier, RC: Drug abuse in an obstetric population of a midsized city. *Southern Medical Journal*, 86(12): 1334-38, Dec 1993.

⁸Hollinshead WH, Griffin JF, Scott HD, Burke ME: Statewide prevalence of illicit drug use by pregnant women — Rhode Island. *MMWR* 1991; 40:77-80.

⁹O'Campo P, Guyer B, Squires B, Weiss J, Sweitzer J, Coyle T: Needs assessment for reducing infant mortality in Baltimore City: The healthy start program. *Southern Medical Journal*, 86(12): 1342-49, Dec 1993.

¹⁰Pegues DA, Engelgau MM, Woernle, CH Prevalence of illicit drugs detected in the urine of women of child bearing age in Alabama Public Health Clinics. *Journal of the U.S. Public Health Service*. 109(4): 530-08, Jul 1994.

¹¹Rubin JD, Ferencz C: Use of prescription and non prescription drugs in pregnancy. The Baltimore-Washington Infant Study Group. *Journal of Clinical Epidemiology*. 48(6):581-9, June 1993.

¹²Buchi KR, Varner MW, Chase RA: The prevalence of substance abuse among pregnant women in Utah. *Obstetrics and Gynecology*, 81(2): 239-42, Feb. 1993.

¹³Brown HL, Hiett AK, Gath S. Prevalence of Alcohol and Other Drug Use in Pregnant Women: Indiana Demand and Needs Assessment Studies-Alcohol and Other Drugs Study Four, August 1997; Indiana University, Bowen Research Center, Indianapolis, Indiana, August 1997.

¹⁴Indiana State Department of Health, Newborn Screening Data, 2004.

¹⁵American College of Obstetricians and Gynecologists. At-risk drinking and illicit drug use: ethical issues in obstetric and gynecologic practice. ACOG Committee Opinion No. 294, *Obstet Gynecol* 2004;103:1021-1031.

¹⁶Blum LN, Nielson NH, Riggs, JA. Alcoholism and alcohol abuse among women: report of the Counsel on Scientific Affairs. *American Medical Association. J Womens Health* 1998;7:861-871.

¹⁷Hubbard RL, French MT. New perspectives on the benefit-cost and cost-effectiveness of drug abuse treatment. *NIDA Res Monogra* 1991;113:94-113.

¹⁸Marcenko MO, Spence M. Social and psychological correlates of substance abuse among pregnant women. *Soc Work Res* 1995;19:103-109.

¹⁹Chasnoff IJ, Neuman MA, Thornton C, and Callaghan BA. Screening for substance abuse in pregnancy: a practical approach for the primary care physician. *Am J Obstet Gynecol* 2001;184:752-758.

²⁰Cruzan v. Director, Missouri Dept. of Health, 110 S. CT. 2841 (1990).

²¹Nocon JJ, Physicians and Maternal-Fetal Conflicts: Duties, Rights, and Responsibilities, *Journal of Law and Health*, Cleveland-Marshall College of Law Review 1991;5:1.

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- ²²Ferguson v. City of Charleston, 532 U.S. 67 (2001)
- ²³Leshner AI. Addiction is a brain disease, and it matters. *Science* 1997;278:45-47.
- ²⁴ Wise RA. Addictive drugs and brain stimulation reward. *Ann Rev Neuroscience* 1996;19:319-340.
- ²⁵ McLellen AT, Lewis DC, O'Brien CP, Kleber HD. Drug dependence, a chronic medical illness: implications for treatment, insurance and outcomes evaluation. *JAMA* 2000;284:1689-1695.
- ²⁶Project CHOICES Intervention Research Group. Reducing the risk of alcohol-exposed pregnancies; a study of a motivational intervention in community settings. *Pediatrics* 2003;111:1131-1135
- ²⁷Miller WR, Motivation and treatment goals. *Drugs and society* 1987;1:133-151.
- ²⁸ Prochaska JO, DiClemente CC, & Norcross JC. *Changing for good*. New York: Avon Books 1996.
- ²⁹ Prochaska JO, DiClemente CC, & Norcross JC. In search of how people change: applications to addictive behavior. *Am Psychol* 1992; 47: 1102-14
- ³⁰ Chez RA, Andres RL, Chazotte C, Ling FW. Illicit drug use and dependence in women: a slide presentation. Washington, DC: American College of Obstetricians and Gynecologists; 2002
- ³¹ Kuczkowski KM. Labor analgesia for the drug abusing parturient; is there cause for concern? *Obstet Gynecol Surv* 2003;58:599-608.
- ³² Brown, H.L., Britton, D.A., Mahaffey, D., Brizendine, E., Hiatt, A.K., & Turnquest, M.A. Methadone maintenance in pregnancy: a reappraisal. *Am J Obstet Gynecol* 1998;179, 459-463.
- ³³Nocon JJ and Kerlin S. Motivational enhancement treatment improves maternal and neonatal outcome in substance abuse in pregnancy. *Amer Soc Addict Med Abstracts*, 37th Annual Medical-Scientific Conference, 2006, at 30.
- ³⁴American Academy of Pediatrics; Committee on Drugs. The transfer of drugs and other chemicals into human milk. *Pediatrics* 2001;108:776-789.
- ³⁵Ballard JL. Treatment of neonatal abstinence syndrome with breast milk containing methadone. *J Perinat Neonatal Nurs* 2002;15:76-85.
- ³⁶Malpas TJ, Darlow BA. Neonatal abstinence syndrome following abrupt cessation of breastfeeding. *N Z Med J* 1999;112:1080.
- ³⁷ Johnson, R.E., Jones, H.E. & Fischer, G. (2003) Use of buprenorphine in pregnancy: patient management and effects on the neonate. *Drug and Alcohol Dependence*, 70(2 Suppl), S87-S101.
- ³⁸Nocon JJ. Buprenorphine in pregnancy: the advantages. *Addiction* 2006;101:608.
- ³⁹Kalotra C. Estimated costs related to the birth of a drug/or alcohol exposed baby, Office of Justice Programs Drug Court Clearinghouse and Technical Assistance Project 2002.
- ⁴⁰ Svikis, D.S., Golden, A.S., Huggins, G.R., Pickens, r. W., McCausl, M.E., Velez, M.L., Rosendale, C.T., Brooner, Gazaway, P.M., Stitzer, M.L., & Ball, C.E. (1997). Cost-effectiveness of treatment for drug-abusing pregnant women. *Drug and Alcohol Dependence*, 45, 105-133.
- ⁴¹ M., Argeriou, M., McCarty, D., Callahan, J.J., Kr., Shepard, D.S., & Williams, C.N. (2001). The impact of substance abuse treatment modality on birth weight and health care expenditures. *Journal of Psychoactive Drugs*, 33(1), 57-66.

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BRIEF SCREENING TOOLS

Tool	Description	Questions	Source
4 P's Plus Test	This screening tool is often used to start the discussion about alcohol and drug use since it naturally flows from the family history. The original 4 P's test was designed to rapidly identify obstetric patients in need of intervention. ¹ A "yes" answer to any question was considered positive. The modified 4 P's Plus screen adds two questions to the current pregnancy and a positive answer to either identifies 34% of drug and alcohol users. ² With a positive answer about "partner," 65% were found to need drug treatment.	<p>Parents: Did either of your parents ever have a problem with alcohol or drugs?</p> <p>Partner: Does your partner have a problem with alcohol and drugs?</p> <p>Past: Have you ever drunk alcohol?</p> <p>Pregnancy: In the month before you knew you were pregnant, how many cigarettes did you smoke?</p> <p>In the month before you knew you were pregnant, how many beers/glasses of wine or liquor did you drink?</p>	Chasnoff IJ, Hung WC. The 4 P's Plus. Chicago, ILL: NTI Publishing; 1999
T-ACE	This screening tool can be used alone or in combination with the 4 P's Plus test. If there was a positive answer to questions about Past and Current Pregnancy in the 4 P's Plus, then follow up with the T-ACE test. ³ A score of 2 or more points indicates at-risk drinking in pregnancy.	<p>T: Tolerance: How many drinks does it take you to feel high? More than 2 drinks is a positive response – score 2 points</p> <p>A: Annoyed: Have people annoyed you by criticizing your drinking? Yes - score 1 point</p> <p>C: Cut down: Have you ever felt you ought to cut down on your drinking? Yes – one point</p> <p>E: Eye Opener: Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover? Yes – score 1 point.</p>	Sokol RJ, Martier SS, Ager JW, The T-Ace questions; practical prenatal detection of risk drinking. Am J Obstet Gynecol 1989;160:863-870
TWEAK	This is used for alcohol screening in the current pregnancy. In this screening tool, a drink is 1 ounce of alcohol. A score of 2 or more is a positive screen. ⁴	<p>T Tolerance: How many drinks can you hold? If five or more drinks, score 2 points. Have close friends or relatives worried or complained about your drinking in the past year? Yes – 1 point.</p> <p>E Eye Opener: Do you sometimes take a drink in the morning when you wake up? Yes - 1 point.</p> <p>A Amnesia: Has a friend or family member ever told you about things you said or did while drinking that you could not remember? Yes- 1 point.</p> <p>K Cut down Do you sometimes feel the need to cut down on your drinking? Yes – 1 point.</p>	Chan AW, PristachEA, Welte JW, Russell M. Use of the TWEAK test in screening for alcoholism/heavy drinking in three populations. Alcohol Clin Exp Res 1993;17:1188-1192
NIAAA Questionnaire	The National Institute of Alcohol Abuse and Alcoholism (NIAAA questions) has established guidelines for at-risk drinking in non-pregnant women and men.	<p>Do you drink? Do you use drugs? On average, how many days per week do you use alcohol (liquor, wine, or beer)? On a typical day when you drink, how many drinks do you have?</p> <p>Positive score: More than 14 drinks per week for men. More than 7 drinks per week for women.</p> <p>What is the maximum number of drinks you had on any given occasion during the past month?</p> <p>Positive score: More than 4 – men, or 3 women.</p>	http://www.niaaa.nih.gov
TWO ITEM SCREEN	Current alcohol or other drug problems can be detected in nearly 75% of young and middle-aged patients by asking two questions in this conjoint	<ol style="list-style-type: none"> 1. "In the last year, have you ever drank or used drugs more than you meant to?" 2. "Have you felt you wanted or needed to cut down on your drinking or drug use in the last year?" 	Brown RL, Leonard T, Saunders LA, Papasouliotis O. A two item conjoint screen for alcohol and

Screening and Intervention/Treatment Tools for Substance Use Disorders and Pregnancy

	screening tool: ⁵		other drug problems. J Am Board Fam Prac 2001;14:95-106
5 A's	An approach to smoking cessation counseling, performed for 5-15 minutes by a trained clinician, which can improve cessation rates by 30% to 70% among pregnant smokers. This approach has been endorsed by the March of Dimes, American College of Obstetricians and Gynecologists, American Academy of Pediatrics and the Association of Women's Health, Obstetric and Neonatal Nurses.	<ol style="list-style-type: none"> 1. Ask about tobacco use 2. Advise to quit 3. Assess willingness to make a quit attempt 4. Assist in quit attempt 5. Arrange follow-up 	http://www.acog.org
<p>The two screening tools with the highest sensitivity and specificity for both alcohol and drug use in a current pregnancy are the 4 P's PLUS and the TWO ITEM Screen. Each can be easily integrated into the initial history or as part of the present issues at each prenatal visit. At the minimum, the screen should be used in each trimester and postpartum. Conjoint screening is best; patients may be forthright with answers to nicotine use of legal substances (alcohol and nicotine) but are often less than candid with respect to drug use. By combining the two, patients tend to be more open in their answers.</p>			

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A positive questionnaire or drug screen for substance use should trigger some form of intervention and/or referral.

BRIEF INTERVENTION			
FRAMES Intervention	<p>This approach was used in a World Health Organization study to assess the efficacy of brief interventions.⁶ The study evaluated male heavy drinkers from 12 countries with obvious cultural differences in alcohol use. A 15-minute intervention resulted in a decrease in alcohol use of 27% compared to 7% among controls. Moreover, the FRAMES approach, with its emphasis on responsibility and self-efficacy, dovetails well with a treatment approach that enhances self-motivation.</p> <p>If the patient does not alter behavior after a brief intervention, she should be referred for more extensive treatment.</p>	<p>F - Feedback about the adverse effects of drugs or alcohol. This allows for patient education.</p> <p>R - Responsibility for a change in behavior: "Only you can decide that you want to stop using. If you do, how would your life be better?"</p> <p>A - Advise to reduce or stop use: "For the next 2 weeks, stop using, and let's see how you feel."</p> <p>M - Menu of options: "If you find that not using for the next 2 weeks is impossible, then we should consider other options."</p> <p>E - Empathy is central to the intervention. "This must be really hard to do."</p> <p>S - Self-efficacy: "I am impressed that you are considering making this change. Your strong determination is going to help you succeed."</p>	<p>World Health Organization Brief Intervention Study Group. A cross national trial of brief interventions with heavy drinkers. Am J Public Health 1996;86:948-955</p>

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MOTIVATIONAL INTERVENTION

Motivational Enhancement Therapy (MET), developed by Miller, is the foundation for supporting the addict through her stages of change. The MET approach starts with the premise that the responsibility for change rests squarely on the patient’s shoulders. Integrating motivational enhancement therapy (MET) with the Stages-of-Change approach becomes a powerful therapeutic alliance. This approach is actually easy to do within each prenatal visit and takes very little time. The basic interviewing skills include: the ability to express empathy, avoid argumentation and to motivate the patient to move from one stage to the next. What follows is a template from a highly successful motivational approach.

Stages of Change:

Precontemplation Stage: (First prenatal visit)

1. The patient will most likely present with a positive urine toxicology screen and the best approach is to show her the results of the test.
2. Thus, she immediately is confronted with the consequences of her drug use, one of which is to explicitly state that if the baby ultimately tests positive, Child Protective Services (CPS) will intervene.
3. The motivational step in this stage is, “name one way your life would be better if you weren’t using drugs.” Most patients will state they will feel better or be better mothers. It’s most important to elicit something very specific and a common response is, “I’ll have more money.” This is an excellent answer with which to work because it simultaneously reveals the costs of the behavior and the benefits of change. In contemplating this answer, the patient easily moves to the next stage.
4. Some patients will have stopped their substance use as soon as they found out they were pregnant. In this group it is important to:
 - a. record the date of last use,
 - b. stress the importance of staying clean, and
 - c. tell them you are proud they chose to stop.
5. ***NOTE: Avoid “Shame Based” Statements:*** Although well-intentioned, many clinicians have used an approach characterized as “shame based,” especially obstetrical nurses.⁷ For example, they may ask, “how can you do this to your baby?” This question invokes shame and despair and is a set-up for relapse. Be especially aware to avoid statements like, “don’t you want to get clean for your baby?”
6. ***Self Recovery:*** Likewise, if her motivation to change is for the baby, then what is often observed after delivery is relapse and resentment and this creates a setting for child abuse. The keystone of recovery is that the patient commits to get clean for herself. A motivational statement might state, “if you get clean for yourself, then we don’t have to worry about the baby.”

Contemplation Stage: (2nd-3rd visit)

1. Review her drug screen.
2. Have the patient make a list of other ways her life will be better, emphasizing that she will have more money. “If you have more money, what will you buy for yourself?” Keep it simple, inexpensive and related to herself – it is critical that she reward herself for her good choices. Later, she can be reminded that she can now afford to buy some baby clothes.

This may be a good time to make a Change Plan Worksheet.⁸ This will encourage the patient to keep her recovery plan in focus, strengthen the commitment to change and also serve as a guide to help the clinician support and recapitulate her progress. The worksheet is optional and may not be appropriate for all patients. It has six questions:

1. The changes I want to make are...
2. The most important reasons I want to make these changes are...
3. The steps I plan to take in changing are...
4. The ways other people can help me are...
5. I will know that my plan is working if...
6. Some things that could interfere with my plan are...

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<p>Preparation or Decision Stage: (4th to 6th visit):</p> <ol style="list-style-type: none"> 1. Review her urine screens and note that many patients will stop using entirely on their own by this time. If she has stopped using tell her you are proud of her choice to stop. 2. Look for indicators she is ready to change: <ol style="list-style-type: none"> a. she appears less resistant b. she stops asking questions about the substance use, and c. she may appear to be more relaxed and peaceful. 3. Now is the time to discuss specific preparations to get clean. For example, she may say she “could” go to an A.A. meeting. Ask her to pick a specific meeting, e.g. Tuesday evening at 8 PM at a specific place. Then ask if she will to go to that meeting. The majority of patients who get to this stage will, in fact, do what they commit to do. 	<p>Action Stage:</p> <ol style="list-style-type: none"> 1. Review her urine screens and acknowledge whether she is still using in a matter-of-fact manner or tell her you are proud that she tested “clean.” 2. Ask if she did what she said she would do – went to the AA meeting, stopped using or cut down substantially. 3. Document the action with, “your last use was on (date).” Be sure to compliment her on her courage and effort to get clean. Patients are most empowered by the supportive clinician. 4. Encourage her to create a RECOVERY PROGRAM – some kind of regular support such as therapy, counseling, workshops, family support, parenting classes and most importantly, 12 Step groups specific to her addiction. 5. 12 Step groups enhance abstinence and reduce the rate of relapse. Compared to programs that require abstinence as the entry into the recovery process where relapse exceeds 90%, the risk of relapse in the action stage is about 40 %. 6. <u>Remember, abstinence is action.</u>
<p>Maintenance Stage:</p> <ol style="list-style-type: none"> 1. Drug screens are negative 2. Maintains abstinence 3. Has a recovery program 4. It is critical to reinforce her conduct and continue to build motivation for change and to strengthen her commitment to change. Encourage the patient to continue her support meetings and tell her that you are proud of her. 5. Patients who stay abstinent for 4-5 years and complete 9 of the 12 Steps in any 12 Step group have rates of relapse as low as 5 %.⁹ 	<p>Relapse is a Part of Recovery:</p> <ol style="list-style-type: none"> 1. Almost always caused by stress and it is expected. <u>Relapse is not failure.</u> 2. Ask – “what did the relapse cost?” This recreates the consequences of her actions and gives her the opportunity to be accountable for her conduct. 3. Accountability is very foreign to addicts and the ability to “own her part” in the relapse will bring her right back into the action stage and enhance self esteem. 4. This is one of the major benefits of MET over traditional cognitive behavioral therapy (CBT).The focus of MET is on personal choice, especially regarding future drug use whereas CBT views addiction as a disease beyond the patient’s control. 5. In relapse, the MET patient gets another chance to make choices and many choose to remain abstinent thereafter. Sometimes, it takes more than one relapse to enter recovery. And there are those unfortunates who appear to be beyond help. Do not give up. Many patients relapse 5-6 times before they can reenter the Action stage.
<p>Termination Stage: The hallmark of termination is no longer a temptation to use. The patient will often state they no longer dream of using. This appears to be most valid for “smoking addictions” including nicotine, marijuana and cocaine. It is estimated that 20-30% of patients may reach this stage. For all practical purposes, the pregnant addict will never reach this stage.</p>	

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RESOURCES				
American College of Obstetricians & Gynecologists (ACOG) 409 12 th Street SW Washington, D.C. 20024-2188 Phone: 202-484-3321 Fax: 202-479-6826 Website: www.acog.org	Association of Women’s Health, Obstetric, and Neonatal Nurses (AWHONN) 2000 L Street, N.W., Suite 740 Washington, D.C., 20036 Phone: 202-261-2400 Fax: 202-728-0575 Website: www.awhonn.org	American Society of Addiction Medicine Website: www.asam.org	National Abandoned Infants Assistance (AIA) Resource Center University of California, Berkley 1950 Addison, Suite 104 #7402 Berkley, CA 94720 Phone: 510-643-8390 Fax: 510-643-7019 Website: www.aia.berkeley.edu	National Institute on Drug Abuse (NIDA) Website: www.nida.nih.gov
National Organization on Fetal Alcohol Syndrome (NOFAS) 900 17 th Street, NW, Suite 910 Washington, DC 20006 Phone: 202-785-4585 Fax: 202-466-6456 Website: www.nofas.org	Substance Abuse and Mental Health Services Administration (SAMHSA) 11420 Rockville Pike Rockville, MD 20857 Phone: 240-747-4817 Fax: 240-747-5466 Website: www.samhsa.gov	Office on Women’s Health 200 Independence Avenue, SW 730B Washington, DC 20201 Website: www.4woman.gov	National Clearinghouse on Child Abuse and Neglect Information 330 C Street, SW Washington, DC 20447 Phone: 703-385-7565 Fax: 703-385-3206 Website: www.nccanch.acf.hhs.gov	National Institute on Alcohol Abuse and Alcoholism (NIAAA) 5635 Fishers Lane, MSC 9304 Bethesda, MD 20892-9304 Phone: Fax: Website: www.niaaa.nih.gov

¹ Morse B, Gehshan S, Hutchins E. Screening for substance abuse during pregnancy: improving care, improving health. Washington, DC: National Center for Education in Maternal and Child Health; 1977.

² Chasnoff IJ, Hung WC. The 4 P’s Plus. Chicago, ILL: NTI Publishing; 1999.

³ Sokol RJ, Martier SS, Ager JW, The T-Ace questions; practical prenatal detection of risk drinking. Am J Obstet Gynecol 1989;160:863-870.

⁴ Chan AW, Pristach EA, Welter JW, Russell M. Use of the TWEAK test in screening for alcoholism/heavy drinking in three populations. Alcohol Clin Exp Res 1993;17:1188-1192.

⁵ Brown RL, Leonard T, Saunders LA, Papasouliotis O. A two item conjoint screen for alcohol and other drug problems. J Am Board Fam Prac 2001;14:95-106.

⁶ World Health Organization Brief Intervention Study Group. A cross national trial of brief interventions with heavy drinkers. Am J Public Health 1996;86:948-955.

⁷ Sellick CS, Redding BA. Knowledge and attitudes of registered nurses toward perinatal substance abuse. JOGNN 1998;27:70-77.

⁸ Miller WR. Motivational enhancement therapy with drug abusers. National Institute on Drug Abuse (RO1-DA08896) 1996. A therapist manual in the public domain: <http://motivationalinterview.org/clinical/METDrugAbuse.PDF>

⁹ Carnes P. A gentle path through the twelve steps; a classic guide for all people in recovery. Center City, Minnesota; Hazeldon 1993.

ESTIMATED COSTS RELATED TO THE BIRTH OF A DRUG AND/OR ALCOHOL EXPOSED BABY

PART I: OVERVIEW OF INFORMATION REPORTED

One of the unanticipated impacts of drug court programs, first noted by Judge Harl Haas of Portland, Oregon, has been the birth of drug-free babies to mothers enrolled in drug courts. But for the drug court, it is highly probable that these babies would have been born “drug-addicted”, “drug-exposed” or with fetal alcohol syndrome (FAS) or fetal alcohol effect (FAE) and have required special care to keep them alive. Apart from the human and societal benefits resulting from the birth of these drug-free babies, a number of drug court officials have sought to determine the “cost savings” that could be attributed to these births.

The following data reflects reported costs associated with caring for babies that were prenatally exposed to drugs or alcohol. Total lifetime costs for caring for those children that survive reportedly ranges from \$750,000 to \$1.4 million.

The data is broken down by type of cost, charted in the following categories:

- A. Hospital/Medical Costs for Drug Exposed Babies
- B. Costs Related to Cocaine/Crack Exposed Babies
- C. Costs Associated with Fetal Alcohol Syndrome (FAS)
- D. Costs Associated with Opiate-Exposed Babies
- E. Costs Associated with Babies Exposed to Tobacco Smoking
- F. In-Hospital Housing Costs for Drug Exposed Babies
- G. Outside (Foster/Nursery) Care Costs for Drug Exposed Babies

Complete report available from the Office of Justice Programs Drug Court Clearinghouse and Technical Assistance Project at American University, Washington, D.C.

ESTIMATED COSTS RELATED TO THE BIRTH OF A DRUG AND/OR ALCOHOL EXPOSED BABY

PART II: SUMMARY INFORMATION REPORTED AND SOURCES

A. HOSPITAL / MEDICAL COSTS FOR DRUG-EXPOSED BABIES

1. PER CHILD COSTS

Type of Cost	Amount	Source / Website
Neonatal intensive care for low birth weight newborns	\$25,000-\$35,000 per child (for DC, 1996, over 20 percent of low birth weight infants have been exposed to alcohol, tobacco or other drugs before birth). Caring for these infants costs the city at least \$5.9 million annually.	Drug Strategies (citing DC Kids Count Collaborative, <i>Every Kid Counts in the District of Columbia: 5th Annual Fact</i> , 1998, and <i>Keeping Score 1998</i>) http://www.drugstrategies.org/ff1999/health.html
Cost of Keeping Drug Exposed Child in Neonatal Unit	\$2,700 per child per day, not including doctor costs, equipment costs, or other expenses (in Oregon). Drug addicted babies stay in these units for months.	Editorial, "Now or Later," Mail Tribune, Apr. 4, 2000 http://www.mailtribune.com/archive/2000/april/040400n7.htm Dani Dodge, "Sick Babies Offer Lesson in Value of Prevention," Mail Tribune, Apr. 2, 2000 http://www.mailtribune.com/archive/2000/april/040200n4.htm
Hospital Charges for Drug-Exposed Infants	\$1,100-\$4,100 per infant <i>more</i> than a nonexposed infant (GAO, 1990). Not clear whether study includes marijuana.	National Institute on Drug Abuse, The Economic Costs of Alcohol and Drug Abuse in the United States – 1992, Chapter 4(b) http://www.nida.nih.gov/EconomicCosts/Chapter4b.html
<i>Additional</i> Median Costs for Newborn Medical Care for Drug Exposed Infants	\$4,100 <i>more</i> than nonexposed infants per infant (in 1989) (\$5,500 as opposed to \$1,400)	Claran S. Phibbs, The Economic Implications of Prenatal Substance Exposure, The Future of Children, Spring 1991 (citing General Accounting Office, Drug-Exposed Infants: A Generation at Risk, Washington, DC: U.S. General Accounting Office (GAO/HRD-90-

Cost of Caring for a Drug Exposed Child During First Year	\$8,000-\$10,000 per child, not including neurodevelopmental therapy, special education services, or other intervention services (in 1990,	138), June 1990) Sarojini S. Budden, Intrauterine Exposure to Drugs and Alcohol: How Do the Children Fare? , <i>Medscape Women's Health</i> 1(10), 1996
First Year Costs to the State for Drug Addicted Newborns	Services for Children and Families Program of Oregon). \$50,000 per child (S. Carolina Dept. of Alcohol and Other Drug Abuse Services)	http://www.unhooked.com/sep/intrauter.htm Associated Press, "Bill Would Allow Newborn Drug Testing Without Consent," <i>Augusta Chronicle Online: metroaugusta</i> , Apr. 6 1997
Lifetime Costs to the State for Drug Addicted Newborns	\$1 million per child (S. Carolina Dept. of Alcohol and Other Drug Abuse Services)	http://www.augustachronicle.com/stories/040697/met_cokemoms.html Associated Press, "Bill Would Allow Newborn Drug Testing Without Consent," <i>Augusta Chronicle Online: metroaugusta</i> , Apr. 6 1997
Care & Treatment Costs During First Few Years of Drug Exposed Child's Life	\$250,000 per child	http://www.augustachronicle.com/stories/040697/met_cokemoms.html Office of Justice Programs, Dept of Justice, "New Survey Documents Dramatic Rise in Drug Courts: Substantial Progress Reported," <i>Press</i>
Costs of Care for Drug Exposed Babies Due to Medical Expenses and Developmental Delays	At least \$750,000 per child	Release, Nov. 24, 1997 http://www.ojp.usdoj.gov/dcpo/ausum97.htm Susan Lundine, "Feeney May Rethink Cuts to Drug Program," <i>Orlando Bus. J.</i> , Mar. 30, 2001
Daily Costs to Keep Drug-Addicted Babies Alive	\$25,000 per child per day	http://orlando.bcentral.com/orlando/stories/2001/04/02/story7.html Renee Koury, "Protesters Tear Down Addict Birth Control Ad," <i>San Jose Mercury News</i> , Oct. 20, 1999.
Daily Hospital Costs for Drug Addicted Newborn's Care	\$1,500-\$2,000 per infant per day	http://www.sjmercury.com House Bill Report: HB 1697 As Reported By House Committee On: Children & Family Services , Mar. 6, 1997
		http://www.leg.wa.gov/pub/billinfo/1997-98/house/1675-1699/1697_hbr_030697.txt

Medical Costs of Drug Addicted Babies for First Four Years of Life Over \$40,000 per child (for the 300,000 drug exposed babies in the U.S.)
OJP Drug Court Clearinghouse and Technical Assistance Project at American University: Estimated Cost Related to the Birth of a Drug and/or Alcohol Exposed Baby. March 2002
 John Dillin, "US Wasting Funds in Drug Effort," *Christian Science Monitor*, June 12, 1991

Effects of Children Exposed to Alcohol, Tobacco and Drugs (ATOD) Before Birth

Substance abuse during pregnancy has become a major health issue and the use of alcohol, tobacco and drugs during pregnancy is not insignificant. Substance use during pregnancy can lead to numerous negative effects. The consequences of prenatal substance use include three kinds of effects; immediate teratogenic (drug) effects that emerge during the first year before environmental effects become salient, latent teratogenic effects not visible in infancy that reflects brain function that becomes relevant later in development, and postnatal environmental effects (1).

The impact of prenatal substance use on the development and behavior of the exposed child has been well documented:

Substance	Effects on Pregnancy	Effects on Newborn
Alcohol	There is no safe level of alcohol use during pregnancy	<p>Fetal Alcohol Syndrome (FAS)</p> <ul style="list-style-type: none"> • Growth restriction, facial anomalies, central nervous system dysfunction, neonatal abstinence syndrome characterized by jitteriness, irritability, and poor feeding (2). • Growth retardation (3). • Increased risk of attention deficit hyperactivity disorder (4) • Stillbirth and infant mortality (5) • Decreased learning and memory skills (6).
Tobacco	Tobacco smoke reduces the delivery of oxygen to the fetus through the presence of carbon monoxide, cyanide, and aromatic hydrocarbons. Nicotine and other substances in tobacco also cause a reduction in placental blood flow creating further reductions in oxygen delivery as well as reductions in nutrients to the unborn baby.	<ul style="list-style-type: none"> • Low birth weight (7-8). • Genetic defects (9-10). • Premature births (11-12) • Behavioral problems including Attention Deficit Disorder (13). • Asthma and respiratory disorders (14). • Doubles risk of Sudden Infant Death Syndrome (SIDS) (16-17). • Numerous health problems when infants exposed to secondhand smoke: frequent ear infections, pneumonia, asthma, mental retardation, slower growth, hyperactivity, learning disabilities (18).
Marijuana	There is no evidence that marijuana is safe for the childbearing woman.	<ul style="list-style-type: none"> • Increases the risk of low birth weight (19). • Increase in behavior problems (20). • Other deficits in cognitive functioning (21). • Altered response to visual stimuli and

		increased tremulousness (22).
Cocaine	Cocaine use during pregnancy can cause multiple complex problems in utero and after birth. Separating cocaine use from other significant factors such as poverty, malnutrition, abuse, neglect and other drug use which can affect research outcomes is difficult (23).	<ul style="list-style-type: none"> • Placental abruption, preterm birth and low birth weight (24) • Microcephaly (25). • Subtle cognitive and motor changes (26).
Heroin/Opiates	Abrupt withdrawal from opiates during pregnancy is not recommended as maternal withdrawal symptoms threaten the fetus.	<ul style="list-style-type: none"> • Stillbirth, fetal growth restrictions, preterm birth, neonatal mortality (7, 26). • Newborn at risk for neonatal abstinence syndrome, a severe, potentially fatal narcotic withdrawal syndrome, high-pitched cry, poor feeding, hypertonicity, tremors, irritability, sneezing, sweating, fever, vomiting, diarrhea, and occasionally seizures (8, 27). • Herpes Simplex – Can be passed in utero. • Hepatitis – can be transferred to infant from mother affected during birth, and occasionally in utero (30) • Human Immunodeficiency virus (HIV) – can be passed from mother to child in utero, during childbirth, or as the result of breastfeeding (31).
Methamphetamine	Methamphetamine use during pregnancy affects development of a baby’s brain, spinal cord, heart, and kidneys. Prenatal exposure to methamphetamine is currently being evaluated in neonates and infants through an ongoing study with Dr. Barry Lester at Brown University.	<ul style="list-style-type: none"> • Prenatal complications, such as placental abruption and premature delivery; baby’s blood pressure rising rapidly, leading to strokes or brain hemorrhages before birth; learning disabilities, growth and developmental delays; gastroschisis and other problems with the development of intestines (<i>gastroschisis is a condition in which a baby is born with a hole in the abdomen, causing the intestines to be outside the body</i>); developmental and skeletal abnormalities; sleep disturbances and altered behavioral patterns (32). • Increase in growth restriction and withdrawal symptoms (33). • Preterm delivery, low birth weight, agitation with neonatal withdrawal (34).

References

1. Lester, B.M., Andreozzi, L. Substance use during pregnancy: time for policy to catch up with research. *Harm Reduction Journal*, 2004 Apr 20;1(1):5.
2. Bertrand J, Floyd RL, Weber MK, et al. Fetal alcohol syndrome guidelines for referral and diagnosis, Atlanta, GA: US Department of Health and Human Services, CEC; 2004.
3. Substance Abuse and Mental Health Services Administration. Pregnant women in substance abuse treatment. The DASIS Report. Rockville (MD): SAMHSA; 2002. Available at <http://www.oas.samhsa.gov/2k2/preg/TX/pregTX.pdf>. Retrieved August 12, 2004.
4. American College of Obstetricians and Gynecologists. Illicit drug abuse and dependence in women: a slide lecture presentation. Washington, DC: ACOG; 2002.
5. Becker KL, Walton-Moss B. Detecting and addressing alcohol abuse in women. *Nurse Pract* 2002;26(10):13-6, 19-23; quiz 24-5.
6. Substance Abuse and Mental Health Services Administration. Pregnant women in substance abuse treatment. The DASIS Report. Rockville (MD): SAMHSA; 2002. Available at <http://www.oas.samhsa.gov/2k2/pregTX/pregTX.pdg> . Retrieved August 12, 2004.
7. Weng X., et al. Maternal Cigarette Smoking, Metabolic Gene Polymorphism, and Infant Birth Weight. *Journal of the American Medical Association* 2002; 287(2): 195-202.
8. Matthews TJ, Menacker F, MacDorman MF. Infant mortality statistics from the 2001 period linked birth/infant death data set. *Natl Vital Stat Rep* 2003;52(2): 1-28.
9. Napier K. Cigarettes: what the warning label doesn't tell you. American Council on Science and Health 1996, New York, N.Y., p.86.
10. Chung KC, Kowalski CP, Kim HM, Buchman SR, Maternal smoking during pregnancy and the risk of having a child with cleft lip/palate. *Plastic and Reconstructive Surgery* 2000; 105(2):485-91.
11. Napier K. Cigarettes: what the warning label doesn't tell you. American Council on Science and Health 1996, New York, N.Y., p. 85.
12. US Department of Health and Human Services, Public Health Services. *Women and Smoking: a report of the Surgeon General*. Washington, DC: Office of the Surgeon General; 2001.
13. Policy, Assessment and Assurance to Stop Smoking (PASS) Update, Association of MCH Programs, September 1996, p.4.
14. Law MR, Hackshaw AK. Environmental tobacco smoke. *BR Med Bull*, 1996; 52:22-34.
15. American Academy of Otolaryngology – Head and Neck Surgery, Inc., *Secondhand Smoke Fact Sheet*, 1996.
16. Project ASSIST: Smokefree Indiana, “Secondhand Smoke” Fact Sheet, 1997 New Years Day Smoking Cessation Class, TV Presentation, WFYI, Dr. Richard Feldman, Indiana State Health Commissioner, December 23, 1997.

17. Matthews TJ, Menacker P, MacDorman MF. Infant mortality statistics from the 2001 period linked birth/infant data set. *Natl Vital Stat Rep* 2003;52(2):1-28.
18. Waller K. Environmental tobacco smoke and sudden infant death syndrome ARHP Clinical Proceedings, October 1996.
19. Fergusson DM, Horwood LJ, Northstone K. Maternal use of cannabis and pregnancy outcome. ALSPAC Study Team. *Avon Longitudinal Study of Pregnancy and Childhood. BJOG* 2002;109:21-7.
20. Substance Abuse and Mental Health Services Administration. *Pregnant, substance-using women: Treatment Improvement Protocol (TIP). Series 2.* Rockville (MD): SAMHSA; 1995.
21. Richardson GA, Ryan C., Willford J., Day NL, Goldsmith L. Prenatal alcohol and marijuana exposure: effects on neuropsychological outcomes at 10 years. *Neurotoxicol Teratol.* 2002 May-Jun;24(3):309-20
22. Substance Abuse and Mental Health Services Administration. *Pregnant, substance-using women: Treatment Improvement Protocol (TIP). Series 2.* Rockville (MD): SAMHSA; 1995.
23. Chavkin W. Cocaine and pregnancy – time to look at the evidence. *JAMA*, 2001; 285(12):1626-1629.
24. Singer LT, Salrator A, Arendt R, Minnes S, Farkas K, Kliegman R. Effects of cocaine/polydrug exposure and maternal psychological distress on infant birth outcomes. *Neurotoxicol Teratol* 2002;24:127-35.
25. Singer LT, Salrator A, Arendt R, Minnes S, Farkas K, Kliegman R. Effects of cocaine/polydrug exposure and maternal psychological distress on infant birth outcomes. *Neurotoxicol Teratol* 2002;24:127-35.
26. Weissman De, Haddox JD, Opioid pseudoaddictio –an atrogenic syndrome. *Pain* 1989;36:363-6.
27. Dashe JS, Sheffield JS, Olscher DA, Todd SJ, Jackson GL, Wendel GD. Relationship between maternal methadone dosage and neonatal withdrawal. *Obstet Gynecol* 2002;22(4):15-25.
28. McElhatton PR, Bateman DN, Evans C, Pughe KR, Thomas SH. Congenital anomalies after prenatal ecstasy exposure. *Lancet* 1999;354:1441-2.
29. Arvin AM, ProberCG. Herpes simplex virus infections: The genital tract ant ehe newborn. *Pediatrics in Review* 1992;13(3):107-11.
30. Marx JF. Hepatitis: Unscrambling the alphabet. *Nursing* 1993; 93: 34-41.
31. Goldfarb J. Breast feeding-AIDS and other infectious diseases. *Clinics in Perinatology* 1993; 20(1): 225-43.
32. North Dakota Department of Health, *Methamphetamine Use During Pregnancy, New Mother Fact Sheet, 2002*
31. Smith L, Yonekura ML, Wallace T, Berman N, Kuo J, Berkowitz C. Effects of prenatal methamphetamine exposure on fetal growth and drug withdrawal symptoms in infants born at term. *J. Dev Behav Pediatr* 2003;24:17-23.
34. Grant BF, Dawson DA. Age of onset of drug use and its association with DSM-IV drug abuse and dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *J Subst Abuse* 1999;10:163-73.

Success Stories

Substance Use Disorders and Pregnancy

Kentucky and Substance Abuse

The University of Kentucky's Institute on Women and Substance Abuse was created to increase the number of women served in publicly-funded drug and alcohol treatment programs in Kentucky. The Institute is funded by the Division of Substance Abuse. It is estimated that there are 72,000 women over the age of 18 in Kentucky who are abusing drugs and only 22% of these women receive treatment. The Institute:

- Targets under-identified, under-served women and their families;
- Provides staff support to two statewide advisory groups: the Kentucky Coalition for Women's Substance Abuse Services and the Substance Abuse and Pregnancy Network;
- Serves as a state and national resource center focusing on the issues relating to female substance use and abuse.

Activities and services available include:

- Developing and implementing statewide efforts to improve women's substance abuse services;
- Providing training and technical assistance to health and human service providers;
- Maintaining a resource library on issues pertinent to female chemical dependency;
- Developing opportunities for statewide cross-systems training and other community collaboration; and
- Supporting grassroots, organizational and governmental activities in educating the public about women and substance abuse.

Kentucky has developed a prevention system comprised of several key components: the Kentucky Agency for Substance Abuse Policy, the Governor's Kentucky Incentives for Prevention Project, and Regional Prevention Centers. The Kentucky Agency for Substance Abuse Policy was established in 2002 by the General Assembly. The agency monitors data regarding use, access, policies and programs; regularly consults with programs from other states; coordinates a system of planning, funding, and evaluation; coordinates a media campaign to educate public about addiction; and assures the availability of training, technical assistance and consultation to local service providers.

The Governor's Kentucky Incentives for Prevention Project was created in 1997 to target reduction of substance abuse among youth ages 12-17.

For more information: cdar.uky.edu/iowasa

Washington State and Substance Abuse

Washington State Department of Health (DOH) was directed to develop screening criteria and received funding from the Washington State Division of Alcohol and Substance Abuse (DASA) to develop guidelines for screening for substance abuse during pregnancy in 1999. In 2000, legislation was passed to include funding for provider training. Since then, the DOH has: conducted provider training and focus groups; developed evidence-based guidelines for screening; developed clinician pocket cards; and written Guidelines for Testing and Reporting Drug Exposed Newborns in Washington State. These guidelines were created to provide guidance to health care providers and affiliated professionals about maternal drug screening and laboratory testing and reporting of drug-exposed newborns delivered in Washington State. The document was written in response to an increasing number of requests from hospital staff and attorneys in Washington State seeking information on this complex topic.

For more information:

http://www.doh.wa.gov/CFH/mch/drug_and_alcohol_screening.htm

Wishard Memorial Hospital Prenatal Substance Use Program

Substance use in pregnancy places the patient at high-risk for adverse perinatal and neonatal outcomes. Patients are often followed in a high-risk obstetrical clinic managed by maternal fetal medicine (MFM) specialists, perinatal nurses, dieticians and social service support. Nationwide, this is a common format for treatment.

In 2003, a motivational enhancement treatment program (MET) using the Stages of Change approach was instituted at Wishard using a general obstetrician, mental health support through Project Home (a mental health and support program for women by Midtown Mental Community Health Center), dietician, social service support, 12 Step Groups and parenting workshops. A comparison of outcomes in 145 MFM patients (Group 1) with 63 MET patients (Group 2) recently conducted found that 50.5% of the patients in Group 1 tested positive at delivery compared to only 15.8% of the patients in Group 2. Patients in Group 2 also had a lower percentage of positive newborns, a lower percentage of labor and intrapartum complications and only one premature birth (twins born at 32 weeks gestation to patient on methadone maintenance) compared to nine in Group 2. Nearly 80% of patients enrolled in the Project Home Recovery Program were still drug free six months postpartum¹.

This project demonstrates the effectiveness of Motivational Enhancement Treatment in lowering maternal and neonatal morbidity. Most important, motivational enhancement therapy is easy to learn for the clinician and requires no special skill development for the patient.

¹ Nocon JJ and Kerlin S. Motivational enhancement treatment improves maternal and neonatal outcome in substance abuse in pregnancy. Amer Soc Addict Med Abstracts, 37th Annual Medical-Scientific Conference, 2006.

Definitions:

- **Addiction:** A chronic relapsing condition characterized by compulsive drug-seeking and abuse and long-lasting chemical changes in the brain. Continued use of the addictive substance induces adaptive changes in the brain that lead to tolerance, physical dependence, uncontrollable craving and, all too often, relapse.
- **Alcohol:** A depressant drug that slows the brain's activities and the activity of the spinal cord. Under normal circumstances, the intake of alcohol in moderation is legal and not considered to be harmful. However, during a pregnancy, most experts say that any amount of alcohol could potentially be harmful.
- **Analgesia:** absence of the sense of pain without loss of consciousness.
- **Bupenorphine:** An opioid drug primarily used for the treatment of opioid addiction.
- **Cocaine:** A powerfully addictive stimulant that directly affects the brain. It comes in the form of white powder that can be snorted or injected and is made from the leaves of coca plants. The stronger version of cocaine that is heated with other chemicals to form solids is called crack. Cocaine can cause both a numbing sensation and a stimulating feeling, or “rush,” as dopamine is released.
- **Fetal Alcohol Spectrum Disorder(FASD):** Prenatal exposure to alcohol can cause a range of disorders, known as fetal alcohol spectrum disorders (FASDs). One of the most severe effects of drinking during pregnancy is fetal alcohol syndrome (FAS).
- **Fetal Alcohol Syndrome (FAS):** A set of physical and mental birth defects that results when a mother drinks alcohol during her pregnancy. Characterized by brain damage, facial deformities, and growth deficits. Heart, liver, and kidney defects are also common, as are vision and hearing problems. Individuals with FAS have difficulties with learning, attention, memory, and problem solving.
- **Heroin:** Semisynthetic (opiate) drug derived from morphine. Heroin can be highly addictive, and is potent whether being sold pure or “cut”, meaning combined with other powdered substances.
- **Marijuana:** A depressant which is the most commonly used illicit drug in the United States. A dry, shredded green/brown mix of flowers, stems, seeds, and leaves of the hemp plant Cannabis sativa, it usually is smoked as a cigarette (joint), or in a pipe (bong). It also is smoked in blunts, which are cigars that have been emptied of tobacco and refilled with marijuana.

- **Meconium:** The first series of green stools of the newborn that begins to form during the second trimester and is not excreted in utero; it retains drugs to which the fetus has been exposed.
- **Methadone:** A synthetic opioid analgesic best known for its use in treating narcotic addiction, though it is also used in managing chronic pain due to its long duration of action and very low cost.
- **Methamphetamine:** A synthetic drug made in illegal laboratories chemically related to amphetamine. It stimulates the central nervous system by increasing the amount of certain chemicals in the body, increasing heart rate and blood pressure and decreasing appetite, among other effects.
- **Nalbuphine:** a synthetic opioid used commercially as an analgesic under a variety of trade names, including Nubain.
- **Narcotic:** Any of a number of substances that have a depressant effect on the nervous system.
- **Nicotine:** One of more than 4,000 chemicals found in the smoke from tobacco products such as cigarettes, cigars, and pipes. It is the addictive component in tobacco that acts on the brain. Nicotine is one of the most heavily used addictive drugs in the United States.
- **Opiate:** A medication or illegal drug that is either derived from the opium poppy, or that mimics the effect of an opiate (a synthetic opiate). Opiate drugs are narcotic sedatives that depress activity of the central nervous system, reduce pain, and induce sleep. Long- term use of opiates can produce addiction, and overuse can cause overdose and potentially death.
- **Opioid Analgesics:** Pain relievers that act on the central nervous system. Like all narcotics, they may become habit-forming if used over long periods.
- **Substance Use Disorder:** Dependence on and abuse of alcohol or other drugs usually taken voluntarily for the purpose of their effect on the central nervous system (usually referred to as intoxication or "high") or to prevent or reduce withdrawal symptoms.
- **THC (delta-9-tetrahydrocannabinol):** The main active ingredient in marijuana.