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A Statewide Screening, Testing, and Intervention Standard for Perinatal Illicit Drug Exposure

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Every year, Iowa welcomes an average of 38,000 newborns. On the basis of known rates of drug use, we would expect 7-8 percent, or about 2800 infants, to have been exposed to drugs in utero. With an appropriate screening program, health care providers would identify about 1,200 of these newborns, and then refer them for evaluation and services.

In Iowa in 2005, however, as a result of inadequate screening and testing, only 537 newborns were confirmed as having been exposed to drugs in utero. Infants who have been exposed to drugs but who remain unidentified will be discharged to homes in which mothers are likely to continue to use drugs. Often these infants face continuing exposure to drugs and to the chaotic lifestyle and lack of nurturing so often associated with drug use.

Some states, such as California and Virginia, have mandated maternal and neonatal drug

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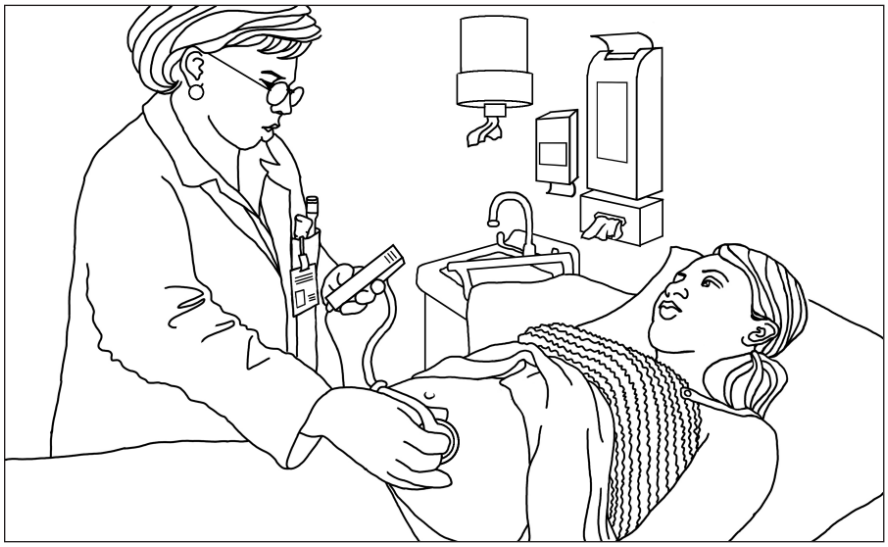
screening protocols for hospitals. Other states, such as Arizona, Washington, and Indiana, have developed a statewide consensus on perinatal screening for drugs, and established education programs in all birthing hospitals. In addition to statewide efforts, many individual hospitals, often in urban areas, have developed structured screening and testing protocols. State, community, and individual hospital efforts have continued to grow in response to our increasing awareness of the extent of perinatal drug exposure.

In Iowa, health care professionals have long recognized the need for programs to identify perinatal drug exposure. Some Iowa hospitals have developed and implemented protocols to guide medical staff in screening mothers and newborns for specific high-risk factors.

Parallel to this, Iowa code encourages health professionals to perform perinatal screening and testing for drugs when risk factors are recognized and documented. However, Iowa code leaves the specific definition of these risk factors to the discretion of the clinician. In addition, Iowa has not mandated that birthing hospitals develop screening and testing protocols. As a result, tremendous variation exists among Iowa birthing hospitals regarding perinatal drug screening. Most community hospitals do no screening at all. Some do randomized screening, such as testing every 15th or 20th infant. Often, whether a mother is screened, tested, or exempted depends on the personal perceptions of the medical staff.



A study conducted in Iowa birthing hospitals found that hospitals using a structured screening or testing protocol test twice as many infants as hospitals that have no protocol. At hospitals that use a screening protocol, the rate of positive test results – infants identified as having been exposed to illicit drugs in utero -- is almost five times higher than in hospitals without such a protocol. But less than half of the infants born in Iowa are delivered in hospitals that use a structured protocol for screening and testing.

Even hospitals that use protocols often provide no specific training, which reduces the effectiveness of screening and testing. In one urban hospital in Iowa, and despite the availability of a structured protocol, almost one-third of eligible infants were not screened because staff did not follow the protocol.

As a result of growing concern about perinatal drug exposure, a statewide collaboration came together and developed a targeted, risk-based perinatal drug screening, testing, and

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The Meth Threat: Children at Risk

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Meth in Iowa

Year	Reported meth "lab incidents"	DHS abuse cases with illicit drugs found in child's body
2004	1,500	1,713
2005	760	1,354
2006	334	1,481
2007	174	1,173

From: Methamphetamine Abuse in Iowa, A Report to the Legislature, 1-07

For the past five years, the Iowa Department of Human Services has reported an average of 1,345 cases per year of child abuse involving the presence of illegal drugs in the body of a minor. In 2007, there were 1,173 such cases. Often the drug in question is methamphetamine.

In 2004, Iowa ranked second in the nation in the number of meth labs; local law enforcement was identifying an average of 26 labs a week. Although the 2005 passage of the Iowa Pseudoephedrine Control Law led to a great reduction in meth production (and meth labs), this was quickly followed by an alarming increase in the amount of crystal meth being imported into the state from large labs predominately in Mexico.

Crystal meth is also referred to as "super meth" because it is much more pure (>90%) and potent than the meth produced locally in small labs. Meth continues to be the drug of highest concern in Iowa. As a result, the Iowa Governorís Office of Drug Control Policy (ODCP) has recently mobilized Drug Endangered Children (DEC) teams in 15 communities to provide rapid response services to children affected by drugs.

Common meth ingredients include ephedrine or pseudoephedrine (Sudafed™), drain cleaner, antifreeze, lantern fuel, lye, battery acid, red phosphorous, hydrochloric acid, and anhydrous ammonia. With chemical components like these, it should come as no surprise that methamphetamine can induce horrific physical effects.

Meth works by flooding the user's brain with dopamine, a neurotransmitter that stimulates pleasure. After taking meth, the user feels an intense, extremely pleasurable "rush" that lasts a few minutes, after which the user will remain in a less-intense, pleasurable "high" for 4-24 hours. During this high, users feel euphoric and full of energy. When the effects of meth finally wear off, the user is often depressed due to dopamine depletion.

Over time, the user requires more and more drug to feel good. Repeated dosing of meth is called a "meth run" and can last up to seven days, at which point the user finally "crashes" (sleeps) for up to another seven days. Because of these long runs and crashes, children of meth users are frequently neglected for days or weeks at a time.

This intense pleasure/tension cycle leads to loss of control over the drug and to addiction. Meth use not only modifies behavior in the short term, but after repeated use it changes the brain in fundamental and long-lasting ways by depleting dopamine stores and altering dopamine receptors. It is for this reason that, among illegal drugs, methamphetamine is in a league all its own. Users become deeply addicted to the drug because without it they are no longer able to experience pleasure, a condition referred to as *anhedonia*.

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Meth use can produce such physical signs as:

- Agitation, restlessness, fidgeting
- Appetite decrease, weight loss
- Dizziness
- Eyes: horizontal nystagmus (jerky eye movement); dilated pupils
- Respiratory disorders
- Skin: dry, itchy, sores, acne, infection (often with methicillin-resistant staphylococcus aureus)
- Speech: excited, shaky, impaired
- Teeth: visible decay ("meth mouth")

In addition to affecting the brain, meth can also cause the heart to race and blood vessels to constrict, which can cause serious organ damage, including heart attacks, strokes, and death. The ingredients in meth are highly corrosive and can erode soft tissues, cartilage, bone, and teeth. Ongoing use is associated with brain damage, immune system deficiencies, kidney, lung, and liver damage, violent or aggressive behavior, chronic depression, and psychosis.

Perinatal meth use

Meth use during pregnancy increases maternal blood pressure and heart rate, and may result in premature delivery, placental abruption (premature separation of the placenta from the inner wall of the uterus), or spontaneous abortion.

The children of meth-using mothers are at risk even before they are born. Meth use constricts blood vessels in the placenta, which reduces the supply of oxygen and nutrients to the fetus. Meth also passes through the placenta, and can:

- Elevate fetal blood pressure
- Cause strokes
- Damage the heart or other organs
- Increase heart rate, produce extreme variability

Meth use can also slow or alter fetal development. Infants exposed to methamphetamine *in utero* are six times more likely to be born with birth defects, including spina bifida, skeletal and intestinal abnormalities, and heart and brain abnormalities.

Children and meth

During a "meth run," a user will exhibit poor judgment and dangerous, hyperactive behavior. Many users, when high on this drug, commit crimes that range from petty to violent.

Meth also increases the libido and decreases inhibition, frequently leading to promiscuous, unprotected sex. This places meth users at high-risk for acquiring HIV, hepatitis B, and other sexually transmitted diseases. Long-term users also frequently develop severe psychosis with paranoia, aggression, hallucinations, and delusions.

Sadly, it is often the children of meth producers and users that fall victim to the sexual promiscuity and violent, psychotic behavior induced by meth. In locales of significant methamphetamine use, sexual and physical abuse of children is rampant.

Children living with meth users or in homes that house methamphetamine labs often face deplorable conditions

-- toxic chemicals and fumes, fires, explosions, weapons, booby traps intended for law enforcement and welfare authorities, lice and worm-infested living conditions, inadequate heating, cooling and plumbing. These chaotic living conditions impede normal development and lead to academic and social problems.

If you suspect that a caregiver's meth use is placing a child is at risk, it is important to contact Department of Human Services (DHS) at 1-800-362-2178. If the child resides in another county, DHS can contact the office in the appropriate county or provide appropriate contact numbers. DHS will also contact the local law enforcement.

Perinatal Illicit Drug Exposure

Risk Assessment Tool

Obstetrics Clinic and Labor and Delivery Unit

Current pregnancy: Risk factors

❑ Yes ❑ No	No prenatal care or late prenatal care (> 16 weeks gestation)
❑ Yes ❑ No	Poor prenatal care with 4 or fewer prenatal visits (unexplained)
❑ Yes ❑ No	Different prenatal and delivery care providers (unexplained "hospital hopping")
❑ Yes ❑ No	Acute hypertension of 140/90 mmHg (unexplained)
❑ Yes ❑ No	Seizures, stroke, or myocardial infarction (unexplained)
❑ Yes ❑ No	Premature delivery (unexplained)
❑ Yes ❑ No	Out-of-hospital delivery (unanticipated)
❑ Yes ❑ No	Presentation at hospital in second stage of labor (unexplained)
❑ Yes ❑ No	Precipitous labor of <3 hours (unexplained)
❑ Yes ❑ No	Placental abruption (unexplained)
❑ Yes ❑ No	Stillbirth (unexplained)
❑ Yes ❑ No	Tobacco or alcohol use
❑ Yes ❑ No	Maternal report of illicit drug use
❑ Yes ❑ No	Physical signs of illicit drug use (IV tracks, visible tooth decay, sores on face, arms, or legs)
❑ Yes ❑ No	Altered mental status suggesting influence or withdrawal from drugs
❑ Yes ❑ No	Maternal urine drug screen positive

Maternal medical history: Risk factors

❑ Yes ❑ No	Hepatitis B or C, syphilis, or HIV within the last 3 years (unexplained)
❑ Yes ❑ No	Maternal depression or major psychiatric illness within the last 3 years that has not been treated
❑ Yes ❑ No	Illicit drug use during any pregnancy

Family history: Risk factors

❑ Yes ❑ No	Illicit drug use by mother or partner within the last 3 years
❑ Yes ❑ No	Illicit drug rehabilitation by mother or partner within the last 3 years
❑ Yes ❑ No	Domestic violence in home within the last 3 years
❑ Yes ❑ No	Child abuse, neglect, or court ordered placement of child outside of home

If YES to any of the questions above:

- ❑ Request informed consent from the mother to order urine screening for illicit drugs.
- ❑ Contact the unit social worker to initiate detailed psychosocial assessment.
- ❑ Request chemical dependency services consult if social worker and physician believe it is warranted.
- ❑ Request psychiatry consult if mental health concerns are present.
- ❑ Verbally communicate risk status to labor and delivery staff and to newborn nursery or NICU staff.
- ❑ Attach a copy of this completed form to labor and delivery form and send to the newborn nursery or NICU with the baby.

If NO to all questions above, or staff has confidently determined that identified risk factors are secondary to conditions other than perinatal illicit drug use:

1. Document this in the chart.
2. Inform neonatal staff that they may defer testing the newborn.

Newborn Nursery or NICU

Newborn assessment: Risk factors

❑Yes ❑ No	Maternal risk factor(s) present
❑Yes ❑ No	Mother has been tested during this pregnancy or labor for illicit drugs
❑Yes ❑ No	Mother tested positive for illicit drugs during this pregnancy
❑Yes ❑ No	Pre-term delivery with gestation 37 weeks or less (unexplained)
❑Yes ❑ No	Birth weight less than 10th percentile for gestational age (unexplained)
❑Yes ❑ No	Head circumference less than 10th percentile for gestational age (unexplained)
❑Yes ❑ No	Seizures, stroke, or brain infarction (unexplained)
❑Yes ❑ No	Congenital malformations involving genitourinary tract, abdominal wall, or gastrointestinal tract (unexplained)
❑Yes ❑ No	Unexplained symptoms that may suggest drug withdrawal/intoxication:

Cry: high pitched	Feeding problems	Irritability	Sleep: disorganized
Diarrhea	Hiccoughs	Lethargy	Sneezing
Drooling	Hypertonia	Respiratory distress	

If YES to any of the questions above:

❑ Order meconium and urine screening tests for illicit drugs.

If NO to all questions above, or staff has confidently determined that identified risk factors are secondary to conditions other than in-utero exposure to illicit drugs:

❑ Document this in the chart.

RESOURCES

Online

Perinatal Drug Screening, Testing, and Intervention Protocol http://www.uihealthcare.com/depts/uichildrenshospital/childprotection/pdf/protocolonperinatalillicitdrugscreeningandintervention.pdf

Iowa Alliance for Drug Endangered Children (DEC) http://www.iowadec.net
DEC response guidelines for law enforcement officials /uploads/ Law%20Enforcement%20 Protocol%20 -20Card%20ALL %20(2).pdf

Methamphetamine Abuse in Iowa, A Report to the Legislature, 1-07
http://www.iowa. gov/odcp/ docs/ 2007_Meth_ Report_2-1-07.pdf

Prevent Child Abuse Iowa http://www.pcaiowa.org
Data on Iowa drug-related child abuse/documents/data/2007/Iowa-Drug-Related-Abuse-02-07.pdf

Articles

Drug Screening of Newborns by Meconium Analysis, Peds 1992; 89(1):107-13.

Neonatal Illicit Drug Screening Practices in Iowa: The Impact of Utilization of a Structured Screening Protocol, J Perinatol 2006; 26(11): 660-6

Search for Guidance: Examining Prenatal Substance Exposure Protocols, Matern Child Health J 2002; 6(3):205-212

Hotlines

Iowa Substance Abuse Information Center Help Line 1-866-242-4111 (I&R 24/7)

Child Abuse Hotline, Department of Human Services 1-800-362-2178

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intervention protocol to be adopted by every birthing hospital in Iowa. This protocol is now available online (see Resources, page 6).

Participants in this collaboration include:

- Iowa Department of Public Health
- Iowa Perinatal Care Association
- Iowa Hospital Association
- American Academy of Pediatrics, Iowa Chapter
- Drug Endangered Children Alliance of Iowa
- Iowa Child Protection Council
- Iowa Child Protection Centers and programs, including the University of Iowa Children's Hospital in Iowa City, Blank Children's Hospital in Des Moines, St. Lukeís Hospital in Cedar Rapids, Mercy Hospital in Sioux City, and Davenport Child Abuse Task Force
- Many other professional organizations working with newborns, children, and women

The Perinatal Care Program Advisory Council of the Iowa Department of Public Health has approved a screening protocol (see "Perinatal Illicit Drug Exposure Risk Assessment Tool," page 5), and this is now included in the State Perinatal Care Clinical Guidelines. Members of the Perinatal Care Program staff are currently disseminating this protocol to birthing hospitals around the state. It calls for screening for perinatal drug exposure to be performed in the prenatal clinic, labor and delivery unit, and newborn nursery unit or NICU, and for services to be provided to both the mother and the newborn.

Prenatal clinics play a key role in identifying perinatal drug use, and in offering the mother the opportunity for testing and intervention. Prenatal clinic staff should screen mothers when they first visit the prenatal clinic. If the initial screening is negative, staff should verify abstinence from illicit drug use at every subsequent visit.

Mothers who are reluctant to abstain from drug use may not be willing to disclose addiction, and may refuse to give consent for testing and intervention. When that happens, hospitals need to have a system in place to ensure that information about the status of this at-risk mother and child is communicated from the prenatal clinic to the labor and delivery unit and to the newborn nursery or NICU.

Implementing a standard protocol allows health care providers to identify most drug exposed newborns and provide treatment or referral for treatment. Such a protocol also allows providers to link the mother to the services she needs to become the parent she wants and deserves to be.

What's in this issue

If you have questions about **billing** related to EPSDT Care for Kids services, please call Provider Services: **1-800-338-7909**

If you have questions about **clinical issues** and EPSDT Care for Kids services, please call **1 -800-383-3826**

Please note: Due to budget restraints, the *EPSDT Care for Kids Newsletter* is sent to offices and organizations, rather than to individuals.

The newsletter is also available online at http://www.iowaepsdt.org/EPSDTNews/

The ***EPSDT Care for Kids Newsletter*** is published three times a year, in print and online, as a joint effort of the Iowa Prevention of Disabilities Policy Council, the Iowa Department of Human Services, the Iowa Department of Public Health, and the Center for Disabilities and Development, which is nationally designated as Iowa's University Center for Excellence on Disabilities. The goal of this newsletter is to inform Iowa health care professionals about the EPSDT Care for Kids program, to encourage them to make use of this important resource, and to provide them with information about a wide range of developments in the field of health care.

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