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Substance Abuse Reporting and Pregnancy: The Role of the Obstetrician–Gynecologist

Abstract: Drug enforcement policies that deter women from seeking prenatal care are contrary to the welfare of the mother and fetus. Incarceration and the threat of incarceration have proved to be ineffective in reducing the incidence of alcohol or drug abuse. Obstetrician–gynecologists should be aware of the reporting requirements related to alcohol and drug abuse within their states. They are encouraged to work with state legislators to retract legislation that punishes women for substance abuse during pregnancy.

A disturbing trend in legal actions and policies is the criminalization of substance abuse during pregnancy when it is believed to be associated with fetal harm or adverse perinatal outcomes. Although no state specifically criminalizes drug abuse during pregnancy, prosecutors have relied on a host of established criminal laws to punish a woman for prenatal substance abuse (1). As of September 1, 2010, fifteen states consider substance abuse during pregnancy to be child abuse under civil child-welfare statutes, and three consider it grounds for involuntary commitment to a mental health or substance abuse treatment facility (1). States vary in their requirements for the evidence of drug exposure to the fetus or newborn in order to report a case to the child welfare system. Examples of the differences include the following: South Carolina relies on a single positive drug test result, Florida mandates reporting newborns that are “demonstrably adversely affected” by prenatal drug exposure, and in Texas, an infant must be “addicted” to an illegal substance at birth. Most states focus only on the abuse of some illegal drugs as cause for legal action. For instance, in Maryland, the use of drugs such as methamphetamines or marijuana may not be cause for reporting the pregnant woman to authorities (2). Some states also include evidence of alcohol use by a pregnant woman in their definitions of child neglect.

Although legal action against women who abuse drugs prenatally is taken with the intent to produce healthy birth outcomes, negative results are frequently cited. Incarceration and the threat of incarceration have

proved to be ineffective in reducing the incidence of alcohol or drug abuse (3–5). Legally mandated testing and reporting puts the therapeutic relationship between the obstetrician–gynecologist and the patient at risk, potentially placing the physician in an adversarial relationship with the patient (6, 7). In one study, women who abused drugs did not trust health care providers to protect them from the social and legal consequences of identification and avoided or emotionally disengaged from prenatal care (8). Studies indicate that prenatal care greatly reduces the negative effects of substance abuse during pregnancy, including decreased risks of low birth weight and prematurity (9). Drug enforcement policies that deter women from seeking prenatal care are contrary to the welfare of the mother and fetus.

Seeking obstetric–gynecologic care should not expose a woman to criminal or civil penalties, such as incarceration, involuntary commitment, loss of custody of her children, or loss of housing (6). These approaches treat addiction as a moral failing. Addiction is a chronic, relapsing biological and behavioral disorder with genetic components. The disease of substance addiction is subject to medical and behavioral management in the same fashion as hypertension and diabetes. Substance abuse reporting during pregnancy may dissuade women from seeking prenatal care and may unjustly single out the most vulnerable, particularly women with low incomes and women of color (10). Although the type of drug may differ, individuals from all races and socioeconomic strata have similar rates of substance abuse and addiction (11).

Pregnant women who do not receive treatment for drug dependence cannot be assumed to have rejected treatment (12). The few drug treatment facilities in the United States accepting pregnant women often do not provide child care, account for the woman's family responsibilities, or provide treatment that is affordable. As of 2010, only 19 states have drug treatment programs for pregnant women, and only nine give priority access to pregnant women (1).

Obstetrician–gynecologists have important opportunities for substance abuse intervention. Three of the key areas in which they can have an effect are 1) adhering to safe prescribing practices, 2) encouraging healthy behaviors by providing appropriate information and education, and 3) identifying and referring patients already abusing drugs to addiction treatment professionals (13). Substance abuse treatment programs integrated with prenatal care have proved to be effective in reducing maternal and fetal pregnancy complications and costs (14).

The use of the legal system to address perinatal alcohol and substance abuse is inappropriate. Obstetrician–gynecologists should be aware of the reporting requirements related to alcohol and drug abuse within their states. In states that mandate reporting, policy makers, legislators, and physicians should work together to retract punitive legislation and identify and implement evidence-based strategies outside the legal system to address the needs of women with addictions. These approaches should include the development of safe, affordable, available, efficacious, and comprehensive alcohol and drug treatment services for all women, especially pregnant women, and their families.

Resource

Guttmacher Institute. Substance abuse during pregnancy. State Policies in Brief. New York (NY): GI; 2010. Available at: http://www.guttmacher.org/statecenter/spibs/spib_SADP.pdf. Retrieved September 10, 2010.

This report lists policies regarding prosecution for substance abuse during pregnancy and drug abuse treatment options for pregnant women for each state. It is updated monthly.

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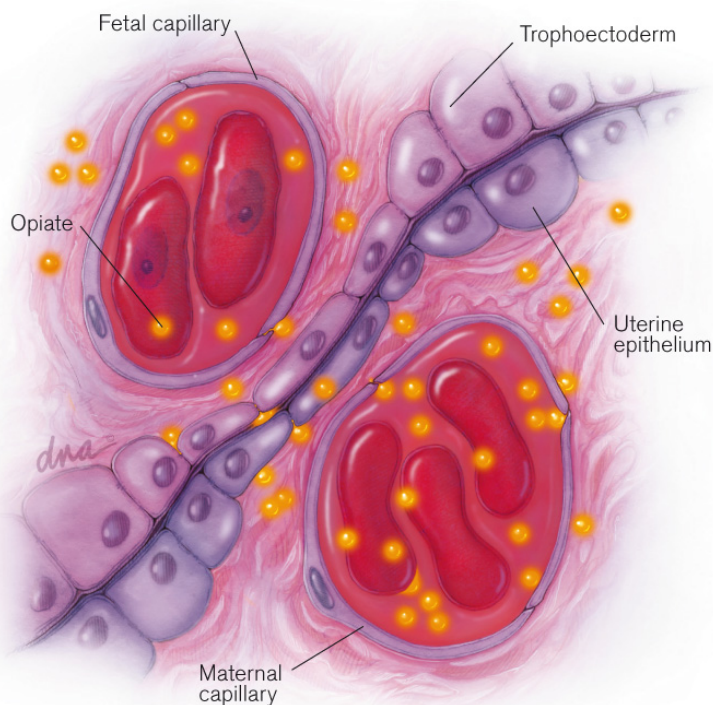
Substance abuse reporting and pregnancy: the role of the obstetrician–gynecologist. Committee Opinion No. 473. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2011;117:200–1.

When opiate abuse complicates pregnancy

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When women learn that they are pregnant, they tend to stop drinking caffeine and alcohol, stop smoking, and even stop coloring their hair. Why, then, would any pregnant woman choose to continue to expose her unborn child to drugs?

Drug use rarely starts during pregnancy. More often, women enter pregnancy already abusing or dependent on drugs. The risks of such exposures to the fetus are well known. Incidence of neonatal abstinence syndrome (NAS), which is opiate withdrawal, rose 300% between 2000 and 2009.¹ Risks of prenatal opiate exposure are not limited to the fetus. The Centers for Disease Control and

Prevention recently reported that deaths from opiate overdose among women have increased 400% since 1999 (compared to 265% among men).

This translates to about 18 women dying per day, and for every woman who dies, 30 are treated in emergency departments for painkiller misuse or abuse.² The stigma associated with drug abuse and limited resources available to physicians make tackling this problem difficult. Pregnancy, however, may be the point of entry to the healthcare system that allows us to initiate the process.

Screening for opiate abuse

Ob/gyns are well positioned to screen patients for substance abuse and dependence and offer intervention because of the impact that the problem has on women. Substance-abusing patients come from all socioeconomic strata, racial and ethnic groupings, and ages; therefore, screening methods targeted toward “high-risk” patients will invariably fail to identify all women in need of services.^{3,4}

Despite the adverse outcomes associated with exposure to tobacco, alcohol, and illicit drugs, only approximately 20% of ob/gyns effectively screen patients for illicit drug use.⁵ Barriers to screening include physician embarrassment with posing appropriate questions, fear that patients will change practitioners if they are offended by the questions, and uncertainty about where to turn when a woman screens positive.

Many general instruments exist for screening pregnant women for substance abuse. The 4Ps Plus, for example, is a 5-question screening instrument that has been validated for use in identifying substance abuse in pregnancy with a sensitivity of 87% and specificity of 76%.⁶ Questions include:

- Did your parents have trouble with drugs?
- Does your partner have a problem with drugs or alcohol?
- Have you ever drunk beer, wine, or liquor in the month before you knew you were pregnant? How many cigarettes did you smoke?
- In the month before you knew you were pregnant how much beer/wine/liquor did you drink?⁶

Another such instrument is the CAGE-AID screening questionnaire (below).⁷

TABLE

CAGE-AID questions

- Have you ever felt you needed to cut down on your drinking or drug use?
- Have people annoyed you by criticizing your drinking or drug use?
- Have you ever felt bad or guilty about your drinking or drug use?
- Have you ever had a drink or used drugs first thing in the morning to steady your nerves or get rid of a hangover?

Source: Brown RL, Rounds LA.⁷

A single “yes” response renders 79% sensitivity and 77% specificity for identifying drug abuse.⁷ Again, the detection of drug abuse is considered to be clinically important. Although single-item screening has not been validated specifically in pregnancy, physicians may consider simply asking, “How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?” In the primary-care setting a positive response to this single question is

100% sensitive and 74% specific for a drug use disorder.⁸

Biochemical screening can be used as an adjunct to such self-report screening tools. Samples that can be tested include urine, blood, hair, saliva, and sweat. Urine is the most accessible and simple, but assessment of substance abuse by biochemical screening alone is not without limitations. Negative tests do not rule out substance abuse and positive tests do not identify how much drug is used. The American College of Obstetricians and Gynecologists (ACOG) does not endorse biochemical screening as a sole method of detecting substance abuse during pregnancy.⁹ If performed, full consent should first be obtained.

The neonate can be screened for in utero drug exposure by testing meconium and urine. Universal meconium screening (reflective of drug exposure in the weeks prior to delivery) is a strategy sometimes applied in locations where opiate abuse is highly prevalent. As with maternal screening, ethical issues surrounding the population that is tested (eg, universal or targeted) and disclosure of results must be carefully evaluated.⁹

The most effective approach to screening for substance abuse during pregnancy may be through a series of nonjudgmental questions. ACOG recommends that all pregnant women be questioned thoroughly regarding substance abuse. Universal, structured self-reported screening for substance abuse will make ob/gyns more comfortable with this discussion, reduce interviewer bias, and reduce the stigma associated with substance use and abuse.

In addition, it allows for brief intervention, which may have an important effect on pregnancies exposed to substance abuse.⁹

Brief intervention

Evidence for the effectiveness of brief interventions such as [SBIRT](#) (Screening, Brief Intervention, and Referral to Treatment) in reducing risky drug use is not as robust as has been demonstrated in reducing risky alcohol consumption, but it is accumulating and promising.¹⁰ The point of brief intervention is to seize the moment when substance abuse is identified, and in a time-limited, structured, goal-directed way, reduce the risk of harm from continued use of substances. Examples of brief interventions include asking clients to try nonuse to see if they can stop on their own, encouraging interventions directed toward attending a self-help group such as Alcoholics Anonymous or Narcotics Anonymous, and engaging in efforts to help pregnant patients stop using.¹¹

The 6 elements critical for effective brief interventions can be recalled by the acronym **FRAMES**:

Feedback about personal risk or impairment;

Responsibility for change placed on the participant;

Advice given by the provider;

Menus of alternative or self-help treatment options offered to the participant;

Empathetic counseling style; and

Self-efficacy or optimistic empowerment.¹¹

The goal of intervention for pregnant women found to be substance dependent is to recommend the optimal behavior change and level of care. In the setting of opiate abuse, opiate maintenance along with counseling and self-help are appropriate.

Opioid abuse and its effects

A wide variety of opiates are abused including heroin, methadone, and oxycodone. Abuse of any of these agents carries risks of adverse pregnancy outcomes. Opiates can be inhaled, injected, snorted, ingested, or used subcutaneously (“skin popping”). The term “speed-balling” refers to combined use of opiates and cocaine. Oxycodone derivatives intended for sustained release contain 20 times the normal amount of active ingredient. When crushed, the slow-release polymer is destroyed and the product can then be swallowed, snorted, or injected, with results similar to the heroin high.¹² Urine toxicology will identify opiate metabolites (morphine, codeine, methadone) for 1 to 3 days after use, but screening should occur with maternal consent and education.¹³

In 2010, an estimated 140,000 people began using heroin.¹⁴ Pregnant women are uniquely vulnerable to the impact of opiate abuse: opiates are exceedingly addictive, trading sex for drugs is common, heroin use is strongly associated with the behaviors of a male partner, women tend to initiate use earlier in life than men, and their transition from use to abuse is more rapid.¹⁴

Opiates exert their effect by binding to the mu-opioid and kappa-opioid receptors found in the limbic and limbic-related areas of the brain. Like most drugs of abuse, the addictive response is mediated by dopamine. After binding to opiate receptors a signal is sent to dopamine terminals to release dopamine. Dopamine then binds dopamine receptors, stimulates the postsynaptic cell, and results in a positive emotional response.

Opiate pathways play a role in reward and reinforcement, modulation of response to pain and stress, and homeostatic regulation. While mu-opioid receptors produce analgesia, euphoria, and miosis, and reinforce the reward behavior, kappa-opioid receptors produce the subjective sensation of dysphoria, spinal analgesia, sedation, and miosis.¹² Opiates are highly addictive, and once used, the likelihood of transition to abuse is significant. Recovery success rates are not encouraging: 71% of users relapse within 6 weeks of nonmedication rehabilitation efforts.¹⁵

Opioid maintenance with methadone

In an ideal world abstinence from drugs and medications would be a goal. At present, however, opioid detoxification’s role in pregnancy is minimal. Detoxification via opiate taper in pregnancy does not appear to have obvious adverse effects, but miscarriage, preterm birth, meconium passage, stillbirth, and elevated epinephrine and norepinephrine levels are found in case reports.¹⁶⁻¹⁸ The major reason not to attempt detoxification is that it is generally unsuccessful, with relapse rates of 50% or more.¹⁹ If attempted, it is best to wait until the end of the first trimester because limited data suggest that miscarriage rates may be higher in the first trimester.¹⁹

If attempting detoxification late in the third trimester, antenatal surveillance should be undertaken. Only a single study has compared various detoxification regimens in pregnancy to a methadone

maintenance (MM) comparison group.²⁰ The 5 participant groups in that study were those receiving 3-day methadone-assisted withdrawal (MAW) alone (n=67), 3-day MAW followed by MM (n=8), 7-day MAW alone (n=28), 7-day MAW followed by MM (n=20), and a continuous MM sample (n=52). On average, patients in the 3 MM groups remained in treatment longer, attended more obstetric visits, and delivered at the program hospital more often than the patients in the 2 MAW-alone groups. The researchers concluded that MM should be considered as primary treatment for opioid-dependent pregnant women.²⁰

Fortunately, treatment is available for opiate maintenance, both to decrease the impact of high-risk activities and to improve neonatal outcomes. The classic opiate maintenance drug is methadone, a full mu-opioid agonist and weak N-methyl-D-aspartate (NMDA) receptor antagonist, metabolized by the cytochrome P 450 system. It has many favorable qualities: high bioavailability, long half-life, low cost, convenient (daily) dosing, and slow onset to withdrawal syndrome. It has been used for more than 40 years to treat opiate addiction and has demonstrated benefits in deterring high-risk behaviors, incarceration, and spread of infectious disease.²¹

Methadone maintenance therapy for addiction occurs in US federally funded opiate maintenance programs. In this setting, patients are dosed daily and participate in counseling and drug screening per the regulations of the facility. Such MM programs are not widely available, and transportation issues and need for daily compliance may be barriers to participation.

In spite of potential challenges, the benefits of MM have been demonstrated in the pregnant population. Methadone maintenance has been associated with earlier and more-compliant prenatal care, improved nutrition and weight gain, fewer children in the foster system, and improved enrollment in substance abuse treatment and recovery programs. Pregnant women remain opiate dependent, but generally become more functional.²² The goal of treatment is to provide sufficient dosing to prevent drug cravings, eliminate illicit use, and keep additional opiates from creating euphoria.

The model of use of opiate maintenance in pregnancy is that of harm reduction, rather than elimination through abstinence. There is no ceiling of benefit to dosing methadone. Because it is a full mu-opioid agonist, increasing doses offer increasing benefit. The average MM dose needed to achieve clinical stability is between 80 and 120 mg daily.²³ A dose lower than 60 mg is believed to be insufficient to prevent drug-seeking behavior. Due to the physiology of pregnancy, split dosing is sometimes recommended.

Opioid maintenance with buprenorphine

In addition to methadone, buprenorphine has been gaining recognition as a treatment for opioid addiction during pregnancy. Buprenorphine is a synthetic opioid and partial mu-opioid agonist with a very high affinity for the mu-opioid receptor. It can therefore displace circulating opiates. It disassociates slowly from the receptor and is unlikely to be displaced by other competing opiates. A ceiling effect of buprenorphine benefit is believed to exist; dosing beyond 24 to 32 mg daily may not have any additional benefits. The autonomic withdrawal associated with buprenorphine is said to be less significant than with other opiates. Buprenorphine demonstrates favorable qualities similar to methadone, such as decreasing drug cravings with daily dosing, with the additional benefit of being prescribed by specifically certified physicians as opposed to federally funded clinics. This benefits patient autonomy and opiate maintenance.

In pregnancy, buprenorphine alone is favored over buprenorphine/naloxone because of lack of data regarding the combination product, and concerns that naloxone may produce maternal and subsequently fetal hormonal changes.^{24,25} The naloxone component was added to limit the abuse potential of buprenorphine, because when the combination is taken sublingually naloxone is not bioavailable and does not accumulate to clinically significant concentrations. If buprenorphine/naloxone is injected or snorted, however, it will precipitate withdrawal in opioid-dependent individuals. We routinely use the combination in our clinics, and data are forthcoming regarding the relative safety of its use. Nevertheless, until more research is available use of buprenorphine alone remains standard for pregnant patients despite its high abuse potential.

Numerous comparisons of methadone and buprenorphine have been performed to assess their efficacy in the treatment of opioid dependence in pregnancy.²⁶ Because withdrawal symptoms associated with buprenorphine are purportedly less intense than with methadone, researchers sought to determine the impact of methadone versus buprenorphine on NAS.²⁷ The 2010 MOTHER (Maternal Opioid Treatment: Human Experimental Research) study found that buprenorphine was associated with significantly lower doses of morphine for treatment of NAS, shorter duration of treatment, and shorter hospital stay than methadone.²⁷ This report has had a significant impact on the treatment of opiate dependence in pregnancy, and use of buprenorphine for the treatment of opiate maintenance in pregnancy is increasing.

Neonatal aspects

A recent literature review of comparisons of methadone and buprenorphine supports 3 conclusions. First, buprenorphine produces a less-severe NAS than does methadone. Second, buprenorphine's efficacy in the treatment of opioid dependence during pregnancy does not negate methadone's utility in this regard, because no single treatment will likely be maximally effective for all patients. Finally, more research on the long-term effects of buprenorphine and methadone is needed.

No obvious embryopathy has been attributed to opiate exposure, but NAS is a risk for all opiate-exposed babies. Seen in 40% to 90% of methadone-exposed babies and characterized by central nervous system irritability, respiratory distress, gastrointestinal dysfunction, and autonomic instability, NAS is treated most commonly with opiates (morphine/methadone), but phenobarbital can also be used.²⁸ The decision to treat an infant is standardized by adherence to measurement instruments such as the Finnegan NAS measure.²⁹ The usual onset of NAS is in days 2 to 3 of life. Duration of therapy depends on neonatal response and ranges from days to weeks, depending upon response to treatment.

Debate is ongoing on the role that methadone dose plays in the development of NAS. Several authors have reported that higher doses of methadone have no impact on the severity of NAS.³⁰⁻³³ Conversely, others have published that dose does matter.³⁴⁻³⁶ The most comprehensive literature review, using 29 reports, concluded that "Severity of the neonatal abstinence syndrome does not appear to differ according to whether mothers are on high- or low-dose methadone maintenance therapy."³⁷ Thus, providers should be focused on treating the pregnant patient with a methadone dose that is most effective in preventing her use of other opioids. "Effective" implies that the mother is free of illicit drugs, so elimination of drug cravings is a key component of therapy. The difficulty of dosing methadone during pregnancy is that pregnancy-associated somatic complaints (musculoskeletal pains, nausea, sleeplessness, anxiety, irritability) can mimic suboptimal dosing. In addition, the physiology of pregnancy, with associated decreased absorption, rapid elimination, and higher clearance of drug, may mandate higher doses at the end.

Breastfeeding

Advice regarding breastfeeding and opioid intake needs to take into consideration whether the mother is abusing an opioid and is not otherwise receiving opioid-agonist pharmacotherapy treatment or is in opioid-agonist treatment with methadone or buprenorphine. Women who abuse heroin or prescription opioids and nurse run the risk of exposing their infants to levels of opioids high enough to cause tremors, restlessness, vomiting, poor feeding, and even addiction. The general advice in that case should be to avoid breastfeeding. In contrast, women who are in opioid-agonist treatment with methadone or buprenorphine should be encouraged to breastfeed because research has clearly demonstrated that methadone and buprenorphine concentrations in breast milk are low. For doses of methadone 50 to 105 mg daily, the neonatal dose is less than 0.2 mg per day, unlikely to have any clinical effect.³⁸ Therefore, breastfeeding should be recommended for agonist-maintained women unless contraindicated by existing medical conditions (eg, HIV). Cessation of breastfeeding is not likely to precipitate withdrawal because mothers do not generally abruptly stop nursing their infants.

Summary

Opiate abuse in pregnancy is highly prevalent, and if we pursue appropriate screening, cases will be identified that require brief intervention and referral to treatment. Leveraging community resources will empower us to more aggressively treat the problem.

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American Congress of Obstetricians and Gynecologists 2015 Legislative Priorities

Fix the Medicare Physician Payment System

- Repeal SGR and replace it with a sustainable reimbursement system that supports women's access to ob-gyns across the range of practice types.
- Repeal Independent Payment Advisory Board (IPAB).
- Protect ob-gyn ultrasound from any reimbursement or coverage cuts.
- Oppose the transition of 10- and 90-day global period surgery codes to 0-day global period codes.

Increase Research into Effects of Disease Treatments on Pregnant and Lactating Women

- Support 21st Century Cures Initiative.
- Promote pregnant and breastfeeding women's inclusion in clinical trials.

Support Appropriate Efforts to Reduce Maternal Opioid Dependence

- Promote public health efforts to reduce maternal opioid dependence and neonatal abstinence syndrome (NAS).
- Oppose punitive legislation against women with opioid dependence and babies born with NAS.

Protect the Public Health Safety Net for Low-Income Women and Adolescents

- Oppose cuts to discretionary programs, such as the Special Supplemental Nutrition Program for Women and Children (WIC); CDC Breast and Cervical Cancer Screening Program; programs to combat sudden infant death syndrome, STDs; and programs to improve preconception care, family planning and breastfeeding.
- Oppose cuts to Medicaid and proposals that shift costs to states, patients, or health care providers.
- Support an extension of the Children's Health Insurance Program (CHIP).

Support Our Physician Workforce

- Support graduate medical education by exploring additional funding mechanisms and innovative approaches to medical education.
- Oppose cuts in Federal and State GME funding.
- Oppose funding GME through the appropriations process.
- Make medical student loan repayment more affordable.

Protect the Physician-Patient Relationship

- Oppose state and federal interference in the patient-physician relationship.

Prevent Unintended Pregnancies and Reduce the Need for Abortions

- Support access to reproductive health services.
- Promote access to contraception, including emergency contraception.
- Advocate the use of medically accurate information. [Enact Meaningful Medical Liability Reform](#)
- ACOG supports caps on non-economic damages.
- We support meaningful alternative reforms, including safe harbors and expanded application of the Federal Tort Claims Act to on-call ob-gyns.

Ensure Continued Affordable Care Act (ACA) Implementation Meets the Needs of Ob-Gyns and Our Patients

We support proper and continued implementation of:



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Leadership Conference



Information about the 34th Annual Congressional Leadership Conference (CLC).

www.acog.org/clc

- Maternity coverage for all women in all plans.
- Coverage and cost-sharing protections for women's preventive health services under all plans.
- Health insurance market reforms, including direct access to ob-gyn care.
- Medicaid expansion to cover individuals up to 138% of the federal poverty line
- Continued testing of a woman's medical home, including for pregnancy care.
- The Medicaid state option to expand coverage of family planning services for low-income women

We support modifications to:

- Continue Quality Improvement and Patient Safety Initiatives, including:
- Extend the Medicaid and Medicare primary care payment bump to ob-gyns.
- Make the EHR Incentive Program easier for small group providers to participate.
- Reduce the reporting burden for physician practices to comply with e-prescribing, PQRS and EHR incentive program.

We support repeal of:

- The Independent Payment Advisory Board (IPAB).
- The budget neutral value-based payment modifier which reallocates Medicare payment among physicians.

Federal recognition of and reimbursement to untrained midwives delivering babies in unsafe settings.

Making Obstetrics and Maternity Safer (MOMS)

- Support Federal Funding for:
 - Biomedical research at NIH to address prematurity, obesity, maternal morbidity, and health disparities.
 - Data collection and surveillance programs, including vital statistics systems, maternal mortality reviews, and the Pregnancy Risk Assessment Monitoring System (PRAMS).
 - Maternal health programs, including the Title V Maternal/Child Health Block Grant, Fetal Infant Mortality Review, and Title X Family Planning.
- Support MOMS Legislation, including:
 - Maternal Health Accountability Act
 - Birth Defects Prevention, Risk Reduction, and Awareness Act
 - Gestational Diabetes Act
 - Quality Care for Moms and Babies Act
 - Support for ob-gyn performance measures developed by and in consultation with ACOG and dissemination through Medicare, Medicaid and CHIP.
 - Participating in Strong Start and other HHS programs to reduce elective induction pre-39 weeks, promote the use of evidence-based practice guidelines, and identify innovative and best practices in care coordination.
- Support Appropriate Training And Adequate Numbers Of Maternity Care Providers
 - Work to gain designation of maternity care shortage areas for use by the National Health Service Corps.
 - Support loan repayment programs for ob-gyns, certified nurse midwives and certified midwives working in provider shortage areas.
 - Ensure that the educational and professional standards of the American Midwifery Certification Board (AMCB) and the International Confederation of Midwives are used to evaluate and certify all midwives.

Support Healthy Pregnancies for Working Women

- Ensure that pregnant workers are not forced out of their jobs unnecessarily or denied reasonable job modifications that would allow them to continue working and have healthier pregnancies.

Protect Vulnerable Populations from Toxic Chemical Exposure

- Support meaningful chemical safety legislation that protects the health of vulnerable populations including pregnant women, infants, and children.

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TOOLKIT on STATE LEGISLATION

Pregnant Women & Prescription Drug Abuse, Dependence and Addiction

Misuse and abuse of prescription drugs—namely opioids or “prescription painkillers”—has received a lot of public attention recently from many sectors: state and federal lawmakers, law enforcement, the FDA and other drug policy organizations. Numerous policy recommendations are being considered, some of which focus on pregnant women and the increase in opioid exposure during pregnancy.

ACOG agrees. This issue is deserving of wider attention. Obstetrician-gynecologists share concerns about prescription drug abuse and maternal-fetal exposure to opioids. Because ob-gyns prescribe drugs of potential abuse and treat women who abuse or are dependent on prescription drugs, ACOG has issued extensive policy and clinical guidance over several decades. We welcome the opportunity to work together with state lawmakers to respond appropriately to this important public health issue.

TALKING POINTS

I. Drug and alcohol abuse is a health issue that deserves greater attention and more public health resources. State lawmakers can help. For pregnant women who misuse and abuse drugs and alcohol including prescription opiate painkillers, our shared goal must be a healthy outcome for both mother and baby.

- Every leading medical and public health organization that has addressed this issue — the AMA, ACOG, ACNM, AAP, APHA, AAFP, ASAM and MoD — has concluded that the problem of drug and alcohol use during pregnancy is a health concern best addressed through education, prevention and community-based treatment, not through punitive drug laws or criminal prosecution.
- Research shows that whether or not a pregnant woman can stop her drug use, obtaining prenatal care, staying connected to the health care system, and being able to speak openly with a physician about drug problems helps to improve birth outcomes.

II. Safe prescribing during pregnancy includes opioid agonist therapy (OAT)

- Like all individuals who are drug or alcohol dependent, pregnant women who use or abuse prescription opiates require appropriate medical interventions to treat their disease of opioid addiction. Opioid-assisted therapy with methadone or buprenorphine is the medical standard of care for these women. Physician prescribed and supervised use of opioid-based medications, known as opioid agonist therapy (OAT), improves outcomes for both mom and baby when compared to no treatment or to medication-assisted withdrawal.

- Opioid medication is the appropriate and safest treatment for women experiencing moderate to severe pain during pregnancy and childbirth. Short term use of opioids during pregnancy for episodic pain has not resulted in symptoms of neonatal abstinence syndrome.
- For severe pain during pregnancy including labor and delivery, there are well-established, safe protocols for the use of opioid medications that have been developed by obstetrician-gynecologists and anesthesiologists.

Neonatal Abstinence Syndrome

Neonatal abstinence syndrome is an expected and treatable condition that follows prenatal exposure to opioids.

- Some newborns exposed prenatally to opiates – most commonly, heroin and oxycodone – experience an abstinence (withdrawal) syndrome at birth. In utero physiologic *dependence* on opiates (*not addiction*) – known as Neonatal Abstinence Syndrome (NAS) – is characterized primarily by hyperactivity of the central and autonomic nervous systems. NAS is an expected, readily diagnosed, and treatable condition.
- While NAS is understandably concerning, there is no evidence to indicate that, with effective modern treatment, NAS itself is life threatening or results in permanent harm. For infants with symptoms of NAS—whether from a mother’s use of opioid agonist therapy (OAT) or misuse of other opioids—there are safe, effective, and evidence-based treatment protocols endorsed by the American Academy of Pediatrics being used today.
- Unlike neonatal exposure to maternal alcohol and tobacco use, there have been no reported long term effects of maternal opioid use on the developing child. Longitudinal studies over 5 to 10 years have shown that children who experienced NAS as infants do not exhibit signs of physical or cognitive impairment as they mature.

Distorted information and sensationalized rhetoric could drive ineffective responses.

- Despite the lack of evidence that NAS results in permanent harm, media coverage and even some health care communities have responded to this issue with inaccurate information and conclusions about NAS. Recent alarmist news reporting and ill-conceived policy proposals could spiral NAS into the next, now-debunked “crack baby” epidemic.
- Media reporting in the 1980s and early 1990s invented, promoted and perpetuated the non-scientific and highly stigmatizing term, “crack baby”. Crack-using women were blamed for societal problems despite the fact that alcohol and tobacco use are more detrimental to the fetus. Unfortunately, this highly charged rhetoric fueled a criminal justice approach to the “crack epidemic” which prioritized simplistic, overly coercive and punitive measures, with negative consequences for women and families.
- Today, overwhelming scientific consensus based on over 20 years of child development research has not identified a recognizable long-term condition, syndrome or disorder that should be termed “crack baby.” It is now understood that poverty, poor nutrition and inadequate health care can account for many of the effects popularly, but falsely attributed to cocaine.

Overtreatment for NAS does not achieve optimal outcomes and contributes to unnecessary spending.

- Treatment is not necessary for every infant exposed to opioids. Reports indicate that many infants with in utero opioid exposure are being treated with medical interventions that are not consistent with evidenced-based approaches.
- Many of these infants are unnecessarily given pharmacological treatment that transforms an infant’s normal withdrawal and dependence on opioids to an addiction. This prolongs hospital stays and can interfere with maternal-infant attachment.

- Nearly all of these infants are placed in NICUs, despite evidence that NAS can and should be managed in a quiet, comforting, dimly-lit environment. NICUs, with their high wattage lighting and noisy medical machines and equipment, are hyper-stimulating and can aggravate a baby's symptoms.
- Extended NICU stays are associated with increased risk of medication errors and other adverse events, increased stress on families, and impaired parent-infant attachment.
- These modes of treatment cost an average of \$50,000 per hospital stay.

Appropriate treatment for NAS improves infants' wellbeing while reducing costs for families and society.

Pediatric experts recommend:

- Guidelines issued in 2012 by the American Academy of Pediatrics based on decades of research indicate that treatment is not necessary for every infant exposed to opioids in utero.
- Neonates with known or expected exposure to maternal opioid use should be monitored in a low-stimulus environment for symptoms of NAS for up to 1 week, depending on the type of maternal opioid use and timing of last drug taken before birth.
- Infants with mild to moderate NAS symptoms should not be treated with opioid replacement drugs. The use of the Finnegan NAS scale will identify the appropriate treatment course for these infants.
- *Nonpharmacologic* therapy should be used as a first-line intervention for infants with neonatal withdrawal including:
 - rooming-in (caring for the mother and newborn together in the same room immediately from birth) rather than NICU placement
 - comfort care (swaddling and skin-to-skin contact between mother and baby)
 - minimizing environmental stimuli
 - promoting rest and sleep
 - providing sufficient caloric nourishment for weight gain (high caloric formula or breast milk with supplement)
 - encouraging most mothers to breastfeed, regardless of current opioid use
- Neonates requiring greater intervention as determined by the Finnegan scale can be treated with a methadone or morphine dose.

III. What's NOT working: Interventions that may do more harm than good.

Any serious approach to the misuse and abuse of prescription opiates by pregnant women must start from a scientifically sound foundation and prioritize positive health outcomes. Yet much of the current rhetoric and many popular policy responses fail to achieve this goal. For example, punitive drug enforcement policies don't work. They deter women from seeking prenatal care actively putting women and their pregnancies at risk. State lawmakers instead should look to science-based guidelines and to decades of medical evidence to help guide us towards appropriate public health interventions that will optimize health outcomes for moms and babies.

The following proposals do not achieve healthy outcomes for moms and babies:

➤ **Criminal penalties for women and their doctors**

- Experts agree: Incarceration and the threat of incarceration have been proven *ineffective* in reducing the incidence of drug and alcohol abuse. As with other chronic diseases, managing drug addiction requires targeted treatment.
- Criminal penalties are more likely to deter women from seeking beneficial health care than they are to protect children, reduce the use of harmful substances, or further the States' policy of combating prescription drug abuse and diversion.

- The threat of criminal charges discourages pregnant women who *do* seek prenatal care from disclosing critical information about their drug use to their health care providers.
- Punitive laws may have the unintended effect of encouraging women to end wanted pregnancies. Women who do not think they can overcome a drug problem may seek to terminate a pregnancy to avoid arrest.
- Criminal penalties for health care providers drive a wedge into the physician-patient relationship, impinge on physicians’ ability to achieve the best medical outcomes for their patients, and may have a chilling effect on appropriate treatment for pain or for substance addiction.

| <u>DOES NOT SUPPORT</u> Healthy Outcomes for Mom & Baby | <u>SUPPORTS</u> Healthy Outcomes for Mom & Baby |
|--|--|
| Overtreatment of NAS in NICUs | Appropriate comfort care in low-stimuli environment and pharmacological therapy where indicated |
| Criminal penalties for women and doctors | Public health approaches focused on prevention and treatment |
| Mandatory urine testing | Screening dialogue/questionnaire with patient consent |
| Mandatory reporting to law enforcement or child protective services (CPS) | Statistical reporting to department of health or direct reporting to CPS only for actual indications of impaired parenting |
| Overreliance on fragmented PDMPs | Safe prescribing and initial check of PDMPs |
| Punitive drug treatment courts | Family-centered drug treatment programs |
| Restrictions on medication access and forced withdrawal | OAT with methadone or buprenorphine for women and protections for treating physicians |
| Misleading drug prescribing warnings | Evidence-based labeling of opioid medications |
| Anti-family, one-size-fits-all drug treatment programs | Family-centered, community-based, outpatient treatment |
| Coercive referrals for fertility control | Counseling on pregnancy planning, prevention and contraception |
| Losing sight of the real harms of alcohol and cigarette use during pregnancy | Continued focus on the greatest preventable health threats—alcohol and tobacco use during pregnancy |

➤ **Mandatory urine drug testing**

- Urine drug tests are not a substitute for verbal, interactive questioning and screening of patients about their drug and alcohol use.
- ACOG policy states that urine drug tests should *only* be used with the patient’s consent and to confirm suspected or reported drug use, including for women who present at **hospitals for labor and delivery**. Even with consent, urine testing should not be relied upon as the sole or valid indication of drug use. Positive urine screens must be followed with a definitive drug assay.
- Routine urine drug testing is not highly sensitive for many prescription drugs and results in false positive and negative results that are misleading and potentially devastating for the patient,

including accusations of child abuse and neglect. Testing does not provide valid or reliable information about harm or risk of harm to children.

- Imposing mandatory urine testing within the **Medicaid program** disproportionately burdens low-income communities and communities of color and exacerbates the consequences of false positive results by jeopardizing women's access to health care.
- Recent legal decisions affirm that physicians have no right or obligation to perform prenatal testing for alcohol or drug use without a pregnant woman's consent. This includes consent to testing that could lead to reporting to legal authorities for purposes of criminal prosecution and to civil child welfare authorities.

➤ **Mandatory reporting to law enforcement**

- Prescription drug misuse does not by itself indicate child abuse or neglect nor prove inadequate parenting.
- Punitive laws that mandate testing and reporting to law enforcement or child protective services jeopardize the therapeutic relationship between the obstetrician-gynecologist and the patient.
- Reporting requirements actively put women and their pregnancies at risk by deterring women from seeking prenatal care. Women may not trust their health care providers to protect them from legal penalties or loss of custody of their children, and therefore are likely to avoid, delay, or emotionally disengage from needed prenatal care and drug treatment.

➤ **Punitive drug courts**

- Family drug courts often treat drug use as a behavior that needs to be corrected, rather than as a disease that needs to be treated. While these courts may be a helpful step for some, they are not a remedy for all women—especially pregnant women—who are reliant on substances.
- In some jurisdictions, to be seen at family drug treatment court, a woman must plead guilty to child neglect. Consequently, she relinquishes her right to a defense, is placed on the state list as a person who maltreats children, and suffers restricted housing and employment options as a result.
- Often, the only choice given to a woman with a positive drug test is inpatient treatment, which in terms of expense and access, is impractical and not feasible for women supporting their families.
- Training of drug court officials on the disease of substance abuse and addiction and the unique medical needs of pregnant women is inconsistent. For instance, many women are pressured to detox, which is not a safe or medically recommended approach for pregnant women and their fetuses.
- Other women are coercively mandated to receive contraception or punished for becoming pregnant subsequently.

➤ **Overreliance on fragmented PDMPs**

- Prescription drug monitoring programs (PDMPs) are important tools when considering prescribing opioid medications and can help to identify potential abusers. However, mandating clinician use of PDMPs at every prenatal encounter—regardless of whether opioids are prescribed—is not appropriate and creates an environment of suspicion rather than fostering trust and open communication.
- PDMPs are currently state based with little capacity for critical data sharing across states or in real time. Many are chronically underfunded and inadequately staffed.
- PDMPs only detect individuals who get opioids through medical prescribing. They do *not* detect individuals who rely on illegal sources, diversion, or purchase the drugs online from international vendors.

➤ **Restrictions on medication access and forced withdrawal**

- For women with severe pain, blanket restrictions on some opioids block access to appropriate medication.
- For addicted women, the alternatives to opioid agonist treatment—heroin abuse or withdrawal during pregnancy—are much more dangerous.
- Some court sanctioned policies have dictated that pregnant women who are dependent on prescription painkillers undergo withdrawal from these drugs. Withdrawal and detoxification can be extremely dangerous to the fetus causing preterm labor, fetal distress, and pregnancy loss. These outcomes can be prevented through medically approved opioid maintenance treatment.
- Medically supervised withdrawal during pregnancy is also not recommended because of the high risk of relapse to illicit opioids such as intravenous heroin.
- Lowering the dosage of maternal OAT has not proven effective in lessening the severity of NAS and results in an increased incidence of symptoms of maternal and fetal withdrawal and its concomitant harms such as induced fetal stress and maternal relapse to illicit drugs.

➤ **Misleading drug prescribing warnings**

- Recent action by state law enforcement officials and the FDA on opioid prescribing for pregnant women do not reflect the weight of scientific evidence and should be reconsidered.
- Current FDA-approved labeling for opioid analgesics *already* describes the effects on newborns of exposure to these drugs while in the mother’s womb and warns against use by women during pregnancy and labor and while nursing.
- The new FDA black box warning label requested by the National Association of State Attorneys General stating that “*prolonged use during pregnancy can result in life-threatening neonatal*

opioid withdrawal syndrome” is false and misleading. There is no rational connection between scientific and medical research on NAS and statements regarding its potential lethality.

- The black box warning makes no distinction between heroin, misuse of prescription opioids, and opioids prescribed by health care professionals for legitimate pain management or OAT in pregnant women.
 - Inaccurate and imprecise labeling could have a chilling effect on prescribing by blocking appropriate medication and therapy for women who are addicted and for whom the alternatives—heroin abuse or withdrawal during pregnancy—are much more dangerous.
 - Distorted labeling may have the unintended effect of dissuading women from continuing wanted pregnancies after opioid exposure. A woman who is wrongly led to believe that opioids will fatally harm her pregnancy may seek instead to terminate it.
- **Drug treatment programs that are not tailored to pregnant or parenting women**
- The few drug treatment facilities in the US accepting pregnant women rarely provide child care, do not account for the woman’s family responsibilities, and do not provide treatment that is affordable.
 - Very few treatment programs give priority access to pregnant women.
 - A woman should not be separated from her family in order to receive appropriate treatment. Substance abuse treatment that supports the family as a unit has been proved to be effective for maintaining maternal sobriety and child well-being.
 - Mothers receiving therapeutic opioid maintenance treatment prescribed by their physicians should not be pressured to detox by court-ordered drug treatment programs.

IV. What’s needed?

The following public health-oriented approaches rely on evidence and have been documented to support the health of mothers and their babies:

- **Effective drug and alcohol screening**
- Screening is a conversation between the clinician and the patient, based on a mutual dialogue. Prenatal drug screening includes “the 4Ps”: questions about “parents, partners, past and pregnancy.”
 - ACOG’s current medical protocols call for all women – not just those at risk or with a history of drug use or past involvement with child protective services – to be screened annually for substance abuse, including prescription drug abuse. Screening is done in partnership with the woman using validated screening tools *and with her consent*. Health care providers routinely ask female patients about their use of alcohol and drugs including prescription opioids and other

medications used for nonmedical reasons before pregnancy, in early pregnancy and when there are symptoms of abuse.

- ACOG policy suggests that another way to identify drug use is urine testing, but advises this is best done as an adjunct to confirm suspected or reported drug use and only with the patient's consent.

➤ **Appropriate drug treatment programs for women**

- Drug addiction is a chronic disease and – as with diabetes and hypertension – often the goal of treatment is ongoing management, not cure. Appropriate drug treatment programs can yield significant benefits to women and cost savings to society.
- Infants with NAS should not be removed from mothers who are engaged in treatment. Women need the option of outpatient, community based treatment programs that are responsive to their complex responsibilities, often as the primary or sole caregivers for their families. Ideally, this could be delivered in an integrated setting with prenatal and postpartum care.
- The current medical standard of care for women who are dependent on opioids and who become pregnant is referral for opioid-assisted therapy with methadone or buprenorphine. Opioid agonist therapy (OAT) improves outcomes for both mom and baby when compared to no treatment or to medication-assisted withdrawal. The patient is prescribed these medications under the close medical supervision of physicians specially trained in the appropriate methods to safely withdraw medications or regulate maintenance therapy. Two drugs—methadone and buprenorphine—can be legally used for opioid withdrawal and maintenance treatment. Methadone is dispensed on a limited-dose basis within state-licensed opioid treatment programs. Specially trained and licensed physicians can dispense buprenorphine from their medical offices to appropriate patients, potentially increasing the availability of treatment while decreasing the stigma associated with methadone clinics.
- After pregnancy, women should continue in their treatment and addiction support. Women who were abstinent from drug use during pregnancy often resume drug use postpartum. These women are susceptible to overdose—if not involved in substance abuse treatment—because their physiologic drug requirement decreases as their blood volume and mass decreases.
- Some models are:
 - **Early Start** - a Kaiser Permanente program, provides nonjudgmental integrated prenatal care, education, and substance abuse treatment for pregnant women who misuse prescription drugs.
 - **Healthy Mothers, Healthy Babies** - a demonstration program in New York City pairing women at high risk for a substance exposed infant with peer advocates who help them navigate the health and social service system, identify resources and prepare them for what to expect following birth.

- **Safe prescribing for the treatment of pain and integrated, interstate, interoperable PDMPs**
 - ACOG policy advises that when prescribing medications that may be misused, physicians should educate their patients on proper use, storage, and disposal.
 - Other possible improvements include the development of national standards for the prescribing and dispensing of schedule 2 and schedule 3 drugs – limiting the prescription size and eliminating refill ability.
 - PDMPs could be improved through enhanced staffing, data sharing, and access, as well as reliable funding.

- **Counseling on pregnancy planning, prevention, and contraception**
 - Policy makers could address concerns about NAS more effectively not by coercive measures but by supporting health care and counseling including voluntary pregnancy prevention for those who cannot curb substance use and do not currently wish to have a child.
 - Some models are:
 - **Project CHOICES (Changing High-Risk Alcohol Use and Increasing Contraception Effectiveness Study)**- Developed with CDC funding, this is a well-reviewed and replicable model that produced marked results in curbing alcohol abuse and empowering women to avoid alcohol-exposed pregnancies. Participants in pilot projects received information about risks associated with alcohol, counseling about contraceptive methods and efficacy rates, and if desired, contraceptive services and follow up.
 - **Long Acting Reversible Contraception**- Helping women prevent unintended pregnancy improves newborn health, and spacing births improves maternal health and lowers the risk of low birth weight and preterm birth. Better access to highly reliable methods of contraception—including IUDs and implants—could improve health outcomes for women and babies across the board, but particularly for individuals who are reliant on substances and do not wish to become pregnant.

- **Increased focus on postpartum care visits:**
 - Research shows that a particular emphasis on postpartum visits has the potential to markedly improve contraceptive use and allows additional opportunities for continued care planning for mother and baby.
 - One promising model is:
 - **MPOP (Maternal Postpartum Outreach Program)**: Anthem Health, a major provider of Medicaid managed care, offers a **comprehensive postpartum program** including phone calls, transportation vouchers, and other incentives to ensure women complete a postpartum visit 21-56 days after delivery. These interventions have increased postpartum care rates from 51.82% in 2010 to 71.45% in 2013.

➤ **Increased focus on curbing alcohol and tobacco use during pregnancy – the greatest preventable threats to a healthy pregnancy**

- Curbing the use of alcohol and tobacco before and during pregnancy will yield the greatest public health gains for maternal and child welfare and must remain our primary objective.
- Tobacco and alcohol dependence during pregnancy may independently cause NAS in infants; however, the symptoms may be more subtle than with opioids.
- Decades of evidence have shown that alcohol and cigarettes—unlike opioids—cause long-term serious health consequences for mothers and infants, including prematurity. Smoking is the number one risk factor for delivering a baby prematurely.
- Polysubstance use is common among women who use drugs. Those who misuse prescription medication or take illegal drugs also tend to smoke and use alcohol. Concurrent use of alcohol and cigarettes can explain many harmful pregnancy outcomes often attributed to other illicit substances.

Alcohol:

- A serious consequence of alcohol use during pregnancy, fetal alcohol syndrome (FAS) is the most common preventable cause of mental retardation.
- There is no safe level of alcohol consumption during pregnancy and no period during pregnancy is safe for alcohol consumption. Alcohol readily crosses the placenta and can cause life-long physical and neurobehavioral effects on the developing baby.
- About 10% of women use alcohol during pregnancy, and about 5% report binge drinking.
- Education and intervention counseling during pregnancy is effective for many pregnant women who drink.

Smoking:

- Despite the well-known health risks associated with smoking during pregnancy, about 11% of women smoke during pregnancy.
- Smoking during pregnancy is associated with risks to the fetus and infant including: low birth weight, prematurity, abruptio placentae, sudden infant death syndrome, and an increase in childhood respiratory illnesses as well as possible cognitive effects. For the pregnant woman, smoking increases the risk of preterm delivery, preterm premature rupture of membranes, placental complications of pregnancy, ectopic pregnancy and spontaneous abortion.
- Successful smoking cessation strategies supported by clinical evidence are available and should be integrated into routine prenatal care.

ACOG References

1. *Opioid Abuse, Dependence, and Addiction in Pregnancy* (Joint Committee Opinion #624 with the American Society of Addiction Medicine)
2. *Nonmedical Use of Prescription Drugs* (Committee on Health Care for Underserved Women Opinion #538)

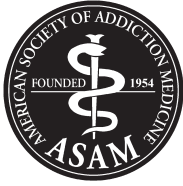
3. *Maternal Decision Making, Ethics, and the Law* (Committee on Ethics Opinion #321)
4. *Substance Abuse Reporting and Pregnancy: The Role of the Obstetrician-Gynecologist* (Committee on Health Care for Underserved Women #473)
5. *Long-Acting Reversible Contraception: Implants and Intrauterine Devices* (Practice Bulletin #121)

Other Resources

1. American Academy of Pediatrics: <http://pediatrics.aappublications.org/content/129/2/e540.full.pdf>
2. *Early Start*, Kaiser: <http://xnet.kp.org/earlystart/providers/index.html>
3. *Healthy Mothers, Healthy Babies*, Bronx Defenders: <http://www.bronxdefenders.org/programs/healthy-mothers-healthy-babies/>
4. *Project Choices*, CDC: www.cdc.gov/ncbddd/fasd/research-preventing.html
5. Comprehensive postpartum follow up: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3071902/>
6. Rooming-in study: <http://link.springer.com/article/10.1007%2Fs00431-009-0994-0>
7. Costs of NICU stays: <http://jama.jamanetwork.com/article.aspx?articleid=1151530&resultClick=3#ref-joc120014-45>



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This information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Opioid Abuse, Dependence, and Addiction in Pregnancy

ABSTRACT: Opioid use in pregnancy is not uncommon, and the use of illicit opioids during pregnancy is associated with an increased risk of adverse outcomes. The current standard of care for pregnant women with opioid dependence is referral for opioid-assisted therapy with methadone, but emerging evidence suggests that buprenorphine also should be considered. Medically supervised tapered doses of opioids during pregnancy often result in relapse to former use. Abrupt discontinuation of opioids in an opioid-dependent pregnant woman can result in preterm labor, fetal distress, or fetal demise. During the intrapartum and postpartum period, special considerations are needed for women who are opioid dependent to ensure appropriate pain management, to prevent postpartum relapse and a risk of overdose, and to ensure adequate contraception to prevent unintended pregnancies. Patient stabilization with opioid-assisted therapy is compatible with breastfeeding. Neonatal abstinence syndrome is an expected and treatable condition that follows prenatal exposure to opioid agonists.

Opioid abuse in pregnancy includes the use of heroin and the misuse of prescription opioid analgesic medications. According to the 2010 National Survey on Drug Use and Health, an estimated 4.4% of pregnant women reported illicit drug use in the past 30 days (1). A second study showed that whereas 0.1% of pregnant women were estimated to have used heroin in the past 30 days, 1% of pregnant women reported nonmedical use of opioid-containing pain medication (2). In this study, the rates of use varied by setting and by mode of assessment. The urine screening of pregnant women in an urban teaching hospital resulted in a detection rate for opioids of 2.6% (2). The prevalence of opioid abuse during pregnancy requires that practicing obstetrician–gynecologists be aware of the implications of opioid abuse by pregnant women and of appropriate management strategies.

Pharmacology and Physiology of Opioid Addiction

Opioid addiction may develop with repetitive use of either prescription opioid analgesics or heroin. Heroin is the most rapidly acting of the opioids and is highly addictive (3). Heroin may be injected, smoked, or nasally inhaled. Heroin has a short half-life, and a heroin user may need to take multiple doses daily to maintain the

drug's effects. Prescribed opioids that may be abused include codeine, fentanyl, morphine, opium, methadone, oxycodone, meperidine, hydromorphone, hydrocodone, propoxyphene, and buprenorphine (the partial agonist). These products may variously be swallowed, injected, nasally inhaled, smoked, chewed, or used as suppositories (4). The onset and intensity of euphoria will vary based on how the drug was taken and the formulation; however, all have the potential for overdose, physical dependence, abuse, and addiction. Injection of opioids also carries the risk of cellulitis and abscess formation at the injection site, sepsis, endocarditis, osteomyelitis, hepatitis B, hepatitis C, and human immunodeficiency virus (HIV) infection.

Opioids bind to opioid receptors in the brain and produce a pleasurable sensation (3). Opioids also depress respiration, potentially resulting in respiratory arrest and death. Opioid addiction is associated with compulsive drug-seeking behavior, physical dependence, and tolerance that lead to the need for ever higher doses (4). Once physical dependence to an opioid has developed, a withdrawal syndrome occurs if use is discontinued. With short-acting opioids, such as heroin, withdrawal symptoms may develop within 4–6 hours of use, may progress up to 72 hours, and usually subside within a week. For long-acting opioids, such as methadone, withdrawal

symptoms are usually experienced between 24 hours and 36 hours of use and may last for several weeks. Obsessive thinking and drug cravings may persist for years, thus leading to relapse. Although heroin withdrawal is not fatal to healthy adults, fetal death is a risk in pregnant women who are not treated for opioid addiction because their offspring experience acute opioid abstinence syndrome (5).

Effects on Pregnancy and Pregnancy Outcome

An association between first-trimester use of codeine and congenital heart defects has been found in three of four case-control studies (6–9). Previous reports have not shown an increase in risks of birth defects after prenatal exposure to oxycodone, propoxyphene, or meperidine (10, 11). The authors of one retrospective study observed an increased risk of some birth defects with the use of prescribed opioids by women in the month before or during the first trimester of pregnancy (12). However, methodological problems with this study exist, and such an association has not been previously reported. The observed birth defects remain rare with a minute increase in absolute risk. Although none of these studies investigated methadone or buprenorphine specifically, concern about a potential small increased risk of birth defects associated with opioid-assisted therapy during pregnancy must be weighed against the clear risks associated with the ongoing use of illicit opioids by a pregnant woman.

During pregnancy, chronic untreated heroin use is associated with an increased risk of fetal growth restriction, abruptio placentae, fetal death, preterm labor, and intrauterine passage of meconium (13). These effects may be related to the repeated exposure of the fetus to opioid withdrawal as well as the effects of withdrawal on placental function. Additionally, the lifestyle issues associated with illicit drug use put the pregnant woman at risk of engaging in activities, such as prostitution, theft, and violence, to support herself or her addiction. Such activities expose women to sexually transmitted infections, becoming victims of violence, and legal consequences, including loss of child custody, criminal proceedings, or incarceration.

Screening for Opioid Use, Abuse, and Addiction

Screening for substance abuse is a part of complete obstetric care and should be done in partnership with the pregnant woman. Both before pregnancy and in early pregnancy, all women should be routinely asked about their use of alcohol and drugs, including prescription opioids and other medications used for nonmedical reasons. To begin the conversation, the patient should be informed that these questions are asked of all pregnant women to ensure they receive the care they require for themselves and their fetuses and that the informa-

tion will be kept confidential. Maintaining a caring and nonjudgmental approach is important and will yield the most inclusive disclosure. Routine screening should rely on validated screening tools, such as questionnaires including 4P's and CRAFFT (for women aged 26 years or younger) (Box 1) (14, 15).

In addition to the use of screening tools, certain signs and symptoms may suggest a substance use disorder in a

Box 1. Clinical Screening Tools for Prenatal Substance Use and Abuse ←

4 P's

Parents: Did any of your parents have a problem with alcohol or other drug use?

Partner: Does your partner have a problem with alcohol or drug use?

Past: In the past, have you had difficulties in your life because of alcohol or other drugs, including prescription medications?

Present: In the past month have you drunk any alcohol or used other drugs?

Scoring: Any "yes" should trigger further questions.

Ewing H. A practical guide to intervention in health and social services with pregnant and postpartum addicts and alcoholics: theoretical framework, brief screening tool, key interview questions, and strategies for referral to recovery resources. Martinez (CA): The Born Free Project, Contra Costa County Department of Health Services; 1990.

CRAFFT—Substance Abuse Screen for Adolescents and Young Adults

C Have you ever ridden in a CAR driven by someone (including yourself) who was high or had been using alcohol or drugs?

R Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?

A Do you ever use alcohol or drugs while you are by yourself or ALONE?

F Do you ever FORGET things you did while using alcohol or drugs?

F Do your FAMILY or friends ever tell you that you should cut down on your drinking or drug use?

T Have you ever gotten in TROUBLE while you were using alcohol or drugs?

Scoring: Two or more positive items indicate the need for further assessment.

Center for Adolescent Substance Abuse Research, Children's Hospital Boston. The CRAFFT screening interview. Boston (MA): CeASAR; 2009. Available at: http://www.ceasar.org/CRAFFT/pdf/CRAFFT_English.pdf. Retrieved February 10, 2012.

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pregnant woman. Pregnant women with opioid addiction often seek prenatal care late in pregnancy; exhibit poor adherence to their appointments; experience poor weight gain; or exhibit sedation, intoxication, withdrawal, or erratic behavior. On physical examination, some signs of drug use may be present, such as track marks from intravenous injection, lesions from interdermal injections or “skin popping,” abscesses, or cellulitis. Positive results of serologic tests for HIV, hepatitis B, or hepatitis C also may indicate substance abuse. Urine drug testing is an adjunct to detect or confirm suspected substance use, but should be performed only with the patient’s consent and in compliance with state laws. Pregnant women must be informed of the potential ramifications of a positive test result, including any mandatory reporting requirements (16). Laboratory testing for HIV, hepatitis B, and hepatitis C should be repeated in the third trimester, if indicated (17).

The use of an antagonist, such as naloxone, to diagnose opioid dependence in pregnant women is contraindicated because induced withdrawal may precipitate preterm labor or fetal distress (13). Naloxone should be used only in the case of maternal overdose to save the woman’s life.

Treatment

Since the 1970s, maintenance therapy with methadone has been the standard treatment of heroin addiction during pregnancy (13). Recently, this treatment also has been used for nonheroin opioid addiction (13) although the benefits are less well documented than for the treatment of heroin dependence.

The rationale for opioid-assisted therapy during pregnancy is to prevent complications of illicit opioid use and narcotic withdrawal, encourage prenatal care and drug treatment, reduce criminal activity, and avoid risks to the patient of associating with a drug culture. Comprehensive opioid-assisted therapy that includes prenatal care reduces the risk of obstetric complications (13). Neonatal abstinence syndrome is an expected and treatable condition that follows prenatal exposure to opioid agonists and requires collaboration with the pediatric care team. Methadone has significant pharmacokinetic interactions with many other drugs, including antiretroviral agents.

Methadone maintenance, as prescribed and dispensed on a daily basis by a registered substance abuse treatment program, is part of a comprehensive package of prenatal care, chemical dependency counseling, family therapy, nutritional education, and other medical and psychosocial services as indicated for pregnant women with opioid dependence. Perinatal methadone dosages are managed by addiction treatment specialists within registered methadone treatment programs. A list of local treatment programs for opioid addiction can be found at the Substance Abuse and Mental Health Services Administration’s web site (<http://dpt2.samhsa.gov/treatment/>

[directory.aspx](#)). Obstetricians should communicate with the addiction treatment program whenever there are concerns about the patient’s care and methadone dosage. The dosage should be adjusted throughout the pregnancy to avoid withdrawal symptoms, which include drug cravings, abdominal cramps, nausea, insomnia, irritability, and anxiety. If a woman is treated with a stable methadone dosage before pregnancy, pharmacokinetic changes may require dosage adjustments, especially in the third trimester (18). Some women develop rapid metabolism to the extent that it becomes difficult to control withdrawal symptoms for 24 hours on a single daily dose; in these cases, split dosages may be optimal. Not all women require dose increases during pregnancy and any dosage adjustments should be made on clinical grounds by the addiction specialist. Methadone dosages usually are initiated at 10–30 mg/d (13). If a woman begins treatment with methadone while pregnant, her dosage should be titrated until she is asymptomatic in accordance with safe induction protocols. An inadequate maternal methadone dosage may result in mild to moderate opioid withdrawal signs and symptoms and cause fetal stress and increased likelihood for the maternal use of illicit drugs. Separate studies examined the extent to which the maternal methadone dosage is related to the severity of neonatal abstinence syndrome. The results are inconclusive and conflicting (19, 20). One systematic literature review and meta-analysis concluded that the severity of neonatal abstinence syndrome does not appear to differ based on the maternal dosage of methadone treatment (21). These maternal, fetal, and neonatal findings all underscore the need to provide pregnant women with an adequate methadone dosage that relieves and prevents opioid withdrawal signs and symptoms and also blocks the euphoric effect of misused opioids.

In most situations, it is advisable for pregnant women to initiate methadone induction in a licensed outpatient methadone program. In situations when a pregnant woman requires hospitalization for initiation of methadone treatment, an arrangement must be made before discharge for next day admission to an outpatient program. With the exception of buprenorphine, it is illegal for a physician to write a prescription for any other opioid for the treatment of opioid dependence, including methadone, outside of a licensed treatment program (22). Buprenorphine, when prescribed by accredited physicians who have undergone specific credentialing, is the only opioid approved for the treatment of opioid dependence in an office-based setting (23). Physicians should be familiar with federal and state regulations regarding prescribing of medications for the treatment of opioid dependence.

Emerging evidence supports the use of buprenorphine for opioid-assisted treatment during pregnancy. Buprenorphine acts on the same receptors as heroin and morphine (24). With appropriate informed consent, including disclosure of the lack of evidence from long-

term neurodevelopmental studies, buprenorphine also may be offered to patients in need of opioid-assisted therapy during pregnancy (25). The advantages of buprenorphine over methadone include a lower risk of overdose, fewer drug interactions, the ability to be treated on an outpatient basis without the need for daily visits to a licensed treatment program, and evidence of less severe neonatal abstinence syndrome (25). The disadvantages compared with methadone include reports of hepatic dysfunction, the lack of long-term data on infant and child effects, a clinically important patient dropout rate due to dissatisfaction with the drug, a more difficult induction with the potential risk of precipitated withdrawal, and an increased risk of diversion (ie, sharing or sale) of prescribed buprenorphine (25). Buprenorphine is available as a single-agent product or in a combined formulation with naloxone, an opioid antagonist used to reduce diversion. Buprenorphine with naloxone is formulated to prevent injected use because naloxone causes severe withdrawal symptoms when injected. However, because of poor naloxone absorption, the formulation has rare adverse effects when used sublingually as directed (24). The single-agent product is recommended during pregnancy to avoid any potential prenatal exposure to naloxone, especially if injected (25). The single-agent buprenorphine product has a higher potential to lead to abuse as well as a higher street value than the combination product. Thus, all patients should be monitored for the risk of diversion of their medication, especially if the single product is prescribed. Unlike methadone, which may be administered only through very tightly controlled programs, buprenorphine may be prescribed by trained and approved physicians in a medical office setting, which potentially increases the availability of treatment and decreases the stigma (24). The Substance Abuse and Mental Health Services Administration publishes a directory of physicians licensed to dispense buprenorphine (http://buprenorphine.samhsa.gov/bwns_locator). Patients considered for using buprenorphine need to be able to self-administer the drug safely and maintain adherence with their treatment regimen. Compared with methadone clinics, the less stringent structure of buprenorphine treatment may make it inappropriate for some patients who require more intensive structure and supervision (17).

Until recently, data on use of buprenorphine in pregnancy were relatively limited (25). A 2010 multicenter, randomized clinical trial compared the neonatal effects of buprenorphine and methadone in 175 opioid-dependent gravid women (26). In that study, the buprenorphine-exposed neonates required, on average, 89% less morphine to treat neonatal abstinence syndrome, a 43% shorter hospital stay, and a 58% shorter duration of medical treatment for neonatal abstinence syndrome (26). These results support the use of buprenorphine as a potential first-line medication for pregnant opioid-dependent women who are new to treatment. It is

important to understand that buprenorphine will not be effective for all patients.

Women who become pregnant while already undergoing a treatment with a stable co-formulated buprenorphine dosage generally are advised to continue the same dosage but to transition to the single-agent product. The indications for the use of buprenorphine during pregnancy are in flux currently. Previous recommendations have limited use of buprenorphine to women who have refused to use methadone, have been unable to take methadone, or those for whom methadone treatment was unavailable. The current trend is moving toward considering a patient as a potential candidate for buprenorphine if she prefers buprenorphine to methadone, gives informed consent after a thorough discussion of relative risks and benefits, and is capable of adherence and safe self-administration of the medication. If the pregnant woman is receiving methadone therapy, she should not consider transitioning to buprenorphine because of the significant risk of precipitated withdrawal. The potential risk of unrecognized adverse long-term outcomes, which is inherent with widespread use of relatively new medications during pregnancy, should always be taken into consideration.

Medically supervised withdrawal from opioids in opioid-dependent women is not recommended during pregnancy because the withdrawal is associated with high relapse rates (27). However, if methadone maintenance is unavailable or if women refuse to undergo methadone or buprenorphine maintenance, medically supervised withdrawal should ideally be undertaken during the second trimester and under the supervision of a physician experienced in perinatal addiction treatment (13). If the alternative to medically supervised withdrawal is continued illicit drug use, then a medically supervised withdrawal in the first trimester is preferable to waiting until the second trimester.

It is important that frequent communication be maintained between the patient's obstetric care provider and the addiction medicine provider to coordinate care. The federal confidentiality law 42 CFR Part 2 applies to addiction treatment providers. Patient information release forms with specific language regarding substance use are required (28).

Intrapartum and Postpartum Management

Women receiving opioid-assisted therapy who are undergoing labor should receive pain relief as if they were not taking opioids because the maintenance dosage does not provide adequate analgesia for labor (29, 30). Epidural or spinal anesthesia should be offered where appropriate for management of pain in labor or for delivery. Narcotic agonist-antagonist drugs, such as butorphanol, nalbuphine, and pentazocine, should be avoided because they may precipitate acute withdrawal. Buprenorphine should not be administered to a patient who takes methadone.

Pediatric staff should be notified of all narcotic-exposed infants.

In general, patients undergoing opioid maintenance treatment will require higher doses of opioids to achieve analgesia than other patients. One study showed that after cesarean delivery, women who used buprenorphine required 47% more opioid analgesic than women who did not use buprenorphine treatment, but adequate pain relief was achieved with short-acting opioids and anti-inflammatory medication (31). Injectable nonsteroidal antiinflammatory agents, such as ketorolac, also are highly effective in postpartum and postcesarean delivery pain control. Daily doses of methadone or buprenorphine should be maintained during labor to prevent withdrawal, and patients should be reassured of this plan in order to reduce anxiety. Dividing the usual daily maintenance dose of buprenorphine or methadone into three or four doses every 6–8 hours may provide partial pain relief; however, additional analgesia will be required (29).

Women should be counseled that minimal levels of methadone and buprenorphine are found in breast milk regardless of the maternal dose. Breastfeeding should be encouraged in patients without HIV who are not using additional drugs and who have no other contraindications (32). The current buprenorphine package insert advises against breastfeeding; however, a consensus panel stated that the effects on the breastfed infant are likely to be minimal and that breastfeeding is not contraindicated (33). Swaddling associated with breastfeeding may reduce neonatal abstinence syndrome symptoms, and breastfeeding contributes to bonding between mother and infant as well as providing immunity to the infant.

Although most pregnant women who receive methadone will experience dosage increases during pregnancy, and a need for dosage reduction might be expected, one study demonstrated little need for immediate postpartum methadone dosage reduction (34). Most women who undergo buprenorphine maintenance therapy will not experience large dosage adjustments during their pregnancies and may continue the same dosages after delivery (34). However, the postpartum patient who receives opioid therapy should be closely monitored for symptoms of oversedation with dosages titrated as indicated. Women should continue in their treatment and addiction support postpartum. Discussions of contraceptive options should begin during pregnancy and contraception, including long-acting reversible contraceptive methods, should be provided or prescribed before hospital discharge. Access to adequate postpartum psychosocial support services, including chemical dependency treatment and relapse prevention programs, should be ensured (33).

Neonatal Abstinence Syndrome

Although maternal methadone or buprenorphine therapy improves pregnancy outcomes and reduces risky behavior, its use puts the neonate at risk of neonatal abstinence syndrome, which is characterized by hyperactivity of the

central and autonomic nervous systems (13). Infants with neonatal abstinence syndrome may have uncoordinated sucking reflexes leading to poor feeding, become irritable, and produce a high-pitched cry. In infants exposed to methadone, symptoms of withdrawal may begin at anytime in the first 2 weeks of life, but usually appear within 72 hours of birth and may last several days to weeks (13). Infants exposed to buprenorphine who develop neonatal abstinence syndrome generally develop symptoms within 12–48 hours of birth that peak at 72–96 hours and resolve by 7 days (35). Close communication between the obstetrician and pediatrician is necessary for optimal management of the neonate.

All infants born to women who use opioids during pregnancy should be monitored for neonatal abstinence syndrome and treated if indicated (13). Treatment is adequate if the infant has rhythmic feeding and sleep cycles and optimal weight gain (13).

Long-Term Infant Outcome

Recent data on long-term outcomes of infants with in utero opioid exposure are limited. For the most part, earlier studies have not found significant differences in cognitive development between children up to 5 years of age exposed to methadone in utero and control groups matched for age, race, and socioeconomic status, although scores were often lower in both groups compared with population data (36). Preventive interventions that focus on enriching the early experiences of such children and improving the quality of the home environment are likely to be beneficial (37).

Summary

Early identification of opioid-dependent pregnant women improves maternal and infant outcomes. Contraceptive counseling should be a routine part of substance use treatment among women of reproductive age to minimize the risk of unplanned pregnancy. Pregnancy in the opioid-dependent woman should be co-managed by the obstetrician–gynecologist and addiction medicine specialist with appropriate 42 CFR Part 2-compliant release of information forms. This collaboration is particularly important when the woman receives opioid maintenance treatment or is at high risk of relapse. When opioid maintenance treatment is available, medically supervised withdrawal should be discouraged during pregnancy. It is essential for hospitalized pregnant women who initiated opioid-assisted therapy to make a next-day appointment with a treatment program before discharge. Infants born to women who used opioids during pregnancy should be closely monitored for neonatal abstinence syndrome and other effects of opioid use by a pediatric health care provider.

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State Legislative Activities

State Legislative Activities

ACOG's State Legislative website is your hub for all ACOG state-related legislation and advocacy. Whether an advocacy beginner or an ACOG State Legislative Chair or State lobbyist, you can find helpful tools and resources to advance ob-gyn issues in the policy arena or find [specific legislative topics](#) that may impact how you practice in your state.

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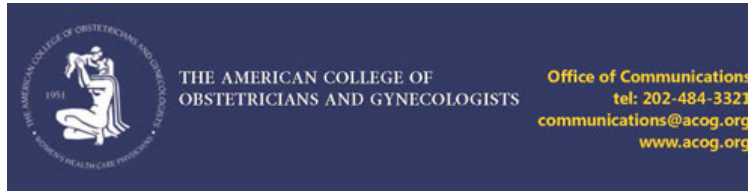
Synthetic Marijuana Mimics Preeclampsia and Eclampsia in Pregnancy

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Synthetic Marijuana Mimics Preeclampsia and Eclampsia in Pregnancy

May 7, 2013

New Orleans, LA -- Use of the synthetic marijuana "Spice Gold" can mimic the symptoms of eclampsia and preeclampsia in pregnancy, according to a retrospective case study presented today at the Annual Clinical Meeting of The American College of Obstetricians and Gynecologists.

In research conducted at Kern Medical Center in Bakersfield, CA, a woman who reported she was approximately 35 weeks pregnant came to the labor and delivery floor agitated and had a seizure. She had not previously received prenatal care and had high blood pressure, protein in her urine, and was treated for eclampsia, a serious condition that can cause death. The only cure for eclampsia is delivery of the fetus.

Cindy S. Lee, DO, MPH, who conducted the research with Sally Nalesnik, MD, as her advisor, said that after the patient was initially resuscitated, an emergency cesarean delivery was performed for fetal distress. Doctors delivered a viable 28-week female baby who screened negative for drugs.

The day after surgery the patient was psychotic and required psychiatric intervention. "This was an interesting, yet confusing presentation," said Dr. Lee. "We wanted to report it so in the future if something similar came up, it would be in the literature and physicians could refer to it."

The patient's lab results showed severely low potassium levels and a negative urine drug screen. An anonymous phone call informed the treating physicians that the patient regularly smoked Spice Gold. Spice Gold cannot be screened with a standard urine drug test.

Spice Gold can be legally and readily obtained in herbal shops and on the Internet. Its psychotropic effects are similar to marijuana. Because the production of Spice Gold is not regulated, its effects are unpredictable.

"This was not a pregnancy problem but a drug problem," Dr. Lee said. "Eclampsia is cured with delivery of the baby, but she did not get better after delivery."

According to Dr. Lee, it is important for ob-gyns to realize that emerging drugs represent growing challenges to practitioners and must be considered in differential diagnoses. "I've been surprised when people tell me what they're on. If a patient tells me she's on x, y, or z I'll believe it. If she tells me she's not on x, y, or z then I know that may not be true."

*Tuesday Poster #55: Spice Gold, a New Drug, a New Obstetric Phenomenon

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Drug addiction

The great American relapse

An old sickness has returned to haunt a new generation

Nov 22nd 2014 | DENVER | From the print edition

PICTURE a heroin addict. “A bum sitting under a bridge with a needle in his arm, robbing houses to feed his addiction,” is what many people might imagine, believes Cynthia Scudo. That image may have been halfway accurate when heroin first ravaged America’s inner cities in the 1960s and 1970s. But Ms Scudo, a smartly dressed young grandmother from a middle-class Denver suburb, knows that these days it is not always like that. Until not so long ago, she was a heroin addict herself.

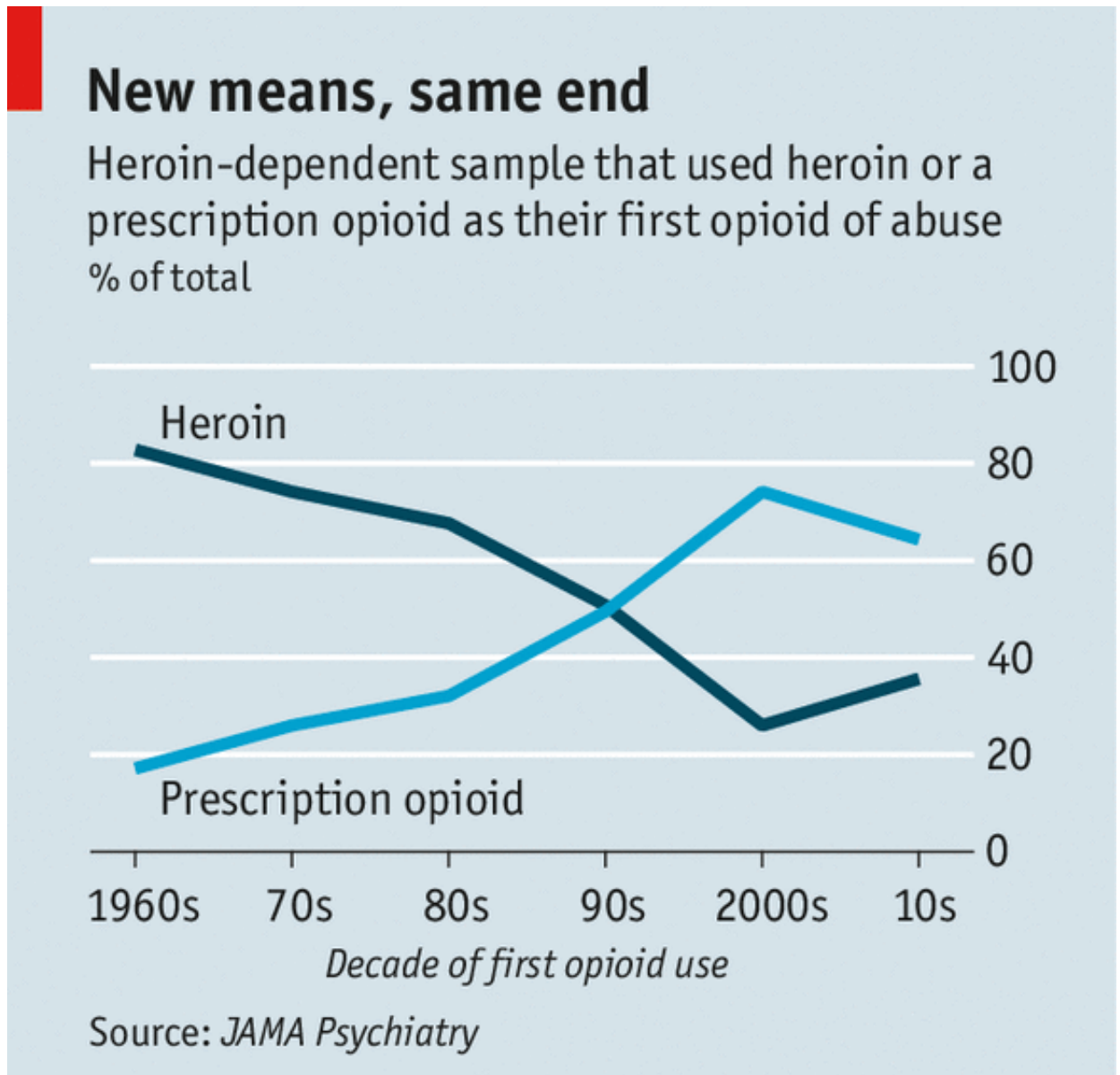


The face of heroin use in America has changed utterly. Forty or fifty years ago heroin addicts were overwhelmingly male, disproportionately black, and very young (the average age of first use was 16). Most came from poor inner-city neighbourhoods. These days, the average user looks more like Ms Scudo. More than half are women, and 90% are white. The drug has crept into the suburbs and the middle classes. And although users are still mainly young, the age of initiation has risen: most first-timers are in their mid-20s, according to a study led by Theodore Cicero of Washington University in St Louis.

The spread of heroin to a new market of relatively affluent, suburban whites has allowed the drug to make a comeback, after decades of decline. Over the past six years the number of annual users has almost doubled, from 370,000 in 2007 to 680,000 in 2013. Heroin is still rare compared with most other drugs: cannabis, America’s favourite (still mostly illegal) high, has nearly 50 times as many users, for instance. But heroin’s resurgence means that, by some measures, it is more popular than crack cocaine, the bogeyman of the 1980s and 1990s. Its increased popularity in America contrasts strongly with Europe, where the number of users has fallen by a third in the past decade. What explains America’s relapse?

A shot in the arm

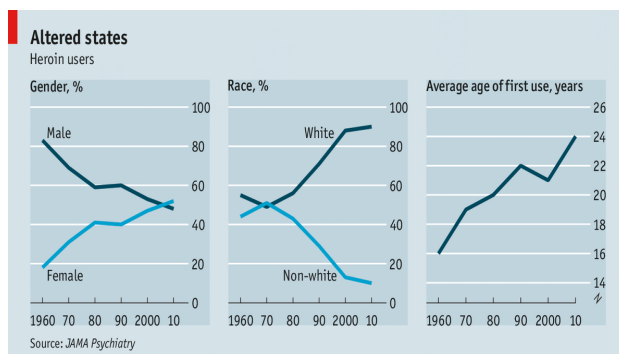
Like many of America's new generation of users, Ms Scudo never intended to take up the drug. Her addiction began in 2000 when, after a hip injury, a doctor prescribed her "anything and everything" to relieve the pain. This included a high dose of OxyContin, a popular brand of opioid pill. Her prescription was later reduced, but she was already hooked. On the black market OxyContin pills cost \$80 each, more than she could afford to cover her six-a-day habit; so she began selling her pills and using the proceeds to buy cheaper heroin. As if from nowhere, Ms Scudo had become a heroin addict.



Thousands more have gone down this path. The 1990s saw a big increase in prescriptions of opioids for chronic pain. In some states the number of opioid prescriptions written each year now exceeds the number of people. That oversupply feeds the black market: last year 11m Americans used illicitly-acquired prescription painkillers, more than the number who used cocaine, ecstasy, methamphetamine and LSD combined. People who would never dream of injecting heroin seem to assume that opioids in packets are safe.

But they aren't. In 2012 prescription painkillers accounted for 16,000 deaths—nearly four out of every ten fatal drug overdoses in America. As the toll grew, some states tightened up the law. In many places doctors must now check databases to make sure the patient has not already been prescribed painkillers by another clinic. Prescriptions have been cut down to as little as a single pill, to reduce the supply of unfinished packets. “Pill mills”, clinics that churned out prescriptions with no questions asked, have been shut down. And drug manufacturers have made their medicines harder to abuse: the latest OxyContin pills, when crushed, turn into a gloop that cannot easily be snorted or dissolved for injection.

These measures have had some impact: rates of prescription-drug abuse and of overdose have dipped a little in the past two years. But as the supply of pain pills has dropped, and their black-market price has risen, many addicts have turned to heroin to satisfy their craving more cheaply. “We saw it coming at us at 90mph, like a freight train,” says Meghan Ralston of the Drug Policy Alliance, a drug-reform pressure group. The number of deaths from heroin overdoses doubled between 2010 and 2012, and many of those attending addiction clinics are college-age, middle-class types who started on prescription pills.



The Mexican wave

Just as the demand side of America's heroin market was heating up, so too was supply. Though Afghanistan accounts for 80% of global opium production, America gets most of its heroin from Mexico. Historically that has checked consumption, since Mexico has long been a relatively small producer of opium poppies.

In the past few years the Mexicans have upped their game. One of the many unintended consequences of Mexico's war on organised crime in urban hotspots, such as Ciudad Juárez, was that the army was diverted from poppy eradication in the countryside. Farmers in the Sierra Madre made the most of this: by 2009 cultivation was ten times higher than in 2000. Although production has fallen back in the past few years, Mexico is now the world's third-biggest producer of opium, after Afghanistan and Myanmar.

Policy changes in America have given Mexico's narco-farmers further incentives to focus on opium. Until not so long ago, Mexican traffickers made a lot of their money from cannabis. But these days most of the cannabis in America is home-grown. Nearly half the states have legalised medical marijuana, and four have voted to legalise it outright. Exporting pot to the United States is now like taking tequila to Mexico. Facing a glut in the cannabis market, Mexican farmers have turned to

poppies.

America's police have seen the impact.

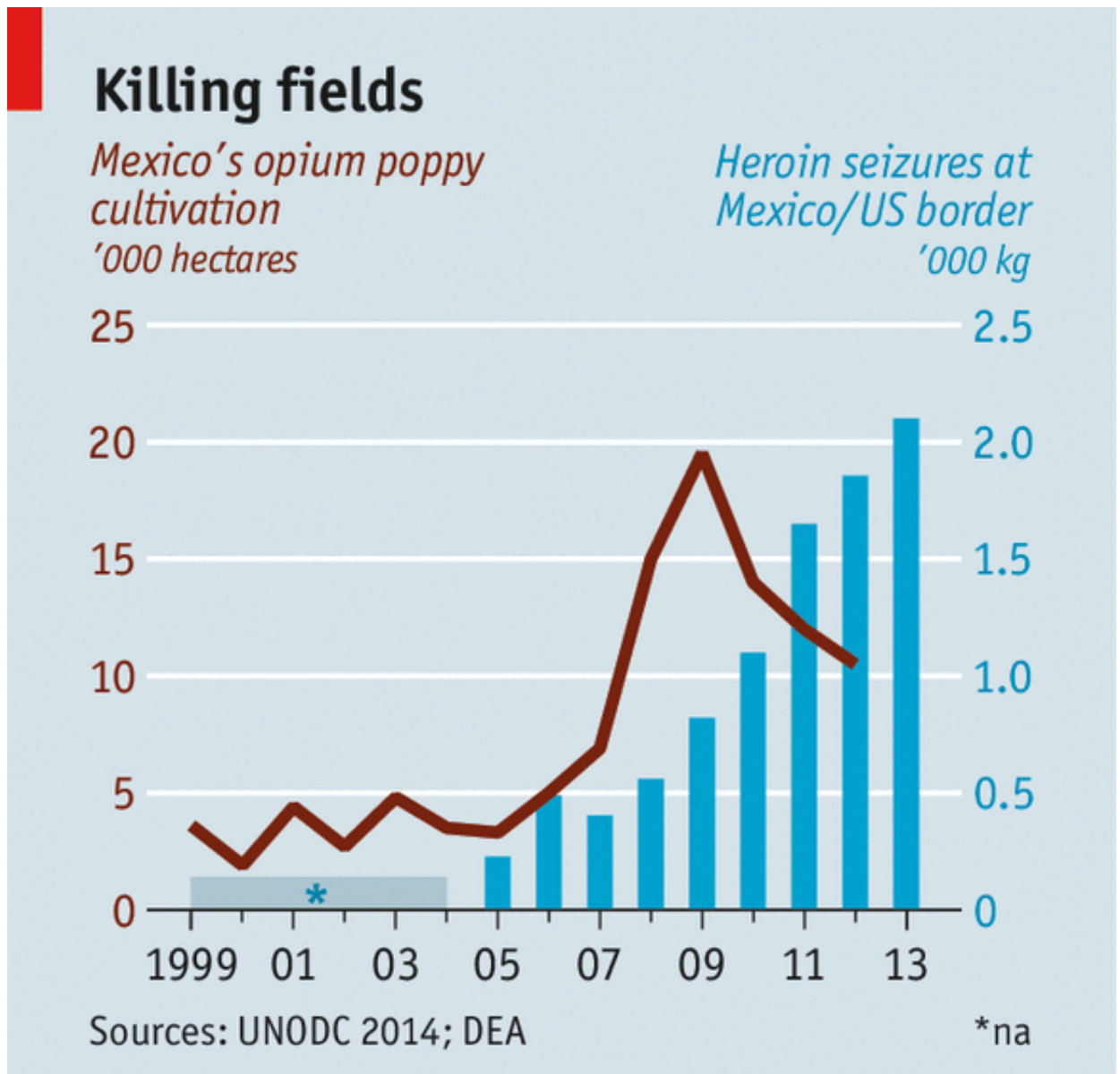
Seizures of heroin at the border with Mexico have risen from 560kg (1,230lb) in 2008 to about 2,100kg last year. And the smugglers have

become

bolder. "Three or four years ago, 5lb was big. Now sometimes we're finding 20lb," says Kevin Merrill, the assistant special agent in charge of the Drug Enforcement Administration on the outskirts of Denver.

The low transport costs faced by Mexican traffickers, who need only drive from Sinaloa to the border, mean that their heroin is far cheaper than the Colombian or Asian sort. A gram of pure heroin in America now costs about \$400, less than half the price, in real terms, that it cost in the 1980s. And whereas much of the heroin in the past was of the "black tar" variety, which is usually injected, there is a trend towards brown heroin, which lends itself better to snorting and smoking. That matters to novice heroin users, who may be skittish about needles. "I somehow thought that if I didn't inject it, I wasn't a heroin addict," says Ms Scudo, who smoked it instead.

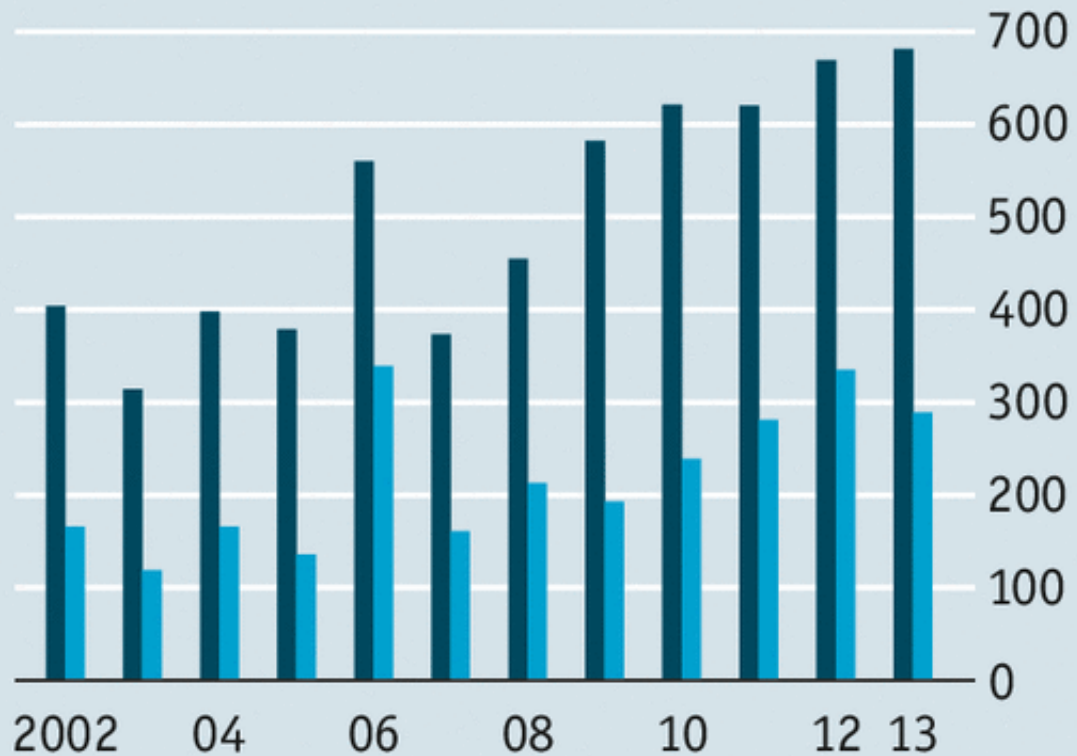
As fewer people are introduced to prescription opioids, the number who are vulnerable to heroin addiction will also eventually fall. "Things are getting a little better," says Patrick Fehling, a



Needle spike

Heroin users aged 12 and over, '000

■ Past year ■ Past month



Source: US National Survey on Drug Use and Health

psychiatrist at the CeDAR rehabilitation clinic in Denver, where Ms Scudo eventually kicked her habit. Yet services like these are scarce, particularly for the poor: a month at CeDAR costs \$27,000. Those with no money or insurance are more likely to be put on methadone, a heroin substitute which sates cravings but does not stop them.

Now that heroin addiction is no longer a disease only of the urban poor, however, attitudes are changing. The Obama administration's latest national drug strategy, published in July, criticised "the misconception that a substance-use disorder is a personal moral failing rather than a brain disease". It called for greater access to naloxone, an antidote that can reverse the effects of heroin overdose, and backed state-level "good Samaritan" laws, which give immunity to people who call 911 to help someone who is overdosing. Needle-exchange services, which have cut rates of hepatitis and HIV among drug users in Europe, are expanding. These programmes are easier for politicians to sell now that heroin addiction is no longer just the "bum under the bridge".

From the print edition: United States