

Section 1

Substance Use Disorders in Women and Pregnancy

Chapter

The Opioid Epidemic and Pregnant Women

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The History of the Current Opioid Epidemic

Sam Quinones’s *Dreamland* [1] details the current opioid epidemic and is an excellent read. Since the early 1990s, opioid use in the United States and Canada has increased more than fivefold, starting with the release of Oxycontin® by Purdue Pharmaceuticals in 1996. A half page communication by Porter and Jick [2] in *The New England Journal of Medicine* showed that among hospitalized patients (emphasis mine) treated with opioids, less than 1 percent developed addiction. Using this study, Purdue Pharmaceuticals marketed this new extended-release opioid to primary-care physicians as the Holy Grail for the treatment of chronic pain, a safe, non-addictive opioid. Doctors were urged and incentivized to prescribe this new wonder drug, but not trained in its safe use, leaving many of their patients vulnerable to developing addictive behaviors and resulting in death due to overdose. Later studies showed that approximately 35 percent of people treated with opioids for chronic pain go on to develop an opioid-use disorder [3]. In addition, for-profit pill mills were opened in many localities, where a patient could get a month’s worth of potent opioids with a minimal history of pain and cursory exam. In addition, there was no oversight of these clinics or the patients, and patients could and frequently would frequent more than one “pain clinic,” leading to huge numbers of “legal” opioids circulating around communities which had been devastated by the loss of manufacturing jobs.

Simultaneously, the American (National) Pain Society first suggested that pain be treated as the fifth vital sign, and the Joint Commission for Accreditation of Hospital Organizations (JACHO) put forth hospitals that executed this as an example of good patient care [4]. Hospital satisfaction scores have been partially based on whether or not a patient’s pain was treated “adequately.” This led to hospitals and emergency rooms dispensing increasing numbers of

opioids, especially to white patients [5] and surgeons prescribing prolonged courses of opioids, even though the majority of patients require opioids for only three days after discharge from the hospital.

By 2010, doctors prescribed sufficient opioid(s) so that “every person in the United States could be medicated around the clock for a month” (Figure 1.1) [6]. Unlike previous opioid epidemics involving heroin, this epidemic targeted mostly white and middle class people, with many of them being women of childbearing age. Women were more likely to be prescribed opioids for pain relief than men; indeed, during the 1800s, the majority of people with opium-use disorders were women who were prescribed opium for pain relief by their physicians [7]. Physicians also prescribed higher doses of opioids and for longer periods, leading to higher overdose death rates among women [6]. Women are most likely prescribed opioids for migraine, fibromyalgia, and osteoarthritis, i.e., for all

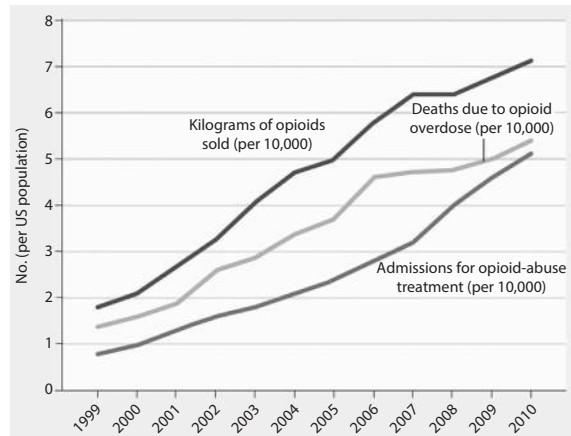


Figure 1.1 Rates* of opioid pain reliever (OPR) overdose death, OPR treatment admissions, and kilograms of OPR sold in the United States, 1999–2010 [1]

*Age-adjusted rates per 100,000 population for OPR deaths, crude rates per 10,000 population for OPR abuse treatment admissions, and crude rates per 10,000 population for kilograms of OPR sold.

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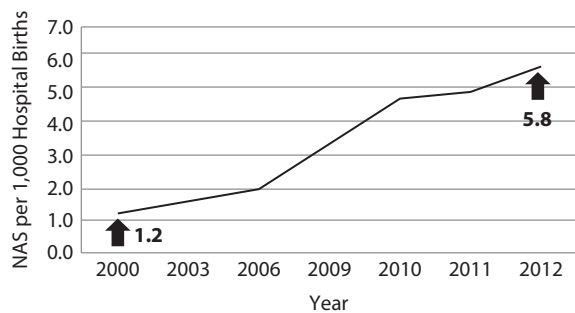


Figure 1.2 Incidence of neonatal abstinence syndrome per 1,000 hospital births in the United States, 2000–12 [2]

conditions for which they are not effective. The great majority of women who received prescription opioids were of childbearing age, which leads to our current epidemic of infants needing treatment for neonatal abstinence syndrome (NAS) (Figure 1.2).

At the same time that the prescription opioid use epidemic came to the attention of public health officials and other authorities, another opioid was reemerging as a threat. Potent black tar heroin was smuggled from Mexico and delivered like pizza by small cells in several major cities and small towns that had never seen heroin before. This black tar, so named because it was the unrefined sticky substance directly extracted from the poppy plants, was several times more potent than the powdered heroin previously sold by dealers in big East Coast cities and was also cheap. An addict could satisfy their cravings for less than \$20 per day, while Oxycontin and other opioids cost much more (if not covered by insurance). Once the pump had been primed by prescription opioids, and then the well ran dry as insurance companies refused to cover the extended-release options and pill mills were closed, heroin was there to take over this deadly trend. Recently, the heroin has been adulterated with synthetic opioids such as fentanyl and sufentanil which are hundreds of times more potent, leading to a skyrocketing rate of overdose deaths, including Phillip Seymour Hoffman and Prince.

Safe Treatment of Pain

Opioids still have a place in the treatment of pain, though the treatment of chronic non-cancer pain with opioids is controversial. There are several safeguards that need to be used for anyone using opioids for the treatment of pain. The CDC published these guidelines

in May 2016 [8]. They include the use of prescription drug monitoring systems (PDMPs), which 49 states have implemented, and some states mandate their use by physicians before the prescription of controlled substances. Urine drug monitoring is recommended to confirm that the patient is taking the medication that is prescribed and not taking other illicit or licit substances (such as benzodiazepines) that increase the risk of overdose death. Prescribers are encouraged not to prescribe opioid for more than 3 days for acute pain, and while treating chronic pain, caution must be exercised when prescribing above 50 MME (morphine milligram equivalents) and not to exceed 90 MME [8].

There are limitations to these guidelines, and given that 35 percent of individuals treated with opioids for chronic pain will develop an opioid-use disorder, practitioners are advised to treat with care while using opioids. Ideally, the treatment of chronic pain should occur in specialized multidisciplinary pain clinics with the use of multimodal treatment options, including nonopioid medications, physical therapy, chiropractic care, psychological treatments, pain blocks, and acupuncture, as well as someone specialized in the treatment of addiction. Unfortunately, insurance coverage for such comprehensive pain clinics is inadequate, and thus there is a nationwide shortage.

Pregnant Women and Pain

There are unfortunately few nonopioid medications that are safe in pregnancy. In addition, pregnancy increases stress on the musculoskeletal system, which can increase low back pain and other pain syndromes. Pregnancy intention should be discussed with all women being treated for chronic pain and attempts to control pain without opioids should be maximized before pregnancy. Weaning of opioids during pregnancy will be addressed in subsequent chapters, but it is important that women should not be abruptly withdrawn from opioids, as this can increase the risk of intrauterine fetal death (stillbirth), abruption, and preterm birth. All providers treating pregnant women with opioid-use disorders reported seeing an all-too-common phenomenon among women being treated at pain clinics; the prescriber, who has been managing the woman with opioids, will stop prescribing upon learning of the pregnancy, as if that will insure that the fetus is not exposed. This is a poor clinical practice, bordering on malpractice. With adequate counseling of NAS risks, many women can safely be continued on

opioids during pregnancy, especially if there are no better options for treatment. Focus on nonmedication treatment of pain should be optimized (e.g., physical therapy, massage, acupuncture, and psychologic counseling such as cognitive-behavioral therapy). Unfortunately, insurance coverage for such adjunctive therapies are lacking, limiting its effectiveness in disadvantaged women (who are more vulnerable to chronic pain). Family planning will be addressed in Chapter 13, but it is of paramount importance to the optimal treatment of women with pain and with opioid-use disorders.

Pain and Addiction: Common Threads

The vulnerability of women treated with opioids to developing an opioid-use disorder stems from many factors, including genetic vulnerability, exposure to early childhood adverse events, poverty, physical trauma, and interpersonal violence.

The American Society of Addiction Medicine (ASAM) defines addiction as a primary, chronic disease of brain reward, motivation, memory, and related circuitry. Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one’s behaviors, and interpersonal relationships, and a dysfunctional emotional response [9]. Vulnerability to addiction is thought to be multifactorial, comprising a complex interplay of genetic and environmental causes (Figure 1.3).

Twin studies have demonstrated that genetic vulnerability comprises about 60 percent of an

individual’s risk of developing a substance use disorder. Interestingly studies looking at possible genetic causes of both opioid addiction and vulnerability to chronic pain have found several genes in common [10, 11]. One of these gene targets, the *COMT* gene, which regulates the metabolism of catecholamines, was found to be associated with opioid-use disorder (OUD) only in women [11]. Target gene studies comparing dependent vs. nondependent opioid users found a polymorphism in the delta opioid receptor gene *OPRD1* associated with dependent opioid use [12]. Activation of this receptor decreases persistent pain and reduces negative emotional states [13]; thus this could be a compelling target for drug development studies. Other genetic factors include polymorphisms in *ADRB2* that are associated with resilience to post-traumatic stress after trauma [14], which we will see in Chapter 5 as a major factor in the development of substance use disorders.

The relationship between exposure to adverse childhood events (ACE) and substance use was first reported in 1998 [15]. Since then other studies have looked at the role of poverty [16], sexual abuse [17], and interpersonal violence [18]. All of these factors contribute to higher rates of opioid-use disorders. As we’ll see in Chapters 5 and 6, trauma and interpersonal violence remain two of the greatest risk factors for the development of opioid- and other substance use disorders. These factors are also determinants of chronic pain [19–21]. Women with substance use disorders and chronic pain suffer from multiple social and health disparities and thus these disparities need to be addressed if we are to help these women, their families, and their communities recover.

Traditional Approaches to Substance Use in Pregnancy

Focus on the risk of substance use solely on the fetus, lack of understanding of the role of the maternal-fetal dyad, and misunderstanding of the disease model of addiction have led to several public policy approaches to pregnant women with substance use disorders that have proven to be disastrous to public health as well as individual women and their families. Most of the public policy focus has been on the largely overstated and unproven risks of illicit drugs, while ignoring the real and well-known risk of the licit substances, such as alcohol and tobacco. These policies serve to prevent women from getting the prenatal care and addiction

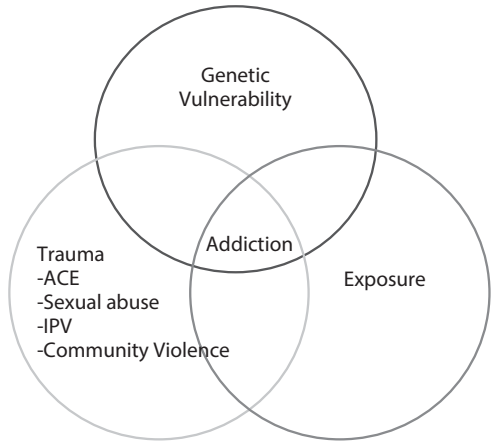


Figure 1.3 Determinants of addiction

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treatment they need and that has been shown to improve pregnancy outcomes and ameliorate the effects of the drugs.

Traditional Approach 1: Take Away Her Children: Women with Substance Use Disorders are Unfit to Parent

There is a pervasive notion in our society that women who use illicit drugs are unfit to parent children. This is reflected in policies where children under threatened harm are removed from the home even if no child abuse or neglect is proven. Threatened harm can include a positive drug test at delivery or at any time during her prenatal course. Women with a single, positive, drug urine test have been subject to child welfare involvement and infant removal, even if confirmatory drug testing was not done, and even if she was not aware of the pregnancy at the time of her drug use. This involvement serves to place the perceived needs of the fetus above those of the pregnant woman, ignoring the rights of the pregnant woman, and the role her health plays on that of the developing fetus. It also puts the prenatal care provider into an adversarial role with the pregnant woman, as drug testing is often done without the consent or even knowledge of the pregnant woman. Instead of talking to the woman about her drug use, her social situation and other factors that can affect her and her family's health, and provided with necessary medical care (which includes addiction treatment), she is subject to unlawful search and subsequent infant abduction, which serves to perpetuate the inter-generational cycle of trauma. Women who have children removed from them, even temporarily, are more likely to get pregnant again [22]. As one mother eloquently said "I have a hole in my heart from missing those 2 months with my son. I want to go have another baby just to fill it." This can be one reason women with substance use disorders have more pregnancies and live births.

Perhaps this approach could be justified if it were shown to be effective in protecting the fetus and child from the effects of maternal drug use, but this is not the case. Policies that stress child welfare involvement actually worsen pregnancy outcomes, in that they serve as a large barrier to women obtaining prenatal care [23], which has been shown to ameliorate the effects of the substances and normalize pregnancy outcomes [24]. A single drug test does not predict parenting ability [25];

Susan Boyd found no differences between women who use drugs and those who do not in their childrearing practices [26]. In addition, in 1976, as Michael Wald said [27], "Removing a child from his family may cause serious psychological damage – damage more serious than the harm intervention was supposed to prevent."

Keeping children with the mother while she undergoes drug treatment improves the outcomes of the entire family [28]. Since the early 1990s, this model of comprehensive care has been supported by the Substance Abuse and Mental Health Services Administration's (SAMHSA) Center for Substance Abuse Treatment (CSAT), and has demonstrated success in many states [29]. Despite the success of this approach, funding was drastically cut to this program and these facilities are still available in less than half of states.

On a practical note to providers who care for women with substance use disorders, current state laws are influenced by the Child Abuse Prevention and Treatment Act (CAPTA), which was originally enacted in 1974 and most recently updated and reauthorized in 2010. The purpose of this act is to provide funding to states for child welfare services. A new CAPTA state grant eligibility requirement modifies earlier CAPTA language that mandates identifying and making "appropriate referrals" by healthcare providers to CPS – and developing service "plans for safe care" of the child – of newborns affected by prenatal drug exposure. Various states have interpreted these requirements in various ways, both in reporting requirements and what is meant by newborns affected by prenatal drug exposure. The most recent requirements also include infants affected by NAS and fetal alcohol syndrome (FAS). Knowledge of your own state laws is imperative while taking care of women with substance use disorders. Counseling women during the course of prenatal care as to the requirements of the law and your own role in reporting can help allay her fears to some extent. For example, in Hawai'i, I'm not required to report drug use during the pregnancy, so that I am able to reassure the woman I'm providing prenatal care for that I won't report her unless there are other concerns about child abuse or neglect. I do explain that if her child has NAS or if the pediatrician has concerns, she may be referred, but that the purpose of the referral is to ensure access to resources, not to remove the child from custody if she has been attending prenatal care and treatment for her substance use disorder. Providers in states with more punitive laws should fight to change the laws and advocate for your patient's rights.

Traditional Approach 2: Lock Her Up: Incarcerated Women won't Use and Babies will be Born Healthy

This approach began in the 1980s in response to the crack cocaine epidemic and the media coverage which promised a lost generation of crack-exposed children. Despite little evidence of long-term harm in carefully controlled studies, legislators began crafting bills that would criminalize drug use during pregnancy. Strong opposition by medical societies and public health groups prevented the worst of these bills from passing [25]. To date, only one state (Tennessee) explicitly criminalized drug use during pregnancy. Given strong opposition from the American Medical Association (AMA), the American Congress of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP), the ASAM, as well as state health and law enforcement agencies, this law was allowed to sunset in 2016. However, currently three states (Minnesota, South Dakota, and Wisconsin) consider drug use during pregnancy grounds for civil commitment and 17 states currently consider drug use during pregnancy to be child abuse [30]. States have used these statutes and others to incarcerate pregnant women who use drugs. Paltrow and Flavin [31] found 348 cases from 1973 to 2005 where women were arrested solely for using drugs during pregnancy. They have found an additional 380 cases since 2005 [30].

Problems with these policies are multitude. Incarcerated women suffer from stress, poor diet, interpersonal violence, trauma from family separation, lack of access to psychiatric, addiction and medical care, including medically assisted treatment, as well as continued access to drugs of abuse, all of which increase pregnancy complications and poor infant outcomes. These policies ignore the risks of legal drugs, including tobacco and alcohol, whose effects in many studies have shown to be more harmful than those of illicit drugs. As we saw with child abuse policies, fear of legal involvement prevents women from obtaining prenatal care and worsens outcomes. In 1997, Cornelia Whitner was 1 of 42 women systematically arrested by South Carolina police for using crack cocaine during pregnancy. She was tested at the Medical University of South Carolina without her knowledge or consent. Her conviction was upheld by the State Supreme Court, deviating from other state courts. After her conviction, admission to drug treatment decreased by 80 percent,

there was an increase in infant mortality, and a 20 percent increase in abandoned babies [32].

In addition, laws that punish pregnant women have been disproportionately directed toward women of color and women in poverty. Of the 42 women arrested under South Carolina law, 41 were African American. In addition, they only tested indigent women, not women using private insurance. Of the 384 women initially reported by Paltrow and Flavin, 59 percent were women of color [31]. In a recent study looking at opioid withdrawal in pregnancy [33], there was one arm of women who were incarcerated and thus forced into withdrawal without medical assistance. About 20 percent of that group was African American compared to 4 percent African American women in the other practice settings.

I would encourage any provider in states with laws encouraging incarceration to work with their state legislators to change the laws. Providers need to advocate for their patients using an evidence-based approach.

Traditional Approach 3: Compel Her to Get Treatment (Either through the Child Welfare or Criminal Justice System)

This approach seems the most humane on the surface, and many localities have affected this method. It is not without its problems, however, as was seen earlier, many states and localities are overwhelmed by the current epidemic and lack the resources for treatment, especially in rural areas which have been the hardest hit [34]. In Tennessee, for example, the law making it a crime to use drugs during pregnancy allowed a “safe harbor” for women who obtained drug treatment. At that time, there were only 50 residential treatment beds for pregnant women in a state with a need over 20 times that high. Good quality care is imperative for pregnant women. Treatment centers work best if they provide co-located prenatal care, women-specific, trauma-informed treatment, childcare, and transportation. These centers are rare and only present in approximately 18 states at the time of this writing.

Mandating a particular form of treatment can be problematic. In many instances, it is not the woman and her treatment provider making the treatment modality choice using shared decision making and evidence-based criteria, but an inexperienced child welfare worker or family court judge making that decision. This has led to many instances where the woman

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is forced off medically assisted treatment in order to maintain custody or stay out of jail. This leads to relapse and treatment failure. Relapse can be life-threatening, especially if it happens after a prolonged period of abstinence. The United States leads the developed world in maternal mortality. In at least two states that have looked at causes of maternal mortality (Maryland [35] and Colorado [36]), the leading cause is overdose in the postpartum period, so a suboptimal response to the opioid epidemic could be fueling our high maternal mortality rates.

A Note about Language and Stigma

We have tried throughout the book to focus on *DSM-V* definitions of substance use disorder, and tried to avoid terms such as substance abuse, abuser, addict, or alcoholic.

While it may seem trivial to focus on language, it is not just “semantics” or “political correctness.” There are two separate, but related, issues here, Person-first language and pejorative language. There has been an awakening in medical education to use person-first language. Person-first means that the focus should be on the person with the disease first, not the disease itself, reinforcing that people are not defined by the disease. For example, the term should be a person with diabetes, not a diabetic. By focusing on the disease and not the patient, it serves to dehumanize those suffering. This is especially evident in the addiction field. Kelly and Westerhoff [37] performed a study in 2010 with doctorate-level addiction and mental health providers who were provided with case scenarios of patients with legal difficulties from their substance use. Half the scenarios used “substance abusers” and half used “with a substance use disorder.” The scenarios with substance abusers were significantly more likely to be judged as deserving punishment than the exact same scenarios as those having a substance use disorder.

Pejorative language subtly influences how people view people with diseases [38], and again serves to dehumanize those suffering and facilitates thinking of them as other or less worthy of care. Avoiding pejorative language is especially important when dealing with stigmatizing conditions. Drug and alcohol-use disorders are the most stigmatized medical conditions. When talking about pregnant women with substance use disorders, the stigma is increased by magnitudes. Terms such as “crack baby,” “meth baby,” and “opioids tiniest victims,” serve to reinforce the belief that women

chose this disease and chose to do this to their children. This stigma serves to prevent women from getting the care they need and deserve, and influences policy makers to enact the laws we saw above which are so harmful and counterproductive. The commonly used term “babies born addicted to drugs” is completely fallacious. As said above, addiction is a disease of impaired control. Newborn infants by definition cannot be born addicted. They suffer from opioid withdrawal, which is a treatable medical condition.

Summary

The above introduction to the genetic and social determinants of addiction was meant to enlighten the reader that no woman would willingly chose using substances during pregnancy for herself and her infant. Addiction is a chronic, relapsing, treatable medical condition which can cause complications of pregnancy if not managed, just like diabetes, high blood pressure, or lupus. With appropriate treatment, complications can be avoided, infants can be treated, and families can be preserved.

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Chapter
2

Screening, Brief Intervention and Referral to Treatment for Opioid Use Disorders in Pregnancy

Tricia E. Wright

Substance use is common in women of childbearing age. Prior to pregnancy, approximately 55 percent of women drink alcoholic beverages, 23 percent smoke cigarettes, and 10 percent use either illicit drugs or prescription drugs without a prescription [1]. Although most women are able to quit or cut back harmful substances during pregnancy, many are unwilling or unable to stop. National survey data indicate that during pregnancy, 10 percent of women drink alcohol (4 percent binge, i.e. have 5 or more alcoholic drinks on the same occasion on at least 1 day in the past 30 days), 15 percent smoke cigarettes [1], and 5 percent use an illicit substance. This makes substance use as more common than many conditions routinely screened for and assessed during prenatal care (PNC), such as cystic fibrosis, gestational diabetes, anemia, postpartum depression, or preeclampsia. Moreover, substance use during pregnancy is both costly and harmful. Substance use during pregnancy is associated with poor pregnancy outcomes, including preterm birth, low-birth weight, birth defects, developmental delays, and miscarriage [2]. Long-term effects on the mother and infant include medical, legal, familial and social problems, some of which are lifelong and costly [3, 4].

The perinatal provider, therefore, has an important medical and ethical role in screening for substance use, counseling women on the importance of avoiding harmful substances, supporting their behavioral change, and referring women with addiction to specialized treatment when needed [5, 6]. This process, known as SBIRT (screening, brief intervention, and referral to treatment), represents a public health approach to the delivery of early intervention and treatment services for persons with substance use disorders (SUDs) [7] (Figure 2.1). Its use in emergency, general primary care, and obstetric settings for alcohol and tobacco has been recommended by the U.S. Preventive Services Task Force [8, 9] as well as by professional societies such as the American College of Obstetricians and Gynecologists (ACOG) [10].

Unfortunately, a number of barriers have limited SBIRT's public health impact, particularly during pregnancy. First, although universal screening for substance use is recommended during pregnancy [11], many women are not screened [12] or not screened with evidence-based screening tools [13]. Providers often feel overwhelmed by the number of disease states for which they are expected to screen and/or feel inadequately trained to screen for substance use [14]. Clinicians may also question the clinical utility of screening and the likelihood that women will reduce substance use or attain abstinence; conversely, they may be under the impression that they do not have patients who use substances in their practices or may not want to "play police" due to mandatory reporting requirements in some states [15]. In addition, providers may feel at a loss of what to do if they encounter a patient with a SUD or unsure how to help the patient if unaware of community resources for treatment. Finally, inadequate reimbursement for evaluation and management services is a disincentive to provide preventative care even in the case of pregnant women [16].

Second, failure to disclose substance use (or incomplete disclosure) is also common, and further complicates efforts to identify at-risk women [17–21]. Pregnant women also have reasons to withhold information about their use of substances in pregnancy. Some states have mandatory reporting requirements with the possibility of incarceration in a minority of states. This may not only create a disincentive for disclosure, but possibly for treatment-seeking itself [22]. Women may also be concerned about prejudicial treatment and stigma from their physicians who should be their advocates, while pregnant youth may fear disclosure to family members and the possible consequences of such disclosure.

Third, SBIRT research and practice has traditionally focused on the more commonly used substances such as alcohol and tobacco, with relatively less focus

Section 1: Substance Use Disorders in Women and Pregnancy

Component	Goal	Approach
Screening	To assess substance use and its severity	Patient-/computer-administered instrument or direct provider questions (see Figure 2.2)
Brief intervention	To increase intrinsic motivation to affect behavioral change (i.e. reduce or abstain from use)	1–5 patient-centered counseling sessions lasting less than 15 minutes using principles of motivational interviewing (see Figure 2.5)
Referral to treatment	To provide those identified as needing more treatment access to specialty care	Warm handoff to specialized treatment (e.g. provider to provider phone call), which requires practitioner familiarity with community resources and systems of care

Figure 2.1 Components of screening, brief intervention, referral to treatment (SBIRT)

on illicit drugs [23]. This gap has become particularly apparent and troubling as rates of prescription drug misuse in pregnancy have risen steadily in recent years, leading to almost fivefold increases in the incidence of Neonatal Abstinence Syndrome (NAS) between 2000 and 2012 [24]. Recent literature has shown utility for SBIRT for illicit drug use during pregnancy [25].

Screening

Screening for substance use should be universal, as SUDs occur in every socioeconomic class, racial and ethnic group. Moreover, screening based on “risk factors” such as late entry to PNC or prior poor birth outcome potentially leads to missed cases and can exacerbate stigma and stereotype [11]. Universal screening is recommended by many professional organizations, including ACOG [5], the AAP [26], the American Medical Association (AMA) [27], and the CDC [6]. Screening should be done at the first prenatal visit, and repeated at least every trimester for individuals who screen positive for past use. In addition, screening for tobacco use, at risk drinking, illicit drug use, and prescription drug misuse should occur on an annual basis as a part of routine well-woman care. Women should be asked at medical exams if they are planning to get pregnant in the next year, so that adequate contraception and preconception care can be provided.

Screening Summary:

- Screening for substance use should be done on all pregnant women at the first prenatal visit and subsequently throughout pregnancy on those women at higher risk;
- Screening can be done either by using a validated instrument with follow-up by the provider or by asking standardized questions during the interview;

- Screening should be nonjudgmental and questions should be open-ended;
- Urine toxicology testing should not be used in place of substance use screening questions.

Most of the studies looking at screening have focused on using instruments, such as TWEAK, TACE, 4P’s, or Audit C. These instruments have the advantage of being validated and most are fairly sensitive. Also, preliminary screening can be done by anyone in the practice, with follow-up by the provider (Figure 2.2).

Barriers to implementing instrument-based screening include patient discomfort and lack of literacy, staff resistance due to time pressures, and organizational issues such as lack of administrative support [28]. Integration into practice flow can be eased by incorporation into electronic medical record systems (EMR) or by using a computer-based approach, which may diffuse the discomfort women feel in disclosing a behavior about which they are embarrassed, but this has not been compared to clinician administered screening in pregnant women [29]. All positive screens require follow-up by the provider.

To counteract some of the institutional barriers to instrument-based screening, some experts encourage simply asking three open-ended questions regarding use of tobacco, alcohol, and other drugs (The NIDA Quick Screen) [30]: In the past year how many times have you drunk more than four alcoholic drinks per day? Used tobacco? Taken illegal drugs or prescription drugs for nonmedical reasons? This screen needs to be validated in pregnancy. Women are also more likely to report lifetime use or use before pregnancy than they are to disclose use during pregnancy because of the risks and stigma involved. More important than the use of any specific screen is to be consistent and to ask the questions of everyone.