Safety: *Consensus Statement*

National Partnership for Maternal Safety

Consensus Bundle on Obstetric Care for Women With Opioid Use Disorder

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The opioid epidemic is a public health crisis, and pregnancy-associated morbidity and mortality due to substance use highlights the need to prioritize substance use as a major patient safety issue. To assist health care providers with this process and mitigate the effect of substance use on maternal and fetal safety, the National Partnership for Maternal Safety within the Council on Patient Safety in Women's Health Care has created a patient safety bundle to reduce adverse maternal and neonatal health outcomes associated with substance use. The Consensus Bundle on Obstetric Care for Women with Opioid Use Disorder provides a series of evidence-based recommendations to standardize and improve the quality of health care services for pregnant and postpartum women with opioid use disorder, which should be implemented in every maternity care setting. A series of implementation resources have been created to help providers, hospitals, and health systems translate guidelines into clinical practice, and multiple state-level Perinatal Quality Collaboratives are developing quality improvement initiatives to facilitate the bundle-adoption process. Structure, process, and outcome metrics have also been developed to monitor the adoption of evidence-based practices and ensure consistency in clinical care.

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The opioid epidemic is a profound public health crisis.[1] In 2014, 92 million, or 37.8% of adults in the United States reported the use of prescription opioids, which continues to fuel the crisis.[2] Mortality from drug use now exceeds deaths due to motor vehi-

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cle accidents and has contributed to a loss of 0.21 years in life expectancy in the United States.[3–5] Since 2000, more than 500,000 people in the United States have died from drug overdoses and 91 Americans die every day.[3] Escalations in opioid use have been particularly profound among women of reproductive age.[6,7] A greater prevalence of comorbid psychiatric disorders, gender-based violence, physical and sexual abuse, and chronic pain disorders likely contribute to disproportionate rates of opioid use and misuse among women compared with men.[8,9] These demographic shifts have contributed to the rising prevalence of opioid use disorder during pregnancy. Between 1999 and 2014, the prevalence of opioid use disorder during pregnancy increased from 1.5 to 6.5 per 1,000 hospital births per year.[10]

Pregnancy-associated morbidity and mortality due to substance use is a major patient safety issue.[11,12] Pregnancy is an unique opportunity to address the complex and often challenging health needs of women with opioid use disorder and provide interventions that can improve maternal and child health well beyond the perinatal period. As such, health systems, hospitals, and their maternity care providers have a responsibility to provide evidence-based health care services for women with substance use disorders including linkages to treatment. To assist with this process, the National Partnership for Maternal Safety convened an interdisciplinary workgroup to define evidence-based practices for maternity care for women with opioid use disorder. The resulting patient safety bundle, "Obstetric Care for Women with Opioid Use Disorder," provides a series of evidence-based recommendations to improve the quality of health care services for pregnant and postpartum women with opioid use disorder. To facilitate bundle implementation, leadership from perinatal quality collaboratives across 14 states collaborated with workgroup members to create a series of resources to support state-level quality improvement initiatives and help institutions translate guidelines into clinical practice. This commentary elaborates on the nuances of bundle domains (*Readiness, Recognition* and *Prevention, Response, Reporting,* and *Systems Learning*), and each recommendation is designed to allow for institutional customization.

READINESS (EVERY CLINICAL SETTING)

Create a State, Health System or Community Implementation Team

Implementing evidence-based recommendations into health care settings requires stakeholder engagement at multiple levels to create clinical practice change.[13] At the state-level, a Perinatal Quality Collaborative, or a Department of Public Health can be used to support multidisciplinary teams in successfully implementing patient safety bundles through collaborative learning, quality improvement support, and rapid response data review. At the health system-level, implementation teams composed of administrative, provider, and payer champions can facilitate the sustainability of evidence-based practice change within the health care setting.[14] Clinical champions have been the driving force behind of a wide range of quality improvement initiatives in maternity care settings.[14–18] Because caring for pregnant women with opioid use disorder may be particularly challenging, an Implementation Guide was created to highlight the bundle's core components (Box 1).

Educate Patients and Their Families on Opioid Use Disorder and Neonatal Opioid Withdrawal Syndrome

Patient recognition and understanding of addiction as a chronic neurobiologic disease is fundamental to engaging in treatment and essential for long-term recovery.[19,20] As such, patient and family educational materials regarding substance use should be incorporated into inpatient and outpatient clinical settings. Materials should be evidence-based, reinforce that substance use disorders can be managed and treated successfully, and provide an overview of clinical interventions such as opioid pharmacotherapy (ie, methadone or buprenorphine), behavioral health counseling, and social support services.[20] The Substance Abuse and Mental Health Services Administration has created a series of evidence-based, patient educational materials designed for pregnant women with opioid use disorder that explain the treatment process and are available for download at http://store.samhsa.gov.

Patients and their families should also receive evidence-based education on neonatal opioid withdrawal syndrome and nonpharmacologic interventions designed to reduce its severity, including: 1) swaddling; 2) skin-to-skin mother–infant holding; 3) nonnutritive sucking; 4) rocking; 5) low-stimulation environments; 6) small, frequent feedings; 7) breastfeeding; and 8) rooming-in.[21–26] Patients and their family members should receive training on the early signs of neonatal opioid withdrawal syndrome and be taught to implement nonpharmacologic interventions before the cycle of irritability, crying, poor feeding, and lack of sleep begins.[27] Because additional interventions may be warranted, patients should also receive education regarding the pharmacologic

Box 1. Bundle Implementation Guide: Obstetric Care of Women with Substance Use Disorder

READINESS—for every setting

1. Create a state, health system or community implementation team
    a. identify an administrative lead and provider "Clinical Champions" to facilitate the implementation of evidence-based practice (EBP) into inpatient and outpatient clinical settings
    b. collaborate with affiliated hospitals, health systems and/or perinatal collaborative partners to ensure consistency in clinical care approaches
    c. initiate relationships with payers (i.e. Medicaid HMO's) to address reimbursement related needs
2. Within every clinical setting, research resources/barriers and educate staff
    a. Identify clinical training needs regarding EBP of substance use disorders and ways to reduce stigma
    b. Provide educational opportunities (i.e. CME, in-service trainings) to address clinical training needs
    c. Know state and local reporting guidelines for prenatal substance use and substance-exposed infants
3. Prepare inpatient and outpatient clinical settings
    a. Identify a validated screening tool to use in inpatient and outpatient clinical settings
    b. Incorporate patient education materials regarding OUD and NAS into clinical settings
    c. Develop prenatal, intrapartum, and postpartum clinical pathways for women with OUD/SUD (i.e. rooming-in, breastfeeding support, pain management)
4. Identify state, county and community resources for collaboration and referrals
    a. Ensure social services provider (i.e. social work, case management) involvement to assist with linkages to available resources (i.e. home visiting, transportation, WIC)
    b. Identify local, women-centered SUD treatment facilities (i.e. location, eligibility, Medicaid-billing)
    c. Collaborate with local child welfare officials to develop a "plan of safe care" after delivery

RECOGNITION—for every woman in every setting

1. Screen all pregnant women for substance use using a validated screening tool (see AIM screening tool chart)
2. Screen all pregnant women with a history of substance use for HIV, STIs, Hepatitis, psychiatric disorders and intimate partner violence (see AIM screening tool chart)
3. Develop brief intervention and referral clinical pathways for women who have positive screens.

Box 1. Bundle Implementation Guide: Obstetric Care of Women with Substance Use Disorder (*continued*)

RESPONSE—for every prenatal, intrapartum and postpartum woman with OUD/SUD

1. Identify a lead coordinator to ensure that all women with OUD/SUD receive an individualized plan of care to:
    a. Ensure adherence with prenatal, intrapartum and postpartum clinical pathways
    b. Have a "plan of safe care" prior to hospital discharge.
    c. Ensure and follow OUD treatment engagement during pregnancy and postpartum
        1. Obtain patient consent to communicate and share records with OUD treatment providers
2. Ensure access to immediate postpartum contraception services and provider referrals to address comorbidities (i.e. infectious disease, hepatology)

REPORTING—for every clinical setting, health setting and/or community

1. Incorporate EBP compliance measures for the care of women with OUD into hospital and system level quality improvement initiatives
    a. Identify and monitor maternal and neonatal outcome metrics (see AIM metric list) relevant to OUD
    b. Create a process to conduct multidisciplinary case reviews for adverse events related to substance use
    c. Provide a mechanism for ongoing continuing education and EBP feedback for clinical and non-clinical staff
2. Use outcome data to engage child welfare, public health agencies, court systems, and law enforcement to help drive initiatives to expand treatment access and improve maternal and neonatal outcomes

Reprinted with permission from American College of Obstetricians and Gynecologists. Bundle implementation guide: obstetric care of women with substance use disorder. Council on Patient Safety in Women's Health Care. Washington, DC; American College of Obstetricians and Gynecologists: 2018. Available at: https://safehealthcareforeverywoman.org/wp-content/uploads/2018/08/AIM-Opioid-Implementation-Guide.pdf. Retrieved May 24, 2019.

treatment process for neonatal opioid withdrawal syndrome (ie, medications are started at low doses and slowly titrated to control symptoms) and the possible need for neonatal intensive care unit (NICU) admission and extended neonatal hospitalization. Even if medications are used, patients should be counseled

that ongoing maternal involvement in care and continued nonpharmacologic interventions remain integral to improving outcomes.[28]

Provide Staff-Wide Education and Training on Substance Use, Stigma and Trauma-Informed Care

Understanding addiction as a medical disorder can help to reduce stigma among health care providers, lead to early identification of substance use and result in improved patient communication and outcomes.[29] Negative attitudes held by health professionals towards women with substance use disorders can threaten their therapeutic commitment and prevent women from seeking prenatal care and disclosing substance use. Instead, providers should strive for a compassionate patient-provider relationship as women are more likely to disclose substance use after a trusting relationship has been formed. Providers should ask women about substance use at every prenatal visit and conversations should occur in a nonjudgmental, respectful manner that is sensitive to age, culture, and language differences.[30] Understanding the extent and nature of a woman's substance use within the larger context of her life (eg, trauma history) is essential for careful diagnosis and successful treatment.[31]

Similar to addiction, trauma is frequently overlooked by health care providers.[32] Trauma is an intense physical and psychologic reaction that results from an event that is experienced as harmful or threatening and that has lasting adverse effects on an individual's physical and emotional well-being.[32] Among women in substance use treatment, 55–99% report a history of physical or sexual abuse, which often results in trauma-related symptoms consistent with posttraumatic stress disorder.[9] As such, providers who care for women with substance use disorders should receive training on trauma-informed care that seeks to change the paradigm from, "What's wrong with you?" to, "What has happened to you?"[32]

Ongoing staff education and learning opportunities (ie, continuing medical education [CME]) should be offered in all maternity care settings on substance use disorders, stigma, bias and discrimination, and trauma-informed care. Online educational resources and CME training programs can play an important role in supplementing in-person training. The American Society of Addiction Medicine, the American College of Obstetricians and Gynecologists, the American Academy of Pediatrics, and the Centers for Disease Control and Prevention offer CME courses on topics such as alcohol, tobacco, opioid, and other substance use disorders and associated medical and psychosocial comorbidities. The Substance Abuse and Mental Health Services Administration has also created the Provider's Clinical Support System to address the clinical training and education needs of providers regarding the prevention, identification, and treatment of substance use disorders with a focus on opioid use disorders. The Provider's Clinical Support System also provides a national network of trained physician mentors who are available to provide clinical support to providers interested in becoming licensed to provide buprenorphine. Online modules, webinars and clinical training resources are available at https://www.asam.org/education/resources/pcss-mat.

Establish Specific Prenatal, Intrapartum and Postpartum Clinical Pathways for Women With Opioid Use Disorder

Providers in clinical settings that care for women with opioid use disorder should establish specific prenatal, intrapartum, and postpartum clinical pathways and checklists to address the specific needs of this population (Box 2). Maternity care providers are often the first point of health care engagement for pregnant women with opioid use disorder and can play a critical role in referring patients to treatment.[30] As such, clinical settings should maintain a current list of local treatment programs that provide opioid pharmacotherapy with either methadone or buprenorphine, behavioral health counseling, and social services support along with their admission criteria, available services, and contact information. Women-centered programs that address gender issues, provide child care, individual and group therapy, trauma-informed care, and family planning services should be prioritized.[33] Programs that bill Medicaid for services and that are close to women with limited transportation are also important considerations to minimize access and availability barriers.[34] The Substance Abuse and Mental Health Services Administration Behavioral Health Treatment Locator, https://www.findtreatment.samhsa.gov/, can help providers search for treatment programs, mental health services, and buprenorphine providers by state and county and identifies programs that accept Medicaid for services.

Women with opioid use disorder are likely to face pain management challenges in the intrapartum and postpartum periods owing to increased pain sensitivity and an increased tolerance to the analgesic effects of opioids.[35] Epidural or combined spinal-epidural analgesia is highly effective for labor pain management, can facilitate early bonding and breastfeeding, and minimize perioperative sedation, especially after

Box 2. Example Clinical Pathways for Pregnant and Postpartum Women With Opioid Use Disorder

Antepartum Care

- Complete a detailed medical, surgical, and obstetric history and thorough physical examination
- Assess for substance use treatment needs including the use of opioid pharmacotherapy
  - Obtain appropriate consent to communicate and coordinate with treatment provider
  - Verify and update pharmacotherapy dose and engagement with treatment provider
  - Provide Narcan prescriptions and instructions to patients, family members, and friends
- Screen for psychiatric conditions, intimate partner violence, trauma, human immunodeficiency virus, hepatitis C virus
  - Provide timely referrals to appropriate providers after screen-positive results and ensure care coordination and communication through appropriate consents to share medical information
- Assess for psychosocial and resource needs (ie, transportation, housing)
- Evaluate prescription history in state Prescription Drug Monitoring Program database
- Be aware of pharmacologic interactions with buprenorphine and methadone including medications associated with prolonged QTc (ie, Zofran)
- Provide bowel regimen for constipation
- Initiate antenatal testing if clinically warranted (ie, intrauterine growth restriction)
- Develop pain management plan for labor and the postpartum period

Educational materials and in-person counseling should be provided for the following topics:

- Evidence-based education on substance use disorders and opioid pharmacotherapy as the recommended treatment for opioid use disorder during pregnancy
- Risks of polysubstance use including marijuana, benzodiazepine, and alcohol use
- Risks of tobacco use followed by smoking cessation strategies
- Neonatal opioid withdrawal syndrome, pharmacologic, and nonpharmacologic treatment, hospital policies for observation period and neonatal length of stay
- Overdose prevention and harm reduction
- Breastfeeding, breast milk, and parenting skills training
- Contraceptive counseling and immediate postpartum contraceptive options
- State and local maternal and infant toxicology screening guidelines and reporting requirements

Intrapartum Care

- Confirm opioid pharmacotherapy dose with substance use treatment provider
  - Ensure buprenorphine and methadone availability on inpatient pharmacy formulary
- Continue maintenance buprenorphine or methadone dosing during labor and delivery

Box 2. Example Clinical Pathways for Pregnant and Postpartum Women With Opioid Use Disorder (*continued*)

  - Avoid partial opioid agonists and antagonists such as nalbuphine or butorphanol
- Notify pediatric team of admission and need for evaluation after delivery
- Consult with anesthesia regarding intrapartum pain control needs
  - Encourage the use of neuraxial analgesia (ie, epidural or combined spinal-epidural)

Postpartum Care

- Continue maintenance buprenorphine or methadone dosing
  - Monitor for oversedation and contact treatment provider if dose decrease is necessary
- Schedule doses of long-acting nonsteroidal anti-inflammatory agents (NSAIDS) (ie, ketorolac) and acetaminophen in patients without liver disease
  - Maximize the use of multimodal, opioid-sparing interventions (ie, sitz baths)
- If additional opioids are necessary for complicated vaginal or cesarean delivery:
  - Monitor for oversedation and somnolence, discuss "triggering" opioids
  - Prescribe limited quantities and taper rapidly to nonopioid options
- Consult social work to develop a Plan of Safe Care
- Consult lactation services and ensure breastfeeding support
- Offer immediate postpartum contraceptive services including long-acting reversible contraception (LARC) options

Hospital Discharge Planning

- Determine discharge pain management plan
  - Maximize NSAIDs and nonpharmacologic interventions
  - If an opioid prescription is required, prescribe only the quantity likely to be used and ensure close postpartum follow-up to evaluate pain control needs
- Ensure a Plan of Safe Care has been developed before hospital discharge
- Provide education regarding signs and symptoms of newborn opioid withdrawal, postpartum depression, and review maternal and newborn indications to contact a provider
- Coordinate discharge with substance use treatment provider to prevent interruptions or discontinuation of opioid pharmacotherapy after hospital discharge
- Establish a postpartum follow-up plan with pediatric, obstetric, and substance use treatment providers

Derived from Council on Patient Safety in Women's Health Care. National collaborative on maternal OUD. An example checklist for the clinical care of pregnant/postpartum women with OUD. Available at: https://safehealthcareforeverywoman.org/national-collaborative-on-maternal-oud/#1543353681103-9400de22-f4ac. Retrieved June 21, 2019.

cesarean delivery.[36,37] Because the analgesic needs of women on opioid pharmacotherapy may increase by 40–70% after cesarean delivery, postpartum pain management pathways should be developed in coordination with anesthesia providers and typically include the continuation of opioid pharmacotherapy with additional modalities to treat acute birth-related pain.[36,37] Approaches should prioritize multimodal, opioid-sparing interventions and typically include a fixed regimen of acetaminophen and nonsteroidal antiinflammatory agents, neuraxial opioid, or additional regional blocks (eg, transverse abdominal plane blocks or catheters), and other agents (ie, ketamine).[38] Pain control plans should be developed prenatally to address any anticipated problems as inadequate pain control can increase the risk of postpartum depression and relapse.[39,40]

The postpartum period is a time of unique vulnerability for women with opioid use disorder. As such, the primary focus of the postpartum period should be to develop clinical pathways that prevent gaps in care and preserve the mother–infant dyad. Clearly articulated plans for the continuation of opioid pharmacotherapy with clarification of any dose adjustments and taper protocols should be instituted before discharge after birth. Owing to a high prevalence of unintended pregnancy among women with substance use disorders, maternity care settings should also provide immediate postpartum contraceptive services including inpatient access to long-acting reversible contraceptive methods (ie, implant, intrauterine device).[41,42] Breastfeeding, breast milk, and skin-to-skin contact have been shown to reduce neonatal opioid withdrawal syndrome symptoms and support mother–infant attachment and should be encouraged in women with opioid use disorder engaged in substance use treatment.[23,24] Given that less than half of women with opioid use disorder attend their postpartum appointment, multiple early postpartum visits with an obstetric, pediatric, substance use treatment, or primary care provider can facilitate the prompt identification of challenges and facilitate solutions before adverse outcomes such as relapse occur.[43]

Know State and Local Reporting Guidelines for Maternal Substance Use and Substance-Exposed Infants

Health care providers should be aware of their state statutory and regulatory requirements regarding perinatal substance use.[44] Such awareness prevents unnecessary reporting, which can be devastating for patients and their families. Decisions to report substance use should be made in conjunction with social services providers and should be based on the patient's available support structure and her ability to provide a safe environment for her infant and not on the presence of substance use alone.

The Child Abuse Prevention and Treatment Act provides federal funding to states in support of child abuse prevention and treatment activities. In 2003, the Child Abuse Prevention and Treatment Act was amended to require health care providers to notify child protective services of substance-affected infants, to make appropriate referrals and to develop a "Plan of Safe Care." A Plan of Safe Care is a coordinated treatment plan, developed before discharge from the birth hospitalization, to address the needs of substance-affected infants and their families.[45] In 2016, Congress passed the Comprehensive Addiction and Recovery Act which requires states to report the number of substance-affected infants and for how many a Plan of Safe Care was developed.[46]

RECOGNITION & PREVENTION (EVERY PROVIDER AND CLINICAL SETTING)

Screen All Pregnant Women for Substance Use

Universal screening for drug and alcohol use is the first step in identifying women with substance use disorders.[35] Because women often use more than one substance, screening should be inclusive of illicit drug, tobacco, and alcohol use including the use of medications. Because substance use exists across all sociodemographic groups, the American College of Obstetricians and Gynecologists recommends screening for all women at prenatal care entry, with mechanisms in place to ensure that those who screen positive receive intervention and linkages to treatment.[35] If the concern for substance use persists during pregnancy, repeat screening should occur using a patient-centered, nonjudgmental approach.

A number of validated screening tools can be used during pregnancy, including the Substance Use Risk Profile, AUDIT-C (alcohol only), CRAFFT (for women under age 26), ASSIST, NIDA Quick Screen, and 4 Ps Plus.[47–51] Urine toxicology (ie, urine drug testing) is not recommended as a universal screening approach due to its limited ability to detect inconsistent drug use, variable cutoff concentrations for semisynthetic opioids, inability to detect alcohol use, and cross-reactivity with nonopioid drugs, which can lead to false negative and false positive results.[52] Therefore, before performing any drug testing in pregnancy, providers should discuss the reasons for testing, obtain informed consent, and explain the potential consequences of a positive result, specific to state and local laws, in detail.[44,53]

Screening, brief intervention, and referral to treatment refers to a framework for substance use screening and intervention developed by Substance Abuse and Mental Health Services Administration.[54] Screening, brief intervention, and referral to treatment begins with the use of a validated screening tool to assess drug and alcohol use. Positive screens are followed by brief intervention consisting of a structured response ranging from expressing concern, providing information, and offering resources through evidence-based motivational interviewing by trained practitioners.[55,56] Many insurers offer reimbursement for screening, brief intervention, and referral to treatment outside of the maternity care bundled payment and providers should be aware of the necessary criteria to support appropriate documentation and billing.

Screen All Pregnant Women With Opioid and Other Substance Use Disorders for Commonly Occurring Medical and Psychosocial Comorbidities

All women with opioid use disorder should be screened for hepatitis C virus, human immunodeficiency virus (HIV), psychiatric disorders, and intimate partner violence (IPV) at least once during pregnancy.[57,58] If injection or intranasal drug use persists in pregnancy, hepatitis C virus and HIV screening should be repeated in the third trimester. Screening for co-occurring psychiatric disorders should incorporate validated screening tools such as the Edinburgh Postnatal Depression Scale and the Patient Health Questionnaire 9 and should occur during pregnancy and again in the postpartum period when underlying depression and anxiety are exacerbated and the risk of maternal morbidity increases.[59–62] Screening for IPV and trauma should be adopted in all maternity care settings as unidentified trauma symptoms (eg, difficulty sleeping, flashbacks) may be misdiagnosed, and unaddressed IPV will negatively affect recovery efforts.[32] Several brief, validated violence (ie, Abuse Assessment Screen, HITS Screening Assessment) and trauma (ie, Trauma Assessment for Adults, PTSD Symptom Scale) screening tools are available for clinical use.[63–66]

RESPONSE (EVERY PROVIDER, CLINICAL SETTING, AND HEALTH SYSTEM)

Identify a Lead Coordinator to Ensure That All Women With Opioid and Other Substance Use Disorders Receive Appropriate, Evidence-Based Care During Pregnancy and Postpartum

Care coordination among a multidisciplinary team of providers is necessary to provide comprehensive, evidence-based treatment for women with substance use disorders, particularly in health care systems where behavioral health is separated from physical and medical care services. To prevent gaps in care and minimize lapses in communication between providers, the care team should identify a "lead coordinator" or "patient navigator" who is responsible for care coordination and a clearly articulated communication strategy should be developed to facilitate coordination among providers. Although fully integrated health care models (ie, each component is provided separately) can provide complex services, many clinical settings may need to use either a coordinated or colocated model such as a patient-centered medical home, which uses a team of providers to address key components of care.[67,68]

One of the most critical care coordination roles for providers is to ensure that all pregnant women with opioid use disorder receive evidence-based treatment from programs that provide opioid pharmacotherapy with either methadone or buprenorphine, behavioral therapy, medical and community-based support services, and medication safety training. Although methadone and buprenorphine vary regarding pharmacology, treatment program structure, regional availability, and neonatal outcomes, providers should ensure that all patients receive the opioid pharmacotherapy option that best aligns with their personal preference, treatment history, and resource needs and develop referral mechanisms for all available options. Providers should also be knowledgeable of requirements for sharing drug and alcohol treatment information and obtain patient consent to share information across providers. In rural areas where treatment access is limited, provider training initiatives, such as Project ECHO (Extension for Community Health Outcomes), have been successfully used to train providers to prescribe buprenorphine.[69–71]

Collaborate With Local Child Welfare Officials to Develop Individualized "Plans of Safe Care" After Birth

The National Center on Substance Abuse and Child Welfare has identified best practices that reflect a coordinated, multisystem approach to support families affected by substance use.[72] Key elements of this coordinated approach, applicable as elements in a Plan of Safe Care, emphasize consistent hospital policies for screening pregnant women and their infants, using nonbiased criteria and transparency about hospital notifications to Child Protective Services, including assessments to help Child Protective Services workers evaluate risk, protective factors, and

safety concerns.[73] Patients and family members should also receive education early in pregnancy about the positive role that social services agencies, including Child Protective Services, can play in providing resources and interventions for both women and children after birth. Postdischarge care plans should include home visitation, early intervention services, and recovery supports and should be provided beyond the 6-week postpartum period to ensure the increased likelihood of family stability. The National Center on Substance Abuse and Child Welfare has complied a series of online resources including several Plan of Safe Care examples developed by state and local child welfare agencies which are available at https://ncsacw.samhsa.gov/resources/substance-exposed-infants.aspx.

REPORTING AND SYSTEMS LEARNING (EVERY HEALTH SYSTEM)

Develop Mechanisms to Collect Data and Monitor Process and Outcome Metrics

Mechanisms should be developed within health systems to longitudinally evaluate structure, process, and outcome metrics and compare these metrics across health systems and states. Many metrics can be extracted from hospital administrative and electronic health record data using diagnosis, procedure, and medical billing codes and, importantly, maternal and child records should be linked. A series of suggested measures have been developed for the bundle to help health systems monitor outcomes specific to opioid use during pregnancy with the understanding that individual settings may need to adapt these measures to local circumstances (Box 3).

Box 3. Suggested Structure, Process, and Outcome Measures for Obstetric Care for Women With Opioid Use Disorder (Limited Set*)

Structure Measures

- Percentage of maternity care settings that have implemented a universal screening protocol for substance use, including opioid use disorder
- Percentage of maternity care settings using postdelivery and discharge pain management prescribing practices for routine vaginal and cesarean deliveries focused on limiting opioid prescriptions
- Percentage of maternity care settings with specific pain management and opioid prescribing guidelines for pregnant women with opioid use disorder

Process Measures

- Percentage of women with opioid use disorder who receive medication-assisted treatment or behavioral health treatment during pregnancy
- Percentage of opiate exposed newborns receiving mother's milk at newborn discharge
- Percentage of opiate-exposed newborns who go home to biological mother

Outcome Measures

- Rate of opioid-related deaths during pregnancy and for 1 year postpartum among all mothers giving birth
- Percentage of newborns affected by maternal opiate use
- Percentage of newborns diagnosed with neonatal opioid withdrawal syndrome
- Average hospital length of stay for newborns with neonatal opioid withdrawal syndrome

Derived from Council on Patient Safety in Women's Health Care. National collaborative on maternal OUD. Metrics for the AIM Opioid bundle with notes and glossary. Available at: https://safehealthcareforeverywoman.org/national-collaborative-on-maternal-oud/#1543353616472-9211f6a9-df46. Retrieved June 21, 2019.

*Additional measures may be used to drive improvement efforts and examples are available at https://safehealthcareforeverywoman.org/patient-safety-bundles/obstetric-care-for-women-with-opioid-use-disorder/.

Create Multidisciplinary Case Review Teams for Patient, Provider and System-Level Issues

Multidisciplinary case reviews are an important way to evaluate the effectiveness of interventions created to improve patient safety.[74] Case review teams should be composed of obstetricians, nurse midwives, addiction medicine providers, pediatricians, anesthesiologists, nurses, and social services providers and should meet regularly to review clinical care processes, adverse maternal and neonatal events, and identify ways to continue to improve health system approaches to substance use care. The case review team should provide opportunities to debrief serious maternal (eg, respiratory depression, overdose) and neonatal (eg, accidental death, child removal cases) adverse events and perform root cause analyses to evaluate missed opportunities to link patients to treatment, offer risk reduction strategies and identify actionable ways to improve clinical pathways to eliminate or prevent future adverse events.

Identify Ways to Share Outcome Data With Non–Medical Community Stakeholders

Because the most profound effects of the opioid epidemic are often felt in community settings, health systems should engage state and community partners (eg, public health agencies, court systems, law enforcement, child welfare services) to combine data collection efforts, develop public service campaigns, and drive community level initiatives. For example, outcome data collected from health systems could be used to support local initiatives to expand treatment access or

shared with local criminal justice system officials (eg, legal advocates, judges) to educate nonmedical professionals about evidence-based interventions available to successfully manage and treat substance use disorders during pregnancy. Importantly, any data sharing efforts with community stakeholders must ensure patient privacy and confidentiality.

DISCUSSION

Substance use during pregnancy presents one of the greatest preventable threats to maternal and neonatal morbidity and mortality. To improve the quality and consistency of care at the patient-, provider-, and system-level, the Alliance for Innovation on Maternal Health has created a repository of resources including examples of staff education and training modules, prenatal, and postpartum clinical pathways, and suggested outcome metrics to help all maternity care settings incorporate evidence-based practices for women with opioid and other substance use disorders. This comprehensive list of resources is available at the Alliance for Innovation on Maternal Health website (https://safehealthcareforeverywoman.org/patient-safety-bundles/obstetric-care-for-women-with-opioid-use-disorder/) and will be continually updated to stay current with a rapidly changing landscape of evidence and interventions. Comprehensive adoption of this patient safety bundle has the potential to foster a compassionate, nonjudgmental approach to health care delivery, optimize patient safety, and ultimately, change the course of an epidemic.

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