

Caring for Children With Intrauterine Drug Exposure

Scope of the Problem

The 2016 National Survey on Drug Use and Health (2017) found that 6.3% of pregnant women had used illicit drugs in the past month, 8.3% had drunk alcohol, and 10.0% had smoked cigarettes. Although the percentage of pregnant women reporting alcohol and cigarette use declined between 2015 and 2016, the percentage reporting use of illicit drugs increased from 4.7%. Further, the number of women with opioid use disorder at labor and delivery quadrupled from 1999-2014 (Haight, Ko, Tong, Bohm, & Callaghan, 2018), and there was a fivefold increase in the proportion of babies born with neonatal abstinence syndrome (NAS), a withdrawal syndrome that occurs in opioid-exposed infants soon after birth, from 2000 and 2012 (Patrick, Davis, Lehmann, & Cooper, 2015).

Alcohol and drug use is an increasingly significant factor in removals of children from their homes by child protective service. An analysis of data from the National Child Abuse & Neglect Data System found that in the 10 states included in the study, child maltreatment reports of NAS among infants (<1 year) increased between 2004 and 2014, with the largest increase occurring between 2010 and 2014 (Lynch, Sherman, Snyder, & Mattson, 2018). Further, a study that linked maternal and infant hospital discharge records to infant CPS records in California found that of the 7,994 infants diagnosed with prenatal substance exposure, 61.2% were reported to child protective services before age 1 and almost a third (29.9%) were placed in foster care (Prindle, Hammond, & Putnam-Hornstein, 2018).

The number of women with opioid use disorder at labor and delivery quadrupled from 1999-2014.

Haight, Ko, Tong, Bohm, & Callaghan, 2018

The Impact of Drug Exposure on Children

The effects of drug exposure on the fetus vary depending on the stage of development at which exposure occurred, the specific drug used, and the frequency of use. The earlier in the pregnancy the exposure occurs, the more significant the effects can be. A technical report (2013) published in *Pediatrics* provided the following information on symptoms by drug type:

- Cocaine – may experience low birth weight, intrauterine growth retardation, microcephaly, neurological delay, and physical defects, especially involving the digestive system and kidneys;
- Methamphetamines - may be born addicted and suffer withdrawal symptoms that include tremors, involuntary muscle spasms, irritability, and feeding difficulties;
- Opioids - may have a higher risk of having low birth weight, congenital birth defects, and respiratory issues. Further, up to 75% of babies who are born to women addicted to heroin show signs of addiction themselves, going through often difficult withdrawal symptoms the first few days of life. Symptoms may include tremors, poor feeding ability, breathing issues, irritability, diarrhea, fever, and weight loss.

Costs Associated With NAS

NAS has significant monetary implications. Using Medicaid data from a nationally representative sample of hospital discharges in the United States, researchers found that hospital costs for NAS births increased

from \$65.4 million in 2004 to \$462 million in 2014, and that the proportion of neonatal hospital costs resulting from NAS increased from 1.6% to 6.7% during that same period (Winkelman, Villapiano, Kozhimannil, Davis, & Patrick, 2018). According to Texas Medicaid NICU data, the average cost associated with NAS per child was approximately \$30,000 in 2015, and the total cost was over \$28 million (Gaines & Ramirez, 2018).

Recommendation

Organize a task force that includes pediatricians, nurses, obstetricians/gynecologists, neonatologists, CPS stakeholders, and physical, occupational and speech therapists to identify and/or develop policies, procedures, and practices for screening for and treating NAS.

References

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Resources

Federal

- Neonatal Abstinence Syndrome: A Critical Role for Medicaid in the Care of Infants: <https://www.medicaid.gov/federal-policy-guidance/downloads/cib060818.pdf>
- Neonatal Abstinence Syndrome: <https://ncsacw.samhsa.gov/resources/opioid-use-disorders-and-medication-assisted-treatment/neonatal-abstinence-syndrome.aspx>

Associations

- Hudak, M.L., Tan, R.C., & Committee on Drugs, Committee On Fetus And Newborn, American Academy of Pediatrics. (2012). Clinical report: Neonatal drug withdrawal. *Pediatrics*, 129, e540–e560. <http://pediatrics.aappublications.org/content/129/2/e540>
- Innovative approaches to treating Neonatal Abstinence Syndrome: <http://www.astho.org/StatePublicHealth/Innovative-Approaches-to-Treating-Neonatal-Abstinence-Syndrome/7-31-18/>
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- Navigating Neonatal Abstinence Syndrome: <https://www.aap.org/en-us/about-the-aap/aap-press-room/campaigns/navigating-nas/Pages/default.aspx>

International

- World Health Organization. Guidelines for the Identification and Management of Substance Use and Substance Use Disorders in Pregnancy. Geneva, Switzerland: WHO Press; 2014. http://www.who.int/substance_abuse/publications/pregnancy_guidelines/en/

Existing Toolkits

- Vermont Oxford Network. QI implementation package for Neonatal Abstinence Syndrome. <https://public.vtoxford.org/neonatal-abstinence-syndrome-implementation-package/>
- Neonatal Abstinence Syndrome Toolkit for Pharmacists. Pediatric Pharmacy Association. <https://www.ppag.org/index.cfm?pg=NASToolkit>
- Minnesota Hospital Association. Neonatal Abstinence Syndrome (NAS) Toolkit. <https://www.mnhospitals.org/Portals/0/Documents/patientsafety/Perinatal/Neonatal%20Abstinence%20Syndrome%20Toolkit.pdf>

Research

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Policy

- American Congress of Obstetricians and Gynecologists. Toolkit on state legislation: Pregnant women & prescription drug abuse, dependence and addiction. Available at: <https://www.acog.org/-/media/Departments/Government-Relations-and-Outreach/NASToolkit.pdf>