Neonatal Abstinence Syndrome

A Hidden Public Health Emergency Rising from the Opioid Epidemic

NAVIGATING NAS

Opioids in Pregnancy[1,2]

Exposure can occur from:

- Proper use of clinician prescribed opioids for pain relief
- Misuse or abuse of prescription opioids
- Illicit use of heroin or nonpharmaceutical formulations of fentanyl
- Medication-assisted treatment (MAT) with methadone or buprenorphine for opioid use disorder (OUD)

333%
Increase in opioid use disorder in pregnant women from 1999 to 2014

0.7 per 1,000 delivery hospitalizations in **Washington D.C.**
48.6 per 1,000 delivery hospitalizations in **Vermont**
Substantial range of prevalence over 28 states in 2014

Maine
New Mexico
Vermont
West Virginia

Highest average annual rate increases of opioid use disorder

Neonatal Abstinence Syndrome (NAS)[2,3]

433%
Increase in NAS nationally in 10 years from 2004 to 2014 among all insurance payers

7x greater
NAS is increasingly and disproportionately affecting infants covered by Medicaid versus private insurance in 2014

Every 25 minutes
One NAS-affected infant born in the U.S. in 2012

Low birth weight
Respiratory difficulties
Feeding difficulties
Seizures
Co-morbidities more prevalent among infants with NAS in addition to withdrawal symptoms, prolonging hospital stays

Cost of NAS on Healthcare[3]

The disproportionate increase in NAS causes strain on Medicaid, as well as state and federal budgets

2.1 days
Mean length of hospital stay for term infant, 2012

16.9 days
Mean length of hospital stay for infant with NAS, 2012

$3,700
Mean cost of hospitalization for term infant, 2011-2014

$19,340
Mean cost of hospitalization for infant with NAS, 2011-2014

606%
Increase in cost of NAS paid by Medicaid from 2004 to 2014

$2.5 billion
Total hospital costs associated with care of infants with NAS enrolled in Medicaid, 2004-2014, over $2 billion more than if none of these infants had developed NAS

What Can You Do?[1,2,3]

Public health measures can help reduce NAS

- ✓ Promote responsible opioid prescribing
- ✓ Prevent opioid dependence before and during pregnancy
- ✓ Screen and treat during pregnancy
- ✓ Decrease unplanned pregnancies among opioid users
- ✓ Ensure access to family planning and preconception care for women who use opioids
- ✓ Arrange for pregnant OUD patients to deliver at facilities prepared to monitor and care for infants with NAS
- ✓ Standardize postnatal nonpharmacologic and pharmacologic treatments for infants with NAS
- ✓ Target interventions at low-income mothers and infants
- ✓ Multidisciplinary approach without criminalization

The **American Academy of Pediatrics** Clinical Reports, Technical Reports, and Policy Statements can help guide evidence-based care

- ✓ Neonatal Drug Withdrawal
- ✓ Prenatal Substance Abuse: Short- and Long-term Effects on the Exposed Fetus
- ✓ A Public Health Response to Opioid Use in Pregnancy

References

1. Haight SC, Ko JY, Tong VT, Bohn MK, Callaghan WM. Opioid use disorder documented at delivery hospitalization – United States, 1999-2014. *MMWR Morb Mortal Wkly Rep* 2018;67(31):845-9. doi: https://dx.doi.org/10.15585/mmwr.mm6731a1.

2. Ko JY, Woliki S, Barfield WD, Patrick SW, Broussard CS, Yonkers KA, Naimon R, Iskander J. CDC grand rounds: Public health strategies to prevent neonatal abstinence syndrome. *MMWR Morb Mortal Wkly Rep* 2017;66(9):242-5. doi: https://dx.doi.org/10.15585/mmwr.mm6609a2.

3. Winkelman TNA, Villapiano N, Kozhimannil KB, David MM, Patrick SW. Incidence and costs of neonatal abstinence syndrome among infants with Medicaid: 2004-2014. *Pediatrics* 2018;141(4):1-8. doi: https://dx.doi.org/10.1542/peds.2017-3520.