The Opioid Epidemic & Neonatal Abstinence Syndrome

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Biomedical Science Advisory Board
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The Opioid Epidemic: A Crisis Years in the Making

By Maya Salam  Oct. 26, 2017

Opioid epidemic 'getting worse instead of better,' public health officials warn

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Trump declares opioid crisis a public health emergency; critics say plan falls short

President Trump speaks at the White House on Thursday before signing a presidential memorandum to declare the opioid crisis a national public health emergency. (Jabin Botsford/The Washington Post)
ONLINE FIRST

Neonatal Abstinence Syndrome and Associated Health Care Expenditures
United States, 2000-2009

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Concept Neonatal abstinence syndrome (NAS) is a postnatal drug withdrawal syndrome primarily caused by maternal opiate use. No national estimates are available for the incidence of maternal opiate use at the time of delivery or NAS.

Objectives To determine the national incidence of NAS and antepartum maternal opiate use and to characterize trends in national health care expenditures associated with NAS between 2000 and 2009.

Design, Setting, and Patients A retrospective, serial, cross-sectional analysis of a nationally representative sample of newborns with NAS. The Kids’ Inpatient Database (KID)
Incidence of NAS in the US, 2000-2014


Tennessee #2 in US

Some states have more painkiller prescriptions per person than others.

Withdrawal risk: 3%

Immediate treatment, evaluation identical

Withdrawal risk: 50%
National Institute on Drug Abuse - K23

- **Goal:** Develop clinical prediction rule for NAS

Tennessee Medicaid 2009-2011
(n=112,029)
Birth certificates
Prescription, outpatient, inpatient claims
• >31,000 women prescribed opioids (96% immediate release)
• More likely to have co-occurring mental health disorders
• 2/3 of infants with NAS had mothers with legal prescriptions for an opioid
Smoking and SSRIs Increase Risk of NAS

*Results shown after adjustment for maternal age, education, race, infant sex, birthweight, year of birth, interaction drug type and cumulative opioid exposure (0.0002), interaction of number of cigarettes smoked per day and cumulative opioid exposure (p<0.001), drug type and number of cigarettes smoked per day."
Opioids

Pregnant Women

Newborns

State opioid control policies

Tailored Clinical Care

Accessing Treatment
Translating Evidence to Practice
NAS Quality Collaborative

Vermont Oxford Network
>1200 NICUs around the world engaged in quality improvement

In 2012-2015, 199 centers enrolled in a NAS-focused improvement collaborative
   Toolkit focused on understanding process
   Interactive webinar
   Digital communication
   Real time center-specific feedback
Improving Care for Neonatal Abstinence Syndrome

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Morbidity and Mortality Weekly Report


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• Tennessee
  • 1st state to make NAS publically reportable
  • Provides near real time data on NAS
  • Enables targeting of public health resources
Tennessee: Criminal Justice vs. Public Health

Safe Harbor Act of 2013

• “ensure that family-oriented drug abuse or drug dependence treatment is available”
• Treatment by 20th week -> No prosecution, no child removal just for history of drug misuse

Public Chapter 820

• A woman can be charged with a misdemeanor if she illegally uses narcotics during pregnancy and if the baby is harmed as a result (ex. Neonatal Abstinence Syndrome)
A Public Health Response to Opioid Use in Pregnancy

Stephen W. Patrick, MD, MPH, MS, FAAPI,b,c,d,e, Davida M. Schiff, MD, FAAPI,f, COMMITTEE ON SUBSTANCE USE AND PREVENTION

Future Steps

Improving Clinical Care

The Memorial Foundation/VUMC
Future Steps

- Improving Clinical Care
- Health Services Research

- KL2 - CTSA
- K23 - NIDA
- R01 - NIDA (Reviewed)
- R01, P50 (Not yet reviewed)
Future Steps

- Improving Clinical Care
- Health Services Research
- Dissemination
  
  Public engagement, TNDOH, FDA

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Preliminary Relationships

*Accounting for maternal age, infant sex, birthweight