THE OPIOID EPIDEMIC AND MCH POPULATIONS: A NATIONAL PERSPECTIVE

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What are opioids?

- Attach to opioid receptors in the brain and body

- What they do:
  - Reduce pain intensity
  - Affect brain areas that control emotion

- Other potential effects:
  - Drowsiness, mental confusion, nausea, constipation, respiratory depression, and euphoria
Types of Opioids

- **Prescription opioids:**
  - Common prescription opioids:
    - Hydrocodone (Vicodin®, Lortab®)
    - Oxycodone (OxyContin®, Percocet®, Roxicet®)
    - Morphine (Kadian®, Avinza®, MS Contin®)
    - Codeine (Pyregesic-C®, Tylenol® with Codeine)
  - Commonly prescribed for:
    - Cancer, surgical procedures (before and after), injury-related pain, dental pain, cough, and severe diarrhea
  - Medication-Assisted Treatment (e.g., methadone, buprenorphine)

- **Illicit substances:**
  - Heroin
THE PROBLEM
Overprescribing Practices in the United States

Health care providers wrote 259 million prescriptions for painkillers in 2012, enough for every American adult to have a bottle of pills.

www.cdc.gov/vitalsigns
Overprescribing Practices in the US

Some states have more painkiller prescriptions per person than others.

Number of painkiller prescriptions per 100 people

- 52-71
- 72-82.1
- 82.2-95
- 96-143

SOURCE: IMS, National Prescription Audit (NPA™), 2012.

http://www.cdc.gov/drugoverdose
Opioid Prescription Claims among Women of Reproductive Age

Women aged 15-44 years who filled a prescription for an opioid medication, 2008-2012

Drug Overdose Deaths Among Women

Every 3 minutes, a woman goes to the emergency department for prescription painkiller misuse or abuse.

http://www.cdc.gov/drugoverdose
Emergency Department (ED) Visits

![Bar graph showing the number of emergency department visits by women of different age groups.](http://www.cdc.gov/drugoverdose)
THE RISKS
Opioids and Pregnancy

- 14%-22% of pregnant women fill a prescription for an opioid

- Nearly 50% of U.S. pregnancies are unintended

- 86% of pregnancies are unintended among women who abuse opioids

- Unintentional exposures to opioids during early pregnancy
Opioid Abuse and Dependence Among Pregnant Women

Opioid abuse or dependence per 1,000 deliveries, overall and by age in the U.S., 1998–2011

Birth Defects

- Critical:
  - Can affect almost any part of the body
  - May affect how the body looks, works, or both
  - Leading cause of death during the first year of life in the U.S.

- Costly:
  - ~$2.6 billion spent each year in total hospital costs

http://www.cdc.gov/ncbddd/birthdefects
Maternal Opioid Use and Risk for Birth Defects

- Linked to:
  - Congenital heart defects
  - Neural tube defects (defects of the brain and spine)
  - Gastroschisis (defect of the abdominal wall)


Neonatal Abstinence Syndrome (NAS)

- Serious withdrawal syndrome
- Primarily affects newborns exposed to opioids during pregnancy
- Signs and symptoms:
  - Tremors
  - Irritability
  - High-pitched crying
  - Increased muscle tone
  - Hyperactive deep tendon reflexes
  - Seizures
  - Poor feeding
  - Gastrointestinal tract dysfunction


Increase in NAS Diagnoses

Dramatic Increases in Maternal Opioid Use and Neonatal Abstinence Syndrome

The use of opioids during pregnancy can result in a drug withdrawal syndrome in newborns called Neonatal Abstinence Syndrome (NAS), which causes lengthy and costly hospital stays. According to a new study, an estimated 21,732 babies were born with this syndrome in the United States in 2012, a 5-fold increase since 2000.

Every 25 minutes, a baby is born suffering from opioid withdrawal.

Average length or cost of hospital stay

<table>
<thead>
<tr>
<th></th>
<th>With NAS</th>
<th>Without NAS</th>
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<tbody>
<tr>
<td>Length (days)</td>
<td>2.1</td>
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<td>Cost (2012)</td>
<td>$23,500</td>
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Source: Patrick et. al., JAMA 2012, Patrick et. al, Journal of Perinatology 2015

National Institute on Drug Abuse; National Institutes of Health; U.S. Department of Health and Human Services.
Increase in NAS Diagnoses

**Dramatic Increases in Maternal Opioid Use and Neonatal Abstinence Syndrome**

The use of opioids during pregnancy can result in a drug withdrawal syndrome in newborns called neonatal opioid withdrawal syndrome, which causes lengthy and costly studies. An estimated 21,732 babies were born to mothers in the United States in 2012, a 5-fold increase in NAS diagnoses from 2002.

**Every 25 A Baby is Born From OPIOID USE**

**Average Length or Cost of Hospital Stay**

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Increase in NAS Diagnoses

Dramatic Increases in Maternal Opioid Use and Neonatal Abstinence Syndrome

The use of opioids during pregnancy can result in a drug withdrawal.

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NAS and Maternal Opioid Use on the Rise

Source: Patrick et al., JAMA 2012, Patrick et al., Journal of Perinatology 2015

TREATING for TWO

National Institute on Drug Abuse; National Institutes of Health; U.S. Department of Health and Human Services.
Should mothers who use prescription opioids breastfeed?

- **Potential benefits:**
  - Decreased NAS intensity
  - Decreased NAS severity
  - Decreased need for pharmacologic treatment

- **Current recommendations:**
  - “When possible, and if not otherwise contraindicated, mothers who adhere to a supervised drug treatment program should be encouraged to breastfeed so long as the infant continues to gain weight.”

Other Complications of Prenatal Opioid Exposure

- Miscarriage
- Premature rupture of membranes (rupture of the amniotic sac)
- Preeclampsia (high blood pressure and protein in the urine after the 20th week of pregnancy)
- Abruptio placentae (separation of placenta from uterus wall)
- Stillbirth
- Preterm birth
- Low birth weight
- Sudden infant death
WHAT CAN BE DONE?
Three Pillars of CDC’s Work to Reverse the Prescription Drug Overdose Epidemic

- **Improve data** quality and track trends
- **Strengthen state efforts** by scaling up effective public health interventions
- **Supply healthcare providers with resources** to improve patient safety
Guideline for Prescribing Opioids for Chronic Pain

Outside of Active Cancer, Palliative, and End-of-life Care

Primary Care

Before initiating opioid therapy for chronic pain for reproductive-aged women, discuss family planning and how long-term opioid use might affect any future pregnancy.

Carefully weigh risks and benefits with pregnant patients when making decisions about whether to initiate opioid therapy.

For pregnant women with opioid use disorder, medication-assisted therapy with buprenorphine (without naloxone) or methadone has been associated with improved maternal outcomes and should be offered

- Access appropriate expertise if considering tapering opioids during pregnancy because of possible risk to the patient and fetus (e.g., spontaneous abortion and premature labor) if the patient goes into withdrawal
- Arrange for delivery at a facility prepared to evaluate and treat neonatal abstinence syndrome

Excerpts from CDC Recommendations: Providers for Pregnant Women

Prescription Drug Monitoring Programs (PDMPs)

- State-based databases of controlled prescription drugs dispensed by pharmacies
- Currently in 49 states (not Missouri)
- Contain critical clinical data that can help
  - Identify patients at risk for opioid-related overdoses
    - On high total doses, receiving from multiple sources
  - Inform providers of other medications the patient is receiving that may interact with those prescribed
  - Identify patients struggling with opioid use disorder

pdmpexcellence.org/sites/all/pdfs/COE_briefing_mandates_2nd_rev.pdf
CDC’s prescription: Treating for Two

- **Expand research to fill knowledge gaps**
  - Accelerate epidemiologic research into medication use and pregnancy outcomes

- **Evaluate evidence to facilitate reliable guidance**
  - Establish ongoing systematic review of evidence and expert body to translate into summary guidance

- **Deliver information to support decision making**
  - Disseminate up-to-date, clinically relevant information to prescribers, pharmacists, and consumers

http://www.cdc.gov/pregnancy/meds/treatingfortwo
Public Health Impact of Improved Preconception Health Care and Appropriate Opioid Prescribing

**Patients**
- Optimal treatment before pregnancy and healthier babies

**Pharmacists**
- More effective consumer counseling

**Prescribers**
- Responsible patient care (e.g., pain management)

**CDC and Health Departments**
- Improved ability to decrease misuse of prescription drugs
The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.