Care for Mothers with Opioid Use Disorder: Introducing the National Safety Bundle

Elliott Main, MD
Medical Director, CMQCC

Cathie Markow, RN MBA
Administrative Director, CMQCC
For Perspective, let’s Compare Drug-related Deaths to Other Public Health Epidemics…
Drug Overdose Deaths Are Outpacing Other Public Health Epidemics

Drug overdose deaths per year compared to past epidemic death peaks.

- Car crashes (1972)
- HIV (1995)
- Firearm homicide peak (1993)
- Drug overdoses

Source: CDC, NHTSA

The Huffington Post
Multiple Drugs are Involved

Drugs Involved in U.S. Overdose Deaths, 1999 to 2017

- Synthetic Opioids other than Methadone, 29,406
- Heroin, 15,958
- Natural and semi-synthetic opioids, 14,958
- Cocaine, 14,556
- Methamphetamine, 10,721
- Methadone, 3,295
Drug-related Pregnancy-Associated Mortality: Illinois

Drug-related Pregnancy-Associated Mortality: Massachusetts

Percent of Pregnancy-Associated Deaths Related to Substance Use by Year

Preliminary Data from Massachusetts DPH, Courtesy Dr. Ronald Iverson
Most Substance-Use Associated Pregnancy Mortality is After Delivery

Percent of Pregnancy-Associated Deaths Related to Substance Use by Time Period

- Pregnancy: 2.4% (Substance use-related deaths), 6.0% (All pregnancy-associated deaths)
- 0–<7 days postpartum: 2.4%, 20.1%
- 7–<42 days postpartum: 4.9%, 14.1%
- 42–<365 days postpartum: 90.2%, 59.8%

Preliminary Data from Massachusetts DPH, Courtesy Dr. Ronald Iverson
Causes of Pregnancy-Associated Deaths, from the Death Certificate*, California Residents, 2002-2007 (N=1,059)

*prior to case review
Geography of Opioid Overdose Deaths

2016 data

NIH-NIDA: https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state
Geography of Opioid Overdose Deaths

Same regions have the highest maternal opioid use and NAS
NAS Incidence Rates (2005-2016)
Buprenorphine-Prescriber Locations
OUD Treatment Facilities Offering Pregnancy Services, by County

NAS Incidence Rates (2005-2016): Northern California Counties
Total Livebirths* in Counties Served by Partnership HealthPlan

*By county of residence, from CMQCC MDC based on CDPH preliminary Birth Data

<table>
<thead>
<tr>
<th>County</th>
<th>2017 Live Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>Del Norte</td>
<td>242</td>
</tr>
<tr>
<td>Humboldt</td>
<td>1,308</td>
</tr>
<tr>
<td>Lake</td>
<td>730</td>
</tr>
<tr>
<td>Lassen</td>
<td>246</td>
</tr>
<tr>
<td>Marin</td>
<td>2,176</td>
</tr>
<tr>
<td>Mendocino</td>
<td>928</td>
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<tr>
<td>Modoc</td>
<td>25</td>
</tr>
<tr>
<td>Napa</td>
<td>1,262</td>
</tr>
<tr>
<td>Shasta</td>
<td>1,910</td>
</tr>
<tr>
<td>Siskiyou</td>
<td>330</td>
</tr>
<tr>
<td>Solano</td>
<td>4,740</td>
</tr>
<tr>
<td>Sonoma</td>
<td>4,526</td>
</tr>
<tr>
<td>Trinity</td>
<td>118</td>
</tr>
<tr>
<td>Yolo</td>
<td>2,232</td>
</tr>
<tr>
<td>Total</td>
<td>21,148</td>
</tr>
</tbody>
</table>
National OB Safety Bundles

- Council on Patient Safety in Women’s Health Care
  - Every professional organization involved with women’s healthcare (ACOG, AWHONN, ACNM, AAFP, etc)

- Produces multi-disciplinary OB safety bundles:
  - Obstetric Hemorrhage, Hypertension, Prevention of VTE, Prevention of Primary Cesarean Birth
  - Published simultaneously in multiple society journals

- All have similar structure:
  - Readiness: Every clinical setting
  - Recognition and Prevention: Every woman
  - Response: Every woman with Opioid Use Disorder
  - Reporting/System learning: Every clinical setting
Obstetric Care for Women with Opioid Use Disorder

- Released August 2017
- Commentary In Press
- Implemented Nationally by AIM (Alliance for Innovation on Maternal Health)
- National Collaborative is generating more support materials

**Ready-ness**

- **Every patient/family**
  - Provide education to promote understanding of opioid use disorder (OUD) as a chronic disease.
  - Emphasize that substance use disorders (SUDs) are chronic medical conditions, treatment is available, family and peer support is necessary and recovery is possible.
  - Emphasize that opioid pharmacotherapy (i.e. methadone, buprenorphine) and behavioral therapy are effective treatments for OUD.
  - Provide education regarding neonatal abstinence syndrome (NAS) and newborn care.
  - Awareness of the signs and symptoms of NAS
  - Interventions to decrease NAS severity (e.g. breastfeeding, smoking cessation)
  - Engage appropriate partners (i.e. social workers, case managers) to assist patients and families in the development of a “plan of safe care” for mom and baby.

- **Every clinical setting/health system**
  - Provide staff-wide (clinical and non-clinical staff) education on SUDs.
  - Emphasize that SUDs are chronic medical conditions that can be treated.
  - Emphasize that stigma, bias and discrimination negatively impact pregnant women with OUD and their ability to receive high quality care.
  - Provide training regarding trauma-informed care.
  - Establish specific prenatal, intrapartum and postpartum clinical pathways for women with OUD that incorporate care coordination among multiple providers.
  - Develop pain control protocols that account for increased pain sensitivity and avoidance of mixed agonist-antagonist opioid analgesics.
  - Know state reporting guidelines regarding the use of opioid pharmacotherapy and identification of illicit substance use during pregnancy.
AIM OB OUD Bundle Goals

- **Improve** identification and care of women with OUD through screening and linkage to treatment
- **Optimize** Medical Care of Pregnant Women with OUD
- **Increase** access to MAT for pregnant and postpartum women with OUD
- **Prevent** opioid use disorder by reducing the number of opioids prescribed for deliveries
- **Optimize** the care of Opioid Exposed Newborns by improving maternal engagement in infant management (maintain the mother-infant dyad)
First Step: Form a Local Team

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.

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 co-morbidities (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

Bundle Implementation Guide is Very Helpful

Pregnant Women are the group with the greatest engagement for treatment and behavior change
Provide clinical and non-clinical staff education on SUDs

- SUDs are chronic medical conditions.
- Stigma, bias and discrimination negatively impact pregnant women with OUD.
- Provide training regarding trauma-informed care.

Trauma-Informed Care

- Understand the neurobiology of trauma
- Recognize the signs and symptoms of trauma in patients and families
- Screen for physical and sexual violence
- Coordinate care with behavioral health/psychiatric care teams
- Prevent re-traumatization
Learn the Resources Available in Your Community

- Case Mgmt
- Mental Health Team
- Obstetric Care Team
- Primary Care
- Peer Support
- OUD Specialist

Patient
## Identify local SUD treatment facilities
- Provide women-centered care.
- Wrap-around services such as housing, child care, transportation and home visitation.
- Drug and alcohol counseling.

## Know
- State reporting guidelines regarding the use of opioid pharmacotherapy and identification of illicit substance use during pregnancy.
- Federal, state and county reporting guidelines for substance-exposed infants.
- Understand “Plan of Safe Care” requirements.

## Develop pain control protocols
- Account for increased pain sensitivity and avoidance of mixed agonist-antagonist opioid analgesics.
- Order sets.
- Remove agonist/antagonists from Pyxis.
For OUD Patient and family

**OUD education**
- Medication Assisted Therapy (MAT) and behavioral therapy is recommended.
- Family and peer support is necessary.
- Recovery is possible.

**NAS education**
- Signs/symptoms of NAS.
- Neonatal consult pre-delivery.
- Plan for breastfeeding.
- Plan for rooming in.
- Eat Sleep Console
MAT Reduces Maternal Overdoses

Opioid Overdose Rates Among MA Mothers with Evidence of OUD in Year Prior to Delivery by Receipt of Treatment, 2011-2015
n = 4,154 Deliveries

Preliminary Data from Massachusetts DPH, Courtesy Dr. Ronald Iverson
For OUD Patient and family

- Develop a “plan of safe care” for mom & baby

  - Child Abuse Prevention and Treatment Act (CAPTA)
  - Ensure the safety and well-being of infants affected by substance use following release from health care providers.
### RECOGNITION & PREVENTION

#### Assess all pregnant women for SUDs
- Drug and alcohol use.
- Screening, Brief Intervention and Referral to Treatment (SBIRT)
- Screen for polysubstance use among women with OUD.

#### Screening Tools
- Many options—no strong evidence that one is best
- 4P+ or 5 P’s are among the most common
- **SBIRT**: Screening, Brief Intervention, Refer to Treatment
The 5 P’s

- Parents
- Peers
- Partner
- Past
- Present
Screening, Brief Intervention Refer to Treatment

For pregnant women with an opioid use disorder, *opioid agonist pharmacotherapy is the recommended therapy and is preferable to medically supervised withdrawal because withdrawal is associated with high relapse rates*, which lead to worse outcomes. More research is needed to assess the safety (particularly regarding maternal relapse), efficacy, and long-term outcomes of medically supervised withdrawal.
All patients with OUD are enrolled in a woman-centered OUD treatment program

- Establish clinic relationships.
- Link to local resources that support recovery.

Incorporate key counseling, education and resources into care pathways

- Breastfeeding and lactation support.
- Immediate postpartum contraceptive (LARC) options.
- Pain management strategies
- Infant care
Breastfeeding and Childcare Resources

### RESPONSE

<table>
<thead>
<tr>
<th>Coordinate among providers during pregnancy, postpartum and the interconception period</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Referrals to providers for co-morbid conditions.</td>
</tr>
<tr>
<td>▪ Lead provider responsible for care coordination.</td>
</tr>
<tr>
<td>▪ Communication strategy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Engage child welfare services</th>
</tr>
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<tbody>
<tr>
<td>▪ Develop safe care protocols tailored to the patient and family’s OUD treatment and resource needs.</td>
</tr>
<tr>
<td>Develop mechanisms to collect data and monitor process and outcome metrics</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| ▪ Inpatient and outpatient  
▪ Data dashboard measures  
  – Outcome  
  – Process |
| Create multidisciplinary case review teams |
| ▪ Evaluate patient, provider and system-level issues. |
| Develop learning opportunities for providers and staff |
| ▪ Use data and events to educate teams |
AIM OPIOID Measures

- **Outcome Measures**
  - Pregnancy Associated Opioid Deaths (state data)
  - Average length of stay for newborns with Neonatal Abstinence Syndrome (NAS)

- **Process Measures**
  - Percent of women with OUD during pregnancy who receive medication assisted treatment MAT or behavioral health treatment
  - Percent of OEN receiving mother’s milk at newborn discharge
  - Percent of OEN who go home to biological mother
AIM OPIOID Measures

Structure Measures

- Has your hospital implemented a universal screening protocol for OUD?
- Percent of affiliated Prenatal Care Sites which have implemented a universal screening protocol for OUD
- Has your hospital implemented post-delivery and discharge pain management prescribing practices for routine vaginal and cesarean births focused on limiting opioid prescriptions?
- Has your hospital implemented specific pain management and opioid prescribing guidelines for OUD patients?
Links to Key Resources


- National AIM Collaborative on OUD Implementation Resources: **GREAT STUFF** https://safehealthcareforeverywoman.org/national-collaborative-on-maternal-oud/oud-resources/
RESOURCES

AIM Opioid Collaborative Chart

A visual aid linking opioid collaborative goals to corresponding key drivers, interventions, resource links, and metrics. Click here.

AIM Opioid Implementation Guide

AIM Opioid Screening Tool Chart

AIM Neonatal Abstinence Syndrome Slides

AIM Screening Slides

AIM “Questions for States to Consider”

AIM Opioid Use Disorder Chart Checklist

AIM Opioid Metrics

Additional Resources
<table>
<thead>
<tr>
<th><strong>Bundle Implementation Guide</strong></th>
<th>Obstetric Care of Women with Substance Use Disorder</th>
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CMQCC Maternal Data Center

Rapid-cycle data: metrics available within 45 days after every month

Links over 1,000,000 mother/baby records each year!
MDC Navigation to Hospital Opioid Data

Hospital Statistics

- May 2018 Live Births: 147
- YTD Live Births: 655

Demographic Statistics
Delivery Statistics
Comorbidity and Complications Statistics
Baby/Prematurity Statistics
Utilization Statistics
CCS Report

Baby/Prematurity Statistics

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
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<tbody>
<tr>
<td>5 Minute APGAR &lt;7</td>
<td>Newborns with 5-minute Apgar score &lt;7</td>
</tr>
<tr>
<td>&lt;2500g Rate</td>
<td>Percent births &lt;2500g</td>
</tr>
<tr>
<td>Newborn Drug Withdrawal and Exposure</td>
<td>Newborns affected by maternal drug addiction or neonatal withdrawal symptoms</td>
</tr>
<tr>
<td>Total Preterm Birth Rate</td>
<td>Percent of births &lt;37wk gestational age</td>
</tr>
<tr>
<td>Late Preterm Birth Rate</td>
<td>Percent of births 34/0–36/6 wk gestational age</td>
</tr>
<tr>
<td>NICU Admission among Inborns</td>
<td>Inborn Newborns admitted to the NICU or Transferred to Higher Level of Care</td>
</tr>
<tr>
<td>Preterm Birth Components</td>
<td>Percent of preterm births by plurality and gestational age</td>
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</table>
Which ICD Codes in the California Maternal Data Center Represent NAS and/or Infant Exposure?

<table>
<thead>
<tr>
<th>ICD-10</th>
<th>Comments*</th>
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<tbody>
<tr>
<td>P96.1</td>
<td>Neonatal withdrawal symptoms from maternal use of drugs of addiction</td>
</tr>
<tr>
<td></td>
<td>High sensitivity/specificity for clinically diagnosed NAS. Widely used and validated by Vanderbilt and others.</td>
</tr>
<tr>
<td>P96.2</td>
<td>Withdrawal symptoms from therapeutic use of drugs in newborn</td>
</tr>
<tr>
<td></td>
<td>Most commonly used for NAS related to antidepressants or other therapeutic uses of meds and for iatrogenic withdrawal that occurs after treatment in a NICU.</td>
</tr>
<tr>
<td>P04.41</td>
<td>Newborn affected by maternal use of cocaine</td>
</tr>
<tr>
<td></td>
<td>Newborns are affected by cocaine toxicity, but less likely to have withdrawal symptoms</td>
</tr>
<tr>
<td>P04.49</td>
<td>Newborn affected by maternal use of other drugs of addiction (RETIRED IN OCT 2018 AND REPLACED WITH MORE SPECIFIC CODES)</td>
</tr>
<tr>
<td></td>
<td>Mostly indicates opioids and mostly represents exposure but not withdrawal. If trying to capture all babies exposed, need to also look at the maternal record and use opioid use/dependency code series: F11.xx</td>
</tr>
<tr>
<td>P04.14</td>
<td>Newborn affected by maternal use of opiates (new in October 2018)</td>
</tr>
<tr>
<td></td>
<td>Represent exposure but not withdrawal, as above.</td>
</tr>
</tbody>
</table>
MDC Hospital View: Newborns Affected by Maternal Drug Addiction or Neonatal Withdrawal Symptoms

Start Date: 06/01/2015

Frequency: Quarterly

Graph showing the percentage of newborns affected by different causes of drug withdrawal and exposure from Q3 2015 to Q4 2017. The causes include Newborn Opiate Withdrawal Syndrome (NAS), Newborns Affected by Cocaine, Newborn Affected by Other Drugs of Addiction, and Newborn Iatrogenic Withdrawal Symptoms.
Regions: Newborns Affected by Maternal Drugs--2017

- Central San Joaquin Valley - Sierra Nevada RPPC (25) 1.64%
- Central-North LA-Coastal Valley RPPC (40) 0.80%
- Kaiser North RPPC (16) 0.39%
- Kaiser South RPPC (14) 0.33%
- Los Angeles-San Gabriel-Inland Orange RPPC (19) 0.77%
- Mid-Coastal RPPC (20) 0.80%
- North Coast East Bay RPPC (33) 1.20%
- Northeastern RPPC (34) 2.48%
- San Diego/Imperial RPPC (18) 0.84%
- South Coastal LA-Orange RPPC (19) 0.85%
- Southern Inland Counties RPPC (28) 1.75%

Legend:
- Newborn Opiate Withdrawal Syndrome (NAS)
- Newborns Affected by Cocaine
- Newborn Affected by Other Drugs of Addiction
- Newborn Iatrogenic Withdrawal Symptoms

Newborn Drug Withdrawal and Exposure
Regions: NAS--2017

Newborn Opiate Withdrawal Syndrome (NAS)