Opioid Use Disorder and Pregnancy

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SLIDES ADAPTED FROM

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Objectives

- Review pregnancy complications associated with opioid use disorder
- Discuss best practices for treatment of OUD in pregnancy
- Understand the basics of neonatal opioid withdrawal syndrome (NOWS)

Disclosures

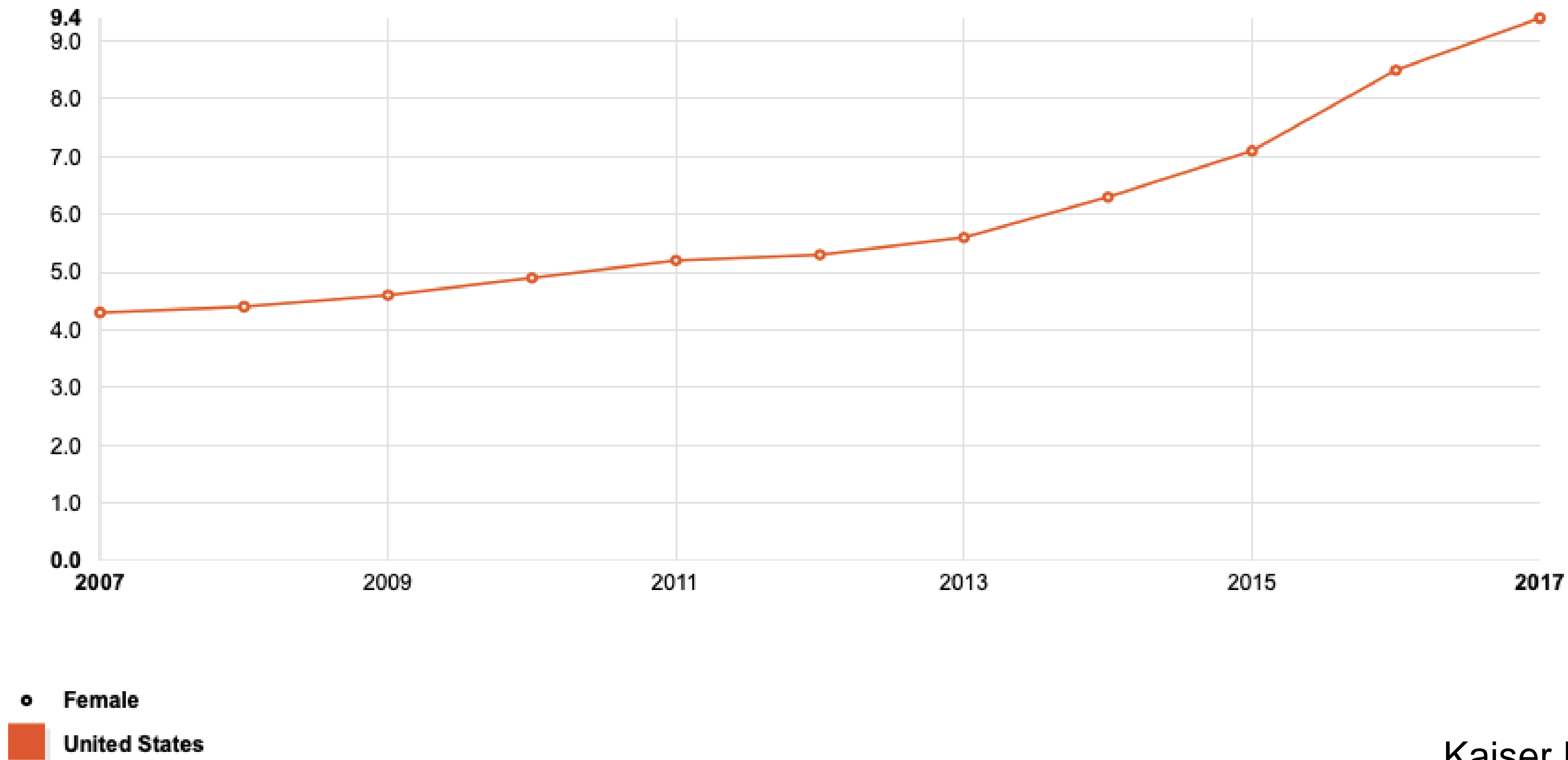
- Neither Dr. Cresta Jones nor Drs. Kurt DeVine and Heather Bell have any financial disclosures

Opioid Use Disorder

- ✓Opioids taken in larger amounts, over longer time than intended
- ✓Persistent desire or unsuccessful attempts to obtain, use, or recover from effects
- ✓Craving, or strong desire to use opioids
- ✓Recurrent use causes failure to fulfill major role obligations
- ✓Continued use despite persistent/recurrent social or interpersonal problems
- ✓Important activities given up/reduced because of use
- ✓Recurrent use in physically hazardous situations
- ✓Continued use despite knowledge of problems caused or exacerbated by opioids

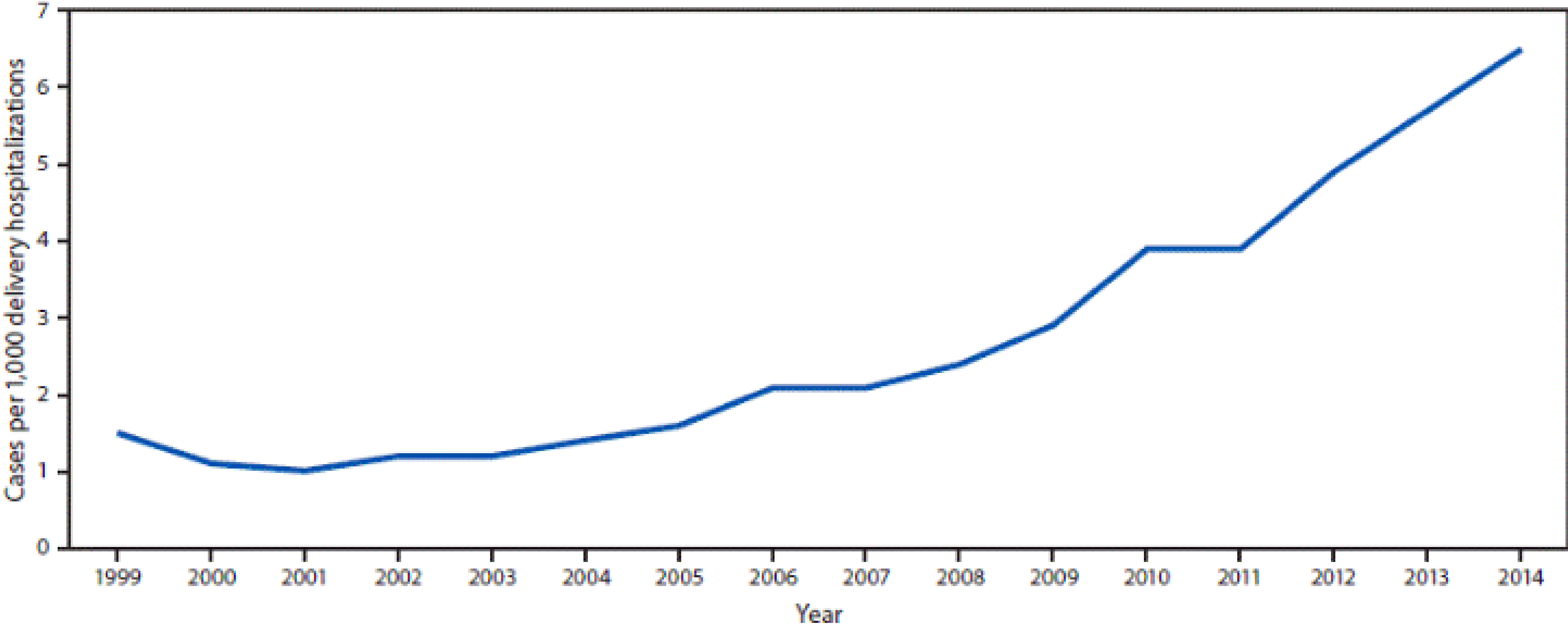
DSM-V, APA, 2013

Fatal Opioid Overdose – Women, U.S.

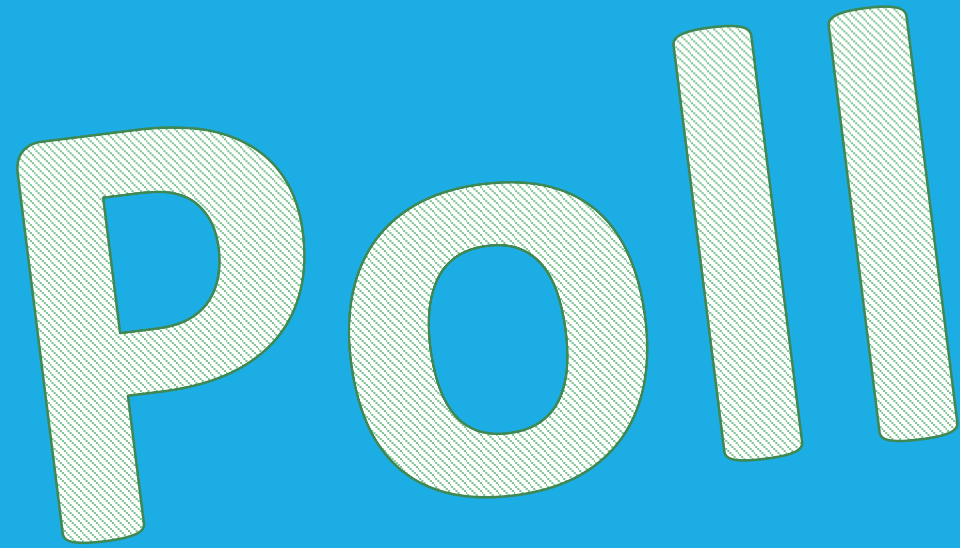


Kaiser Family Foundation, accessed 3/2019

Prevalence of OUD/1,000 delivery hospitalizations, U.S.



Haight, 2018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Maternal Complications

Infectious exposure – sexually transmitted infections (increase syphilis), hepatitis C, HIV, endocarditis, osteomyelitis, cellulitis, sepsis

Injury, overdose, death

Obstetric - preterm labor, placental abruption

Fetal/Neonatal Complications

Fetal growth restriction – preterm birth, stillbirth

Preterm delivery – neurological, physical complications, death

Trans-placental/peri-partum infection- syphilis, HIV, hepatitis B/C

Neonatal opioid withdrawal syndrome (NAS, NOWS)

Towers 2019

Benefits of Treatment in Pregnancy

- Prevent withdrawal symptoms, cravings.
- Decrease relapse risk
  - → Decrease injection drug use (decreased infection risk).
  - → Decrease in associated risky behaviors.
- Improve adherence with prenatal care, addiction treatment.
- Reduce risk of obstetric complications.

ACOG 2017, Jones 2008

Treatment in Pregnancy

- **Medication-assisted treatment (MAT) - *recommended***
  - Methadone, buprenorphine

- **Alternative MAT –*continued with counseling***
  - Buprenorphine/naloxone, naltrexone

- **Non-MAT treatment – *not recommended***
  - Detoxification/Abstinence

“**Opioid agonist pharmacotherapy is the recommended therapy** …preferable to medically supervised withdrawal because withdrawal is associated with high relapse rates, which lead to worse outcomes.”

-ACOG

“ A pregnant woman with OUD should be offered…**methadone or buprenorphine.**”

-SAMHSA

ACOG, 2017, NICHD 2017

Methadone

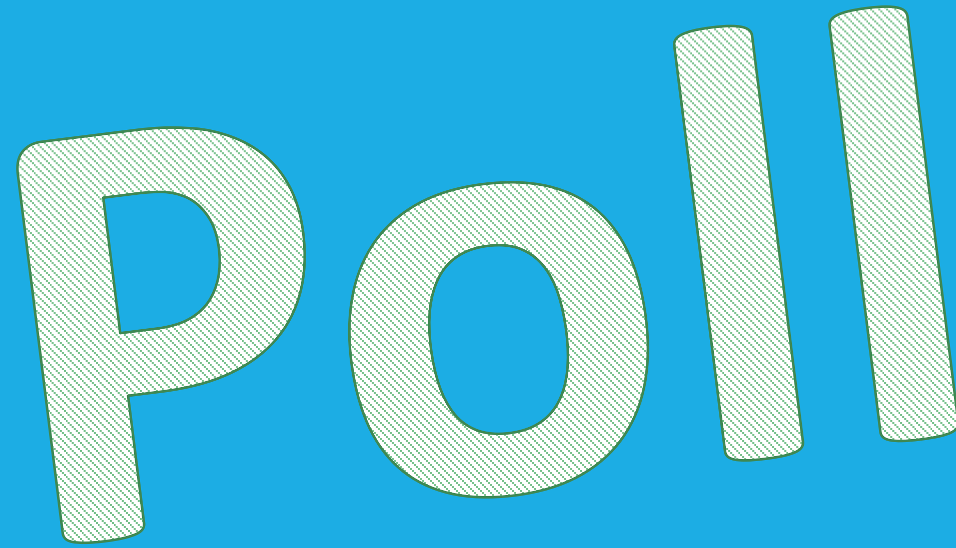
- **Full opioid agonist - mu receptor**
- **Advantages:**
  - Established pregnancy/breastfeeding safety
  - Reduce cravings - opioids, cocaine
  - Long duration
  - Higher treatment retention
  - Reduces obstetric and fetal complications (fetal growth restriction, infection, limited prenatal care, preterm birth)

Jones 2012

Methadone

- **Disadvantages**
  - Prolonged time to stable dose
  - Significant overdose risk
  - Daily treatment at opioid treatment program (OTP)
  - Longer, more severe neonatal withdrawal
  - Pure agonist - will not block other opioids

Wiegand 2015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Methadone Dosing and Clinical Pearls

- **Stable methadone before pregnancy → new withdrawal symptoms**
- **Increased metabolism, volume of distribution → dosage increase**
  - Try split dosing!
  - Can occur at any point in pregnancy
- **Higher dose may be preferable for optimal care**
  - ≥ 60 mg of methadone - more likely to remain in treatment

Wilder 2017

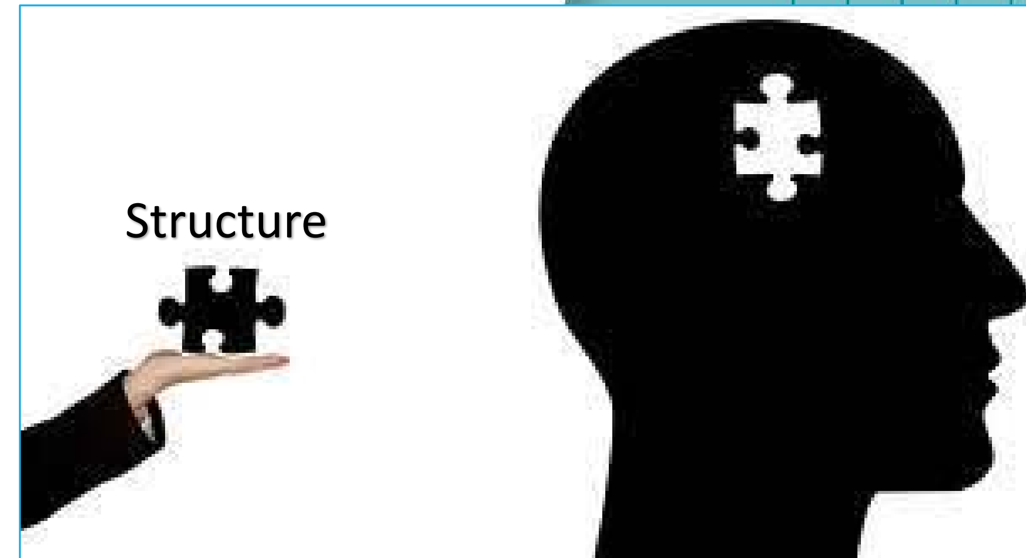
Buprenorphine (Subutex)

- **Partial agonist/antagonist**
- **Sublingual tab/film, monthly injectable, 6 month implant (non-US)**
- **Advantages:**
  - Established pregnancy/breastfeeding safety
  - Lower overdose risk
  - Fewer drug interactions
  - Office-based treatment
  - Shorter, less severe neonatal withdrawal
  - Blocks other opioid effects
  - Long acting formulations

Wiegand 2015, Zedler 2016

Buprenorphine (Subutex)

- **Disadvantages:**
  - Limited data - long term childhood outcomes
  - Clinical withdrawal symptoms required before starting
    - Risk of precipitated withdrawal
  - Lower treatment retention
  - Less success with polysubstance use disorders
  - Less structured environment
    - Some patients need more structure



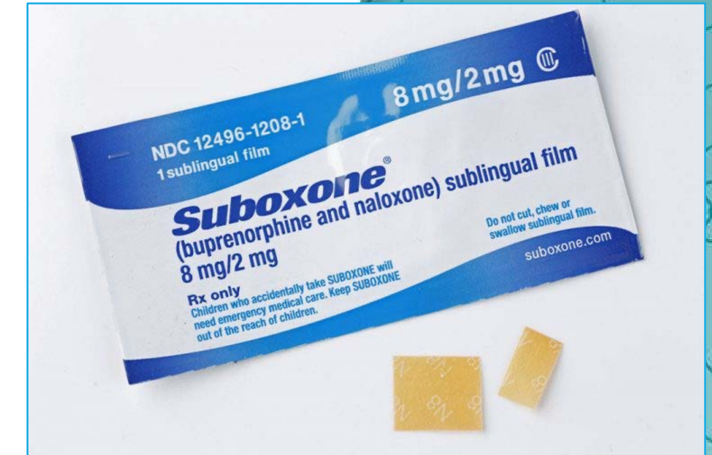
Jones 2012

Buprenorphine Dosing and Clinical Pearls

- **Dosing: May need increase**
- **Diversion is real -**
  - Buprenorphine can be injected, snorted
  - Pregnant patients may feel pressured to share /sell their medication
  - Patient may have more medication on hand
  - Buprenorphine diversion - often used to treat withdrawal in family, friends
- **Now considered a second "gold standard" for pregnancy treatment**

Buprenorphine-Naloxone (Suboxone)

- **Naloxone minimally absorbed with correct use**
- **Advantages:**
  - Decreased diversion/misuse
  - Improved insurance coverage
- **Disadvantages:**
  - Limited data
  - Prescriber training recommends change to monotherapy
- **SAMSHA expert panel:**
  - Continue/initiate with individual benefit-risk discussion.



ACOG 2017, SAMSHA 2018

Naltrexone (Vivitrol)

- **Opioid antagonist**
- **Pill, monthly injection, 5-6 month implant (not US)**
- **Advantages:**
  - Reduce cravings, reduce overdose
  - Minimal misuse/diversion
  - Office based delivery
- **Disadvantages:**
  - Limited safety data
  - Problematic pain management at delivery
  - Unknown breastfeeding safety

Jones 2013, Jones 2018, SAMHSA 2018

Naltrexone Dosing and Clinical Pearls

- Expert Panel Recommendation:
  - No agreement on continued use in pregnancy
- Not a first-line treatment primarily due to complete detoxification, relapse risk
- Limited data on naltrexone safety and benefits in pregnant women.
- If continued - need a delivery anesthesia plan!

Jones 2013, Jones 2018, SAMHSA 2018

Medically Assisted Withdrawal (MAW)

- Dosing:
  - Stabilize, then slow taper
  - Buprenorphine or methadone
- Close medical supervision
  - Ex. Inpatient, Intensive outpatient
- No long term outcomes noted (mother or infant)
- Recent studies - no association with fetal death or preterm delivery.

Stewart 2013, ACOG 2017

Medically Assisted Withdrawal

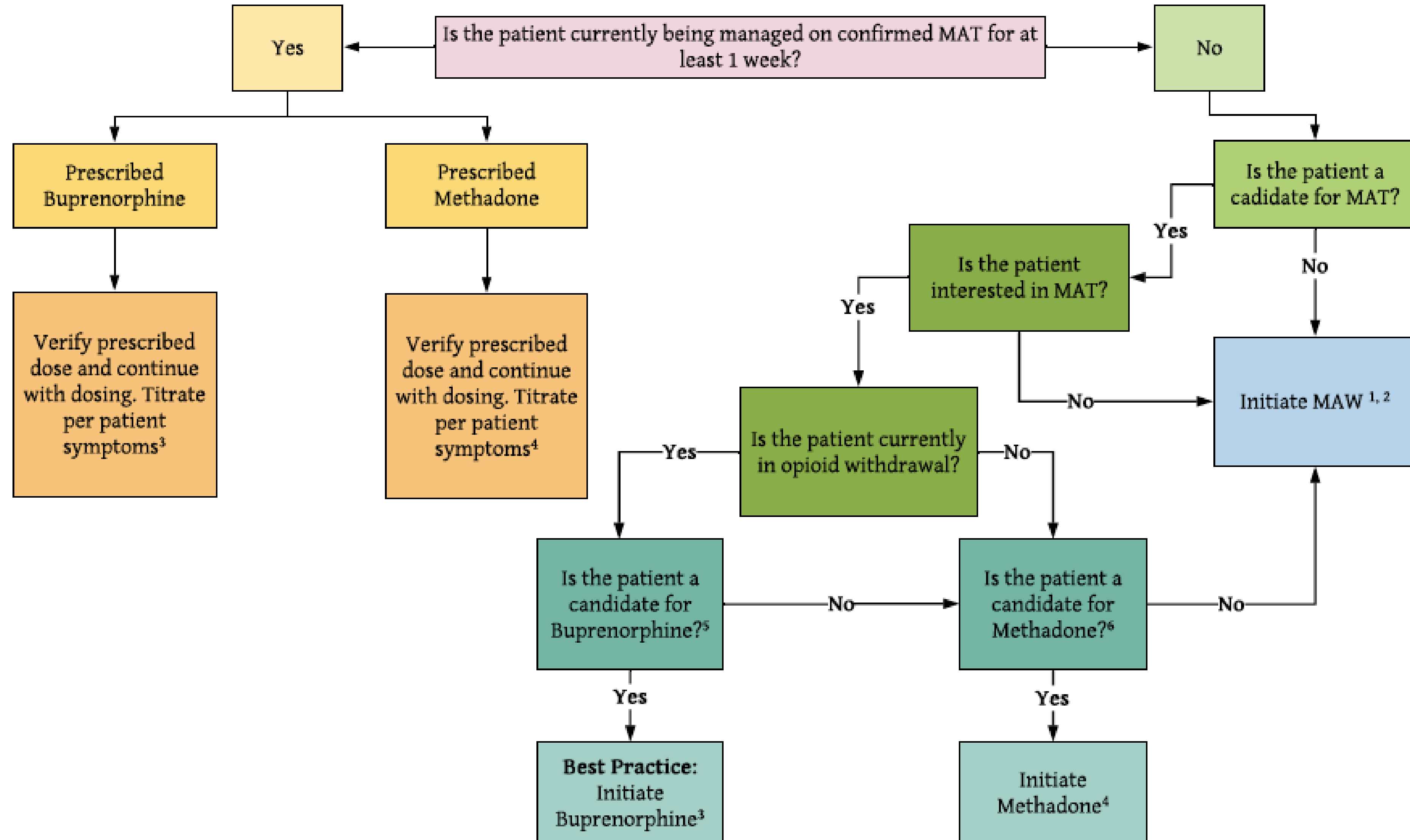
- **Advantages**
  - Minimize neonatal withdrawal
  - Decrease neonatal care costs
- **Disadvantages:**
  - High relapse rates - up to 90%
  - Overdose risk with relapse
  - Low completion rates
    - 56% success - no illicit use at delivery
  - Neonatal withdrawal documented
  - ***No data on long term maternal outcomes***

Stewart 2013, ACOG 2017

Medically Assisted Withdrawal

- **Expert Panel Recommendation:**
  - NOT recommended in pregnancy
  - MAT is best option
  - Advise pregnant patients that withdrawal during pregnancy increases the relapse risk without clear fetal/neonatal or maternal benefit.
- **ACOG recommends medically supervised withdrawal *ONLY* if** :
  - a woman does not accept treatment with ongoing MAT
  - MAT is unavailable.

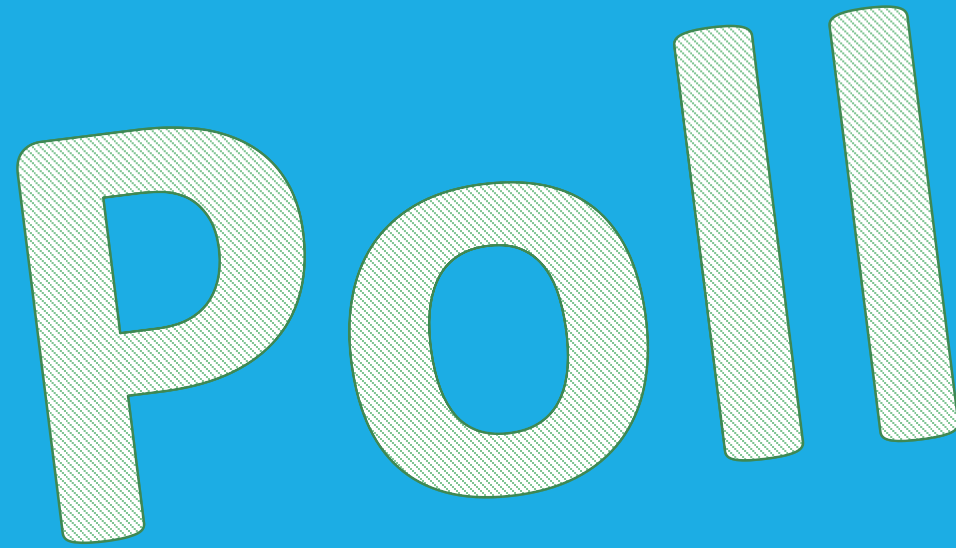
ACOG 2017, SAMHSA 2018



MAT: Medication-Assisted Therapy
MAW: Medication-Assisted Withdrawal

Thompson M, Jones CW 2018

UNIVERSITY OF MINNESOTA
Driven to Discover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Patient Centered Care

- **Shared decision-making tool**
- **Decision = continue or taper pharmacotherapy during pregnancy**
  - Standard of care, risks/benefits, reasons likely/not likely to relapse, reasons to take/stop medication
  - 64% continued pharmacotherapy
  - 36% tapered pharmacotherapy
  - 96% felt they had sufficient information to make decision

Guille 2019

Best Practice: Tobacco Use Disorder

85-90% pregnant women in MAT smoke cigarettes

- 16% in all pregnant women

20-45% smokers quit spontaneously in pregnancy

- Almost none in MAT

Incentive based treatment - effective

Akerman et al., Choo et al., Winklbaur et al

Best Practice: Tobacco Use Disorder

Decreased tobacco consumption

Heavy use (20+ cigarettes per day) vs. lighter use (10 or less per day)

- Lower birth weight and neonatal length
- Higher peak neonatal withdrawal scoring
- Longer duration to peak neonatal withdrawal

Akerman et al., Choo et al., Winklbaur et al

Best Practice: Prenatal Care - Managing Expectations

OUD and pregnancy

- Compliance with prenatal care
- Communication with MAT providers
- State laws and reporting

Obstetric care

- Surveillance during pregnancy
- Pain management
- Neonatal opioid withdrawal syndrome

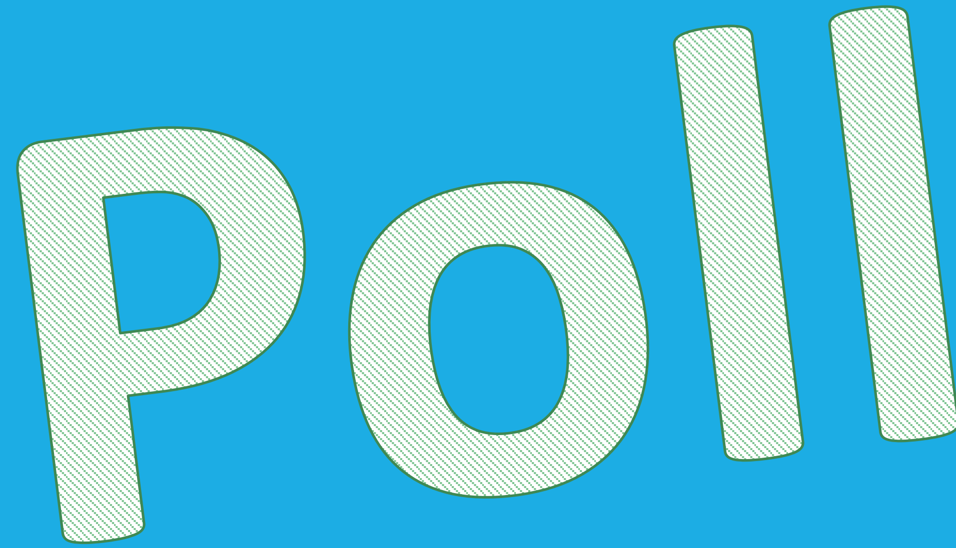
Winstock et al. 2008

Best Practice: Prenatal Care

Preparation for parenting

- Separate group for parenting education
- Pediatrician with NAS experience
- Lactation consultant
- Peer recovery support

Winstock et al. 2008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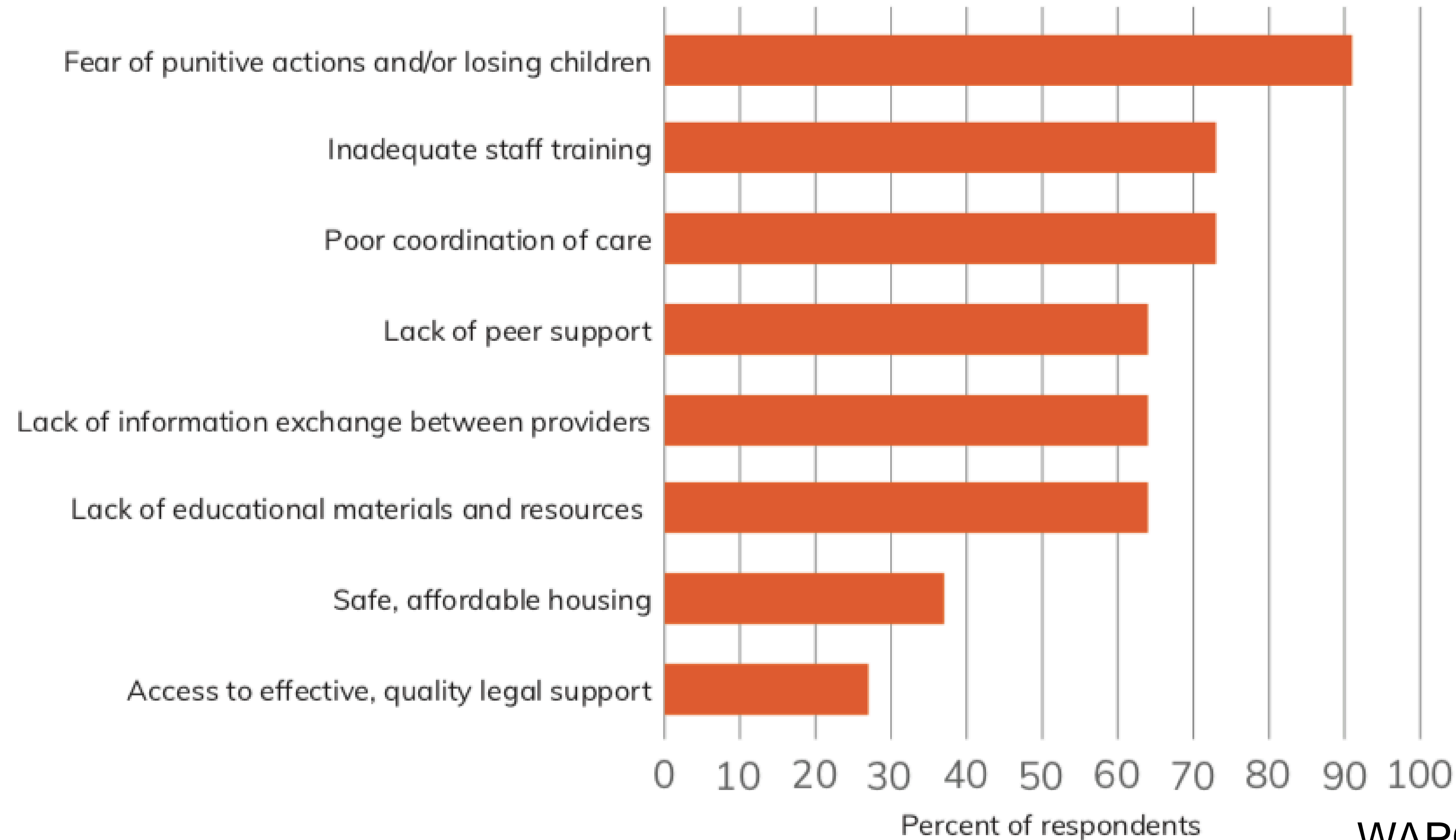
Patient Perspective: Barriers to Prenatal Care



WAPC, perinatalweb.org, 2018

Best Practice: Labor and Delivery

- **Manage expectations**
- **Continue outpatient medication**
- **Early epidural**
- **Increased pain medication if cesarean section**
  - TAP blocks, possible PCA
  - Adequate staff education is key
  - Avoid drug(s) of choice if prior prescription misuse
  - Contingency plan for C/S

Meyer et al 2007, 2010

Best Practice: Postpartum

- **Breastfeeding**
  - Minimal transfer of medication
  - Limited ability to reduce neonatal withdrawal treatment - breastfeeding/skin-to-skin
  - ACOG, AAP, ABA supported
  - Hepatitis C – avoid with bleeding nipples
  - Contraindications – ongoing illicit use and HIV

Best Practice: Postpartum

- **Ask about plans for pregnancy in next year**
  - Women with OUD have high rates of unintended pregnancy
- **Counsel all patients on contraception options**
  - Immediate, easy access to contraceptive of choice before discharge
  - Respect patient autonomy (reproductive justice)
- **Screen for new/worsening comorbid mental health disorders before discharge and at postpartum appointment.**
  - Earlier, more frequent postpartum visits

ACOG 2017, SAMHSA 2018

Neonatal Abstinence Syndrome (NAS)

- Physiologic/neurobehavioral signs of withdrawal in newborn with prenatal exposure to psychotropic substances.
- Occurs with: tobacco, alcohol, prescription medications, illicit substances
- Not exclusive to opioid exposure

Neonatal Opioid Withdrawal Syndrome (NOWS)

- Neonatal abstinence specifically associated with chronic prenatal opioid exposure
- Exposure to full and partial opioid agonists can cause withdrawal symptoms
- 35-70% opioid-exposed infants develop
- Pathophysiological response to opioid exposure removal
- Patient centered language
  - Babies are NOT born “addicted”
  - Baby with NAS, NOT “NAS baby”

Patrick 2015, Jansson 2019, Grossman 2019

Neonatal Opioid Withdrawal Syndrome

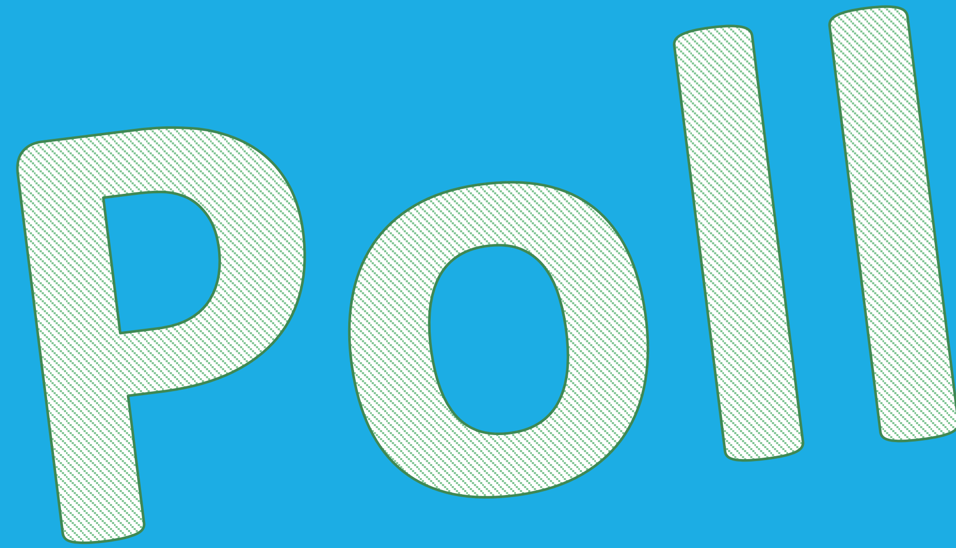
- **Timeline**
  - Typically starts 4-7 days after birth
    - Depends on specific prenatal exposure
  - Typical newborn observation minimum of 4-5 days
    - Longer than maternal stay!
  - Mean length of hospital stay: 16 - 20 days

Jansson 2019, Grossman 2019

Finnegan Scoring

SYSTEMS	SIGNS AND SYMPTOMS	SCORE	AM 2	4	6	8	10	12	PM 2	4	6	8	10	12	DAILY WT.
CENTRAL NERVOUS SYSTEM DISTURBANCES	High Pitched Cry	2													
	Continuous High Pitched Cry	3													
	Sleeps < 1 Hour After Feeding	3													
	Sleeps < 2 Hours After Feeding	2													
	Hyperactive Moro Reflex	2													
	Markedly Hyperactive Moro Reflex	3													
	Mild Tremors Disturbed	2													
	Moderate Severe Tremors Disturbed	3													
	Mild Tremors Undisturbed	1													
	Moderate Severe Tremors Undisturbed	2													
	Increased Muscle Tone	2													
	Excoriation (specify area): ____________	1													
	Myoclonic Jerks	3													
	Generalized Convulsions	3													
METABOLIC VASOMOTOR/ RESPIRATORY DISTURBANCES	Sweating	1													
	Fever < 101°F (39.3°C)	1													
	Fever > 101°F (39.3°C)	2													
	Frequent Yawning (> 3-4 times/interval)	1													
	Mottling	1													
	Nasal Stuffiness	1													
	Sneezing (> 3-4 times/interval)	1													
	Nasal Flaring	2													
	Respiratory Rate > 60/min	1													
	Respiration Rate > 60/min with Retractions	2													
GASTROINTESTINAL DISTURBANCES	Excessive Sucking	1													
	Poor Feeding	2													
	Regurgitation	2													
	Projectile Vomiting	3													
	Loose Stools	2													
	Watery Stools	3													
SUMMARY	TOTAL SCORE														
	SCORER'S INITIALS														
	STATUS OF THERAPY														

Adapted from Finnegan L. Neonatal abstinence syndrome: assessment and pharmacotherapy. Neonatal Therapy: An update, F. F. Rubaltelli and B. Granti, editors. Elsevier Science Publishers B. V. (Biomedical Division). 1986: 122-146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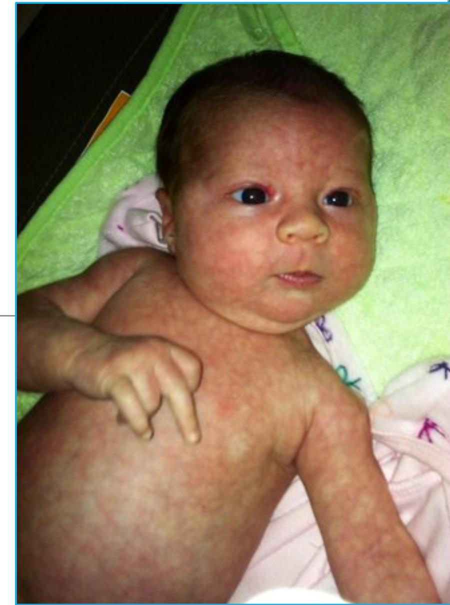
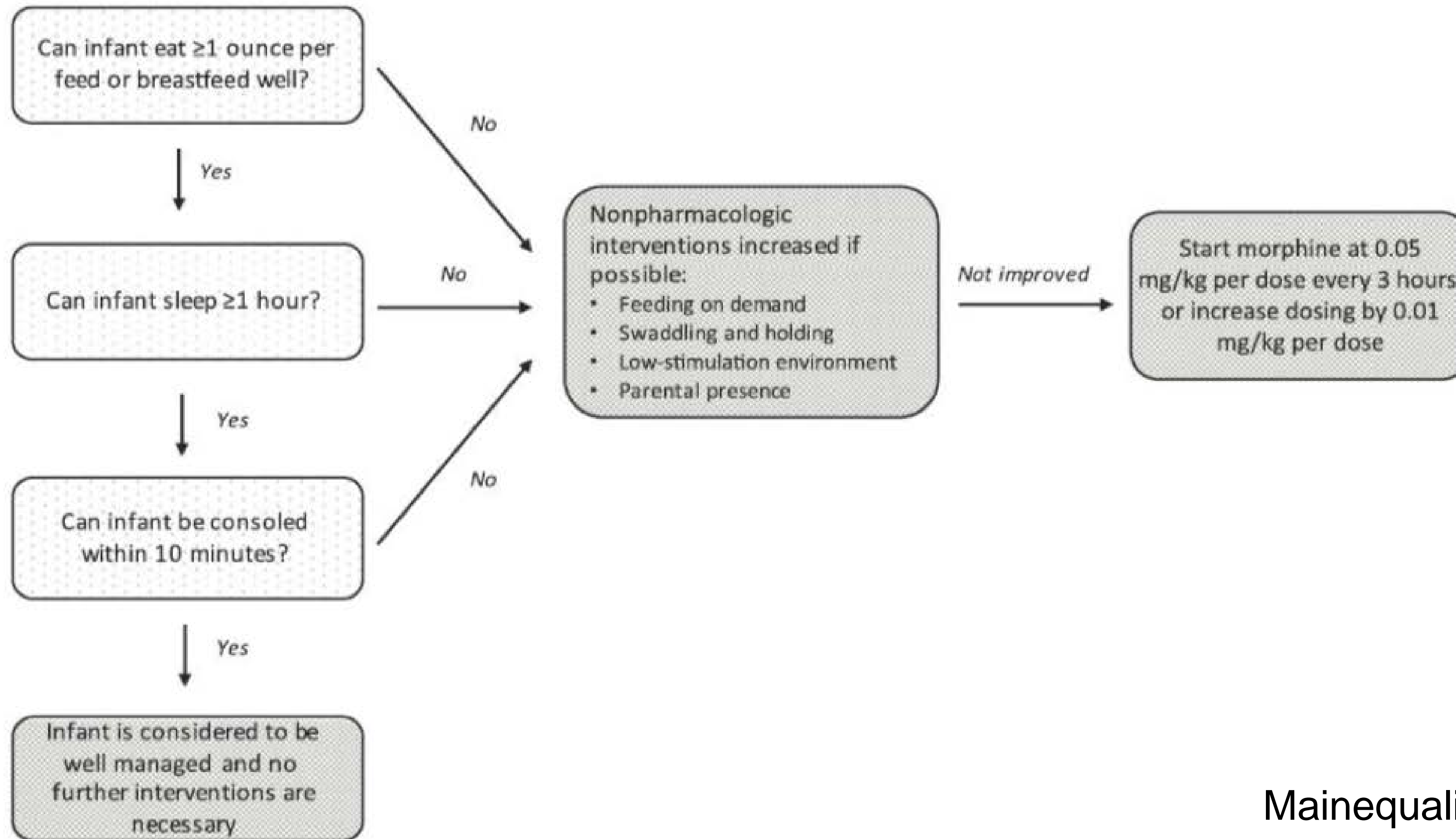
“Scoring”



- With 2 hours of birth
- Every 3-4 hours, before feeding
- Median score non-affected infant: 2-5
- Clinical significant score: 8
- Treat if serial score 8 or higher
- Treatment is supportive, then pharmacologic

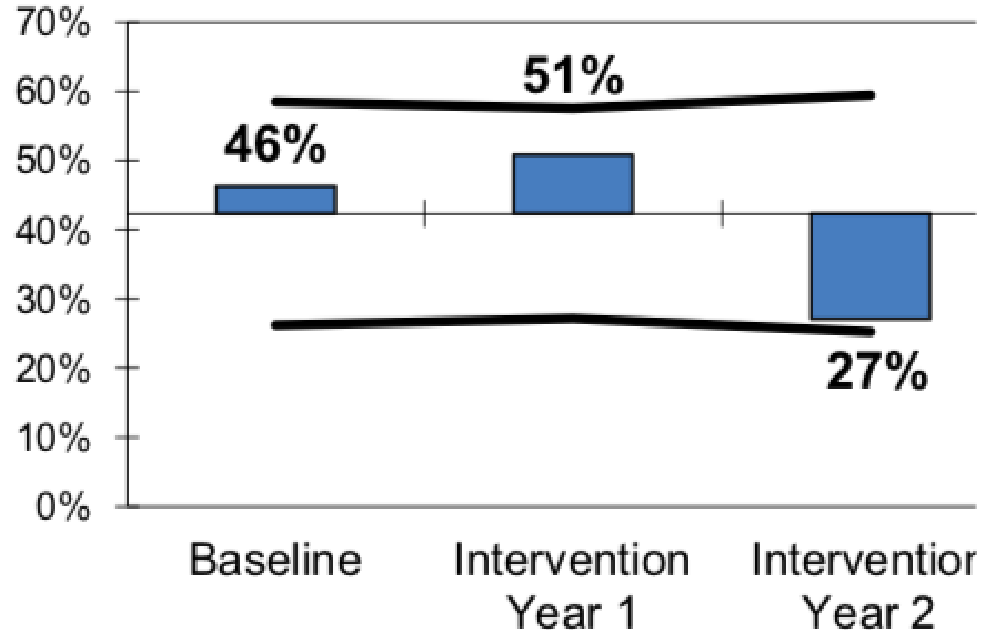
Jansson 2019, Grossman 2019, aap.org

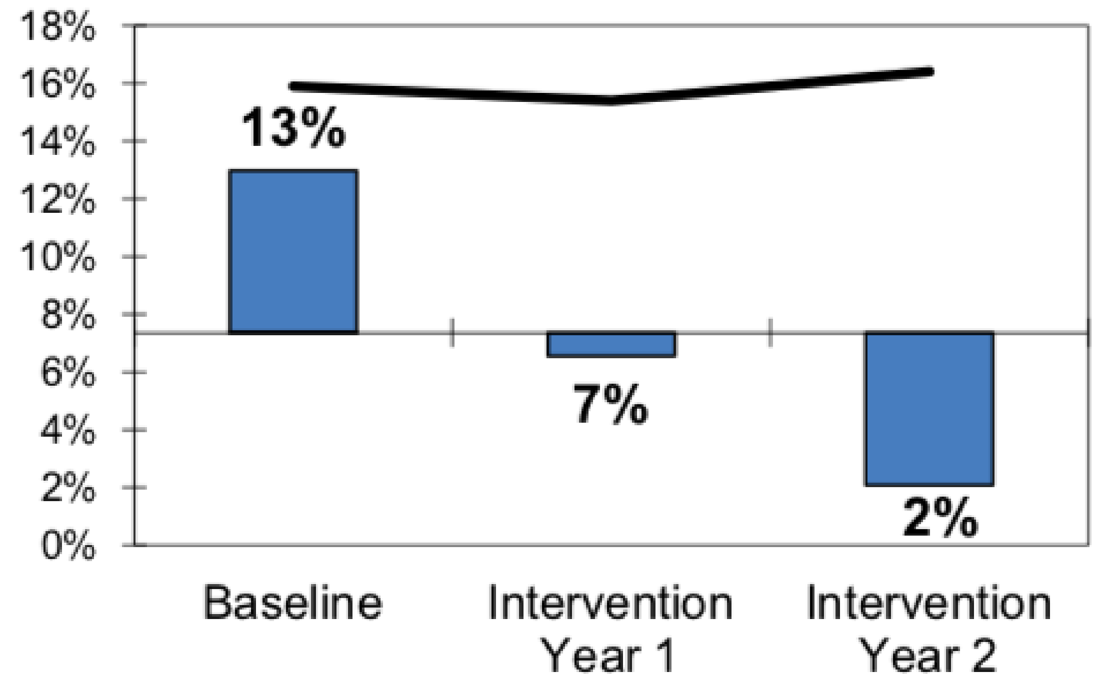
Eat, Sleep, Console Model



Mainequalitycounts.org

Eat, Sleep, Console Model

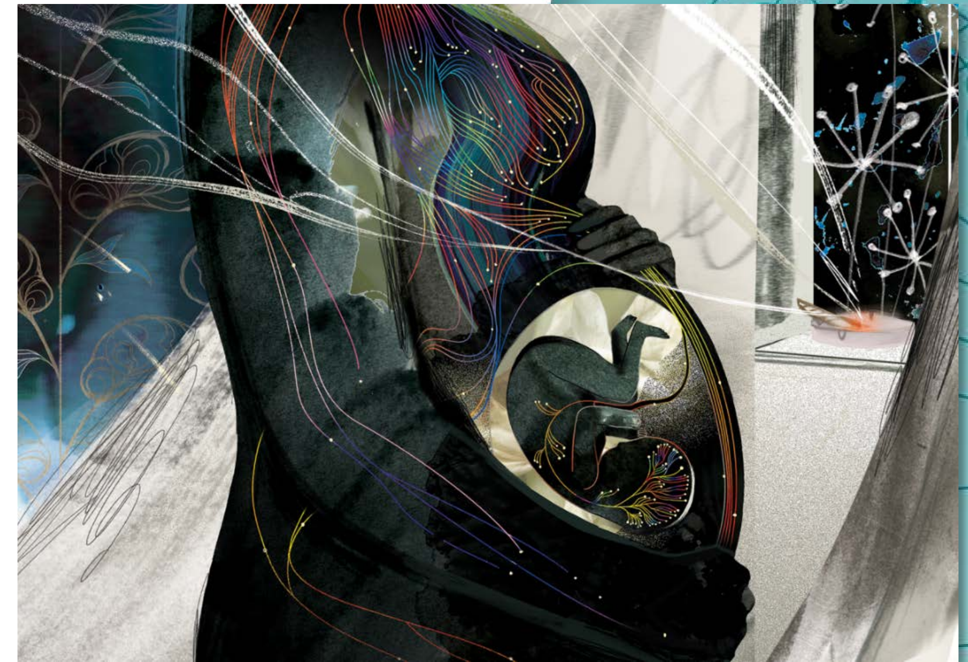




Holmes 2016

Long Term Childhood Outcomes

- No consensus on intrauterine exposure to buprenorphine/methadone and childhood development
- Research has not found increased birth defects or adverse long-term neurodevelopmental impact.
- Toddlers exposed prenatally to methadone or buprenorphine had no more problems with developmental tasks than those from normative sample of children of mothers without OUD



SAMHSA 2018, Sarfi 2013

Take Home Points

- Opioid use disorder remains a significant medical concern among reproductive-aged and pregnant persons
- Standard of care:
  - Patient education, screening and referral to evidence-based treatment
  - Evident based treatment = medication assisted treatment and coordinated care
- Comprehensive patient-centered care and education are key to optimal outcomes

Resources

www.store.samhsa.gov

February 2018

Case Presentation

Meet Jane Doe

36 y/o G2P1 female

History of polysubstance use

Currently following with our OB/GYN for current pregnancy

Chart: medical history of anxiety, low back pain

OB comes to us questioning patient’s symptoms of anxiety + fidgety + pinpoint pupils

Plan

Diagnosed with Kratom use disorder

Induction with Suboxone → home with 8mg TID

Continue normal prenatal visits

Continue Suboxone visits

Induced at 40w4d

NSVD without complications

Baby slight withdrawal → no intervention