Substance Use Disorders in Pregnant Women: Approach to the Management in Prenatal, Perinatal, and Postnatal Periods

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Conflict of Interests

Drs Schauberger and Jones have no potential or recognized conflicts of interest to report.
Off label use of medications will be discussed
As much as possible, we will provide references to our recommendations.

Objectives

Objectives - at the completion of this activity, learners will demonstrate an enhanced knowledge of:

- **Describe the impact of substance misuse on the developing child during the prenatal, perinatal, and postnatal periods.**
- **Evaluate the research evidence behind the recommended practices when caring for pregnant women with substance use disorders.**
- **Describe the practical approach to clinical care for pregnant women with substance use disorders.**

Screening for Substance Use in Newly Pregnant Women

Strategies

- Ask them if they use drugs
  - If they say no, you're done
  - If they say yes, tell them to stop using drugs and you're done
  - If they say yes, get a UDS. If it's positive, you then need to have a plan for management
- Screen everyone with a UDS
- Consider screening strategies to direct UDS for those at high risk

Screening “Tools”- Questionnaires

- **4Ps Plus©**
- **CRAFFT**
- **NIDA Drug Screening Tool**
- **CAGE and CAGE-AID Questionnaires**
- **DAST-10 Questionnaire**

Screening Tools

- CRAFFT
  - Have you ridden in a car driven by someone who was high or using?
  - Do you use alcohol or drugs to relax?
  - Do you use alcohol or drugs when you are alone?
  - Do you ever forget things while using?
  - Do your family or friends tell you should cut down or quit?
  - Have you ever gotten in trouble while using?

4Ps Plus©- Modified

- Present: Have you drunk alcohol or used drugs in the last month?
- Past: In the past, have you had difficulties in your life due to alcohol or other drugs, including prescription medications?
- Partner: Does your partner have a problem with alcohol or drug use?
- Parents: Do your parents have a problem?
- Do you smoke?

Our Results with the Modified 4P+

- 200 of 219 pregnant patients at New OB visit- January to May, 2013
- 38% answered yes to at least one of the questions
- Sensitivity: 92.3%
- Specificity: 70.1%
- Positive Predictive Rate of 32%
- Negative Predictive Rate of 98%

- Schauberger et al 2014

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Our Findings

- 200 of 219 patients in early 2013 who presented for prenatal care
- Positive 13%
  - Marijuana- 14
  - Heroin- 5
  - Hydrocodone- 2
  - Oxycodone-2
  - Methadone- 2
  - Buprenorphine- 1
  - Codeine 1
  - Benzodiazepines- 6
  - Methamphetamines-3
  - Cocaine- 1
  - Amphetamine 1

What is the Frequency of Substance Abuse in your Population?

1st Author	Year	Location	Rate %
Matti	1993	SE Minnesota	3.9
WI Dept of Health	1996	Wisconsin	3.1
Chasnoff	1990	Florida	14.8
Azadi	2008	New Orleans	19
Kreshak	2015	So California	14.2
Schauberger	2014	WIsconsin	13

Marijuana

- Very Common. 13% in our study
- My Smart Phrase: We discussed current research related to marijuana use in pregnancy- it has not been associated with any apparent pattern of fetal anomalies. Its effect on preterm labor and growth restriction has been mixed in the literature. Prenatal exposure has been related to underdeveloped "executive mental function"- abstract thinking and reasoning in the children during preteen and adolescent years. The specific patterns are difficult to elucidate due to the complexities of use of other drugs, postnatal exposure, etc. Breastfeeding is strongly discouraged by pediatricians unless there is an interval of negative urine drug screens for 90 days. Finally, it is illegal.

Fetal Alcohol Syndrome

- Leading cause of mental retardation in the Western World
- Poor memory, attention deficits, impulsive behavior, and poor cause-effect reasoning
- Slow physical growth

- Picture removed

Nicotine

- Known adverse effects on pregnancy. On average, 10% reduction in fetal size
- Increased rate of prematurity, neonatal morbidity and mortality
- Higher rates of SIDS

Stimulants (Cocaine, amphetamines)

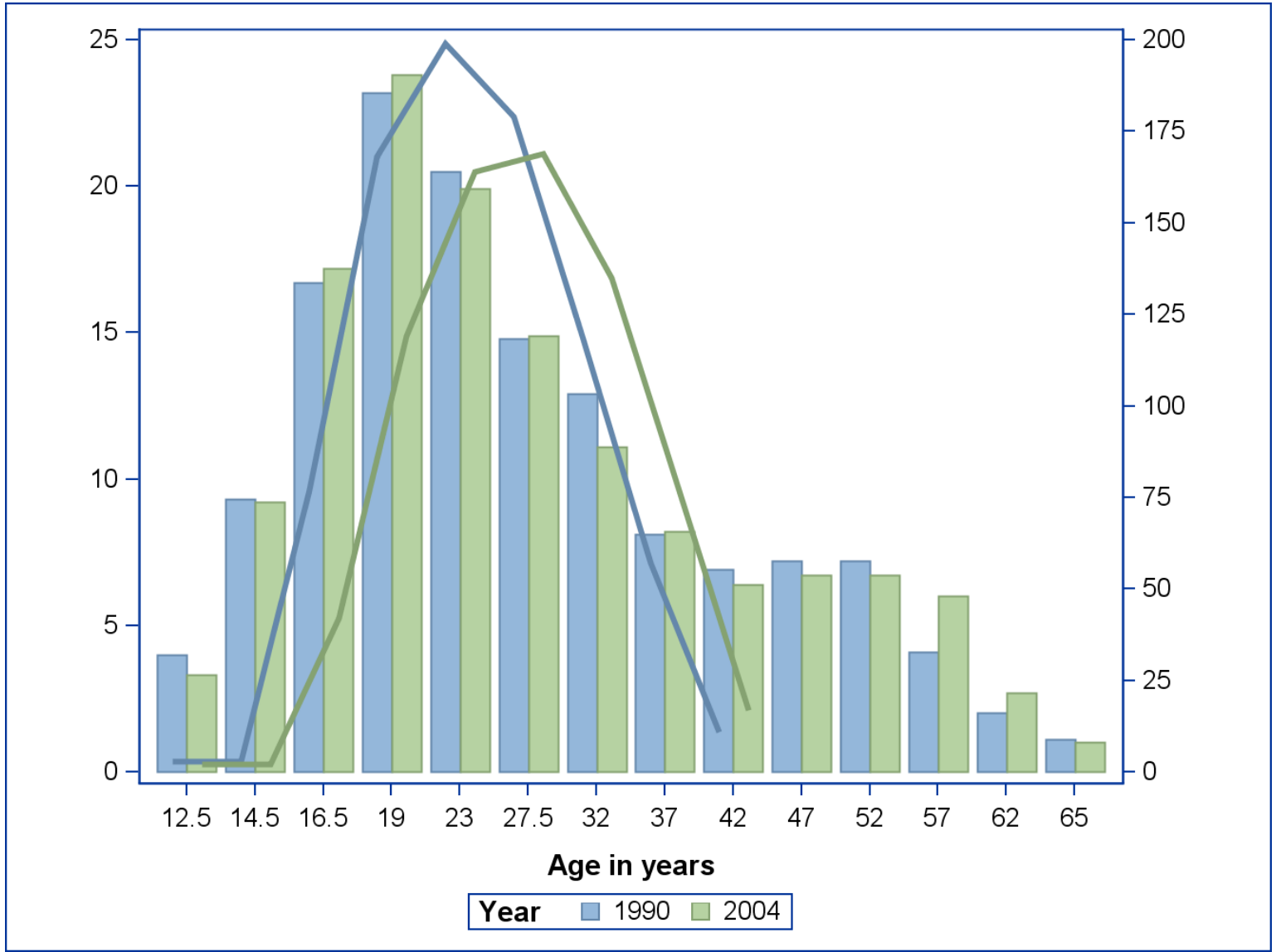
- Spontaneous abortion
- Fetal stroke concerns
- Impaired fetal growth:
  - decrease in mean birthweight
  - increase in intrauterine growth restriction
- Placental abruption
- Preterm labor and delivery
  - no consensus among clinical studies if totally associated with abruptions

Maternal and Fetal Effects of Opiates

- Poor nutritional status, high incidence of smoking, infectious diseases
- Physical dependence
- Maternal withdrawal in late pregnancy

- LBW, IUGR
- Physical dependency in utero
- Long fetal sleep cycles
- Neonatal respiratory depression
- Neonatal abstinence syndrome
- SIDS

Early Pregnancy Care



General Concepts of Care in Pregnancy

- Early Care
- What are the medical risks? IUGR, Premature labor
- Can family medicine doctors or midwives follow them?
- Hepatitis C
- Psychiatric comorbidities
- Addiction care
- Social services- housing, WIC, legal, etc
- Teamwork

Early Pregnancy Care

- 2/3rds of patients are currently, or have been in the past, in treatment.
- You should know to whom you can refer your patients when they get pregnant
- Many patients will discontinue treatments based on the mistaken belief that they can't be on methadone, buprenorphine, or many other medications for bipolar disorder, depression, or anxiety

Early Pregnancy Care

- 8 week ultrasound
  - Miscarriage rate is 20%
  - A normal ultrasound is associated with a 95% chance of viability
  - Dating of the pregnancy based on ultrasound is more accurate than LMP. Our study documents the low rates of accurate dates otherwise
  - Other ultrasound advantages- ovarian cysts, uterine anomalies, twins
- Determine which medications are safe
  - If it crosses the blood-brain barrier, it crosses the placenta
- Patient education. Introduction to a new team to provide their care

MAT – Basics of Management in Pregnancy

The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

COMMITTEE OPINION

Number 524 • May 2012

**Committee on Health Care for Underserved Women
and the American Society of Addiction Medicine**

This information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Opioid Abuse, Dependence, and Addiction in Pregnancy

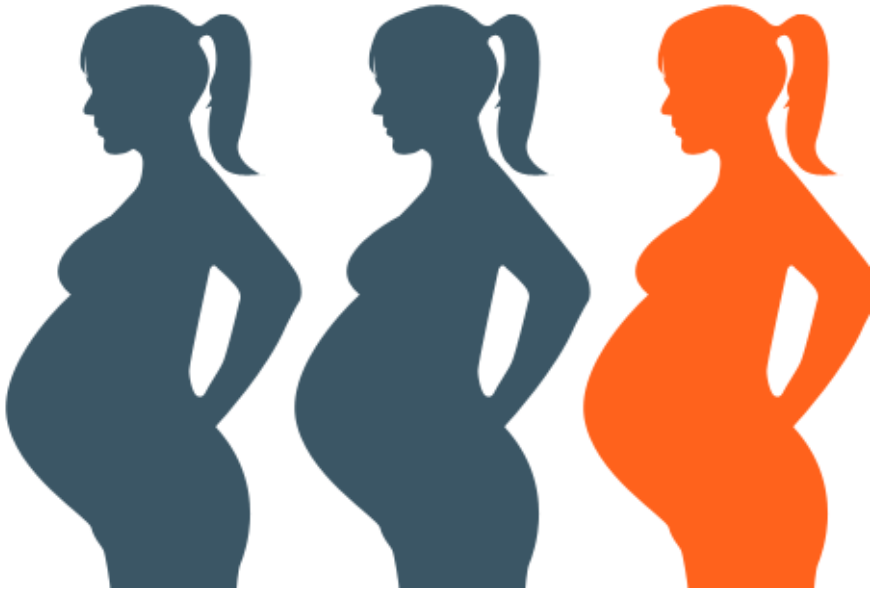
ABSTRACT: Opioid use in pregnancy is not uncommon, and the use of illicit opioids during pregnancy is associated with an increased risk of adverse outcomes. The current standard of care for pregnant women with opioid dependence is referral for opioid-assisted therapy with methadone, but emerging evidence suggests that buprenorphine also should be considered. Medically supervised tapered doses of opioids during pregnancy often result in relapse to former use. Abrupt discontinuation of opioids in an opioid-dependent pregnant woman can result in preterm labor, fetal distress, or fetal demise. During the intrapartum and postpartum period, special considerations are needed for women who are opioid dependent to ensure appropriate pain management, to prevent postpartum relapse and a risk of overdose, and to ensure adequate contraception to prevent unintended pregnancies. Patient stabilization with opioid-assisted therapy is compatible with breastfeeding. Neonatal abstinence syndrome is an expected and treatable condition that follows prenatal exposure to opioid agonists.

Options for treatment in pregnancy

- Medication-assisted treatment (MAT)
  - Methadone
  - Buprenorphine
  - Buprenorphine/naloxone
- Detoxification/abstinence

Is MAT safe and effective in pregnancy?

- Improved prenatal care
- Improved birthweight
- Decreased preterm birth
- Improved retention into treatment
- Improved maternal engagement in parenting
- Improved maternal custody



ACOG/ASAM – MAT in Pregnancy

- Prevent complications of illicit use and withdrawal
- Encourage prenatal care and drug treatment
- Reduce criminal activity
- Avoid risks of associating with drug culture

Methadone and Pregnancy

- Gold standard for MAT in pregnancy
- Not FDA approved
- Use in pregnancy
  - Compliance with prenatal care
  - Decreased fetal morbidity/mortality
  - Decreased illicit drug use
- Mixed data on teratogenicity
- Uncertain long term neurobehavioral effects

Methadone: changes in pregnancy

- Increased volume of distribution
  - Often first sign of pregnancy
  - Increases throughout pregnancy
- Increased metabolism
  - Withdrawal symptoms in late afternoon, evening
  - Often require split dosing
  - Increasing single dose – sedation with minimal improvement in P.M. symptoms

Jones HE J Addict Med 2016

Buprenorphine in Pregnancy

- Improvement in prenatal care
- Decreased illicit opiate use (less so with cocaine)
- Improved neonatal outcomes
- May allow for OB provider treatment
  - “one stop shopping”

Soyka, 2013

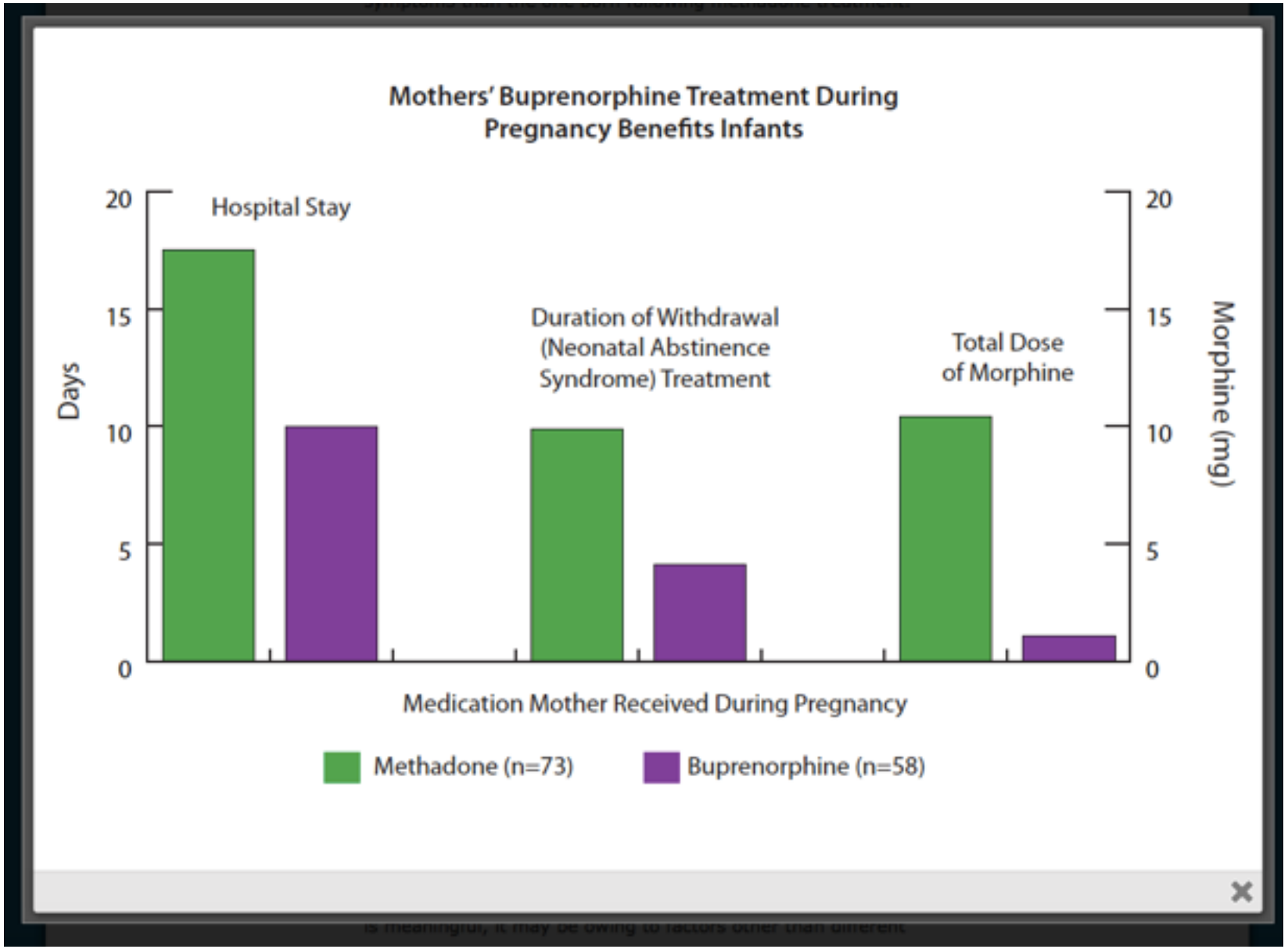
Buprenorphine– changes in pregnancy

- Limited data on changes in pregnancy
- Increase in pregnancy less predictable
- Often already multi dose regimens
- May also need decrease after pregnancy

Jones HE J Addict Med 2016

Buprenorphine vs. Methadone : MOTHER STUDY – JONES HE ET AL., NEJM 2010

- RCT, placebo control, double blind
- 6-30 weeks
- Methadone (86) vs. Buprenorphine (86)
- Primary outcome: neonatal
- Secondary: maternal and neonatal outcomes



Jones et al, 2010

Buprenorphine vs. Methadone : MOTHER STUDY – JONES HE ET AL., NEJM 2010

- Drop out rate: 18% methadone, 33% buprenorphine (p=0.02)
- No difference in overall withdrawal 57% vs. 47% (p=0.26)
- No difference in secondary maternal or neonatal outcomes
- No difference in adverse events
- Methadone treatment delivered earlier (37.9 vs. 39.1 w, p=0.007)
- Both with positive UDS at delivery (15 vs. 9%, p = 0.27)

Methadone v. Buprenorphine

- Individualized based on patient:
- Access to medication and recovery support/counseling
- Prior medication failure
- Ability to comply with office based treatment
- Other medication use
- Harm reduction: initial choice may not be optimal

Methadone v. Buprenorphine

Favors Methadone

- ACOG – methadone should be offered as treatment in pregnancy
- Long term data and experience
- Structured treatment program
- Better with prior treatment failure
- Don’t need withdrawal to initiate

Favors Buprenorphine

- Buprenorphine may be only MAT available
- Access to take home treatment
- Shortens NAS duration/severity
- Community based treatment may improve long term follow up
- Partner/couples treatment access

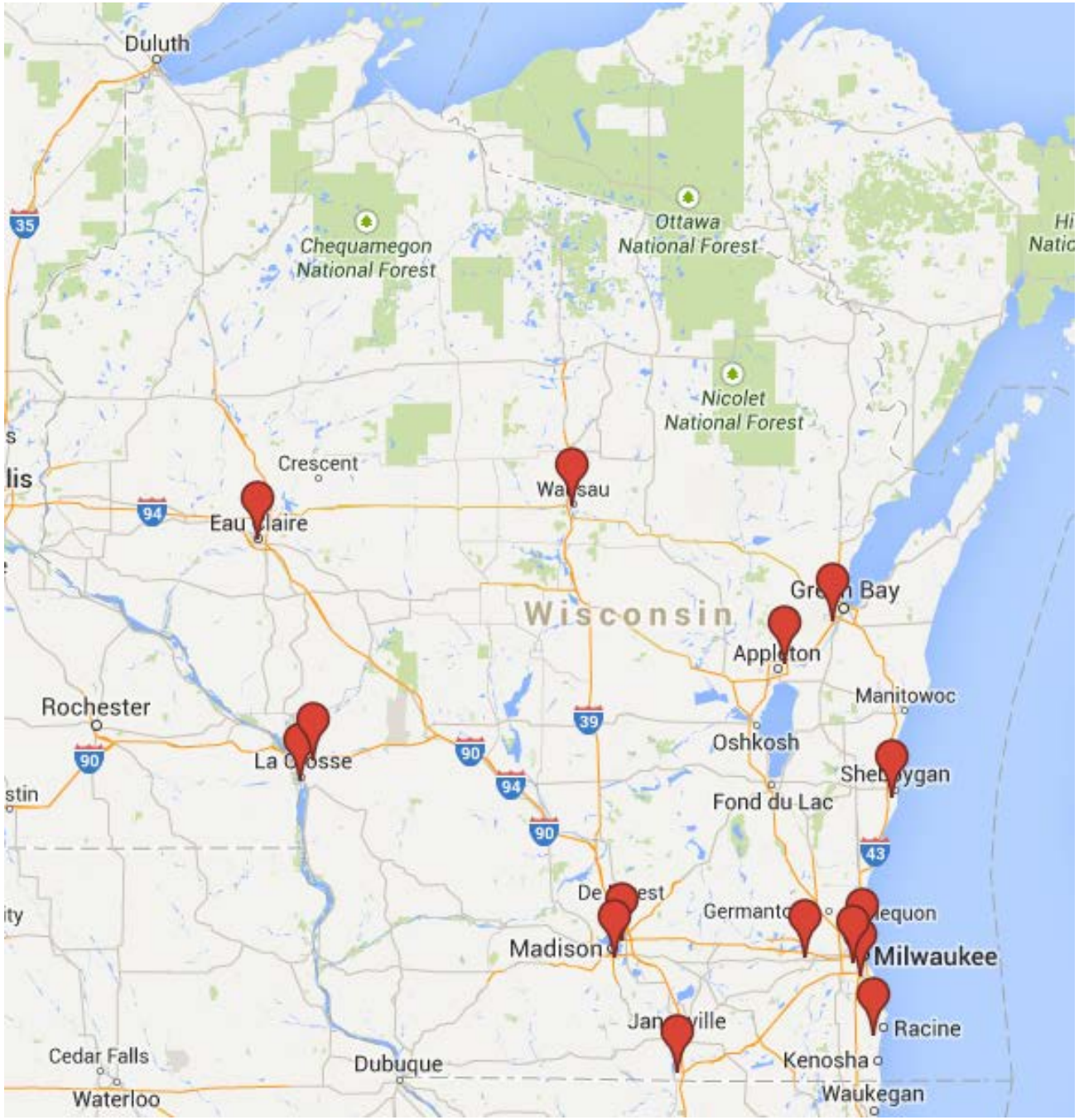
Methadone v. Buprenorphine

- Both are effective in pregnancy
- Both have a significant risk of neonatal withdrawal syndrome
- Must take individualized approach for every patient

Wisconsin Methadone treatment programs

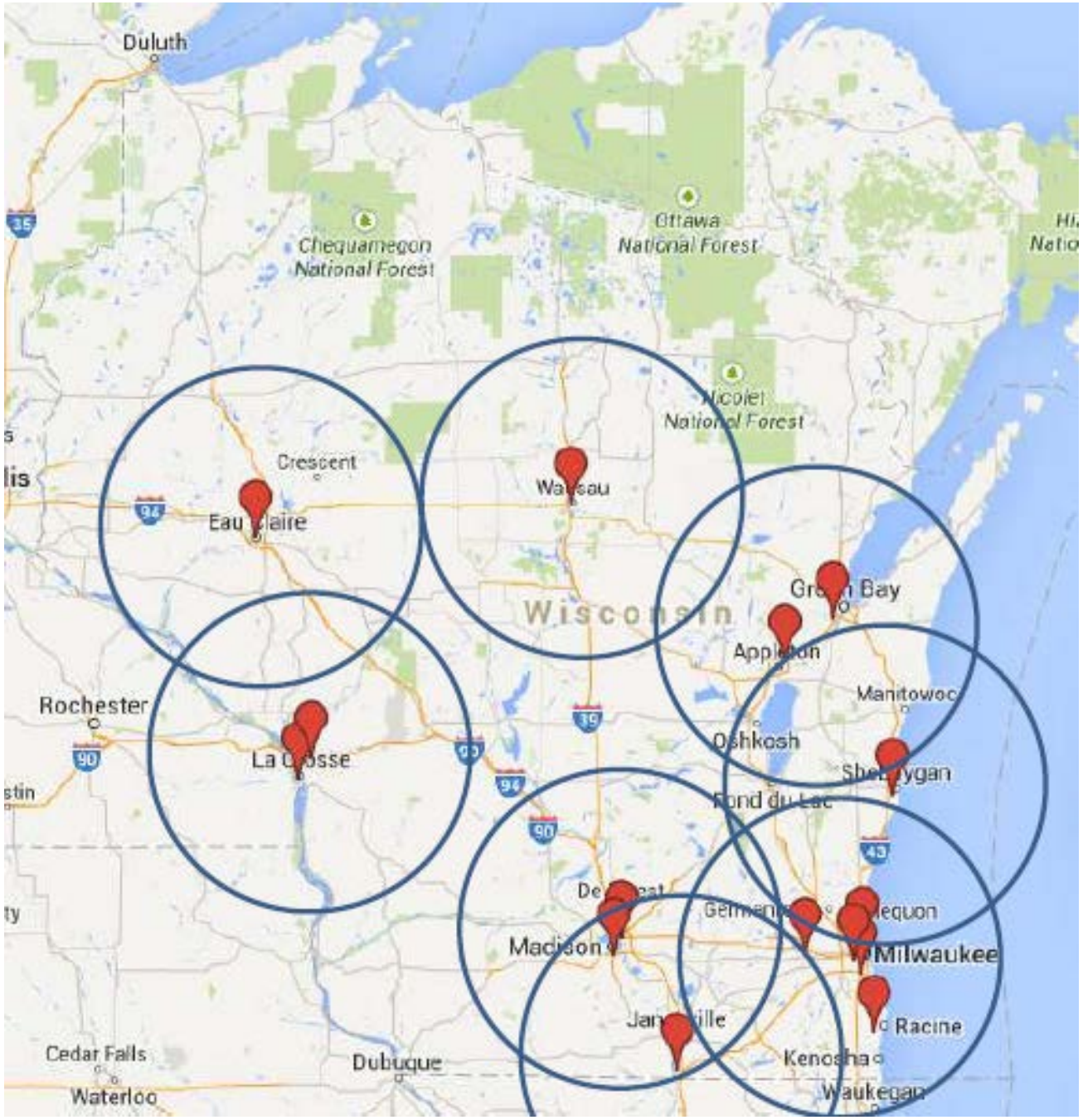
Wisconsin

OTPs



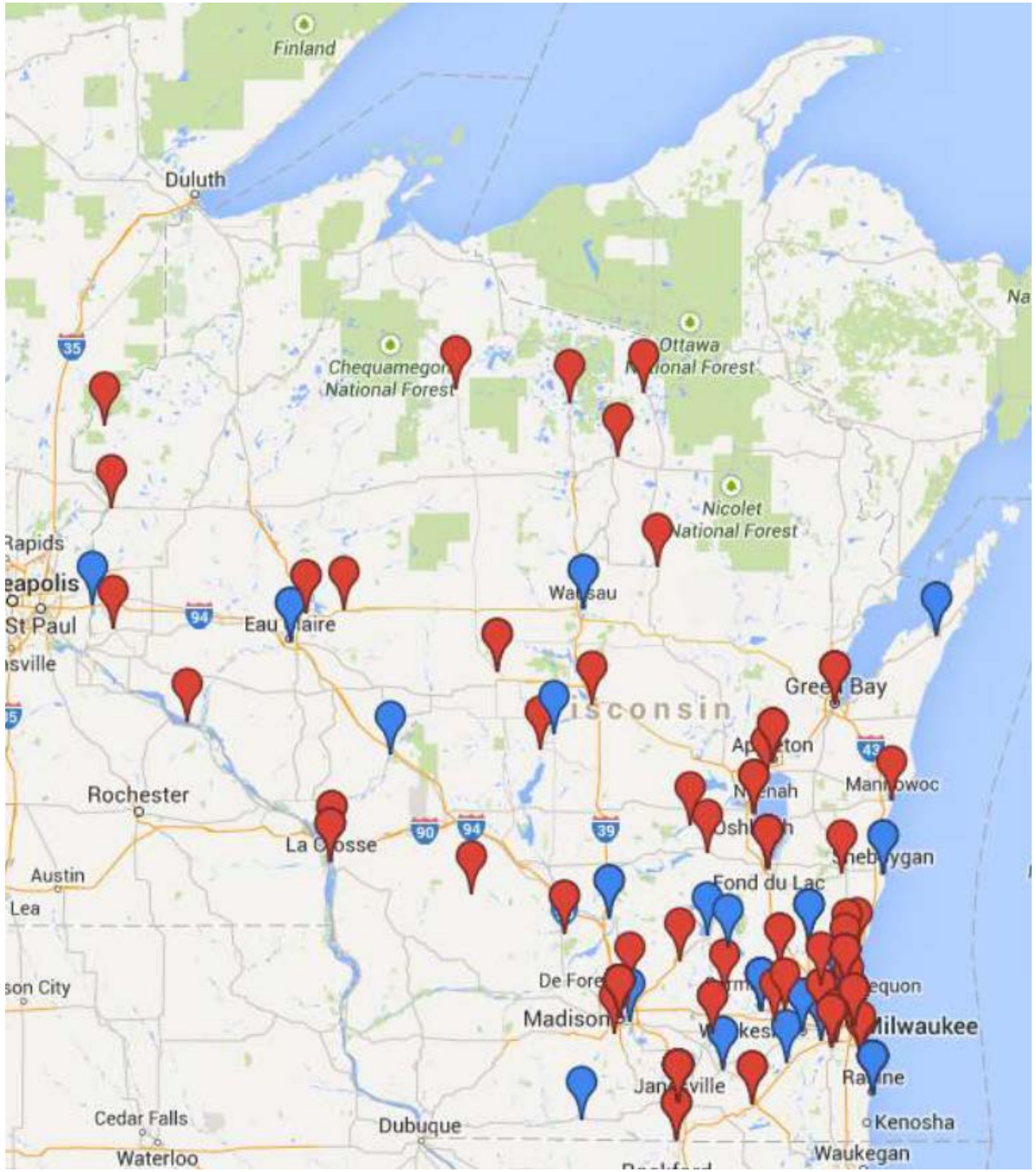
Courtesy WAPC 2015

Wisconsin Methadone treatment programs – 50 mile radius



Wisconsin buprenorphine providers

Wisconsin buprenorphine providers and programs



Courtesy, WAPC 2015, SAMHSA

Buprenorphine/naloxone and pregnancy

- Minimal/negligible naloxone absorbed when used correctly
- May be only therapy available
- Acceptable to use in pregnancy based on accessibility

Buprenorphine/naloxone -downfalls

- Limited obstetric data available
- Limited neonatal data available
- Waiver training – not to be used in pregnancy
- University of Vermont, University of North Carolina, Gundersen Health

Buprenorphine/naloxone- initial data

- Case series
- 10 patients
- Sublingual film treatment
- 40% NAS
- LOS similar to prenatal buprenorphine monotherapy

Debelak et al 2013

Buprenorphine/naloxone- initial data

- Retrospective chart review methadone vs. bup/naloxone
- 31 patients methadone, 31 bup/naloxone
- NAS 51.6% methadone, 25.1% bup/naloxone (p = 0.01)
- LOS 9.8 vs. 5.6 days (p=0.02)
- No adverse maternal/fetal/neonatal outcomes reported

Wiegand et al 2015

Abstinence in Pregnancy

- ACOG “ Medically supervised withdrawal from opioids is not recommended during pregnancy because the withdrawal is associated with high relapse rates”
- If treatment is unavailable or patient refuses, medically supervised withdrawal should be undertaken during the second trimester [14-26 weeks], earlier if the alternative is continued illicit drug use”

Opioid Detoxification in Pregnancy

- Dashe 1998
  - Increased preterm birth rate, no stillbirth
  - 53% relapse
- Luty 2003
  - One preterm birth, no stillbirth
  - 1/24 women with OB follow up abstinent at delivery
- Jones 2008
  - No preterm birth, no stillbirths
  - Withdrawal vs. methadone
  - Methadone – increased antepartum care, decreased illicit use

Dashe 1998, Luty 2003, Jones 2008

The obstetrical and neonatal impact of maternal opioid detoxification in pregnancy

Robert D. Stewart, MD; David B. Nelson, MD; Emily H. Adhikari, MD; Donald D. McIntire, PhD; Scott W. Roberts, MD; Jodi S. Dashe, MD; Jeanne S. Sheffield, MD

- 95 women with inpatient methadone detoxification attempt
- 53% no illicit drugs at delivery
- If successful, less neonatal withdrawal, improved birthweight
- Success required lengthy inpatient stay (~25d) and intensive counseling program
- Still with significant relapse rate (vs 15% in MOTHER study on methadone)

AJOG 2013

Detoxification from opiate drugs during pregnancy

Jennifer Bell, MD; Craig V. Towers, MD; Mark D. Hennessy, MD; Callie Heitzman, RN; Barbara Smith; Katie Chattin

- Retrospective, 301 women
- Incarceration acute detox, inpatient (5-8d) buprenorphine detox with/without outpatient follow up, slow (8-16w) outpatient detox
- No adverse fetal outcomes
- 17-18% neonatal abstinence with all groups except inpatient detox with no outpatient follow up (70%)

AJOG 2016

Detoxification in pregnancy

- Detoxification appears safe
- Relapse, loss to follow up in at least half of women that attempt
- No studies in maternal health after delivery
- No studies on relapse after medication assisted withdrawal (higher risk of overdose?)
- Those who succeed may be a different group of women
- *Medication assisted therapy should remain the treatment of choice for women with opioid use disorders in pregnancy*

Dashe 1998, Luty 2003, Jones 2008

Self wean during/prior to pregnancy

- Women with chronic prescribed opiates for pain
- Illicit buprenorphine use
- High level of patient support
- Open environment to disclose relapse
- Access to referral for treatment if relapse
- UDS to assist with confirmation of recovery

Naltrexone in Pregnancy

- Full opiate agonist
- Oral daily dosing
- Monthly injection
- 5-6 month implantable

Naltrexone and pregnancy

- Unknown risk of required opiate withdrawal prior to starting treatment
- Lack of safety data for fetus
- Unknown breastfeeding safety
- Challenging pain management for OB procedures
- Not recommended at this time

Jones HE et al, 2013

Methadone maintenance vs. implantable naltrexone treatment in the pregnant heroin user

G.K. Hulse[a,*], G. O'Neil[a,b,c], D.E. Arnold-Reed[a]

- 17 patients naltrexone implant treatment (NIT)
  - 16 conceived with implant
- Compared with 90 patients methadone maintenance
- No long term outcomes or delivery discussion

Table 1.
Differences in obstetric and neonatal outcomes in pregnant heroin dependent women treated with methadone maintenance or naltrexone implant

	Naltrexone implant treatment (*N*=17)	Methadone maintenance treatment (*N*=90)	Australian national data[a]
Percentage of deliveries <37 weeks' gestation	5.9%	24%*	5.6%
Percentage of low birth weight neonates (<2500 g)	11.7%	23%*	4.6%
Mean APGAR score 1 min mean (±S.D.)	9% (±0)**	7.9% (±1.54)	

* Significant differences compared to Australian National Data ($P<0.001$).

** Significant difference between NI and MMT ($P<0.005$).

a Roberts and Lancaster, Medical Journal of Australia 1999;170:114–118.

IJOG 2004

OUD : Legal Implications in Pregnancy

- You are have previously served as a buprenorphine provider for a pregnant patient that has struggled with recovery
- You are contacted by the county criminal justice system and asked to provide testimony
- They would like to involuntarily detain her for prenatal child abuse
- What do you do?

Differing Attitudes Toward Fetal Care by Pediatric and Maternal-Fetal Medicine Specialists

TABLE 3 FCP and MFM Attitudes Regarding Maternal Refusal of Physician Recommendations:

		FCP, % (n = 192)	MFM, % (n = 242)	Odds Ratio	95% Confidence Interval	P[a]
Maternal refusal to enter a program to discontinue cocaine use at 25 wk	Agree	72.2	32.9	5.8	3.7–9.0	.000
	Disagree	27.8	67.1	—	—	—
Maternal refusal of AZT therapy to prevent perinatal transmission of HIV at term	Agree	79.9	41.3	6.6	4.1–10.7	.000
	Disagree	20.1	58.8	—	—	—
Maternal refusal of percutaneous transfusion for fetal anemia secondary to Rh isoimmunization at 25 wk	Agree	62.2	28.0	4.4	2.9–6.8	.000
	Disagree	37.8	72.0	—	—	—

Respondents answered the following question: "Where a pregnant women has decided to continue a pregnancy but has refused to adhere to physician recommendations, how much do you agree or disagree that seeking court intervention may be appropriate in order to compel adherence?"

Brown et al, Pediatrics 2012

Refusal of Treatment in Pregnancy

- States with mandatory reporting of prenatal substance use
- Decrease in prenatal care
- Increase in adverse pregnancy outcomes
- ACOG – develop a therapeutic alliance with the patient and avoid any activity that is not for the benefit of the patient
- Be aware of reporting obligations for other providers (non physicians, pediatric care providers)

Ferguson v. City of Charleston 2001

Best Practice: Prenatal Care

- Tobacco use/abuse
- 85-90% pregnant women in MAT smoke cigarettes
  - 16% in all pregnant women
- 20-45% smokers quit spontaneously in pregnancy
  - Almost none in MAT
- Limited data suggests incentive based treatment may work

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

www.wwhf.org

WISCONSIN WOMEN'S HEALTH FOUNDATION

FIRST BREATH

What is First Breath?

First Breath is a free program that helps pregnant women quit smoking through one-on-one counseling and personalized goal setting. First Breath is offered at prenatal care locations in 65 counties across Wisconsin.

Best Practice: Prenatal Care

- 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

- Routine OB care
- Targeted anatomic survey – 20 weeks
- Interval growth US – 28, 34 weeks
- Coordination with MAT programs are key!

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

Narcan Administration and Pregnancy

- Currently no studies addressing naloxone overdose administration and pregnancy
- Risk/benefit profile
- Life-saving treatment for mother ultimately benefits the fetus
- Despite risks of acute withdrawal, should not be withheld

Sala KA et al, 2016

Comorbid Mental Health Concerns

- Anxiety
- Depression
- ADHD
- Bipolar disorder

Anxiety

- Extremely common disorder. Exacerbated during pregnancy
- Avoid benzodiazepines
- Other medications to consider
  - Hydroxyzine
  - SSRIs
  - SNRIs
  - Wellbutrin

Depression

- Rate of depression- 16% in ”normal” population
- 65% in patients with drug addiction
- May be closer to 90% in my experience
- Drugs of choice
  - SSRI
  - SNRI
  - Others

Depression

- Greater risk of premature labor. SGA babies. Neonatal morbidity
- Postpartum exacerbation
  - “Blues”
  - Depression
  - Psychosis

PTSD

- Adverse Childhood Experiences (ACES) are considerably higher in women with SUD in pregnancy
- Trauma informed care

Bipolar Disorder

- 3-10/100,000, up to 1%. But much higher in the population of patients with substance use disorders
- Pregnancy complications
  - Congenital anomalies
  - Preterm birth- OR 1.95
  - LGA- OR 1.31
  - Neonatal morbidity and readmissions

Mei-Dan et al 2015. Ontario-based study of 1859 women with bipolar disorder in pregnancy

Bipolar Disorder

- Overall recurrence risk of 71%. 47% during the first trimester possibly due to the tendency to discontinue pharmacotherapy
- 7X risk of symptom exacerbation postpartum
- Unclear safety of medications
  - Valproate and carbamazepine are teratogenic
  - Lithium may be safer than what had been considered in the past
  - Most of the rest are category C- unknown. Most have some retrospective studies done demonstrating safety. No strong pattern. Risk-benefit ratio must be considered

Viguera et al, 2007

ADHD

- Not a lot written. Literature is mostly on the safety of the medications during pregnancy
- Most medications are not associated with greater risks of congenital anomalies
- Most of the concerns are third trimester considerations- hypertension, IUGR, placental abruption, premature labor
- Risk-benefit discussion
  - Do they need to be on the medication?
  - Will they need an increase in dose in the third trimester?
  - Avoid self-medicating

ADHD

- They all smoke. Morbidity of smoking is known and controllable. Getting a patient with ADHD to quit smoking is very difficult
- Tendency to self-medicate and increase dosage without guidance
- Monitor weight gain
- Check ultrasound at 32 weeks for fetal growth
- Notify pediatricians about the patient’s history

In Summary

- If you aren't treating their mental health conditions, substance abuse treatment is much harder, if not impossible
- Seek agreement with her obstetrician as to who will prescribe and monitor which medications. Who does the UDS?
- Medications: If it crosses the blood-brain barrier, it crosses the placenta. Breasts are better filters of medications than the placenta
- Frequent communications. Everyone is anxious

Postpartum care and Breastfeeding

Delivery pain control

- Medications should not be stopped for labor or delivery
- Epidural and spinal is equally effective
- Patient have more pain in labor
- Patients require 70% more opioids after Cesarean
- MAT continued as prescribed
  - Increased risk of relapse with d/c of buprenorphine

Meyer 2007, 2010, 2016

Post-delivery pain control

- Buprenorphine, methadone continued as prescribed
- Postoperative
  - IV and short acting opioids
  - PCA or PCEA x 24 hours if severe, intractable pain
- Discharge medication
  - Lock box
  - Support person aware of treatment
  - 3-7 days postoperative treatment maximum
  - More medication required, but duration the same

Alford 2006, Meyer personal communication, 2016

Postpartum Care : MAT dosing

- Decreased metabolism and volume of distribution
- Watch for drowsiness –may not see effects for several days
- Co-ordinate discharge with MAT program
  - Needs to be planned in prenatal period
  - Get release of information at first visit
  - Establish relationship with providers

Postpartum Care: Relapse

- Systematic review MAT discontinuation rates during and after pregnancy
- Antepartum rates: 0-33%
- Postpartum 26-64%
- Duration treatment (methadone) before delivery inversely associated with risk of relapse after delivery

Wilder et al 2015

Postpartum care: Prevent relapse

- Close follow up, frequent visits/calls
- Depression screening
- Ask about cravings/relapse
- Consider UDS

Postpartum care: Transition

- Transition to adult primary care
- Postpartum support group
- Continuity of psychiatric care
- Open communication is key!

Breastfeeding

Tell your doctor:

- **if you are pregnant or plan to become pregnant**. SUBOXONE **or** SUBUTEX may not be right for you. It is not known whether SUBOXONE or SUBUTEX could harm your baby.
- **if you are breast feeding**. SUBOXONE **or** SUBUTEX will pass through your milk and may harm your baby.

Suboxone/Subutex package insert

Breastfeeding and opiate use disorder

- Breastfeeding recommended on OAT
- Lactation category C
- Transfer via breastmilk - < 1% maternal dose
- Supported – AAP, ACOG, ABM

Soyka 2013

Breastfeeding and opiate use disorder

- American Breastfeeding Academy 2015
  - Compliance with treatment program
  - Consistent prenatal care
  - Negative tox screen at delivery
  - Negative tox screen 30-90 days

  - Adapting criteria to 50% scheduled visits (2/last month) and 4 weeks of no positive tox screen – substantial increase in breastfeeding

Sala KA et al, 2016

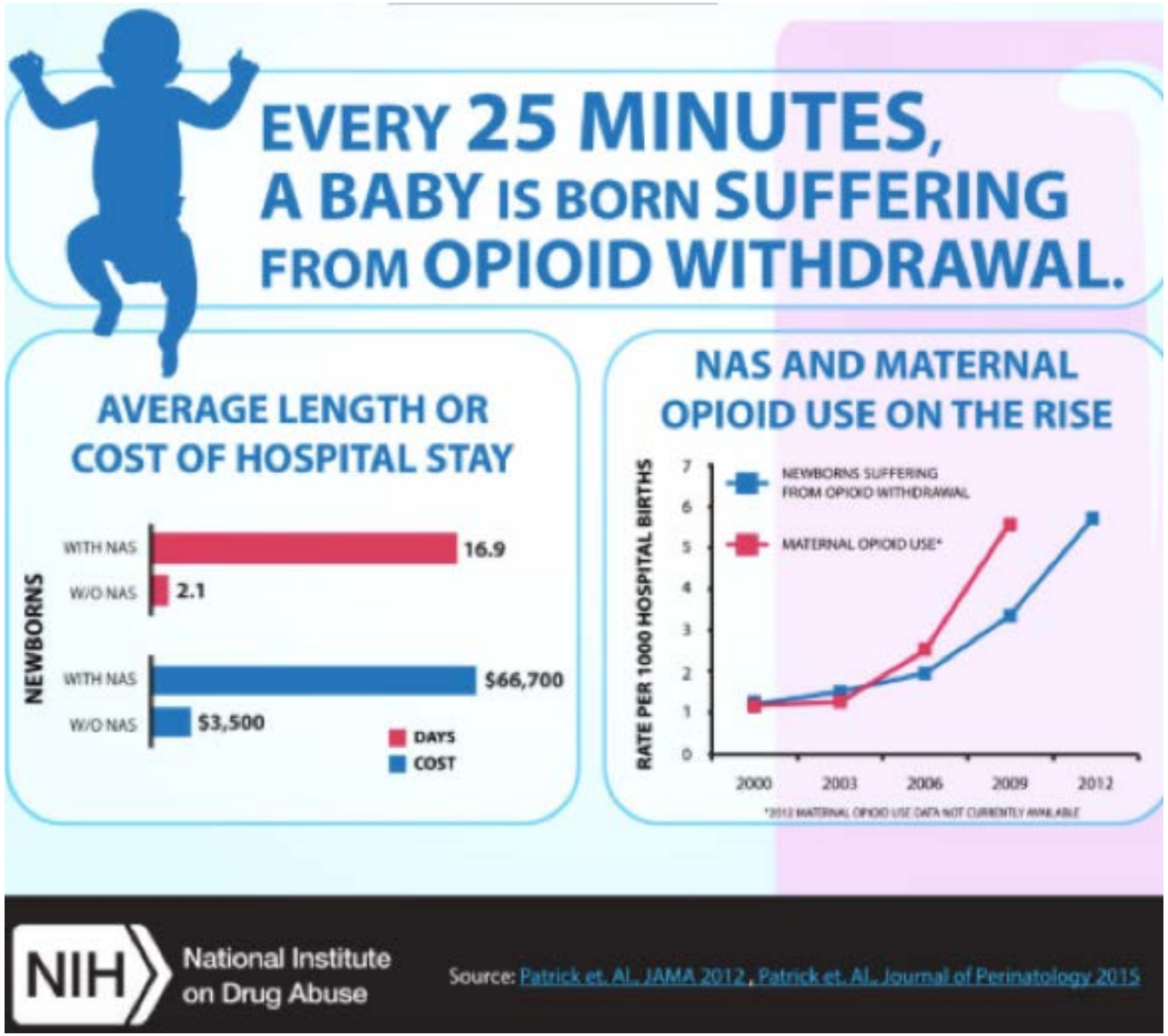
Breastfeeding

- Associations between breastfeeding and improved NAS symptoms
  - Breastfeeding > expressed breast milk
  - Likely skin to skin as soothing
  - Shorter hospitalization
  - Decreased pharmacotherapy for infant
- Improvements in maternal health
  - Enhanced sobriety
  - Enhanced maternal self esteem
  - Improved mother infant bonding

Sala KA et al., 2016

Neonatal Opiate Withdrawal Syndrome

- Affects up to 70% infants
- No linear association with increasing medication dose
- May be present even with detoxification
- Lengthy neonatal hospital stay – average MCW/Froedtert 12-14d
- Close follow up after discharge


EVERY 25 MINUTES,
A BABY IS BORN SUFFERING
FROM OPIOID WITHDRAWAL.
AVERAGE LENGTH OR
COST OF HOSPITAL STAY
NEWBORNS
WITH NAS
16.9
W/O NAS
2.1
WITH NAS
$66,700
W/O NAS
$3,500
DAYS
COST
NAS AND MATERNAL
OPIOID USE ON THE RISE
RATE PER 1000 HOSPITAL BIRTHS
NEWBORNS SUFFERING
FROM OPIOID WITHDRAWAL
MATERNAL OPIOID USE*
0
1
2
3
4
5
6
7
2000
2003
2006
2009
2012
NIH
National Institute
on Drug Abuse
Source: Patrick et. Al., JAMA 2012 , Patrick et. Al., Journal of Perinatology 2015

Manage Expectations!

- Prenatal education is key
- Neonatal abstinence
  - Consultation with pediatrics
  - Tour of neonatal facilities
  - Review of average LOS
- Breastfeeding
- Long term infant care
- Support groups for women in MAT

Neonatal Abstinence Syndrome

A Parent's Guide

Courtesy of Marie Freund, RN, CLC, Froedtert Birth Center
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What is Neonatal Abstinence Syndrome (NAS)?

When women take prescribed medication such as methadone, buprenorpine (Subutex or Suboxone), selective serotonin reuptake inhibitors (SSRIs), serotonin noaradrenaline reuptake inhibitors (SNRIs), oxycoden, hydrocodone, or benzodiazapines; or use drugs such as heroin, amphetamines, cocaine, alchohol, or barbiturates during pregnancy, their babies may get "use to" or "dependent " on this durg. After birth, babies may show signs and symptoms of drug withdrawal. These signs and symptoms together are called Neonatal Abstinence Syndrome or "NAS".

How do I know if my baby has Neonatal Abstinence Syndrome (NAS)?

The doctors and nurses will observe your baby after delivery and will watch for signs and symptoms of NAS. Most babies with NAS will show signs of withdrawal in about 48 to 72 hours. We don't know whether or not your baby will develop NAS, so he or she will need to stay in the hospital for at least 2 to 4 days for observation. If your baby shows signs of NAS, you can expect a longer hospital stay and possible medication to help with the symptoms of NAS.

Signs and Symptoms of NAS

- Shaking or jitters (tremors)
- High-pitched crying
- Trouble sleeping
- Stuffy nose/sneezing
- Yawning
- Poor feeding/problems sucking
- Vomiting/diarrhea
- Fast breathing
- Stiffness in the arms, legs, and back
- Slow weight gain
- Skin breakdown in the diaper area or face

What to expect during your baby's hospital stay

- **Lab tests**
  - Your nurse will collect your baby's urine and first bowel movement for testing in the lab.
- **NAS scoring**
  - The nurses will monitor your baby's symptoms using a scoring system. Using this system can help tell the doctors how severe your baby is withdrawing. Your baby's nurse will score your baby every 2 to 4 hours. Your baby receives points depending on signs and symptoms. See page __ for an example of the NAS scoring chart.
  - It is recommended that scoring begins when your baby is 2 hours old.
  - If your baby's score is 7 or less the scoring will be every 4 hours.
  - If your baby's score is 8 or greater the scoring will be every 2 hours.
- **Possible medications**
  - Your baby may need medication to help ease the symptoms so he/she feels more comfortable.

How can I help My Baby?

- Hold your baby close to your body (skin to skin)
- Dim the lights
- Decrease loud noises
- Try not to wake your baby when he/she is sleeping
- Hold your baby gently and close to your body
- Soft music/rocking
- Spend as much time as possible with your baby
- Avoid having too many visitors

See page __ for more tips on how to calm your baby.

You Can Breastfeed Your Baby

Breast milk is best for your baby. It is important to remember that any medications you are taking can pass through your breast milk to your baby. Please talk to your baby's doctor before you start breastfeeding.

It is very important that you tell your baby's doctor about any medications that you are taking while breastfeeding. Never take any illegal drugs while breastfeeding, this can be very harmful to your baby.

If you are on methadone (subutex) or burprenorphine (suboxone) it is important that you do not stop breastfeeding suddenly. When you stop or decrease your breastfeeding it is best to do this slowly, talk to your baby's doctor about how to safely do this. If you stop breastfeeding suddenly your baby could have increase NAS symptoms.

Taking care of your baby once you are home

It is important to remember that the signs and symptoms of NAS can continue for up to six months after you take your baby home. Symptoms will gradually decrease over time.

- Your baby may continue to have;
  - Problems feeding
  - Slow weight gain
  - Poor sleeping patterns
  - Colic (crying)

Your baby's nurse will help teach you how to take care of your baby and ways to help your baby if he or she is having any of the problems listed above.
Once you are home maintain a routine. Learn how to tell if your baby is being overstimulated.

- Your baby may tell you "I'm upset" by showing these cues;
  - Yawning
  - Sneezing
  - Frowning
  - Looking away
  - Closing eyes
  - Having tremors (shaking)

If you see any of the above cues, stop what you are doing. Try placing your baby skin to skin with you or swaddling to calm your baby down. Introduce new things to your baby, such as a musical toy, tummy time, or patty cake one at a time. Do this while she or he is quite & alert, and watch for cues that your baby is being overstimulated. Be aware that your baby's ability to handle new stimuli will vary from day to day.

Instructions for NAS Scoring

Central Nervous System Disturbances

- Crying: Excessive High Pitched
  - **Score 2** if your baby is unable to decrease crying within a 15 second period using self-consoling measures. This item will also be scored if your baby continues to cry intermittently or continuously for up to 5 minutes despite caregiver interventions during the examination period.

- Crying: Continuous High Pitched
  - **Score 3** if your baby is unable to use self-consoling measures to decrease crying within a 15 second period. This item will also be scored if your baby continues to cry intermittently or continuously for greater than 5 minutes despite caregiver intervention during the examination period.

- Sleep
  - **Score 3** if your baby sleeps less than 1 hour after a feeding.
  - **Score 2** if your baby sleeps less than 2 hours after a feeding.
  - **Score 1** if your baby sleeps less than 3 hours after a feeding.

  Your baby's nurse will not give your baby any points if he or she is woke up for feeding/medications.

- Tremors
  - **Score 1** if your baby has tremors or shaking of the hand or foot when being handled.
  - **Score 2** if your baby has tremors or shaking of the arms or legs when being handled is asleep, awake, active or alert.
  - **Score 3** if your baby has tremors or shaking of the hands and feed when not being handled.
  - **Score 4** if your baby has tremors or shaking of the arms or legs when not being handled.

My Support Team

My social worker is:

_____

My social workers contact information:

_____

_____

My pediatrician is:

_____

My pediatricians contact information:

_____

_____

My doctor is:

_____

My doctors contact information

_____

_____

Comfort Measures My Baby Likes

1. _____
2. _____
3. _____
4. _____
5. _____

People Who Can Support Me

1. _____
2. _____
3. _____

Baby Care Checklist

Your baby's nurse will teach you how to take care of your baby. Parenting is learned and this is the time to practice taking care of your baby! It is normal to feel frustrated and feel like you don't know what you are doing. Remember, your baby's nurse can help you through this process and help you feel confident and ready to take your baby home.

Go through the checklist below and have the nurse mark off the baby cares that you have completed.

1. Diaper change_____
2. Baby Bath_____
3. Swaddling_____
4. Skin to Skin_____
5. Comforting measures_____
6. Dressing_____
7. Feeding/Breastfeeding_____

Table 1

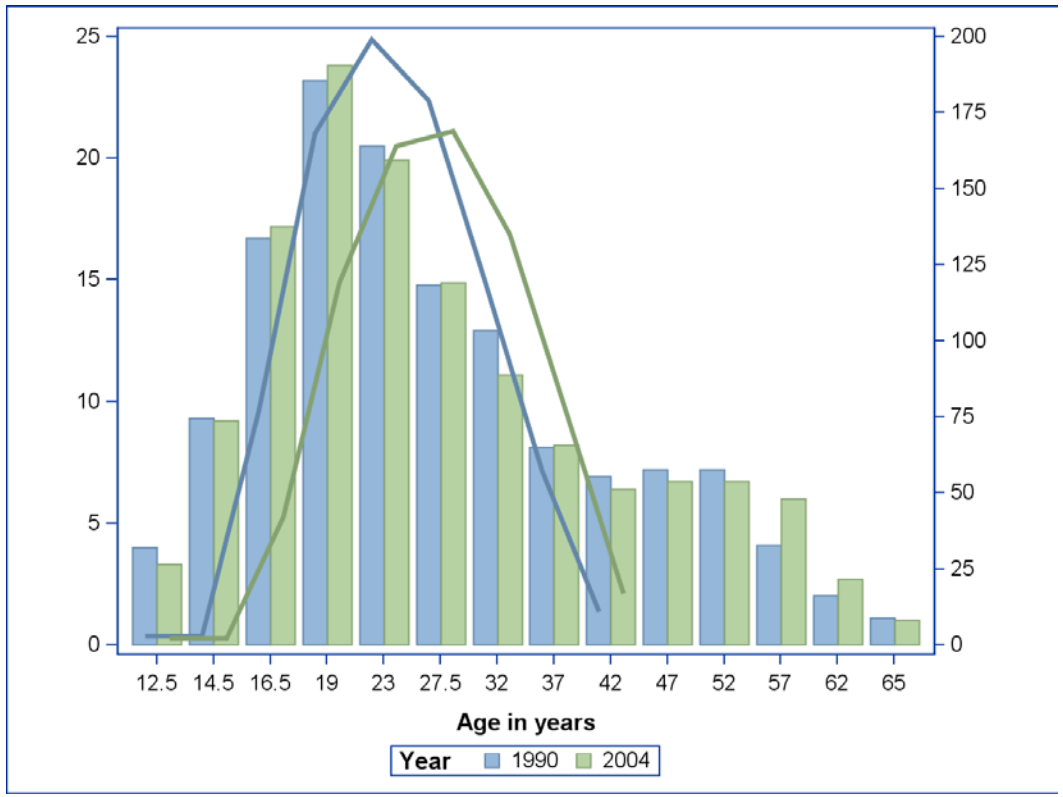
Recommendations for health care systems to provide to pregnant women with opioid use disorder

o *Access to opioid agonist treatment options*
Methadone or buprenorphine
o *Access to obstetric care*
Recovery-affirming and trauma-informed
Comprehensive obstetric and addiction medicine services
Group prenatal care as an option
o *Access to psychiatry consultation*: assessment and treatment options for co-occurring disorders
o *Access to behavioral health counseling*: weekly individual or group counseling
o *Resource guides for community-based relapse prevention*
Mutual aid support groups
Mothers-in-recovery groups
o *Development of enhanced postpartum care*: program development to intensify recovery support potentially utilizing peer supports
Close follow-up (<2 weeks from delivery)
Allow for multiple postpartum visits
Consider visits every 2 weeks for 3–6 visits
Breastfeeding/lactation support
Screening/treatment for postpartum depression
Transition to a primary care provider familiar with opioid use disorder and its treatment

Sala KA et al., 2016

Prepregnancy Counseling

Remember this slide?:



- 50% of all pregnancies are unplanned. A recent study found that 85% of all pregnancies in women with addiction were unplanned
- Many patients with SUD have infertility but have not sought treatment
- Many patients with SUD experience menstrual disorders which may make it harder to become pregnant
- Many patients want to become pregnant

Pregnancy and SUD Treatment

- Pregnancy may be a motivator
- Postpartum can be a serious de-motivator

Are They Stable Enough to Be Pregnant?

- Pregnancy complicates SUD treatment
- SUD treatment complicates pregnancy
- Are they in the “right place and time” to have a baby?
- What defines “stable”? Duration since last change in medications? Duration since last positive UDS?
- Stable relationship? Will your boyfriend/husband make a good father?
- Stable living environment?
- Stable job?
- Off all therapy?

Prepregnancy Counseling

- You may seriously doubt that your patient is ready for pregnancy. However, your opinion counts only if she asks is willing to follow your advice
- Refer patient to your obstetric provider for a pre-pregnancy talk
- Pre-pregnancy folic acid supplementation- 1mg (1000 micrograms) daily for 3 months before pregnancy or as soon as possible and through pregnancy
- Smoking cessation

What About Contraception?

- At new patient intake, ask your patients what they are using for contraception and any intent to become pregnant in the next year
- If they don’t want to become pregnant, refer them for contraception. Preferably a LARC
- Address this issue with your recently delivered patients: If it is stressful now, think about how stressful it would be with another baby in 9 months!

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