Substance Use Disorder in Pregnancy

JESSICA YOUNG, MD, MPH

Disclosures

NONE

Key Ideas

- Overview
  - History of OUD in 10 minutes or less
  - Maternal and Pediatric Outcomes
- Best Practices
  - Screening
  - Treatment
  - Pregnancy Management
  - Inpatient Opportunities for Improvement
- Building Therapeutic Alliance

8000 years of Opioid use

5000-3000 BC'
- Sumerians cultivate "joy plant"

1550 BC
Text in Egypt mentions Opium for pain

460-370 BC
- Hippocrates rites about uses for opium

1st Century AD
- Roman physician prescribes opium for pain

1000-1500 AD
- Arab physicians and traders spread use of opium in Middle East and Asia

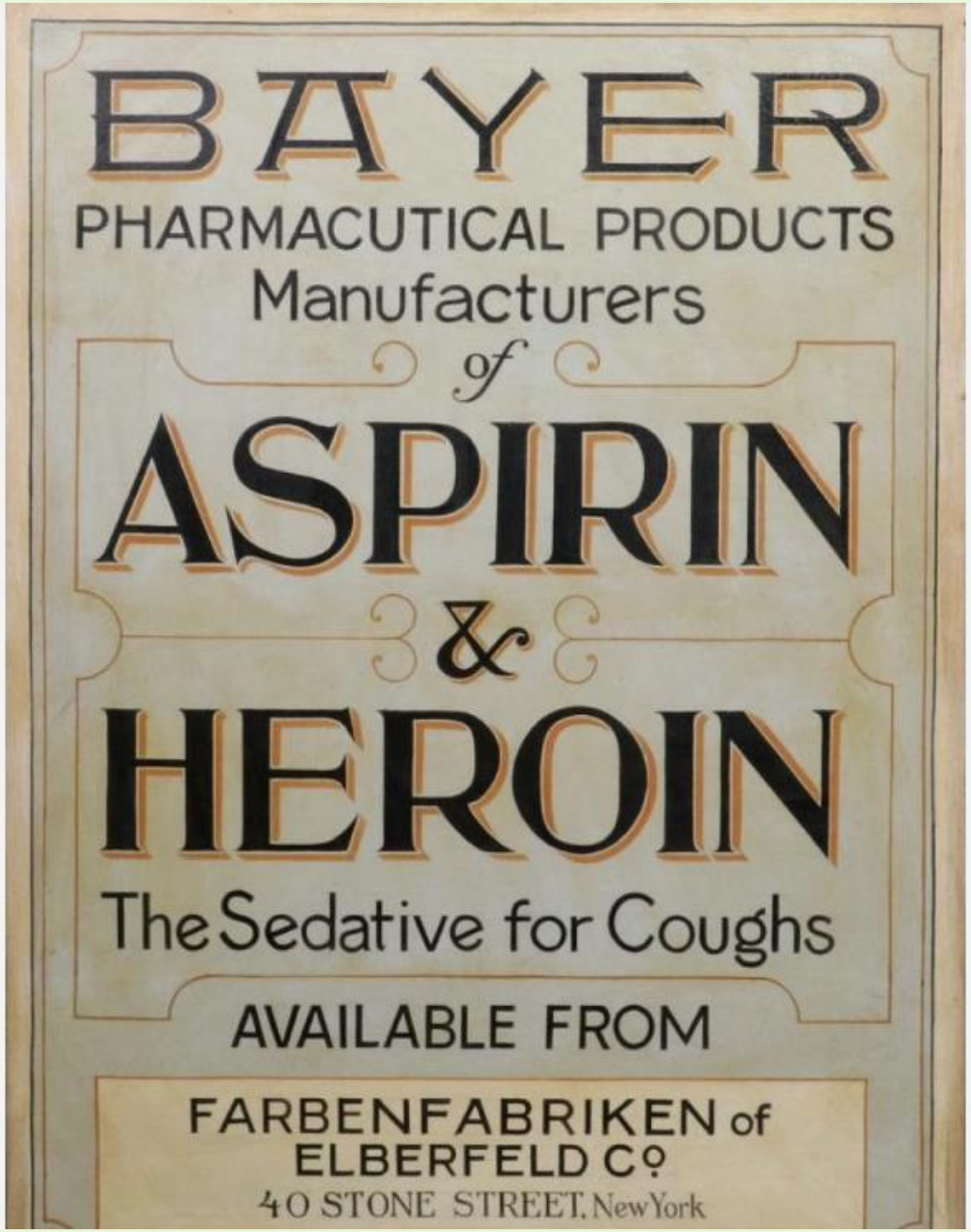
1600 AD
- Swiss physician popularizes a tincture of opium called laudanum

1700-1800
- Laudanum becomes used throughout Europe for pain, cough, and diarrhea

散发《劝戒洋烟文》
Distribute essay named "Opium Cessation"

Destroying opium at Humen, Unknown, From the collection of: The Opium War Museum

History and addiction



US Opioid history: 18th Century to Present

1800's
- Widespread use of opium and laudanum for medicinal purposes

Civil War
- Morphine was invented
- "Morphinism"

1898
- Heroin was invented by Bayer as a non-addicted alternative to morphine

1914
- Harrison Act
- Criminalization of treatment of addiction

1970's
- Heroin addiction of GI's returning from Vietnam
- Methadone treatment was legalized

1990-2010
- Marketing of Opioids
- Pain as the 5th Vital Sign
- Overprescribing of opioids

2010-2013
- Prescribing restrictions
- Heroin

2013-present
- Synthetic Opioids
- Abatement Era
- SUD as medical illness

OPIUM—THE POOR CHILD'S NURSE.

Credit: Smithsonian Museum

Overdose and Maternal Mortality

US maternal mortality rates have been rising.

Overdose is a major cause of maternal mortality.

Maternal mortality ratios from overdose doubled from 2018-2021.[1]

MATERNAL MORTALITY REPORT 2023

PREGNANCY-RELATED DEATHS in 2021

The death of a woman during pregnancy or within one year of the end of pregnancy — from any cause related to, or aggravated by, the pregnancy or its management.

53 WOMEN DIED from PREGNANCY-RELATED CAUSES

The BURDEN IS HIGHER among NON-HISPANIC BLACK WOMEN, women covered by TENNCARE, and those residing in WEST TENNESSEE.

Almost **4 in 5** PREGNANCY-RELATED DEATHS WERE DEEMED PREVENTABLE

KEY FINDINGS | 3 Leading Causes of Pregnancy-Related Deaths

COVID-19

ABOUT **4 in 5** WOMEN WHO DIED FROM COVID-19 WERE **UNVACCINATED**

ABOUT **4 in 5** COVID-19 DEATHS (81%) WERE **PREGNANCY-RELATED**

86% DEEMED PREVENTABLE

RECOMMENDATIONS

The COVID-19 vaccine should be offered to all pregnant women per CDC guidelines.

Providers should be aware of the improved outcomes with the use of early ECMO, an advanced form of life-support, in young patients with COVID-19 during pregnancy.

Cardiovascular Disease

9 PREGNANCY-RELATED DEATHS were from cardiovascular conditions such as **PREECLAMPSIA** and **ECLAMPSIA**

The **HIGHEST RISK** group was **NON-HISPANIC BLACK WOMEN** between **30 and 39 YEARS**

RECOMMENDATION

Facilities should ensure training, education, and implementation of protocols on the management of pregnancy and postpartum complications, such as preeclampsia, and eclampsia in all inpatient and emergency department settings.

Substance Use Disorder

17 PREGNANCY-RELATED DEATHS where SUBSTANCE USE DISORDER was a contributing factor

of those approximately **3 in 4** (76%) had a **CO-OCCURING MENTAL HEALTH PROBLEM**

RECOMMENDATION

Providers should offer referral for substance use treatment to those with substance use disorders before discharge from the Emergency Department/Hospital.

TN Department of Health

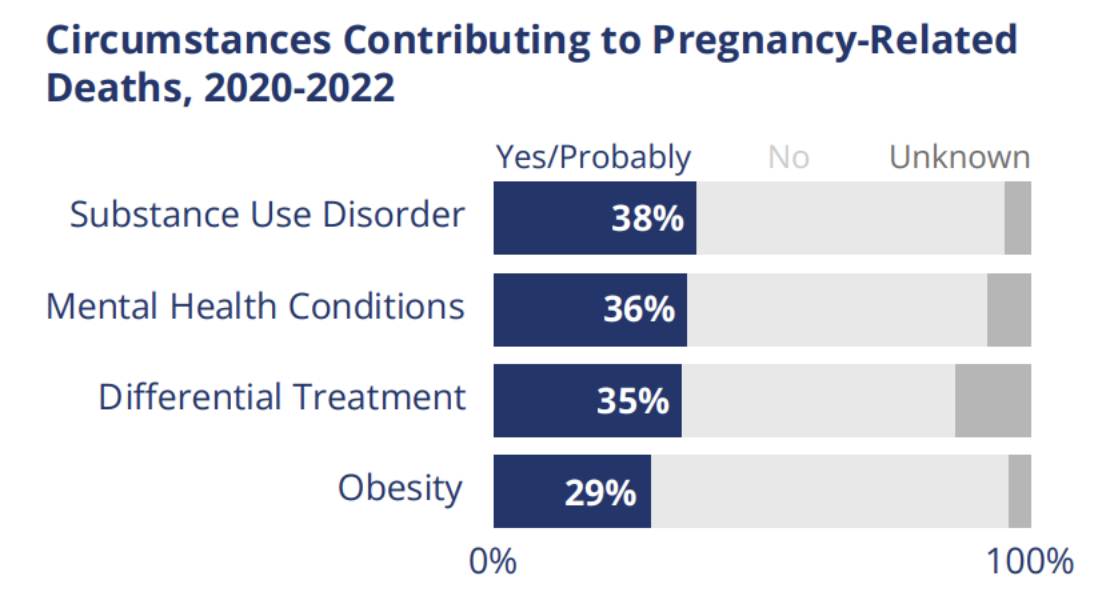
VIEW THE FULL REPORT ONLINE

tn.gov/health/MMR-Report-2023

Maternal Mortality Report 2023 • Infographic of 2021 Pregnancy-Related Deaths

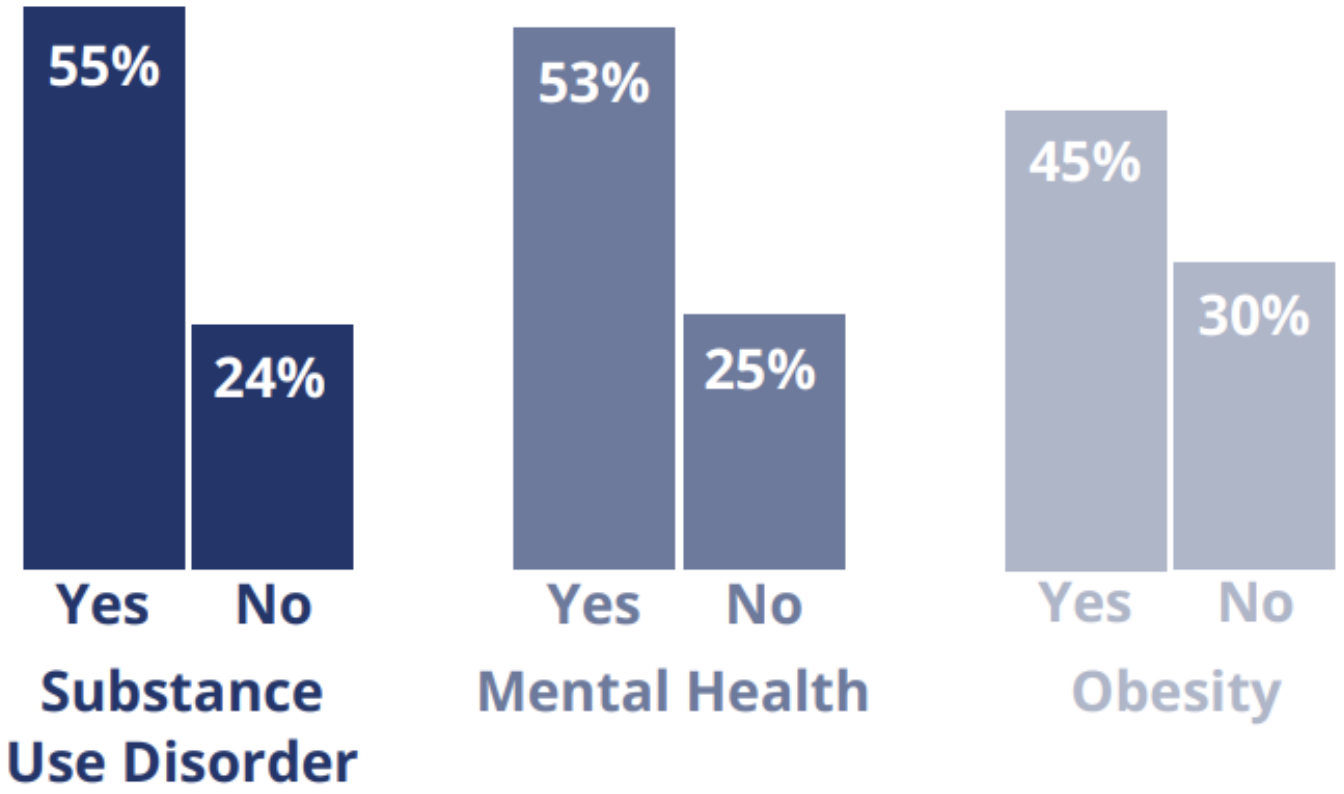
Tennessee Department of Health

Tennessee Data



OUD Overview

Percentage of Deaths in which Differential Treatment Contributed Among Those With and Without Co-Contributing Factors, 2020-2022*



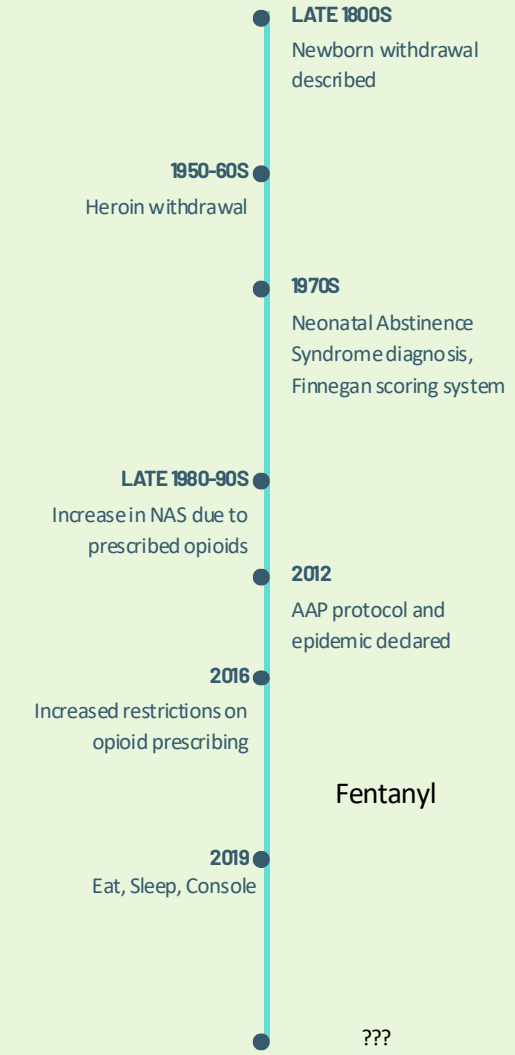
*Yes and Probably determinations were grouped together for all factors.

Complications of Opioid Use During Pregnancy

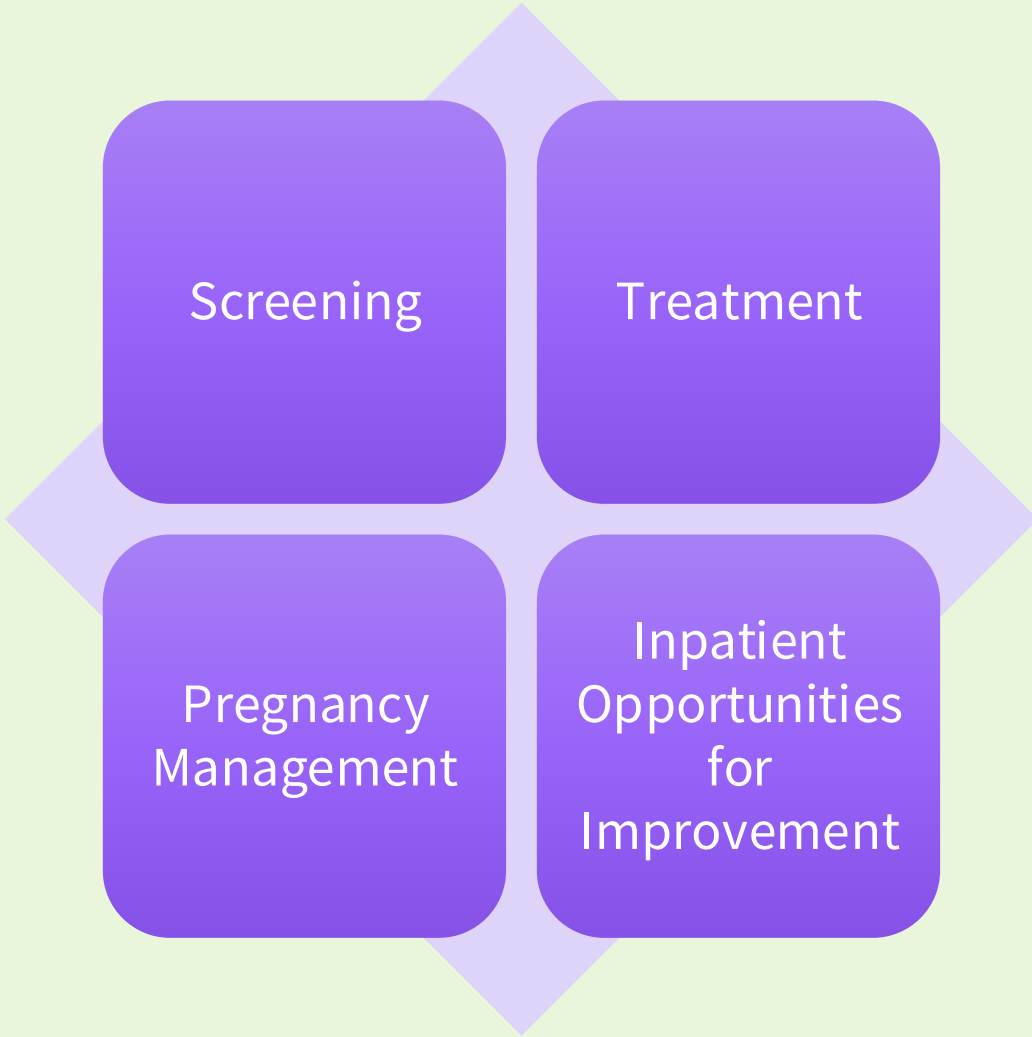
Maternal	Fetal/Newborn
Preterm labor	Intrauterine growth restriction
Preterm premature rupture of membranes	Low Apgar scores
Placental abruption	Stillbirth
Intraamniotic infection (Triple I)	Neonatal Abstinence Syndrome (NAS)
Preeclampsia	Higher risk for exposure to ETOH, tobacco, other substances
Increased risk of Hepatitis C, HIV, and other infectious diseases	Sudden Unexpected Infant Death (SUID)
Overdose	Higher risk for neurocognitive disorders
Untreated concomitant psychiatric disorders	
Bacteremia	
Septic thrombophlebitis	

Source: Center for Substance Abuse Treatment

NOWS TIMELINE



Best Practices



Why Screen for Substance Use in Pregnancy?

Substance Screening-ACOG recommendations, CO 711: SBIRT

- Early universal **screening, brief intervention** (such as engaging the patient in a short conversation, providing feedback and advice), and **referral for treatment** of pregnant women with opioid use and OUD improve maternal and infant outcomes.
- Screening for substance use should be part of comprehensive obstetric care and should be done at the first prenatal visit in partnership with the pregnant woman. Screening based only on factors, such as poor adherence to prenatal care or prior adverse pregnancy outcome, can lead to missed cases, and may add to stereotyping and stigma. Therefore, it is essential that screening be universal.
- Routine screening should rely on validated screening tools, such as questionnaires, including 4Ps, NIDA Quick Screen, and CRAFFT (for women 26 years or younger).

SBIRT

Screening

Brief Intervention

- Get more history
- Provide education
- Assess goals and motivation for change

Referral To Treatment

Referral to Treatment

- Substance type
- Severity
- Underlying co-occurring psychiatric disorders
- Medical co-morbidities
- Outpatient
- Intensive outpatient programs/Partial hospitalization
- Inpatient
- Residential and Sober Living

Barriers to Screening

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

Opioid Screening Tools

Screening (Primary)	Brief Intervention (Secondary)	Referral (Tertiary)
• No SUD • Screening only • Prevent onset of disease • Education	• Behavorial Health • Brief Intervention • Brief Treatment • Prevent Disease Progession	• Mod/Serve SUD • Refer to treatment • Prevent Morbidity & Mortality

DISEASE SEVERITY

Screening Tool	Description	Pros	Cons	Sensitivity/Specificity[1]
Specific to Drug Use in Pregnancy				
NIDA Quick Screen	• 3 questions • Approximately 3-5 minutes • Scripted tool to support provider standardization of substance use screening	• Listed in ACOG bulletin • Existing online tool developed by NIDA • Free • SMFM recommended	• Not specific to pregnancy • No training available	Possible top recommendation
Integrated 5Ps Screening Tool	• Peers, Parents, Partner, Past and Pregnancy	Free • Designed specifically for pregnant women		

[1] http://apps.who.int/iris/bitstream/handle/10665/107130/9789241548731_eng.pdf;jsessionid=F026463023E46EC67AC194C5099B28E4?sequence=1
Annex 3, page 198

5P's Screening Tool

https://tipqc.org/wp-content/uploads/2024/05/2.-5Ps-Screening-Tool-and-Follow-Up-Questions.pdf

1. Did any of your Parents have problems with alcohol or drug use? ___ No ___Yes

2. Do any of your friends (Peers) have problems with alcohol or drug use? ___ No ___Yes

3. Does your Partner have a problem with alcohol or drug use? ___ No ___Yes

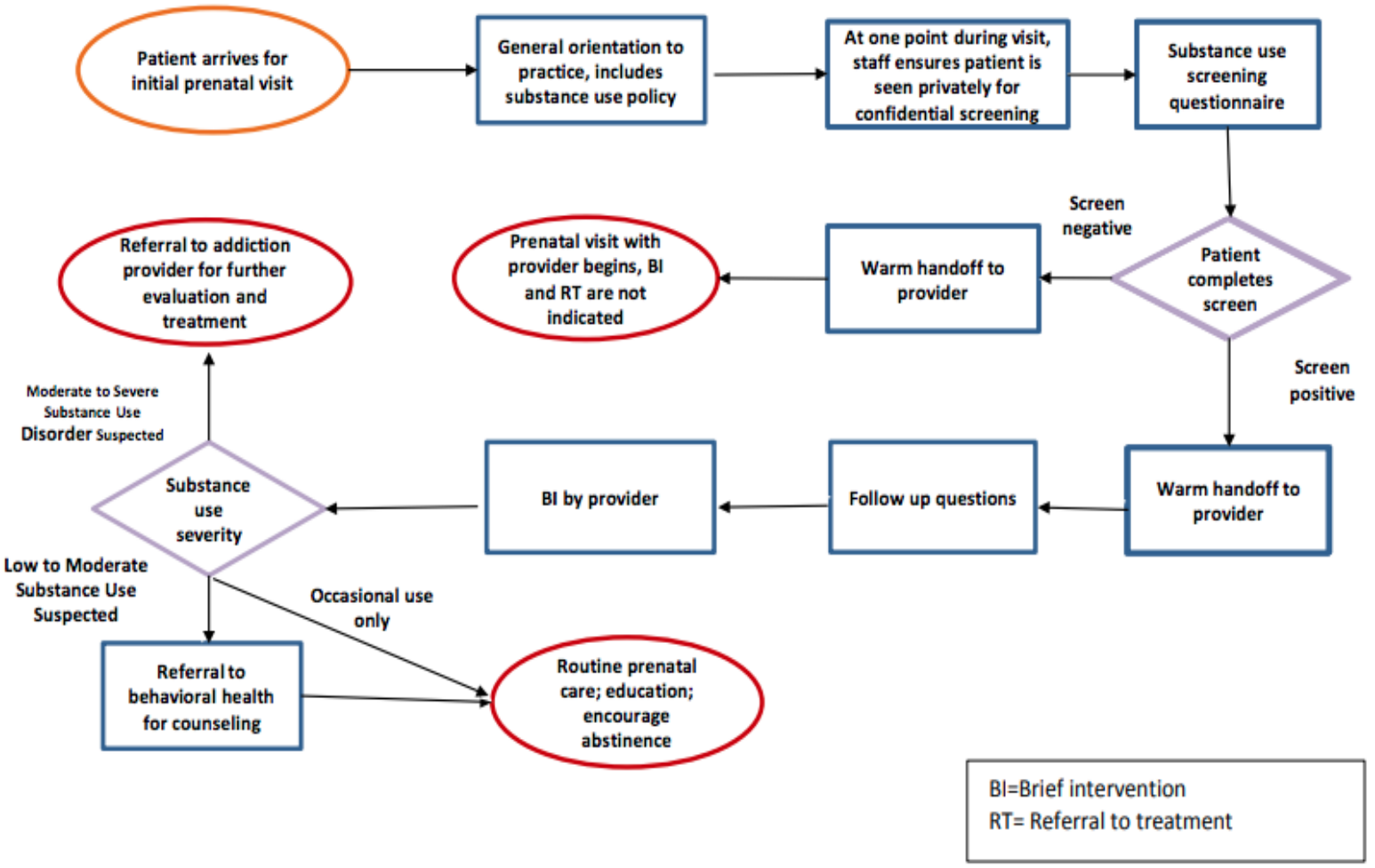
4. Before you were pregnant did you have problems with alcohol or drug use? (Past) ___ No ___Yes

5. In the past month, did you drink alcohol or use other drugs? (Present) ____No ____Yes

NIDA Quick Screen

NIDA *Quick Screen* Question: In the past year, how often have you used the following?	Never	Once or Twice	Monthly	Weekly	Daily or Almost Daily
Alcohol • For men, 5 or more drinks a day • For women, 4 or more drinks a day					
Tobacco Products					
Prescription Drugs for Non-Medical Reasons					
Illegal Drugs					

Process Map for SBIRT at Initial OB Visit



5 P's Screening: Brief Intervention and Referral to Treatment Outpatient Setting

Screening

- PARENTS
- PEERS
- PARTNER

→

- Screen for safety
- Educate on risks of use

Brief Intervention, Referral to Treatment

- PAST

→

Review substance use, risks of relapse, and support systems

- PRESENT

→

1. Place orders:
   - UDS (with consent)
   - Narcan
2. Refer to Treatment/case management
3. Obtain ROI's for current treatment

Routine Urine Drug Testing

Not a screening tool

Not recommended to be used as screening

Only perform with patient consent and in compliance with state laws.

KNOW YOUR TEST

Fentanyl, xylazine, synthetics, ketamine-not on most drug panels

TIPQC
Tennessee Initiative for Perinatal Quality Care

Routine Urine Drug Testing

Implication of positive test should be reviewed.

Risks of false positive and false negative tests. Confirmatory testing may take days to weeks to return.

Common OTC medications and prescription medications may cause false positives e.g. ranitidine, Benadryl, sertraline, OTC cold meds

TIPQC
Tennessee Initiative for Perinatal Quality Care

Referrals

Tenncare patients: MCO high risk obstetric case manager

- Blue Care
- United
- Wellpoint

Find Help Now

- www.findhelpnow.org/tn

Partnership w/ local Addiction Medicine

- Inpatient/Residential
- Outpatient
  - Methadone
  - Buprenorphine

Your Screening Process

OUD Treatment Options

OUD Treatment Options

- Medication Assisted Treatment (MAT)/ Medication for OUD (MOUD)
  - Methadone
  - Buprenorphine
  - Naltrexone
- Medication Assisted Withdrawal
- Psychosocial Treatment/Support

Methadone Maintenance

- Gold standard with decades of experience
- Long-acting opioid agonist
- Harm Reduction
- Increases adherence to prenatal care
- Improves pregnancy outcomes
- Decreases severity of NAS
- Decreased foster home placement
- NAS/NOWS ~50%

Methadone tips

- Does not have to be in withdrawal to start
- Split dosing is often necessary in pregnancy
- Starting dose 10-30 mg
- Max dose of 40 mg in 24 hours for methadone naïve patient
- Doses are titrated up based on symptoms and relapses
- Continue outpatient dose inpatient
- Confirm outpatient dosing with methadone clinic
- NAS/NOWS risk is not dose dependent

Buprenorphine Treatment

Partial mu opioid agonist and full kappa antagonist

High affinity for opioid receptors

Lower doses prevent withdrawal

Higher doses prevent cravings

Formulations

- Sublingual tablets or film (Pregnancy)
- Extended release injection (weekly or monthly)
- Implant
- Patch (pain management only)

Buprenorphine Maintenance

Advantages

- Neonatal outcomes similar to methadone (MOTHER trial)
- Less severe NAS with shorter hospitalization and less morphine requirement
- Office-based treatment
- More accessible including telehealth
- Multiple formulations including XR

Disadvantages

- No rigorous studies on initiation during pregnancy
- Often not effective for women using high doses of IV opiates
- Higher drop-out rate than methadone in MOTHER trial (33% vs. 18%)
- Higher relapse rate
- Challenges to initiation in age of fentanyl
- NAS treatment rates (20-45%)

Combo vs. Mono

Combo	Mono
No data on harm of Naloxone in pregnancy	More studies
Less Diversion	Convention
Less Misuse	Safe in breastfeeding
Safe in breastfeeding	

Comfort Meds for Withdrawal

Antihistamines	• Hydroxyzine
Antinflammatories	• Acetaminophen
Anti-emetics	• Promethazine • ondansetron
Alpha 2 agonists	• Clonidine
Muscle relaxer	• Cyclobenzaprine

TIPQC
Tennessee Initiative for Perinatal Quality Care

What about medically assisted withdrawal (MAW)?

Benefits of MAWS

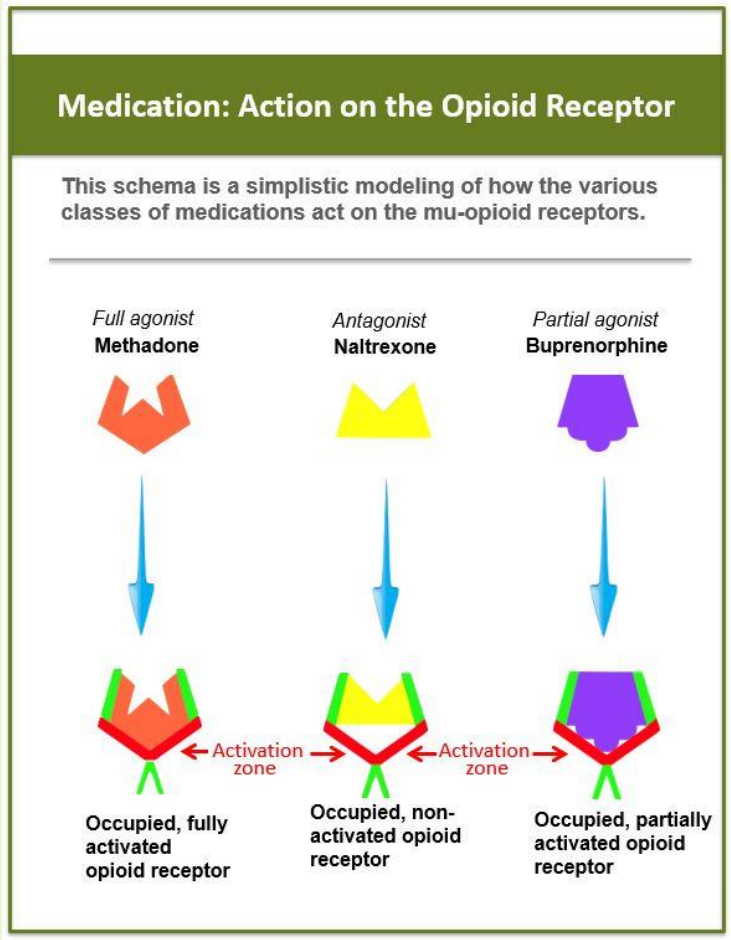
- Reduction in NAS if successful
- Theoretically reduces long-term effects of opioid exposure
- Decreases risk of child protective services and legal action
- May be more supported by family and community

Disadvantages of MAWS

- Treatment of chronic disease with short term intervention
- Risk of relapse
- Risk of overdose
- Lack of evidence-based protocols
- Shortage of residential programs
- Risk of withdrawal symptoms without appropriate medical supervision

Naltrexone Medication Assisted Treatment

- Opioid receptor blocker
- Monthly injection or daily oral pill
- Requires period of abstinence prior to initiation
- Less risk of NAS
- Very little data in pregnancy



Naltrexone

- Still experimental in pregnancy
- Can likely be continued safely
- Helpful if someone is stable on Naltrexone
- Pain management can be challenging

MOUD Side Effects

- Nausea
- Vomiting
- Constipation
- Headache
- Restless legs
- Sweating

Pregnancy Management

First Trimester

- Routine prenatal labs
- Hep C, Hep B, HIV, RPR
- Screen for tobacco/vaping
- Screen for PMADS
- Refer to addiction medicine/treatment if needed
- Offer Naloxone

Second Trimester

- Detailed Anatomy US
- Monthly growth ultrasounds @24 weeks
- support with common concerns like nausea, constipation

Pregnancy Management

Third Trimester

- Serial growth scans
- Repeat Hep c/RPR/HIV
- Antenatal testing if using unprescribed substances
- Contraceptive plan
- Discuss pain management concerns
- Educate on breastfeeding
- Educate on pediatric protocols
- Screen for PMADS

Delivery Pain Management

Vaginal Delivery

- Continue buprenorphine or methadone
- Regional anesthesia
- Avoid Nalbuphine/butorphanol
- PP: Schedule NSAIDS

Cesarean Section

- Continue buprenorphine or methadone
- PP divide buprenorphine dose or methadone dose
- Regional anesthesia
- Local anesthetics
- PP: Multimodal analgesia including NSAIDS and short-acting opioids as needed
- Consider hydromorphone
- New data on increasing buprenorphine dosing to avoid short-acting opiates

Develop Postpartum Plan of Care

Inpatient

Pain control protocols

Social Work consult

Behavioral Health consult

Warm handoff

Plan of safe care for mom and baby

Overdose education

Link to services if not in treatment/start MAT

Contraceptive access including IPP LARC if desired

Discharge Planning

Ensure appointment with addiction medicine specialist is scheduled within 1- 2 weeks.

Warm handoff to outpatient providers

Plan of safe care for mom and baby

Educate on Postpartum Mood and Anxiety Disorders

Contraceptive plan

Referrals to home health agencies

Narcan prescription or kit

Making Safe Spaces

Trauma Informed Approach

Therapeutic Alliance

Motivational Interviewing

Harm Reduction

Therapeutic Alliance

Motivational Interviewing

A counseling technique that facilitates behavior change

Open Ended questions

Affirmations

Reflective Listening

Summaries

Harm Reduction

- Listen
- Solicit patient's goals and understand that their goals may be different from their health care providers
- Educate on maternal and fetal risks of continued use
- Make your office/hospital a safe space
- Discuss treatment options
- Offer resources for safer use
  - Naloxone
  - Fentanyl test strips
  - Syringe Exchange Programs

4th Trimester

Visits
- 1-2 weeks postpartum
- 4-6 weeks postpartum
- 8-12 weeks postpartum

Postpartum Mood and Anxiety Disorder screening

Contraception

Routine health screenings

Immunizations

Smoking cessation

Linkage to care for chronic health conditions
- Hep C treatment
- SUD treatment

Summary

- OUD is a significant cause of maternal morbidity and mortality.
- Universal screening during pregnancy can improve outcomes through education and linkage to treatment.
- MOUD saves lives and improves outcomes for people with OUD.
- Obstetric providers are essential to improving outcomes for moms affected by substance use disorder and their babies during pregnancy and long-term.

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[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] **GESTATIONAL CHANGES IN BUPRENORPHINE EXPOSURE: A PHYSIOLOGICALLY-BASED PHARMACOKINETIC ANALYSIS** FIRST PUBLISHED: 05 JUNE 2018 [illegible]

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Important TN resources

https://www.tn.gov/content/dam/tn/mentalhealth/documents/Public_Guidance_DATA_Waiver_Removal_2.27.23.pdf

https://www.tn.gov/content/dam/tn/mentalhealth/documents/2018_Buprenorphine_Treatment_Guidelines.PDF

Thank you!

Presentation prepared with materials from

Jessica Young, MD, MPH

Jessica.l.young@vumc.org

Tipqc.org