### Welcome!

Comprehensive Care for Pregnant Women with OUD and Infants with Opioid Exposure

Summer 2025 Training Series



# Tennessee Initiative for Perinatal Quality Care (TIPQC)

- Established in 2008
- TIPQC seeks to promote meaningful change, advance health, and improve the quality of care through pregnancy, delivery, and beyond for all Tennessee families
- Quality improvement projects, trainings/educational opportunities, data management & analysis, networking, etc.
- Successfully completed 30 QI projects
- 3 Ongoing Projects: Cardiac Conditions of Obstetric Care, Necrotizing Enterocolitis, and Best for ALL
- Other ongoing initiatives: SUD Grand Rounds, Summer Respectful Care Simulations, Summer Doula Trainings, Community Resource Council, and more!

### TODAY'S AGENDA



## TIPQC Summer 2025 Training Series: Comprehensive Care for Pregnant Women with Substance Use Disorder and Their Infants

9:00 AM-12 PM

7/24/25: Knoxville 7/25/25: Johnson City 8/5/25: Memphis 8/6/25: Nashville 8/25/25: Chattanooga

Suggested Attendees: 3-4 educators, physicians, or nurses per hospital in TN

Objective: Support & educate hospital teams in caring for pregnant women with substance use disorder and their infants

9:00-9:10AM	Welcome & Intro	Anastacia
9:10AM-10:00AM	General OB Care for the Patient with OUD/SUD	Dr. Young
10:00- 10:50AM	Infant Support for the OEN/NAS Infant	Dr. Morad
10:50-11:40 AM	Mental Health Screening, Services, and Referrals Screening Tools and Safety Plans	Dr. Wood
11:40-12:00 PM	Discussion and Q&A	

# Obstetric Care for Patients with Substance Use Disorder

Jessica Young, MD, MPH



### Disclosures

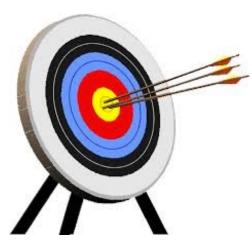
None



### Key Ideas



- OUD/SUD in pregnancy
- Therapeutic Alliance
- Screening for SUD in pregnancy
- Pregnancy Management
- Intrapartum/Postpartum Management
- 4th trimester



# 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.<sup>1</sup>

### MATERNAL MORTALITY 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.

WOMEN
DIED from
PREGNANCYRELATED
CAUSES

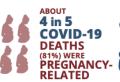
The
BURDEN
IS HIGHER
among
NON-HISPANIC
BLACK WOMEN,
women covered
by TENNCARE,
and those residing in
WEST TENNESSEE.

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



#### **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.

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

#### 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





#### RECOMMENDATION

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



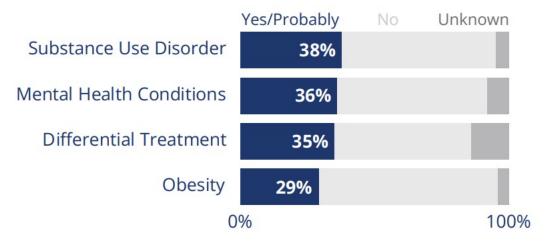




**Perinatal Quality Care** 

### **Tennessee Data**

### **Circumstances Contributing to Pregnancy-Related Deaths, 2020-2022**



**OUD Overview** 



#### In Tennessee, women who died from acute overdose within a year of pregnancy:



Over four in five women (83%) died between 43 days and 1 year postpartum



Most deaths (80%) were preventable



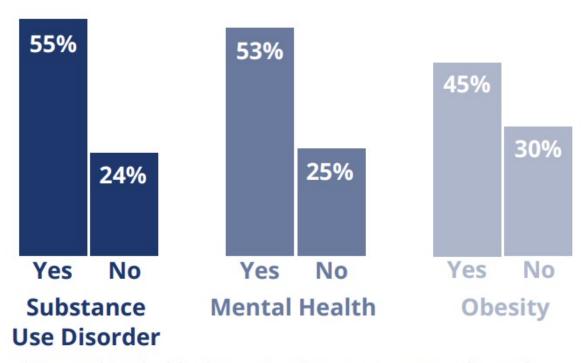
Over half (59%) of deaths had mental health conditions as a contributing factor



29-years-old was the average age of women who died from an acute overdose

## Tennessee Maternal Mortality and Overdose<sup>4</sup>

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



<sup>\*</sup>Yes and Probably determinations were grouped together for all factors.









Trauma Informed Approach

Therapeutic Alliance

Motivational Interviewing



Harm Reduction

## Making Safe Spaces

# 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

### Naloxone Access



- Pharmacies
  - With a rx/insurance
  - Without rx/insurance
    - \$45-75
- Free naloxone
  - Regional Overdose Prevention Specialists
  - Health Departments
  - Online

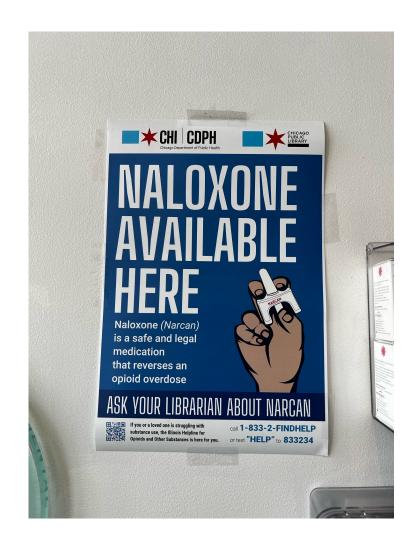


Photo by Jessica Young



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).



# Barriers to Screening



### **Opioid Screening Tools**

#### Screening (Primary)

- No SUD
- Screening only
- Prevent onset of disease
- Education

### Brief Intervention (Secondary)

- · Behavorial Health
- Brief Intervention
- Brief Treatment
- Prevent Disease Progession

### Referral (Tertiary)

- Mod/Serve SUD
- · Refer to treatment
- Prevent Morbidity & Mortality

#### DISEASE SEVERITY

Screening Tool	Description	Pros	Cons	Sensitivity/Specificity <sup>1</sup>							
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									



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

# 5P's Screening Tool



- 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

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

### 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					
<ul> <li>For men, 5 or more drinks a day</li> </ul>					
<ul> <li>For women, 4 or more drinks a day</li> </ul>					
Tobacco Products					
Prescription Drugs for Non-Medical Reasons					
Illegal Drugs					

### SBIRT

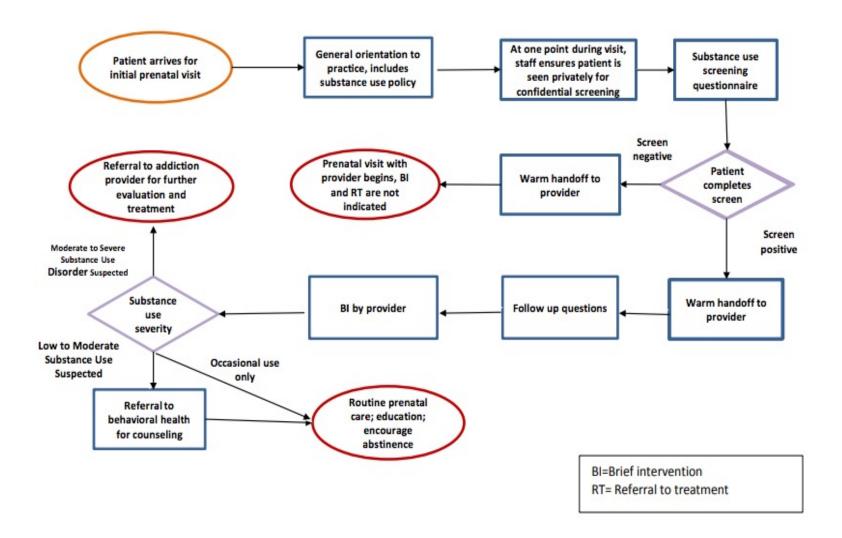
- Screening
- Brief Intervention
  - Get more history
  - Provide education
  - Assess goals and motivation for change
- Referral To Treatment



### 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

### Process Map for SBIRT at Initial OB Visit







- PARENTS
- PEERS
- PARTNER

- Screen for safety
- Educate on risks of use

• PAST

Intervention,
Referral to
Treatment

PRESENT

Review substance use, risks of relapse, and support systems

- 1. Place orders:
  - UDS (with consent)
  - Hep C Antibody
  - 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

### 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

### 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 Maintenance**

### Advantages

- 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%)

# Buprenorphine Induction



Must be in moderate withdrawal for traditional initiation

COWS score >10-12

#### Home

- Traditional
- Micro/low dose

#### Office

- Moderate withdrawal
- Observe for precipitated withdrawal
- Daily visits for 3-5 days for dose titration

Inpatient (24+ weeks)

#### **Comfort meds** for withdrawal

Antihistamines

• Hydroxyzine

Antinflammatories

Acetaminophen

**Anti-emetics** 

- Promethazine
- ondansetron

Alpha 2 agonists

• Clonidine

Muscle relaxer

• Cyclobenzaprine

#### Combo

- No data on harm of Naloxone in pregnancy
- Less Diversion
- Less Misuse
- Safe in breastfeeding

#### Mono

- More studies
- Convention
- Safe in breastfeeding



# 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

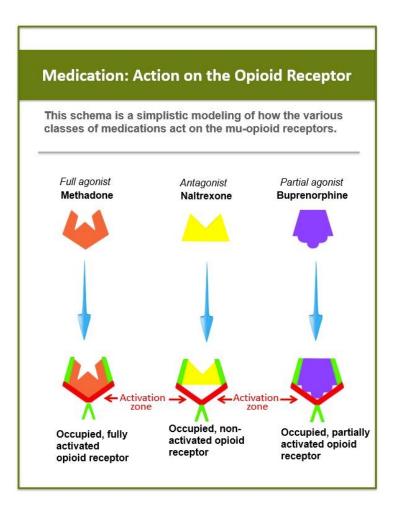
#### Disadvantages of MAWS

- 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

#### 4<sup>th</sup> 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

#### Naloxone



- Opioid Antagonist
- Rapidly kicks off other opioids and binds to opioid receptors
- Reverses and blocks effects of opioids
- Dosages 2-8 mg
- Formulations
  - Injectable
  - Nasal spray
- Rapidly restores breathing
- Effective for 30-90 minutes
- Risks include agitation, precipitated withdrawal, acute lung injury



#### Naloxone Education

https://www.verywellhealt h.com/how-to-use-narcannasal-spray-7373509

#### What to do if you think someone is overdosing

It may be hard to tell whether a person is high or experiencing an overdose. If you aren't sure, treat it like an overdose—you could save a life.



Call 911 Immediately.\*



Administer naloxone, if available.



Try to keep the person awake and breathing.

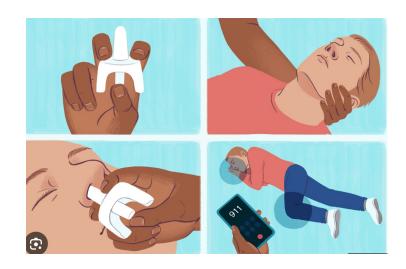


Lay the person on their side to prevent choking.



Stay with the person until emergency assistance arrives.

\*Most states have laws that may protect a person who is overdosing or the person who called for help from legal trouble.



## Naloxone in Obstetrics

- Prenatal visits
  - Offer and prescribe for all patients with Substance Use Disorder
  - Family members/loved ones with OUD
- During delivery admission
  - Offer/prescribe for all patients with SUD
  - Offer to all patients being discharged with opioid rx.
- Postpartum visits
  - Offer/prescribe for all patients with SUD



two addiction medicine clinics, and Rachael Duncan, a clinical pha Heart of the Rockies Regional Medical Center, are co-chairs of th by Don Stader)

#### 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 toimproving outcomes for moms affected by substance use disorder and their babies during pregnancy and longterm.

#### Resources

- Haight SC, Ko JY, Tong VT, Bohm MK, Callaghan WM. (2018) Opioid Use Disorder Documented at Delivery Hospitalization United States, 1999–2014. MMWR Morb Mortal Wkly Rep. 67:845–849
- Florida Alcohol and Drug Abuse Association. (2018). Patterns and Trends of Substance Abuse Within and Across Regions of Florida. Tallahassee, FL. FADAA.
- Hernandez L, Thompson A. (2019). Florida's Pregnancy-Associated Mortality Review 2017 Update. Tallahassee, FL. Florida Department of Health. http://www.floridahealth.gov/statistics-anddata/PAMR/index.html.
- March of Dimes. (2020, Feb 14). Beyond Labels. Retrieved from https://beyondlabels.marchofdimes.org/.
- American College of Obstetricians and Gynecologists. (2017). Opioid Use and Opioid Use Disorder in Pregnancy. ACOG Committee Opinion. 711:1-14.
- Florida Perinatal Quality Collaborative. (2020, Feb 14). MORE Toolkit. Retrieved from <a href="https://health.usf.edu/publichealth/chiles/fpqc/more">https://health.usf.edu/publichealth/chiles/fpqc/more</a>.
- Patrick SW, Richards MR, Dupont WD, et al. Association of Pregnancy and Insurance Status With Treatment Access for Opioid Use Disorder. JAMA Netw Open. 2020;3(8):e2013456. doi:10.1001/jamanetworkopen.2020.13456
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2018). Medications for Opioid Use Disorder: For Healthcare and Addiction Professionals, Policymakers, Patients, and Families [Internet]. Rockville (MD): Substance Abuse and Mental Health Services Administration (US). (Treatment Improvement Protocol (TIP) Series, No. 63.).

#### Resources

. Abdel-Latif ME, Pinner J, Clews S, et al. Effects of breast milk on the severity and outcome of neonatal abstinence syndrome among infants of drug-dependent moth- ers. Pediatrics 2006;117(6):e1163–9.

Blanco, C., et al., Changes in the prevalence of non-medical prescription drug use and drug use disorders in the United States: 1991–1992 and 2001–2002. Drug and Alcohol Dependence, 2007. **90**(2-3): p. 252-260.

Brown HL, B.K., Mahaffey D, Brizendine E, Hiert AK, Turnquest MA, *Methadone maintenance in Pregnancy: a reappraisal*. American Journal of Obstetrics and Gynecology, 1998. **179**: p. 459-63.

CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2018. https://wonder.cdc.gov Goler N, Armstrong MA, Taillac CJ, et al. Substance abuse treatment linked with prenatal visits improves perinatal outcomes: a new standard. J Perinatol 2008;28(9): 597–603. Jones HE, Heil SH, O'Grady KE, et al. Smoking in pregnant women screened for an opioid agonist medication study compared to related pregnant and non-pregnant patient samples. Am J Drug Alcohol Abuse 2009;35(5):375–80. Hayford S, Epps R, Dahl-Regis M. Behavior and development patterns in children born to heroin-addicted and methadone-addicted mothers. J Natl Med Assoc 1988; 80(11):1197–200.

Heil SH, Jones HE, Arria A, et al. Unintended pregnancy in opioid-abusing women. J Subst Abuse Treat 2011;40(2):199–202.

Hien, D., et al. (2009). Multisite randomized trial of behavioral interventions for women with co-occurring PTSD and substance use disorders. Journal of Consulting & Clinical Psychology 77(4):607-19.

https://library.samhsa.gov/sites/default/files/pep23-06-05-005.pdf KaltenbachK,BerghellaV,FinneganL.Opioiddependenceduringpregnancy.Effects and management. Obset Gynecol Clin North Am, 1998;25(1):139 –51.

Kaltenbach K, Silverman N, Wapner R. Methadone maintenance during pregnancy. In: State methadone treatment guidelines, Center Treatment Improvement Protocol (TIP) Series, No. 63.).

#### References

- Khoury L, Tang YL, Bradley B, Cubells JF, Ressler KJ. Substance use, childhood traumatic experience, and Posttraumatic Stress Disorder in an urban civilian population. *Depress Anxiety*. 2010;27(12):1077–1086. doi:10.1002/da.20751
- National Pregnancy and Health Survey: Drug use among women delivering live births: 1992, 1996, National Institute on Drug Abuse.
- Office of Applied Studies, Substance Abuse and Mental Health Services Administration (SAMHSA). The Treatment Episode Data Set (TEDS). http://oas.samhsa.gov/dasis.htm#teds2. Accessed April 16, 2012
- Opioid abuse, dependence, and addiction in pregnancy. Committee Opinion No. 524. American College of Obstetricians and Gynecologists. Obstet Gynecol 2012;119:1070–6.
- Patrick SW, Schumacher RE, Benneyworth BD, Krans EE, McAllister JM, Davis MM. Neonatal abstinence syndrome and associated health care expenditures: United States, 2000-2009 [published online April 30, 2012]. JAMA. 2012;307(18):joc1200141934-1940
- Schiff DM, Nielsen T, Hoeppner BB, et al. Assessment of Racial and Ethnic Disparities in the Use of Medication to Treat Opioid Use Disorder Among Pregnant Women in Massachusetts. JAMA Netw Open. 2020;3(5):e205734. Published 2020 May 1. doi:10.1001/jamanetworkopen.2020.5734
- Sharpe C, Kuschel. Outcomes of infants born to mothers receiving methadone for pain management in pregnancy *Arch Dis Child Fetal Neonatal Ed* 2004;89:1 F33-F36 doi:10.1136/fn.89.1.F33
- Winklbaur B, Kopf N, Ebner N, et al. Treating pregnant women dependent on opioids is not the same as treating pregnancy and opioid dependence: a knowledge synthesis for better treatment for women and neonates. Addiction 2008;103:1429–40.
- Young JL, Martin PR, Treatment of Opioid Dependence in the Setting of Pregnancy. Psychiatr Clin N Am 35 (2012) 441–460
- Schiff DM, Nielsen T, Hoeppner BB, et al. Assessment of Racial and Ethnic Disparities in the Use

#### References

- CDC/NCHS, <u>National Vital Statistics System</u>, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2018. <u>https://wonder.cdc.gov</u>
- Center for Behavioral Health Statistics and Quality (CBHSQ). 2017 National Survey on Drug Use and Health: Detailed Tables. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2018.
- Florence CS, Zhou C, Luo F, Xu L. The Economic Burden of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013. *Med Care*. 2016;54(10):901-906. doi:10.1097/MLR.0000000000000625.
- https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis
- Vivolo-Kantor, AM, Seth, P, Gladden, RM, et al. Vital Signs: Trends in Emergency Department Visits for Suspected Opioid Overdoses--United States, July 2016-September 2017. Centers for Disease Control and Prevention
- https://www.tn.gov/content/dam/tn/health/documents/mch/MMR\_Annual\_ Report\_2017.pdf

#### References

- Ackerman JP, Riggins T, Black MM. A review of the effects of prenatal cocaine exposure among schoolaged children. *Pediatrics*. 2010;125(3):554-565. doi:10.1542/peds.2009-0637
- ACOG Committee Opinion. Marijuana Use During Pregnancy and Lactation, Number 722, October 2017
- Acog Committee Opinion. At Risk Drinking and Alcohol Dependence: Obstetric and Gynecologic Implications, Number 496, August 2011
- Martin GI. Marijuana: the effects on pregnancy, the fetus, and the newborn. J Perinatol. 2020 Oct;40(10):1470-1476. doi: 10.1038/s41372-020-0708-z. Epub 2020 Jun 7. PMID: 32507859.
- Stoner, Susan, Effective Treatments for Methamphetamine Use Disorder, https://adai.uw.edu/pubs/pdf/2018methtreatment.pdf

#### Resources

- Caritis S, Bastian J, Zhang H, Kalluri H, English D, England M, Bobby S, Venkataramanan R, An evidence-based recommendation to increase the dosing frequency of buprenorphine during pregnancy, Am J Obstet Gynecol 2017
- \* Committee Opinion No. 711: Opioid Use and Opioid Use Disorder in Pregnancy. Obstet Gynecol. 2017 Aug;130(2):e81-e94. doi: 10.1097/AOG.000000000002235. PMID: 28742676.
- https://health.usf.edu/publichealth/chiles/fpgc
- $\cdot \\ \text{https://safehealthcareforeverywoman.org/council/patient-safety-bundles/maternal-safety-bundles/obstetric-care-for-women-with-opioid-use-disorder-aim/obstetric-care-for-women-with-obste$
- https://tipac.org/
- Hongfei Zhang, Hari V. Kalluri, Jaime R. Bastian, Huijun Chen, Ali Alshabi, Steve N. Caritis, Raman Venkataramanan Gestational changes in buprenorphine exposure: A physiologically-based pharmacokinetic analysis First published: 05 June 2018 https://doi.org/10.1111/bco.13642
- Jones HE, Deppen K, Hudak ML, Leffert L, McClelland C, Sahin L, Starer J, Terplan M, Thorp JM Jr., Walsh J., Creanga AA. Clinical care for opioid-using pregnant and postpartum women: the role of obstetric providers. Am J Obstet Gynecol 2013.
- Krans, Elizabeth E. MD, MSc; Campopiano, Melinda MD; Cleveland, Lisa M. PhD, RN; Goodman, Daisy DNP, CNM; Kilday, Deborah MSN, RN; Kendig, Susan JD, MSN; Leffert, Lisa R. MD; Main, Elliott K. MD; Mitchell, Kathleen T. MHS, LCADC; O'Gurek, David T. MD, FAFF; D'Oria, Robyn MA, RNC; McDaniel, Deidre MSW, LCSW; Terplan, Mishka MD, MPH National Partnership for Maternal Safety, Obstetrics & Gynecology: August 2019 Volume 134 Issue 2 p 365-375 doi: 10.1097/AOG.0000000000003381
- Martin, C.E., Shadowen, C., Thakkar, B. et al. Buprenorphine Dosing for the Treatment of Opioid Use Disorder Through Pregnancy and Postpartum. Curr Treat Options Psych 7, 375–399 (2020). https://doi.org/10.1007/s40501-020-00221-z
- Substance Abuse and Mental Health Services Administration. Clinical Guidance for Treating Pregnant and Parenting Women With Opioid Use Disorder and Their Infants. HHS Publication No. (SMA) 18-5054. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2018.
- Zhang H. Kalluri H. Bastian J. Chen H. Alshabi A. Caritis S. Venkataramanan R. Gestational changes in buprenorphine exposure: A physiologically-based pharmacokinetic analysis, British Journal of Clinical Pharmacology, June 2018

## 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/201 8\_Buprenorphine\_Treatment\_Guidelines.PDF

### Thank you!

Presentation prepared with materials from

Jessica Young, MD, MPH

Jessica.l.young@vumc.org

Tipqc.org



## Care of the Newborn with Opioid Exposure

Anna Morad, MD, FAAP 2025



#### **Key Ideas**

1. Better Care Practices

2. Breastfeeding

3. Early Relational Health





#### **Definitions**



#### **MOM**

- Opioid Use Disorder (OUD)

   Pattern of opioid use leading to clinically significant impairment or distress
- Medication for Opioid Use Disorder (MOUD) – Use of approved medications along with therapy in treatment of OUD

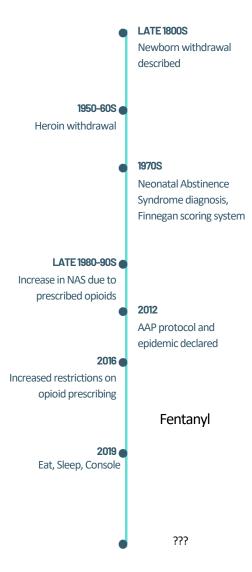
# Proposed Standard Definition of NAS/NOWS



## Neonatal Abstinence Syndrome (NAS) Neonatal Opioid Withdrawal Syndrome (NOWS)

- Exposure to opioids during pregnancy
- At least 2 of the most common clinical signs of withdrawal including: Excessive crying, fragmented sleep, tremors, hypertonia, and gastrointestinal dysfunction
- Difference between NAS and NOWS?

#### **NOWS TIMELINE**

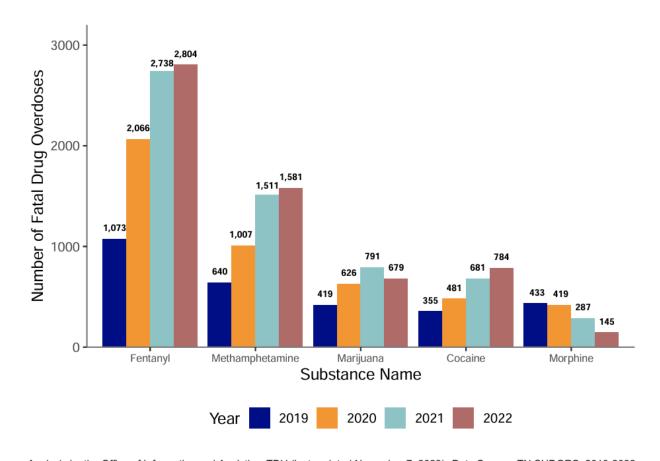




#### Patterns in TN



#### 3.2 Individual Substances among SUDORS Decedents in Tennessee

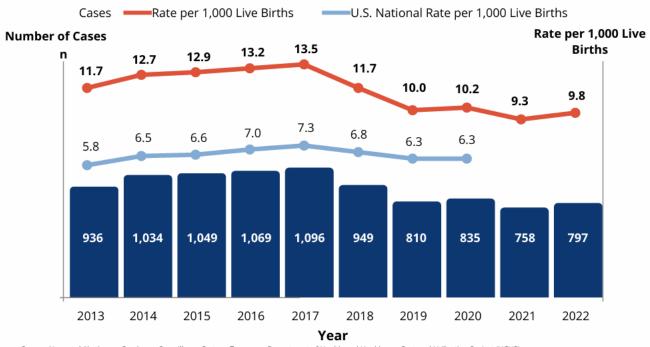


Analysis by the Office of Informatics and Analytics, TDH (last updated November 7, 2023). Data Source: TN SUDORS, 2019-2022.

## TN NAS Trends Over time



#### NAS Case Rate by Year, 2013-2022



Source: Neonatal Abstinence Syndrome Surveillance System, Tennessee Department of Health and Healthcare Cost and Utilization Project (HCUP)

Figure 1: Number of Cases of Neonatal Abstinence Syndrome as a Percentage of Live Births in Tennessee and U.S. Rates, 2013-2022.

### • The 2022 rate of NAS in TN is 9.8 / 1000 live births

#### The Facts....

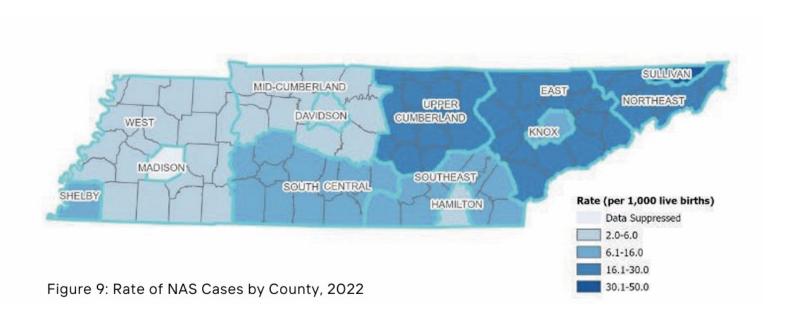
• The national rate is 6.3/1000 live births



• 53% of women in the reported TN cohort had inadequate prenatal care

## Rate of NAS Cases by County, 2022





Rate of NAS diagnosed per 1000 live births <sup>1</sup>

# 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			

#### Withdrawal



Causes of Infant Withdrawal (By Substance Type)					
Substance Class	Examples	Notes			
Opioids	Heroin, Methadone, Buprenorphine, Oxycodone, Fentanyl	Most common cause of NAS.			
Benzodiazepines	Diazepam, Lorazepam, Alprazolam	Often used with opioids, withdrawal can be prolonged.			
SSRIs/SNRIs	Fluoxetine, Sertraline, Venlafaxine	May cause "neonatal adaptation syndrome", usually mild.			
Barbiturates	Phenobarbital, Secobarbital	Less common, but can cause prolonged symptoms.			
Alcohol	Ethanol	Withdrawal can occur, but most concern is Fetal Alcohol Spectrum Disorders.			
Stimulants	Cocaine, Methamphetamine	Not classic withdrawal; more often causes irritability, poor sleep.			
Nicotine	Cigarettes, Vapes	May cause mild withdrawal symptoms; associated with low birth weight.			
Xylazine (emerging)	Often mixed with opioids	Unclear profile in neonates; may cause atypical symptoms.			

#### **Timing of Withdrawal Symptoms by Substance**

Substance Class	Typical Onset After Birth	Duration	Symptoms
Short-acting opioids (e.g., heroin)	24-72 hours	Up to 10–14 days	High-pitched cry, tremors, diarrhea, vomiting
Long-acting opioids (e.g., methadone, buprenorphine)	48–96 hours	Up to 4–6 weeks	Same symptoms but often more prolonged
Benzodiazepines	1–2 weeks	Several weeks	Irritability, sleep disturbances, seizures
SSRIs/SNRIs	Within hours to 2 days	<1 week	Crying, jitteriness, feeding issues
Barbiturates	4–7 days	Weeks to months	Poor feeding, irritability, seizures
Stimulants	Variable	Days	Irritability, poor sleep, tremors
Alcohol	3–12 hours	Days	Tremors, seizures, poor feeding
Nicotine	<48 hours	Days	Increased tone, tremors, hyperactivity





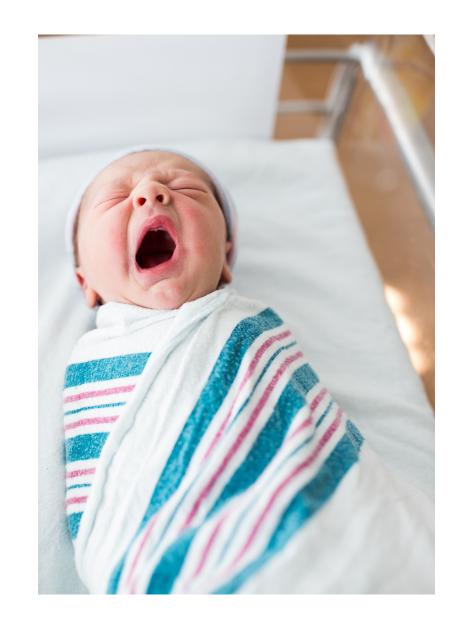
#### Symptoms of NAS/ NOWS

Overstimulation

Altered Tone

Autonomic Dysfunction

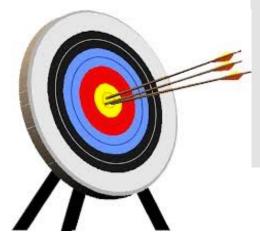
Sleep Disturbance



#### **Better Care Practices**

#### **Key Ideas**





#### Trauma Informed Approach Principles





Source: <u>Practical Guide for Implementing a Trauma-Informed Approach</u>

Say this...

Not that





#### **Hospital Care**



## When to Consider Drug Testing for Infant



#### When it may change clinical care for baby

- Maternal substance use disorder AND mom is not compliant with treatment program
- Absent or scant prenatal care
- Infant displaying signs of withdrawal
- Must discuss with family!

## How are Infants Tested?



- Cord sample (NOT cord blood)
- Meconium

Not all tests have the same detections – know what your facility offers



## Observation Protocol in Hospital

- Non-pharmacologic care begins at <u>BIRTH</u>!
- Observation with non-pharmacologic management

- 3-5 days for short acting
- 4-7 days for long acting





#### Non-Pharmacologic Care



Most important treatment for OEN

- Rooming in with caregiver
- Quiet environment
- Swaddle (review safe sleep)
- Swings or rockers
- Skin to Skin
- Breastfeeding (unless contraindicated)

## Modified Finnegan



#### Signs and symptoms scored:

- Excessive cry
- Length of sleeping after feeds
- Moro reflex
- Tremors (disturbed; undisturbed)
- Muscle Tone
- Excoriation
- Seizure
- Fever
- Yawning
- Sweating
- Stuffiness
- Seizing
- Tachypnea
- Poor feeding
- Vomiting
- Loose stools
- Failure to thrive
- Irritability

AME:\_\_\_\_

#### Nursing Instructions

- 1. If infant scores >8, rescore in one hour
- Notify physician if two scores, 1 hour apart, >8
   Give medication as prescribed by physician every 3-4 hours. Do not exceed 4 hours in dosing.

MR#:

CATEGORIES	SCORE	Morphine= Morph	ine Sulfate oral solution
0	0-8	0	0.4 mg/ml
I	9-12	0 .04 mg	
II	13-16	0.08 mg	
III	17-20	0.12 mg	
IV	21-24	0.16 mg	
V	>=25	0.20 mg	

SIGNS AND SYMPTOMS	SCORE	Date /time											
Excessive Cry	2 - 3												
Sleeps < 1 hour after feeding Sleeps < 2 hours after feeding Sleeps < 3 hours after feeding	3 2 1												
Hyperactive Moro Reflex Markedly Hyperactive Moro Reflex	1 2												
Mild Tremors: Disturbed Moderate-Severe Tremors: Disturbed	1 2												
Mild Tremors: Undisturbed Moderate-Severe Tremors: Undisturbed	1 2												
Increased Muscle Tone	1-2												
Excoriation (specific area)	1 - 2												
Generalized Seizure	8												
Fever > 37.2 C	1												
Frequent Yawning	1												
Sweating	1												
Nasal Stuffiness	1												
Sneezing	1												
Tachypnea (Respiratory Rate> 60/min)	2												
Poor Feeding	2												
Vomiting	2												
Loose Stools	2												$\vdash$
Failure to Thrive (weight gain ≥ 10% below birth weight)	2												
Excessive Irritability	1 - 3												
TOTAL SCORE / CATEGORY													
INITIALS													

Morphine sulfate solution (0.4 mg/ml) dosing schedule:

Time morphine						
Dose morphine (in mg.)						
Route						
Initials						

#### **Scoring Tips**

- Huddle with care team AND FAMILY to discuss scoring – especially if scores elevated
- Do not wake a sleeping baby cluster care
- Excoriation should be new or worsening to be scored
- Breastfed stools are not diarrhea look for water rings in diaper or large volume watery stools



#### Eat Sleep Console



#### Eat

 Can coordinate feeds with good latch or will take at least 10 mL easily by mouth (or age appropriate)

#### Sleep

Will sleep for 1 hour or longer after feeds

#### Console

 Consoles within 10 minutes with appropriate consoling methods

#### Huddle time



ESC non-pharmacologic interventions			
Rooming In	Implement	Increase	Reinforce
Parental Preference intervention	Implement	Increase	Reinforce
Skin-to-skin contact	Implement	Increase	Reinforce
Holding by caregiver/cuddler	Implement	Increase	Reinforce
Swaddling	Implement	Increase	Reinforce
Optimal feeding	Implement	Increase	Reinforce
Non-nutritive sucking	Implement	Increase	Reinforce
Quiet environment	Implement	Increase	Reinforce
Limit visitors	Implement	Increase	Reinforce
Clustering Care	Implement	Increase	Reinforce
Dim environment	Implement	Increase	Reinforce
Bouncer	Implement	Increase	Reinforce
Sound machine	Implement	Increase	Reinforce

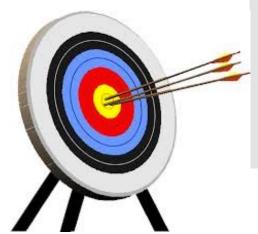
#### Let's Compare

Category	ESC Model	Finnegan NAS Scoring
	Functionality: Eating,	Withdrawal symptoms scored
Focus	Sleeping, Consoling	numerically
	Yes/No criteria for care	Numeric score-based pharmacologic
Assessment	decisions	treatment
	Non-pharmacologic first	
Treatment	(rooming-in, skin-to-skin,	Early pharmacologic treatment
Approach	breastfeeding)	(opioids, morphine)
	Shorter hospital stay (~5-7	
Length of Stay	days)	Longer hospital stay (~14-21 days)
Parental	Highly encouraged (family-	
Involvement	centered care)	Less emphasized

#### Breastfeeding







## When to Encourage Breastfeeding...

## TIPQC Tennessee Initiative for Perinatal Quality Care

Academy of Breastfeeding Medicine Clinical Protocol #21

- MOUD with Buprenorphine or Methadone
- Discontinuation of non-prescribed by delivery
- Address with a team based, trauma informed approach

#### **Practical Tips**



- Very low volume of colostrum gives more time to make informed decision
- No data related to testing breastmilk for drugs



## Informed Decision Making



Table 1. Prescribed Opioids, Benzodiazepines, Stimulants, Non-Prescribed Stimulants, Alcohol, Nicotine, and Cannabis Pharmacokinetic Considerations to Inform Breastfeeding

Opioids	Peak effect <sup>a</sup>	Half-life <sup>a</sup>	RID (%)	
Morphine	0.5–1 hour <sup>237</sup> 1–1.5 hours <sup>237</sup>	2–4 hours <sup>237</sup> 3 hours <sup>237</sup> 3–4 hours <sup>237</sup>	9.09-359	
Codeine	1–1.5 hours <sup>237</sup>	3 hours <sup>237</sup>	$0.6 - 8.1^9$	
Oxycodone	0.5–2 hours <sup>23</sup>	3–4 hours <sup>237</sup>	$1.0-4.6^9$	
Tramadol	2–3 hours <sup>237</sup>	6–7.5 hours <sup>237</sup>	$2.9^{9}$	
Benzodiazepines	Peak effect	Half-life	RID (%)	
Diazepam	0.3–2.5 hours <sup>237</sup>	44-48 hours <sup>237</sup>	0.9-7.1 <sup>9</sup> 8.5 <sup>9</sup>	
Alprazolam	IR: 1–2 hours	IR: 11 hours	8.59	
•	ER: 9 hours <sup>237</sup>	ER: 10–16 hours <sup>237</sup>		
Lorazepam	IR: 2 hours	IR: 12 hours	$2.6-2.9^9$	
	ER: 14 hours <sup>237</sup>	ER: 20 hours <sup>237</sup>		
Clonazepam	1–4 hours <sup>237</sup>	17–60 hours <sup>237</sup>	$2.8^{9}$	
Chlordiazepoxide	1–4 hours <sup>237</sup> 0.5–2 hours <sup>237</sup>	24–48 hours <sup>237</sup>	N/A	
Stimulants	Peak effect	Half-life	RID (%)	
Cocaine	0.5 hour <sup>237</sup>	1.5 hours <sup>238</sup>	N/A	
Methamphetamine	2.5 hours <sup>239</sup>	4–5 hours <sup>237</sup>	N/A	
MDMA	2.5 hours <sup>239</sup> 2–4 hours <sup>237</sup> 2.3 hours <sup>240</sup>	4–5 hours <sup>237</sup> 4–6 hours <sup>237</sup> 1.5 hours <sup>240</sup>	N/A	
Cathinone	2.3 hours <sup>240</sup>	1.5 hours <sup>240</sup>	N/A	
Amphetamine	IR: 3–4 hours ER:5–7 hours <sup>237</sup>	IR: 10–12 hours ER: 11–12 hours <sup>237</sup>	$1.9 - 2.1^{132}$	
			100	
Dexamphetamine	IR: 3 hours	IR: 3–4 hours	$4.0-10.6^{133}$	
-	ER: 8 hours <sup>237</sup>	ER: 5–7 hours <sup>237</sup>		
Substance	Peak effect	Half-life	RID (%)	
Alcohol	0.5–1.5 hours <sup>237</sup> 0.25 hours <sup>237</sup>	4–5 hours <sup>237</sup> 1–2 hours <sup>237</sup>	16 <sup>9</sup>	
Nicotine	$0.25 \text{ hours}^{237}$	1–2 hours <sup>237</sup>	N/A	
Cannabis (THC)	0.25-0.5 hours <sup>237</sup>	25–36 hours <sup>237</sup>	$0.4-8.7^9$	

<sup>a</sup>Peak and half-life values reference adult pharmacokinetic data for a potential breastfeeding individual. The above prescribed opioid, benzodiazepine, and stimulant data are derived from oral route of administration. IV route of administration for equivalent IV medications have shorter peak effects, in the order of minutes. In intravenous route of administration, the half-lives for opioids may be shorter. For nicotine and cannabis, peak effect sand half-lives are for inhalation route of administration.

ER, extended release; IR, immediate release; IV, intravenous; MDMA, 3,4-methyl enedioxy methamphetamine; N/A, data not available; RID, relative infant dose; THC, delta-9-tetrahydrocannabinol.

90

#### Non-Prescribed



- Breastfeeding is not recommended during use of nonprescribed opioids, stimulants, or sedatives
- Also not advised during benzo use or misuse but may be appropriate to allow during benzo taper for treatment or with monitored prn prescribed dosing
- Alcohol is likely safe with occasional and "modest" use

## Breastfeeding and Fentanyl

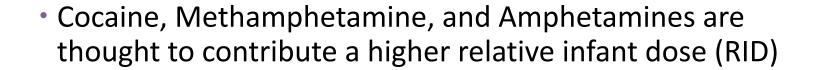


Drug accumulation is a concern

Evidence for Fentanyl in fat stores after long term use



#### Breastfeeding and Stimulants



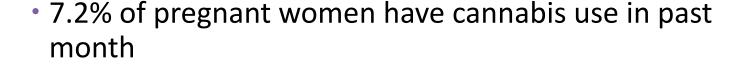
Prescribed Amphetamine accumulates (may be true for other stimulants)

Can cause lower milk volume

Concern for infant death with meth exposure



#### Breastfeeding and THC



- THC is lipophilic and may accumulate in breastmilk
- Conflicting findings on long term impact but neurodevelopmental concerns have been described

Prenatal exposure is a consistent limitation



## Breastfeeding While on MOUD



Baby receives small percent of breastmilk

Decreases withdrawal symptoms but will
 NOT treat withdrawal

Wean when ready



## Post Hospital Support



- Check in on mom's plan
- Encourage support groups
- Know & share the resources in your area with mom
- Use the TN Breastfeeding Hotline

- Infant Risk Center
  - 1-806-352-2519





## Other Breastfeeding Considerations

HIV infection is NOT a contraindication

 Hepatitis B and C are NOT contraindications to breastfeeding

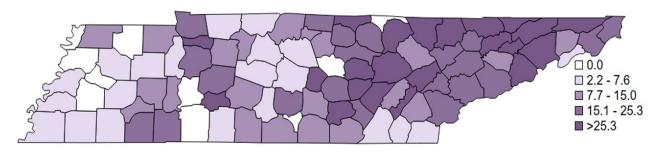
#### Hepatitis C



# Prevalence of Hepatitis C Among Pregnant Women



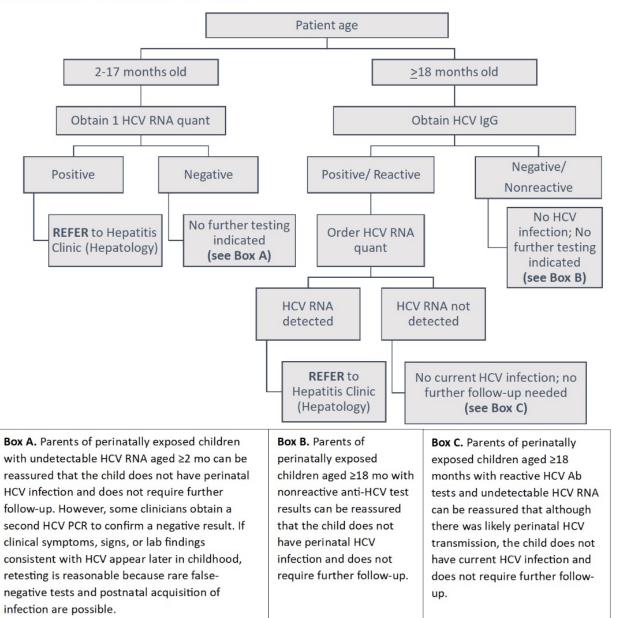
Figure 27: Rates of Perinatal HCV Exposures (per 1,000 Live Births) by County, Tennessee, 2022



State Average: 11.5 per 1,000 live births

In 2022, perinatal HCV exposures were reported in 84 counties in TN. Among these counties, 51 counties (54%) had perinatal HCV exposure rates higher than the statewide perinatal HCV exposure rate. The counties with the highest perinatal HCV exposure rates were largely found in East, Northeast, and Upper Cumberland Public Health Regions. Some counties demonstrated that 4% to 7% of all live births in 2022 were perinatally exposed to HCV.

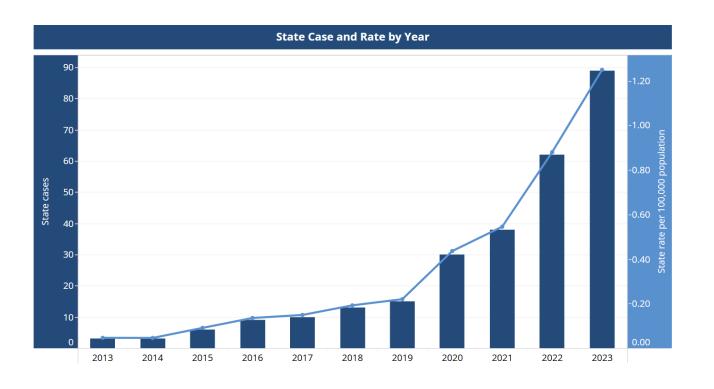
Testing algorithm for a **child aged ≥2 months** who was born to a mother with **confirmed** (maternal HCV IgG+, RNA+), **probable** (maternal HCV IgG+, RNA unknown), or **possible** (sibling with same birth parent who has HCV, adopted child with risk factors, etc). Children <2 months old should not be tested because of false-negative results (RNA quant) and passive transfer of maternal antibody (HCV IgG).





# TN Congenital Syphilis Rates

https://www.tn.gov/content/tn/health/cedep/reportablediseases/syphilis-congenital.html



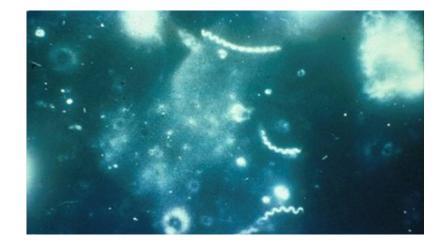
https://www.tn.gov/content/tn/health/cedep/reportable-diseases/syphilis-congenital.html

#### Syphilis

ACOG guideline: Test on entry to care, third trimester, and delivery

New TN Law: requires these screening points as well!

Goal is documented treatment > 30 days prior to delivery



#### Discharge



## Hospital Discharge Checklist



- Hepatitis C follow-up if PCR positive
- Developmental follow-up
- Referral to home visiting



## Referral for Early Intervention Services

- Neonatal Abstinence Syndrome / NOWS: automatic eligibility for TEIS
- Codes that will require secondary MD review for eligibility:
  - P04.14: Newborn affected by maternal use of opiates
  - P04.16: Newborn affected by maternal use of amphetamines
  - P04.3: Newborn affected by maternal use of alcohol
  - P04.4: Newborn affected by maternal use of drugs of addiction
  - P04.8: Newborn affected by other maternal noxious substances



\*\*Must have source of exposure and approximate duration documented in the medical record along with the appropriate ICD10 code for the referral

### Follow up clinics









#### **Key Ideas**

## Early Relational Health (Infant Mental Health)





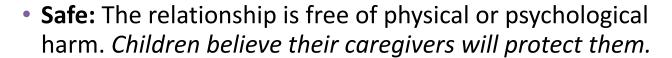
#### Definition of Infant Mental Health



Framework that explores the role of **early relationships** and experiences in healthy development across a child's lifetime.

Relationships, especially in the early years, are biological necessities to build a foundation for lifelong growth and development.

## Relationships



- **Stable:** The adult is dependably there for the child. *Children believe their caregivers will meet their needs.*
- **Nurturing:** The child's physical, emotional, and developmental needs are sensitively and consistently met. *Children believe their caregivers will use warmth and clear expectations to foster their development.*



#### Make Childhood a Positive Experience

Positive childhood experiences, or PCEs, are vital for all children, especially infants and toddlers. They let a child know that their caregiver is a safe, reliable person who will tend to their needs — someone they can turn to in times of stress.

PCEs are warm and affirming, bringing joy to both parent and child, like when a parent:



Soothes a crying infant



Shares a developmentally approriate book



Sings while changing a baby's diaper



Engages in child-directed play

Pediatric providers can help build PCEs by focusing our discussions in well-child visits on family successes and how families are thriving.

- Pediatrician | Clackamas, Oregon

#### PCEs build trust, attachment, and security.

When children regularly feel safe and supported, they are free to explore, imagine, flourish, and thrive!





### Resources





1-866-424-1001





### References



- Neonatal Abstinence Syndrome in Tennessee 2022 | TDH Health Data
- Jilani SM, Jordan CJ, Jansson LM, Davis JM. Definitions of neonatal abstinence syndrome in clinical studies of mothers and infants: an expert literature review. J Perinatol. 2021 Jun;41(6):1364-1371. doi: 10.1038/s41372-020-00893-8. Epub 2021 Jan 29. PMID: 33514878; PMCID: PMC8225507.
- Harris M, Schiff DM, Saia K, Muftu S, Standish KR, Wachman EM. Academy of Breastfeeding Medicine Clinical Protocol #21: Breastfeeding in the Setting of Substance Use and Substance Use Disorder (Revised 2023). Breastfeed Med. 2023 Oct;18(10):715-733. doi: 10.1089/bfm.2023.29256.abm. PMID: 37856658; PMCID: PMC10775244.
- Early Relational Health
- · Special Populations: Infant Feeding for People With HIV in the United States | NIH
- Devlin LA, Hu Z, Merhar SL, Ounpraseuth ST, Simon AE, Lee JY, Das A, Crawford MM, Greenberg RG, Smith PB, Higgins RD, Walsh MC, Rice W, Paul DA, Maxwell JR, Fung CM, Wright T, Ross J, McAllister JM, Crowley M, Shaikh SK, Christ L, Brown J, Riccio J, Wong Ramsey K, Braswell EF, Tucker L, McAlmon K, Dummula K, Weiner J, White JR, Newman S, Snowden JN, Young LW; Eunice Kennedy Shriver NICHD Neonatal Research Network and NIH Environmental Influences on Child Health Outcomes (ECHO) Program Institutional Development Award States Pediatric Clinical Trials Network. Influence of Eat, Sleep, and Console on Infants Pharmacologically Treated for Opioid Withdrawal: A Post Hoc Subgroup Analysis of the ESC-NOW Randomized Clinical Trial. JAMA Pediatr. 2024 Jun 1;178(6):525-532. doi: 10.1001/jamapediatrics.2024.0544. PMID: 38619854; PMCID: PMC11019446.
- 2023 ViralHepatitisEpidemiologicalProfile FINAL.pdf

## Thank you!

Presentation prepared with materials from

Anna Morad, MD

Anna.Morad@vumc.org

Tipqc.org



## Suicide Screening and Prevention

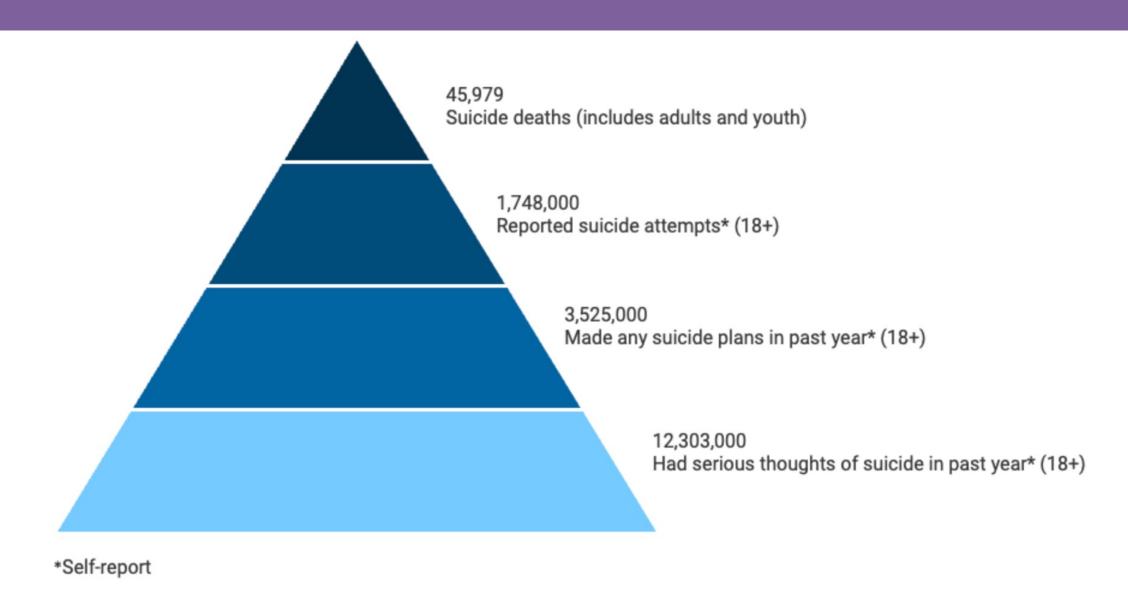
Dr. Julia Wood

2025



## The Fallacy of Prediction





Source: CDC, 2021; SAMHSA, 2021

## 3 Key Ideas



- 1. Suicide: Scope of the Problem
- 2. Screening
- 3. Disposition and Treatment

## 3 Key Ideas



1. Suicide: Scope of the Problem





Over

49,000

people died by suicide in 2023



death every

11 minutes

Many adults think about suicide or attempt suicide

12.8 million

Seriously thought about suicide

3.7 million

Made a plan for suicide

1.5 million

Attempted suicide

Over 49,000 people died by suicide in 2023. That is one death every 11 minutes.

#### **Statistics**

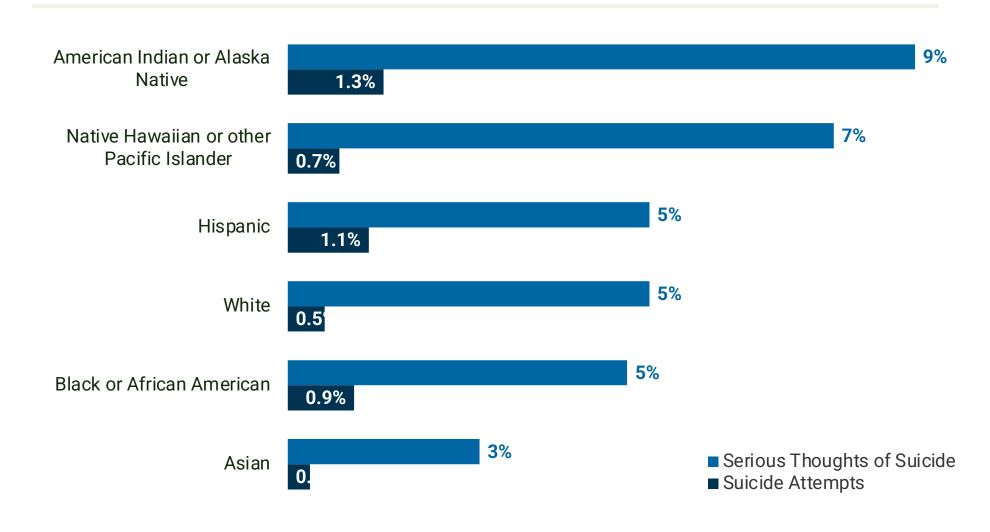


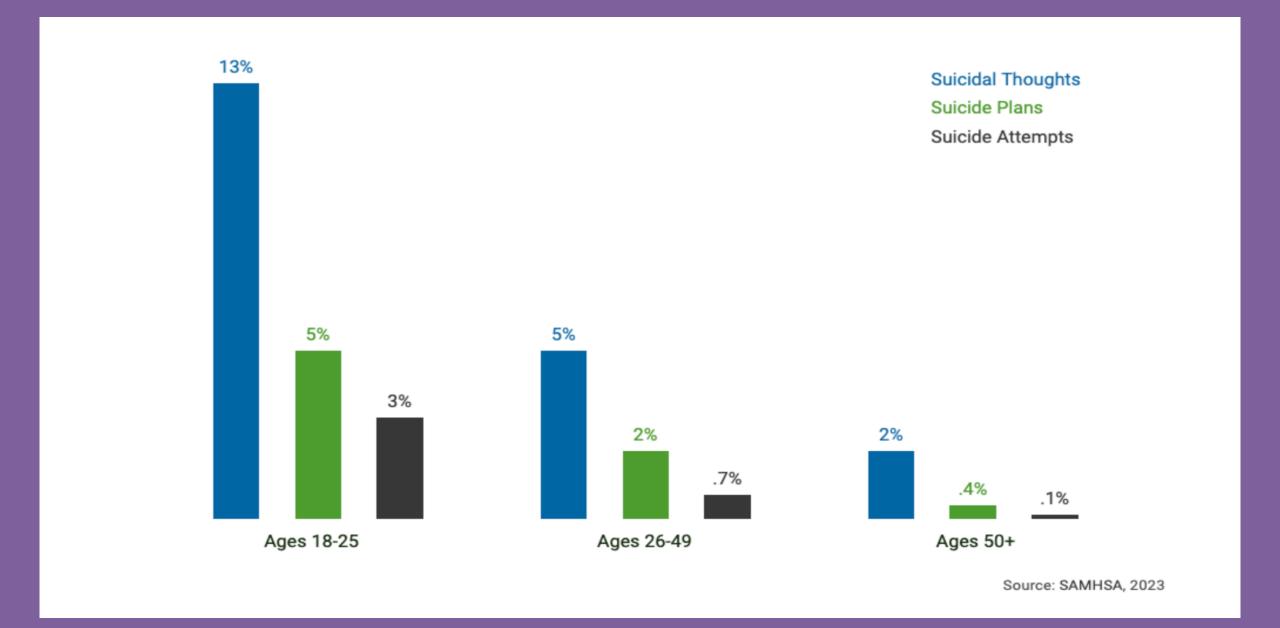
- Rates have INCREASED over the past ten years
- In TN, suicide is the 11th leading cause of death (2022 data); 1200 lives per year.
- Males are more likely than females to die of suicide (22.8 per 100k in males, 5.7 per 100k in females)
- Females are more likely to make a suicide attempt than males
- Firearms are the most common method of suicide

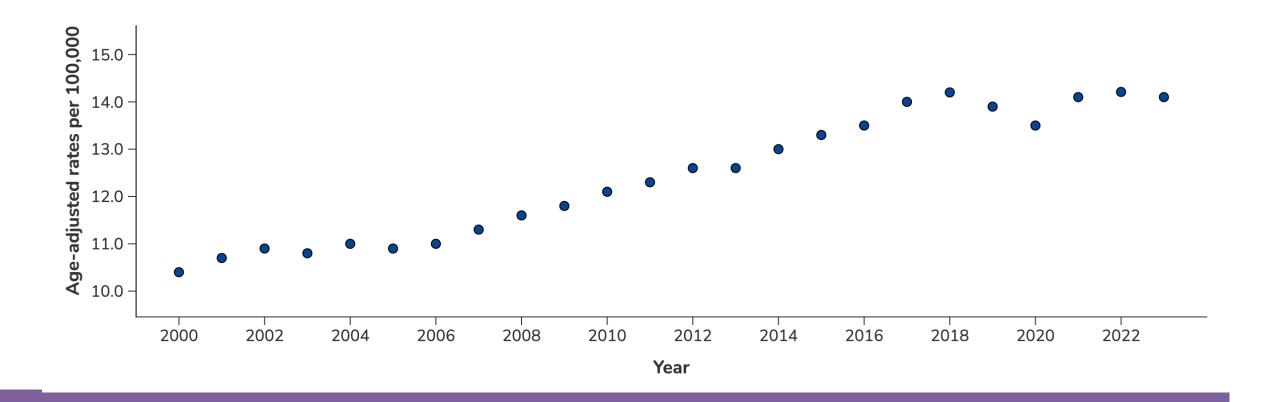
#### Ten Leading Causes of Death by Age (U.S., 2020)



#### Past-Year Suicidal Thoughts and Suicide Attempts Among Adults (U.S., 2020)







## Suicide rates are increasing

## Suicide prediction is poor



- Sensitivity: True positives
- Specificity: True negatives
- Positive Predictive Value:
   True positives/ (True positives + False positives)

PPV will be low if you have a rare event - you'll have more false positives



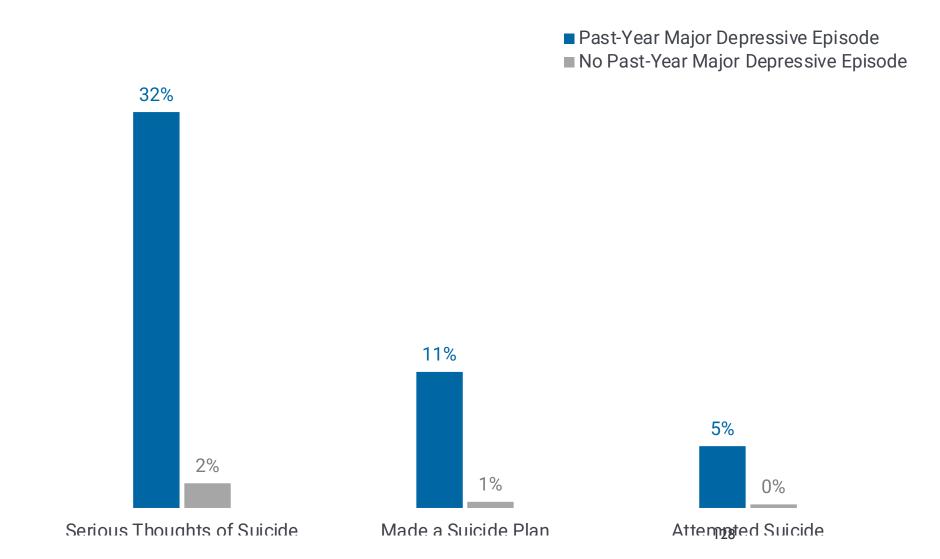
## Risk Factors



Mood disorder



## Suicidal Behavior and Past-Year Major Depressive Episode (U.S., 2021)



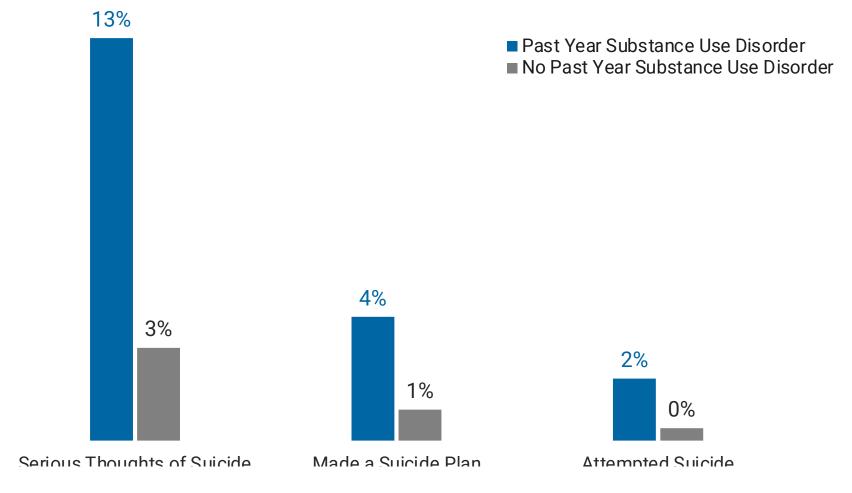
Source: SAMHSA, 2023

## **Risk Factors**



- Risk factors ARE NOT WARNING SIGNS
- Mood disorder
- Drug or alcohol misuse

### Suicidal Behavior and Past-Year Substance Use Disorder (U.S., 2021)



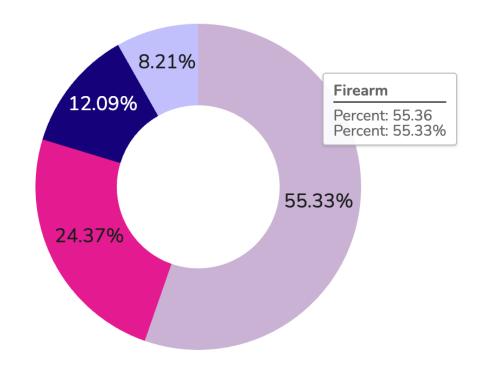
130

## **Risk Factors**



- Mood disorder
- Drug or alcohol misuse
- Access to lethal means





FirearmSuffocationPoisoningOther

## Method Matters

### **Risk Factors**



- Mood disorder
- Drug or alcohol misuse
- Access to lethal means
- Prior suicide attempts



## Protective Factors



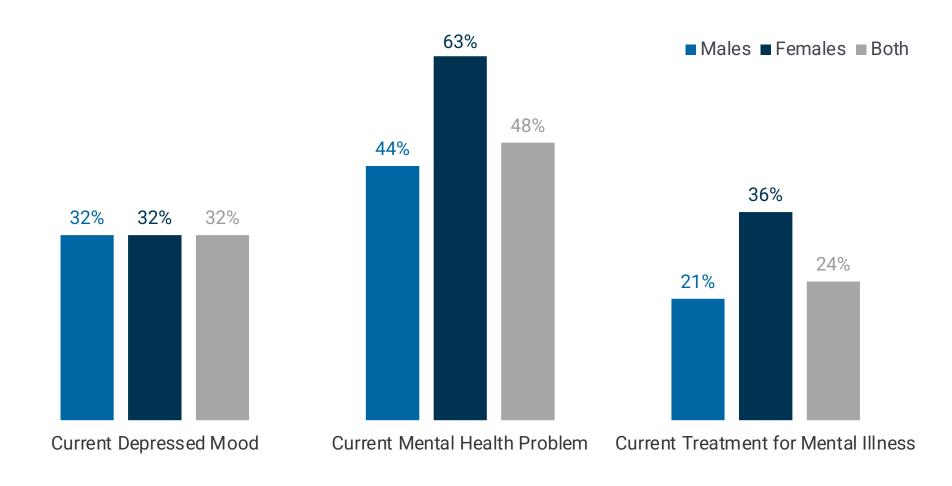
Effective mental health care

Connectedness

Problem-solving skills

Contacts with caregivers

## Current Mental Health Status for Suicide Decedents in 46 States by Gender (U.S., 2020)

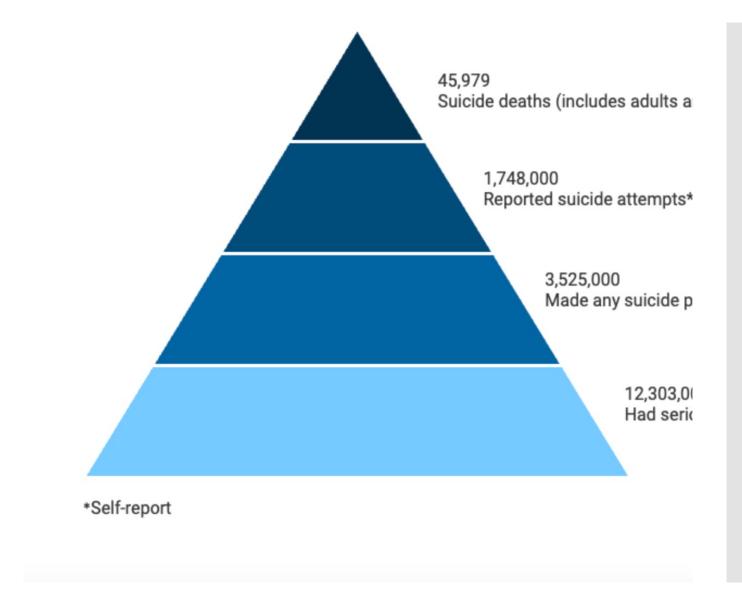


## HOPE

"Hope is being able to see that there is light despite all of the darkness" -Desmond Tutu



# Who Are We Identifying?



July 2025



## **Opportunities for Prevention**

The Maternal Mortality Review Committee identified several common contributing factors of maternal deaths occurring in 2022, highlighting key opportunities for prevention. The most frequently cited factors included:



#### **Lack of Referrals and Coordination of Care**

Insufficient communication and collaboration among healthcare providers hindered timely and effective care for pregnant and postpartum individuals.



#### **Lack of Screenings**

Inadequate screening for risk factors such as substance use, domestic violence, mental health, family medical history, and other health conditions during pregnancy limited the ability to identify and address potential complications early.



#### **Inadequate Quality of Care**

Variability in the quality of maternal healthcare services contributed to adverse outcomes, highlighting the need for continued quality improvement.



#### **Delay in Treatment**

Inadequate access to timely medical care, miscommunication among healthcare providers, and failure to recognize early warning signs of complications hindered effective treatment and increased the risk of adverse outcomes.



#### **Lack of Resources**

Limited access to healthcare resources, including financial support, educational materials, and medications including long-acting reversible contraception and naloxone, affected the ability of individuals to receive necessary care throughout pregnancy and postpartum.

## 3 Key Ideas

2. Screening





#### Edinburgh Postnatal Depression Scale<sup>1</sup> (EPDS)

Na	ame:		Ad	ldress:			
Yo	our Date of Birth:						
Ва	Baby's Date of Birth:			Phone:			
He	ere is an example, alread	Date of Birth:  Is Date of Birth:  In are pregnant or have recently had a baby, we would like to know how you are feeling. Please check is seen cample, already completed.  Is felt happy: Is, all the time seen so to the time on the please complete the other questions in the same way.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "I have felt happy most of the time" during the past week.  In this would mean: "					
Ιh	ave felt happy:						
×		This would mean: "I have fe	lt har	ony most of the time" during the past week			
	No, not very often Please complete the other of						
In	the past 7 days:						
1.	<ul><li>As much as I always</li><li>Not quite so much no</li><li>Definitely not so muc</li></ul>	could	*6.	<ul> <li>Yes, most of the time I haven't been able to cope at all</li> <li>Yes, sometimes I haven't been coping as well</li> </ul>			
	I Not at all						
2	I have looked forward with	enjoyment to things					
_				to, that book doping do their do over			
			*7	I have been so unhappy that I have had difficulty sleeping			
	<ul> <li>Definitely less than I</li> </ul>	used to					
	<ul> <li>Hardly at all</li> </ul>			<ul> <li>Yes, sometimes</li> </ul>			
				□ Not very often			
*3.		ecessarily when things		□ No, not at all			
	went wrong						
			*8				
		<b>3</b>					
	<ul> <li>No, never</li> </ul>						
				□ No, not at all			
4.		orried for no good reason					
			*9				
	<ul> <li>Yes, very often</li> </ul>						
*5	I have felt scared or panio	ky for no very good reason		INO, flever			
J		ky for no very good reason	*10	The thought of harming myself has occurred to me			
			10				
Adı	ministered/Reviewed by	simil agn acla promi jimis	Date				
<sup>2</sup> So	storic seds to transconsecution	William Veneza In the house Tea resilience built					
Use	ers may reproduce the scale v	vithout further permission providing of the paper in all reproduced copie		respect copyright by quoting the names of the			

\*10 The thought of harming myself has occurred to me

Yes, quite often

Sometimes
Hardly ever

Never

## What Next?

#### COLUMBIA-SUICIDE SEVERITY RATING SCALE

Screen Version - Recent

			st nth	
	Ask questions that are bolded and <u>underlined</u> .	YES	NC	
	Ask Questions 1 and 2			
1)	Have you wished you were dead or wished you could go to sleep and not wake up?			
2)	Have you actually had any thoughts of killing yourself?			
	If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.			
	3) Have you been thinking about how you might do this?			
	E.g. "I thought about taking an overdose but I never made a specific plan as to when where or how I would actually do itand I would never go through with it."			
	4) Have you had these thoughts and had some intention of acting on them?			
	As opposed to "I have the thoughts but I definitely will not do anything about them."			
	5) Have you started to work out or worked out the details of how to kill yourself?  Do you intend to carry out this plan?			
6)	Have you ever done anything, started to do anything, or prepared to do anything to end your life?		NC	
	Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note,			
	took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc.			
	If YES, ask: Was this within the past three months?			
	Low Risk			
	Moderate Risk			

## SUICIDE & CRISIS LIFELINE

## 3 Key Ideas



3. Disposition and Treatment



## Risk Stratification

#### COLUMBIA-SUICIDE SEVERITY RATING SCALE Screen Version - Recent Past month YES NO Ask questions that are bolded and underlined. Ask Questions 1 and 2 1) Have you wished you were dead or wished you could go to sleep and not wake up? 2) Have you actually had any thoughts of killing yourself? If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6. 3) Have you been thinking about how you might do this? E.g. "I thought about taking an overdose but I never made a specific plan as to when where or how I would actually do it ... and I would never go through with it." 4) Have you had these thoughts and had some intention of acting on them? As opposed to "I have the thoughts but I definitely will not do anything about them." 5) Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan? 6) Have you ever done anything, started to do anything, or prepared to do anything to YES NO end your life? Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc. If YES, ask: Was this within the past three months?

Low RiskModerate RiskHigh Risk

If YES to 2 or 3, seek behavioral healthcare for further evaluation.

If the answer to 4, 5 or 6 is YES, get immediate help: Call or text 988, call 911 or go to the emergency room.

STAY WITH THEM until they can be evaluated.

## Safety Plan: What would you do if you felt more suicidal?

- Share the number for the Suicide & Crisis Lifeline: 988
- Pick TWO family members or friends to call if feeling worse
- What hospital could she go to? Local walk in services (crisis stabilization units, local hospitals, PSI hotline)
- Follow up with higher risk patients
- Address means reduction whenever possible

## Document

- Risk level
- Protective factors
- Means reduction
- Treatment plan



If possible: Start treatment Diagnosis is KEY

# 1 in 5



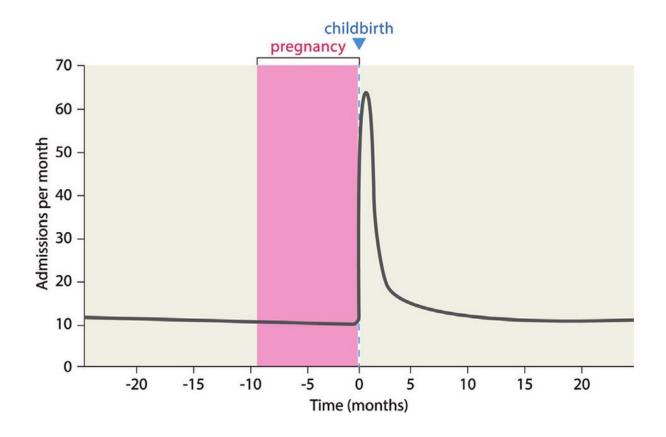
Wisner KL, Sit DKY, McShea MC, et al. JAMA Psychiatry 2013

## **PMADs**



- Depression
- Obsessive Compulsive Disorder
- Post-traumatic Stress Disorder
- Bipolar Disorder
- Postpartum Psychosis

July 2025

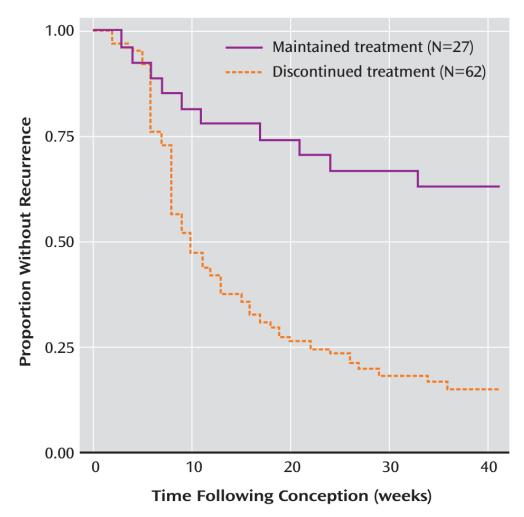


Kendall et al. Br J Psychiatry May 1987

## Bipolar Depression

Viguera et al. AJP Dec 2007

FIGURE 1. Kaplan-Meier Survival Functions for Pregnant Patients With Bipolar Disorder Who Maintained or Discontinued Treatment<sup>a</sup>



a Median time to first recurrence from the estimated date of conception was >41 weeks (95% CI=indeterminate) when mood stabilizer treatment was *maintained* (N=27) and only 9.0 weeks (95% CI=8.0−13.0) when treatment was *discontinued* (N=62;  $\chi^2 \ge 17.9$ , df=1, p<0.0001), a 4.6-fold difference.

#### THE MOOD DISORDER QUESTIONNAIRE

#### **Instructions:** Please answer each question to the best of your ability.

	YES	NO
1. Has there ever been a period of time when you were not your usual self and		
you felt so good or so hyper that other people thought you were not your normal self or you were so hyper that you got into trouble?	0	0
you were so irritable that you shouted at people or started fights or arguments?	0	0
you felt much more self-confident than usual?	0	0
you got much less sleep than usual and found you didn't really miss it?	0	0
you were much more talkative or spoke much faster than usual?	0	0
thoughts raced through your head or you couldn't slow your mind down?	0	0
you were so easily distracted by things around you that you had trouble concentrating or staying on track?	0	0
you had much more energy than usual?	0	0
you were much more active or did many more things than usual?	0	0
you were much more social or outgoing than usual, for example, you telephoned friends in the middle of the night?	0	0
you were much more interested in sex than usual?	0	0
you did things that were unusual for you or that other people might have thought were excessive, foolish, or risky?	0	0
spending money got you or your family into trouble?	0	0
2. If you checked YES to more than one of the above, have several of these ever happened during the same period of time?	0	0
How much of a problem did any of these cause you – like being unable to work; having family, money or legal troubles; getting into arguments or fights?      Please circle one response only.      No Problem Minor Problem Moderate Problem Serious Problem		
4. Have any of your blood relatives (i.e. children, siblings, parents, grandparents, aunts, uncles) had manic-depressive illness or bipolar disorder?	0	0
5. Has a health professional ever told you that you have manic-depressive illness or bipolar disorder?	0	0

© 2000 by The University of Tiexas Medical Branch. Reprinted with permission. This instrument is designed for screening purposes only and is not to be used as a diagnostic tool

## Bipolar Disorder

- •13 questions
- Positive screen is YES to 7+ questions
- Sensitivity 0.58
- Specificity 0.93

## Prescribe Sleep

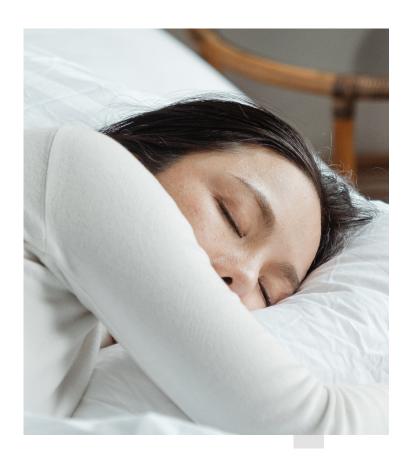




Four to six hours uninterrupted



Involve support system





## REFER

Inpatient hospitalization

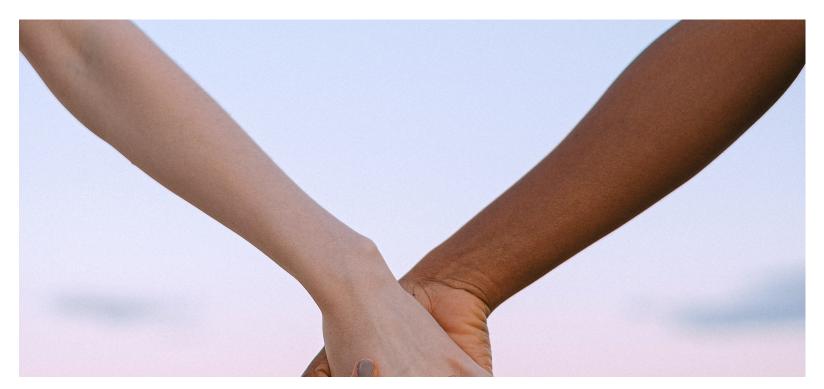
Partial Hospital Program

Intensive Outpatient Program

Outpatient medication management

Outpatient therapy

Support groups



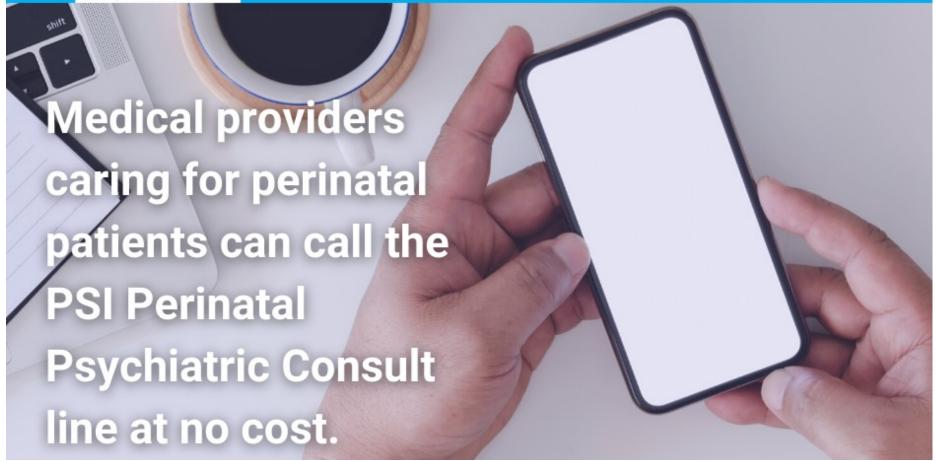
Peer Support

postpartum.net

# "Never worry alone."



# Perinatal Psychiatric Consult Line 1-800-944-4773, ext 4



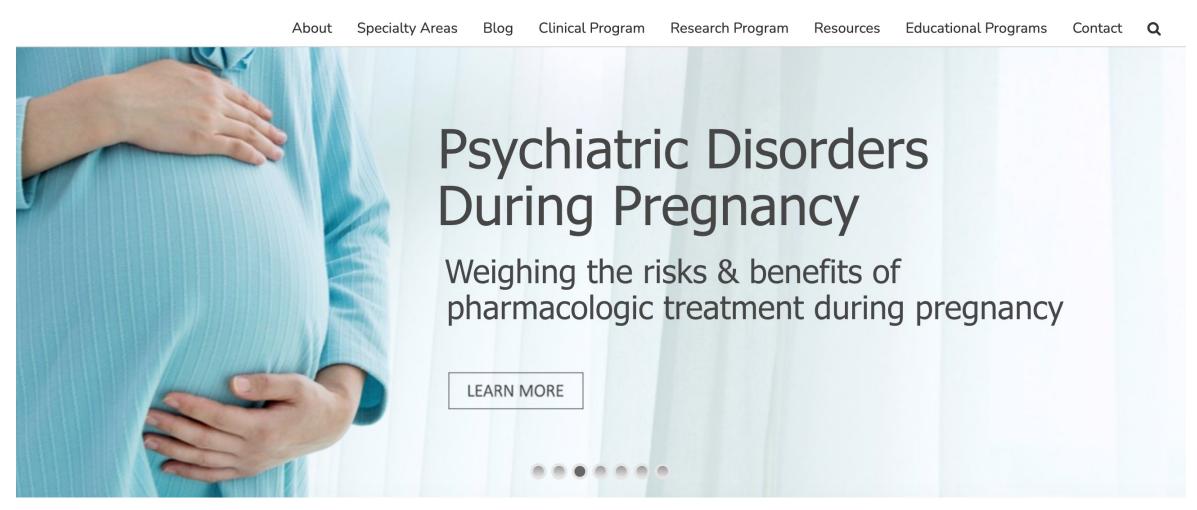








Reproductive Psychiatry Resource & Information Center





# Training opportunities at postpartum.net



July 2025

## Thank you!

Presentation prepared with materials from

Julia Wood, MD

wood@knoxvillepsych.com

Tipqc.org



Q&A



Resources

www.tipqc.org/sud/





