

Introduction to Perinatal Substance Use Disorders: Exploring Evidence-Based Recommendations for Care





Slide content prepared by: Project Cara Team, Amy Marietta, MD, MPH, FAAFP, FASAM; Drea Mora, BA; Grace Flinchum, BA; Olivia Caron, PharmD; Genevieve Verrastro, MD; Tammy Cody, LCSW; Melinda Ramage, NP; Rebekah Bass, BA; James Hardy, BS; Emma Blake, BS; Erin Major, BA; Abigail Earley, BS; Claire Kane, BS; Bayla Ostrach, MA, PhD; Katie Leiner, BS; Jennifer Maurer; Blake Fagan, MD; Carriedelle Fusco, FNP; Zach White, LCSW, LCAS, Virgil Hayes, MSW. (Graphic by Rio Holaday for CORE Project), Hannah Green PharmD Candidate

Speakers



Olivia Caron, PharmD,
BCACP, CPP (she/her)



Amy Marietta, MD, MPH,
FAAFP (she/her)



Tammy Cody, MSW, LCSW
(she/her)

Objectives

1. **Demonstrate understanding of disease model and recommendations as part of best practice for screening and treatment of perinatal substance use disorder care**
2. **Examine myths and bias that affect access to evidence-based care**
3. **Define recommendations for evidence-based practice for birthing parent and neonate affected by perinatal opioid use disorder**
4. **Formulate priorities for education, information sharing, and support measures for your team related to perinatal substance use disorders**

Alphabet Soup

- **DSM-5: Diagnostic Statistical Manual**
- **ASAM: American Society of Addiction Medicine**
- **OUD: Opioid Use Disorder**
- **SUD: Substance Use Disorder**
- **MAT: Medication Assisted Treatment**
- **MOUD: Medication for Opioid Use Disorder**
- **ACE: Adverse Childhood Experiences**
- **NAS: Neonatal Abstinence Syndrome**
- **NOWS: Neonatal Opioid Withdrawal Syndrome**
- **CAPTA: Child Abuse Prevention and Treatment Act**
- **CBT: Cognitive Behavioral Therapy**
- **SACOT: Substance Abuse Comprehensive Outpatient Treatment**
- **IOP: Intensive Outpatient Treatment**
- **MI: Motivational Interviewing**
- **UDS: Urine Drug Screen**

Project CARA

Project CARA: It's an acronym!

Care that **A**dvocates **R**espect, **R**esilience, and **R**ecovery for **A**ll
Since 2014

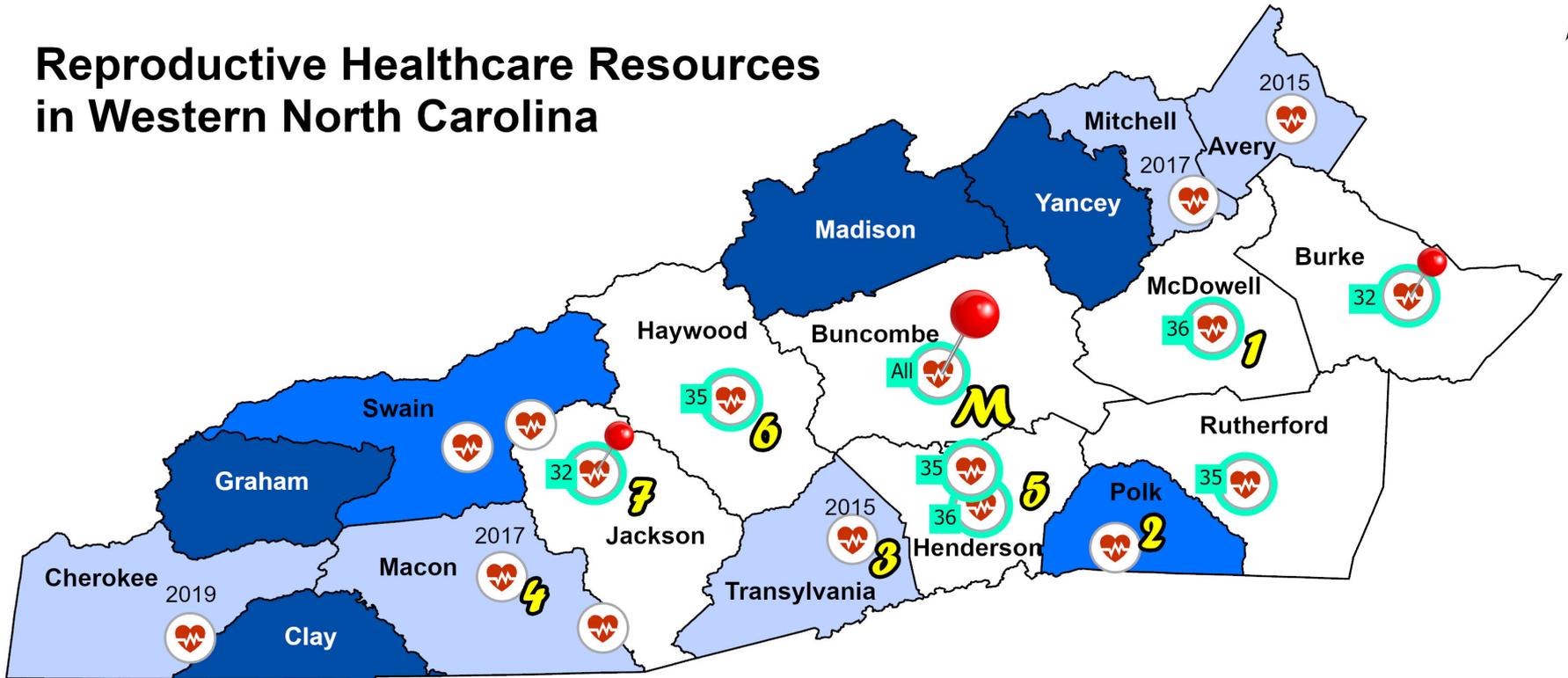
Mission

- To ensure that all pregnant and parenting patients affected by substance use have easy access to a multidisciplinary team that is compassionate, trauma informed, and non-judgmental.

Vision

- We aim to change generational patterns of substance use one pregnancy at a time
 - Pregnant persons
 - Birthing parents through 12 months postpartum
 - Pre-conception consults
 - Incarcerated persons
 - Special populations

Reproductive Healthcare Resources in Western North Carolina



Hospital with Labor & Delivery and Gestation Weeks

Hospital without Labor & Delivery and applicable L&D closure years

County Hospital Status

- No Hospital
- Hospital, no Labor and Delivery
- Hospital, L&D closed in year indicated
- Hospital with Labor & Delivery

Neonatal Intensive Care Units

- Buncombe County Level III - 51 Beds
- Jackson and Burke Counties Level II - 4 Beds

Project CARA Hub

MAHEC OB/GYN Specialists

Spokes

- Mission Women's Care - McDowell
- Blue Ridge Health - Polk
- MAHEC Women's Care at Brevard
- MAHEC OB/GYN Specialist at Franklin
- Blue Ridge Health - Justice Street
- Blue Ridge Health - Haywood
- Blue Ridge Health - Jackson

Patient Centered Language

Deficits-Based	Strengths-Based
Addict	Person with a substance use disorder; patient
Frequent Flyer	Utilizes services and supports when necessary
Hostile, Aggressive	Protective
Helpless/Hopeless	Unaware of capabilities/opportunities
Mentally ill	Person with a mental illness
Unfit parent	Person experiencing barriers to successful parenting
Resistant	Chooses not to, Isn't ready for, Not open to
Suffering with	Working to recover from; experiencing; living with
Weaknesses	Barriers to change or needs
Relapse	Return to use
Clean/Dirty	Expected/Unexpected

Epidemiology

Overdose Death

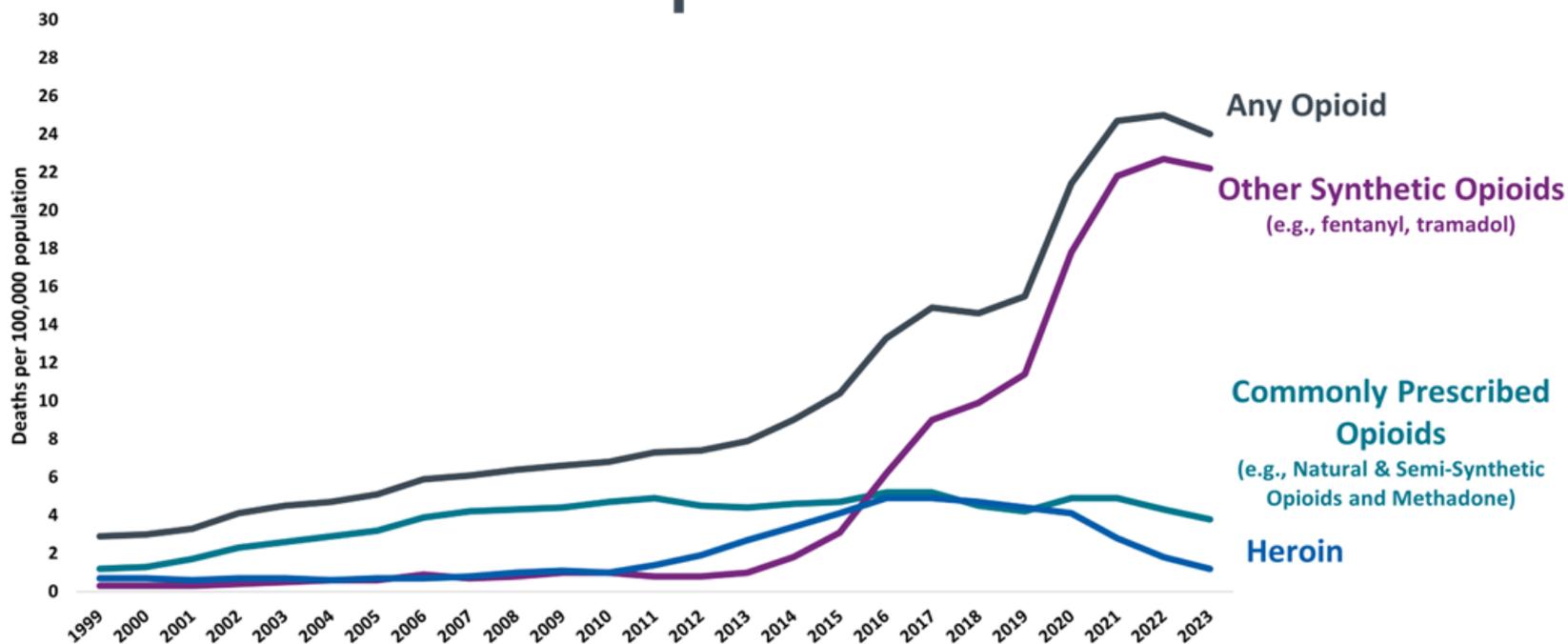
12

Number of North Carolinians who died each day from opioid overdoses in 2023

82,020

Reported number of people in the US who died from any drug overdose from October 2023 to October 2023

Three Waves of Opioid Overdose Deaths



↑
Wave 1: Rise in Prescription Opioid Overdose Deaths Started in the 1990s

↑
Wave 2: Rise in Heroin Overdose Deaths Started in 2010

↑
Wave 3: Rise in Synthetic Opioid Overdose Deaths Started in 2013

SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2024. <https://wonder.cdc.gov/>.



Perinatal Substance Use Disorders: Why Is It A Special Focus?

Impact of Opioids

1. February 2022-2023, over 105,258 people in the US died from a drug overdose ⁴
75.7% of which involved opioids.
2. The estimated incidence of births associated with opioid use disorder (OUD), *grown by more than sevenfold between 1999 and 2017*^{5,6}
1.5/1000 deliveries in 1999
8.2/1000 deliveries in 2017
3. *Opioid use disorder in pregnancy is associated with adverse health outcomes, such as preterm delivery and low birth weight.* ⁷



93,013 people attended the Match in 2015
[Cricket World Cup Final](#) by Tourism Victoria from Australia on
Wikimedia commons

The Changing Landscape of SUD Treatment

Legislation Changes

- MATE Act, 2023:
 - Removal of the X-Waiver
 - All providers can prescribe buprenorphine after completing 8 hours of training on OUD/SUD
- Dignity for Women who are Incarcerated Act, 2021

The Age of Fentanyl

- Greater potency and physical dependence than non-synthetic opiates
- 2013 -> 2020: Synthetic opioid overdose deaths increased **18x**
- No known “safe” amount of fentanyl (& other illicit opioids) in pregnancy

COVID-19

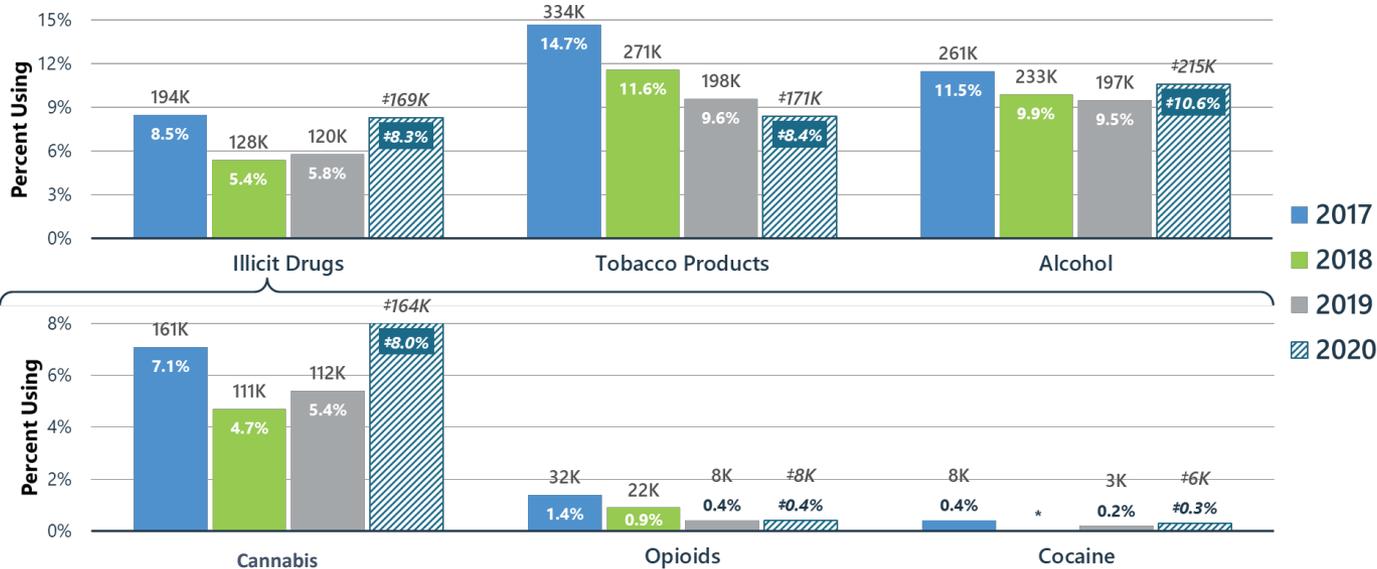
- Pandemic exacerbation of substance-related deaths
 - May 2019 - May 2020: Over 81,000 drug overdose deaths occurred in the United States
 - Highest number of overdose deaths ever recorded in a 12-month period

Start With Standardized Screening

Current Context of Substance Use During Pregnancy

Substance Use in Past Month: Among Pregnant Women Aged 15-44

PAST MONTH, 2017-2020 NSDUH, PREGNANT WOMEN 15-44



* Estimate not shown due to low precision.

Tobacco products are defined as cigarettes, smokeless tobacco, cigars, and pipe tobacco.

† Estimates on the 2020 bars are italicized to indicate caution should be used when comparing estimates between 2020 and prior years because of methodological changes for 2020. Due to these changes, significance testing between 2020 and prior years was not performed. See the 2020 National Survey on Drug Use and Health: Methodological Summary and Definitions for details.

2021:

- Illicit Drugs: 375K
- Cannabis: 350K
- Opioids: 91K

Prevalence in Pregnancy

Gestational Diabetes ¹⁸

- 5.8% to 9.2%

Pre-eclampsia ¹⁹

- 4%

Strep B bacteria in the body ²⁰

- 25%

Depression During Pregnancy ²¹

- 7%

Antenatal HCV infection ²²

- 0.53%

In 2019, past-month illicit substance use ranged from **4.67 to 14.81%** among pregnant people in the United States. ²³

ACOG Guidance: Treating Women For Substance Use Disorders During Pregnancy

- Universal screening starting at the first prenatal visit and using a validated verbal screening tool, which is preferable to urine testing
- If a patient screens positive, the guidelines recommend a brief intervention and referral to treatment
- Multidisciplinary long-term follow-up should include medical, developmental, and social support

Validated Screening Tools for Substance Use in Pregnancy

Tool	What it Screens For	Description
Substance Use Risk Profile- Pregnancy (SURP-P)	<ul style="list-style-type: none"> Alcohol non-prescribed drug use or prescribed drug use for nonmedical reasons Particularly good for alcohol 	<ul style="list-style-type: none"> Three questions Valid for high and low-risk populations Simple and flexible Pregnancy specific
NIDA Quick Screen	<ul style="list-style-type: none"> Alcohol Tobacco products Prescription drugs for non-medical reasons Illegal drugs 	<ul style="list-style-type: none"> Four question screener about frequency of use with answers ranging from “never” to “daily or almost daily” Not pregnancy specific
CRAFFT	<ul style="list-style-type: none"> Substance use (alcohol and drugs, including marijuana) Substance-use related riding/ driving risk Substance use disorder Particularly good for alcohol 	<ul style="list-style-type: none"> Efficient and effective health screening tool for youths 12-21 Not pregnancy specific
Wayne Indirect Drug Use Screener (WIDUS)	<ul style="list-style-type: none"> All substances Particularly good for illicit drugs and alcohol 	<ul style="list-style-type: none"> 6 true or false items based on correlates to drug use (ex. “I get mad easily and need to blow off some steam” or “Most of my friends smoke cigarettes”) Not pregnancy specific
5 Ps	<ul style="list-style-type: none"> Alcohol and drug use Particularly good for alcohol 	<ul style="list-style-type: none"> Five yes or no questions regarding substance use by Parents, Peers, Partner, Past- before pregnancy, Pregnancy- during) Pregnancy specific

Myth:

**“A urine drug screen tells you all that you need
to know”**

FALSE

This is a TOOL for managing substance use disorders

- *Every screen should be confirmed!!*
- *Limitations:*
 - Current or recent use
 - Can't be used to diagnose a substance use disorder
 - Varying sensitivity and specificity based on substance and drug screen assay
 - **False positives**
 - **False negatives**



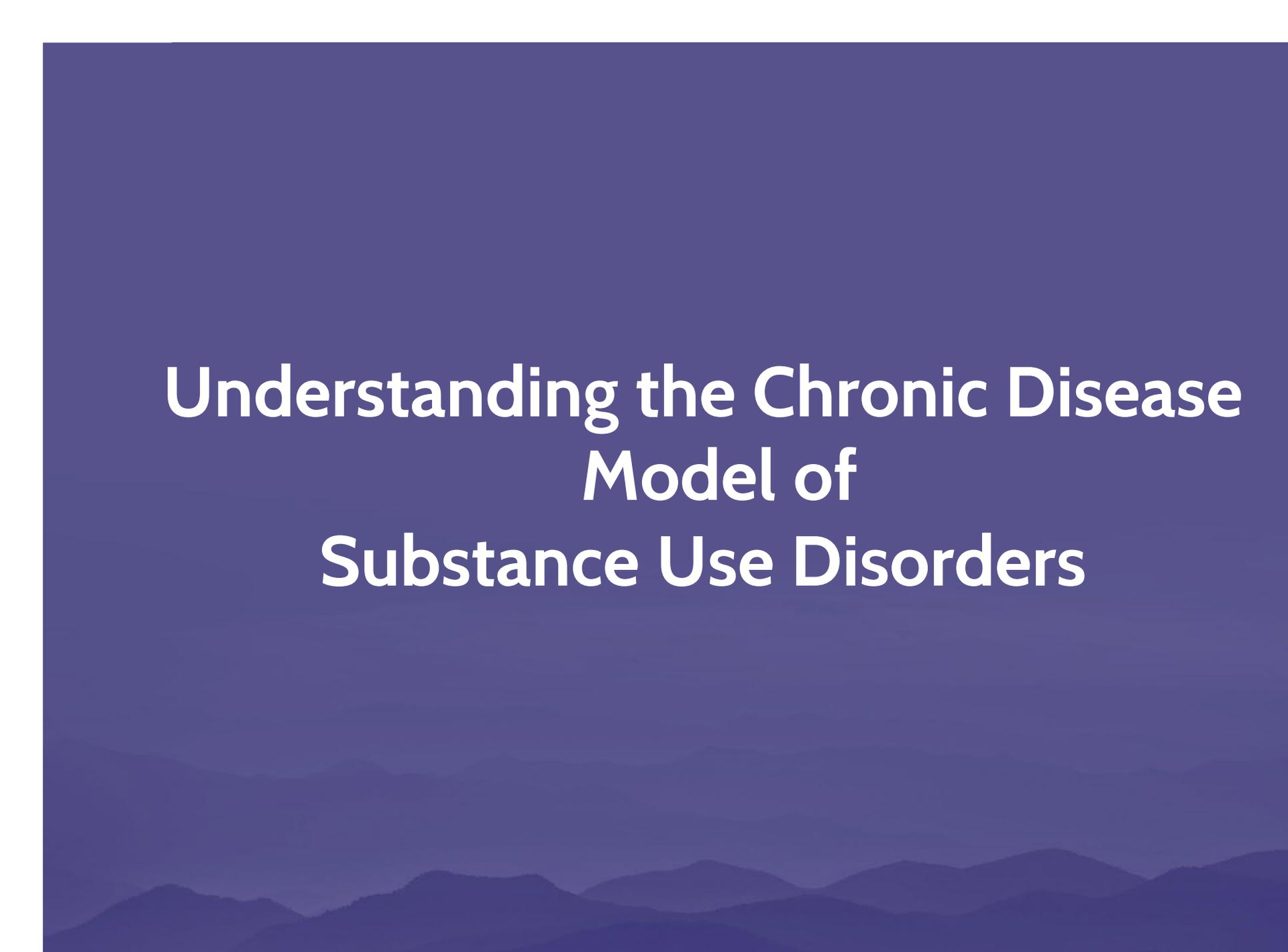
Photo courtesy of M Ramage

What is SBIRT?

Screening quickly assesses the severity of substance use and identifies the appropriate level of treatment.

Brief intervention focuses on increasing insight and awareness regarding substance use and motivation toward behavioral change.

Referral to treatment provides those identified as needing more extensive treatment with access to specialty



Understanding the Chronic Disease Model of Substance Use Disorders

Myth:

**“If they love their baby, they wouldn’t
continue using drugs”**

FALSE

How does Substance Use Begin?

No single factor determines whether a person will develop a substance use disorder.³²

Risk Factors

Biological

- Genes³²
- Stages of development³²
- Gender³²
- Age³²
- Behavioral health disorders³²
- Chronic Pain³³

Environmental

- Trauma
 - Family history/ life experiences³²
 - Disenfranchisement³⁴
(unemployment, poverty, stigma, discrimination, isolation, race)
- Epigenetics³²
- How substance is taken³²
- Opioid prescription in the household

DSM-5 Criteria for Substance Use Disorders (SUDs)

Having 2 or more of these symptoms in the past year qualifies as a SUD

Impaired Control	Social Impairment	Risky Use	Pharmacological*
<ul style="list-style-type: none">• Larger amounts, longer time• Inability to cut back• More time spent, getting, using, recovering• Craving	<ul style="list-style-type: none">• Failure to fulfill major role obligations• Social and interpersonal problems related to use• Important social activities given up to use	<ul style="list-style-type: none">• Physically hazardous use• Continued use despite associated recurrent physical or psychological problems	<ul style="list-style-type: none">• Tolerance• Withdrawal <p>*when not appropriately taking medication</p>

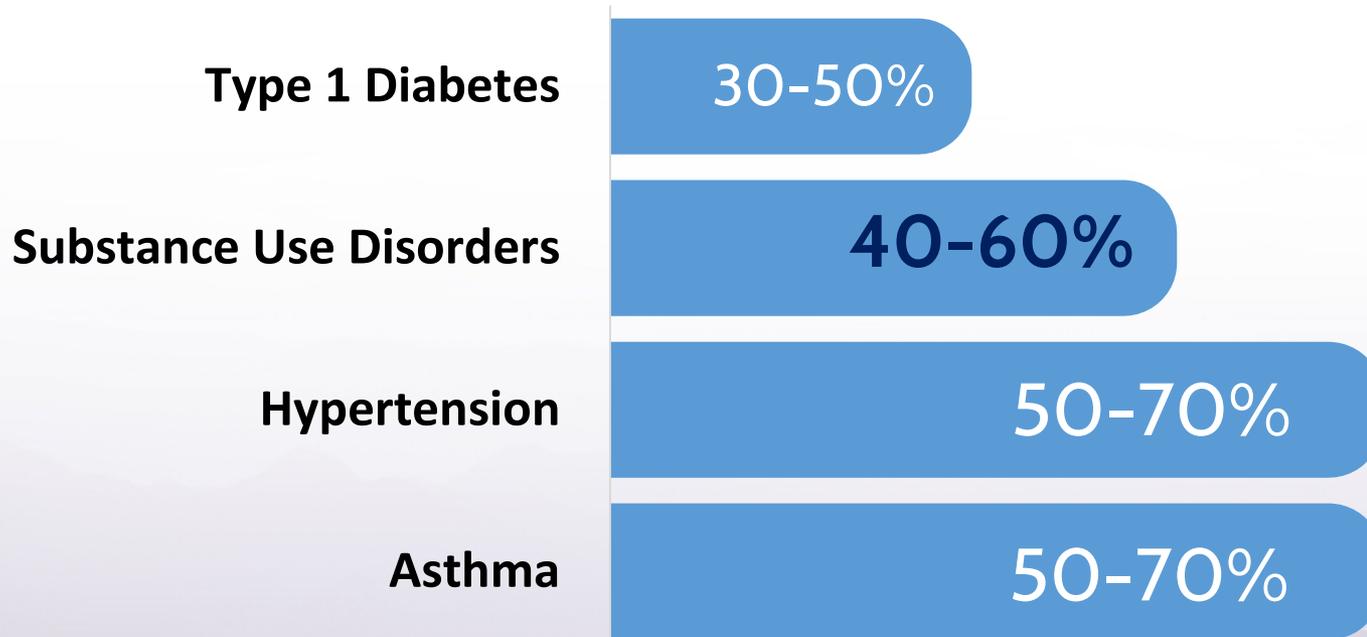
2-3 symptoms: mild
4-5 symptoms: moderate
6+ symptoms: severe

Name this Chronic Medical Illness

“ _____ imposes a substantial burden on the economy of the U.S. in the form of increased medical costs and indirect costs from work-related absenteeism, reduced productivity at work and at home, reduced labor force participation from chronic disability, and premature mortality. In addition to the economic burden that has been quantified, _____ imposes high intangible costs on society in terms of reduced quality of life and pain and suffering of people with _____, their families, and friends.”

What if We See Substance Use Disorders as a Chronic Illness?

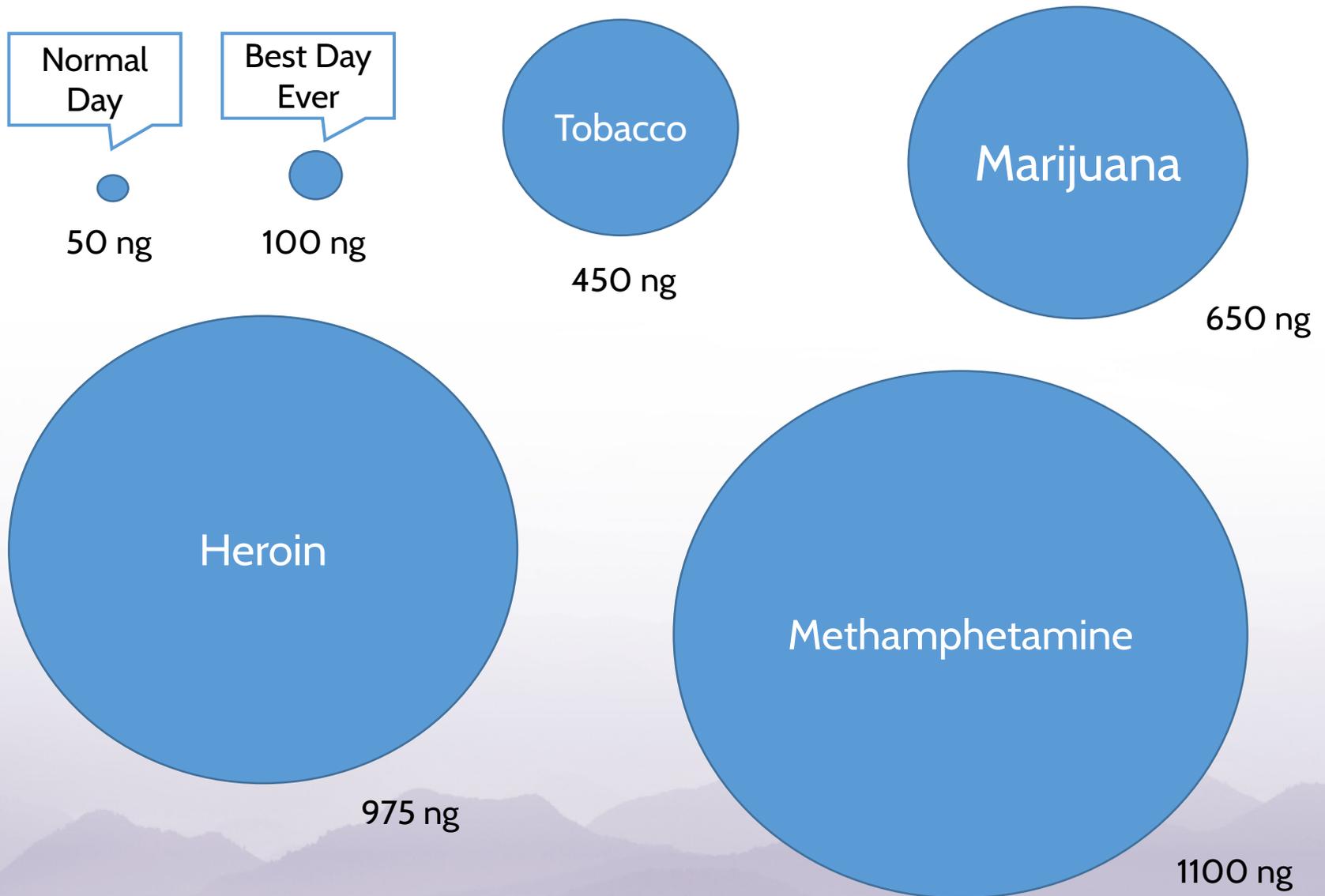
Percentage of Patients who Have a Recurrence of Disease



Brain Changes: Neurotransmitters

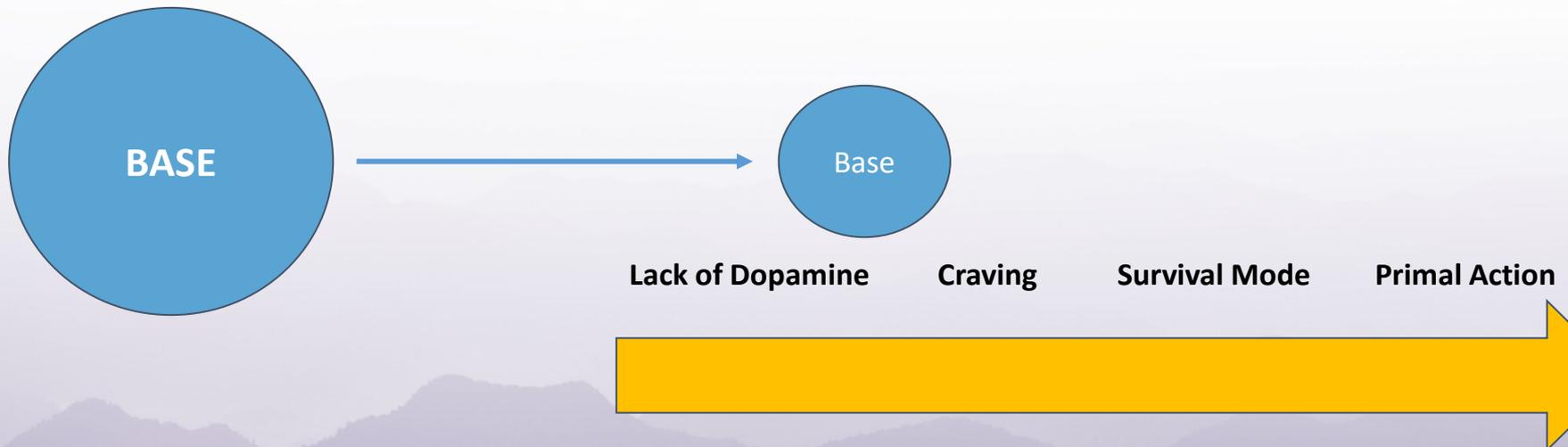
- Dopamine: Our primary reward system
 - Triggers the reward system in our brain
 - Drives behavior necessary for survival
 - Secretion occurs when we:
 - Eat a good meal
 - Fall in love
 - Have a positive sexual experience
 - Consume certain substances
 - Enjoy a sunset
- Endorphins and opioid receptors: Maximize our ability to achieve the reward

Dopamine Concentrations in the Brain¹



Dopamine Deficiency

- Can be born with it or can develop with repeated use
- Substances drastically increase dopamine levels
- Leads to
 - Lack of motivation, fatigue, apathy, trouble concentrating
 - Behaviors are stigmatized by - social attitudes, policies, and laws



Recommended Viewing:

[Addiction Neuroscience 101 with Dr. R. Corey Waller](#)



Telescoping: Influence of Gender on Substance Use and Substance Use Treatment

On average time course for SUD diagnosis is compressed for people assigned female at birth

- High rates of domestic violence
- High rates of anxiety and depression
- Care barriers include childcare, transportation, multiple specialty appointments at high frequency
- Increase rate of irregular menses
 - Higher risk of unrecognized pregnancy

Trauma Informed Care

- **Principles of Trauma informed approach**
 - Safety
 - Trustworthiness and transparency
 - Collaboration and mutuality
 - Empowerment
 - Voice and Choice



Medication Options For Opioid Use Disorder (OUD) in Pregnancy and Postpartum

Myth:

“MOUD is just substituting one drug for another”

FALSE

Pharmacologic Treatment Options for SUDs

FDA approved medications for: ^{56,57}

Tobacco Use Disorder

- Nicotine replacement therapy
- Bupropion
- Varenicline

Alcohol Use Disorder

- Naltrexone
- Disulfiram
- Acamprosate

Opioid Use Disorder

- Methadone (OTP ONLY)
- Buprenorphine
- Naltrexone
 - Naloxone for OD prevention

Medication For Opioid Use Disorder

Buprenorphine

- Mild to severe OUD
- Patients able to attend visits with primary care
- Patients on multiple medications (i.e. HIV therapy)
- **Who are pregnant**

Methadone

- Moderate to Severe OUD
- Who need the structure of daily observed dosing
- Patients on high doses of opioids
- **Who are pregnant**

Naltrexone
is approved for MOUD but under investigation
during pregnancy

Common Forms of Buprenorphine

Opioid Use Disorder

Buprenorphine-Naloxone

- Film, buccal (most common)
- Tablet, sublingual

Buprenorphine

- Tablet, sublingual
- Prefilled syringe, subcutaneous
- Intravenous (IV)

Chronic Pain

Buprenorphine

- Film, buccal
- Patch, transdermal

Buprenorphine/Naloxone During Pregnancy:

Though buprenorphine mono-product was previously recommended...

Buprenorphine-Naloxone has become more commonly used in pregnancy, without any associated negative outcomes



Project CARA brief: Use of Buprenorphine +Naloxone in Pregnancy

Our comprehensive perinatal substance use disorders program Project CARA (Care that Advocates Respect, Resilience, and Recovery for All), with support from the *Maternal Fetal Medicine Division at MAHEC OBGYN*, the *Addiction Fellowship at MAHEC Family Medicine*, and the Project CARA Research Team, recommends buprenorphine +naloxone combination products (ex: [Suboxone®](#)) for eligible patients presenting for care with opioid use disorder in pregnancy and/or early postpartum. Most waiver trainings that is required for a prescriber to obtain DATA 2000 certification (DEA X-waiver), recommends utilization of mono product buprenorphine in pregnancy. However, there is a steadily growing body of evidence that supports the use of combination buprenorphine +naloxone as a first line treatment option for pregnant/postpartum OUD patients.

Evidence:

- 1. Medication safety:** Buprenorphine-naloxone dual products are FDA-approved in pregnancy when the benefit outweighs the risk. While buprenorphine alone is a Category C medication, naloxone is in fact a Category B medication and thus considered safe in pregnancy ([Debelak et al. 2013](#)).
- 2. Patient Safety:** As in other comprehensive perinatal substance use treatment programs we prescribe dual products to increase patient safety from intimate partner violence. Patients and collaborating agencies report greater risk of theft of mono product medications from people experiencing intimate partner violence. Dual products are thought to reduce diversion. Due to a variety of structural reasons

Duration of Treatment

The neuroadaptations that occur with OUD can take decades to return to baseline

Patients who discontinue medications often return to use

Treatment with medications for less than 90 days does not improve outcomes

Those who treat with medications for less than 3 years are more likely to return to use than those who treat for greater than 3 years

Up to 5 years for chance of return to use to equal general population's risk of developing a use disorder

MOUD Is Recommended In Pregnancy

- **From MOTHER Study:**
 - Increased adherence to prenatal care
 - Decreased illicit drug use
 - Decreased infection exposure
 - Improved maternal nutrition
 - Improved neonatal birth weight
 - Decreased withdrawal and risk-taking behaviors
 - Facilitates treatment retention and increases use of other treatment modalities including medical/ psychiatric/ social service care

MOUD Treatment for Pregnant Patients

Less than 2% of OB/GYN doctors who accept Medicaid are trained to prescribe buprenorphine

Delivery

“I Was Scared”

“I was scared coming here, because I thought it’s gonna be immediate [social services]. I [thought I] was never gonna see my child again... I never heard of this program until the day I needed help, and that day was terrifying for me, because I’d had no idea what was gonna happen...”

(Billy --All names are pseudonyms chosen by participants)



Patients Have The Same Concerns And Fears:

Is the Department of Social Services going to take my child?

Will I be able to stay with the baby once it is born?

How long will we be in the hospital?

Does the medication hurt the baby?

Do I have to tell my family I'm getting treatment?

What is NAS/NOWS?

- Neonatal Opioid Withdrawal Syndrome (NOWS) is a drug withdrawal syndrome that may result from chronic birthing parent opioid use during pregnancy and is an *expected and treatable condition* seen in 30–80% of infants born to women taking opioid agonist therapies¹
- Neonatal Abstinence Syndrome (NAS) can occur secondary to multiple other exposures including:
 - Alcohol
 - Benzodiazepines
 - Stimulants
 - Tobacco
 - SSRIs...

Eat Sleep Console

A tool for assessing infants with NOWS that is *more reliable* and *easier to use* compared to the original method, Finnegan Scoring, and emphasizes non-pharmacological treatments to reduce need for NICU admissions.

Eat Sleep Console significantly reduces number of days in the hospital for infants with NOWS.

STEP ONE

ASSESS

EAT: At least one ounce per feeding or breastfeed well

SLEEP: Undisturbed for one hour

CONSOLE: Able to be consoled within 10 minutes

STEP TWO

Step-up treatment if infant does not pass any one of the measures

STEP THREE

Maximize non-pharmacological options

- Low-stimulation environment (dim lights, muted TV, reduced noise)
- Engagement of parents in care of infants (Room-in, demand feed, tend to infant if crying)
- Encourage breastfeeding if no contraindications

Initiate morphine or increase if already using

- PRN morphine
- Decrease peak dose by 10% max 3x daily

Child Development Outcomes

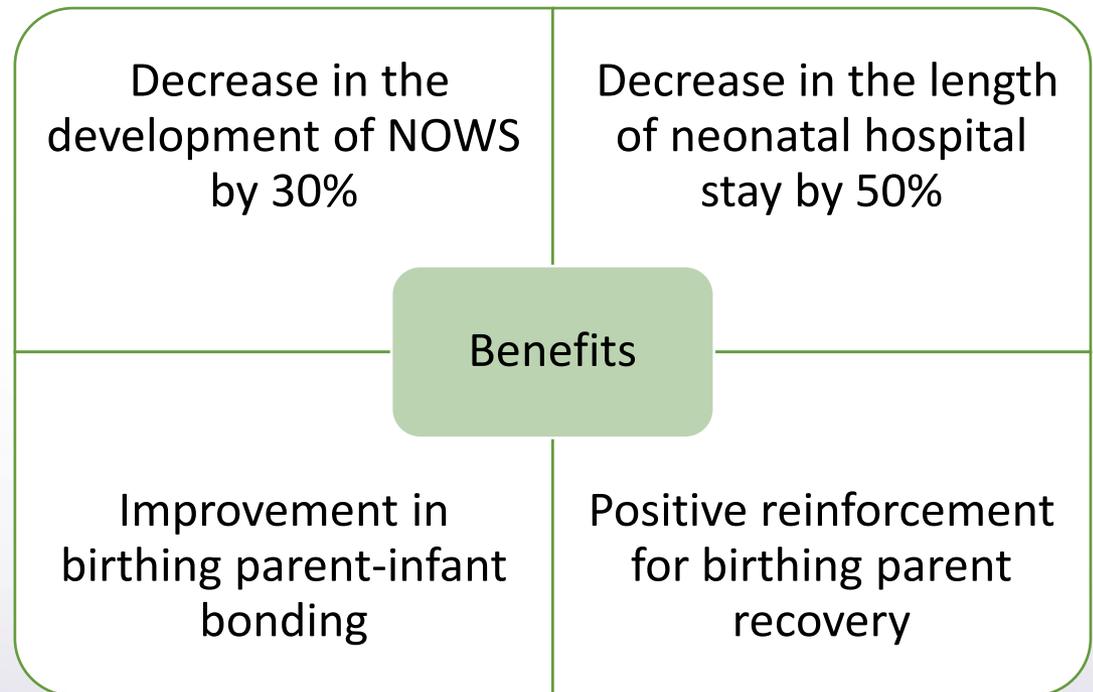
Follow-up MOTHER Study:
No harmful effects of buprenorphine
compared to methadone

No harmful effects of NOWS severity compared to not-
treated for NOWS

- Growth
- Cognitive Development
- Language ability
- Sensory processing
- Temperament

Evidence Based Practice: Breastfeeding

- Opioids are detected in the breastmilk
 - Associated with
 - Decreased severity of NOWS symptoms
 - Less need for pharmacotherapy
 - Shorter hospital stay for infant
- Opioids in Breastmilk
 - Recommended for women treated with medications for OUD
 - Minimal (methadone) to no (buprenorphine) exposure to the newborn



Engagement with the Department of Social Services

Myth:

“All infants born to mothers who are prescribed Methadone should be reported to DSS.”

FALSE

Rural Patients' Voices

- “That's one of the things that I don't understand is why North Carolina has made it mandatory for people to [be reported to social services for receiving medication treatment][...] I mean you'd think [social services would rather we be on] Suboxone or would [they] rather people be out there using and doing other stuff while they're pregnant?”
 - Focus group participant
- Participants commonly feared potential social services scrutiny and involvement after delivery.

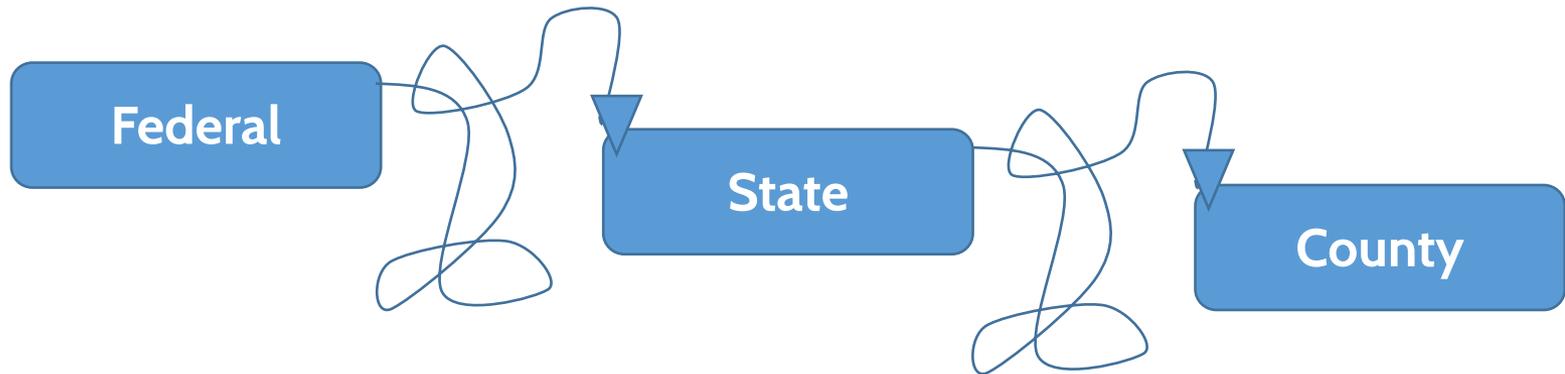
CAPTA Law

The Child Abuse Prevention and Treatment Act requires states to have policies and procedures...

requiring health care providers to notify the child protective services system if they are involved in the delivery of an infant born and identified as being affected by substance abuse or withdrawal symptoms

...resulting from prenatal drug exposure, or a Fetal Alcohol Spectrum Disorder.

CAPTA Law Confusions And Implications



- Counties interpret the law differently
- No standard state definitions of “*active use during pregnancy*” or “*clinically significant signs of withdrawal*”
- No standard education for the differences between Child Protective Service reports and the notification process
- Wide response to the notification process

Despite all this confusion and uncertainty, women continue to adhere to evidence-based treatment and practices, knowing this will result in a potential contact with the DSS at the time of delivery.

Transition to Postpartum

The image features a solid dark blue background. At the bottom, there is a faint, stylized silhouette of a mountain range with several peaks of varying heights. The text 'Transition to Postpartum' is centered in the upper half of the image in a white, bold, sans-serif font.

Myth:

“A mother must be ‘non-compliant’ with care if she misses a postpartum appointment”

FALSE

Parent Vs. Infant Systems Of Care

Birthing Parent

- Medical care
- Care management
- Assistance programs
 - WIC, SNAP, housing
- Substance use care
 - Behavioral health
 - Medication management
- Insurance (Pregnancy Medicaid now covers through 12mpp)

Infant

- Medical care
- Care management
- Childcare
- Substance exposure care
 - CDSA
 - Home health
- Insurance

Title

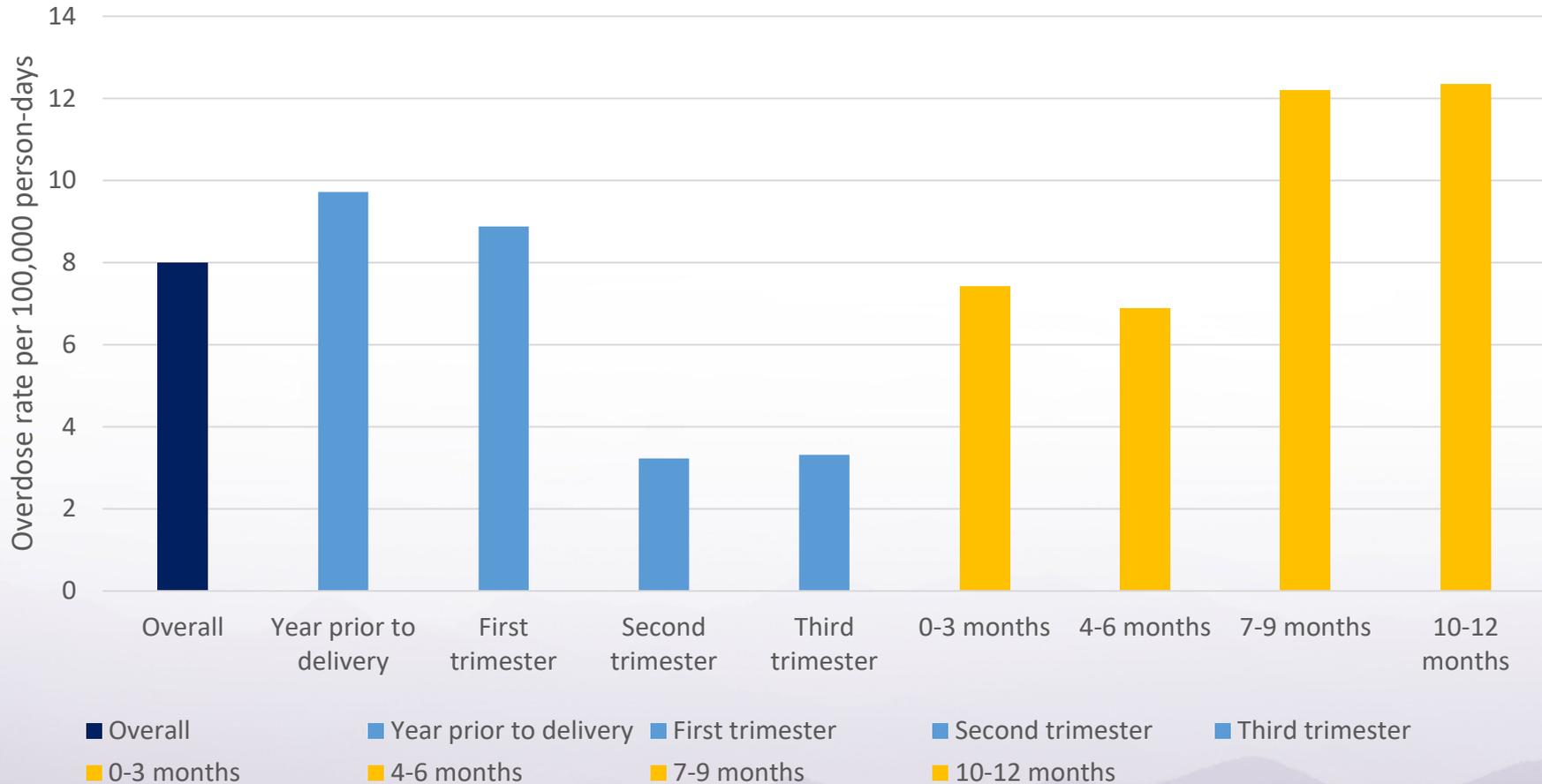
The Month of Delivery

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	
5	6 Delivery	7 OB/GYN-Lactation- Social Work-Birth Certificate Ped	8 NNP Consult for PSE Resp. Therapy Lactation Consultant	9 Infant to NICU Mom discharged WIC for breast pump	10 Medication in NICU Return to MAT Clinic VAYA Care Coordinator	Medication in NICU DSS Opens Case at the hospital Rounds
12 Medication change- NICU Rounds	13 Medication in NICU First START Team Rounds	14 Medication in NICU Comprehensive Substance Use Assessment by START	15 Discharge Home CC4C and CDSA notified DSS Child & Family team	16 Home Health Nurse DSS Home Visit VAYA Care Coordinator	17 Pediatrician visit-CC4C Call to schedule CDSA Begin SA Treatment	Home Health Nurse
19	20 OB Follow up SA Treatment	21 Home Health Nurse CDSA visit	22 SA Treatment VAYA Peer Support	23 Pediatrician visit, change of meds. CC4C	24 Home Health Nurse MAT Clinic SA Treatment	
26	27 SA Treatment	28 VAYA Care Coordinator Home Health Nurse	29 SA Treatment Peer Support	30 Home Health Nurse CDSA Assessment for Services	SA Treatment Pediatrician visit-CC4C	

Knowledge Slide: Clarifying outpatient treatment

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00- 12:0pm	1:1 Therapy				12 Step
12:00-4:00pm	GROUP/SACOT	GROUP/SACOT	GROUP/SACOT	GROUP/SACOT	GROUP/SACOT
5:00-7:00pm	12 Step	12 Step	12 Step	12 Step	

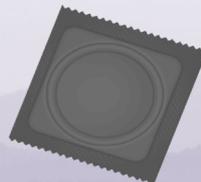
Overdose Rates During Peripartum Period



Elements of Harm Reduction for Drug Use

Strategies include:

- Community distribution and education on naloxone
- Syringe exchange and access programs
- Safe drug consumption spaces
- Comprehensive sex-positive education and supplies
- Continuing medications for opioid use disorder even if in active use
- Never Use Alone hotline: 800-484-3731
- Fentanyl test strips



What Is Recovery?

- SAMHSA has delineated four major dimensions that support a life in recovery

Health

Home

Purpose

Community

- In clinic, we often ask:

What is
inspiring and
nourishing you?

What is helping
you stay
balanced?



Next Steps In Delivering Comprehensive PSUDs Care

Project CARA's Integrated, Outpatient, Comprehensive Model of Care



Services Offered at Project CARA

- Preconception Consults
- Prenatal and Postpartum care
- Medical management of Perinatal Substance Use Disorders (PSUDs)
 - Medication for Opioid Use Disorder (MOUD) e.g. Buprenorphine
 - Nicotine Replacement
- HIV/ Hepatitis C screening, consult, and treatment
- Mental Health screening, evaluation, and treatment
- Substance Use screening, evaluation, and treatment
- Crisis Management
- Complex Care Management
- Perinatal Substance Exposure Education
- 1:1 therapy
- Transitions of care for patients across systems



PROJECT CARA OUTCOMES: YOU CAN IMPROVE CARE FOR THE MOTHER-BABY DUAD

WHEN COMPARED TO TRADITIONAL PRENATAL CARE MODEL:

INCREASED ACCESS AND ENGAGEMENT IN CARE

- 40% MORE PROJECT CARA PATIENTS STARTED PRENATAL CARE EARLIER

MORE IN THE FIRST TRIMESTER



- 37% MORE PROJECT CARA PATIENTS RECEIVED SUBSTANCE USE TX DURING PREGNANCY IN ADDITION TO THEIR PRENATAL CARE

- INCREASED POSTPARTUM CARE

- LESS ILLICIT SUBSTANCE USE AT DELIVERY

- INCREASED BREASTFEEDING



FEWER BARRIERS TO CARE



PROJECT CARA PATIENTS EXPERIENCED:

- UP TO 32% LESS DIFFICULTY WITH ACCESSING PRENATAL CARE
- UP TO 35% LESS DIFFICULTY WITH ACCESSING SUBSTANCE USE TREATMENT

INCREASED PATIENT SATISFACTION

It was really nice being looked at as a person and not my past

They were very compassionate and understanding, and I liked that



- 14% MORE SATISFIED WITH PRENATAL CARE
- 23% MORE SATISFIED WITH SUBSTANCE USE TREATMENT
- REPORTED HIGHER LEVELS OF RESPECT FROM PROVIDERS
- REPORTED INCREASED INVOLVEMENT THEIR HEALTH CARE DECISION MAKING

Continue Learning

Didactics

- [Perinatal Substance Use Disorders 101: Exploring Evidence-Based Recommendations for Care](#)
- [Perinatal Substance Use Disorders 201: Expanding Skills and Knowledge to Care for Families Affected by Substance Use Disorders](#)
- [Breastfeeding in the Setting of Substance Use and Substance Use Disorder Updates 2024](#)

Project CARA website

- <https://mahec.net/obgyn/project-cara>

Newsletter

- To join the mail list for the quarterly Project CARA newsletter click [here!](#)

Clinical Implementation and Support Resources

- [FindMyCareWNC: Interactive Map for Transitions, Access and Continuity of Care \(ITACC\)](#)
- [FindMyCareWNC Trends: Interactive Dashboard for Transitions, Access and Continuity of Care \(ITACC\)](#)
- [Before You Write Your First Buprenorphine Prescription](#)
- [The Checklist: Knowing your System Before Birthing Parents with SUD Deliver](#)
- [Discussion Points: Preparing Pregnant Patients with SUD for Delivery](#)

Technical Assistance

- Call CARA direct line: 828-255-5542
- Email ProjectCARA@mahec.net

Resources

- SAMHSA: [Clinical Guidance for Treating Pregnant And Parenting Women with Opioid Use Disorder and their Infants](#)
- ACOG: [Opioid Use Disorder in Pregnancy](#)
- North Carolina Pregnancy and Opioid Exposure Project: ncpeop.org
- North Carolina Alcohol and Drug Abuse Treatment Centers: ncdhhs.gov/divisions/dsoh/facilities
- QuitlineNC: <https://quitlinenc.dph.ncdhhs.gov/>
- **Loan Repayment:** [Apply to the Substance Use Disorder Treatment and Recovery Loan Repayment Program \(STAR LRP\) from HRSA & Apply to the NHSC Substance Use Disorder Workforce Loan Repayment Program from HRSA](#)
- MAHEC's Substance Use Disorder Provider Education: <https://mahec.net/substance-use/provider-education>



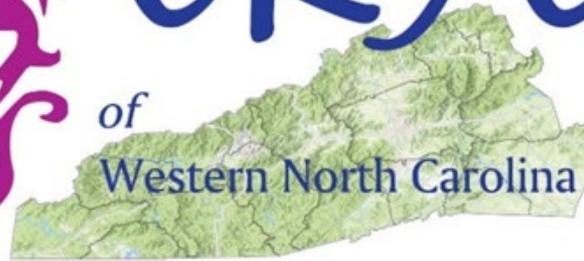
PROJECT

CARA



of

Western North Carolina



Thank You!

References

1. North Carolina Department of Health and Human Services. Opioid and Substance Use Action Plan Data Dashboard. NCDHHS. Published 2022. Accessed October 3, 2022. <https://www.ncdhhs.gov/opioid-and-substance-use-action-plan-data-dashboard>
2. Ahmad F, Cisewski J, Rossen L, Sutton P. Provisional drug overdose death counts. National Center for Health Statistics. Published 2022. Accessed October 3, 2022. <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>
3. CDC. Opioid Data Analysis and Resources. Center for Disease Control and Prevention. Published August 8, 2023. Accessed August 14, 2023. <https://www.cdc.gov/opioids/data/analysis-resources.html>
4. National Center for Health Statistics, CDC. Provisional Drug Overdose Data. Center for Disease Control and Prevention. Published July 6, 2023. Accessed August 7, 2023. <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>
5. Haight SC. Opioid Use Disorder Documented at Delivery Hospitalization – United States, 1999–2014. *MMWR Morb Mortal Wkly Rep*. 2018;67. doi:10.15585/mmwr.mm6731a1
6. Hirai AH, Ko JY, Owens PL, Stocks C, Patrick SW. Neonatal Abstinence Syndrome and Maternal Opioid-Related Diagnoses in the US, 2010–2017. *JAMA*. 2021;325(2):146–155. doi:10.1001/jama.2020.24991
7. Harter K. Opioid use disorder in pregnancy. *Ment Health Clin*. 2019;9(6):359–372. doi:10.9740/mhc.2019.11.359
8. SAMHSA. Recommendations for Curricular Elements in Substance Use Disorders Training. Published March 24, 2023. Accessed April 10, 2023. <https://www.samhsa.gov/medications-substance-use-disorders/provider-support-services/recommendations-curricular-elements-substance-use-disorders-training>
9. Stephenson, Joan. “CDC Warns of Surge in Drug Overdose Deaths During COVID-19.” *JAMA Health Forum* 2, no. 1 (January 5, 2021): e210001. <https://doi.org/10.1001/jamahealthforum.2021.0001>.
10. PCSS. Practice-Based Guidelines: Buprenorphine in the Age of Fentanyl. Published online May 2023. Accessed July 5, 2023. <https://pcssnow.org/wp-content/uploads/2023/05/PCSS-Fentanyl-Guidance-FINAL-1.pdf>
11. CDC. Drug Overdose: Illicit Opioid Graphics. Reviewed June 2, 2022. Accessed August 9, 2023. <https://www.cdc.gov/drugoverdose/resources/graphics/illicit-opioid.html>
12. NIDA. Drug Misuse and Addiction. National Institute on Drug Abuse. Published July 13, 2020. Accessed June 27, 2023. <https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drug-misuse-addiction>
13. Irina I. Photo by Irina Iriser on Pexels.; 2015. Accessed August 15, 2023. <https://www.pexels.com/photo/close-up-photography-of-a-person-holding-cigarette-798124/>
14. Renz M, Pexels. Photo by Renz Macorol on Pexels.; 2019. Accessed August 15, 2023. <https://www.pexels.com/photo/person-holding-black-vape-3545426/>
15. NIDA. Drug Misuse and Addiction. National Institute on Drug Abuse. Published July 13, 2020. Accessed June 27, 2023. <https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drug-misuse-addiction>
16. Substance Abuse and Mental Health Services Administration, US Department of Health and Human Services. 2020 National Survey on Drug Use and Health: Women. Substance Abuse and Mental Health Service Administration; 2022. Accessed September 28, 2022. <https://www.samhsa.gov/data/sites/default/files/reports/slides-2020-nsduh/2020NSDUHWomenSlides072522.pdf>
17. SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2021.
18. US Preventive Services Task Force, Davidson KW, Barry MJ, et al. Screening for Gestational Diabetes: US Preventive Services Task Force Recommendation Statement. *JAMA*. 2021;326(6):531. doi:10.1001/jama.2021.11922
19. CDC. High Blood Pressure During Pregnancy. Centers for Disease Control and Prevention. Published June 19, 2023. Accessed August 15, 2023. <https://www.cdc.gov/bloodpressure/pregnancy.htm>
20. CDC. Group B Strep: Fast Facts and Statistics. Center for Disease Control and Prevention. Published October 18, 2022. Accessed August 15, 2023. <https://www.cdc.gov/groupbstrep/about/fast-facts.html>
21. Mayo Clinic Staff. Understand the symptoms of depression during pregnancy. Mayo Clinic. Published January 25, 2022. Accessed August 15, 2023. <https://www.mayoclinic.org/healthy-lifestyle/pregnancy-week-by-week/in-depth/depression-during-pregnancy/art-20237875>
22. Chen PH, Johnson L, Limketkai BN, et al. Trends in the Prevalence of Hepatitis C Infection During Pregnancy and Maternal-Infant Outcomes in the US, 1998 to 2018. *JAMA Netw Open*. 2023;6(7):e2324770. doi:10.1001/jamanetworkopen.2023.24770
23. Peltier MR, Roberts W, Verplaetse TL, et al. Licit and illicit drug use across trimesters in pregnant women endorsing past-year substance use: Results from National Survey on Drug Use and Health (2009–2019). *Arch Womens Ment Health*. 2022;25(4):819–827. doi:10.1007/s00737-022-01244-6
24. Committee on Obstetric Practice American Society of Addiction Medicine, American Society of Addiction Medicine, The American College of Obstetrics and Gynecologists Women’s Health Care Physicians. Opioid Use and Opioid Use Disorder in Pregnancy. 2017;(71):14.
25. Hoffman K, Trawalter S, Axt J, Oliver M. Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *Proceedings of the National Academy of Sciences*. 2016;113(16):4296–4301. doi:10.1073/pnas.1516047113
26. Singhal A, Tien Y, Hsia R. Racial-Ethnic Disparities in Opioid Prescriptions at Emergency Department Visits for Conditions Commonly Associated with Prescription Drug Abuse. *PLoS ONE*. 2016;11(8):e0159224. doi:10.1371/journal.pone.0159224
27. Friedman J, Kim D, Schneberk T et al. Assessment of Racial/Ethnic and Income Disparities in the Prescription of Opioids and Other Controlled Medications in California. *JAMA Intern Med*.

1. North Carolina Department of Health and Human Services. Opioid and Substance Use Action Plan Data Dashboard. NCDHHS. Published 2022. Accessed October 3, 2022. <https://www.ncdhhs.gov/opioid-and-substance-use-action-plan-data-dashboard>
2. Ahmad F, Cisewski J, Rossen L, Sutton P. Provisional drug overdose death counts. National Center for Health Statistics. Published 2022. Accessed October 3, 2022. <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>
3. CDC. Opioid Data Analysis and Resources. Center for Disease Control and Prevention. Published August 8, 2023. Accessed August 14, 2023. <https://www.cdc.gov/opioids/data/analysis-resources.html>
4. National Center for Health Statistics, CDC. Provisional Drug Overdose Data. Center for Disease Control and Prevention. Published July 6, 2023. Accessed August 7, 2023. <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>
5. Haight SC. Opioid Use Disorder Documented at Delivery Hospitalization – United States, 1999–2014. *MMWR Morb Mortal Wkly Rep.* 2018;67. doi:10.15585/mmwr.mm6731a1
6. Hirai AH, Ko JY, Owens PL, Stocks C, Patrick SW. Neonatal Abstinence Syndrome and Maternal Opioid-Related Diagnoses in the US, 2010–2017. *JAMA.* 2021;325(2):146–155. doi:10.1001/jama.2020.24991
7. Harter K. Opioid use disorder in pregnancy. *Ment Health Clin.* 2019;9(6):359–372. doi:10.9740/mhc.2019.11.359
8. SAMHSA. Recommendations for Curricular Elements in Substance Use Disorders Training. Published March 24, 2023. Accessed April 10, 2023. <https://www.samhsa.gov/medications-substance-use-disorders/provider-support-services/recommendations-curricular-elements-substance-use-disorders-training>
9. Stephenson, Joan. "CDC Warns of Surge in Drug Overdose Deaths During COVID-19." *JAMA Health Forum* 2, no. 1 (January 5, 2021): e210001. <https://doi.org/10.1001/jamahealthforum.2021.0001>.
10. PCSS. Practice-Based Guidelines: Buprenorphine in the Age of Fentanyl. Published online May 2023. Accessed July 5, 2023. <https://pcssnow.org/wp-content/uploads/2023/05/PCSS-Fentanyl-Guidance-FINAL-1.pdf>
11. CDC. Drug Overdose: Illicit Opioid Graphics. Reviewed June 2, 2022. Accessed August 9, 2023. <https://www.cdc.gov/drugoverdose/resources/graphics/illicit-opioid.html>
12. NIDA. Drug Misuse and Addiction. National Institute on Drug Abuse. Published July 13, 2020. Accessed June 27, 2023. <https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drug-misuse-addiction>
13. Irina I. *Photo by Irina Iriser on Pexels.*; 2015. Accessed August 15, 2023. <https://www.pexels.com/photo/close-up-photography-of-a-person-holding-cigarette-798124/>
14. Renz M, Pexels. *Photo by Renz Macorol on Pexels.*; 2019. Accessed August 15, 2023. <https://www.pexels.com/photo/person-holding-black-vape-3545426/>
15. NIDA. Drug Misuse and Addiction. National Institute on Drug Abuse. Published July 13, 2020. Accessed June 27, 2023. <https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/drug-misuse-addiction>
16. Substance Abuse and Mental Health Services Administration, US Department of Health and Human Services. *2020 National Survey on Drug Use and Health: Women.* Substance Abuse and Mental Health Service Administration; 2022. Accessed September 28, 2022. <https://www.samhsa.gov/data/sites/default/files/reports/slides-2020-nsduh/2020NSDUHWomenSlides072522.pdf>
17. SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2021.
18. US Preventive Services Task Force, Davidson KW, Barry MJ, et al. Screening for Gestational Diabetes: US Preventive Services Task Force Recommendation Statement. *JAMA.* 2021;326(6):531. doi:10.1001/jama.2021.11922
19. CDC. High Blood Pressure During Pregnancy. Centers for Disease Control and Prevention. Published June 19, 2023. Accessed August 15, 2023. <https://www.cdc.gov/bloodpressure/pregnancy.htm>
20. CDC. Group B Strep: Fast Facts and Statistics. Center for Disease Control and Prevention. Published October 18, 2022. Accessed August 15, 2023. <https://www.cdc.gov/groupbstrep/about/fast-facts.html>
21. Mayo Clinic Staff. Understand the symptoms of depression during pregnancy. Mayo Clinic. Published January 25, 2022. Accessed August 15, 2023. <https://www.mayoclinic.org/healthy-lifestyle/pregnancy-week-by-week/in-depth/depression-during-pregnancy/art-20237875>
22. Chen PH, Johnson L, Limketkai BN, et al. Trends in the Prevalence of Hepatitis C Infection During Pregnancy and Maternal-Infant Outcomes in the US, 1998 to 2018. *JAMA Netw Open.* 2023;6(7):e2324770. doi:10.1001/jamanetworkopen.2023.24770
23. Peltier MR, Roberts W, Verplaetse TL, et al. Licit and illicit drug use across trimesters in pregnant women endorsing past-year substance use: Results from National Survey on Drug Use and Health (2009–2019). *Arch Womens Ment Health.* 2022;25(4):819–827. doi:10.1007/s00737-022-01244-6
24. Committee on Obstetric Practice American Society of Addiction Medicine, American Society of Addiction Medicine, The American College of Obstetrics and Gynecologists Women's Health Care Physicians. Opioid Use and Opioid Use Disorder in Pregnancy. 2017;(711):14.
25. Hoffman K, Trawalter S, Axt J, Oliver M. Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *Proceedings of the National Academy of Sciences.* 2016;113(16):4296–4301. doi:10.1073/pnas.1516047113
26. Singhal A, Tien Y, Hsia R. Racial-Ethnic Disparities in Opioid Prescriptions at Emergency Department Visits for Conditions Commonly Associated with Prescription Drug Abuse. *PLoS ONE.* 2016;11(8):e0159224. doi:10.1371/journal.pone.0159224
27. Friedman J, Kim D, Schneberk T et al. Assessment of Racial/Ethnic and Income Disparities in the Prescription of Opioids and Other Controlled Medications in California. *JAMA Intern Med.* 2019;179(4):469. doi:10.1001/jamainternmed.2018.6721

58. SAMHSA. "Treatment Improvement Protocol (TIP) 63: Medications for Opioid Use Disorder," 2018.
59. Center for Substance Abuse Treatment. Provider Clinical Support System The Half and Half Course, Waiver Eligibility Training (part 1). Presented at: 2005.
60. Jones, Hadrée E., Gabriele Fischer, Sarah H. Heil, Karol Kaltenbach, Peter R. Martin, Mara G. Coyle, Peter Selby, Susan M. Stine, Kevin E. O'Grady, and Amelia M. Arria. "Maternal Opioid Treatment: Human Experimental Research (MOTHER) – Approach, Issues, and Lessons Learned." *Addiction (Abingdon, England)* 107, no. 0 1 (November 2012): 28–35. <https://doi.org/10.1111/j.1360-0443.2012.04036.x>.
61. Kaltenbach, Karol, Kevin E. O'Grady, Sarah H. Heil, Amy L. Salisbury, Mara G. Coyle, Gabriele Fischer, Peter R. Martin, Susan Stine, and Hadrée E. Jones. "Prenatal Exposure to Methadone or Buprenorphine: Early Childhood Developmental Outcomes." *Drug and Alcohol Dependence* 185 (April 1, 2018): 40–49. <https://doi.org/10.1016/j.drugalcdep.2017.11.030>.
62. Thornton P. Subutex Uses, Dosage, Side Effects & Warnings. Drugs.com. Published May 10, 2022. Accessed September 30, 2022. <https://www.drugs.com/subutex.html>
63. Thornton P. Sublocade: Side Effects, Dosage & Uses. Drugs.com. Published June 1, 2022. Accessed September 30, 2022. <https://www.drugs.com/sublocade.html>
64. Entringer S. Suboxone Uses, Dosage, Side Effects & Warnings - Drugs.com. Drugs.com. Published August 1, 2022. Accessed September 30, 2022. <https://www.drugs.com/suboxone.html>
65. Department of Health, Government of South Australia. Information for pharmacists dispensing or administering Suboxone®sublingual film. Published online September 2011. https://www.sahealth.sa.gov.au/wps/wcm/connect/ef2aa4004008e228b4c2bf4826472d56/Suboxone_Film_-_Info_for_Pharmacists+201703.pdf?MOD=AJPERES&CACHID=ROOTWORKSPACE-ef2aa4004008e228b4c2bf4826472d56-nKOH-It
66. Thornton P. Zubsolv: Uses, Dosage, Side Effects & Warnings. Drugs.com. Published August 1, 2022. Accessed September 30, 2022. <https://www.drugs.com/zubsolv.html>
67. Cunha J. Zubsolv (Buprenorphine and Naloxone Sublingual Tablets): Uses, Dosage, Side Effects, Interactions, Warning. RxList. Published May 16, 2022. Accessed September 30, 2022. <https://www.rxlist.com/zubsolv-drug.htm>
68. Suarez EA, Huybrechts KF, Straub L, et al. Buprenorphine versus Methadone for Opioid Use Disorder in Pregnancy. *New England Journal of Medicine*. Published online November 30, 2022. doi:10.1056/NEJMoa2203318
69. Galvin, Shelley L., Melinda Ramage, Catherine Leiner, Margaret H. Sullivan, and E. Blake Fagan. "A Cohort Comparison of Differences Between Regional and Buncombe County Patients of a Comprehensive Perinatal Substance Use Disorders Program in Western North Carolina." *North Carolina Medical Journal* 81, no. 3 (May 1, 2020): 157–65.
70. Buer, Lesly-Marie, Bayla Ostrach, and Genoa Clark. "There Are No Addicted Babies in Appalachia" - Mindfully Approaching Regional Substance Use." *J. Appalachian Studies* 27, no. 1 (2021): (TBD).
71. Carroll, Jennifer J., Taleed El-Sabawi, and Bayla Ostrach. "The Harms of Punishing Substance Use during Pregnancy." *International Journal of Drug Policy* 98 (December 1, 2021): 103433. <https://doi.org/10.1016/j.drugpo.2021.103433>.
72. Leiner, Catherine, Brian Antono, and Bayla Ostrach. "Perinatal OUD Treatment Provider Understandings of Rural Patients' Experiences." *Journal of Addiction Medicine* Publish Ahead of Print (April 27, 2021). <https://doi.org/10.1097/ADM.0000000000000858>.
73. Leiner, Catherine, Tamara Cody, Nathan Mullins, Melinda Ramage, and Bayla MM Ostrach. "The Elephant in the Room; a Qualitative Study of Perinatal Fears in Opioid Use Disorder Treatment in Southern Appalachia." *BMC Pregnancy and Childbirth* 21, no. 1 (2021): 1–12.
74. Ostrach, Bayla, and Catherine Leiner. "I Didn't Want to Be on Suboxone at First..." - Ambivalence in Perinatal Substance Use Treatment." *Journal of Addiction Medicine* 13, no. 4 (July 2019): 264–71. <https://doi.org/10.1097/ADM.0000000000000491>.
75. Ramage, Melinda, Bayla Ostrach, Blake Fagan, and Carol C. Coulson. "Stabilizing the Mother-Infant Dyad for Better Outcomes from OB to FM Caring for Patients with Perinatal Opioid Use Disorder through the 4th Trimester." *North Carolina Medical Journal* 79, no. 3 (May 1, 2018): 164–65. <https://doi.org/10.18043/ncm.79.3.164>.
76. Nguemni Tiako MJ, Culhane J, South E, Srinivas SK, Meisel ZF. Prevalence and Geographic Distribution of Obstetrician-Gynecologists Who Treat Medicaid Enrollees and Are Trained to Prescribe Buprenorphine. *JAMA Netw Open*. 2020;3(12):e2029043. doi:10.1001/jamanetworkopen.2020.29043
77. Peeler M, Gupta M, Melvin P, et al. Racial and Ethnic Disparities in Maternal and Infant Outcomes Among Opioid-Exposed Mother-Infant Dyads in Massachusetts (2017–2019). *Am J Public Health*. 2020;110(12):1828-1836. doi:10.2105/AJPH.2020.305888
78. Unsplash. "Photo by Liv Bruce on Unsplash." Accessed June 30, 2020. <https://unsplash.com/photos/MOoVPGsWk1E>.
79. Opioid use and opioid use disorder in pregnancy. Committee Opinion No. 711. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2017;130:e81–94.
80. Grisham, Lisa M., Meryl M. Stephen, Mary R. Coykendall, Maureen F. Kane, Jocelyn A. Maurer, and Mohammed Y. Bader. "Eat, Sleep, Console Approach: A Family-Centered Model for the Treatment of Neonatal Abstinence Syndrome." *Advances in Neonatal Care* 19, no. 2 (April 2019): 138–144. <https://doi.org/10.1097/ANC.0000000000000581>.
81. Sharma D, Shastri S, Sharma P. Intrauterine Growth Restriction: Antenatal and Postnatal Aspects. *Clin Med Insights Pediatr*. 2016;10:67-83. Published 2016 Jul 14. doi:10.4137/CMPed.S40070
82. Conradt E, Crowell SE, Lester BM. Early life stress and environmental influences on the neurodevelopment of children with prenatal opioid exposure. *Neurobiol Stress*. 2018;9:48-54. Published 2018 Aug 15. doi:10.1016/j.ynstr.2018.08.005
83. Jaekel J, Kim HM, Lee SJ, Schwartz A, Henderson JMT, Woodward LJ. Emotional and Behavioral Trajectories of 2 to 9 Years Old Children Born to Opioid-Dependent Mothers. *Res Child Adolesc Psychopathol*. 2021 Apr;49(4):443-457. doi: 10.1007/s10802-020-00766-w. Epub 2021 Jan 12. PMID: 33433780; PMCID: PMC7943531.
84. Lee, Samantha J. PhD*; Pritchard, Verena E. PhD†; Austin, Nicola C. DM‡; Henderson, Jacqueline M. T. PhD*; Woodward, Lianne J. PhD*. Health and Neurodevelopment of Children Born to Opioid-Dependent Mothers at School Entry. *Journal of Developmental & Behavioral Pediatrics*: January 2020 - Volume 41 - Issue 1 - p 48-57
doi: 10.1097/DBP.00000000000000711
85. Sarfi M, Eikemo M, Konijnenberg C. Children born to women in opioid maintenance treatment: A longitudinal study of child behavioral problems and parenting stress. *Front Pediatr*. 2022;10:1087956. Published 2022 Dec 23. doi:10.3389/fped.2022.1087956
86. Lee SJ, Woodward LJ, Henderson JMT. Educational achievement at age 9.5 years of children born to mothers maintained on methadone during pregnancy. *PLoS One*. 2019;14(10):e0223685. Published 2019 Oct 10. doi:10.1371/journal.pone.0223685

87. Manojit Tamen. *Free Image on Pixabay - Breastfeeding, Baby, Breast, Infant*. Accessed September 28, 2022. <https://pixabay.com/photos/breastfeeding-baby-breast-infant-827169/>
88. Reece-Stremtan S, Marinelli KA. ABM clinical protocol #21: guidelines for breastfeeding and substance use or substance use disorder, revised 2015. *Breastfeed Med* 2015;10:135–41;
89. Sachs HC. The transfer of drugs and therapeutics into human breast milk: an update on selected topics. Committee on Drugs. *Pediatrics* 2013;132:e796–809.;
90. U.S. Food and Drug Administration. FDA Drug Safety Communication: FDA restricts use of prescription codeine pain and cough medicines and tramadol pain medicines in children; recommends against use in breastfeeding women. Silver Spring (MD): FDA; 2017. Available at: <https://www.fda.gov/Drugs/DrugSafety/ucm549679.htm>. Retrieved June 2, 2017.
91. Pritham UA, Paul JA, Hayes MJ. Opioid dependency in pregnancy and length of stay for neonatal abstinence syndrome. *J Obstet Gynecol Neonatal Nurs*. 2012;41(2):180-190. doi:[10.1111/j.1552-6909.2011.01330.x](https://doi.org/10.1111/j.1552-6909.2011.01330.x)
92. Welle-Strand GK, Skurtveit S, Jansson LM, Bakstad B, Bjarkø L, Ravndal E. Breastfeeding reduces the need for withdrawal treatment in opioid-exposed infants. *Acta Paediatr*. 2013;102(11):1060-1066. doi:10.1111/apa.12378
93. Wachman EM, Hayes MJ, Brown MS, et al. Association of OPRM1 and COMT single-nucleotide polymorphisms with hospital length of stay and treatment of neonatal abstinence syndrome. *JAMA*. 2013;309(17):1821-1827. doi:10.1001/jama.2013.3411
94. Wachman EM, Hayes MJ, Brown MS, et al. Association of OPRM1 and COMT single-nucleotide polymorphisms with hospital length of stay and treatment of neonatal abstinence syndrome. *JAMA*. 2013;309(17):1821-1827. doi:10.1001/jama.2013.3411
95. Abdel-Latif ME, Pinner J, Clews S, Cooke F, Lui K, Oei J. Effects of breast milk on the severity and outcome of neonatal abstinence syndrome among infants of drug-dependent mothers. *Pediatrics*. 2006;117(6):e1163–e1169. doi:10.1542/peds.2005-1561
96. NCDHHS. "Infant Plan of Safe Care." Accessed July 2, 2020. <https://www.ncdhhs.gov/divisions/mental-health-developmental-disabilities-and-substance-abuse/infant-plan-safe-care>.
97. Perlman N, Cantonwine D, Smith N. Racial differences in indications for obstetrical toxicology testing and relationship of indications to test results. *American Journal of Obstetrics & Gynecology* 2022;4(1):100453. doi:10.1016/j.ajogmf.2021.100453
98. Perritt J. #WhiteCoatsForBlackLives – Addressing Physicians’ Complicity in Criminalizing Communities | NEJM. 2020. Accessed January 7, 2021. <https://www.nejm.org/doi/full/10.1056/NEJMp2023305>
99. Hyams K, Prater, N., Rohovit, J., Meyer-Kalos, P.S. (2018). Person-centered language. Clinical Tip No. 8 (April, 2018): Center for Practice Transformation, University of Minnesota
100. Devine PG, Forscher PS, Austin AJ, Cox WT. Long-term reduction in implicit race bias: A prejudice habit-breaking intervention. *J Exp Soc Psychol*. 2012;48(6):1267–1278. doi:10.1016/j.jesp.2012.06.003
101. Nevarez C. No Wrong Door for Opioid Safety: How to Communicate for Impact. Presented at the: December 5, 2019. Accessed January 19, 2023. <https://vimeo.com/378333636>
102. Edgoose J, Quiogue M, Sidhar K. How to Identify, Understand, and Unlearn Implicit Bias in Patient Care. *American Academy of Family Physicians*. 2019;26(4):29–33.
103. Ahlback C, Sufrin C, Shlafer R. Care for incarcerated pregnant people with opioid use disorder: Equity and justice implications: Equity and justice implications. *Obstet Gynecol*. 2020;136(3):576–581.
104. "Summary of the Dignity for Women Who are Incarcerated Act (SL 2021-143)." *Resources for Healthcare Professionals*. (2021). Incarcerated Women’s Health. Retrieved September 7, 2023, from <https://incarceratedwomenshealth.org/resources-for-healthcare-professionals/>
105. Ahlback C, Sufrin C, Shlafer R. Care for incarcerated pregnant people with opioid use disorder: Equity and justice implications: Equity and justice implications. *Obstet Gynecol*. 2020;136(3):576–581.
106. ASAM Criteria’s “Continuum of Care” Accessed 3/24/2022. <https://www.asam.org/asam-criteria/about-the-asam-criteria>
107. Mee-Lee D, Shulman GD, Fishman MJ, Gastfriend DR, Miller, eds. *The ASAM Criteria: Treatment Criteria for Addictive, Substance-Related, and Co-Occurring Conditions*. 3rd ed. Carson City, NV: The Change Companies; 2013. Copyright 2013 by the American Society of Addiction Medicine.
108. Unsplash. “Photo by Alex Pasarelu on Unsplash.” Accessed July 16, 2020. <https://unsplash.com/photos/S8BW-Wx9G8l>.
109. Schiff, Davida M., Timothy Nielsen, Mishka Terplan, Malena Hood, Dana Bernson, Hafsatou Diop, Monica Bharel, et al. “Fatal and Nonfatal Overdose Among Pregnant and Postpartum Women in Massachusetts.” *Obstetrics and Gynecology* 132, no. 2 (August 2018): 466–74. <https://doi.org/10.1097/AOG.0000000000002734>.
110. Galvin SL, Ramage M, Leiner C, Sullivan MH, Fagan EB. A Cohort Comparison of Differences Between Regional and Buncombe County Patients of a Comprehensive Perinatal Substance Use Disorders Program in Western North Carolina. *N C Med J*. 2020;81(3):157-165. doi:10.18043/ncm.81.3.157
111. Harm Reduction Principles. National Harm Reduction Coalition. Accessed February 3, 2022. <https://harmreduction.org/about-us/principles-of-harm-reduction/>
112. Vearrier L. The value of harm reduction for injection drug use: A clinical and public health ethics analysis. *Dis Mon*. 2019 May;65(5):119-141. doi: 10.1016/j.disamonth.2018.12.002. Epub 2018 Dec 29. PMID: 30600096.
113. Public Domain Vectors. *Medical Syringe Icon Vector Clip Art*. <https://publicdomainvectors.org/en/free-clipart/Medical-syringe-icon-vector-clip-art/28666.html> Published 21 June 2015. Accessed November 18, 2019. Public Domain.
114. Public Domain Vectors. *Pink Condom Package*. <https://publicdomainvectors.org/en/free-clipart/Pink-condom-package/80690.html> Published 23 January 2019. Accessed November 18, 2019. Public Domain.
115. Green, Traci C., Patricia Case, Haley Fiske, Janette Baird, Shachan Cabral, Dina Burstein, Victoriana Schwartz, Nathan Potter, Alexander Y. Walley, and Jeffrey Bratberg. "Perpetuating stigma or reducing risk? Perspectives from naloxone consumers and pharmacists on pharmacy-based naloxone in 2 states." *Journal of the American Pharmacists Association* 57, no. 2 (2017): S19–S27.
116. Carpenter DM, Dhamanaskar AK, Gallegos KL, Shepherd G, Mosley SL, Roberts CA. Factors associated with how often community pharmacists offer and dispense naloxone. *Research in Social and Administrative Pharmacy*. 2018.

116. Khatiwoda P, Proeschold-Bell RJ, Meade CS, Park LP, Proeschold-Bell S. Facilitators and Barriers to Naloxone Kit Use Among Opioid-Dependent Patients Enrolled in Medication Assisted Therapy Clinics in North Carolina. *N C Med J*. 2018;79(3):149-155. doi:10.18043/ncm.79.3.149
117. Clark, A. K., Wilder, C. M., & Winstanley, E. L. (2014). A systematic review of community opioid overdose prevention and naloxone distribution programs. *Journal of addiction medicine*, 8(3), 153-163.
118. Hagan, H., McGough, J. P., Thiede, H., Hopkins, S., Duchin, J., & Alexander, E. R. (2000). Reduced injection frequency and increased entry and retention in drug treatment associated with needle-exchange participation in Seattle drug injectors. *Journal of substance abuse treatment*, 19(3), 247-252.
119. Heinzerling KG, Kral AH, Flynn NM, et al. Unmet need for recommended preventive health services among clients of California syringe exchange programs: Implications for quality improvement. *Drug and Alcohol Dependence*. 2006;81(2):167-178. doi:10.1016/j.drugalcdep.2005.06.008
120. Azar P, Wong JSH, Jassemi S, et al. A Case Report: Rapid Micro-Induction of Buprenorphine/Naloxone to Administer Buprenorphine Extended-Release in an Adolescent With Severe Opioid Use Disorder. *Am J Addict*. 2020;29(6):531-535. doi:10.1111/ajad.13050
121. Terasaki, D., Smith, C., & Calcaterra, S. L. (2019). Transitioning Hospitalized Patients with Opioid Use Disorder from Methadone to Buprenorphine without a Period of Opioid Abstinence Using a Microdosing Protocol. *Pharmacotherapy*, 39(10), 1023-1029. <https://doi.org/10.1002/phar.2313>
122. Schiff, Davida M., Timothy Nielsen, Mishka Terplan, Malena Hood, Dana Bernson, Hafsatou Diop, Monica Bharel, et al. "Fatal and Nonfatal Overdose Among Pregnant and Postpartum Women in Massachusetts." *Obstetrics and Gynecology* 132, no. 2 (August 2018): 466-74. <https://doi.org/10.1097/AOG.0000000000002734>.
123. Peiper NC, Clarke SD, Vincent LB, Ciccarone D, Kral AH, Zibbell JE. Fentanyl test strips as an opioid overdose prevention strategy: Findings from a syringe services program in the Southeastern United States. *International Journal of Drug Policy*. 2019;63:122-128. doi:10.1016/j.drugpo.2018.08.007
124. Carr D, Samuels E. Fentanyl Test Strips. *Legislative Analysis and Public Policy Association*. 2021. <https://legislativeanalysis.org/wp-content/uploads/2021/05/Fentanyl-Teststrips-FINAL-1.pdf>
125. CDC. Fentanyl Test Strips: A Harm Reduction Strategy. Published September 30, 2022. Accessed August 2, 2023. <https://www.cdc.gov/stopoverdose/fentanyl/fentanyl-test-strips.html>
126. California Department of Public Health. Fact Sheet: Fentanyl Testing to Prevent Overdose. Published September 28, 2018. Accessed August 2, 2023. https://www.cdph.ca.gov/Programs/CID/DOA/CDPH%20Document%20Library/Fact_Sheet_Fentanyl_Testing_Approved_ADA.pdf
127. Substance Abuse and Mental Health Services Administration. Recovery and Recovery Support. Substance Abuse and Mental Health Services Administration. Published September 13, 2022. Accessed September 28, 2022. <https://www.samhsa.gov/find-help/recovery>
128. Grossman MR, Lipshaw MJ, Osborn RR, Berkwitz AK. A Novel Approach to Assessing Infants With Neonatal Abstinence Syndrome. *Hosp Pediatr*. 2018;8(1):1-6. doi:10.1542/hpeds.2017-0128
129. Rhoads, Sarah C., Waskosky, Aksana. Eat, sleep, console method and the management of neonatal opioid withdrawal syndrome: A literature review. *Journal of Neonatal Nursing*. 2021. doi: 10.1016/J.JNN.2021.10.006
130. Grossman MR, Berkwitz AK, Osborn RR, et al. An Initiative to Improve the Quality of Care of Infants With Neonatal Abstinence Syndrome. *Pediatrics*. 2017;139(6):e20163360. doi:10.1542/peds.2016-3360
131. Wachman EM, Houghton M, Melvin P, et al. A quality improvement initiative to implement the eat, sleep, console neonatal opioid withdrawal syndrome care tool in Massachusetts' PNQIN collaborative. *J Perinatol*. 2020;40(10):1560-1569. doi:10.1038/s41372-020-0733-y
132. Young LW, Ounpraseuth ST, Merhar SL, et al. Eat, Sleep, Console Approach or Usual Care for Neonatal Opioid Withdrawal. *New England Journal of Medicine*. 2023;388(25):2326-2337. doi:10.1056/NEJMoa2214470