

PERINATAL OPIOID USE DISORDER

CONSTANCE GUILLE MD

PROFESSOR

MEDICAL UNIVERSITY OF SOUTH
CAROLINA

PERINATAL OPIOID USE DISORDER

OBJECTIVES

- Current state of Drug Overdose in Pregnant and Postpartum Women
- Approach to Reducing Drug Overdose
- Treatment of Opioid Use Disorder

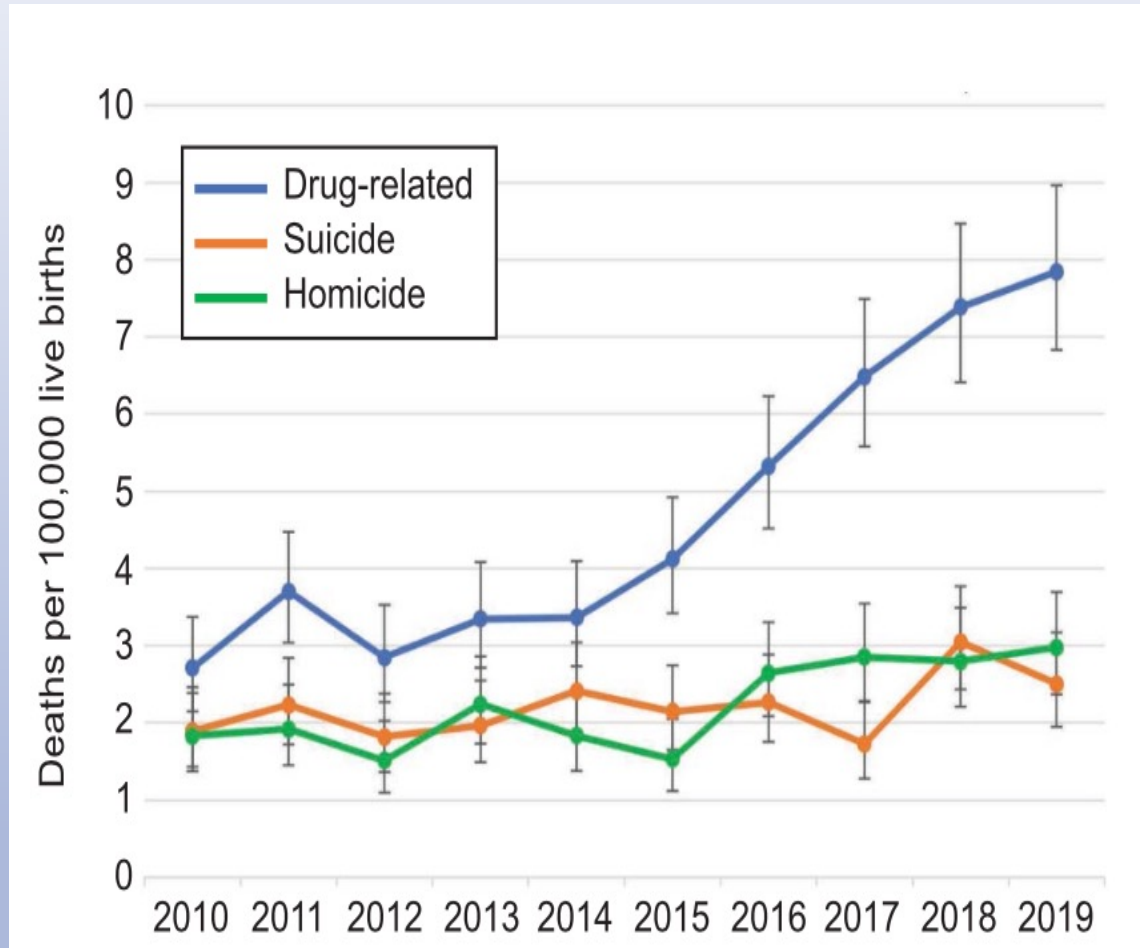
Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017–2019

Most frequent underlying causes of pregnancy-related death:

- Mental health conditions (22.7%)
- Hemorrhage (13.7%)
- Cardiac and coronary conditions (12.8%)
- Infection (9.2%)
- Thrombotic embolism (8.7%)
- Cardiomyopathy (8.5%)

**84.2% deaths
determined
to be preventable**

PREGNANCY-ASSOCIATED DEATHS DUE TO DRUGS, SUICIDE, AND HOMICIDE IN THE UNITED STATES, 2010–2019 (N=11,792)



- 22.2% of all Maternal Deaths are due to:
 - Drugs (11.4%)
 - Suicide (5.4%)
 - Homicide (5.4%)
- 2010-2019
 - Drug-related deaths increased 190%
 - Suicide increased 30%
 - Homicide increased 63%

US Trends in Drug Overdose Mortality Among Pregnant and Postpartum Persons, 2017-2020

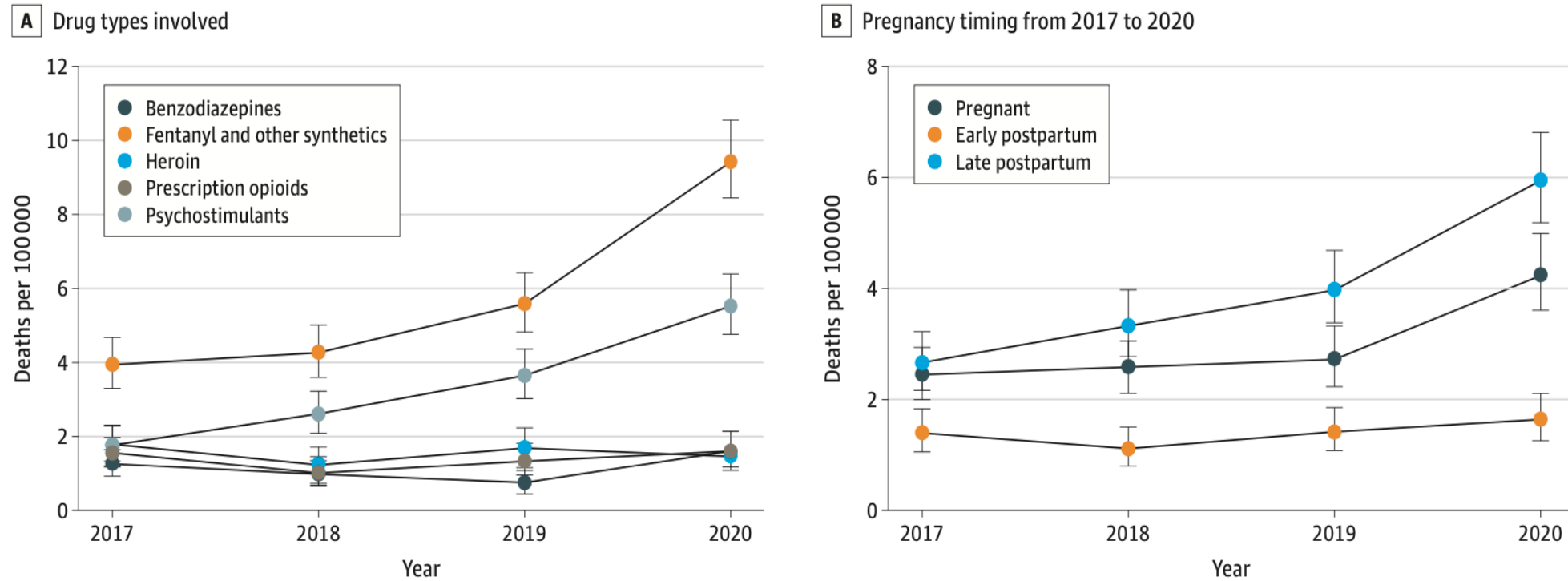
Table. Drug Overdose Mortality Rates Among Pregnant or Postpartum Persons and Those of Reproductive Age From 2017 to 2020^a

Year	Pregnant or postpartum			Reproductive age (aged 15-44 y) ^b		
	No. of persons	No. of live births ^c	Drug overdose mortality rate per 100 000 (95% CI) ^d	No. of persons	Population	Drug overdose mortality rate per 100 000 (95% CI) ^d
2017	252	3 844 260	6.56 (5.78-7.43)	9191	63 958 243	14.37 (14.08-14.67)
2018	266	3 780 401	7.04 (6.23-7.95)	9198	64 171 698	14.33 (14.04-14.63)
2019	304	3 736 144	8.14 (7.26-9.12)	9433	64 325 356	14.66 (14.37-14.96)
2020	427	3 602 653	11.85 (10.77-13.05)	12 756	64 543 832	19.76 (19.42-20.11)
Total	1249	14 963 458	8.35 (7.89-8.83)	40 578	256 999 129	15.79 (15.64-15.94)
Absolute change rate (95% CI) [relative change %] ^e						
2017-2020			5.30 (3.90-6.72) [80.81]	5.39 (4.94-5.85) [37.53]		
2019-2020			3.72 (2.25-5.20) [45.67]	5.10 (4.65-5.55) [34.77]		

Bruzelius E, Martins SS. US Trends in Drug Overdose Mortality Among Pregnant and Postpartum Persons, 2017-2020. *JAMA*. 2022;328(21):2159–2161. doi:10.1001/jama.2022.17045

US Trends in Drug Overdose Mortality Among Pregnant and Postpartum Persons, 2017-2020

Figure. Pregnancy-Associated Drug Overdose Mortality



Pregnancy and Postpartum Drug Overdose Deaths in the US During the COVID-19 Pandemic 2018-2021

Table 2. Comparing Pregnant Overdose Decedents (POD) With Pregnant Obstetric Decedents (POBD) and Female Overdose Decedents With No Past-Year Pregnancy (NPOD): Differences in Individual Sociodemographic and County-Level Characteristics

Characteristic	Distribution, %			OR (95% CI)	
	POD (n = 505)	POBD (n = 1544)	NPOD (n = 11 205)	POD vs POBD	POD vs NPOD
Age					
10-24 y	16.4	14.7	10.4	1.8 (1.3-2.5) ^a	3.3 (2.5-4.4) ^a
25-34 y	59.0	44.8	37.9	2.2 (1.7-2.8) ^a	3.2 (1.7-4.1) ^a
35-44 y	24.6	40.5	51.7	1 [Reference]	1 [Reference]
Race and ethnicity^d					
Non-Hispanic American Indian or Alaska Native	3.2	2.3	1.4	0.9 (0.5-1.6)	2.3 (1.4-4.0) ^a
Non-Hispanic Asian, Native Hawaiian, or Other Pacific Islander	0.4	2.7	0.5	0.1 (0.02-0.4) ^a	0.8 (0.2-3.3)
Non-Hispanic Black	11.9	30.3	11.0	0.2 (0.2-0.3) ^a	1.1 (0.8-1.5)
Hispanic	6.4	17.0	8.1	0.2 (0.2-0.3) ^a	0.8 (0.6-1.1)
Non-Hispanic multiple races	2.0	1.2	1.5	1.0 (0.5-2.2)	1.4 (0.7-2.6)
Non-Hispanic White	76.2	46.5	77.5	1 [Reference]	1 [Reference]

Han B, Compton WM, Einstein EB, Elder E, Volkow ND. Pregnancy and Postpartum Drug Overdose Deaths in the US Before and During the COVID-19 Pandemic. Published Online Nov 22. *JAMA Psychiatry*. doi:10.1001/jamapsychiatry.2023.4523

Pregnancy and Postpartum Drug Overdose Deaths in the US During the COVID-19 Pandemic 2018-2021

Table 2. Comparing Pregnant Overdose Decedents (POD) With Pregnant Obstetric Decedents (POBD) and Female Overdose Decedents With No Past-Year Pregnancy (NPOD): Differences in Individual Sociodemographic and County-Level Characteristics

Characteristic	Distribution, %			OR (95% CI)	
	POD (n = 505)	POBD (n = 1544)	NPOD (n = 11 205)	POD vs POBD	POD vs NPOD
Age					
10-24 y	16.4	14.7	10.4	1.8 (1.3-2.5) ^a	3.3 (2.5-4.4) ^a
25-34 y	59.0	44.8	37.9	2.2 (1.7-2.8) ^a	3.2 (1.7-4.1) ^a
35-44 y	24.6	40.5	51.7	1 [Reference]	1 [Reference]
Race and ethnicity ^d					
Non-Hispanic American Indian or Alaska Native	3.2	2.3	1.4	0.9 (0.5-1.6)	2.3 (1.4-4.0) ^a
Non-Hispanic Asian, Native Hawaiian, or Other Pacific Islander	0.4	2.7	0.5	0.1 (0.02-0.4) ^a	0.8 (0.2-3.3)
Non-Hispanic Black	11.9	30.3	11.0	0.2 (0.2-0.3) ^a	1.1 (0.8-1.5)
Hispanic	6.4	17.0	8.1	0.2 (0.2-0.3) ^a	0.8 (0.6-1.1)
Non-Hispanic multiple races	2.0	1.2	1.5	1.0 (0.5-2.2)	1.4 (0.7-2.6)
Non-Hispanic White	76.2	46.5	77.5	1 [Reference]	1 [Reference]

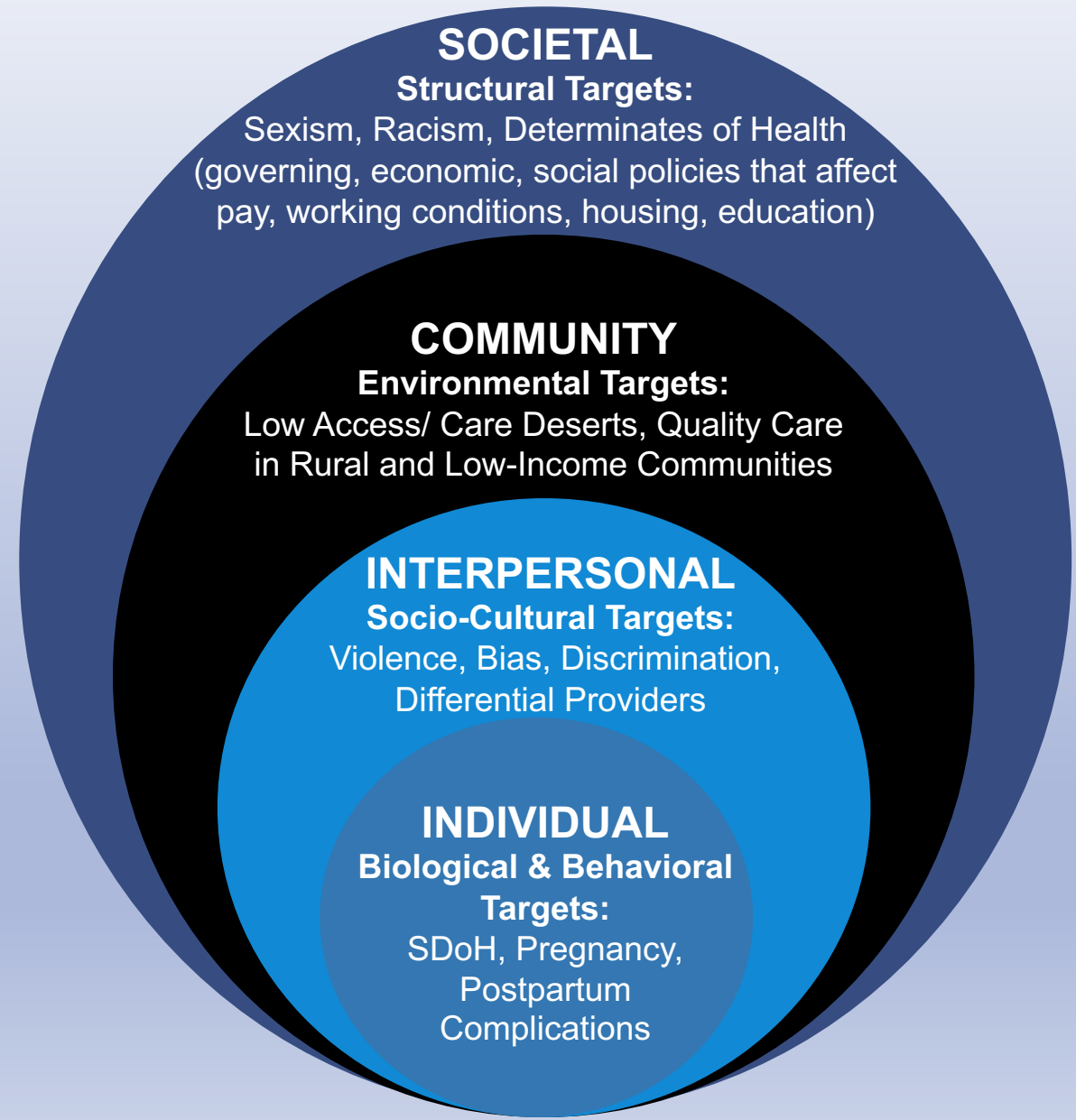
Han B, Compton WM, Einstein EB, Elder E, Volkow ND. Pregnancy and Postpartum Drug Overdose Deaths in the US Before and During the COVID-19 Pandemic. Published Online Nov 22. *JAMA Psychiatry*. doi:10.1001/jamapsychiatry.2023.4523

Pregnancy and Postpartum Drug Overdose Deaths in the US During the COVID-19 Pandemic 2018-2021

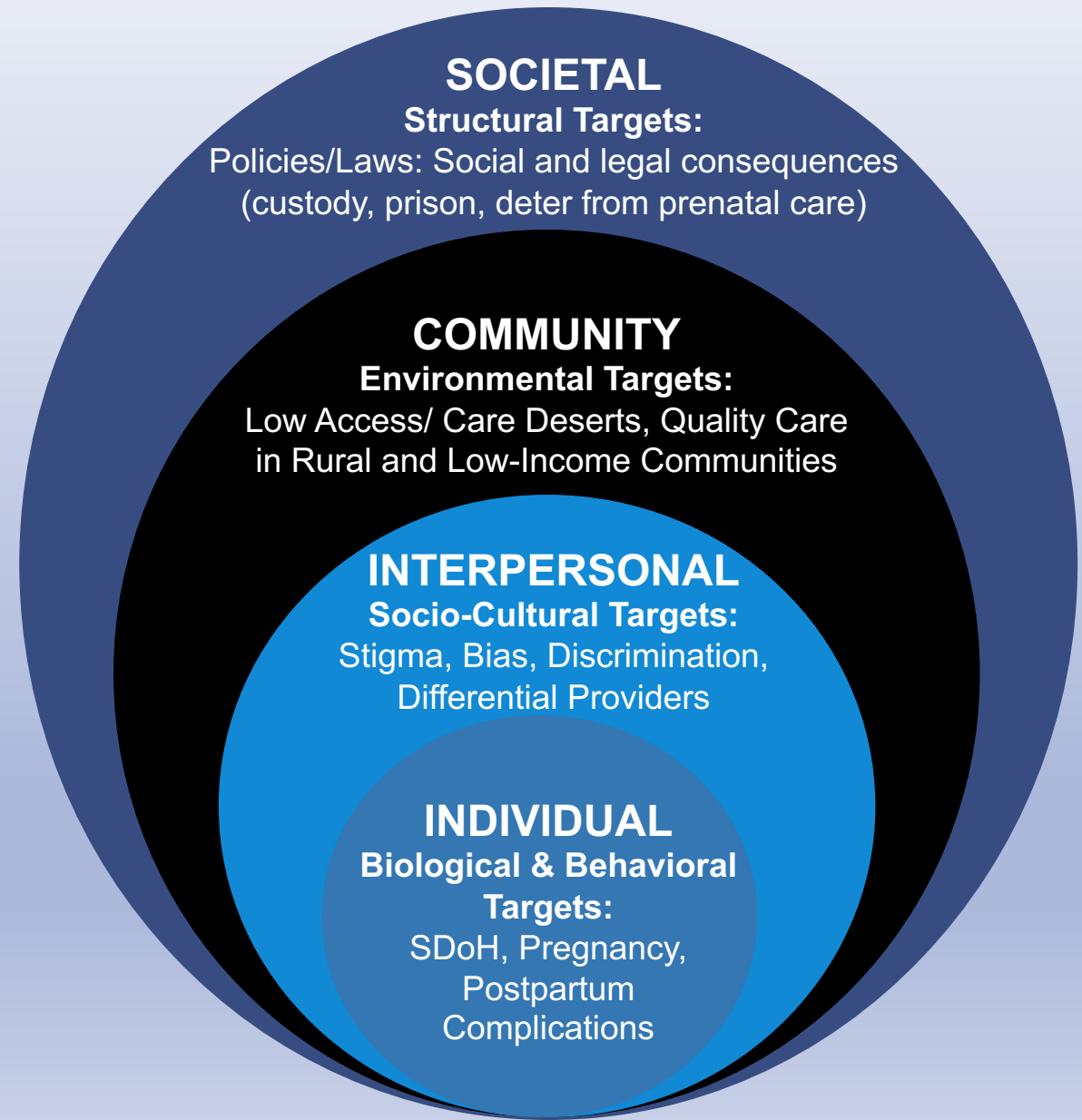
Compared with pregnant obstetric decedents, pregnant overdose decedents were:

- Younger Age (age 10-34 vs. 35-44) (OR 1.8-2.7)
- Non-College Graduates (vs. some/ or college grad) (OR 2.7)
- Unmarried (vs. married) (OR 4.6)
- Dying at Home (vs. hospital) (OR 2.5)

Maternal Mortality is
a Complex
Multifaceted Problem
Requiring
Targeted, Multi-level
Interventions

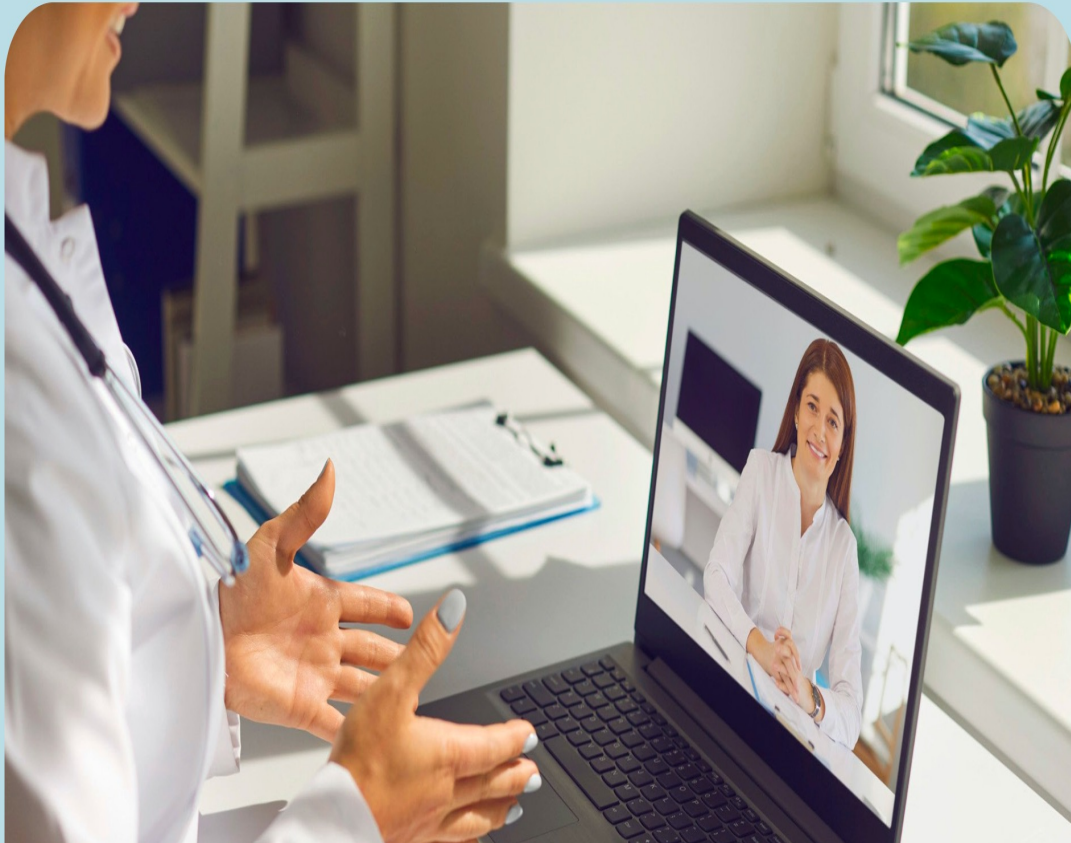


Maternal Mortality
due to Drug
Overdose is a
Complex
Multifaceted Problem
Requiring
Targeted, Multi-level
Interventions



Mom's IMPACTT

IMProving Access to Maternal Mental Health and Substance Use Disorder Care Through Telemedicine and Tele-Mentoring



COMMUNITY & INTERPERSONAL TARGET Provider

Building Frontline Provider Capacity

-Screening, Assess, Manage Mild-Moderate Mental Health Concerns

INDIVIDUAL TARGET Patient

Access to MH/SUD Care

-Therapy
-Medication
-Peer Support
-Resources SDoH

How Mom's **IMPACTT** Works

[Building Provider Capacity: Training & Consultation]

843-792-MOMS
(843)-792-6667



Doulas
Midwives
Obstetricians
Pediatricians
Psychiatrists
Community Health Workers
Advance Practice Providers
Primary Care/Family Practice



- Assessment
- Referrals & Resources
- Care Coordination
- Referrals & Resources



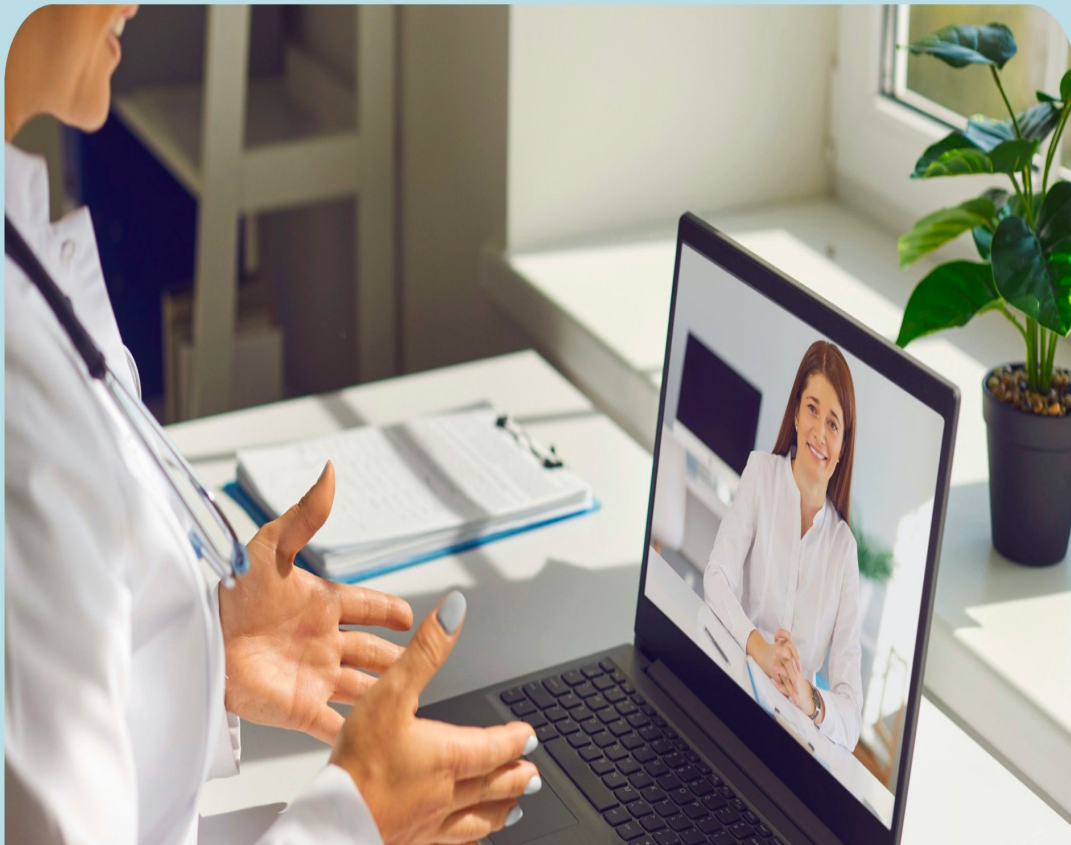
Provider-Provider
Consultation



Provider Trainings

Mom's IMPACTT

IMProving Access to Maternal Mental Health and Substance Use Disorder Care Through Telemedicine and Tele-Mentoring



Mom's IMPACTT provides real-time perinatal psychiatric consultation to obstetric, pediatric, primary care, psychiatric and community health providers to effectively identify and manage maternal mental health and substance use concerns among pregnant and postpartum people living in South Carolina.

Mom's IMPACTT has 4 components:

- Real-time psychiatric consultation for providers serving pregnant and postpartum people.
- Linkage to community-based resources, treatment, and support groups.
- Trainings for providers and staff on mental health and substance use screening, discussion of screening results, treatment options and referral, risks and benefits of medications.
- Psychiatric consultation for pregnant and postpartum people with mental health and substance use concerns.

For more information visit our website:

muschealth.org/momsimpactt

For a confidential consultation:

Scan this QR code or call

843-792-MOMS (843-792-6667)



James B. Drake

THE DUKE ENDOWMENT

 **MUSC Health**
Medical University of South Carolina

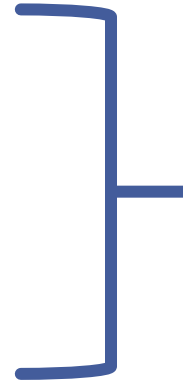
How Mom's **IMPACTT** Works [Patients]



Pregnant



0-12 Months Postpartum



Patient-Provider Treatment

- Assessment
- Referrals to Resources
- Permission to Communicate with Provider for Care Coordination

Every
Mother
Deserves
Support.



James R. Duke

THE DUKE ENDOWMENT

Mom's IMPACTT

On-demand mental health treatment for pregnant and postpartum people.

Get connected to resources and treatment

Monday - Friday | 8 am - 5 pm

- Substance Use
- Anxiety
- Trauma
- Depression
- Grief & Loss
- Stressful Life Events

For more information visit our website:

mushealth.org/momsimpactt

For a confidential consultation:

Scan this QR code or call

843-792-MOMS (843-792-6667)



Treatment of Perinatal Opioid Use Disorder (OUD)



- OUD Treatment Mother-Infant Dyad
 - Therapy & medications
 - Mental health & trauma
 - Social determinants of health
- Integrated Prenatal and OUD Treatment
 - Retention in treatment
 - Maternal and newborn outcomes
 - Cost-effective
- Dearth of perinatal SUD treatment programs



Medications for Opioid Use Disorder (MOUD)



ACOG Committee Opinion No. 524 and 711:

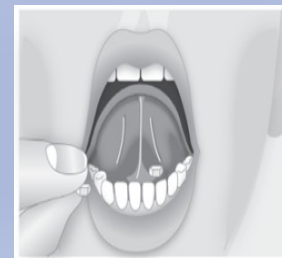
Opioid Abuse, Dependence, and Addiction in Pregnancy (2012)

Opioid Use and Opioid use Disorder in Pregnancy (2017)

Gold Standard of Treatment:

Methadone

Buprenorphine





Methadone and Buprenorphine

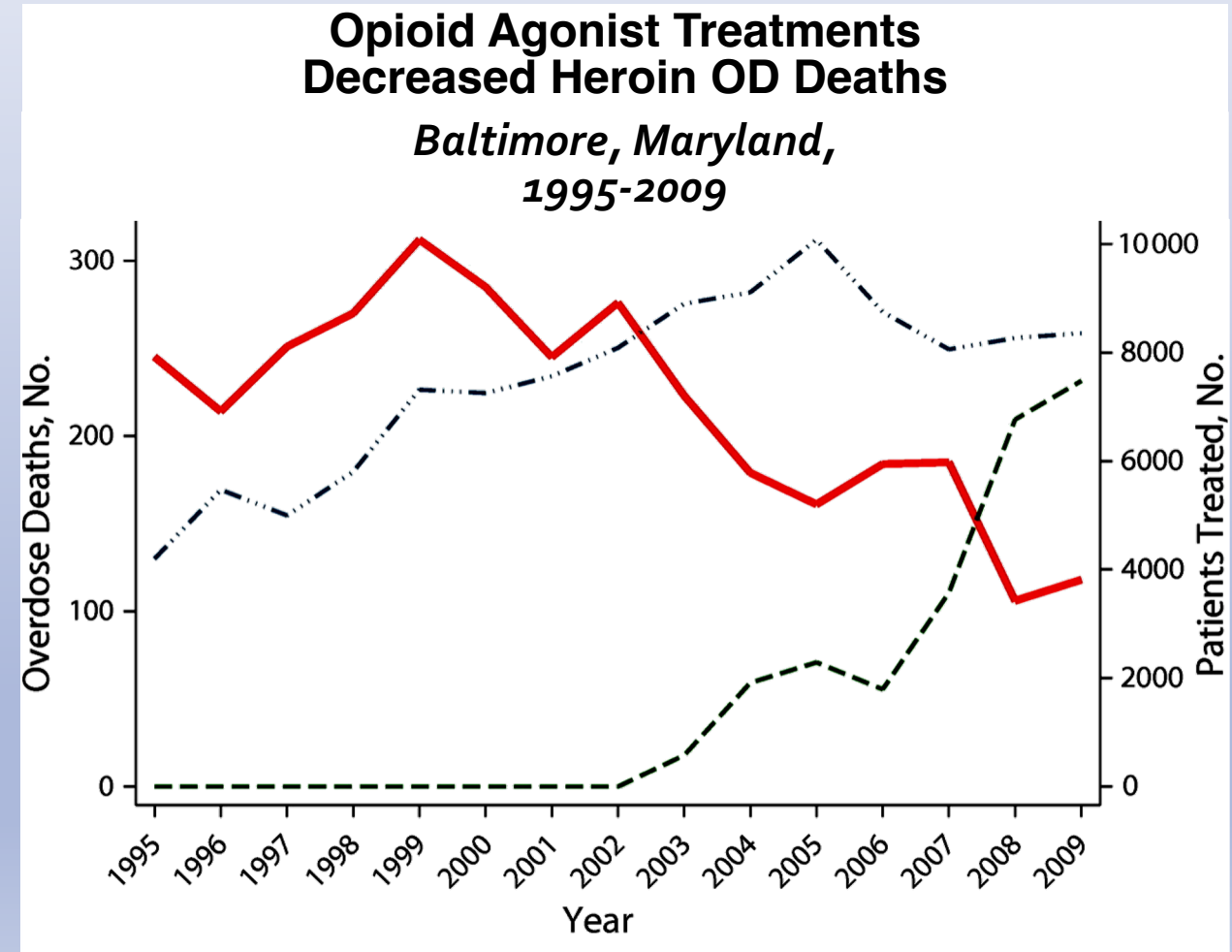


DECREASE:

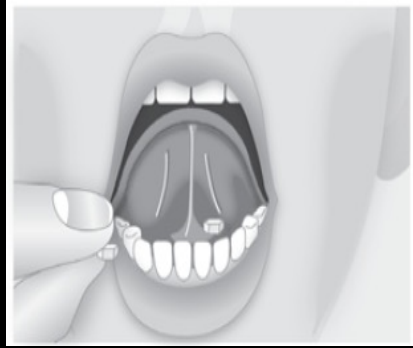
- Opioid use
- Opioid-related overdose
- Opioid mortality
- Criminal activity
- Infectious disease transmission

And INCREASE

- Social functioning
- Employment
- Retention in treatment



Schwartz RP et al., Am J Public Health 2013.



Risks of Medications for OUD



Risks & Benefits of Medication Vs. Risk of Untreated Illness

Women

- Access (travel and cost)
- Preference to not take medications

Obstetric/Newborn

- Prematurity
- Low birth weight
- NAS
 - Extended hospital stay
 - Cost

ORIGINAL ARTICLE

Buprenorphine versus Methadone for Opioid Use Disorder in Pregnancy

E.A. Suarez, K.F. Huybrechts, L. Straub, S. Hernández-Díaz, H.E. Jones, H.S. Connery, J.M. Davis, K.J. Gray, B. Lester, M. Terplan, H. Mogun, and B.T. Bateman

- ### Public Insurance Programs in US 2000-2018
- 2,548,372 pregnancies
 - 11,272 exposed to Buprenorphine
 - 5,056 exposed to Methadone

- **Neonatal Abstinence Syndrome (NAS)**

- Buprenorphine (52%) vs. Methadone (69.2%) [Adjusted RR, 0.73; 95% CI, 0.71 to 0.75]

- **Preterm Birth**

- Buprenorphine (14.4%) vs. Methadone (24.9%) [Adjusted RR, 0.58; 95% CI, 0.35 to 0.62]

- **Small for Gestational Age**

- Buprenorphine (12.1%) vs. Methadone (15.3%) [Adjusted RR, 0.72; 95% CI, 0.66 to 0.80]

- **Low Birth Weight**

- Buprenorphine (8.3%) vs. Methadone (14.9%) [Adjusted RR, 0.56; 95% CI, 0.5 to 0.63]

- **No differences in rates of Cesarean Section or Severe Maternal Complications**

ORIGINAL ARTICLE

Buprenorphine versus Methadone for Opioid Use Disorder in Pregnancy

E.A. Suarez, K.F. Huybrechts, L. Straub, S. Hernández-Díaz, H.E. Jones, H.S. Connery, J.M. Davis, K.J. Gray, B. Lester, M. Terplan, H. Mogun, and B.T. Bateman

- **Clinical Decision: Buprenorphine Vs. Methadone**
 - **Starting Treatment**
 - **Choose medication that is best for the mother!**
 - Accessible, available and reduces risk of relapse.
 - **Continuing Effective Treatment**
 - **Do not switch effective treatment!**
 - **Methadone to Buprenorphine Risks**
 - Destabilization of illness
 - Precipitated withdrawal
 - Increase exposures to 2 medications
 - If not effective, exposure to illness
 - Unknown if switch lowers risk of NAS



Risks of Relapse and Drug Use



Risks & Benefits of Medication Vs. Risk of Untreated Illness

Women

- Cycles Intoxication/Withdrawal
- Risk of Infections
- High risk behaviors
 - Risk of STI
 - Victim of violence
 - Legal ramifications
- Overdose and death

Obstetric/Newborn

- Prematurity
- Low birth weight
- Severe maternal complications
- NAS

Child Development

- Maternal-newborn separation



Treatment of Perinatal Opioid Use Disorder



Pregnant women with OUD undergoing MAT withdrawal

- N=1,002 pregnant women (Guille, 2017)
 - Relapse to drug use: 14-74%
 - Rates vary depending on treatment setting
- N=1,126 pregnant women (Terplan, 2018)
 - Relapse to drug use: 0-100%
 - Rates depend on in/ex of lost to follow up
 - Successful detoxification: 9-100%
 - Rates depend on type of treatment programs

Shared Decision-Making Tool for Treatment of Perinatal Opioid Use Disorder

Constance Guille, M.D., M.S.C.R., Hendree E. Jones, Ph.D., Alfred Abuhamad, M.D., Kathleen T. Brady, M.D., Ph.D.

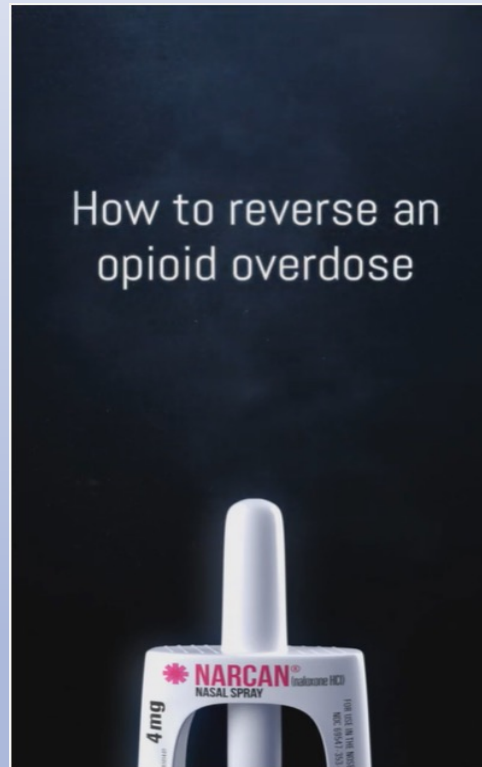
To assist pregnant women with OUD in the decision to
continue/start or discontinue MOUD

- What are the current treatment recommendations
- Risks of Methadone or Buprenorphine
- Risk of Relapse
- Risk of Drug Use in Pregnancy

OPIOID ANTAGONIST – NARCAN

EVERY PATIENT & FAMILY MEMBER

- Prescribed
- Over the counter (\$45)
- Community Distribution Centers (free)



HARM REDUCTION STRATEGIES

- Don't use alone
- Risky Behavior Modification
- Contraception
- Fentanyl test strips
- Sterile Syringe Exchange
- Safe Injection Site

■ Opioid Overdose Reversal

XYLAZINE — KNOWN BY STREET NAMES LIKE “TRANQ,” “TRANQ DOPE” AND “ZOMBIE DRUG”



- Non-opioid veterinary tranquilizer
 - Not reversable with Narcan
- CNS depressant
 - Drowsiness, amnesia, blackout
 - Slow breathing, heart rate, low blood pressure
 - Eschar – anywhere in body leading to amputation
- Involved in increasing # of opioid deaths
 - detected in 36 states and DC



Summary: Treatment of Perinatal OUD

- **Comprehensive Integrated Treatment Including MOUD**
- **MOUD**

Risk & Benefits of Medication Vs. Risk of Untreated Illness

Shared Decision Making: Informed Treatment Choices

Treatment Choices Prioritize Women's Health

Continue Effective Treatments to Reduce Risks of

Destabilization, Withdrawal, Unnecessary Exposures

Mom's IMPACTT

IMProving Access to Maternal Mental Health and Substance Use Disorder Care Through Telemedicine and Tele-Mentoring



Mom's IMPACTT provides real-time perinatal psychiatric consultation to obstetric, pediatric, primary care, psychiatric and community health providers to effectively identify and manage maternal mental health and substance use concerns among pregnant and postpartum people living in South Carolina.

Mom's IMPACTT has 4 components:

- Real-time psychiatric consultation for providers serving pregnant and postpartum people.
- Linkage to community-based resources, treatment, and support groups.
- Trainings for providers and staff on mental health and substance use screening, discussion of screening results, treatment options and referral, risks and benefits of medications.
- Psychiatric consultation for pregnant and postpartum people with mental health and substance use concerns.

For more information visit our website:

muschealth.org/momsimpactt

For a confidential consultation:

Scan this QR code or call

843-792-MOMS (843-792-6667)



James B. Drake

THE DUKE ENDOWMENT

 **MUSC Health**
Medical University of South Carolina

**EXTENSION FOR
COMMUNITY
HEALTHCARE
OUTCOMES**



**ECHO:
OPIOID USE
DISORDER**

