

# Substance Use Disorder in the Postpartum Period: A Case for Greater Focus on this Critical Time

Camila Arnaudo, M.D.

December 9, 2022

# Disclosures

- I have no relevant disclosures

# Learning Objectives

- Participants will be able to discuss the causes of Maternal Mortality in Indiana
- Participants will be able to discuss the barriers to treatment faced by perinatal people with SUD
- Participants will gain an understanding of stigma and how it impacts perinatal people with SUD
- Participants will become conversant in strategies for improving care of people with SUD in the postpartum period



EMPOWERING MOTHERS, PROVIDERS  
AND OTHERS TO WEIGH IN AS  
EXPERTS IN RESEARCH

# EMPOWER JOURNEY MAP PROJECT

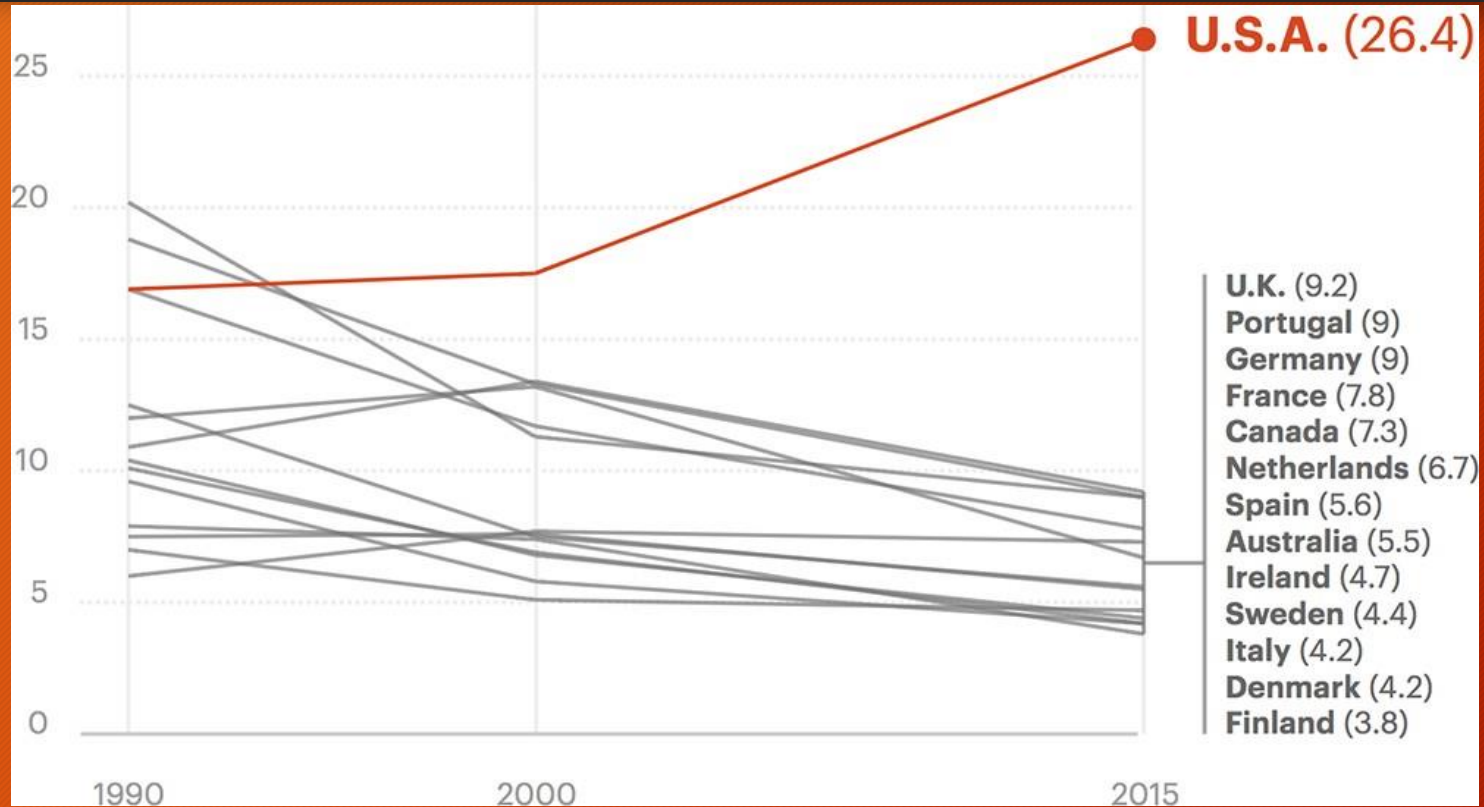
A VISUAL SUMMARY OF OUR  
PATIENT PARTNER'S EXPERIENCES.  
WE THANK THEM FOR COURAGEOUSLY  
SHARING THEIR STORIES.



Nichole Nidey, PhD, and Stephanie Weber, PsyD, MPH co-lead the Empowering Mothers and Providers and Other Stakeholders to Weigh In as Experts in Research (EMPOWER) project. This work is supported by the Patient-Centered Outcomes Research Institute (PCORI) Engagement Award EAIN-19623 and the National Center for Advancing Translational Sciences of the National Institutes of Health, under award number 2UL1TR001425-05A1. Facilitated by: Leslie Yerkes / leslieyerkes.com Visual Notes by: Jo Byrne / seeyourwords.com © 2021 Cincinnati Children's Hospital Medical Center. All rights reserved.



# Maternal Mortality USA

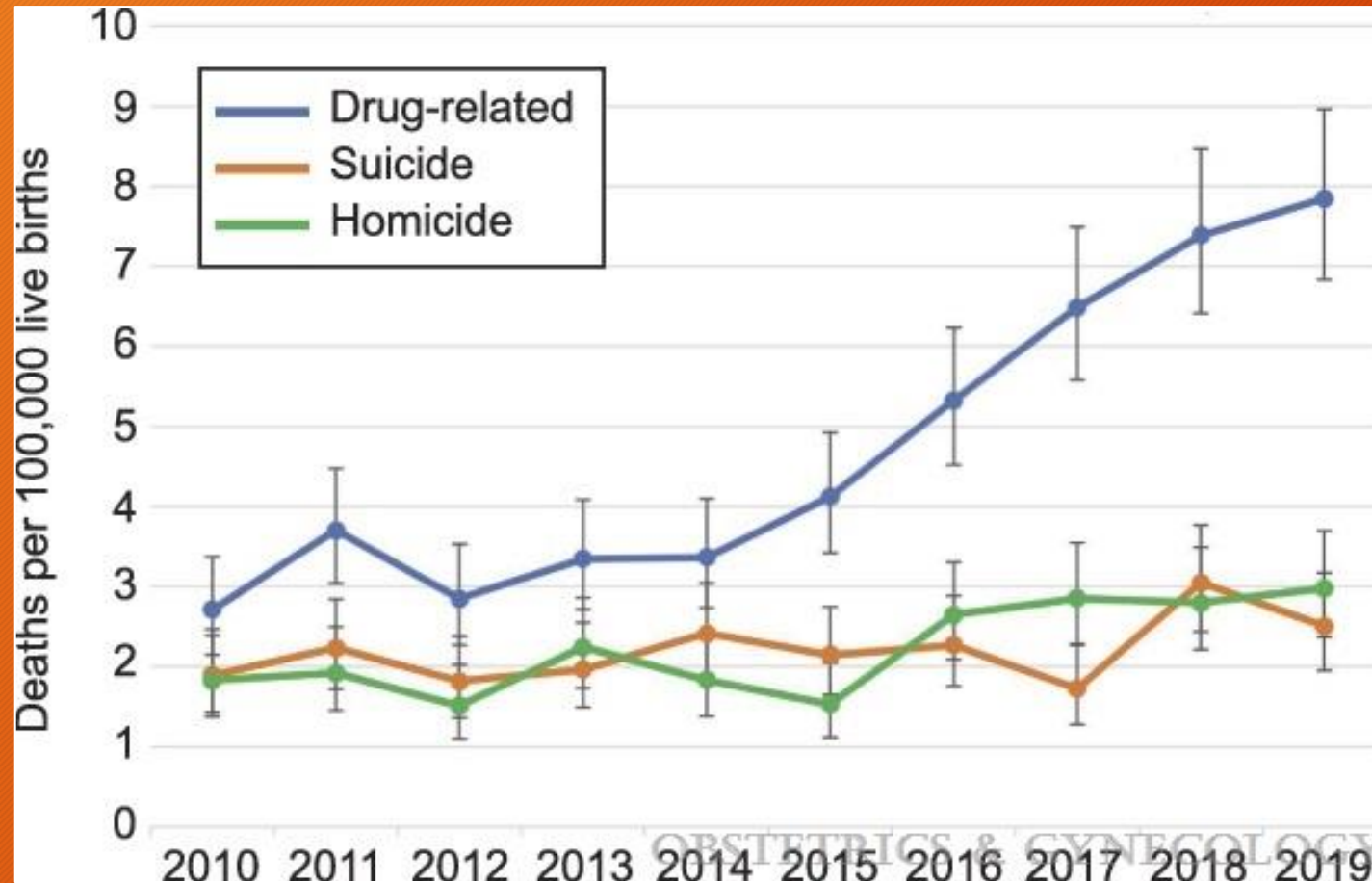


# Data on Maternal Mortality in the United States

- CDC (Centers for Disease Control) 3 classifications
  - Pregnancy Related
  - **Pregnancy Associated but not pregnancy-related**
    - “The death of a woman while pregnant or within 1 year of termination of pregnancy due to a cause unrelated to pregnancy.”
  - Pregnancy Associated but undetermined if pregnancy-related
- Two National Data Sources for Maternal Deaths
  - National Center for Health Statistics (NCHS)
  - Pregnancy Mortality Surveillance System (PMSS)



Fig. 1.



Pregnancy-Associated Deaths Due to Drugs, Suicide, and Homicide in the United States, 2010-2019

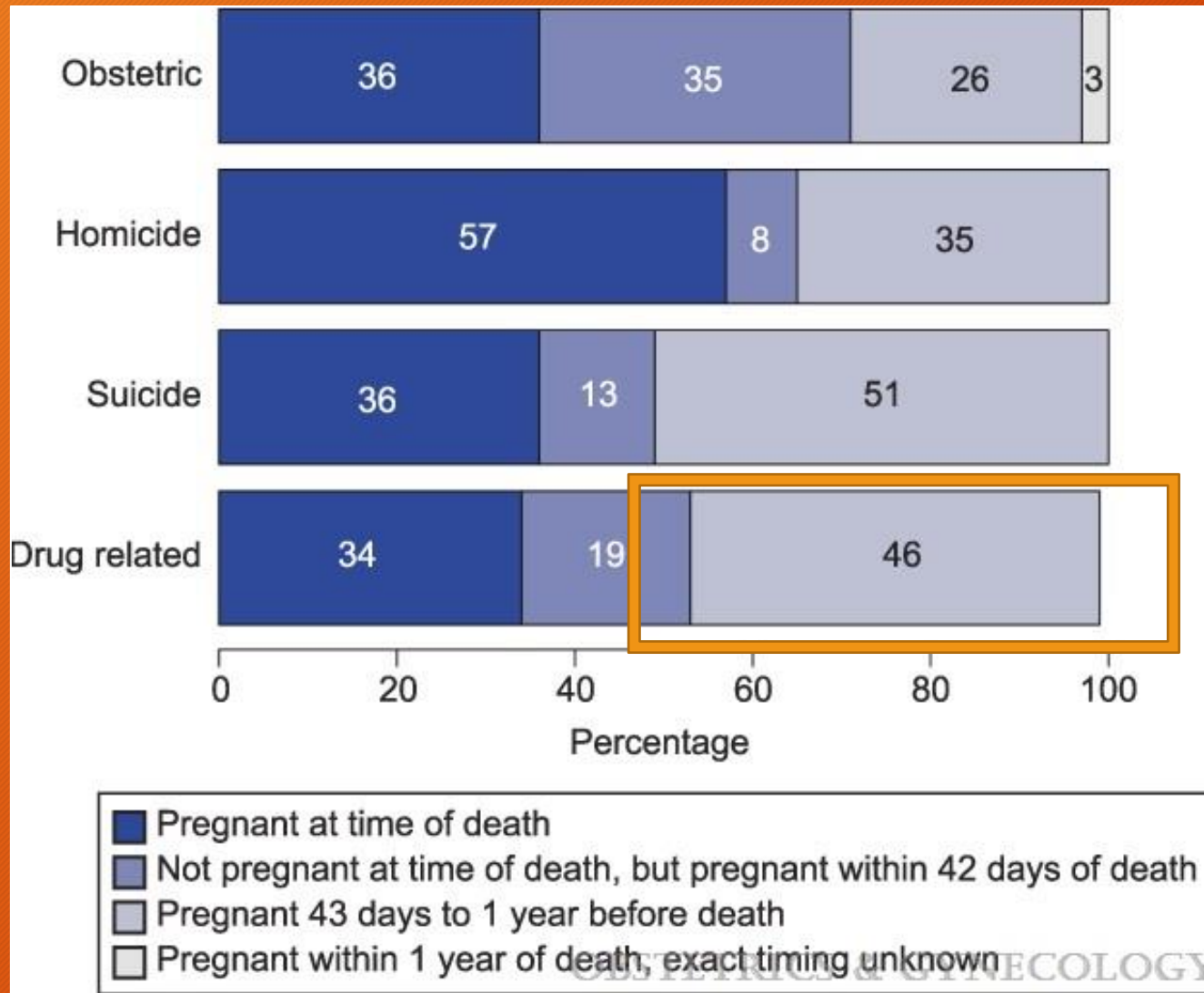
Margerison, Claire E.; Roberts, Meaghan H.; Gemmill, Alison; Goldman-Mellor, Sidra

Obstetrics & Gynecology 139(2):172-180, February 2022.

doi: 10.1097/AOG.0000000000004649

Pregnancy-associated death ratios and 95% CIs for drug-related deaths, suicide, and homicide in 33 U.S. states and the District of Columbia, 2010-2019. The pregnancy-associated death ratio due to drug-related causes rose 190%, from 2.7/100,000 in 2010 to 7.8/100,000 in 2019 (RR 2.9, 95% CI 2.2-3.8). The pregnancy-associated death ratio due to suicide increased approximately 30% from 2010 to 2019, from 1.9/100,000 to 2.5/100,000, but this increase was not statistically significant (RR 1.3, 95% CI 0.9-1.9). The homicide pregnancy-associated death ratio increased 63% (RR 1.6, 95% CI 1.1-2.3), from 1.8/100,000 to 3.0/100,000 in 2019. Margerison. Pregnancy-Associated Death in the United States. Obstet Gynecol 2022.

Fig. 2.



Pregnancy-Associated Deaths Due to Drugs, Suicide, and Homicide in the United States, 2010-2019

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Percentage of cause-specific pregnancy-associated deaths by timing relative to pregnancy in 32 U.S. states\* and the District of Columbia, 2010 to 2019. \*California data not included in this figure due to lack of specificity of timing relative to pregnancy. Margerison. Pregnancy-Associated Death in the United States. Obstet Gynecol 2022.



# Pregnancy-Associated Overdose Deaths

- Late postpartum period particularly high risk for overdose deaths
- Opioids + another substance implicated in overdoses
- Mental health and Substance Use Diagnoses present

## Pregnancy-Associated Overdose Deaths:

Data from 6 States in the Rapid Maternal Overdose Review Initiative, 2015-2019

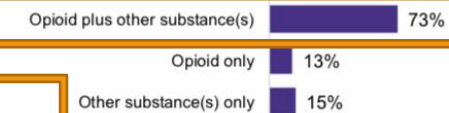


**89%** of 104 overdose deaths during or within one year of pregnancy were potentially preventable.

Most (73%) pregnancy-associated overdose deaths occurred in the late postpartum period.

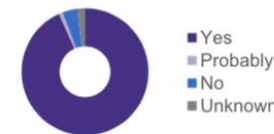


Most (86%) pregnancy-associated overdose deaths had an opioid present in autopsy toxicology.



Autopsy toxicology results were missing for 9 deaths (4 with no autopsy, 4 with autopsy but missing toxicology, 1 unknown). Other substances included alcohol, benzodiazepines, buprenorphine/methadone, cocaine, amphetamines, cannabinoids, and other substances.

Substance use disorder contributed\* to nearly all (94%) pregnancy-associated overdose deaths.<sup>†</sup>



Mental health conditions other than substance use disorder contributed\* to nearly three-fourths (72%) of pregnancy-associated overdose deaths.<sup>†</sup>



\* Contributed is defined as the MMRC responding "yes" or "probably" to whether the circumstance contributed to the death.  
<sup>†</sup>For nearly two-thirds (66%) of pregnancy-associated overdose deaths, the MMRC responded that both substance use disorder and mental health conditions other than substance use disorder contributed to the death.

### Individual characteristics of pregnancy-associated overdose deaths N = 104

Race/Ethnicity	N	%
Hispanic	7	7%
Non-Hispanic Black	12	12%
Non-Hispanic White	83	80%
Other	2	2%
Age at death (years)		
15-19	2	2%
20-24	20	19%
25-29	41	39%
30-34	27	26%
35-39	13	13%
≥40	1	1%
Education		
Less than high school	24	23%
Completed high school	49	47%
Some college	22	21%
Associate, Bachelor, or Advanced degree	9	9%
Medicaid during prenatal care or delivery		
Yes	68	65%
No	16	15%
Unknown	20	19%

Percentages may not sum to 100 due to rounding. Demographic information such as education and Medicaid participation are relevant for MMRCs as they develop recommendations for prevention (e.g., strategies to address gaps in healthcare access following loss of pregnancy-related Medicaid eligibility).



# Maternal Mortality Indiana

- Latest data on death in Indiana
- Data is limited due to small numbers overall
- Trends do follow the rates seen in other states

Division of Fatality Review and Prevention July 2021

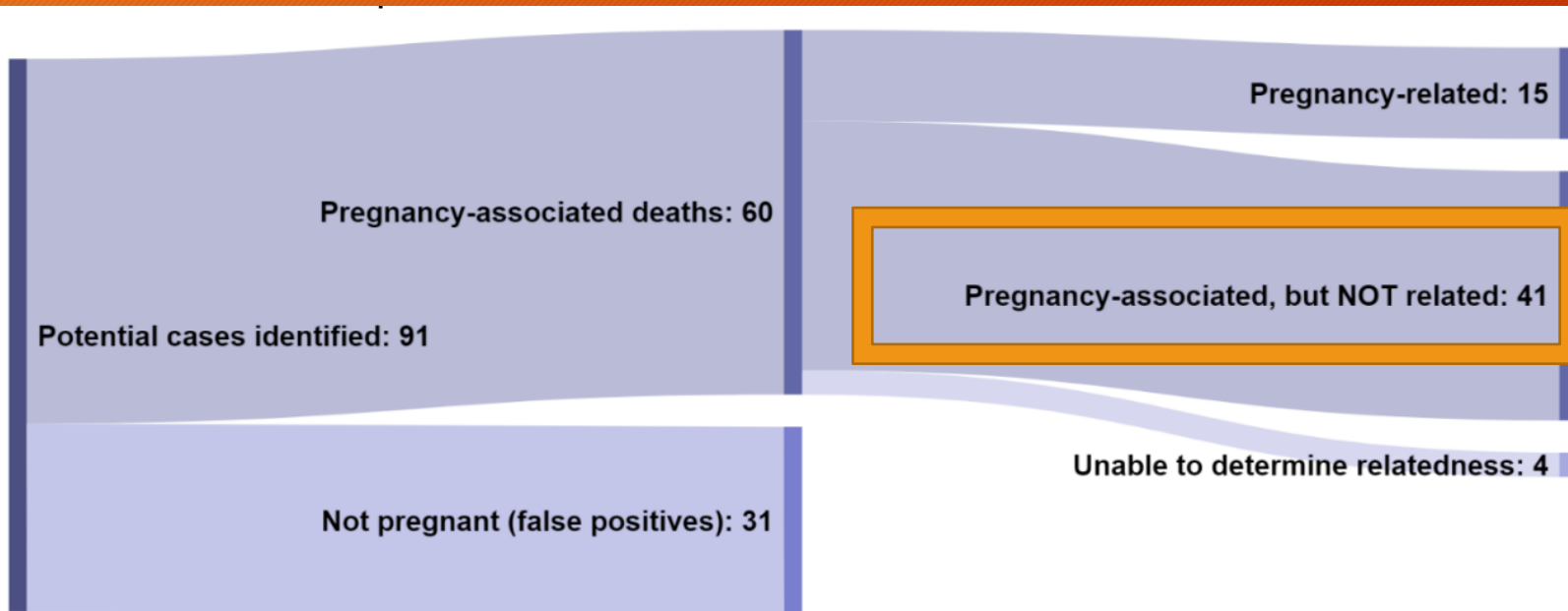


**Indiana Maternal Mortality  
Review Committee**  
2021 Annual Report





# Indiana MMRC Report 2021

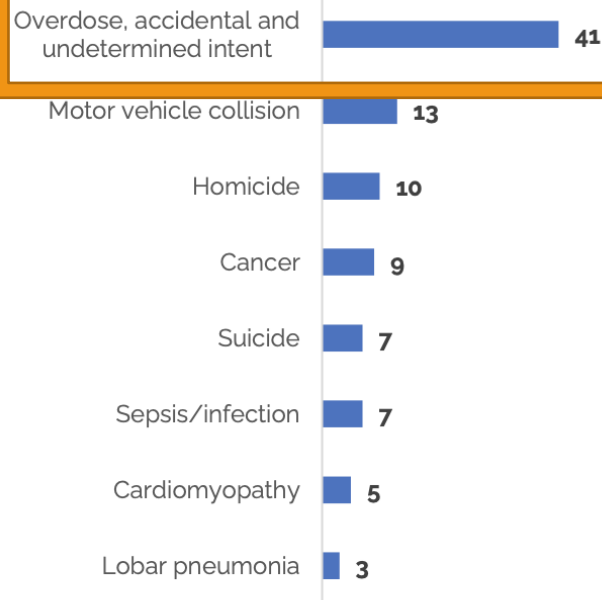


## Maternal Mortality Ratios for 2019

- **74.2** per 100,000 live births:  
*pregnancy-associated mortality ratio* in Indiana in 2019
- **18.6** per 100,000 live births:  
*pregnancy-related mortality ratio* in Indiana in 2019

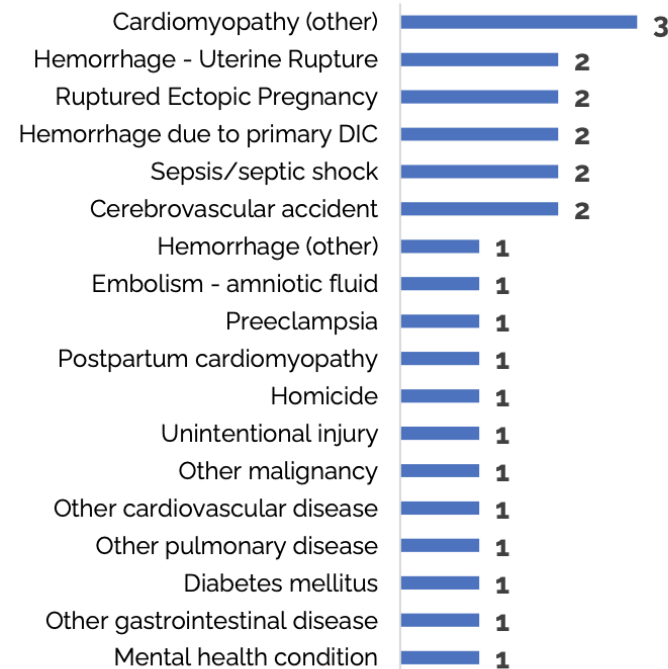
# Indiana MMRC Report 2021

**Figure 40: Overall Top Causes of Death for Pregnancy-Associated Deaths (Indiana MMRC, 2018-2019 [n=123])**



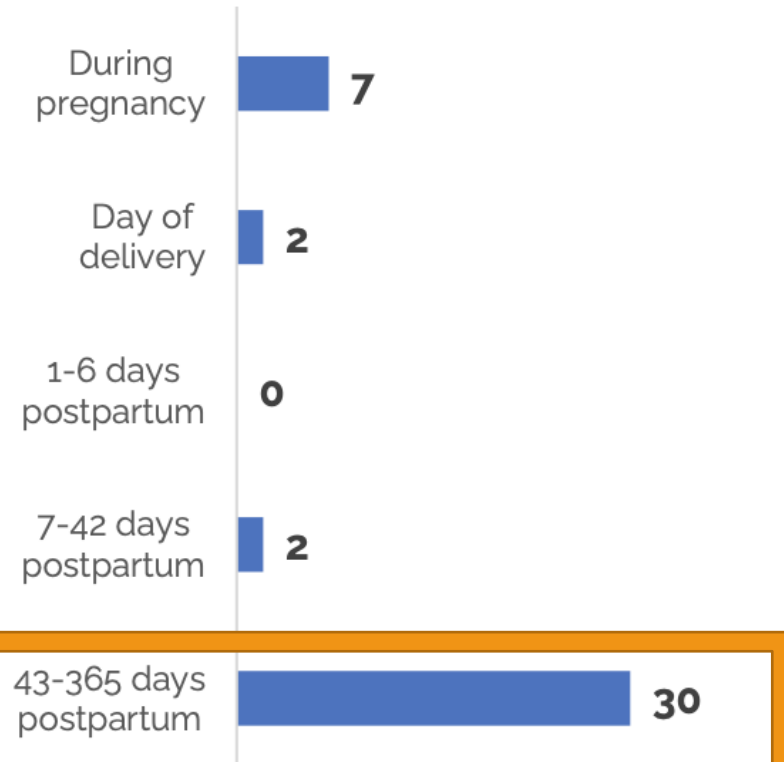
**Figure 41: Overall Causes of Pregnancy-Related Deaths**

Indiana MMRC, 2018-2019 (n=25)



**Figure 45: Timing of Pregnancy-Associated Deaths Due to Overdose**

(Indiana MMRC 2018-2019)





# Risk Factors for Overdose Deaths

- Unrecognized Opioid Use Disorder
- Lack of medications for OUD
- Mixing of opioids and benzodiazepines and/or alcohol
- Presence of psychiatric disease increases the risk of overdose death
- Exposure to Intimate Partner Violence (IPV)(causal relationship unknown)
- Risk of overdose death increases in the postpartum period particularly the late postpartum period (42 days or later)

# Effects of postpartum period on persons with SUD

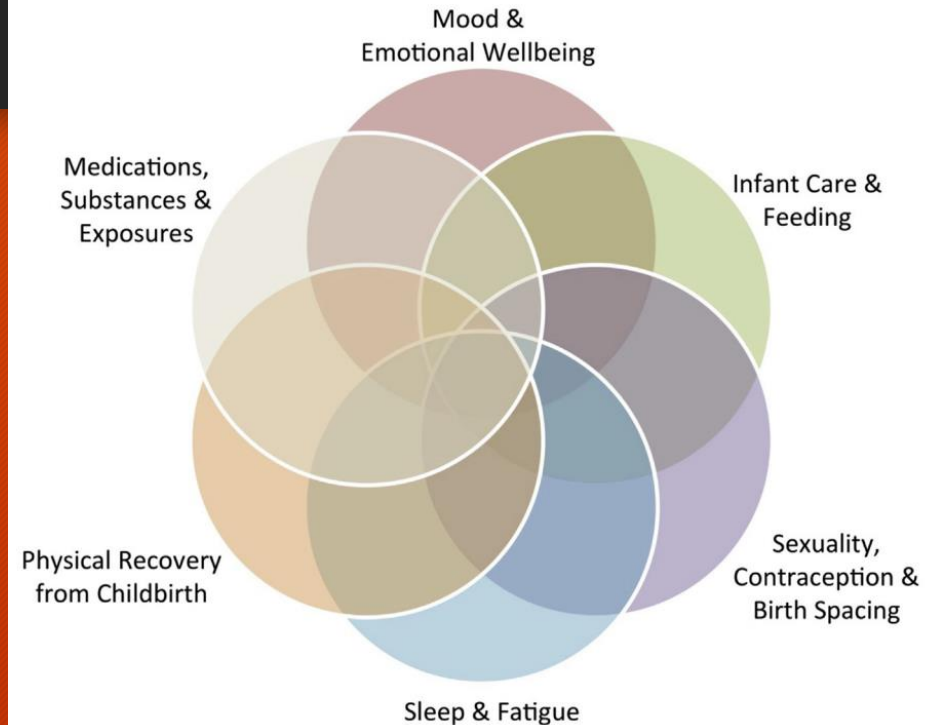


# The Fourth Trimester

- First 12 weeks postpartum
- Period of great transition for all new parents including:
  - Disrupted sleep
  - Hormonal Changes
  - Adjustment to new parenthood (or parenthood to more dependents)
  - Triggering emotional reaction for parents with history of trauma
  - Risks for Intimate Partner Violence
  - Requirements to return to work
  - Financial stress

**FIGURE**

**Interrelated health domains in the fourth trimester**



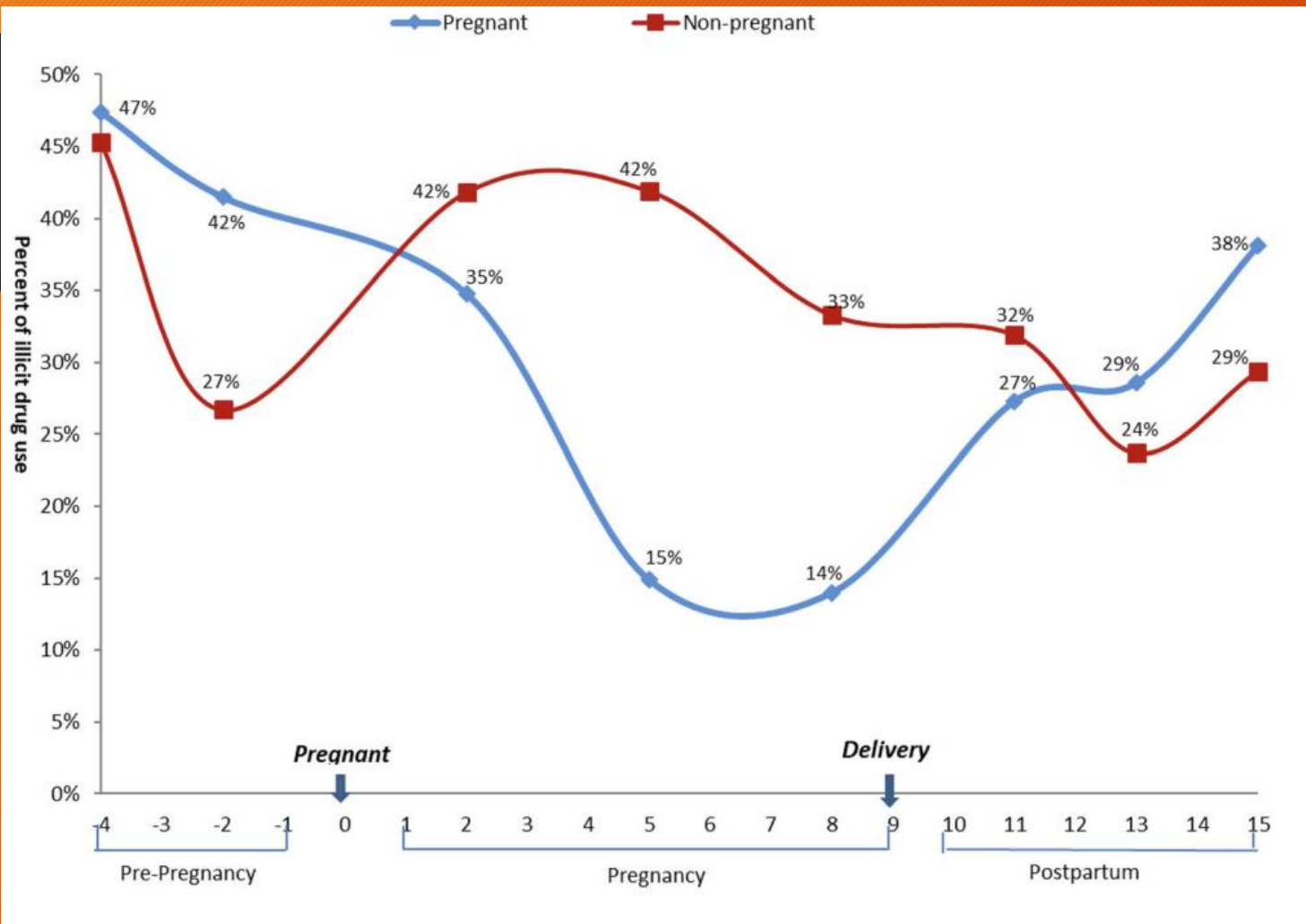
*Tully. The fourth trimester. Am J Obstet Gynecol 2017.*

Tully, Stuebe, and Verbiest 2017  
Paladine, Blenning, and Strangas 2019  
Wu et al. 2021

# Postpartum For Persons who use drugs

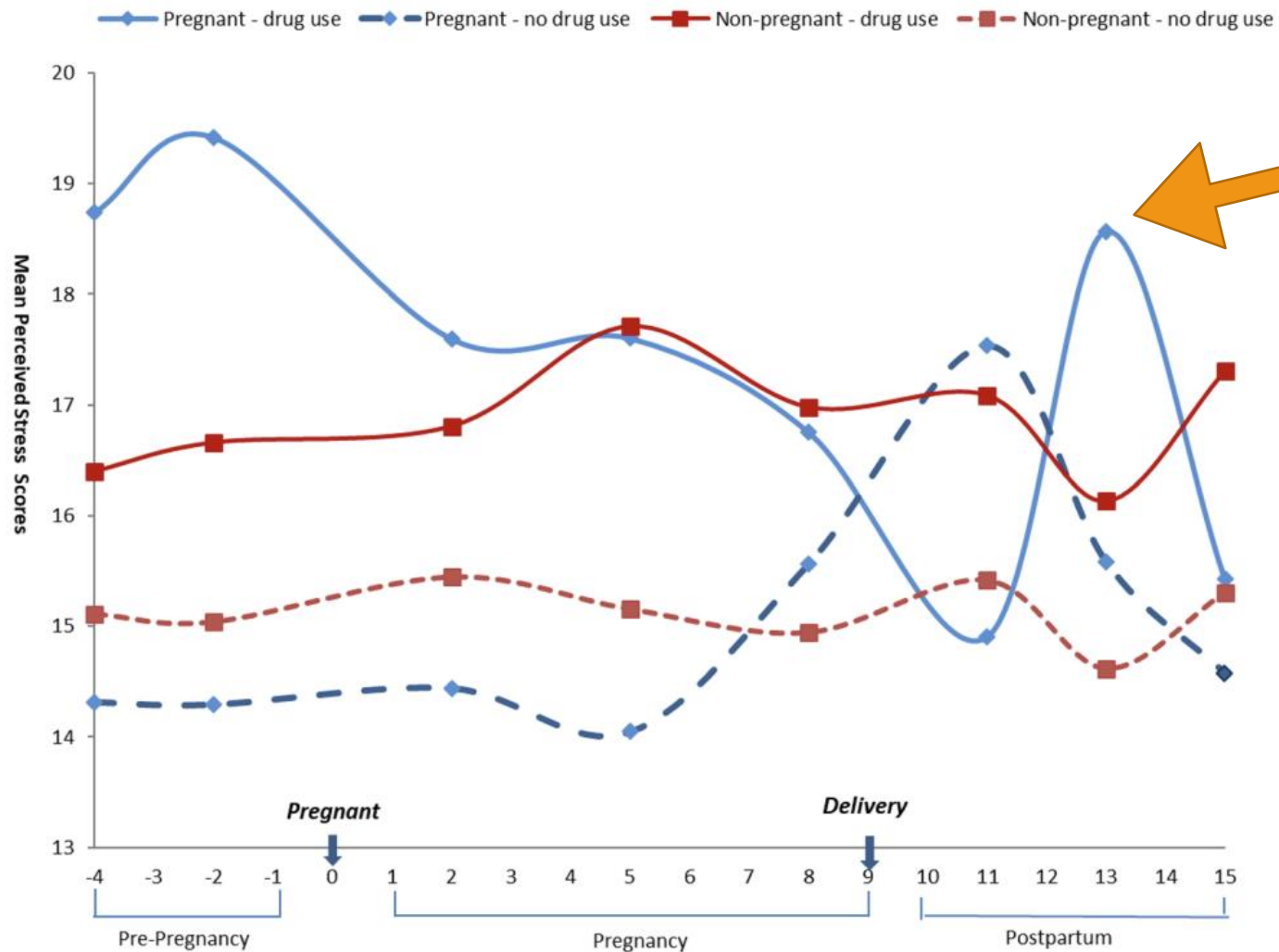
- Studies using interviews and questionnaires investigated the experience of new parents in the postpartum period
- Finding decrease drug use in 2<sup>nd</sup> and 3<sup>rd</sup> Trimester and increasing in the postpartum periods
- Perceived stress also is shown to decrease toward the end of pregnancy and then increase postpartum
- This pattern of stress is different for people who use drugs compared to persons who are pregnant and not using drugs
- The mechanism of these changes for people who use drugs is unknown





# Change in drug use

**Fig. 2** Changes of illicit drug use among women who reported drug use 30 days prior to baseline by pregnancy status



Perceived stress

**Fig. 3** Mean scores of perceived stress during the study period stratified by pregnancy and drug use status

Wu et al. 2021



# Perinatal Care Timeline

- Significant focus is on the pregnancy and effects on neonate
- If we consider medical contact with pregnant people...
  - Number of visits with prenatal care provider recommended by ACOG
    - Every 4 weeks until 28 weeks
    - Every 2 weeks until 36 weeks
    - Every 1 week delivery
    - For an average of 10-14 visits
  - Number of visits for postnatal care
    - One time at 6 weeks
- Significant decrease in engagement with treatment is documented for postpartum person with SUD
- Disengagement with care is a risk factor for maternal morbidity and mortality

# Causes of Discontinuation of Care

- Limited literature on why this happens
- Studies with voucher-based incentive and intensive case management that are effective during pregnancy less so in postpartum period
- Study by Tully et al, included focus group with postpartum people pointed to a disconnect in a few areas:
  - Postpartum people stated concerns they had about adjusting to fourth trimester not addressed
  - Patients felt uncomfortable discussing certain aspects of care with providers due to all or nothing messaging (i.e. breastfeeding or sleep)
  - For brown and black persons fear of reporting to authorities or not being taken seriously also decreased participation in care



# Barriers for peripartum care for persons with SUD



# Stigma and Engagement with Care

- A recent study by Peacock-Chambers, et. al conducted interviews with postpartum women in recovery explored engagement
- Identified two main reasons individuals with SUD did not continue treatment
  - “How I see myself.”
  - “How I am seen by others.”
- These themes are highly related to stigma by self and others
- Disengagement with care is then a risk factor for worse outcomes and maternal mortality in persons with SUD



# Levels of Stigma

## Systemic/Structural

- Laws regulating access such as requirement for methadone clinics
- Policies that criminalize drug use
- Barriers to insurance coverage of treatment

## Interpersonal/Societal

- Stigma by providers and their staff
- Family and community toward individuals with OUD

## Self

- Internalization of stigmatizing beliefs held by others

# Types of Stigma

## Stereotypes

- Harmful and disrespectful beliefs about a group
- Common part of the human experience and not harmful in and of themselves
- Identified stereotypes of people with SUD: dangerous, self-destructive, and no job potential

## Prejudice

- Belief and application of a stereotype leads to an emotional response

## Discrimination

- When prejudice leads to behavior that excludes and devalues individuals



Aware of the  
stigma of  
SUD

- “The public thinks people with SUDs are dangerous”

Agreeing  
with the  
stigma

- “Yes; that’s right. People with SUDs are dangerous!”

Self-  
Application

- “I have an SUD so I must be dangerous.”

Impacts self-  
esteem/self  
efficacy

- “I am less of a person because I have an SUD and am dangerous.”/ (“I am less able to accomplish my goals because I have an SUD.”

# Cascade of Self- Stigma

# HUMAN CONNECTION the ANTI-ADDICTION



# Self-stigma and Isolation

Health care worker stigma



# Substance Use Disorder and Racism

- Racial discrimination is associated with psychological distress among brown and black individuals
- Psychological distress among brown and black individuals is linked to substance misuse
- Racism and pregnancy for brown and black persons
  - Biogenetic explanations are used to increase discrimination in his population
  - Increase in assumption that addiction is “incurable” in this group
  - Greater preoccupation of danger and unfitness of ability to parent



# Biogenetic Explanations Effect on Stigma

- Common strategy in attempts to reduce stigma
- Studies show can lead to reduction of blame of mentally ill
- However, study participants exposed to biogenetic explanations expressed greater belief that those with MI were **dangerous and unpredictable**
- Biogenetic explanations also increase the notion of MI/SUD as “hardwired” and fixed and those with MI/SUD as different
- This decreases perception that MI/SUD can be treated
- These effects are pronounced for brown and black individuals where being “othered” and abnormal is part of white supremacy

Corrigan et al. 2017  
McCradden et al. 2019  
Buchman, Leece, and Orkin 2017

# Dangerousness

- Increasing normalization of diagnoses such as anxiety and depression
- Perception of dangerousness in mental illness tend to focus on psychosis
- Those perceived as dangerous tend to experience greater stigma
- In the SUD arena individuals seen as more dangerous include:
  - Persons who inject drugs
  - Pregnant people who use drugs
  - Black and brown individuals
- Being perceived as dangerous increases chances a person will be treated in a punitive instead of therapeutic manner
- It also affects how a person sees themselves



# Interventions that decrease stigma

# Levels of Intervention

System level

Medical level

Personal level



# System Level Interventions

- Antiracist framework must be applied including:
  - Investigating current practices from an antiracist stance
  - How do our current policies perpetuate inequality?
  - What needs to be changed to promote inclusivity?
- Consideration of the viewpoint of those with SUD who have been or are currently pregnant
- Health, safety and desires of both parent and fetus/neonate need to be considered
- Based on current available research of best practices and policies and not on beliefs largely influenced by stigma

# System Level

- Government (National, State, Local) Policies that increase access to:
  - Fair and Safe Housing
  - Food
  - Childcare
  - Transportation
  - Insurance Access/Coverage
  - Reproductive Rights and Services
- Criminal Justice Sector
  - Decriminalization of drug use
  - Expunging current felonies related to drug use
- Child Protection Services
- Health Care Entities
- Research Institutions (Academia, CDC, NIH)



# Medical System Level

- Solutions must acknowledge and deal with lack of mental health providers
- Must decrease silos of care between medical and MI/SUD providers
- Integrating care is an anti-stigma intervention
  - Increased, knowledge, comfort and empathy for patients with SUD
  - Increases detection of SUD and MI diagnoses
  - Increases access to care in location where patients are seen and already comfortable

# Medical System Level Methods

- Methods for increasing capacity
  - Program ECHO
  - Perinatal Access Programs
  - Collaborative Care Programs
- Interventions acknowledge needs and desires of patients
  - Equity and inclusivity must be considered
  - Patient preference for location of care



# Program ECHO



- Extension for Community Healthcare Outcomes (ECHO)
- Developed in the University of New Mexico
- Originally designed to increase capacity of PCPs to treat Hepatitis C
- Case based CME meant to create a learning community
- Guiding Principles
  - Amplification - use technology to leverage scarce resources
  - Best practices - reduce disparity
  - Case-based learning - master complexity
  - Data - monitor outcomes to increase impact

# Program ECHO: How it works

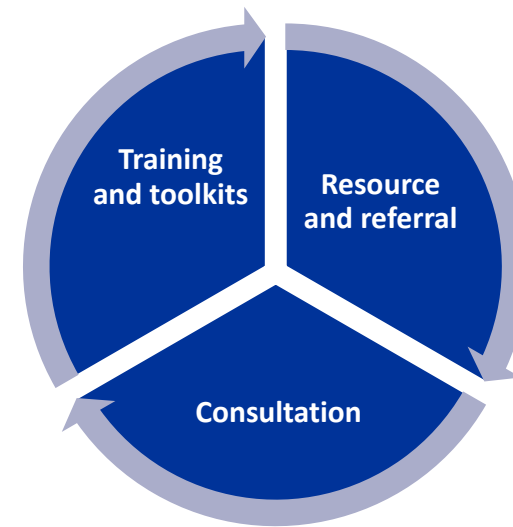
- Uses 'hub-and-spoke' network of providers and specialists
- Case based learning model
  - 60-90min sessions bi-weekly
    - Short didactic presentation
    - Case Based Portion
      - Case presentation
      - Questions and clarifications
      - Recommendations
- Some evidence that specializing focus of groups can be beneficial
- Decreases silos and stigma



# Perinatal Access Programs

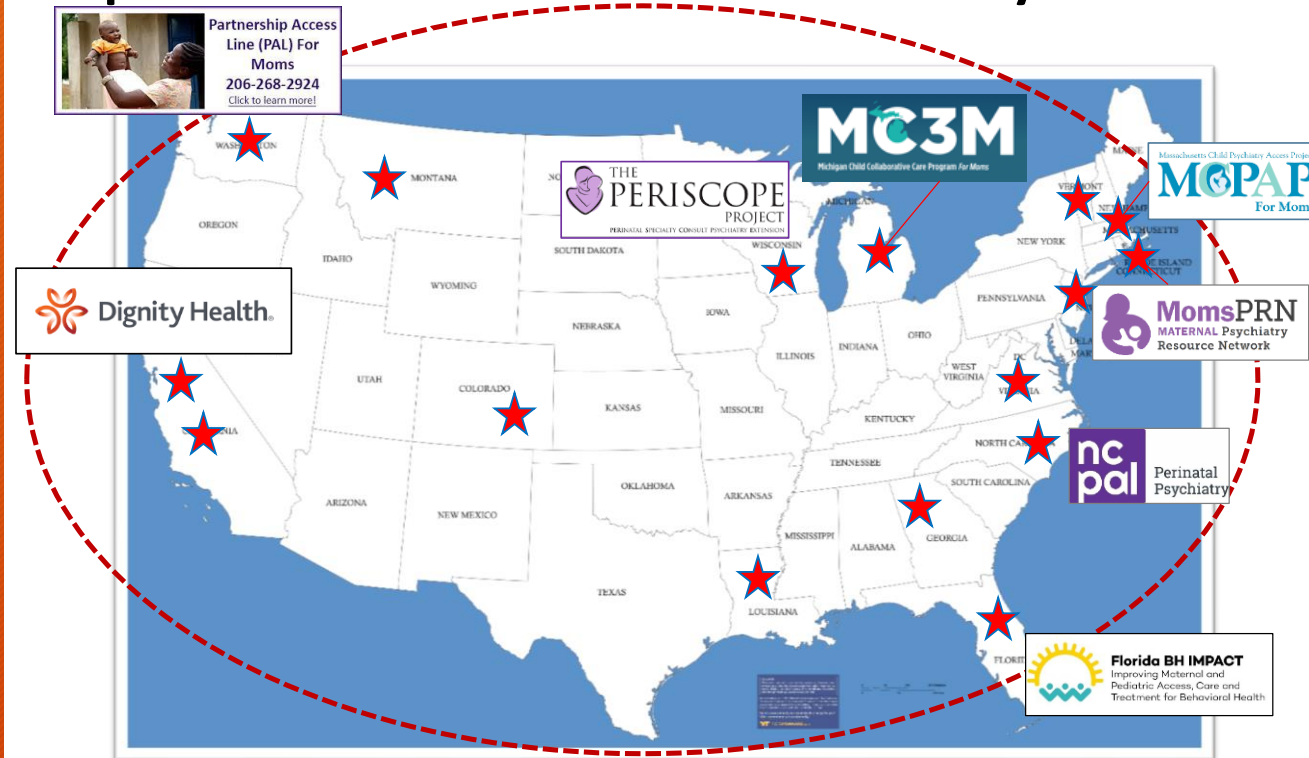
- State-wide programs currently in more than 25 states in the US
- Goal to expand access of mental health services by increasing frontline provider's ability to treat these
- PAP's have 3 parts
  - Training
  - Consultation
  - Referrals
- Launching in Indiana in 2023

**Perinatal Psychiatry Access Programs need to be tailored for each state or health care system**



# Perinatal Access Programs

Perinatal Psychiatry Access Programs are being implemented and funded in various ways





# Perinatal Access Programs



Discuss potential management strategies

Recommend a Face to Face Evaluation

Refer to the community



## Education occurs through trainings, toolkits, and website resources

**Antidepressant Treatment Algorithm**  
(use in conjunction with Depression Screening Algorithms for Obstetric Providers)

Is patient currently taking an antidepressant?

If medication has helped and patient is on a low dose: increase dose of current medication (see table below)

If patient is on therapeutic dose for 4-8 weeks that has not helped: consider changing medication. If questions contact MCPAP for Moms for consultation

Does patient have a history of taking an antidepressant that has helped?

Yes: Prescribe antidepressant that helped patient in the past (see table below)

No: Use sertraline, fluoxetine or citalopram (see table below)

To minimize side effects, half the recommended dose is used initially for 2 days, then increase in small increments as tolerated.

First line treatment (SSRIs)		
sertraline (Zoloft) 50-200 mg increase in 10 mg increments	fluoxetine (Prozac) 20-40 mg increase in 10 mg increments	citalopram (Celexa) 20-40 mg increase in 10 mg increments

Second line treatment		
SSRIs	SNRIs	Other
paroxetine (Paxil) 20-40mg increase in 10 mg increments	venlafaxine (Effexor) 75-300mg increase in 75 mg increments	bupropion (Wellbutrin) 300-450mg increase in 75 mg increments
tricyclic antidepressants (TCAs) 150-300mg increase in 20 mg increments	duloxetine (Cymbalta) 30-60mg increase in 30 mg increments	mirtazapine (Remeron) 15-45mg increase in 15 mg increments

Considered a safer alternative in lactation because they have the lowest degree of transplacental passage and fewest reported adverse effects compared to other antidepressants. In general, if an antidepressant has helped it is best to continue it during lactation.

Reevaluate depression treatment in 2-4 weeks via EPDS & clinical assessment

If no/minimal clinical improvements after 4-8 weeks:

- If patient has no or minimal side effects, increase dose.
- If patient has side effects, switch to a different med.

If you have any questions or need consultation, contact MCPAP for Moms at 855-Mom-MCPAP (855-666-6272)

If clinical improvement and no/minimal side effects:

Reevaluate every month and at postpartum visit. Refer back to patient's provider and/or clinical support staff for psychiatric care once OB care is complete. Contact MCPAP for Moms if it is difficult to coordinate ongoing psychiatric care. Continue to engage women in psychotherapy, support groups and other non-medication treatments.

CALL MCPAP FOR MOMS WITH CLINICAL QUESTIONS THAT ARISE DURING SCREENING OR TREATMENT AT 855-666-6272

MCPAP for Moms: Promoting maternal mental health during and after pregnancy  
www.mcpapfor moms.org  
Toll 855-Mom-MCPAP (855-666-6272)  
Revision 04.26.14  
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# MCPAP for MOMS



- Complexity of consult questions increases over time in several programs
- As effective in decreasing PHQ-9 Scores on par as those for intensive Programs
- Providers in Ob-Gyn setting disseminate knowledge among themselves
- Patients at clinics benefit even when treated by provider who did not access the service



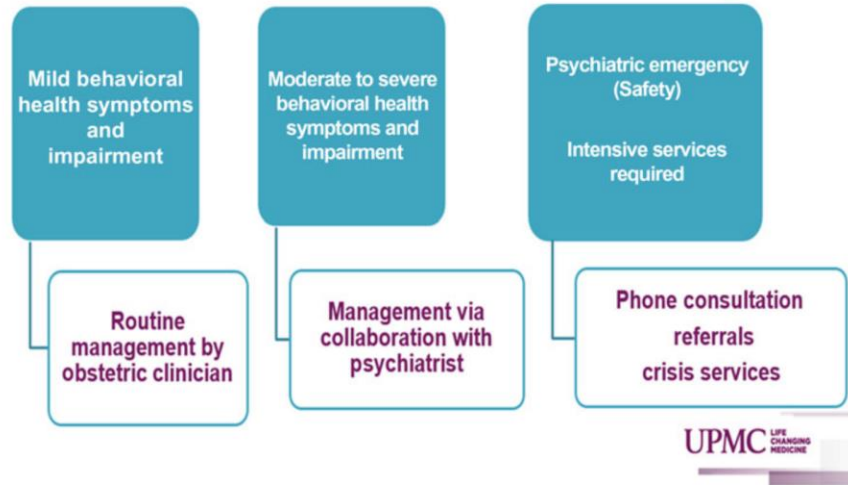
# Collaborative/Integrated Care

- Evidence based approach to chronic disease care
- Over 70 RCT have been carried out to evaluate this model for treatment of depression in primary care population
- Studies for of it being used for perinatal depression
  - Effective for treatment of depression during pregnancy
  - Studies of use to extend treatment into postpartum also show some promise
- Less evidence exists for collaborative care of patients with SUD
  - Studies looking at placing the Ob-Gyn care into MI/SUD treatment setting
  - Promising but early results

Coleman et al, 2009  
Unützer et al, 2013  
Miller et al, 2020  
Raffi et al. 2021

# Collaborative Care Principles

## Behavioral Health Pathways



care offered

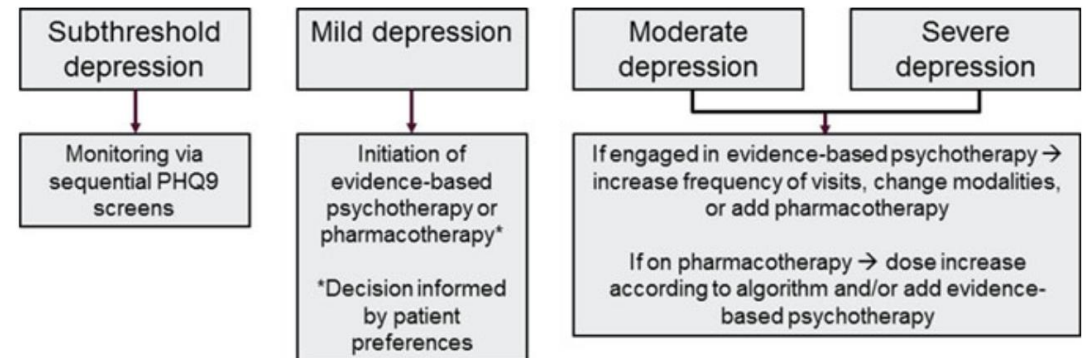


Figure 2. Stepped care model.



# Settings of Collaborative Care

- Generally mental health care is integrated into Ob-Gyn setting
- Some examples of adding Ob-Gyn care into behavioral health centers
  - For some of those with moderate to severe SUD needs may be higher than what can be provided in Ob-Gyn setting
  - Individuals with co-occurring MI and SUD may also feel most comfortable receiving all their care at mental health setting
- Both approaches are needed as they would reach different populations
- It is paramount to match the location to where patients are already presenting

# Collaborative Care in the Postpartum Period in persons with SUD

- More studies needed in this population
- What we do know suggests it would be an idea model to tackle this difficult period
- The practice tracking and case management are in place to alert the team to patients that are disengaging from treatment
- Provides a powerful tool to couple medical and behavioral health services in this group
- Can also provide a way to increase engagement by better matching what is offered to what patients want



# Personal/Interpersonal Level

- What should be the focus of the treatments provided in these settings?
- Stigma Reduction
- Promoting of solutions generated by those with lived experience
  - Considering the broad array of needs
  - Considering the heterogeneity of the populations we are serving
- Harm Reduction Considerations
- Right to self-determination
- Services provided at person's preferred setting
- Co-Occurring Considerations



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Nichole Nidey, PhD, and Stephanie Weber, PsyD, MPH co-lead the Empowering Mothers and Providers and Other Stakeholders to Weigh In as Experts in Research (EMPOWER) project. This work is supported by the Patient-Centered Outcomes Research Institute (PCORI) Engagement Award EAIN-19623 and the National Center for Advancing Translational Sciences of the National Institutes of Health, under award number 2UL1TR001425-05A1. Facilitated by: Leslie Yerkes / leslieyerkes.com Visual Notes by: Jo Byrne / seeyourwords.com © 2021 Cincinnati Children's Hospital Medical Center. All rights reserved.



# Conclusions

- Maternal mortality in the US is higher than other similar nations
- Indiana ranks as one of the states with the highest maternal mortality ratios in the US
- Most the pregnancy associated deaths in US and in Indiana are linked to overdose deaths in people with SUD
- Stigma plays a significant role in these deaths as it leads to disengagement with treatment
- System, medical and personal level interventions are needed to reverse these trends

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