Pregnancy for women with substance use disorders: a whirlwind overview of important things I think you should know

HEALTH
UNIVERSITY OF UTAH

Marcela Smid, MD
Maternal Fetal Medicine
Addiction Medicine

DISCLOSURE

Medical advisory committee for Gilead Science Inc. for hepatitis C treatment for pregnant and postpartum women.

Funded by the NIH K12 Women's Reproductive Health Research grant 2018-2020

WHO AM I ?

- Medical director of SUPeRAD (**S**ubstance **U**se & **P**regnancy – **R**ecovery, **A**ddiction, **D**ependence) Clinic
  - ABOG Maternal Fetal Medicine and ABPM Addiction Medicine
- **Specialty prenatal care** for women with substance use disorders – clinical director Jasmin Charles PA-C

OBJECTIVES

- Identify the brain changes related to substance use disorder/addiction and the impact this has on one's behavior
- Describe evidence-based practices for the treatment of substance use disorder/addiction
- Discuss how medication for opioid use disorder is approached in pregnant and new mothers
- Identify the main challenges related to treatment and relapse among pregnant and postpartum women

WHAT IS ADDICTION?

DEFINITIONS

- **Substance Use** – Consumption of psychoactive substances with or without adverse consequences

- **Misuse** – Excessive use of psychoactive substances, such as alcohol, pain medications, or illegal drugs potentially leading to physical, social, or emotional harm.

Society for Maternal-Fetal Medicine

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS
COMMITTEE OPINION

ASAM American Society of Addiction Medicine

DEFINITIONS

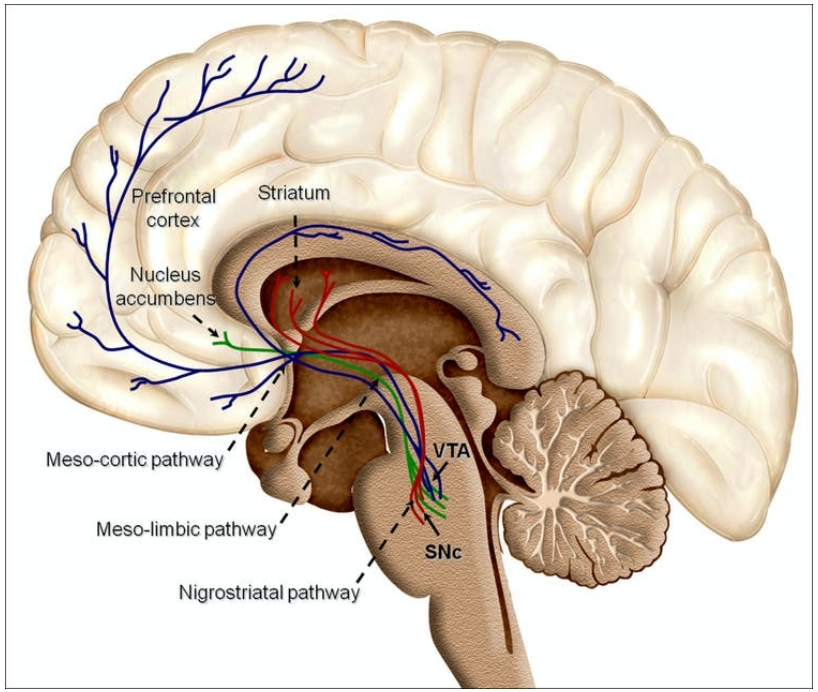
- **Tolerance** - physiologic adaptation & diminished response to substance after repeated uses

- **Physical Dependence** – State of adaptation manifested by a class-specific withdrawal syndrome produced by abrupt cessation or rapid dose reduction of the substance, or by administration of an antagonist

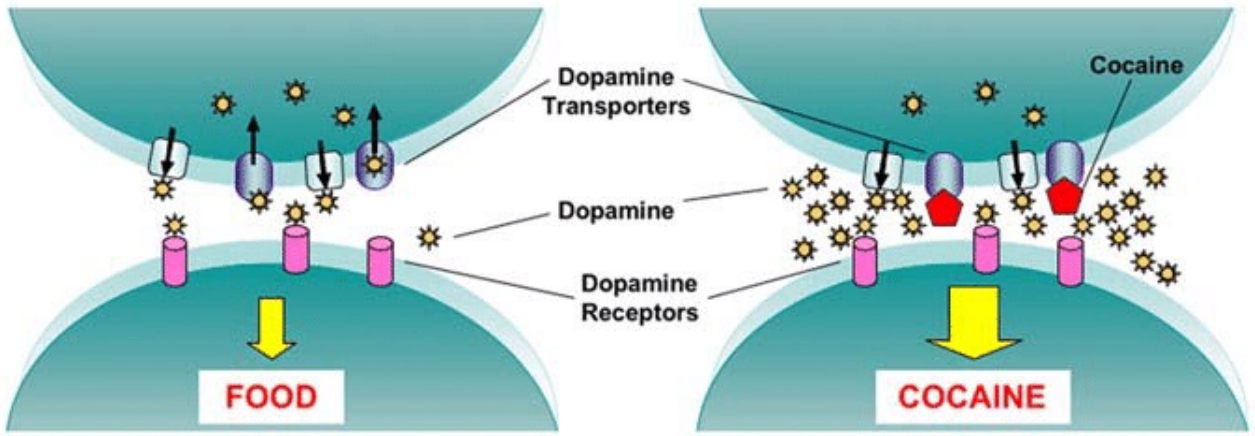
- **Psychological Dependence** – Subjective sense of a need for a specific psychoactive substance, either for its positive effects or to avoid negative effects associated with its abstinence

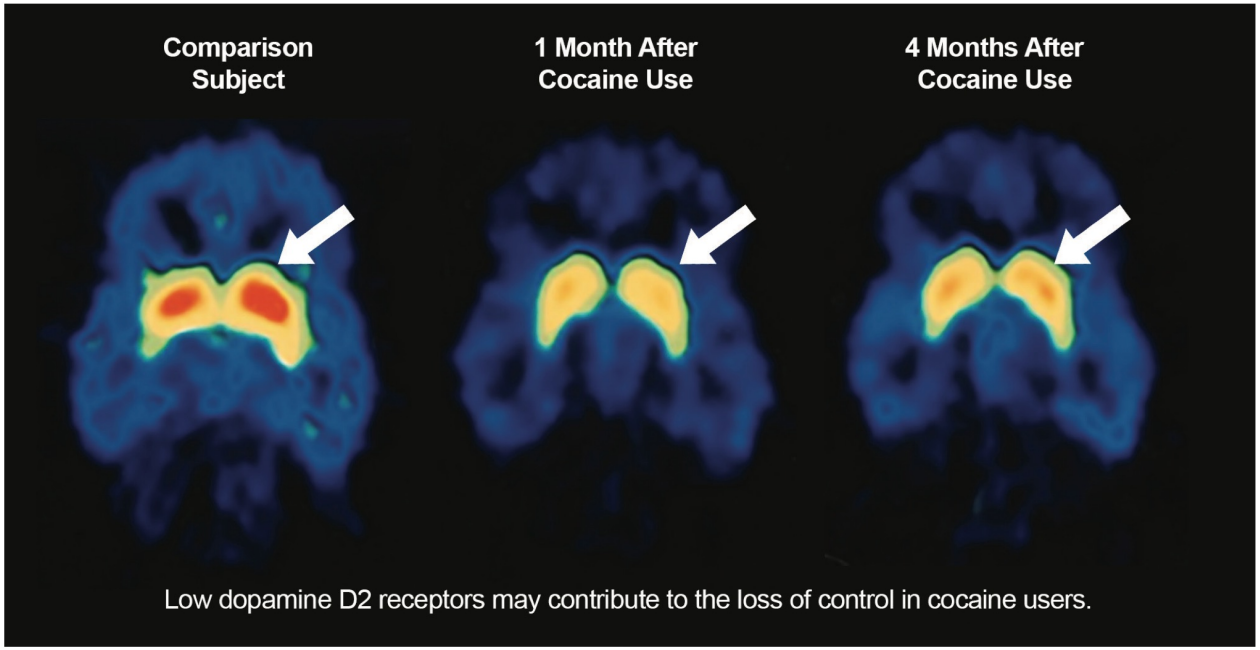
ADDICTION

- A primary, chronic disease of **brain** of the reward, motivation, memory, and related circuitry.
  - Dysfunction in these circuits leads to characteristic **biological, psychological, social and spiritual manifestations**.
  - Behavior is **symptom** of the condition
- This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

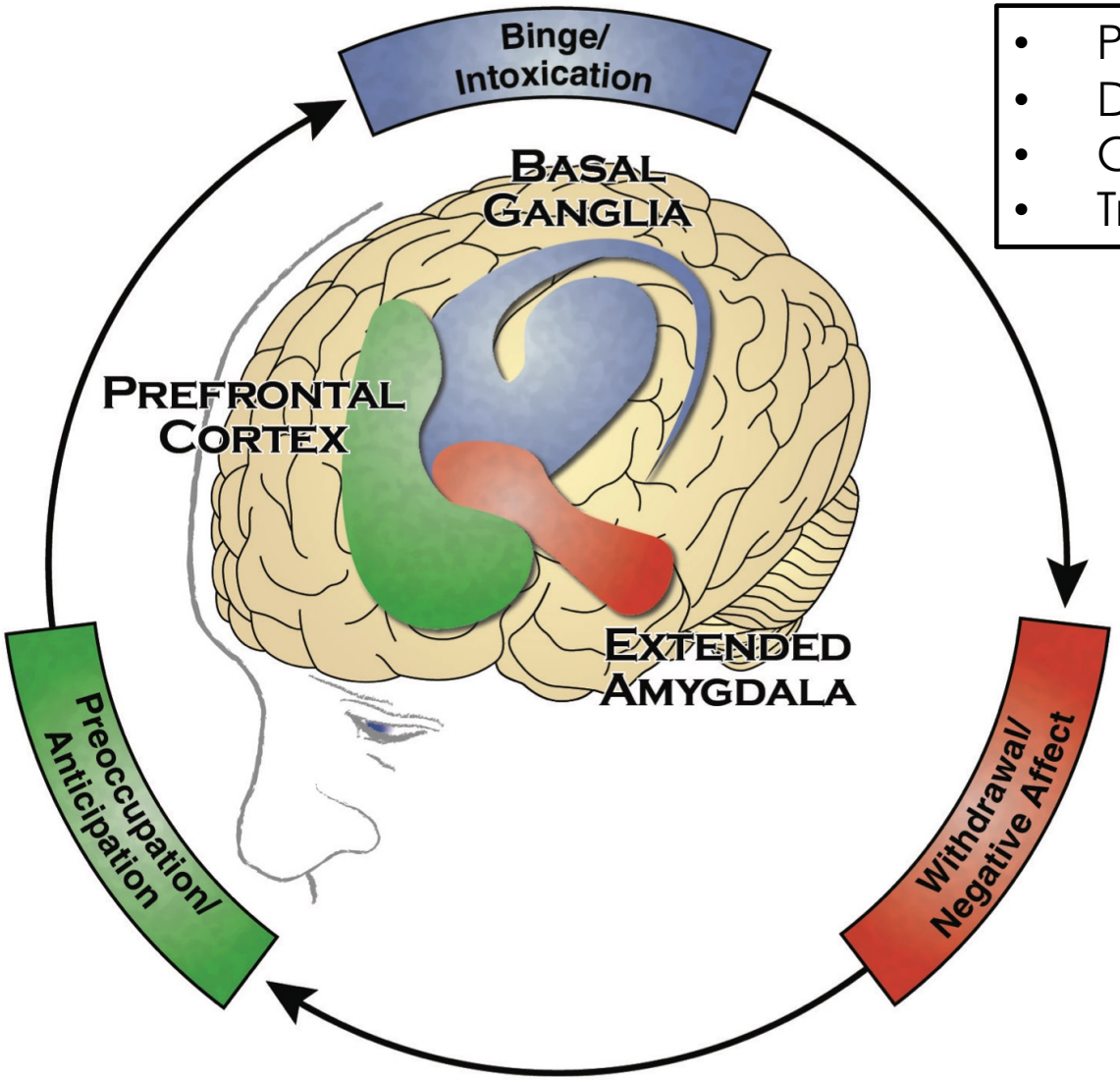


ADDICTION





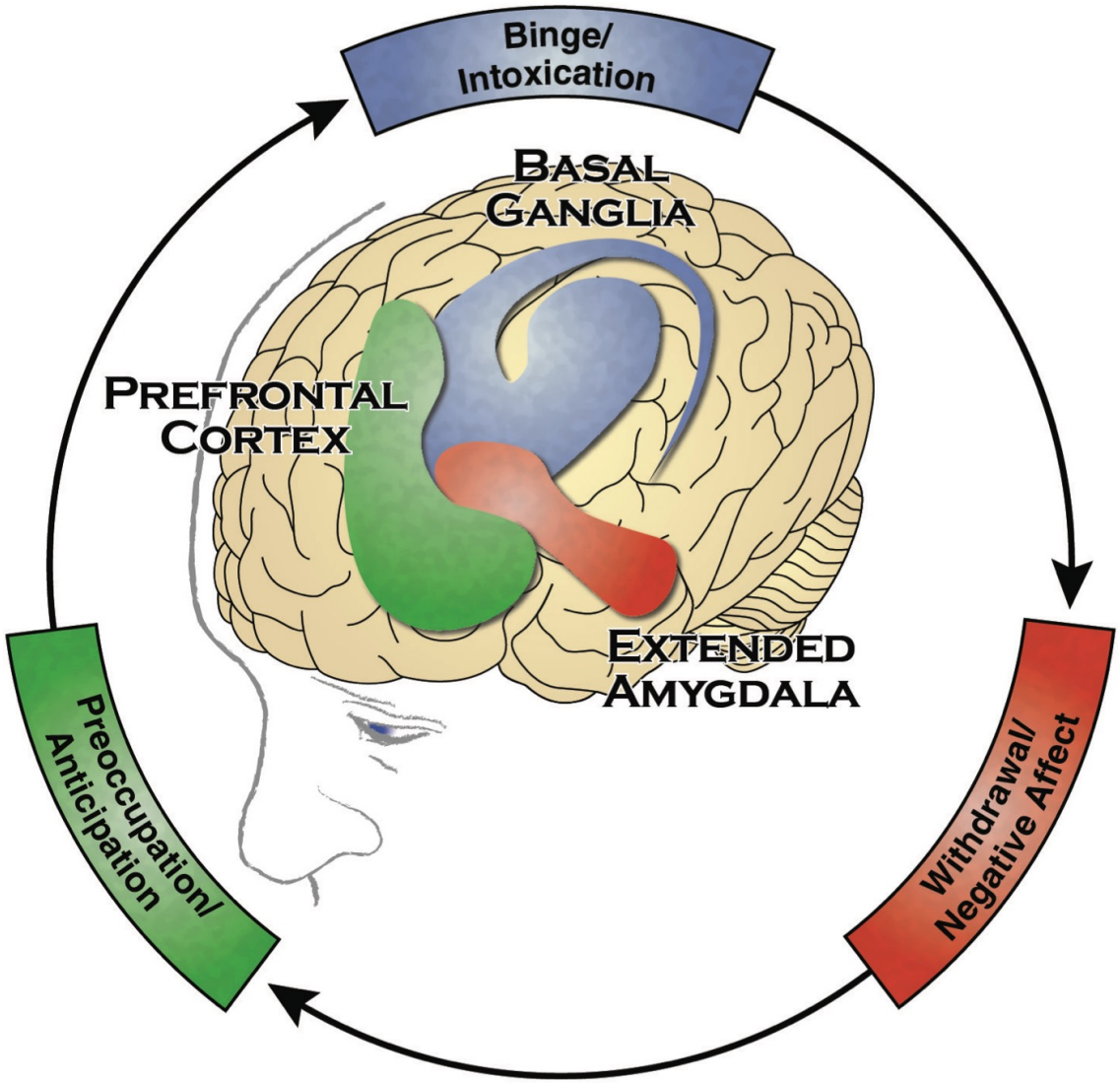
NEUROBIOLOGY OF ADDICTION



- Positive reinforcement
- Dopamine mediated
- Cravings
- Triggers

https://addiction.surgeongeneral.gov/sites/default/files/chapter-2-neurobiology.pdf

NEUROBIOLOGY OF ADDICTION

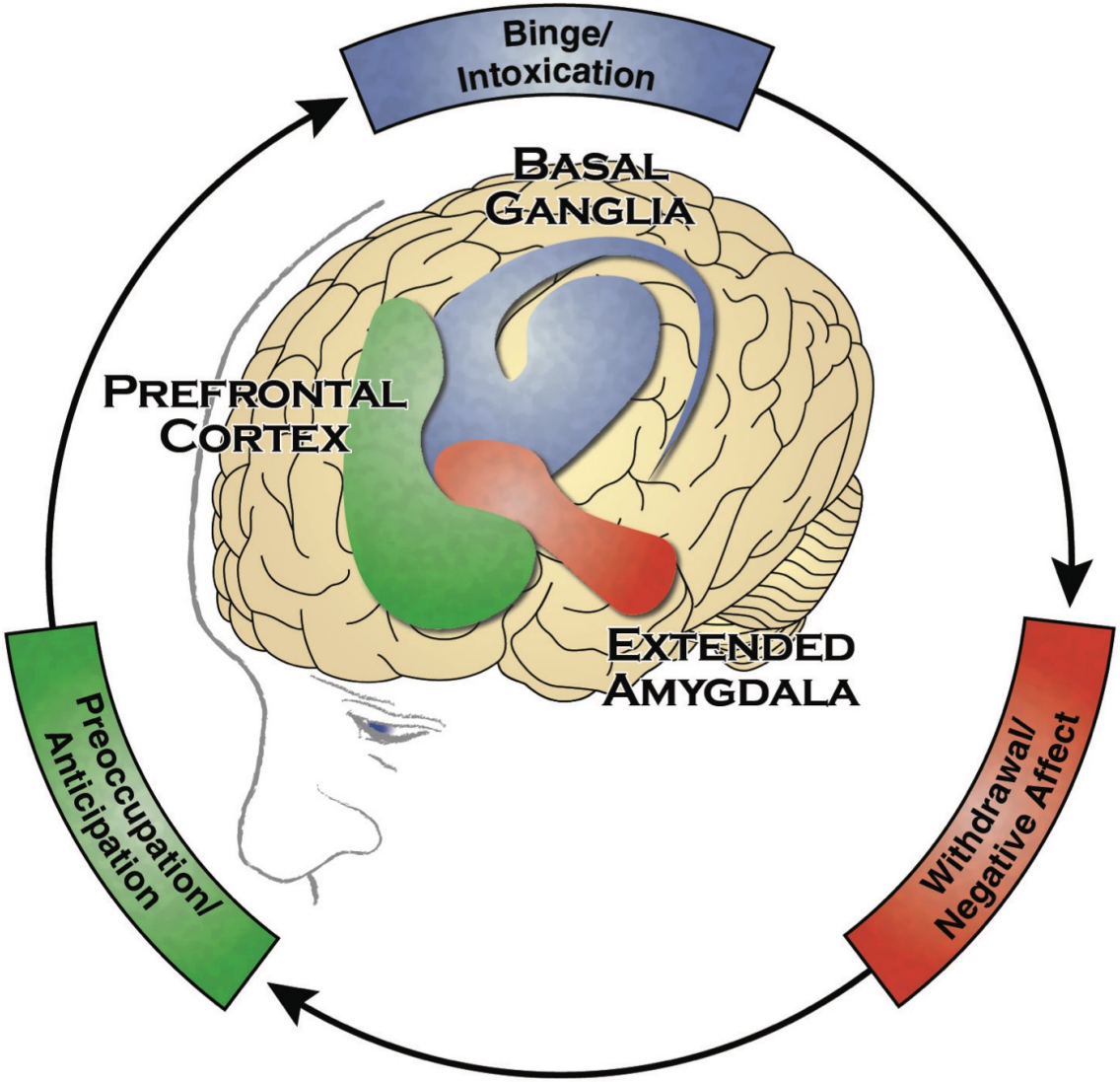


- Negative reinforcement
- CRF dynorphin
- Decrease in reward activation
- Drive to alleviate negative feelings (anxiety, fear)
- Compulsion

https://addiction.surgeongeneral.gov/sites/default/files/chapter-2-neurobiology.pdf

NEUROBIOLOGY OF ADDICTION

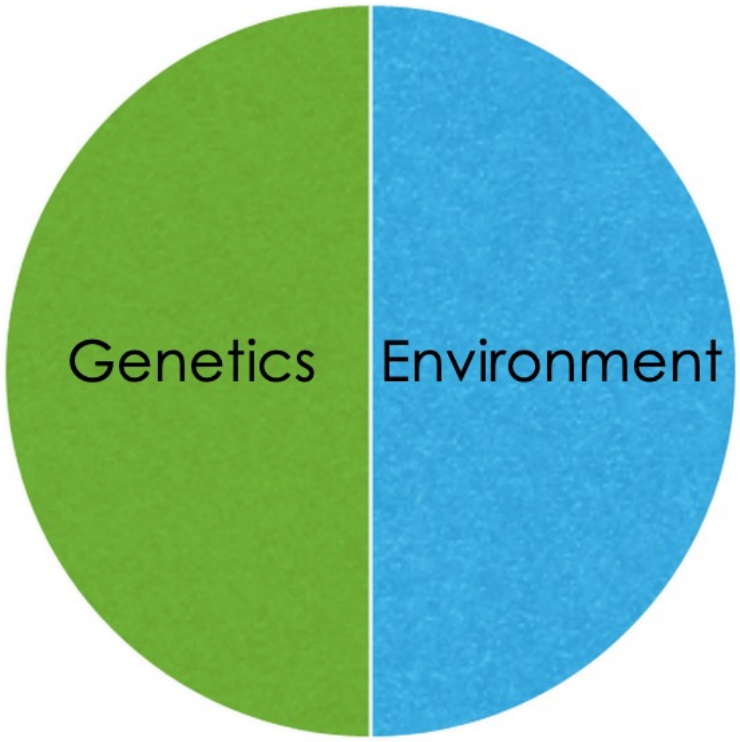
- Compromised executive
- Glutamate increased
- Habits
- Overactivation of Go system (helps make decisions)
- Underactivation Stop system
- Compulsion and impulsivity



VULNERABILITY OF ADDICTION

- opioid receptors
- dopamine
- other transmitters
- intracellular signals

- novelty seeking
- harm avoidance
- impulsivity
- psychiatric disorders



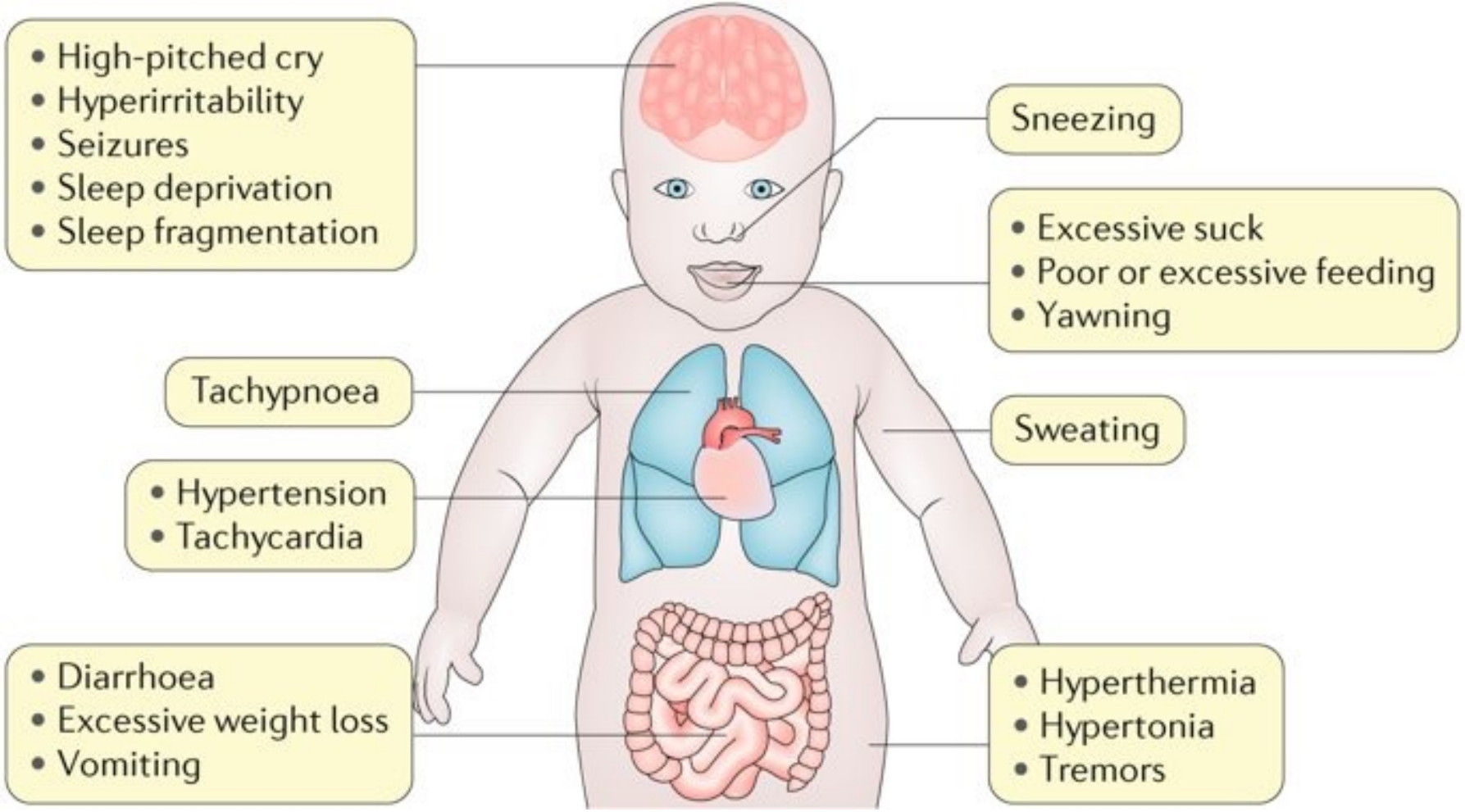
- parents
- siblings
- friends

- Adverse Childhood Experiences (ACEs)
- psychiatric disorders
- stressors
- lack of positive experiences

- illicit sources
- prescription
- family and friends

INFANTS CANNOT HAVE AN ADDICTION

INFANTS CAN HAVE NEONATAL OPIOID WITHDRAWAL SYNDROME (NOWS)



SUBSTANCE USE DISORDER

Loss of control
- more than intended
  - amount used
  - time spent
- unable to cut down
- giving up activities
- craving

Physiology
- tolerance
- withdrawal

Consequences
- unfulfilled obligations
  - work
  - school
  - home
- interpersonal problems
- dangerous situations
- medical problems

formerly "dependence"

formerly "abuse"

- A ***substance use disorder*** is defined by having 2 or more • in the past year resulting in distress or impairment.
- **Tolerance** and **withdrawal** alone don't necessarily imply a disorder.
- Severity is rated by the number of symptoms present:
  - 2-3 = mild
  - 4-5 = moderate
  - 6+ = severe

Society for Maternal-Fetal Medicine

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WOMEN'S HEALTH CARE PHYSICIANS
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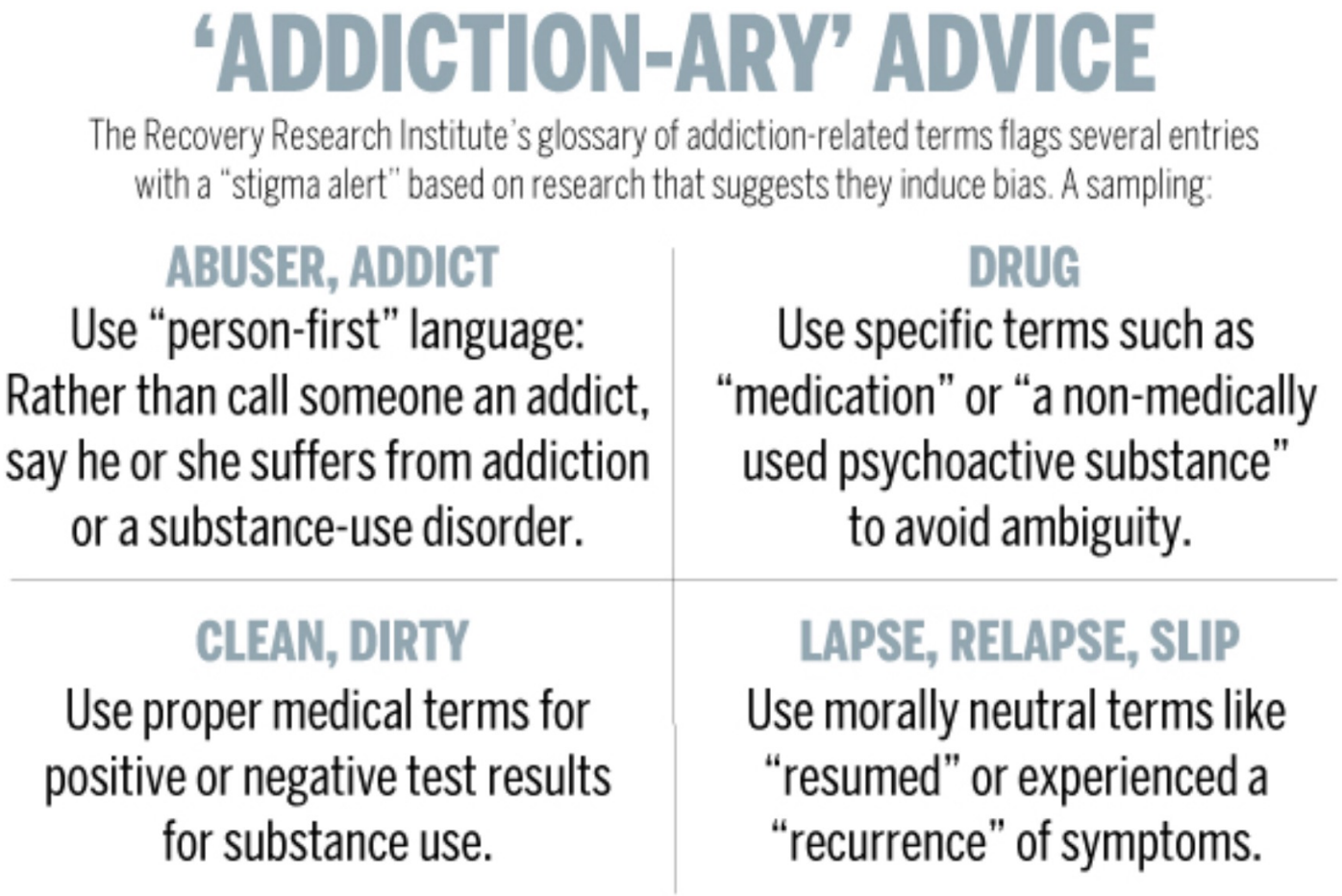
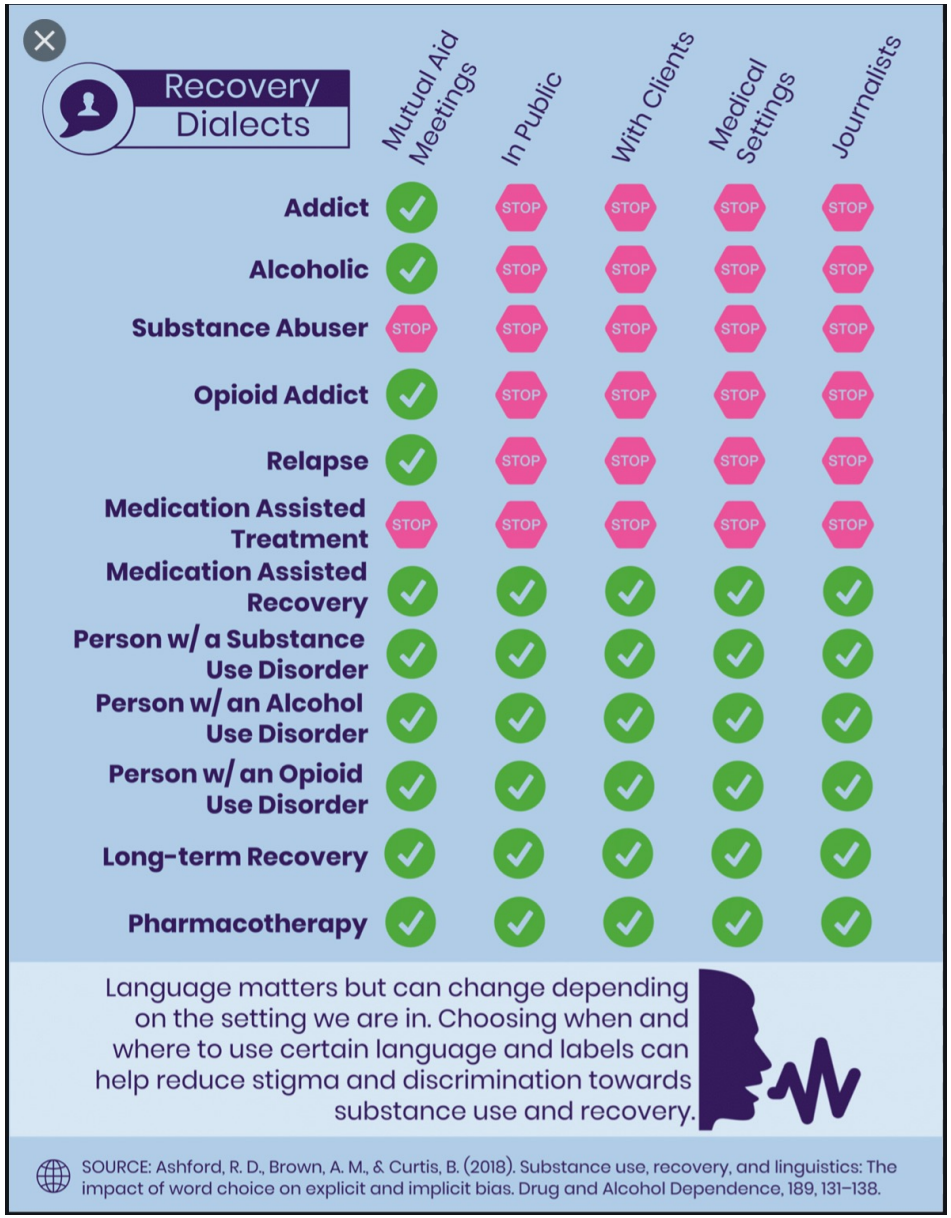
DICTION OF ADDICTION



HMS Professor John Kelly helped to create the Addiction-ary, a glossary of addiction-related terms to help medical professionals and the general public modify their language about addiction. Graphic by Rebecca Coleman/Harvard Staff

https://news.harvard.edu/gazette/story/2017/08/revising-the-language-of-addiction/

CHOOSE WISELY



EVIDENCE BASED TREATMENT FOR SUD

SUBSTANCE USE CARE CONTINUUM

Figure 4.1: Substance Use Status and Substance Use Care Continuum

Positive Physical, Social, and Mental Health	Substance Misuse	Substance Use Disorder
A state of physical, mental, and social well-being, free from substance misuse, in which an individual is able to realize his or her abilities, cope with the normal stresses of life, work productively and fruitfully, and make a contribution to his or her community.	The use of any substance in a manner, situation, amount, or frequency that can cause harm to the user and/or to those around them.	Clinically and functionally significant impairment caused by substance use, including health problems, disability, and failure to meet major responsibilities at work, school, or home; substance use disorders are measured on a continuum from mild, moderate, to severe based on a person's number of symptoms.

Substance Use Status Continuum

Substance Use Care Continuum

Enhancing Health	Primary Prevention	Early Intervention	Treatment	Recovery Support
Promoting optimum physical and mental health and well-being, free from substance misuse, through health mmunications and access to health care services, income and economic security, and workplace certainty.	Addressing individual and environmental risk factors for substance use through evidence-based programs, policies, and strategies.	Screening and detecting substance use problems at an early stage and providing brief intervention, as needed.	Intervening through medication, counseling, and other supportive services to eliminate symptoms and achieve and maintain sobriety, physical, spiritual, and mental health and maximum functional ability. Levels of care include: • Outpatient services; • Intensive Outpatient/ Partial Hospitalization Services; • Residential/ Inpatient Services; and • Medically Managed Intensive Inpatient Services.	Removing barriers and providing supports to aid the long-term recovery process. Includes a range of social, educational, legal, and other services that facilitate recovery, wellness, and improved quality of life.

SBIRT – SCREENING, BRIEF INTERVENTION, REFERRAL TO TREATMENT

- Screening,
- Not based on "risk factors"
  - 4 Ps
  - NIDA Quick Screen
  - CRAFFT (<26 year olds)
- Motivational interviewing
  - Eliciting own goal setting
- Referral to treatment if appropriate

4 P's for Substance Abuse

1. Have you ever used drugs or alcohol during **P**regnancy?
2. Have you had a problem with drugs or alcohol in the **P**ast?
3. Does your **P**artner have a problem with drugs or alcohol?
4. Do you consider one of your **P**arents to be an addict or alcoholic?

Ewing H. Medical Director, Born Free Project. Contra Casta County, 111 Allen Street, Martinez, CA 94553. Phone: (510) 646-1165.

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

TABLE 5 The CRAFFT questions

Two or more "Yes" answers suggest high risk of a serious substance-use problem or a substance-use disorder.

- **C** Have you ever ridden in a **Car** driven by someone who was high or had been using drugs or alcohol?
- **R** Do you ever use alcohol or drugs to **Relax**, feel better about yourself, or fit in?
- **A** Do you ever use drugs or alcohol when you are **Alone**?
- **F** Do you **Forget** things you did while using drugs or alcohol?
- **F** Do your family and **Friends** ever tell you that you should cut down your drinking or drug use?
- **T** Have you ever gotten into **Trouble** while using drugs or alcohol?

Abbreviation: CRAFFT, Car, Relax, Alone, Forget, Friends, Trouble.
Knight JR, et al.[23]

ASKING AND RESPECTING PERMISSION

- **Ask permission**
  - –"Is it OK if I ask you some questions about smoking, alcohol and other drugs?"
- Avoid closed-ended questions
  - – "You don't smoke or use drugs, do you?"

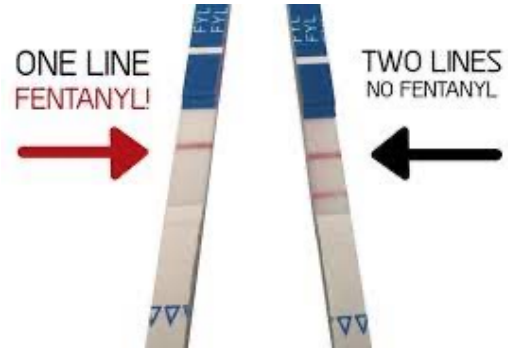
URINE TOX

- NOT screening
- High false positive false negative rates
- Many provider do not understand interpretation
- Urine screening needs to be confirmed
- ONLY with consent
- Expected or unexpected
  - **Not clean or dirty**

Urine sample ready for testing

HARM REDUCTION

- Outreach and education
- Needle exchange
  - Reduces HIV and Hep C and other infections
- Overdose prevention education
- Access to naloxone
- Fentanyl test strips



UHRC
UTAH HARM REDUCTION COALITION

UTAH COALITION FOR
OPIOID OVERDOSE PREVENTION

UTAH
NALOXONE

PRINCIPLES OF EFFECTIVE TREATMENT

Principles of Effective Treatment for Adults

1. Addiction is a complex but treatable disease that affects brain function and behavior.
2. No single treatment is appropriate for everyone.
3. Treatment needs to be readily available.
4. Effective treatment attends to multiple needs of the individual, not just his or her drug abuse.
5. Remaining in treatment for an adequate period of time is critical.
6. Behavioral therapies—including individual, family, or group counseling-- are the most commonly used forms of drug abuse treatment.
7. Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies.
8. An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that it meets his or her changing needs.
9. Many drug-addicted individuals also have other mental disorders.
10. Medically assisted detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug abuse.
11. Treatment does not need to be voluntary to be effective.
12. Drug use during treatment must be monitored continuously, as lapses during treatment do occur.
13. Treatment programs should test patients for the presence of HIV/AIDS, Hepatitis B and C, tuberculosis, and other infectious diseases, provide risk-reduction counseling, and link patients to treatment if necessary.

National Institute on Drug Abuse, (2012)85 and (2014).92

DISCRIMINATION AND STIGMA

Recommendations

Governing principles

It was noted by the GDG that certain principles apply to all the recommendations described below. These overarching principles are proposed to provide guidance in the process of planning, implementing and evaluating the most suitable and relevant recommendations according to the national contexts and available resources.

I. **Prioritizing prevention.** Preventing, reducing and ceasing the use of alcohol and drugs during pregnancy and in the postpartum period are essential components in optimizing the health and well-being of women and their children.

II. **Ensuring access to prevention and treatment services.** All pregnant women and their families affected by substance use disorders should have access to affordable prevention and treatment services and interventions delivered with a special attention to confidentiality, national legislation and international human rights standards; women should not be excluded from accessing health care because of their substance use.

III. **Respecting patient autonomy.** The autonomy of pregnant and breastfeeding women should always be respected, and women with substance use disorders need to be fully informed about the risks and benefits, for themselves and for their fetuses or infants, of available treatment options, when making decisions about her health care.

IV. **Providing comprehensive care.** Services for pregnant and breastfeeding women with substance use disorders should have a level of comprehensiveness that matches the complexity and multifaceted nature of substance use disorders and their antecedents.

V. **Safeguarding against discrimination and stigmatization.** Prevention and treatment interventions should be provided to pregnant and breastfeeding women in a way that will prevent stigmatization, discrimination and marginalization, and promote family, community and social support, as well as social inclusion by fostering strong links with available childcare, employment, education, housing and other relevant services.

Guidelines for the identification and management of substance use and substance use disorders in pregnancy

World Health Organization

Society for Maternal-Fetal Medicine

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS
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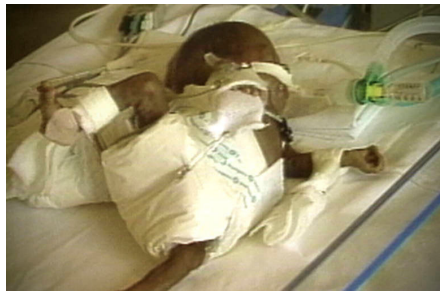
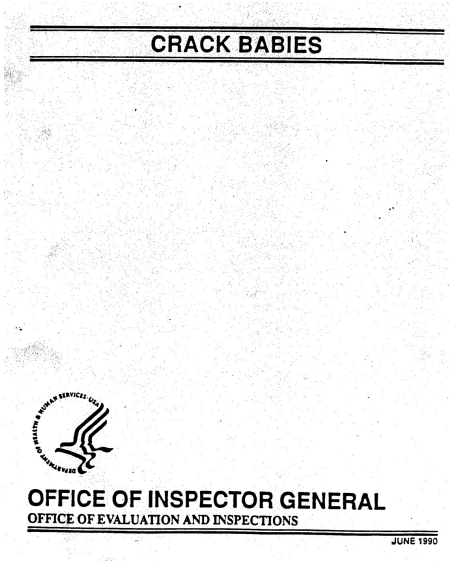
INCARCERATION AS "TREATMENT"

- In most prisons and jails, **fewer than 5% of women** get mental health care, including substance abuse treatment.
  - Inadequate prenatal care
- Incarceration associated with inadequate nutrition and increased stress, increasing pregnancy complications.
- Treatment **much cheaper** than incarceration

Beck & Maruschak, 2001

SYSTEMIC RACISM





https://practicetransformation.umn.edu/clinical-tools/person-centered-language/

CRACK VERSUS OPIOID EPIDEMIC

The Washington Post

Crack Babies: The Worst Threat Is Mom Herself

By Douglas J. Besharov

LAST WEEK in this city, Greater Southeast Community Hospital released a 7-week-old baby to her homeless, drug-addicted mother even though the child was at severe risk of pulmonary arrest. The hospital's explanation: "Because [the mother] demanded that the baby be released."

The hospital provided the mother with an apnea monitor to warn her if the baby stopped breathing while asleep, and trained her in CPR. But on the very first night, the mother went out drinking and left the child at a friend's house—without the monitor. Within seven hours, the baby was dead. Like Dooney Waters, the 6 year-old living in his mother's drug den, whose shocking story was reported in The Washington Post last week, this child was all but abandoned by the authorities.

Children of the Opioid Epidemic

In the midst of a national opioid crisis, mothers addicted to drugs struggle to get off them — for their babies' sake, and their own.

By JENNIFER EGAN MAY 9, 2018

https://progressva.org/news/when-addiction-was-black-compassion-was-hard-to-come-by/

MEDICATION FOR OPIOID USE DISORDER AMONG PREGNANT AND PARENTING INDIVIDUALS

MOUD AMONG PREGNANT/PARENTING INDIVIDUALS

- **MOUD during pregnancy and postpartum is PROTECTIVE against overdose.**

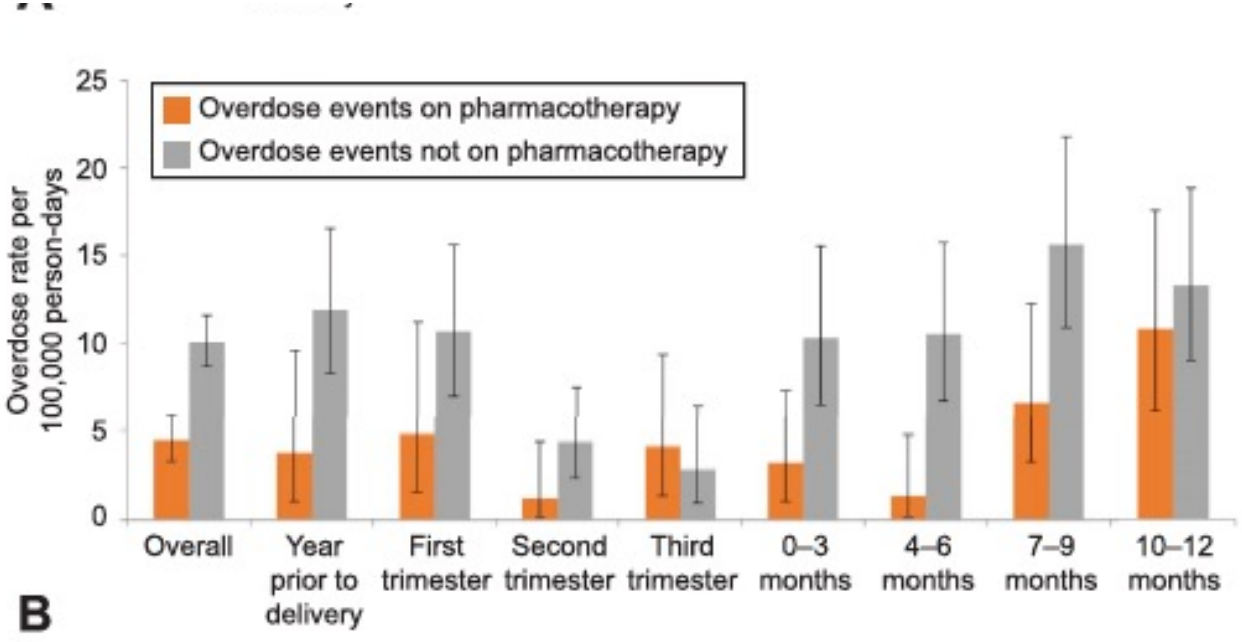


Fig. 2. Opioid overdose rates among pregnant and parenting women with evidence of opioid use disorder in year before delivery (n=4,154). All overdose events (**A**), stratified by receipt of pharmacotherapy during the month of the overdose event (**B**). *Error bars* represent 95% CIs. First trimester defined as 0–12 weeks of gestation, second trimester defined as 13–28 weeks of gestation, and third trimester defined as 29 weeks of gestation or greater.

Schiff. Prenatal and Postpartum Overdose. Obstet Gynecol 2018.

MOUD AMONG PREGNANT/PARENTING INDIVIDUALS

- " Detoxification"/taper does **NOT decrease NAS** and increase **relapse risk**
- **Not recommended**

Drugs in Pregnancy: *Review*

Opioid Detoxification During Pregnancy

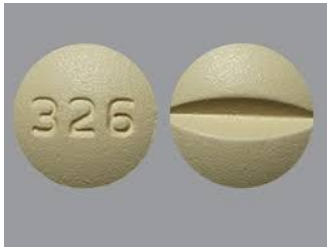
A Systematic Review

Mishka Terplan, MD, MPH, Hollis J. Laird, MPH, Dennis J. Hand, PhD, Tricia E. Wright, MD, MS, Ashish Premkumar, MD, Caitlin E. Martin, MD, MPH, Marjorie C. Meyer, MD, Hendrée E. Jones, PhD, and Elizabeth E. Krans, MD, MSc

METHADONE VERSUS BUPRENORPHINE

Buprenorphine (Mono-Product)	Methadone
▪ Same efficacy as methadone ▪ Same rates of adverse events as methadone ▪ Lower risk of overdose ▪ Fewer drug interactions ▪ Less frequent NAS and milder abstinence symptoms in neonates ▪ Significantly decreased morphine dose required ▪ Significantly shorter hospital stay ▪ Significantly shorter duration of treatment	▪ More structure – better for patients in unstable situations ▪ Decreased risk of diversion ▪ More long-term data on outcomes

NALTREXONE



OBSTETRICS

Use of naltrexone in treating opioid use disorder in pregnancy

Craig V. Towers, MD; Emily Katz, CPRS; Beth Weitz, WHNP; Kevin Visconti, MD

- Limited but increasing data
- 230 women
  - 121 naltrexone
  - 109 methadone or buprenorphine
  - High rates of polysubstance use
  - High rates of mental health treatment

FEWER **SHORT TERM** NEONATAL EFFECTS

Obstetric and newborn outcomes of the naltrexone medication-assisted treatment group vs traditional methadone or buprenorphine medication-assisted treatment group (230 total pregnancies)

Variable	Medication-assisted treatment group: Naltrexone (n=121)	Medication-assisted treatment group: Traditional (n=109)	*P* value
Newborn outcome			
Neonatal abstinence syndrome, n (%)[b]	10 (8.4)	79 (75.2)	< .0001
Neonatal intensive care unit admission, n (%)	27 (22.3)	87 (79.8)	< .0001
Length of hospital stay, d[a]	5.5±6.1	20.8±6.0	< .0001

MOUD CONSIDERATION

- MOUD Dose is **NOT** correlated with risk of NAS/NOWS
- Tobacco/nicotine dose is correlated
- Most important outcome is maternal stability NOT NAS/NOWS

Does Maternal Buprenorphine Dose Affect Severity or Incidence of Neonatal Abstinence Syndrome?

Jacqueline Wong, MD, Barry Saver, MD, MPH, James M. Scanlan, PhD, Louis Paul Gianutsos, MD, MPH, Yachana Bhakta, BS, James Walsh, MD, Abigail Plawman, MD, David Sapienza, MD, and Vania Rudolf, MD, MPH

Methadone dose and neonatal abstinence syndrome—systematic review and meta-analysis

Brian J. Cleary[1,2,3], Jean Donnelly[1], Judith Strawbridge[2], Paul J. Gallagher[2], Tom Fahey[4], Mike Clarke[5,6] & Deirdre J. Murphy[1,3]

Prenatal Buprenorphine Versus Methadone Exposure and Neonatal Outcomes: Systematic Review and Meta-Analysis

Susan B. Brogly*, Kelley A. Saia, Alexander Y. Walley, Haomo M. Du, and Paola Sebastiani

RETURN TO USE

RETURN TO USE

– 80% of women who were abstinent in last month of pregnancy, **returned to using at least one substance with year postpartum.**

Perinatal Substance Use: A Prospective Evaluation of Abstinence and Relapse

Ariadna Forray[1], **Brian Merry**[1], **Haiqun Lin**[2], **Jennifer Prah Ruger**[3], and **Kimberly A. Yonkers**[1,2,4]

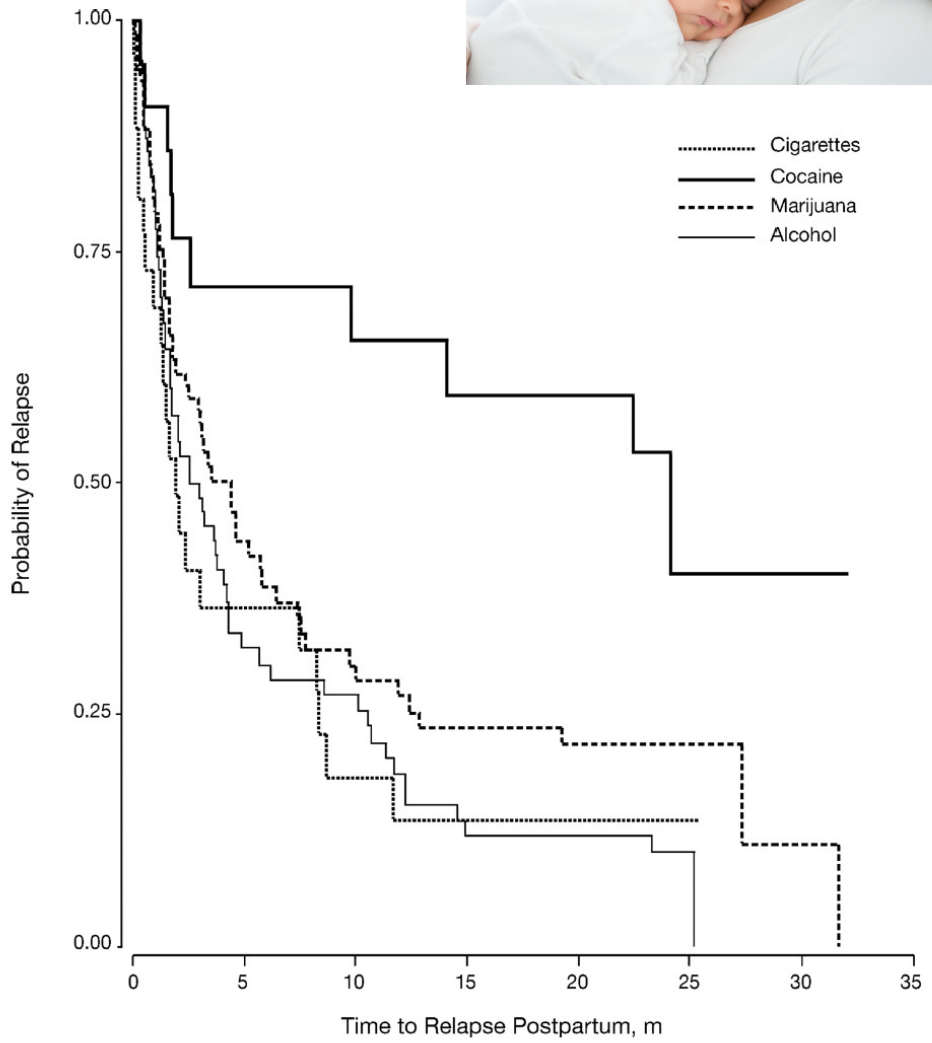
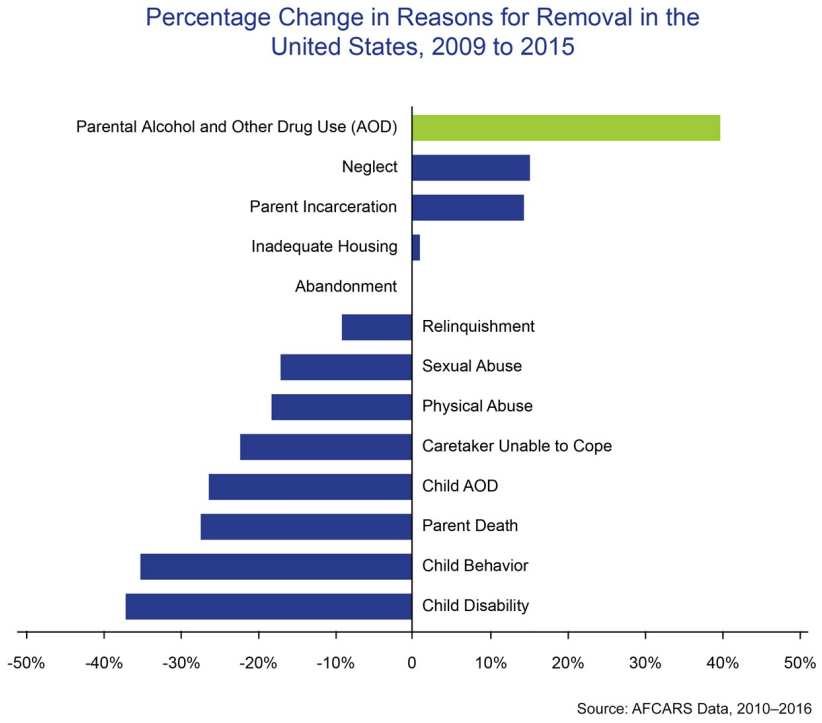
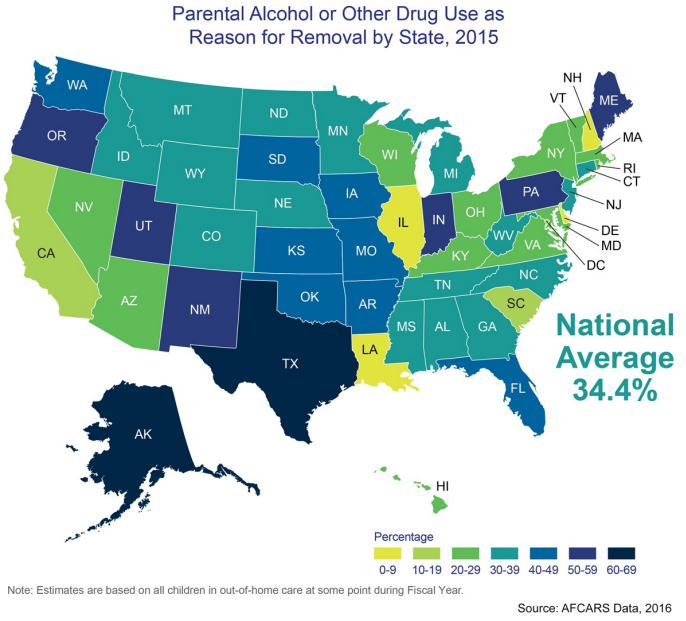


Figure 3. Time to Relapse After Delivery by Drug
Kaplan-Meier estimates of the time from delivery until relapse to cigarettes, alcohol, marijuana or cocaine in the 24 months postpartum.

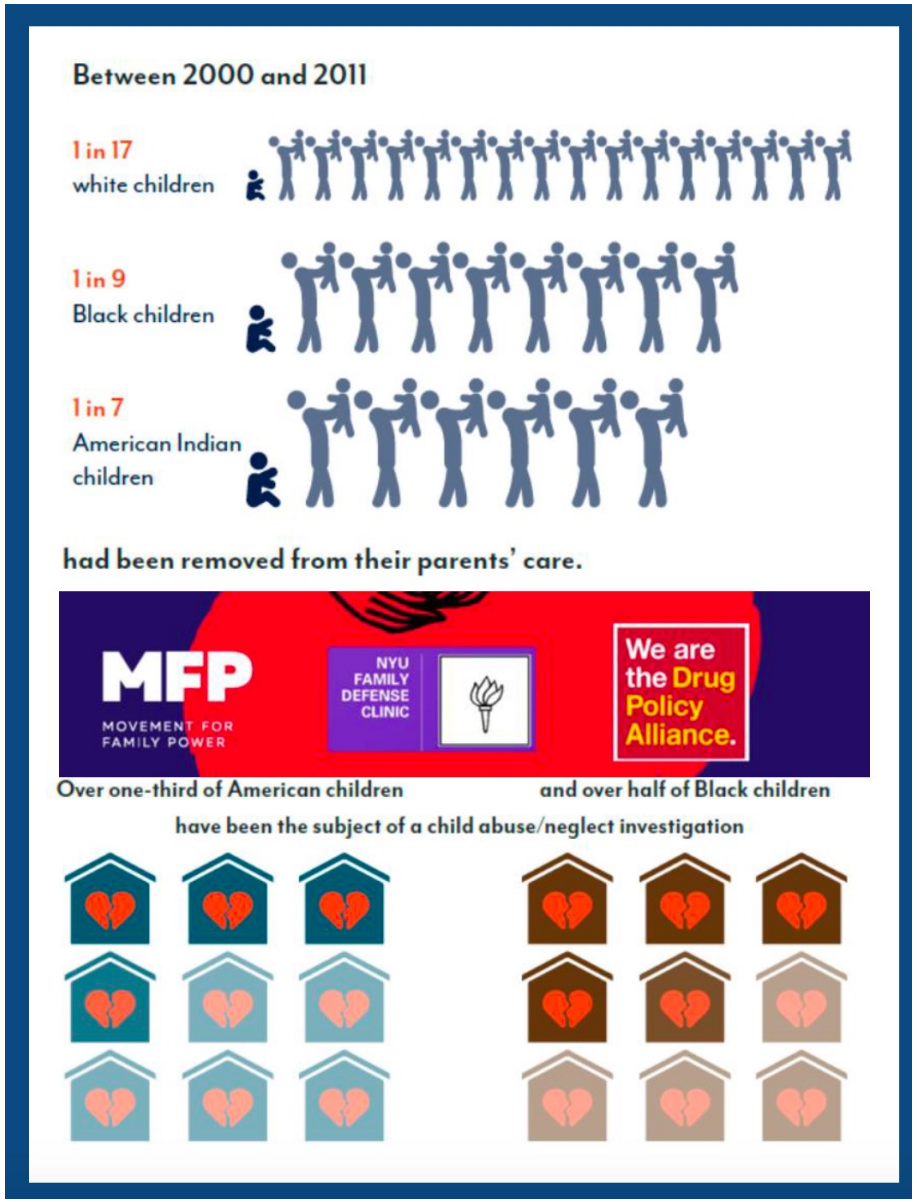
THE QUESTION

"Is my baby going to get taken away?"





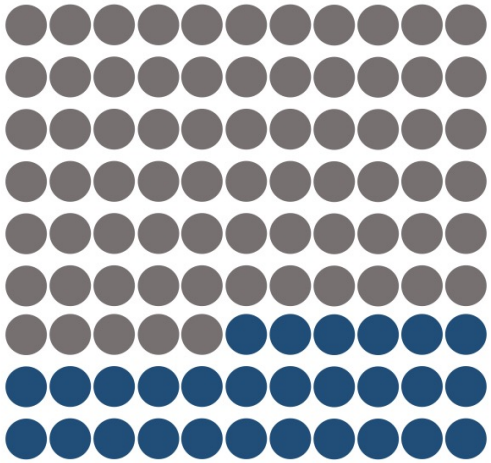
IS MY BABY GOING TO GET TAKEN AWAY?



https://www.movementforfamilypower.org

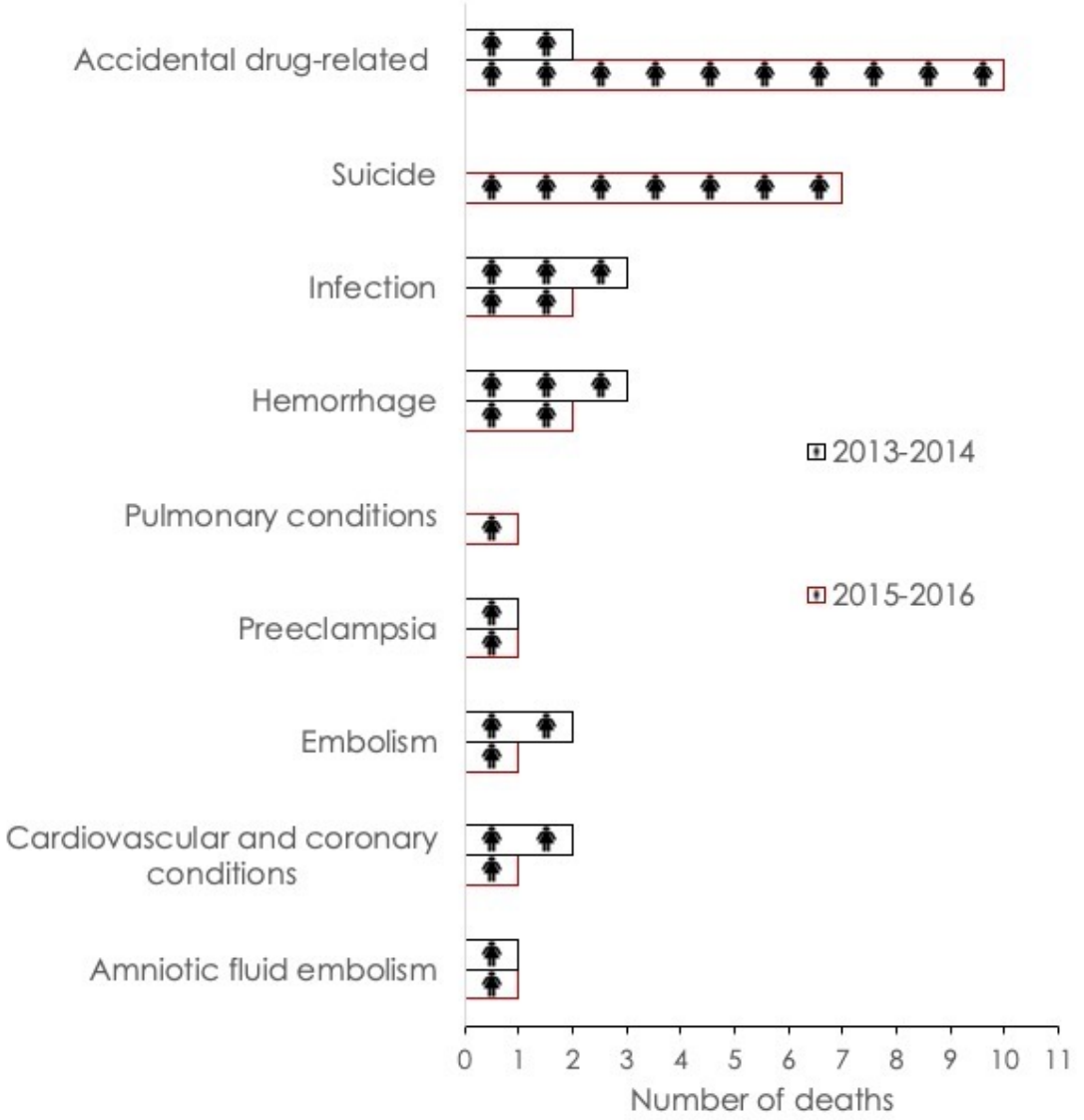
PREGNANCY AND DRUG INDUCED DEATHS

Pregnancy Associated Deaths



26%

Of all deaths were drug-related



Maternal Morbidity and Mortality: *Original Research*

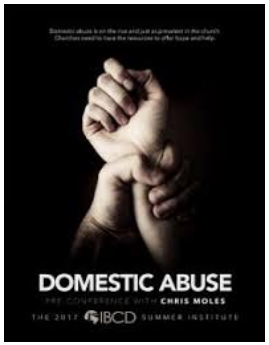
Pregnancy-Associated Death in Utah

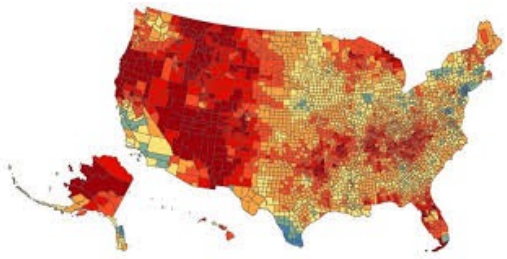
Contribution of Drug-Induced Deaths

Marcela C. Smid, MD, Nicole M. Stone, MPH, Laurie Baksh, MPH, Michelle P. Debbink, MD, PhD, Brett D. Einerson, MD, Michael W. Varner, MD, Adam J. Gordon, MD, and Erin A. S. Clark, MD

PREGNANCY AND DRUG RELATED DEATHS

Characteristic	Total (n=35)
Age (y)	
15–19	2 (5.7)
20–34	28 (80.0)
35 or more	5 (14.3)
Married	17 (48.6)
Medicaid at delivery	16 (45.7)
Drug misuse or substance use disorder	19 (54.2)
Chronic pain	15 (42.9)
Obesity	13 (37.1)
Mental health diagnosis	27 (77.1)
Depression	24 (69)
Anxiety	19 (54.2)
Schizophrenia	1 (2.9)
Bipolar	2 (5.7)
Prior suicide attempt	8 (22.9)
Prior overdose	9 (25.7)
Prior mental health hospitalization	6 (17.1)
History of lifetime abuse (emotional, mental, physical, sexual)	9 (25.7)
Intimate partner violence	6 (17.1)
Mental health services documented	9 (25.7)
Social work referral documented	14 (40.0)
Prenatal care record	n=26
Drug-related concern in prenatal chart	21 (60.0)
Delivery care record	n=24
Drug-related concern in delivery record (n=24)	18 (75.0)
No. of infants	31
Department of Child and Family Services involvement	7 (22.5)





FOURTH TRIMESTER

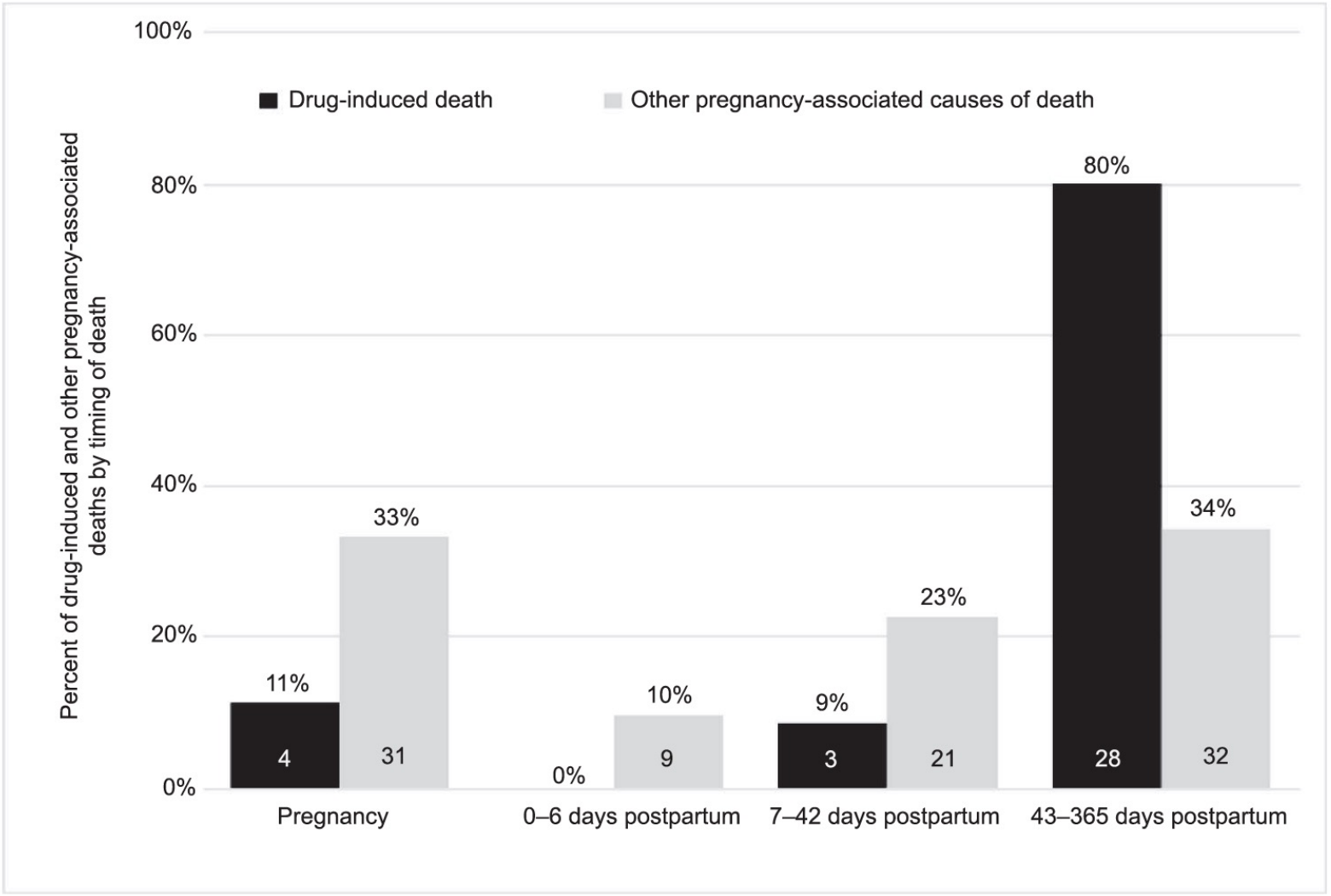


Fig. 1. Proportion of pregnancy-associated, drug-induced deaths vs all pregnancy-associated deaths 2005–2014 (N=136).
Smid. Pregnancy-Associated Drug-Induced Deaths in Utah. Obstet Gynecol 2019.

RETURN TO USE

- **Provider level**
  - Lack of understanding of addiction care basic
  - Discomfort in caring for pregnant and lactating individuals
- **Facilities**
  - Paucity of treatment centers for pregnant and parenting individuals
- **Systems**
  - Loss of insurance post partum

RETURN TO USE

- **Trauma informed understanding**
  - 55% history childhood abuse or neglect (65% ACE ≥ 4)
- **Intimate partner violence**
- **High rates of co-occurring mental health disorders (44%)**
  - Depression (36%)
  - Anxiety (11%)
  - PTSD (14%)
  - Eating Disorders/Bipolar disorder /Personality disorder

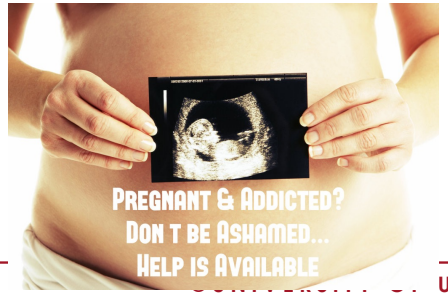
Pallatino, C., Chang, J. C., & Krans, E. E. (2019). The intersection of intimate partner violence and substance use among women with opioid use disorder. *Substance abuse*, 1-8.

Preis, H., Garry, D. J., Herrera, K., Garretto, D. J., & Lobel, M. (2020). Improving assessment, treatment, and understanding of pregnant women with opioid use disorder: The importance of life context. *Women's Reproductive Health*, *7*(3), 153-163.

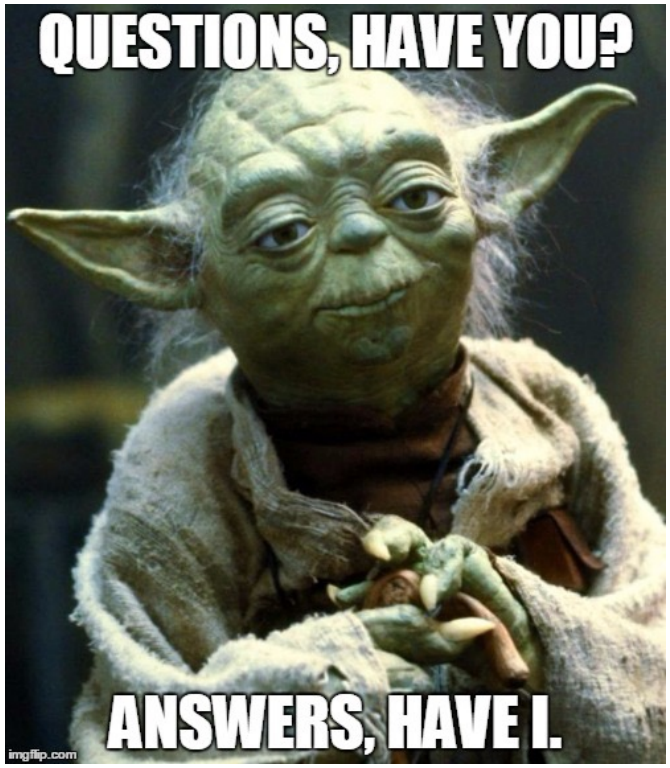
Gannon, M., Short, V., LaNoue, M., & Abatemarco, D. (2020). Prevalence of adverse childhood experiences of parenting women in drug treatment for opioid use disorder. *Community Mental Health Journal*, 1-8.

SUMMING IT UP

- Substance use disorder is a **chronic treatable medical condition of the brain**.
- SUD treatment is available
- Addiction hijacks the brain. Pregnancy can hijack it back. **Addiction *may* hijack the brain back in the postpartum period,** the most critical time for maternal relapse.
- Stigma and discrimination are woven into many facets of care of women with SUD and may contribute to return to use.



QUESTIONS



Well I might just have opinions…lots of opinions.

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