Special Pediatric Grand Rounds

Anne Johnston MD Memorial Lectureship

Moving Forward Together: Creating a Culture of Collaboration and Inclusion

Presented by: The Improving Care for Opioid-Exposed Newborns (ICON) project at the Vermont Child Health Improvement Program and the KidSafe Collaborative

Featuring: Hendrée Jones, PhD
September 23rd, 2020

Title of Program: Pediatric Grand Rounds **Special Session: Anne Johnston Memorial Lectureship**

Title of Talk: Collaboration and Inclusion in Substance Use Disorder Care: Supporting the Mother-Child Dyad

Speaker/Moderator: Hendree Jones, PhD.

Planning Committee Members: Jill Rinehart, MD, Amelia Hopkins, MD, Nicholas Bonenfant, MD

Date: 9/23/20

Workshop #: 21-125-14

<u>DISCLOSURE:</u>

Is there anything to disclose? No

Please list the Potential conflict of Interest (if applicable): _

All Potential Conflict of Interest have been resolved prior to the start of this program: Yes

(If no, credit will not be awarded for this activity.) There is No Commercial Support for this Activity.

****Please note- CME credit must be claimed in HighMarks within 30 days of this presentation.****
https://www.highmarksce.com/uvmmed/

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Disclosures

There are no relevant financial relationships to disclose or conflicts of interest to resolve

Remembering Dr. Anne Johnston and Honoring Her Legacy

"Behind every case of (Neonatal Abstinence Syndrome) is a mother, father, family"

"Health of Baby depends on the mother's health, the family's health!"

"We would like to thank the infants and families we have had the pleasure of caring for – we continue to learn from them daily"

- ✓ Establish a connection
- ✓ Alleviate fear
- ✓ Educate
- ✓ Respect

VERMONT DEPARTMENT OF HEALTH

VCHIP Vermont Child Health Improvement Program UNIVERSITY OF VERMONT LARNER COLLEGE OF MEDICINE

KidSafe Collaborative

THE University of Vermont Children's Hospital

What is ICON?

Improving Care for Opioid-Exposed Newborns

- Vermont Child Health Improvement Program (VCHIP) quality improvement project.
- A collaborative team focused on improving the care of opioid-dependent women during pregnancy and opioid-exposed newborns after birth.
  - Vermont Dept of Health, Dept for Children and Families, UVM Children's Hospital, community birth hospitals and partner organizations
- Our focus: to improve the quality of care for opioid-dependent pregnant and parenting women and opioid-exposed newborns in Vermont.

VERMONT
DEPARTMENT OF HEALTH

VCHIP
Vermont Child Health Improvement Program
UNIVERSITY OF VERMONT LARNER COLLEGE OF MEDICINE

THE
University of Vermont
Children's Hospital

ICON Initiatives

- Provide education and support implementation of current guidelines and best practice recommendations
- Provide technical assistance to Vermont hospitals including:
  - Eat, Sleep, Console Care Tool training, implementation, and troubleshooting
  - Vermont Plan of Safe Care education and workflow development
- Assess regional resources and identify gaps in resources.
- Collect hospital data for quality improvement initiatives.

Collaboration and Inclusion in Substance Use Disorder Care: Supporting the Mother-Child Dyad

HENDRÉE E. JONES, PHD

Executive Director, UNC Horizons

Professor, Department of Obstetrics and Gynecology

School of Medicine

University of North Carolina at Chapel Hill

ICON annual conference
Anne Johnston, MD Memorial Lecture
Virtual
September 23, 2020

people
Vermont
complex uplift
infant
nas pregnant caring dyad
program withdrawal
forward
Johnston opioid
with you
fierce
University syndrome
focusing opioids
Anne
methadone treatment
better life
passionate incidence
advocate
experts advocate
Shame
substance use reason neonatal rise
compassionate
vision
caring
getting
helpful
addiction abstinence
babies treat caring
family
affects
expert
case
baby women appreciate help
ability
nonjudgmental recognize
mothers
dependent life pediatrics
critical professor
empathy buprenorphine mother
associate
empower
mother

I have nothing to disclose

However, I am a Canadian, eh?

Anne Johnston, M.D., associate professor of pediatrics and neonatologist at the UVM Medical Center (Photo: LCOM Design & Photography)

"Shame is another reason pregnant women shy away from getting help."

"It affects their ability to come forward for treatment," said Dr. Anne Johnston, an associate professor of pediatrics at the University of Vermont, whose program aims to be nonjudgmental in order to "bring people out of the woodwork."

FDA Context

- Pregnant women with opioid use disorders (OUDs) can be effectively treated with methadone or buprenorphine. However, labeling states it should be used only if the potential benefit justifies the potential risk to the fetus

- Pregnant women with opioid use disorders can be effectively treated with methadone or buprenorphine. Both these medications should not be considered “off-label” use in the treatment of pregnant patients with opioid use disorder (Jones et al., *Am J Obstet Gynecol,* 2014).

Objectives

- Identify at least three historical and current factors that help explain the current opioid epidemic for women
- Identify at least three SAMHSA recommendations to care for pregnant women and their children touched by opioid use disorder
- Identify at least three factors that drive Neonatal Abstinence Syndrome outcomes
- Identify at least ways that all providers can facilitate collaboration and inclusion to promote positive mother and child outcomes

Historical Context: Opioid Use and Women

Main Eras of Opioid Use in the USA

1800s: 66–75% of people using opioids were women

1940-50s: New York saw large increase in teenage opioid use

1969-70's: Opioid use by Vietnam veterans

1996-now: Pain as the 5th vital sign and pain medication access and rise in illicit fentanyl

Courtwright D. *J Southern History* 1983; Kandall S *Substance and shadow*, 1996.
Earle, *Medical Standards*, 1888 http://usslave.blogspot.com.br/2012/02/opiate-addiction-and-cocaine-use-in.html; https://pixabay.com/en/vintage-retro-ladies-photo-paper-1303815/
The Incidental Economist 2014 https://pointsadhsblog.files.wordpress.com/2012/03/08-0620hair20salon20loc20nywt20226b.jpg

Historical Context: Opioid Use, Women and Babies

- 1875 to 1900 multiple reports of congenital morphinism – most died, no specific treatment offered
- 1903 report about congenital morphinism –treated infant with morphine
- 1964 Methadone introduced
- 2002 Buprenorphine

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

FETAL MORPHIN ADDICTION.

COLORADO, April 10, 1903.

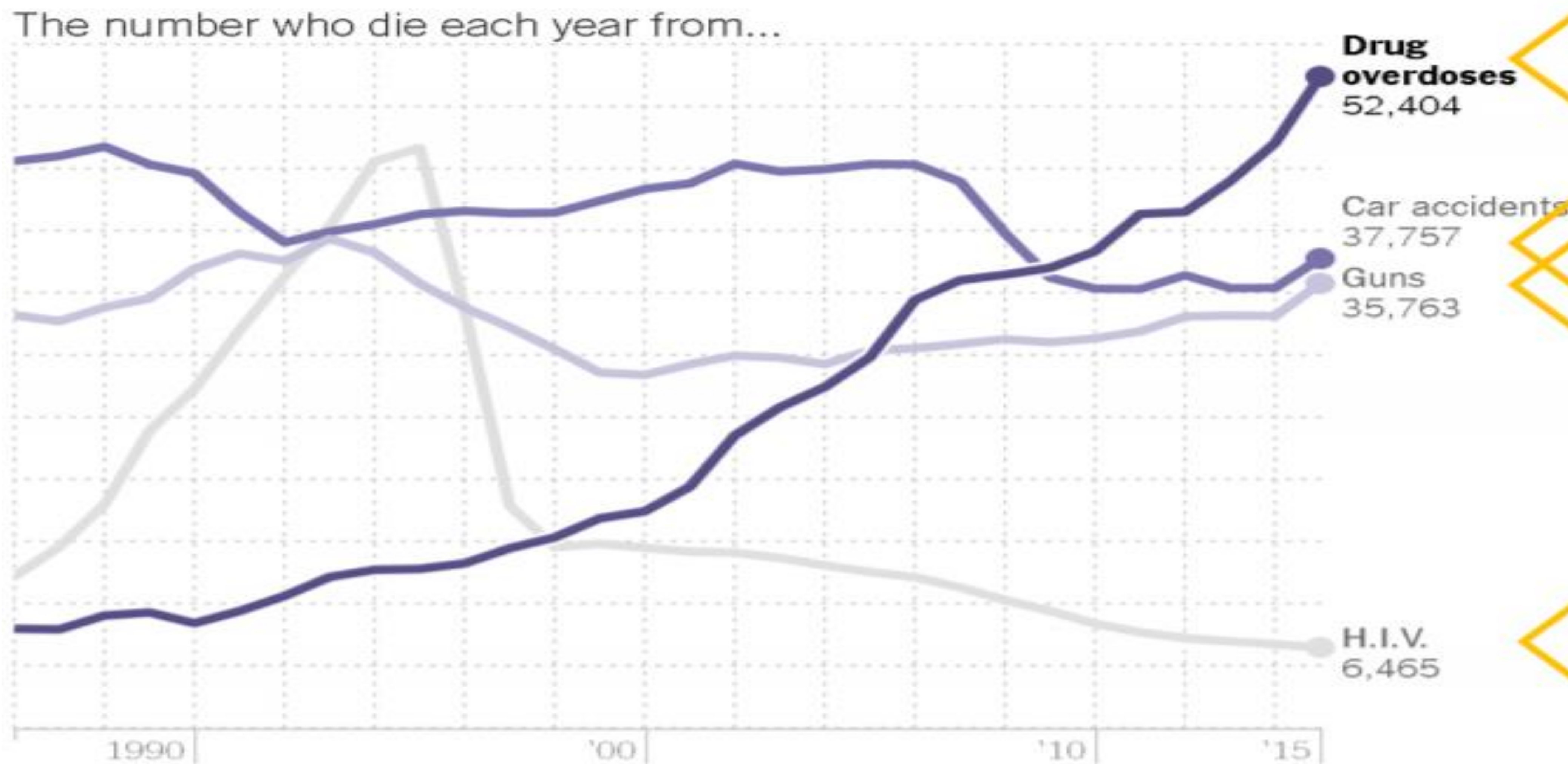
To the Editor:—Concerning a very peculiar case in my regular work I wish a little information: April 3 I delivered a multipara of a nine pound boy. The mother had been addicted to the use of morphin for the past three years. The child appeared to be healthy and perfect in every respect with excretions normal. On the second day it began to cry, and cried continuously for two days and nights despite the free use of paregoric. At the end of that time the baby had become so weak that I saw no hope for it, but gave 1/120 gr. of morphin and got an immediate quieting effect. The baby is now eight days old and by the use of 1/120 gr. of morphin every other day it has begun to gain weight and strength, but if one dose of morphin is omitted it is immediately attacked with a crying spell and will not stop until it gets its morphin.

Now I would like to know if it is possible for a fetus to contract the morphin habit, and if there is any other similar case on record.

JAMA, 1903

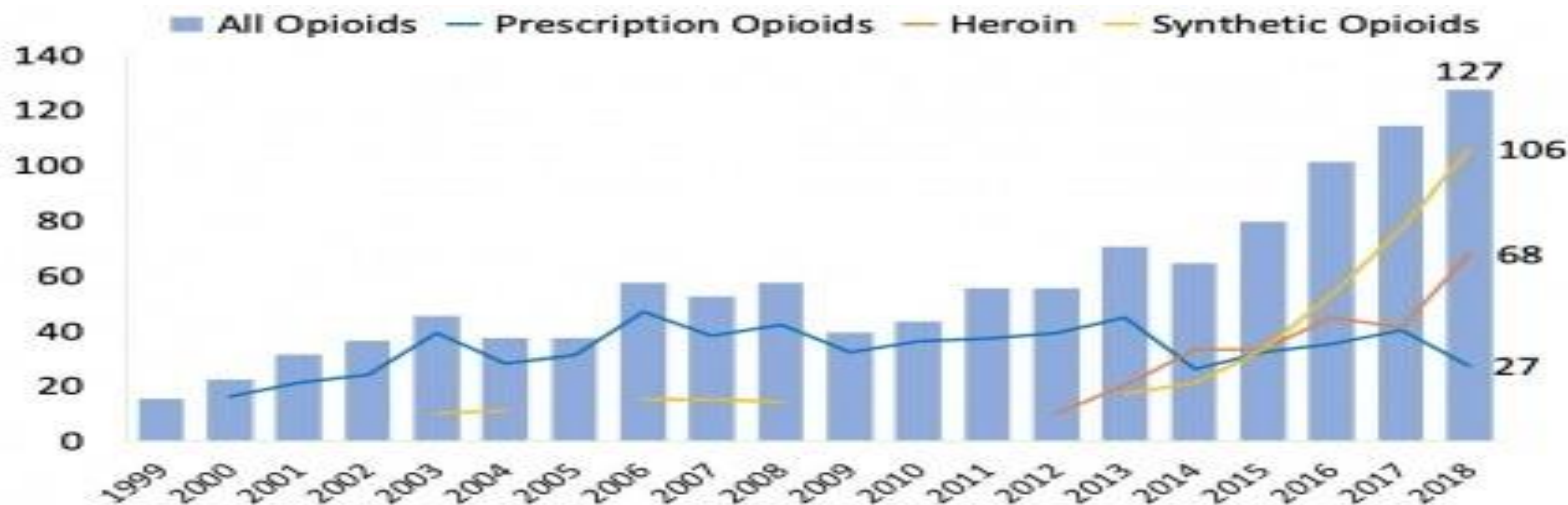
Musee d'Albert Kahn, Leon Busy, 1915

Recent History: Drug Overdoses in the USA



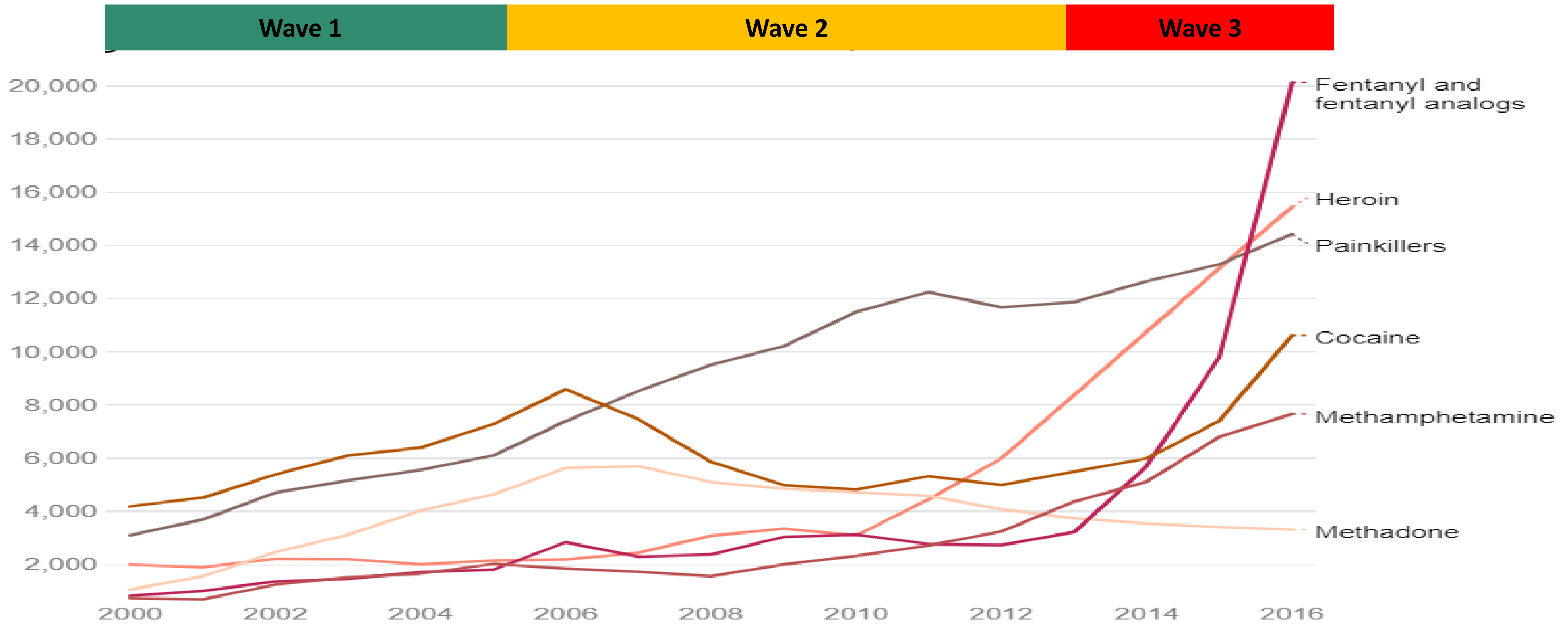
CDC *Morbidity and Mortality Weekly Report* (*MMWR*) 1/1/16

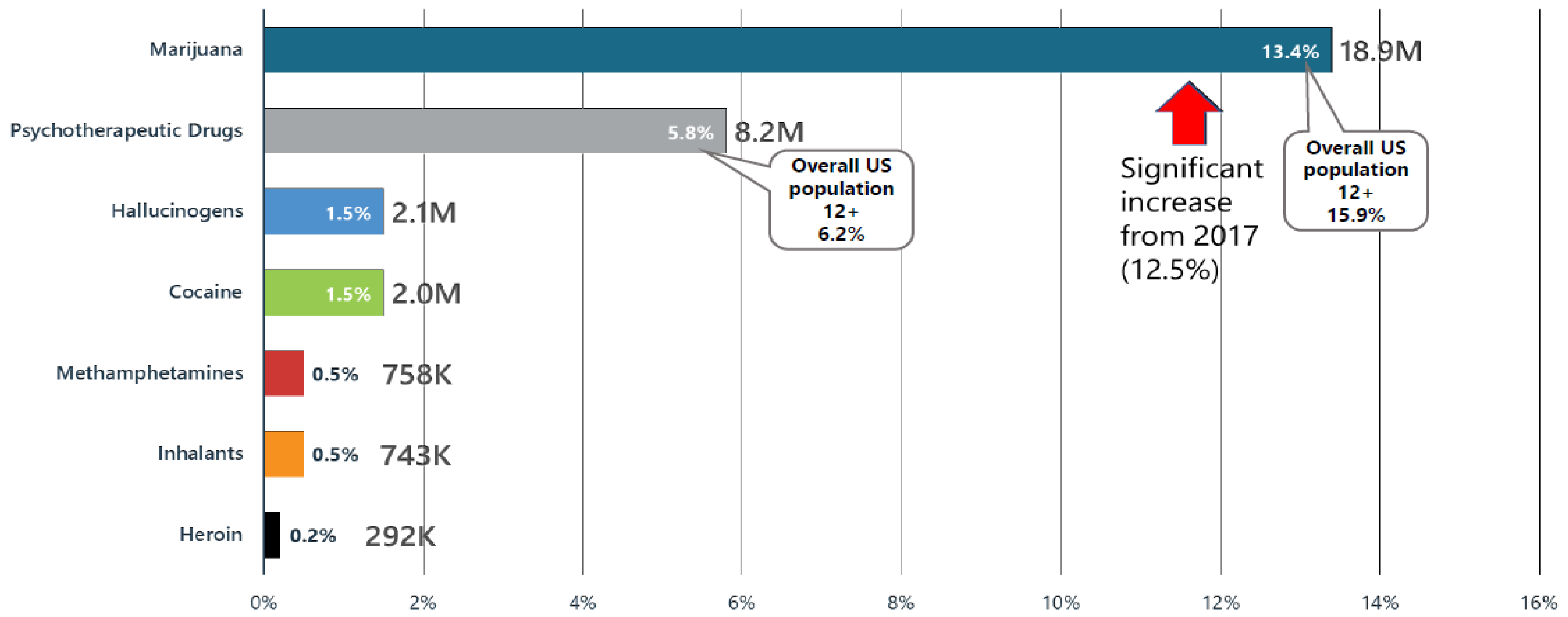
Current Scope of the Problem: Opioid Crisis Deaths in Vermont



Number of overdose deaths involving opioids in Vermont, by opioid category. Drug categories presented are not mutually exclusive, and deaths may have involved more than one substance. Source: CDC WONDER, 2020.

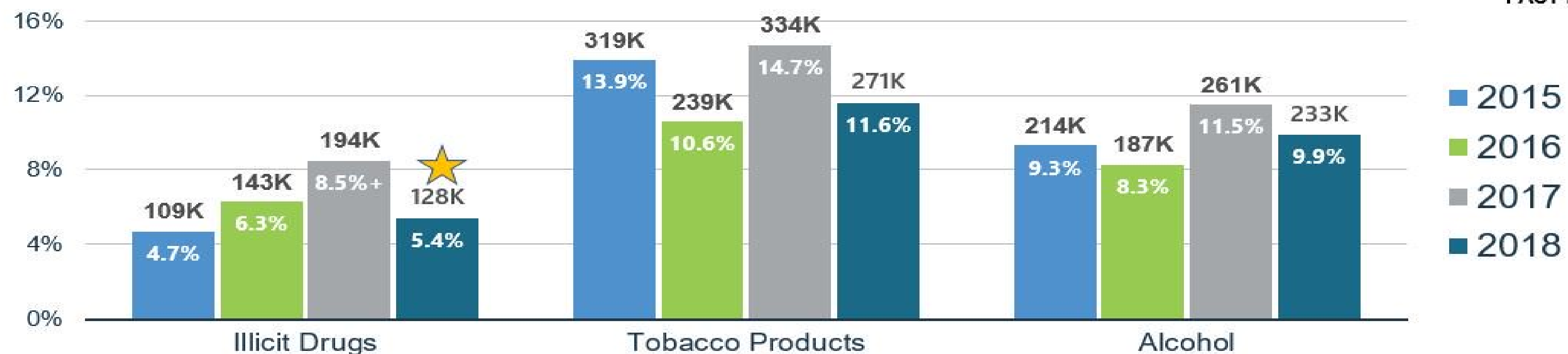
The Triple Wave of Overdose Deaths

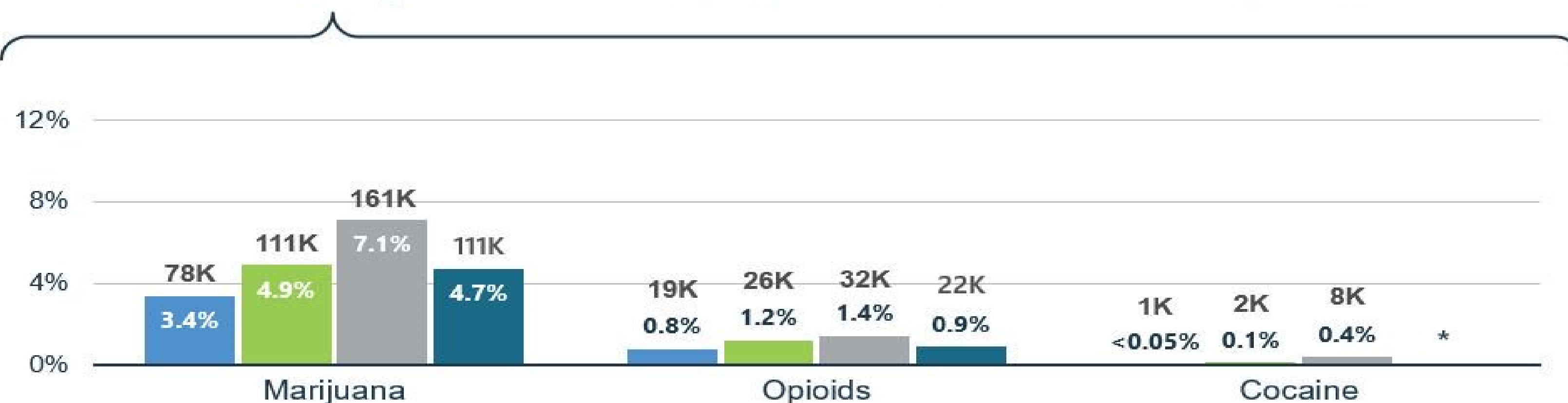



Illicit Drug Use among Women: Marijuana Most Used Drug
Marijuana
Psychotherapeutic Drugs
Hallucinogens
Cocaine
Methamphetamines
Inhalants
Heroin
13.4%
18.9M
5.8%
8.2M
1.5%
2.1M
1.5%
2.0M
0.5%
758K
0.5%
743K
0.2%
292K
Overall US population 12+ 6.2%
Significant increase from 2017 (12.5%)
Overall US population 12+ 15.9%
0%
2%
4%
6%
8%
10%
12%
14%
16%
PAST YEAR, 2018 NSDUH, Women 12+
SAMHSA
Substance Abuse and Mental Health Services Administration

Past Month Substance Use among Pregnant Women

PAST MONTH, 2015-2018 NSDUH, 15-44





* Estimate not shown due to low precision.

+ Difference between this estimate and the 2018 estimate is statistically significant at the .05 level.

SAMHSA
Substance Abuse and Mental Health Services Administration

Defining Neonatal Abstinence Syndrome (NAS)

Results when a pregnant woman regularly uses opioids (e.g., heroin, oxycodone) during pregnancy

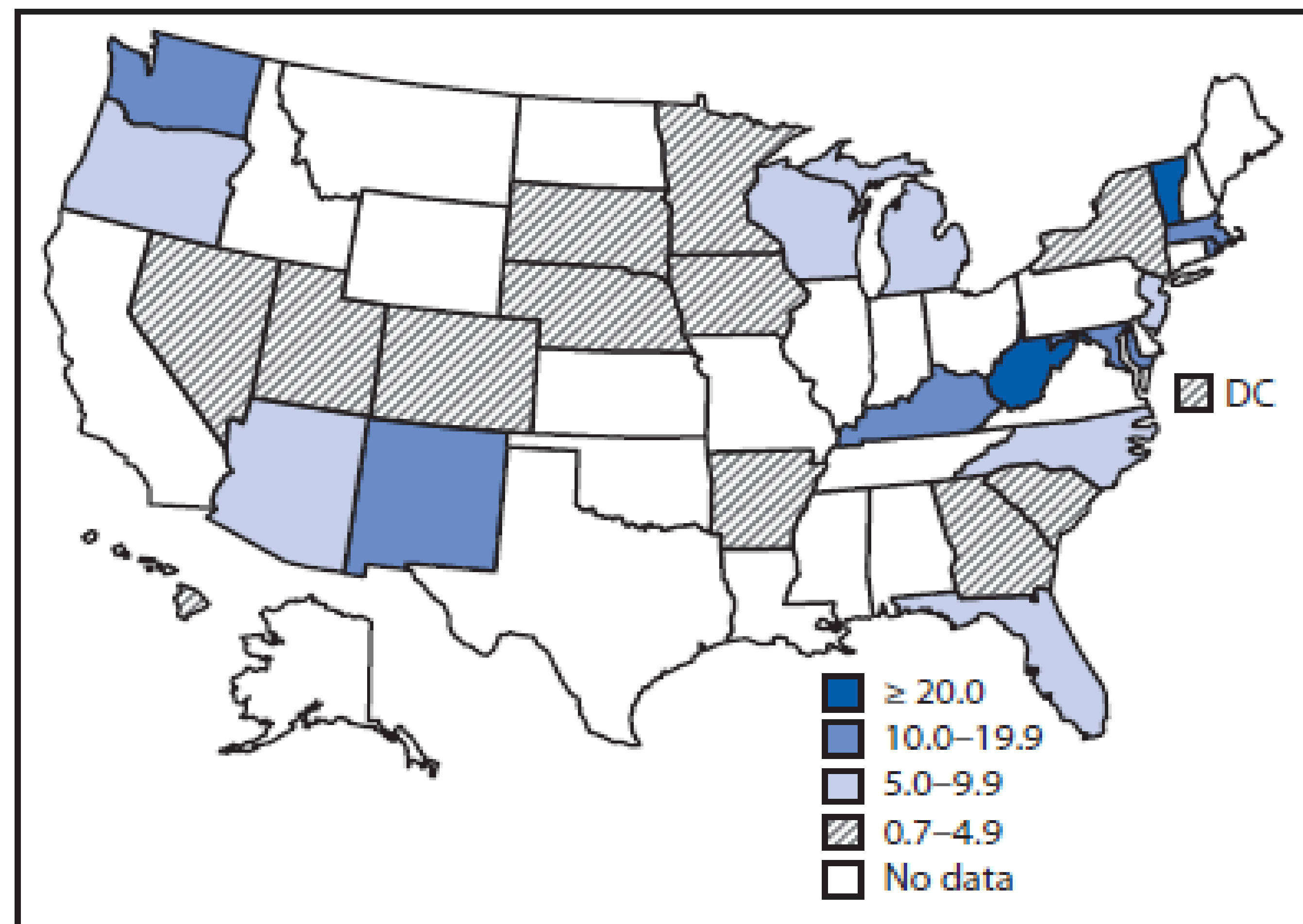
NAS defined by alterations in the:

- ***Central nervous system***
  - **high-pitched crying, irritability**
  - **exaggerated reflexes, tremors and tight muscles**
  - **sleep disturbances**
- ***Autonomic nervous system***
  - **sweating, fever, yawning, and sneezing**
- ***Gastrointestinal distress***
  - **poor feeding, vomiting and loose stools**
- ***Signs of respiratory distress***
  - **nasal congestion and rapid breathing**

- **NAS is *not* Fetal Alcohol Syndrome (FAS) only FAS has confirmed long term physical, cognitive and behavioral effects**
- **NAS is treatable**
- **NAS is not addiction in the baby**
- **NAS and its treatment are not known to have long-term effects; interactions between the caregiver and child can impact resiliency/risk with potential long-term effects in some cases.**

Finnegan et al., *Addict Dis,* 1975; Desmond & Wilson, *Addict Dis,* 1975; Jones & Fielder, *Preventive Medicine,* 2015.

FIGURE 2. Prevalence of opioid use disorder per 1,000 delivery hospitalizations* — State Inpatient Database, Healthcare Cost and Utilization Project, 28 states, 2013–2014†



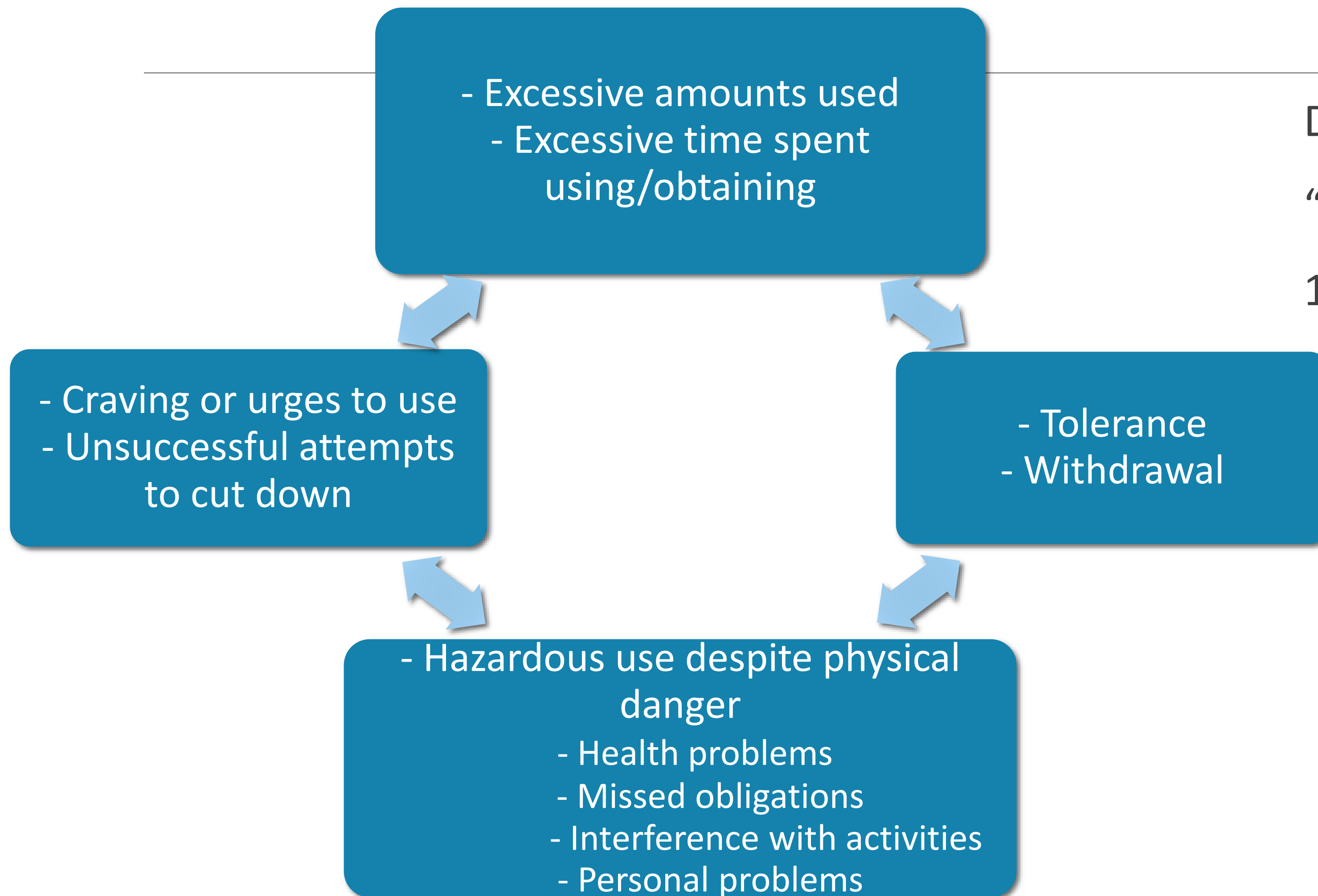
Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 67 / No. 31
August 10, 2018

Opioid Use Disorder Documented at Delivery Hospitalization — United States, 1999–2014

Sarah C. Haight, MPH[1,2]; Jean Y. Ko, PhD[1,3]; Van T. Tong, MPH[1]; Michele K. Bohm, MPH[4]; William M. Callaghan, MD[1]

How Do You Define Addiction?

11 Signs of Substance Use Disorders



DSM-5 released May 2013

“Substance Use Disorder” terminology

11 diagnostic criteria over a 12-month period:

- Mild: 2-3 symptoms
- Moderate: 4-5 symptoms
- Severe: 6 or more symptoms

Why Addiction Matters

Dopamine

nanograms/deciliter	
40	Worst Day
50	Average Day
100	Great Day!
500- 1,100	Drugs

Dopamine Matters!

Repeated Drug Use
nanograms/deciliter for drugs

500- 1,100

600

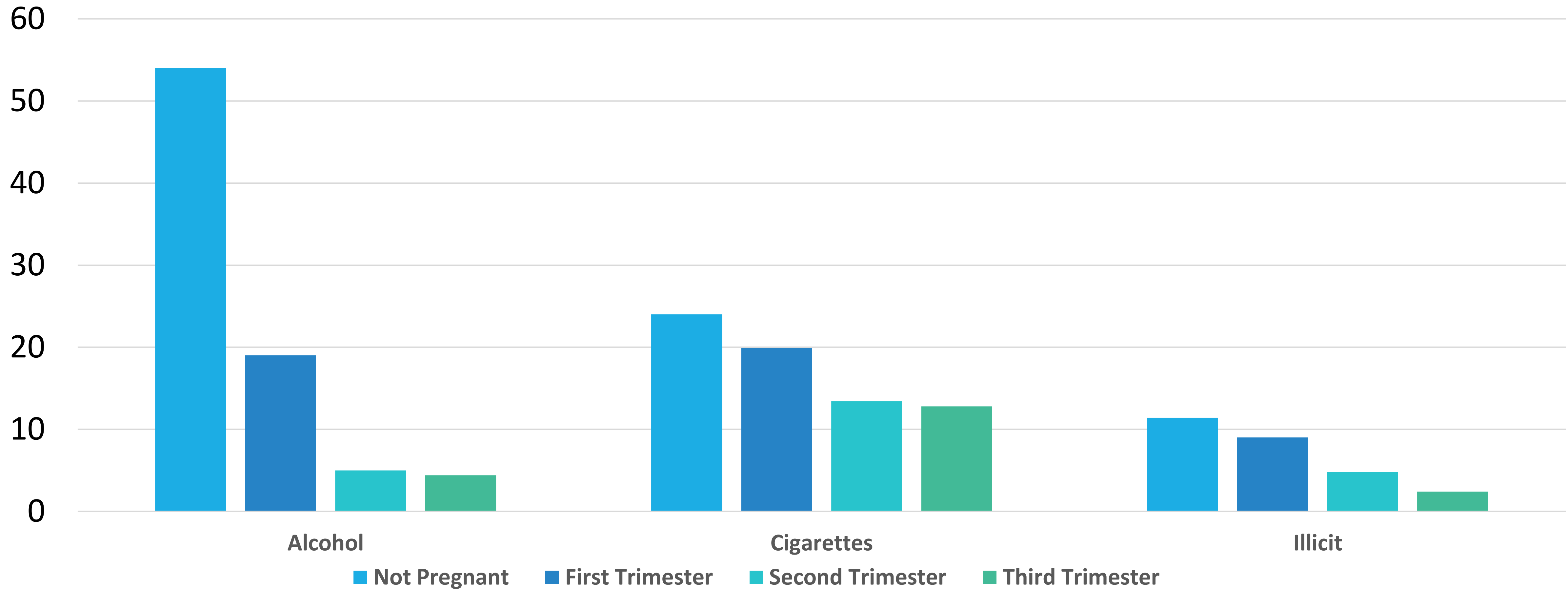
500

400

50

10 nanograms/deciliter every day

What Happens When Women Who Use Drugs Get Pregnant?



All Pregnant Women are Motivated to Maximize Their Health and That of Their Developing Baby

Those who can't quit or cut back – likely have a substance use disorder

Continued use in pregnancy is pathognomonic for addiction

Substance use disorder: A Brain-Centered Condition Whose Symptoms are Behaviors

Salient Feature: Continued use in spite of adverse consequences

Pregnancy: A Unique Treatment Opportunity

- **Women with substance use often FEAR healthcare**
- **Prenatal care improves birth outcomes even if substance use continues**
- **Untreated substance use disorders among either parent may lead to a dysfunctional home environment and may create detrimental effects on children's psychological growth and development**
- **Maternal well-being has been recognized as a key determinant of the health of the next generation**

Hser, Kagihara, Huang, Evans, & Messina, 2012; Funai et al., 2003 Staton et al., 2003 and Wagner et al., 1998; El-Mohandes et al., 2003; Roberts and Pies, 2011 and Schempf and Strobino, 2009; Chatterji and Markowitz, 2001, Clark et al., 2004, Conners et al., 2004 Hanson et al., 2006 and Linares et al., 2006

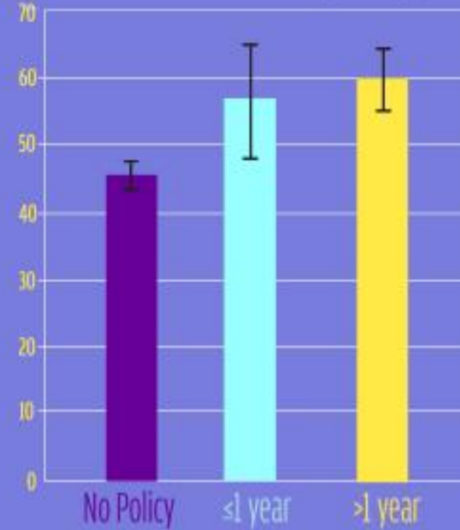
Possible Punitive Implications

- No evidence supporting punitive responses decrease drug use in pregnancy
- Unnecessary stressful child welfare involvement
- Loss of parental rights
- Disruption of critical parent/infant bonding
- Deters pregnant people from seeking healthcare and social support
- Long-term consequences of being convicted of a drug-related crime

Examining 4.6 million births in 8 states between 2003 and 2014, our research found that:

> More infants are born experiencing drug withdrawal in states with **policies that punish pregnant women for substance use:**

Annual Rates of NAS* per 10,000 Births



46 in states with **NO punitive policies**

57 in states with **policies in effect for ≤ 1 year**

60 in states with **policies in effect for >1 year**

> Punitive policies aren't beneficial for women or infants:

Punishing pregnant women for substance use **discourages them** from seeking **prenatal care** and **substance use treatment**

Policymakers should focus on public health approaches that ***bolster prevention & expand access to substance use treatment*** among pregnant women.

*Neonatal Abstinence Syndrome (NAS) is a withdrawal syndrome experienced by some opioid-exposed infants after birth

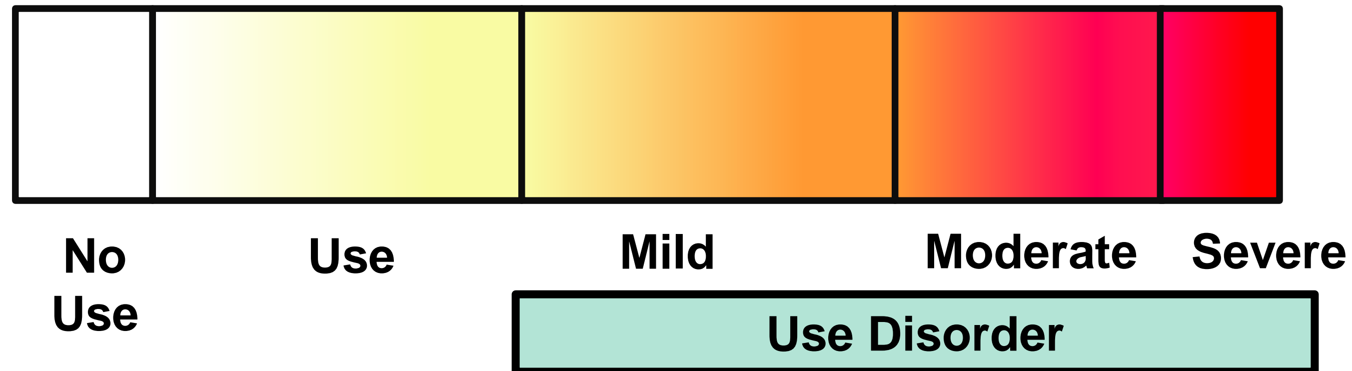
VANDERBILT Center for Child Health Policy

RAND

Faherty, LJ; Kranz, AM; Russell-Fritch, J; Patrick, SW; Cantor, J; Stein, BD. Association of Punitive Reporting State Policies Related to Substance Use in Pregnancy with Rates of Neonatal Abstinence Syndrome. JAMA Network Open, 2019; 2(10): e1914078.

Patrick, S. W., & Schiff, D. M. 2017 *Pediatrics*, 139(3)

Treatment Response Needs to Match the Severity of the Problems



American Society of Addiction Medicine Placement Criteria

LEVEL 0.5	**Early Intervention**
LEVEL I	**Outpatient Treatment**
LEVEL II	**Intensive Outpatient/ Partial Hospitalization**
LEVEL III	**Residential/ Inpatient Treatment**
LEVEL IV	**Medically Managed Intensive Hospital/ Inpatient Treatment**

Treatment Access and Effectiveness

Capacity is inadequate

- Only 15% of treatment centers offer specified services
- Access is limited
- For those in poverty, rural areas, uninsured, or insured through Medicaid

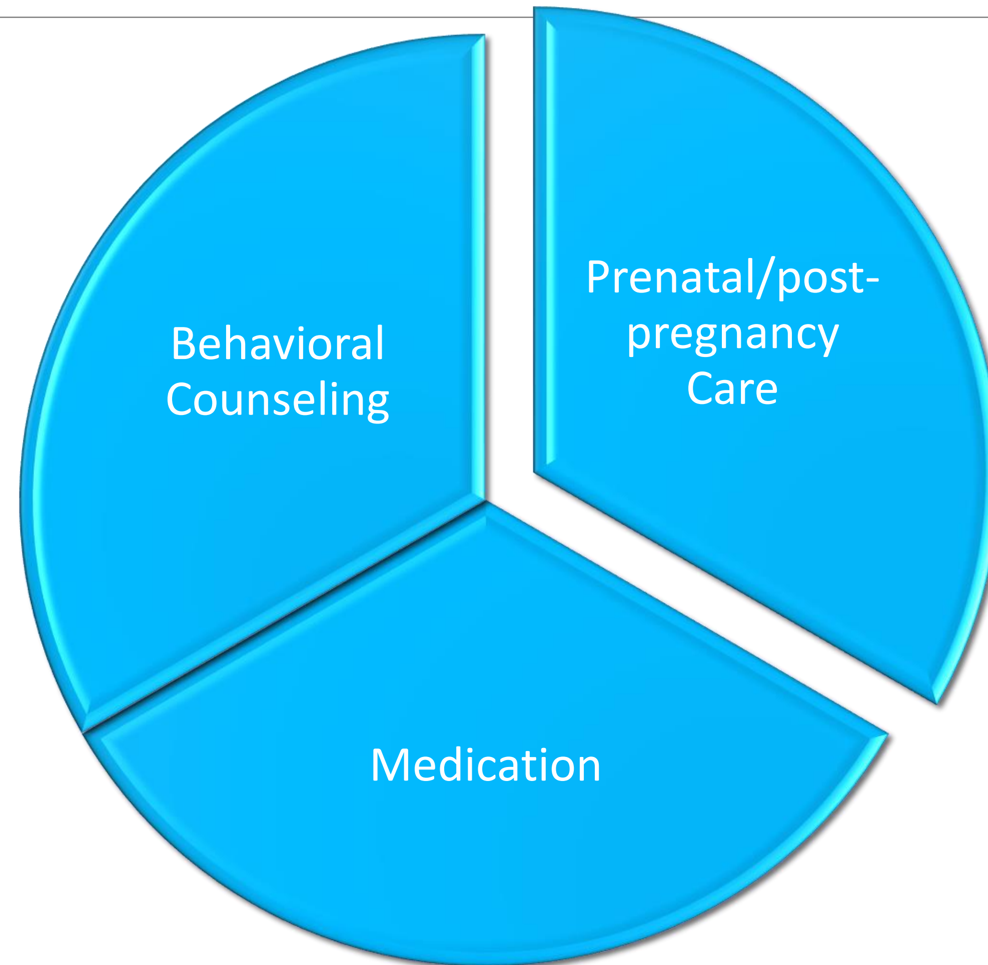
Quality of treatment ranges dramatically

Barriers in treatment for opioid use disorder

Engagement in prenatal care is effective regardless of continued drug use

Patrick, S. W., & Schiff, D. M. 2017. *Pediatrics,* 139(3)

During Pregnancy and After: Treatment Principle = Integration



Ways Providers can Facilitate Collaboration and Inclusion to Promote Mother and Child Outcomes

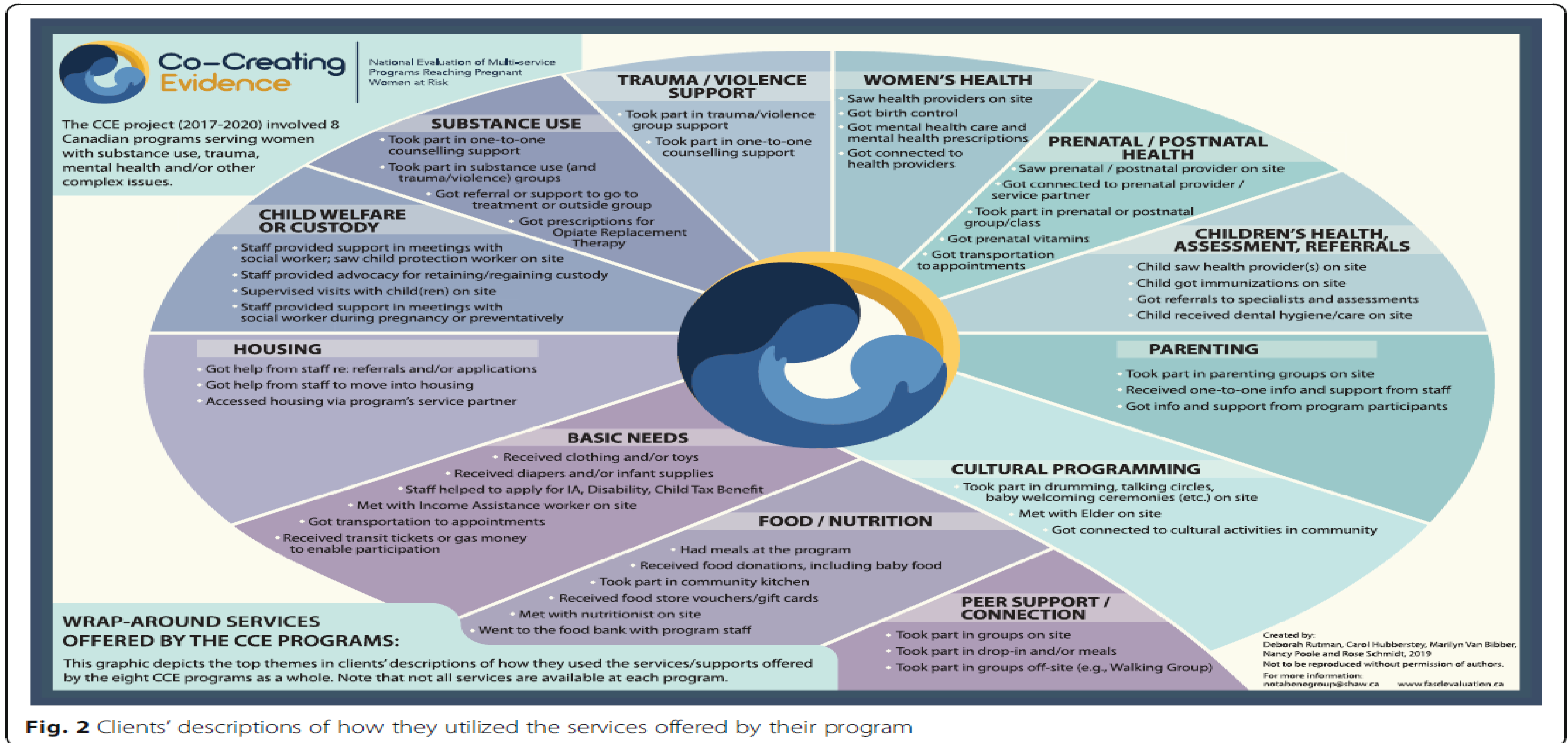
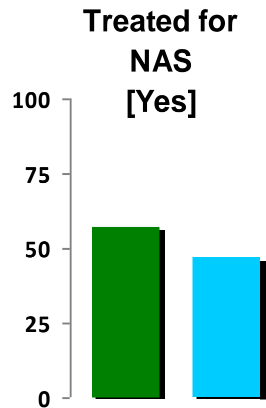
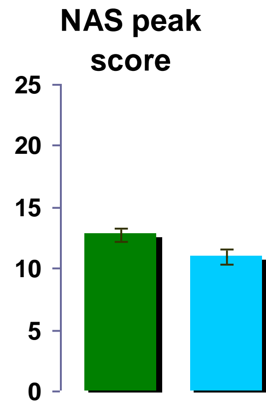
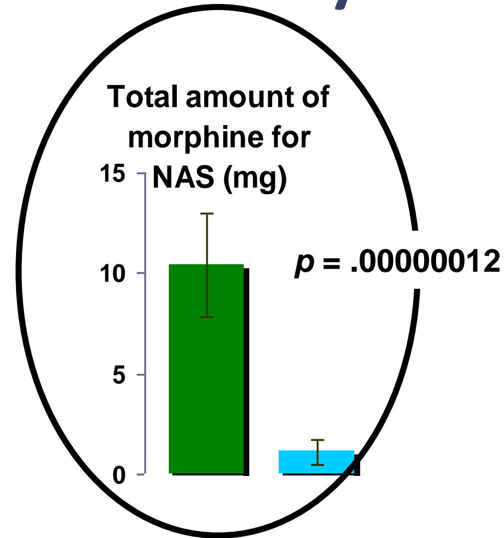


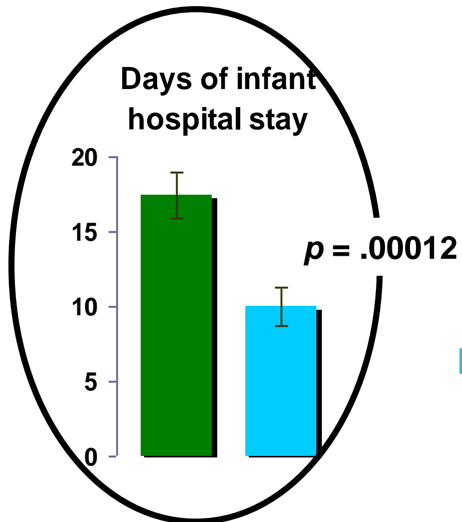
Fig. 2 Clients' descriptions of how they utilized the services offered by their program

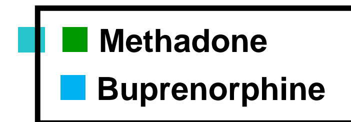
MOTHER Study: Primary Outcomes

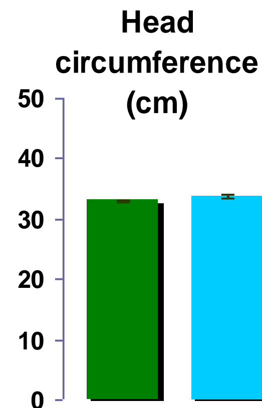












Compared with methadone-exposed neonates, buprenorphine-exposed neonates

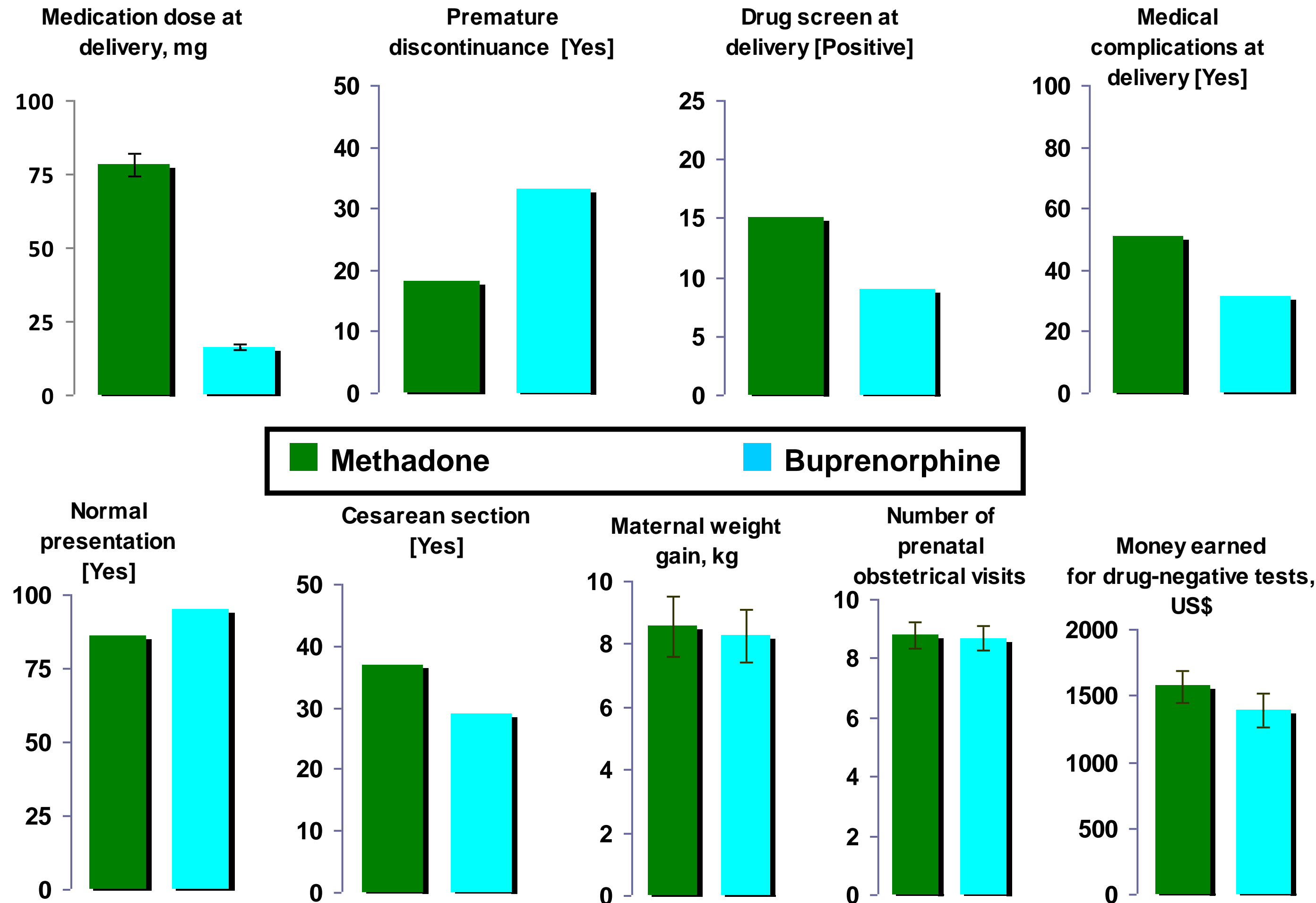
- Required 89% less morphine to treat NAS
- Spent 43% less time in the hospital
- Spent 58% less time in the hospital being medicated for NAS

Both medications in the context of comprehensive care produced similar maternal treatment and delivery outcomes

Notes: Significant results are encircled. Site was a blocking factor in all analyses. The O'Brien-Fleming α spending function resulted in α = .0091 for the inferential tests of the Medication Condition effect for the 5 primary outcome measures at the conclusion of the trial.

Jones et al., *N Engl J Med.* 2010.

MOTHER Study: Secondary Outcomes



- Clinically meaningful attrition rate in buprenorphine condition
- Low rates of illicit drug use during pregnancy and at delivery
- Maternal outcomes similar in the 2 study conditions

Jones et al., *N Engl J Med*, 2010.

Note: Bonferroni's principle was used to set familywise α = .003125 (nominal α = .05/16) for the secondary outcome measures.

MOTHER Study:
Secondary Analysis Studies

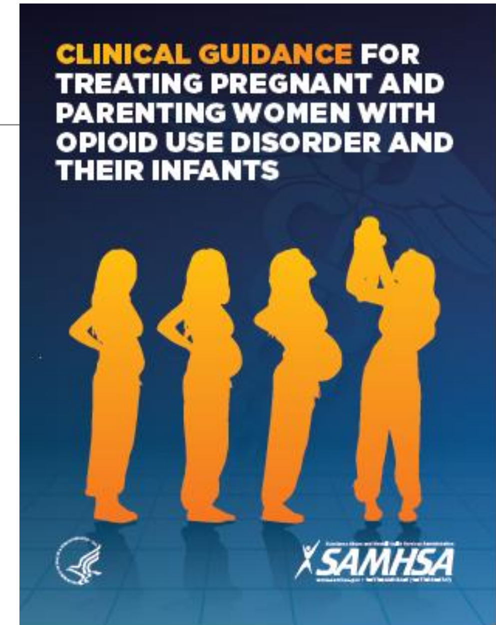
One of the goals of the MOTHER Study was to collect comprehensive data on maternal, fetal, and neonatal behavior that could be shared with the broader research community

This broad availability of the MOTHER data has allowed MOTHER Principal Investigators and other researchers to ask a variety of questions about maternal, fetal, and neonatal issues related to maternal buprenorphine and/or methadone treatment. An *Addiction* Supplement was published in 2012 reporting on these studies.

Examples:

- **The extent to which 32-week fetal movement and cardiac measures differ between methadone and buprenorphine before and after dosing**
- **Differences between buprenorphine- and methadone-maintained pregnant women in obstetrical and neonatal complications**
- **Liver enzymes and their relationship to buprenorphine and methadone treatment, as well as HCV status**
- **Differences in NAS signs between medications**
- **Predicting treatment for neonatal abstinence syndrome**
- **Neonatal neurobehavioral effects following buprenorphine *v*. methadone exposure**

SAMHSA Clinical Guide Recommendations



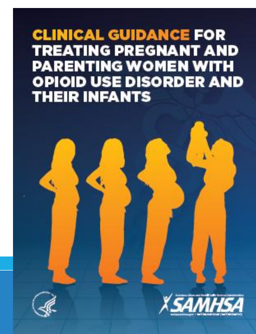
- Medication assisted withdrawal is not recommended during pregnancy
- Buprenorphine and methadone are the safest medications for managing OUD during pregnancy
- Transitioning from methadone to buprenorphine or from buprenorphine to methadone during pregnancy is not recommended
- Breastfeeding is recommended for women on buprenorphine and methadone
- Neonatal abstinence syndrome (NAS) should not be treated with dilute tincture of opium

The *Clinical Guide* consists of 16 factsheets that are organized into 3 sections: Prenatal Care (Factsheets #1–8); Infant Care (Factsheets #9–13); and Maternal Postnatal Care (Factsheets #14–16).

Methadone and Buprenorphine: Advantages

	Methadone	Buprenorphine
Advantages		
Reduces/eliminates cravings for opioid drugs	●	●
Prevents onset of withdrawal for 24 hours	●	●
Blocks the effects of other opioids	●	●
Promotes increased physical and emotional health	●	●
Higher treatment retention than other treatments	●	
Lower risk of overdose Fewer drug interactions Office-based treatment delivery Shorter NAS course		●

Approximately 6 out of every 1,000 women presenting for delivery in the United States are treated with one of these agents.



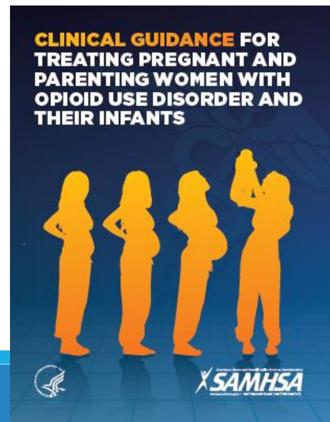
Methadone and Buprenorphine: Disadvantages

Methadone Disadvantages

- Achieving stable dose could take days to weeks
- Increased risk of overdose
- Usually requires daily visits to federally certified opioid treatment programs
- Longer neonatal abstinence syndrome (NAS) duration than other treatments

Buprenorphine Disadvantages

- Demonstrated clinical withdrawal symptoms
- Increased risk of diversion



World Health Organization, ACOG and ASAM: Medication Option Guidance

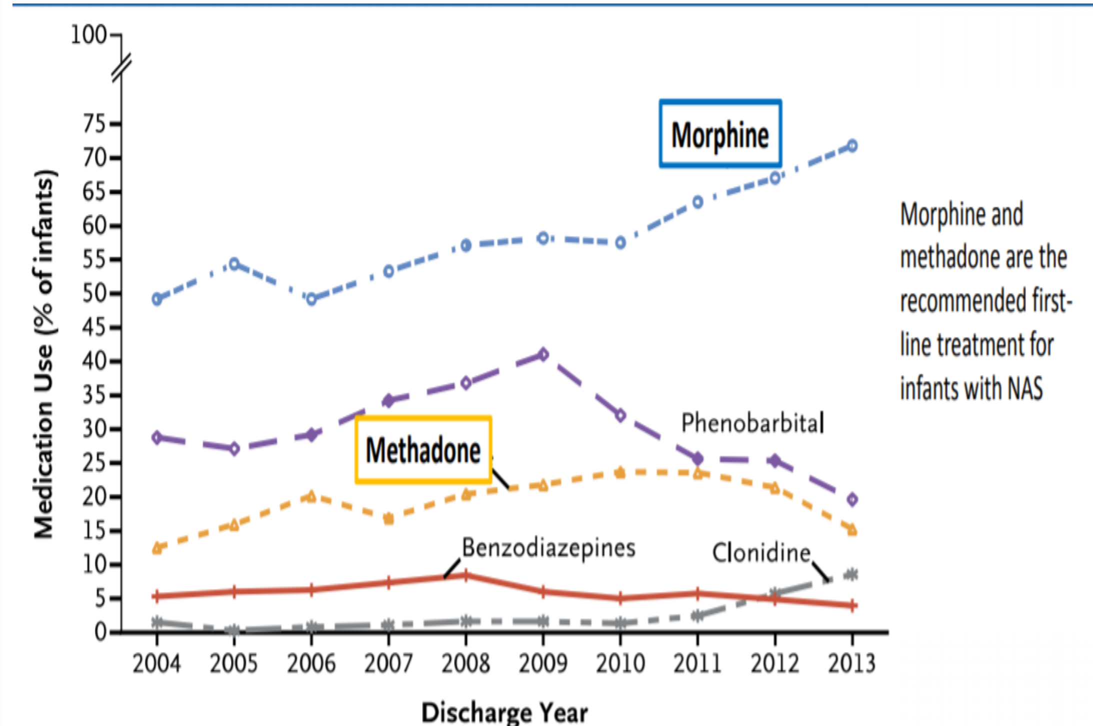
- Methadone
- Buprenorphine alone
- Buprenorphine + naloxone
- *Naltrexone*

Varying Backgrounds for NAS

NAS Factors

Other factors that contribute to NAS, need for medication, and length of stay in neonates exposed to opioid agonists in utero:

- Presence of a protocol
- NICU setting
- The NAS assessment choice
- NAS medication choice (methadone and buprenorphine gaining attention)
- Initiation and weaning protocols
- Breastfeeding
- Mother and baby together



Source: Kaltenbach et al., *Addiction*, 2012; Jansson and Velez, *Curr Opin Pediatrics*, 2012; Hall ES et al., *Pediatrics,* 2014; Patrick S et al., *Pediatrics*, 2016; Davis JM, et al. *JAMA Pediatr,* 2018; Kraft WK, et al. *N Engl J Med*, 2017

NAS Factors

Other factors that contribute to NAS need for medication and length of stay in neonates exposed to opioid agonists in utero:

Factors Providers Can't Control

- **Genetics**
- **Other Substances**
  - **Tobacco use**
  - **Benzodiazepines**
  - **SSRIs**
- **Birth weight**

Maternal methadone or buprenorphine dose is not consistently related to NAS severity

Kaltenbach et al., *Addiction*, 2012 Jansson and Velez, *Curr Opin Pediatrics*, 2012

Example of Anne’s Work- UVM Children’s Hospital Antenatal Visit With Neonatology

Schedule 1 – 2 visits with NeoMed Clinic staff

Written information (Care Notebook)

http://www.uvm.edu/medicine/vchip/?Page=ICONcarenotebook.html

Promote breastfeeding

UVM Children’s

Example of Anne’s Work- UVM Children’s Hospital NeoMed Experience

Alleviation of fear

- Care Notebook
- You are not alone…
- Ask them for their stories

Respect

- Introductions to others on the team
- “Tell me about yourself”
- “What are your dreams / goals”

Recognition of strengths

- Hearts

LANGUAGE MATTERS:

Using Affirmative Language to Inspire Hope and Advance Recovery

Stigmatizing Language	Preferred Language
abuser	a person with or suffering from, a substance use disorder
addict	person with a substance use disorder
addicted infant	infant with neonatal abstinence syndrome (NAS)
addicted to [alcohol/drug]	has a [alcohol/drug] use disorder
alcoholic	person with an alcohol use disorder
clean	abstinent
clean screen	substance-free
co-dependency	term has not shown scientific merit
crack babies	substance-exposed infant
dirty	actively using
dirty screen	testing positive for substance use
drug abuser	person who uses drugs
drug habit	regular substance use
experimental user	person who is new to drug use
lapse / relapse / slip	resumed/experienced a recurrence
medication-assisted treatment (MAT)	medications for addiction treatment (MAT)
opioid replacement	medications for addiction treatment (MAT)
opioid replacement therapy (ORT)	medications for addiction treatment (MAT)
pregnant opiate addict	pregnant woman with an opioid use disorder
prescription drug abuse	non-medical use of a psychoactive substance
recreational or casual user	person who uses drugs for nonmedical reasons
reformed addict or alcoholic	person in recovery
relapse	reoccurrence of substance use or symptoms
slip	resumed or experienced a reoccurrence
substance abuse	substance use disorder

No pattern of differences for infants treated for NAS v. infants who did not

The use of affirming language inspires hope and advances recovery.
LANGUAGE MATTERS.
Words have power.
PEOPLE FIRST.
The ATTC Network uses affirming language to promote the promises of recovery by advancing evidence-based and culturally informed practices.
ATTC Addiction Technology Transfer Center Network

Mid-America (HHS Region 7)
ATTC Addiction Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

The Most Respectful Way of Referring to People is as People

Current	Alternative	Reasoning
Clients / Patients / Consumers	The people in our program The folks we work with The people we serve	More inclusive, less stigmatizing
Alex is an addict	Alex is addicted to alcohol Alex is a person with a substance use disorder Alex is in recovery from drug addiction	Put the person first Avoid defining the person by their disease
The terms listed below, along with others, are often people's ineffective attempts to reclaim some shred of power while being treated in a system that often tries to control them. The person is trying to get their needs met, or has a perception different from the staff, or has an opinion of self not shared by others. And these efforts are not effectively bringing them to the result they want.		
Mathew is manipulative	Mathew is trying really hard to get his needs met Mathew may need to work on more effective ways of getting his needs met	Take the blame out of the statement Recognize that the person is trying to get a need met the best way they know how
Kyle is non-compliant	Kyle is choosing not to… Kyle would rather… Kyle is looking for other options	Describe what it looks like uniquely to that individual—that information is more useful than a generalization
Mary is resistant to treatment	Mary chooses not to… Mary prefers not to… Mary is unsure about…	Avoid defining the person by the behavior. Remove the blame from the statement
Jennifer is in denial	Jennifer is ambivalent about…… Jennifer hasn't internalized the seriousness of…. Jennifer doesn't understand…………	Remove the blame and the stigma from the statement

Southeast (HHS Region 4)
ATTC Addiction Technology Transfer Center Network

Phoenix Center
Prevent · Treat · Recover

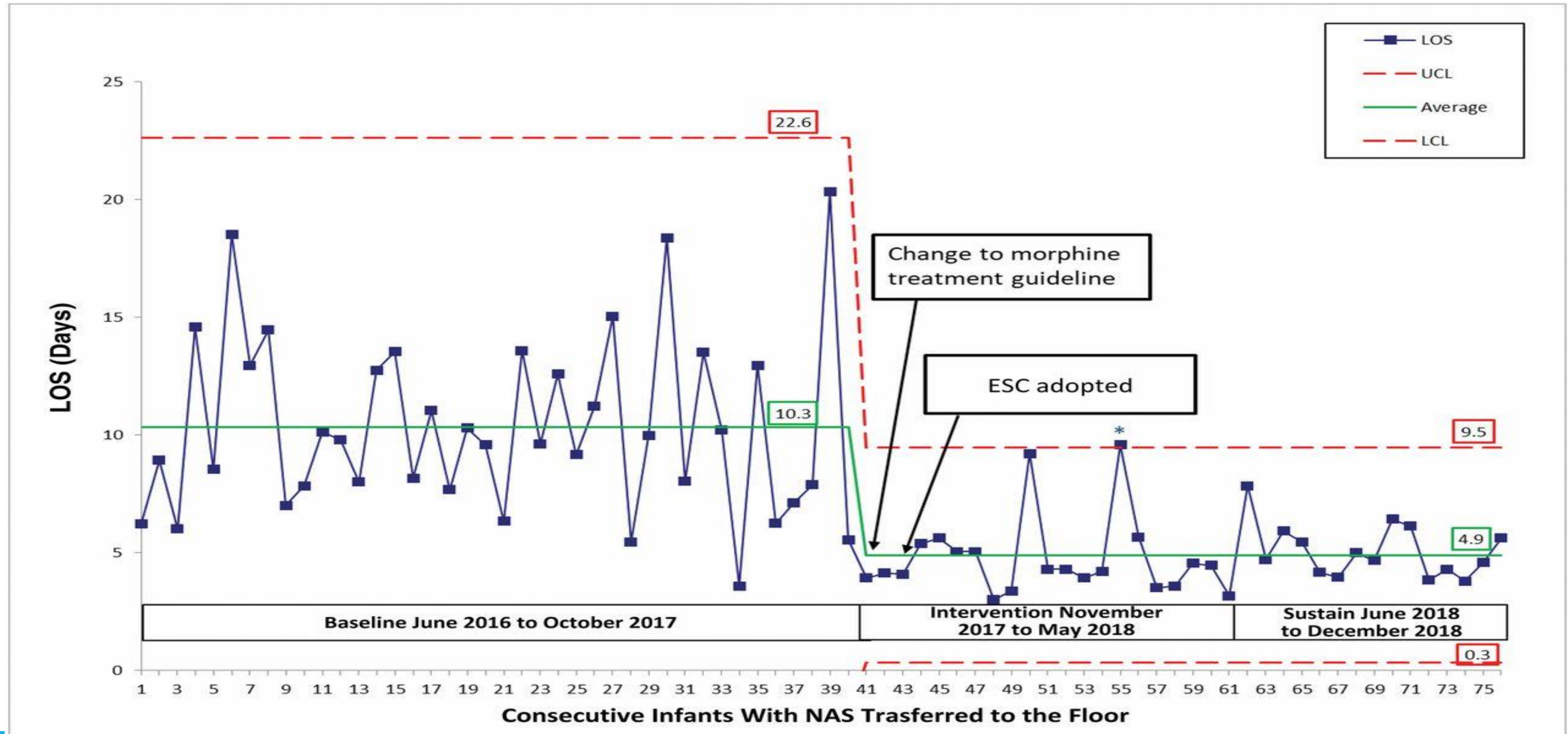
FAVOR SC
FACES AND VOICES OF RECOVERY

NAS Assessment and Treatment: New Assessment

- **N=50 consecutive opioid-exposed infants managed on the inpatient unit**
- **All infants had FNASS scores recorded every 2 to 6 hours but were managed by using the Eat, Sleep, Console (ESC) assessment approach.**
- **Breastfed or take >1 ounce from a bottle per feed, to sleep undisturbed for >1 hour, and consoled if crying within 10 minutes**
- **Actual treatment decisions made by using the ESC approach were compared with predicted treatment decisions based on recorded FNASS scores.**
- **ESC approach, 6 infants (12%) were treated with morphine compared with 31 infants (62%) predicted to be treated with morphine by using the FNASS approach ($P < .001$).**
- **There were no readmissions or adverse events reported.**

Grossman MR et al., *Hosp Pediatr.*2018 Jan;8(1):1-6.

Change in NAS Protocol Changes Length of Hospital Stay



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Complex Life Issues

Issues facing many women who have substance use disorders and their children

- **Generational substance use**
- **Gender inequality/male-focused society**

- **Legal involvement**
- **Multiple drug exposures**

- **Limited parenting skills and resources**

- **Lack of positive and supportive relationships**

The 4th Trimester - Postpartum

Critical Period

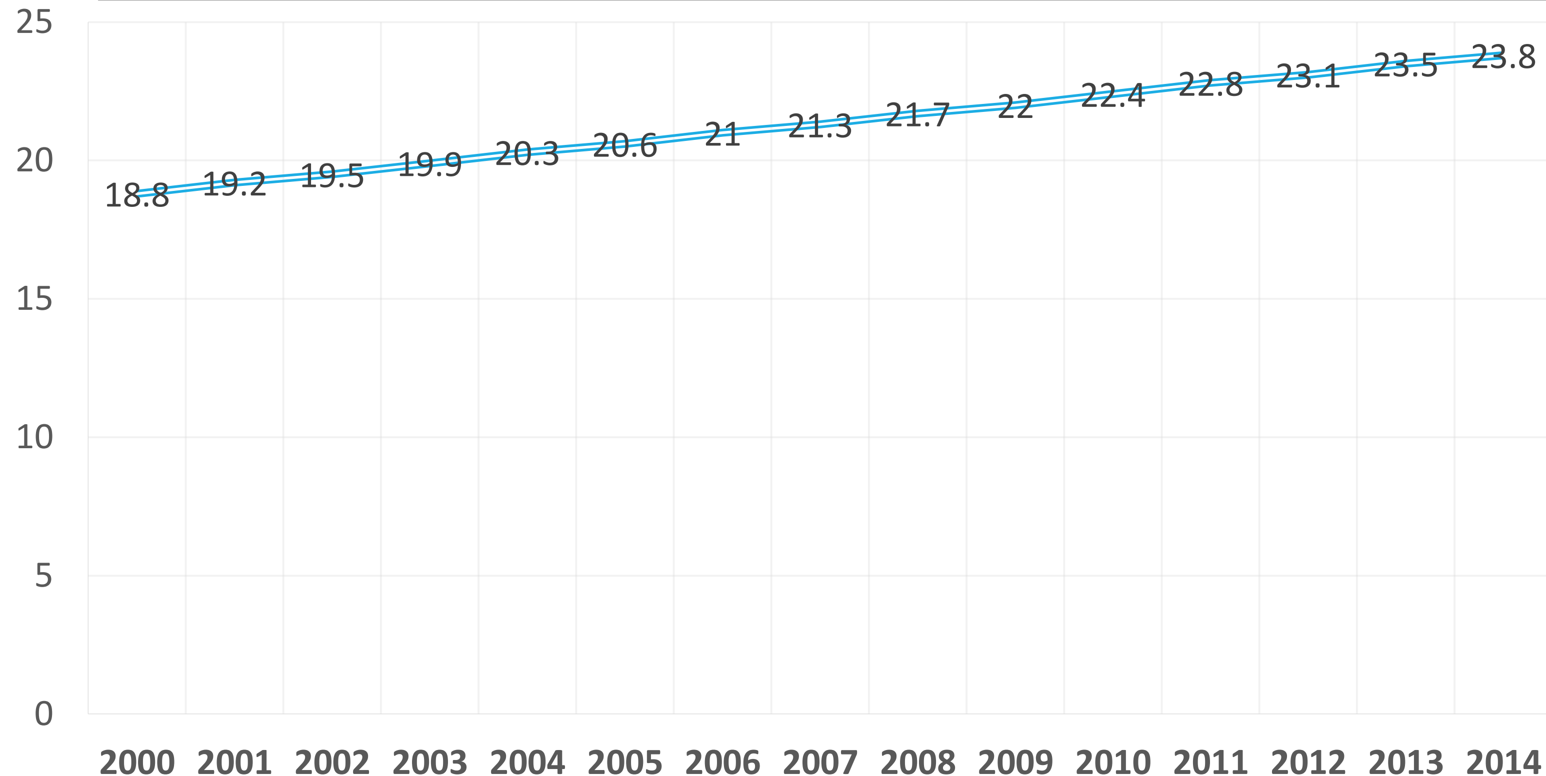
- Newborn care, breastfeeding, maternal/infant bonding
- Mood changes, sleep disturbances, physiologic changes
- Cultural norms, “the ideal mother” in conflict with what it is actually like to have a newborn

Neglected Period

- Care shifts away from frequent contact with prenatal care provider – to pediatrician
- Care less “medical” (for mom) and shifts to other agencies (WIC)
- Insurance and welfare realignment
- SUD treatment provider(s) – care is constant

Maternal Mortality is Increasing

per 100,000 live births



*Excludes California and Texas California showed a declining trend, whereas Texas had a sudden increase in 2011-2012.

Possible Factors

Drug use with homicide/suicide

Overdose

Medicaid coverage loss at 6 weeks postpartum

"Detox" during pregnancy to prevent NAS

Inadequate Access to drug treatment/MAT

MacDorman MF et al *Ob/Gyn* 2016

Maternal Mortality Worse for Women Who Use Opioids

Pregnancy-related discharges from 1998 to 2009 using the largest publicly available all-payer inpatient database in the United States.

Women who used opioids during pregnancy experienced higher rates of:

- **depression**
  - **anxiety**
  - **chronic medical conditions**

After adjusting for confounders, opioid use was associated with increased odds of:

- **threatened preterm labor**
- **early onset delivery**
- **poor fetal growth**
- **stillbirth**

Women using opioids were four times as likely to have a prolonged hospital stay and *were almost four times more likely to die before discharge.*

Whiteman VE **et al.**, *J Pregnancy*. 2014;2014:906723

What are the Long Term Outcomes of Children Prenatally Exposed to Opioids?

Issues to consider when reading the literature

- Population of Interest definitions
- Comparison group? What kind?
- Prospective data collection in the perinatal period?
- Masked assessment?
- Include a substantial proportion of subjects exposed in utero other substance?
- Matching
- Statistical
- Inferential

“Addiction, illegality, prenatal toxicity and poor outcomes are linked in the public and professional mind. In reality, scientific evidence for prenatal toxicity and teratogenicity is equivocal for some drugs and stronger for others. Inaccurate public expectations of correspondence between illegality and toxicity lead to distortions in interpreting and applying scientific findings.”

Jones et al., 2019 *J Addict Med* 13, 90-92*;* Zuckerman B, Frank DA, Mayes L. *JAMA*. 2002 Apr 17;287(15):1990-1

MOTHER Child Outcomes 0-36 Months

N=96 children

- No pattern of differences in physical or behavioral development to support medication superiority
- No pattern of differences for infants treated for NAS v. infants who did not receive treatment for NAS
- No pattern of differences when children were compared to norms on tests

Results indicate children born in the MOTHER study are following a path of normal development in terms of growth, cognitive and psychological development

Kaltenbach, K. et al., *Drug and Alcohol Dependence* 2018

Understanding Attachment

- Securely-attached infants would develop a “secure base script” that explains how attachment-related events happen

  – for example: “When I am hurt, I go to my mother and receive comfort”

- Children with an insecure attachment and an Internal Working Model that says that the caregiver will be unavailable and/or rejecting when the child needs him/her may develop a chronic activation of the physiological stress-response system

Relationship: Non-secure Attachment and Substance Use

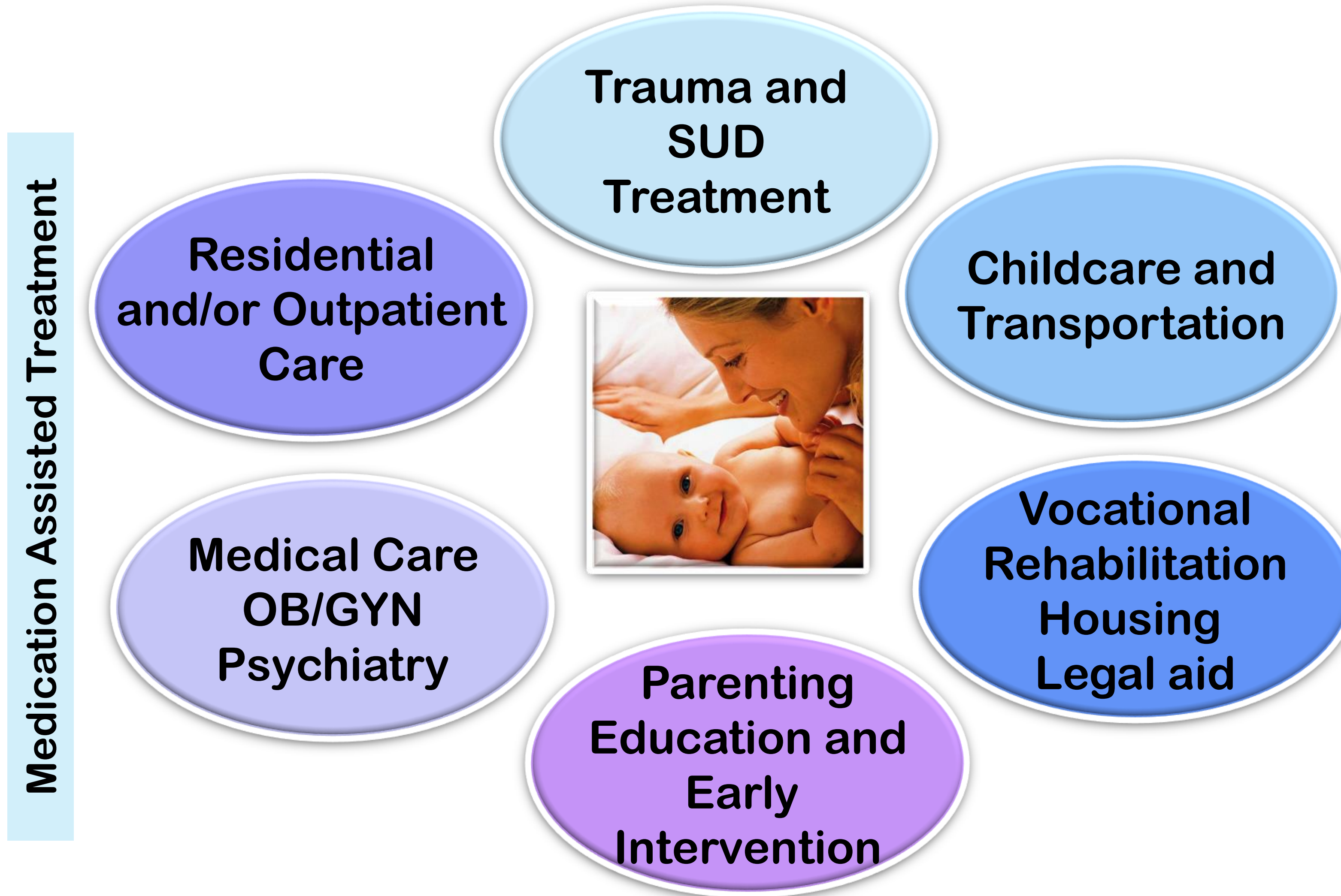
- **Having been abused as a child is an important risk factor for abuse of one's own children**
- **There is a high incidence of abuse during childhood among women in treatment for substance use disorders**
- **Maternal substance use disorder is one of the most common factors associated with child maltreatment**
- **Mothers who have substance use disorders have higher incidences of hostile attributions and inappropriate expectations of child behavior as well as repeated disruptions in their parenting behaviors**
- **These disruptions can create a negative effect on the parent–child relationship, as evidenced in the increased rates of insecure attachment in children who have parents with substance use disorders**

Suchman 2007

Environment

Genetics

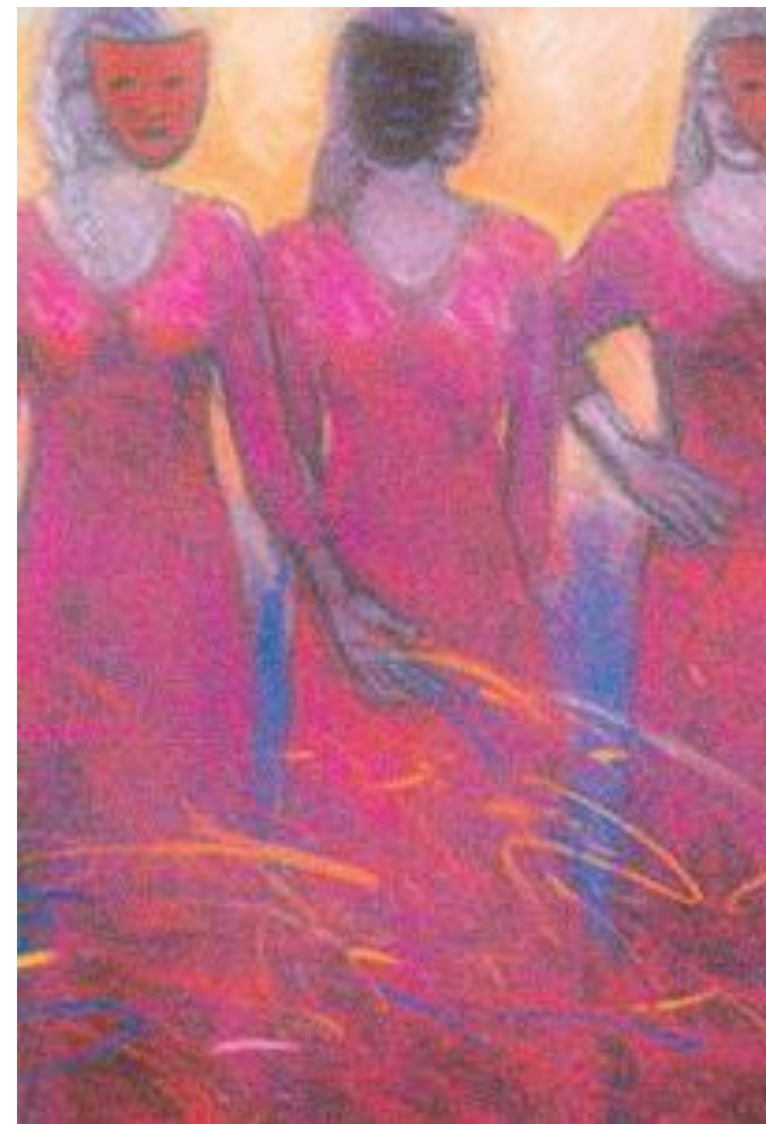
UNC Horizons: Care for Women and Children



Unified Philosophy Informed by Social Learning, Relationship and Empowerment Theories

Ways Providers can Facilitate Collaboration and Inclusion to Promote Mother and Child Outcomes

- **Approach with empathy and compassion**
- **Trauma responsive approach needed**
- **Listen with eyes, ears and heart**
- **Head to toe physical health integrated with behavioral health (than often needs to include case management)**
- **Connection and continuity of care**
- **LANGUAGE MATTERS!!!**



What You Can Do

Individual Level

- Mothers, children and families need strength-based support
- Help tell stories of recovery and success
- Consider mother and child not mother vs. child
- Be familiar with toolkits from VT and SAMHSA

Structural Level

- Access to whole health care
- Educate policy makers for 3 years of caregiver Medicaid coverage
- Naloxone distribution and connect those to care after naloxone administration
- Create or engage in local networks – recovery and foster systems of care that support families

Summary

- Opioid use disorder is a concerning medical illness that has radiating effects on the life of the person and those around the person - including children
- Those who have this illness deserve the most appropriate medical care – medication in only one part of a complete treatment approach
- Patients are best served by having choices in medication treatment options
- Structured, evidence-based behavioral treatment is needed to help support the mother, child and family
- Women who have opioid use disorders and their prenatally opioid exposed children are best served with a strength-based perspective

See Klaman SL, Isaacs K, Leopold A, Perpich J, Hayashi S, Vender J, Campopiano M, Jones HE.J Addict Med. 2017 for a full list of unanswered research questions for mother, fetus, child and the mother-child dyad

I would like to thank the infants and families I have had the pleasure of caring for – I continue to learn from them daily.

Anne Johnston, MD 2018 FDA presentation

The health of the baby depends upon the mother's health

Upcoming Webinars

- Implicit Bias: An Introduction to How It Works & Strategies for Confronting It. October 15, 2020 12-1pm. Sherwood Smith, Ed.D., Director and Christa Hagan-Howe, Diversity Educator, UVM Center for Cultural Pluralism.

- Perspectives from the Field: Revising the Vermont Plan of Safe Care and Workflow. November 11, 2020, 12-1pm. Katherine Harris, LICSW and Laura Emery, RN, Northeastern VT Regional Hospital.

- A Trauma-Informed Approach to Prenatal Education and Preparation for Families Affected by Perinatal Substance Exposure. December 10, 2020 12-1pm. Farrah Sheehan Desselle, MSN, RN, Catholic Medical Center, NH.

ICON Team

- **Faculty:**
  - Michelle Shepard, MD, PhD ∞ Pediatrics ICON Lead Faculty
  - Molly Rideout, MD ∞ Pediatrics
  - Adrienne Pahl, MD ∞ Neonatology
  - Marjorie Meyer, MD ∞ Obstetrics & MFM
- **Neonatal Medical Follow-up Clinic:**
  - Jerilyn Metayer, RN
  - Susan White, NP APRN
- **VCHIP:**
  - Julie Parent, MSW ∞ ICON Project Director
  - Angela Zinno, MA ∞ ICON Project Coordinator
  - Vy Cao ∞ ICON Data Manager
- **Parent Advisor:** Victoria Kuck, BS
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