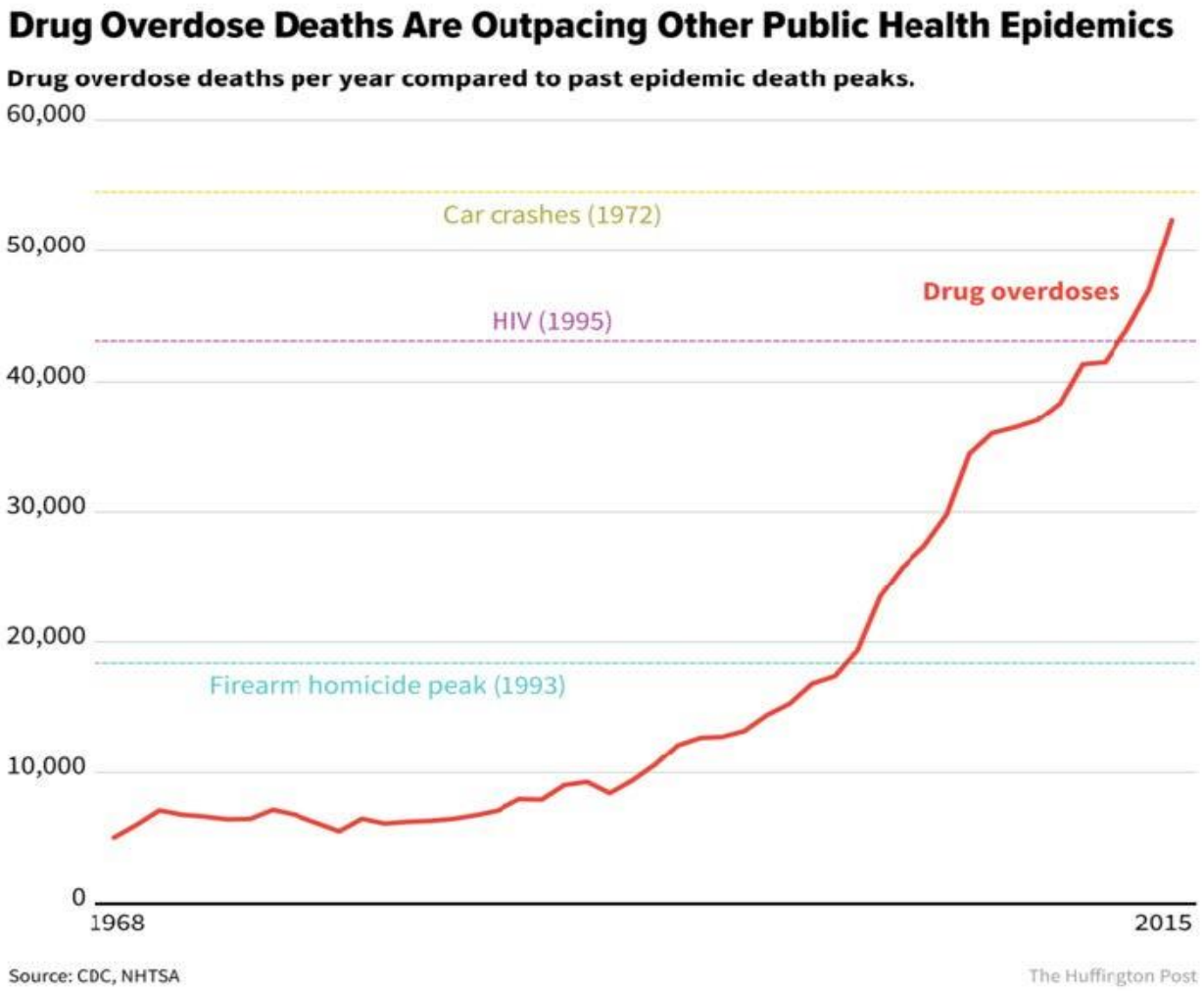
Maternal Opioid Use: Latest Research and Practice

Elizabeth E. Krans, MD, MSc
Assistant Professor of Obstetrics, Gynecology and Reproductive Sciences
Magee-Womens Research Institute
University of Pittsburgh

Public health emergency

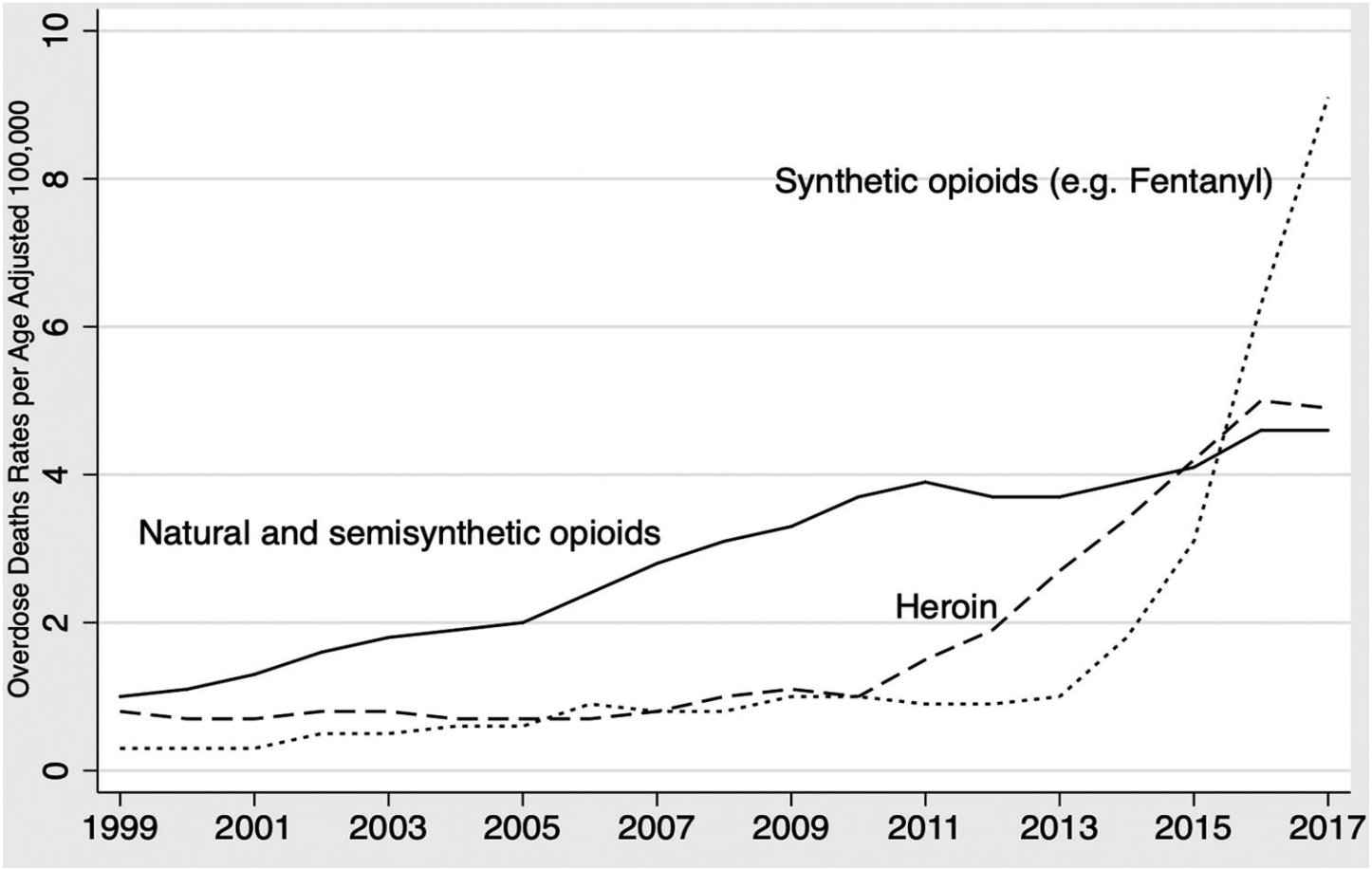


Commentary

The triple wave epidemic: Supply and demand drivers of the US opioid overdose crisis

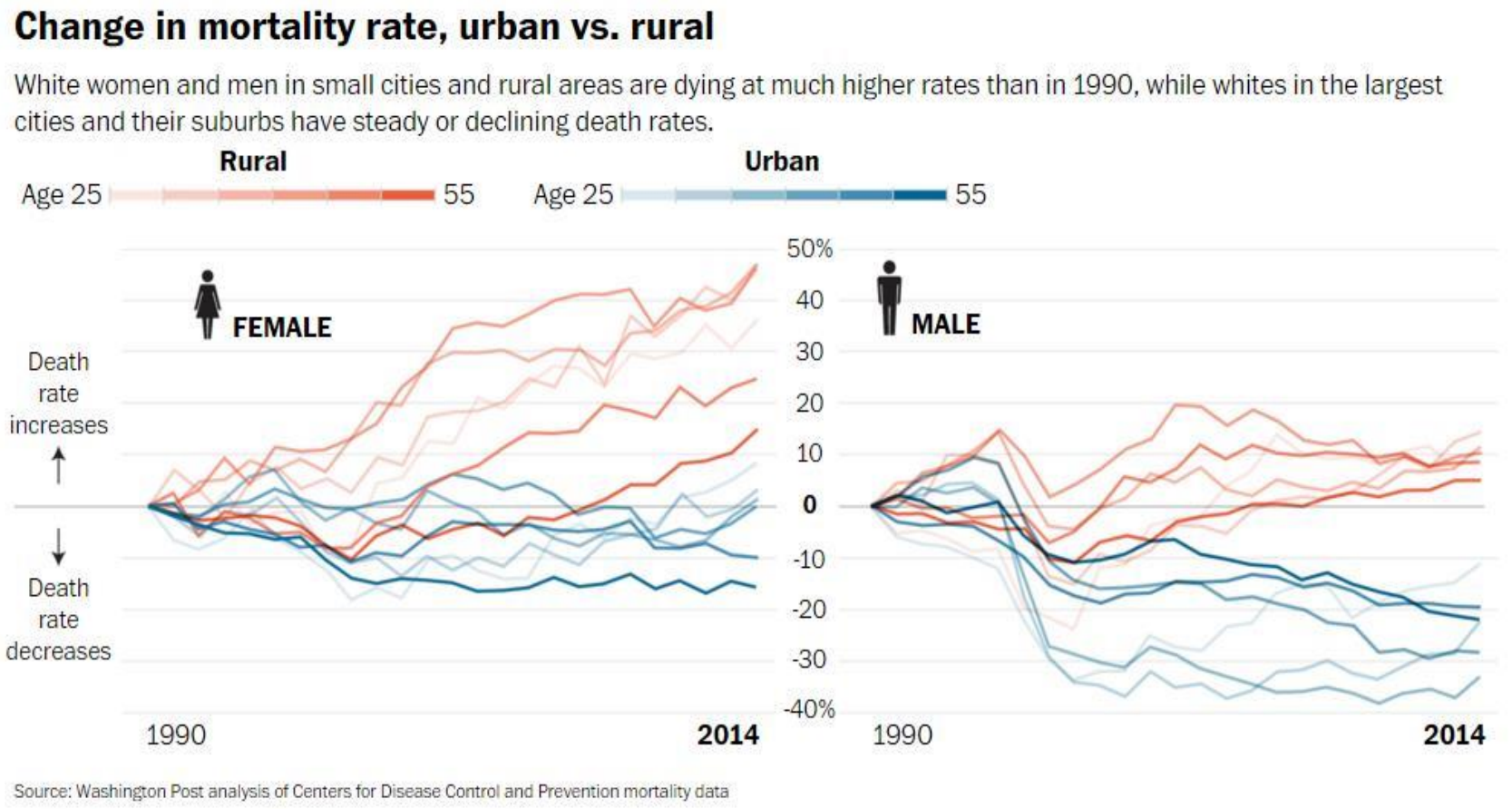
Daniel Ciccarone

Department of Family and Community Medicine, University of California San Francisco, United States



Ciccarone D, *Int J Drug Policy*, 2019

Mortality



Opioid overdose death increased by 400% for women vs. 237% for men.

Washington Post, CDC, 2017

Women and opioids

- The opioid epidemic has had a severe and arguably *disproportionate impact* on women
- Opioid prescribing, the primary driver of the current epidemic, is more common for women
- Women are more likely to use opioids chronically and at higher doses than men
- Chronic pain disorders are more common among women
  - Higher levels of emotional distress and anxiety from pain

Office on Women's Health, Final Report, 2017

Women and substance use

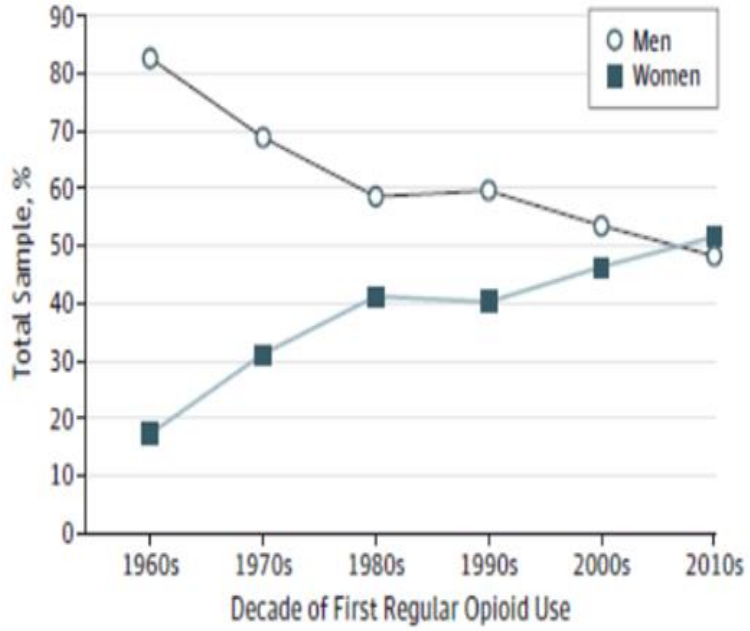
- The pathways to substance use are *different* for women compared to men
- Women have higher rates of co-occurring psychiatric disorders, trauma, abuse and psychological distress
  - Women are more likely to report using substances to cope with a mood disorder or a history of trauma or violence
- Women develop physical dependence to substances more quickly than men, i.e. “telescoping”
- Women have a higher risk of overdose than men, even when prescribed lower doses

Office on Women’s Health, Final Report, 2017

Heroin use increases among women

The Changing Face of Heroin Use in the United States
A Retrospective Analysis of the Past 50 Years

Figure 2. Sex Distribution of Respondents Expressed as Percentage of the Total Sample



Heroin Use Has INCREASED Among Most Demographic Groups

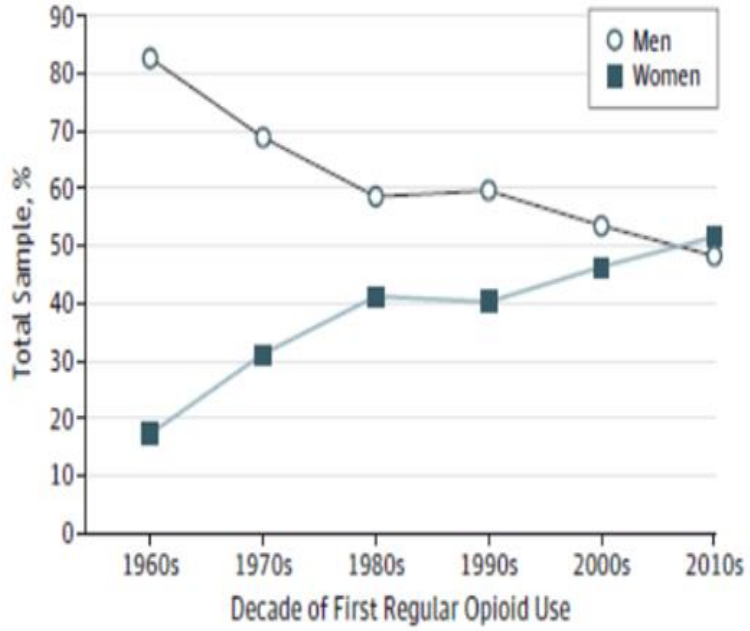
	2002-2004*	2011-2013*	% CHANGE
SEX			
Male	2.4	3.6	50%
Female	0.8	1.6	100%
AGE, YEARS			
12-17	1.8	1.6	--
18-25	3.5	7.3	109%
26 or older	1.2	1.9	58%
RACE/ETHNICITY			
Non-Hispanic white	1.4	3	114%
Other	2	1.7	--
ANNUAL HOUSEHOLD INCOME			
Less than $20,000	3.4	5.5	62%
$20,000–$49,999	1.3	2.3	77%
$50,000 or more	1	1.6	60%
HEALTH INSURANCE COVERAGE			
None	4.2	6.7	60%
Medicaid	4.3	4.7	--
Private or other	0.8	1.3	63%

NSDUH, CDC. 2002-2013; Cicero TJ et al, *JAMA*, 2014

Heroin use increases among women

The Changing Face of Heroin Use in the United States
A Retrospective Analysis of the Past 50 Years

Figure 2. Sex Distribution of Respondents Expressed as Percentage of the Total Sample

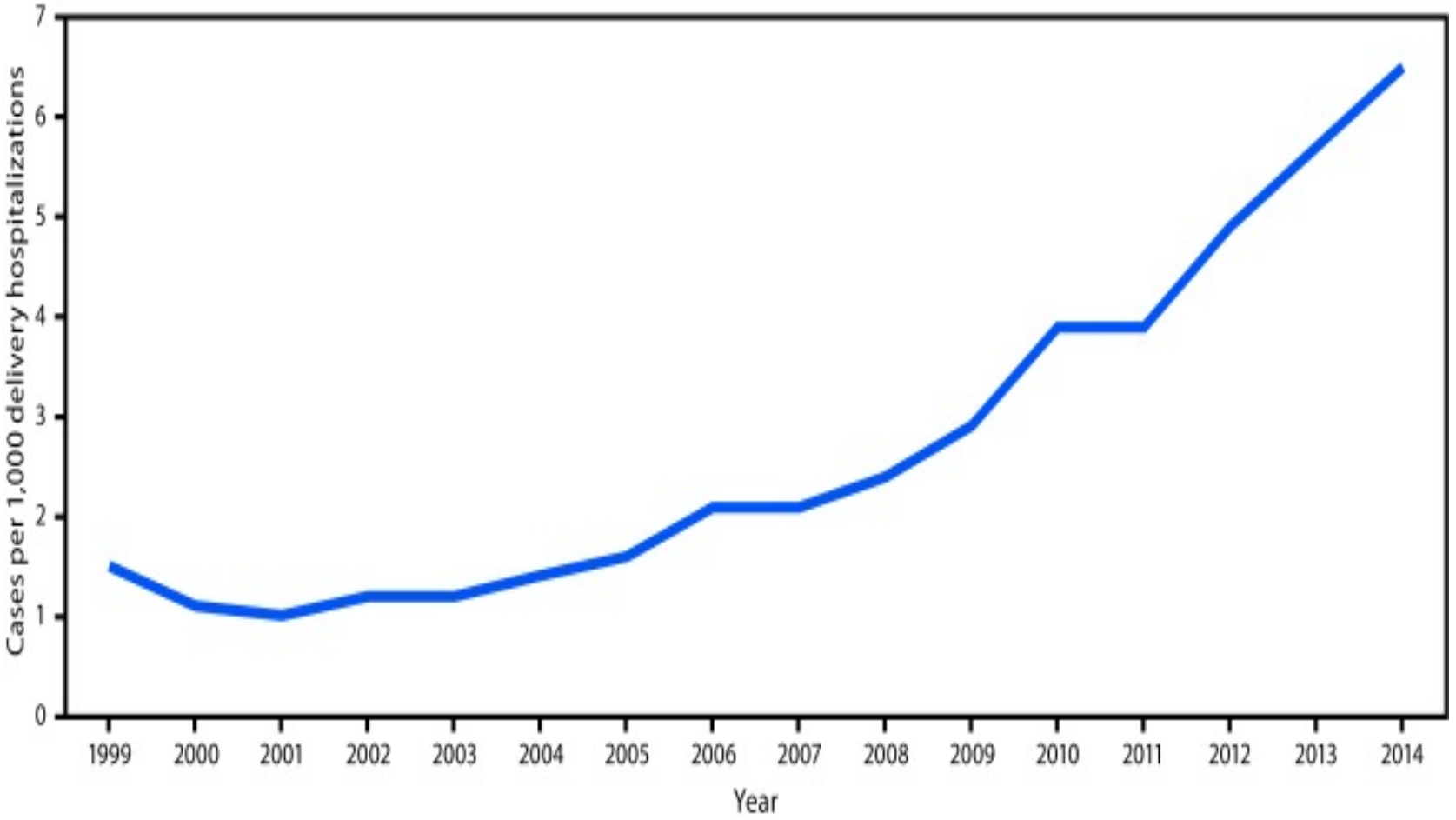


Heroin Use Has INCREASED Among Most Demographic Groups

	2002-2004*	2011-2013*	% CHANGE
SEX			
Male	2.4	3.6	50%
Female	0.8	1.6	100%
AGE, YEARS			
12-17	1.8	1.6	--
18-25	3.5	7.3	109%
26 or older	1.2	1.9	58%
RACE/ETHNICITY			
Non-Hispanic white	1.4	3	114%
Other	2	1.7	--
ANNUAL HOUSEHOLD INCOME			
Less than $20,000	3.4	5.5	62%
$20,000–$49,999	1.3	2.3	77%
$50,000 or more	1	1.6	60%
HEALTH INSURANCE COVERAGE			
None	4.2	6.7	60%
Medicaid	4.3	4.7	--
Private or other	0.8	1.3	63%

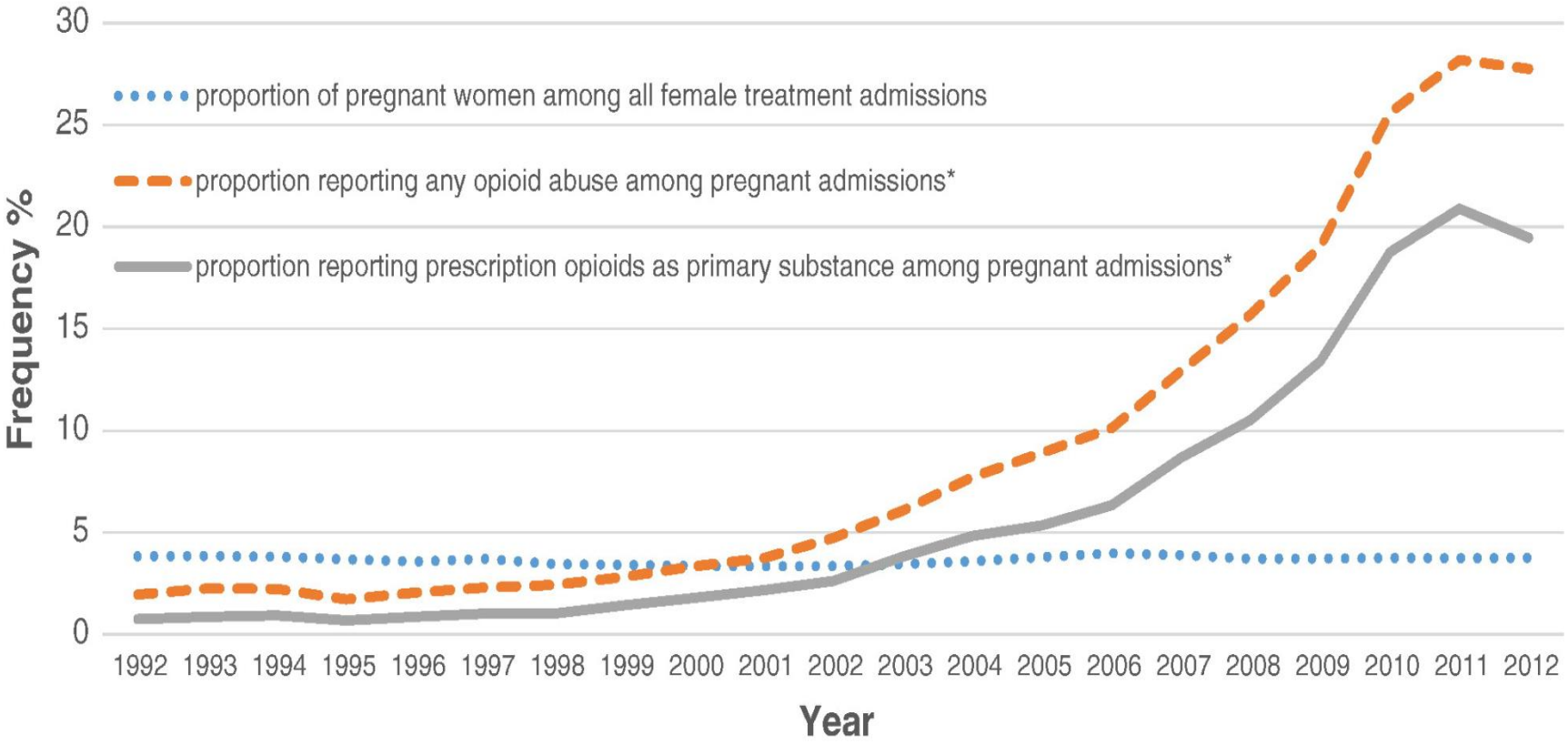
NSDUH, CDC. 2002-2013; Cicero TJ et al, *JAMA*, 2014

Prevalence of OUD during pregnancy



Haight SC, CDC MMWR, 2018

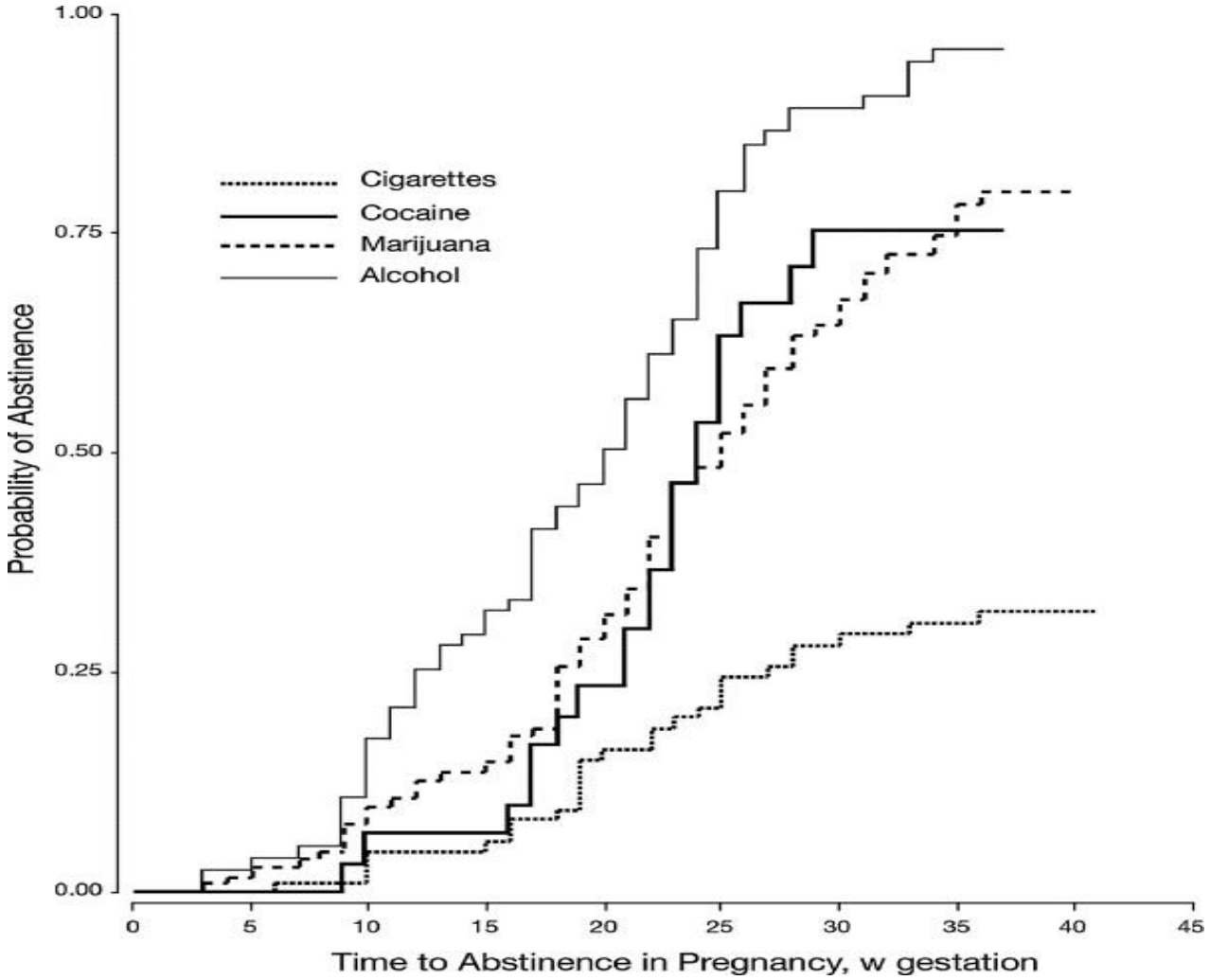
Opioid treatment admissions during pregnancy



Martin CE et al. *J Subst Abuse Treat,* 2014

The critical role of pregnancy

Pregnancy changes women's behavior



Forray et al. *Drug Alcohol Depend*, 2015

Pregnancy increases healthcare access

- Over 75% of pregnant women with OUD are enrolled in Medicaid
  - New access to MAT, prenatal care, psychosocial services
- 40% pregnant women initiate OUD treatment for the very first time in pregnancy
- Important opportunity for medical (i.e. psychiatric disorders, HIV/HCV) and psychosocial screening (trauma, intimate partner violence, social needs), evaluation and treatment

Pregnancy is an opportunity

- Addiction is not a disease of pregnancy
- Women who struggle with addiction, happen to get pregnant
- Pregnancy is an opportunity to address a chronic medical condition that will exist well beyond the pregnancy episode and that can be managed and treated successfully

COUNCIL ON PATIENT SAFETY IN WOMEN'S HEALTH CARE

safe health care for every woman

PATIENT SAFETY BUNDLE

Obstetric Care for Women with Opioid Use Disorder

READINESS

Every patient/family

- Provide education to promote understanding of opioid use disorder (OUD) as a chronic disease.
  - Emphasize that substance use disorders (SUDs) are chronic medical conditions, trea
  - recovery is pos
  - Emphasize that and behavioral
- Provide educatio newborn care.
  - Awareness of tl
  - Interventions tc cessation)
- Engage appropri patients and fam baby.

RECOGNITION & PREVENTION

Every provider/clinical setting

- Assess all pregnant women for SUDs.
  - Utilize validated screening tools to identify drug and alcohol use.
  - Incorporate a screening, brief intervention and referral to treatment (SBIRT) approach in the maternity care setting.
  - Ensure screening for polysubstance use among women with OUD.
- Screen and eva
  - co-morbidities.
  - Ensure the ak sexually trans
  - Ensure the ak violence.
  - Provide resou
- Match treatmer to change.

RESPONSE

Every provider/clinical setting/health system

- Ensure that all patients with OUD are enrolled in a woman-centered OUD treatment program.
  - Establish communication with OUD treatment providers and obtain consents for sharing patient information.
  - Assist in linking to local resources (e.g. peer navigator programs, narcotics anonymous (NA), support groups) that support recovery.
- Incorporate family planning, breastfeeding, pain management and infant care counseling, education and resources into prenatal, intrapartum and postpartum clinical pathways.
  - Provide breastfeeding and lactation support for all postpartum women on pharmacotherapy.
  - Provide immediate postpartum contraceptive options (e.g. long acting reversible contraception (LARC)) prior to hospital discharge.

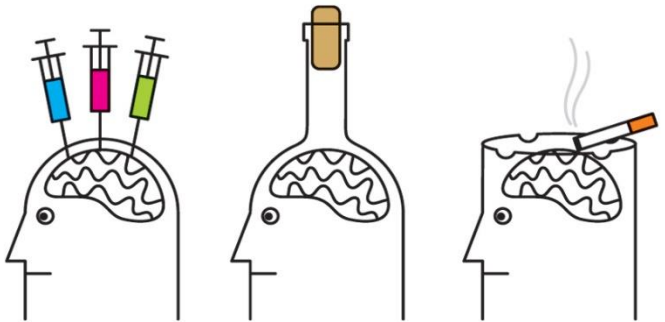
Readiness: patient and provider education

Addiction as a chronic brain disease

- Alan Leshner, PhD (former director of NIDA) began describing addiction as a brain disease in 1996

- Chronic disease of brain reward, motivation, memory and related circuitry.
  - Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations.

- This is reflected in an individual pathologically pursuing reward or relief by substance use and other behaviors.



Addiction symptoms = behaviors

- Addiction symptoms are often characterized by behaviors
  - inability to consistently abstain, “craving”
  - impairment in behavioral control
  - diminished recognition of significant problems with one’s behaviors
  - dysfunctional emotional response.

- Like other chronic diseases, addiction often involves cycles of relapse and remission.

- Without treatment, addiction is progressive and can result in disability or premature death.

Evidence-based education

Factsheet 2 of 4

Treating Opioid Use Disorder During Pregnancy

Getting the help and support you need from your healthcare professionals

Introduction

Opioid use disorder (OUD) is a treatable disease. When OUD is mar
counseling, you *can* have a healthy pregnancy and a healthy baby. I
adjustments to your OUD treatment plan and medicines may be ne

The actions you take or don't take play a vital role during your pregnancy. Be
to know about OUD treatment during pregnancy, as well as the Do's and Dor
the best treatment possible.

Things to know

- Methadone and buprenorphine are the safest medicines to manage OUD during your pregnancy. Both of these medicines stop and prevent withdrawal and reduce opioid cravings, allowing you to focus on your recovery and caring

Factsheet 4 of 4

Good Care for You and Your Baby While Receiving Opioid Use Disorder Treatment

Steps for healthy growth and development

Introduction

If you have an opioid use disorder (OUD), receiving the right medicine along with counseling and recovery support services is important at all stages in your life. From pregnancy to delivery to caring for your baby, addressing your OUD and taking care of yourself is a continuous process. You will be better able to protect and care for your baby with a focus on creating and updating your treatment plan and getting the support you need. In all situations, your commitment to treatment and recovery will go a long way.

After your pregnancy, the actions you take or don't take matter. Below are some important things to know about OUD and caring for your baby, as well as the Do's and Don'ts for creating a healthy environment for your family.

Things to know

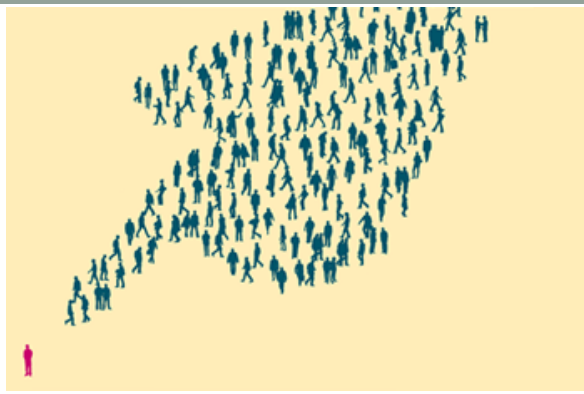
- Birth control is important to prevent pregnancies you do not want as well as to ensure proper space between pregnancies. Talk to your healthcare professionals about the full range of birth control options, including long-acting reversible contraception and the best birth control options while you are breastfeeding.

Medicine Dose

Now is a good time to ask your OUD treatment professionals to check your medicine dose. An effective dose during pregnancy may be too high or too low once your baby is

www.samhsastore.gov

Stigma



- Substance use disorders are among the most stigmatized of all chronic medical disorders.

- Stigma is a powerful, complex social and cognitive process that leads to the discrediting, devaluing or excluding of a person or group of people based on a real or perceived difference.

- Stigma among health professionals can threaten their “therapeutic commitment” and prevent women from seeking prenatal care and disclosing their substance use.

- Lack of disclosure results in fewer women engaging in treatment, increasing the risk for adverse maternal and neonatal outcomes.

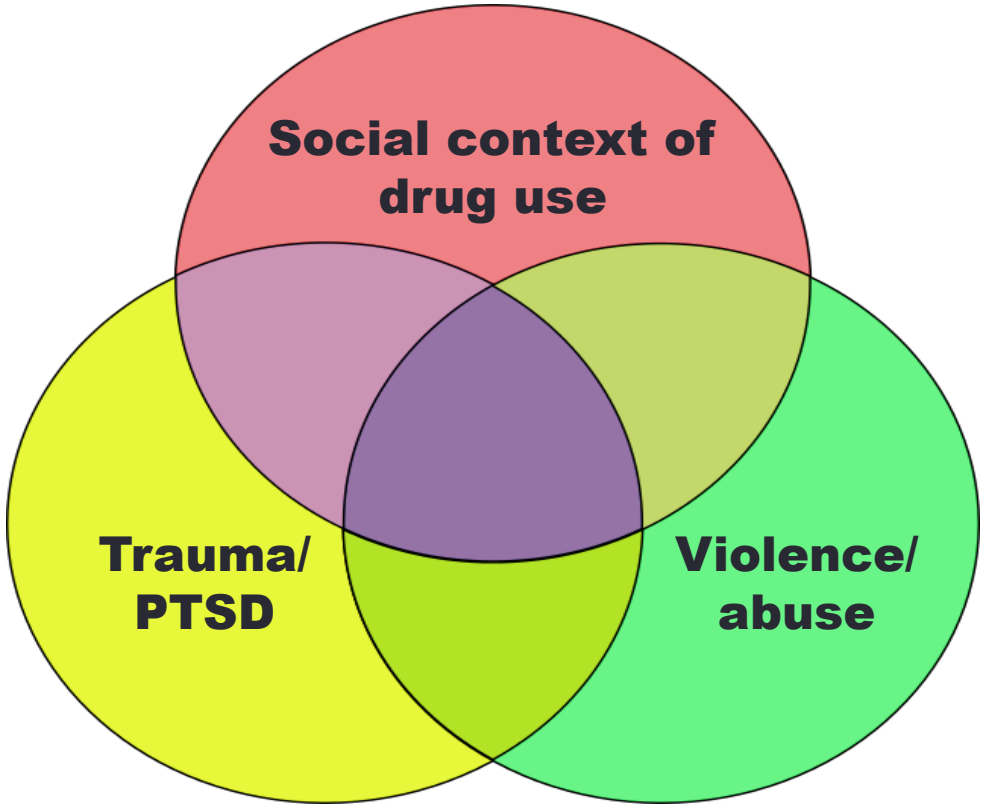
Language matters

- Stigmatizing images

- Stigmatizing language
  - “drug addict”, “junkie”, “addicted babies”

Trauma-informed care

- Understanding a woman's life
- Change the paradigm from
  - "What's wrong with you? to "**What has happened to you?"**



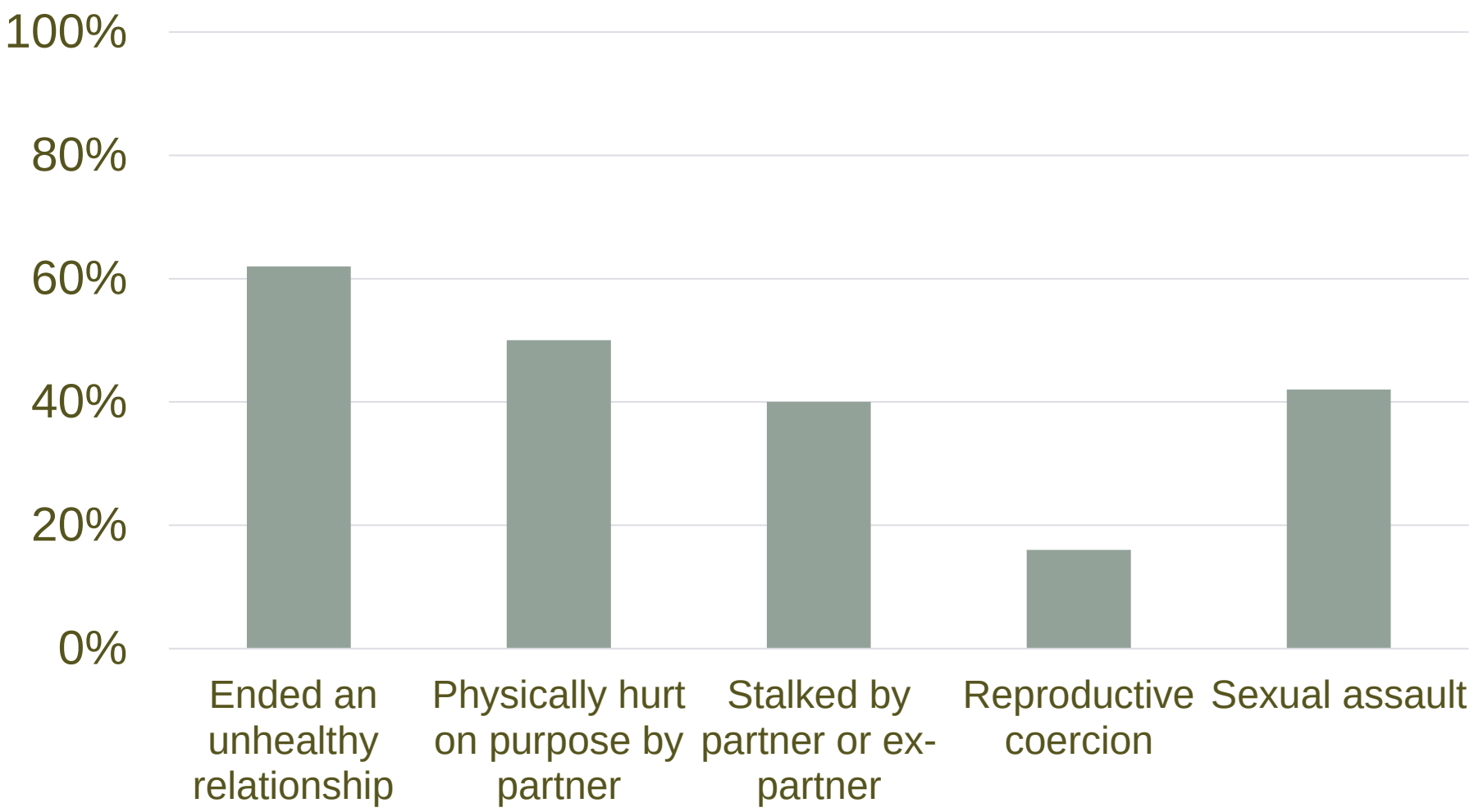
Social context of drug use

Relationship	Illicit drug use history N=200
Current/former partner	66%
Aunts/uncles	36%
Cousin	36%
Brother	34%
Friend/acquaintance	30%
Father	28%
Mother	24%
Sister	24%

Childhood trauma

N=200	
Felt emotionally neglected and/or unsupported	31%
Experienced verbal abuse from parent or other adult	30%
Experienced physical abuse from parent or other adult	22%
Observed IPV perpetrated toward mother/stepmother	18%
Lived in foster care	10%
Felt physically neglected during childhood	8%

Intimate partner violence



Recognition and prevention: screening

Identifying substance use in pregnancy

- Early identification is essential
  - Allows for early intervention and minimizes harm to mom and baby
  - Maximizes existing motivation for change during pregnancy

- Types of screening
  - Screen during prenatal care to identify pregnant women with SUDs
  - Screen reproductive-aged women in SUD treatment for pregnancy and *pregnancy intention*

Substance use screening in pregnancy

- Universal screening (for licit and illicit substance use) *using validated tools* is recommended during pregnancy
  - Validated instruments (T-ACE, TWEAK, DAST, MAST, 4P's, CRAFFT)

- Selective screening based on "risk factors" perpetuates discrimination and misses women with problematic use

- Universal urine toxicology screening
  - **Not to be used as sole assessment of substance use**
    - Short detection window (substance dependent)
    - Might not capture binge or intermittent use
    - Rarely detects alcohol
    - Doesn't capture certain synthetic opioids

Screening and evaluation of hepatitis C virus infection in pregnant women on opioid maintenance therapy: A retrospective cohort study

Elizabeth E. Krans, MD, MSc[a,b], Susan L. Zickmund, PhD[c], Vinod K. Rustgi, MD[d], Seo Young Park, PhD[d], Shannon L. Dunn, BS[b], and Eleanor B. Schwarz, MD, MS[e]

- 719 pregnant women with OUD, 611 (77.2%) were screened for HCV
- Of 611 screened, 369 (60.4%) were HCV Ab (+)

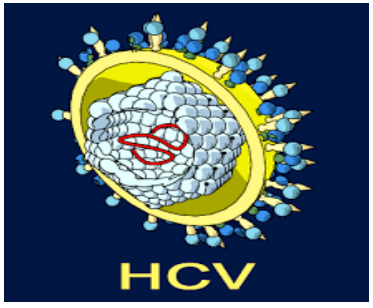
n=369	n (%)
New HCV diagnosis during pregnancy	108 (29.3)
Laboratory testing received during pregnancy	
Liver function tests	336 (91.1)
Abnormal	136 (40.5)
HCV viral load	94 (25.5)
HCV genotype	61 (16.5)
Immunizations received during pregnancy	
Hepatitis A vaccine	38 (10.4)

- Of 369, 285 (77.2%) were referred to Hepatology
  - 71 (24.9%) attended the referral
  - 6 (1.6%) received treatment within one year after delivery

Hepatitis C Virus Screening Among Children Exposed During Pregnancy

Catherine A. Chappell, MD, MSc,[a,b] Sharon L. Hillier, PhD,[a,b] David Crowe, BA,[b] Leslie A. Meyn, PhD,[b]
Debra L. Bogen, MD,[b,c] Elizabeth E. Krans, MD, MSc[a,b]

- 1025 HCV-exposed infants born between 2006 and 2014
- 323 (32%) received routine well-child care in our health system
- Of 323 infants, only 96 (30%) were tested for HCV
  - Only 73 (76%) received optimal pediatric HCV screening
- Of 83 with interpretable HCV results, 7 (8.4%) had evidence of perinatal transmission



Response: treatment

Historical context

- Studies from the 1970's (largely case reports) observed stillbirth rates among drug dependent women which were 4x greater than rates in the general population.

- Women would present in repeated cycles of detox/relapse
  - Fetal distress (meconium)
  - Stillbirth that appeared to be related to maternal withdrawal
  - Concern for fetal withdrawal in utero

- Withdrawal of infants after delivery (NAS), associated with seizures and death.

Pediatrics
September 1974, VOLUME 54 / ISSUE 3

The Effect of a Methadone Treatment Program Upon Pregnant Heroin Addicts and Their Newborn Infants

Rita G. Harper, George I. Solish, Henry M. Purow, Edward Sang, William C. Panepinto

- n=51 infants
- Engaged in treatment program (n=45 methadone, n=6 detox)
- Women in methadone treatment had better prenatal care utilization
- Smaller babies and NAS persisted in methadone treatment
- 88% of babies discharged to maternal care

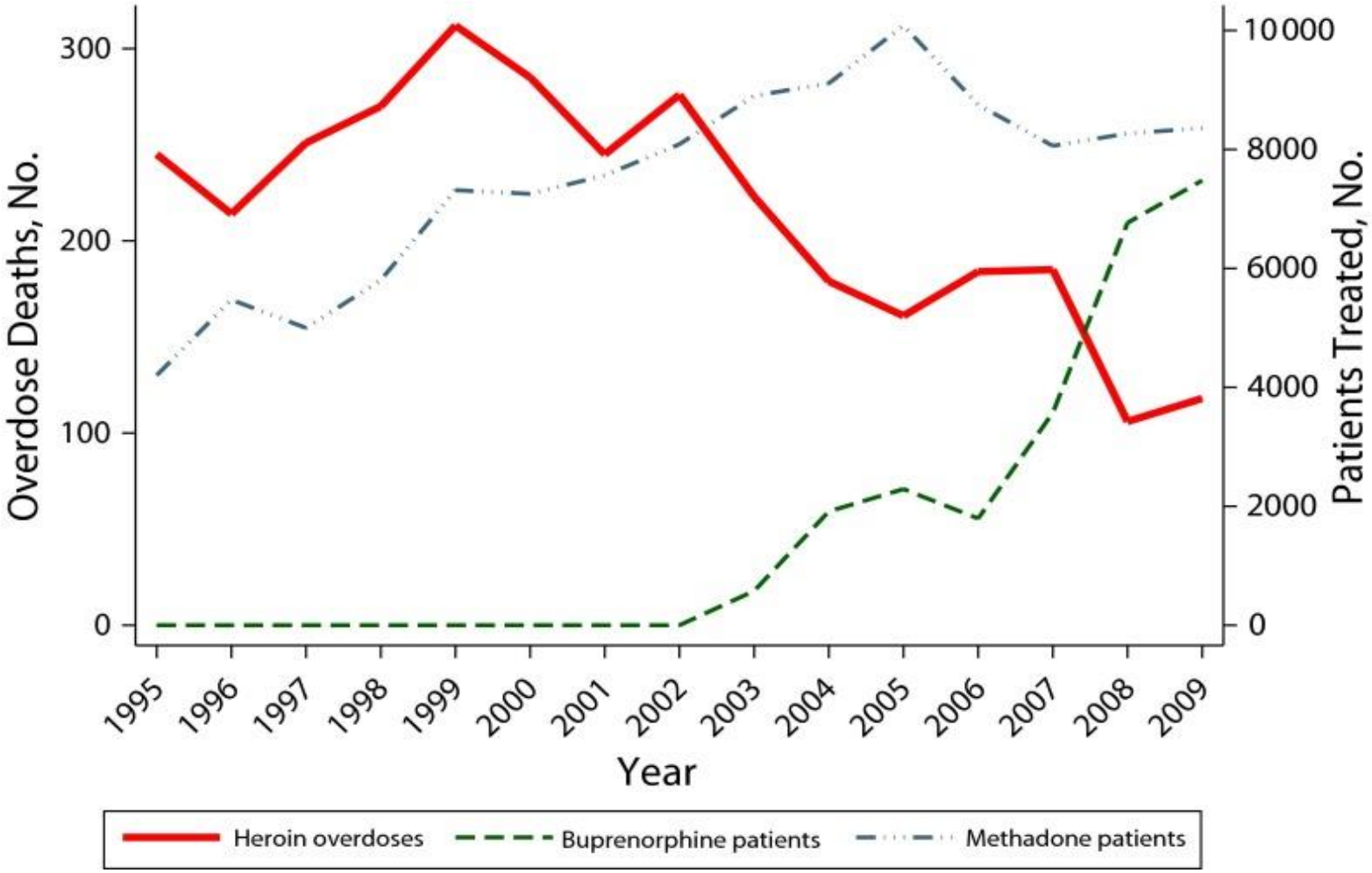
Opioid Detoxification During Pregnancy

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

- 15 detox studies during pregnancy (1,126 women)
- Study quality ranged from fair to poor
  - lack of a RCT or comparison arm, high risk of bias, lost to follow-up
- Detoxification completion rates: 9-100%
- Illicit drug use relapse rates in detox groups: 0-100%
- Rate of fetal loss was similar between detox and non-detox groups (1.2% vs. 2.0%)

Medication-Assisted Treatment Works



Schwartz RP, Baltimore et al. 2013

MAT use in pregnancy

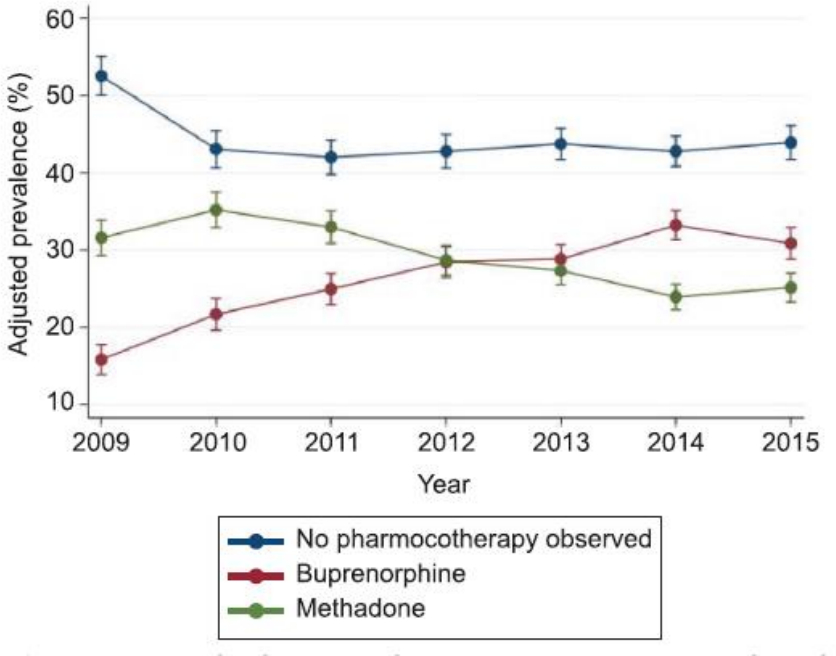


Fig 1. Opioid pharmacotherapy use among Medicaid-enrolled pregnant women with OUD, 2009-2015

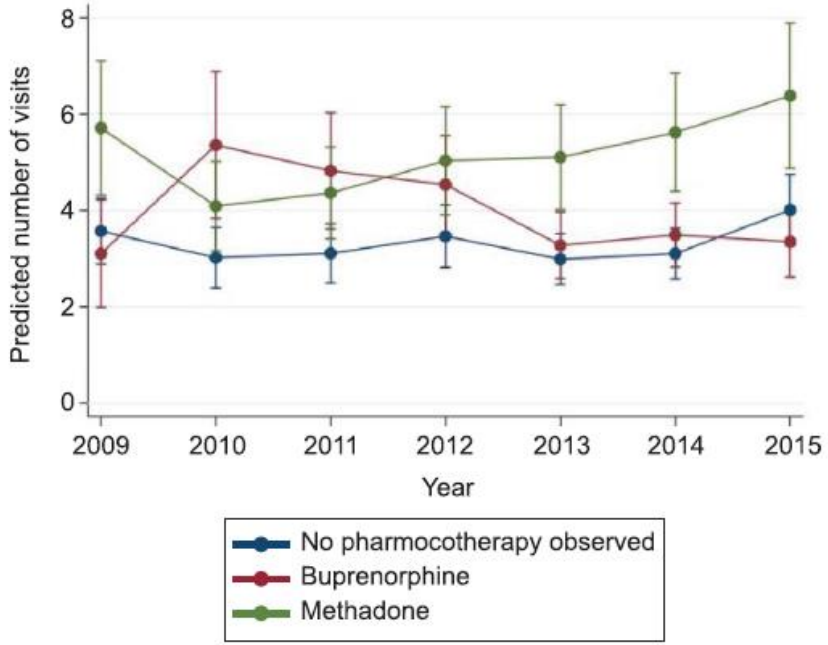


Fig 2. Behavioral health counseling by opioid pharmacotherapy among Medicaid-enrolled pregnant women with OUD, 2009-2015

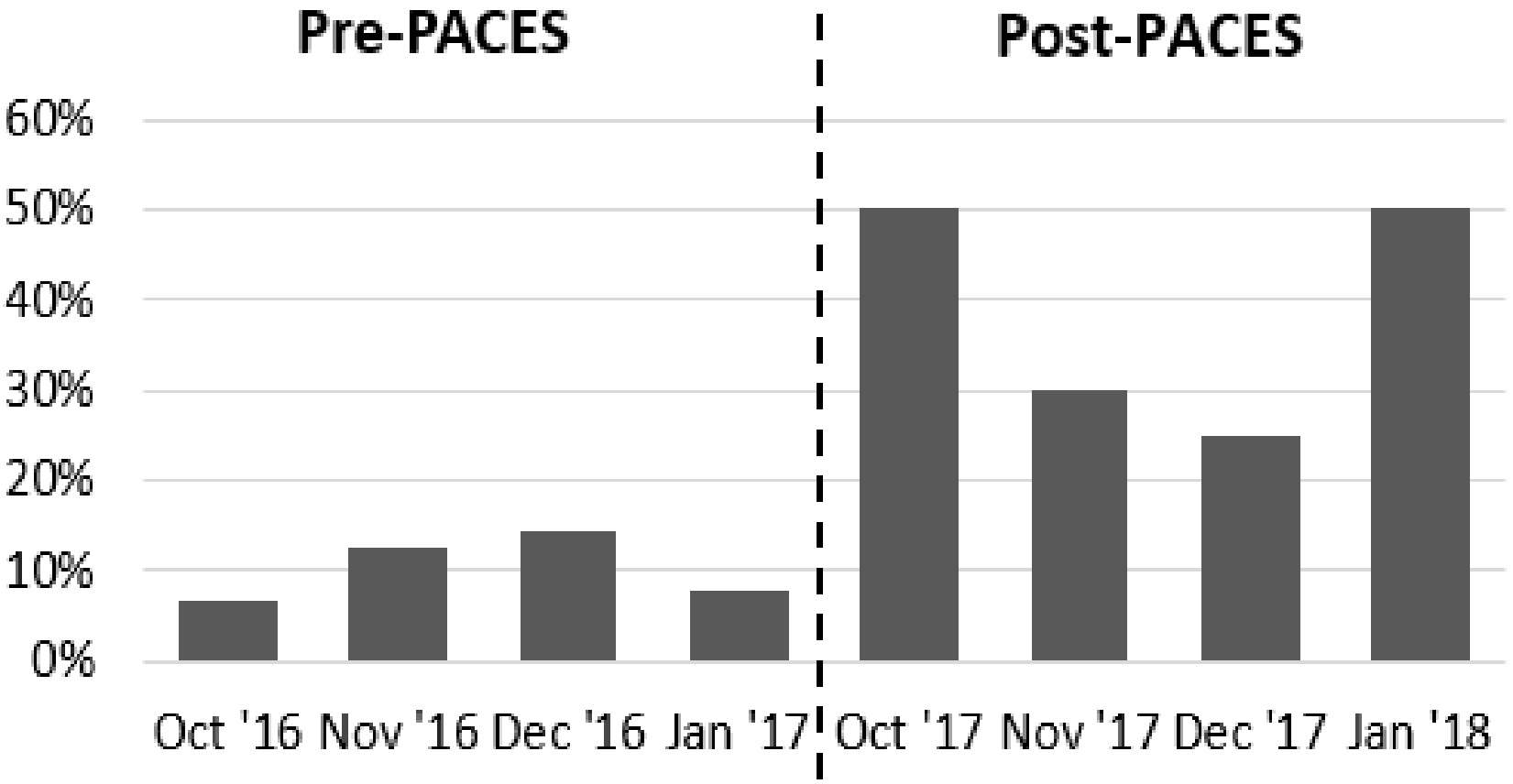
Krans et al *Obstet Gyneol,* 2019

MAT induction in the Emergency Department

- In October 2017, Perinatal Addiction Consultation and Education Services (PACES) was created to provide
  - a mechanism for buprenorphine initiation in the emergency department
  - education and guidance regarding clinical care

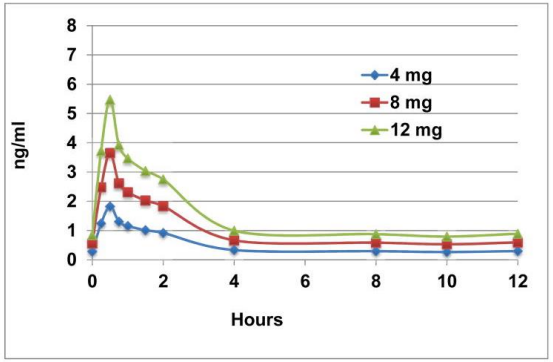
- Buprenorphine induction in the ED
  - Pregnant women with OUD presenting to the ED in opioid withdrawal are dosed with 4-8 mg of buprenorphine
  - Patients seen over the weekend are dosed and given a “dose-pack” of five 8 mg tabs of buprenorphine
  - Follow-up is arranged with our outpatient buprenorphine treatment program

Pregnant women with OUD linked to outpatient buprenorphine treatment from the ED

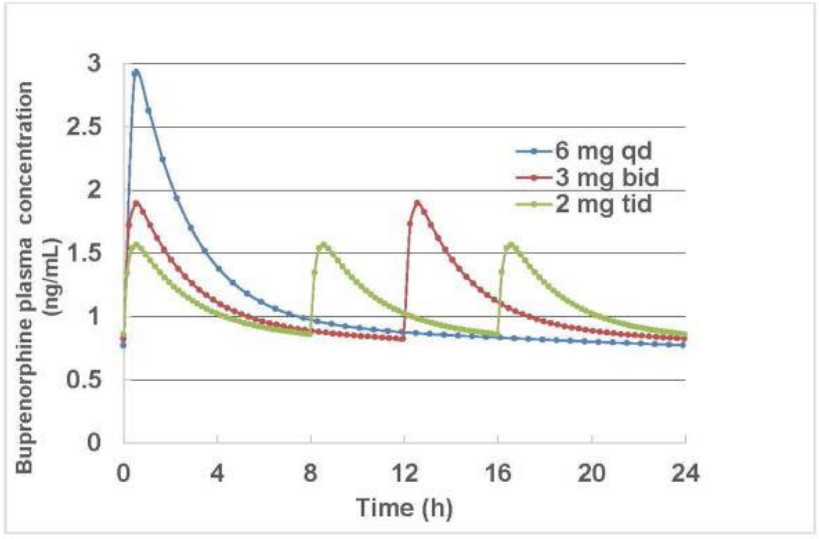


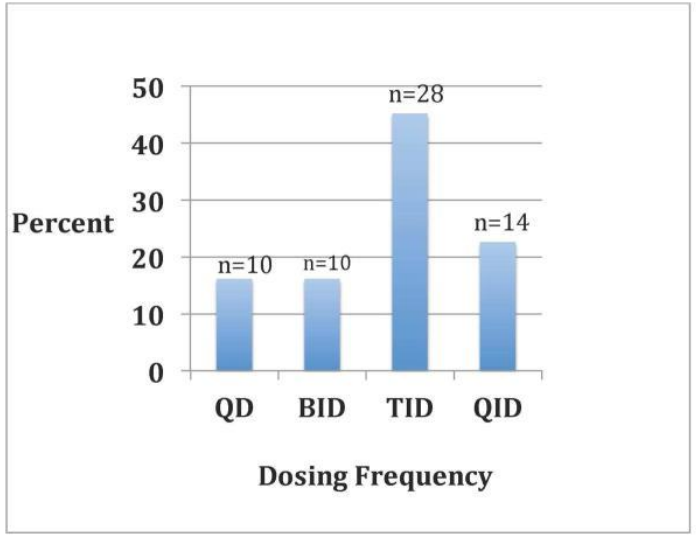
MAT dosing in pregnancy

- Physiological changes of pregnancy alter both methadone and buprenorphine pharmacokinetics.



- Some women may require split dosing (TID, QID) or dose increases, especially as pregnancy progresses.



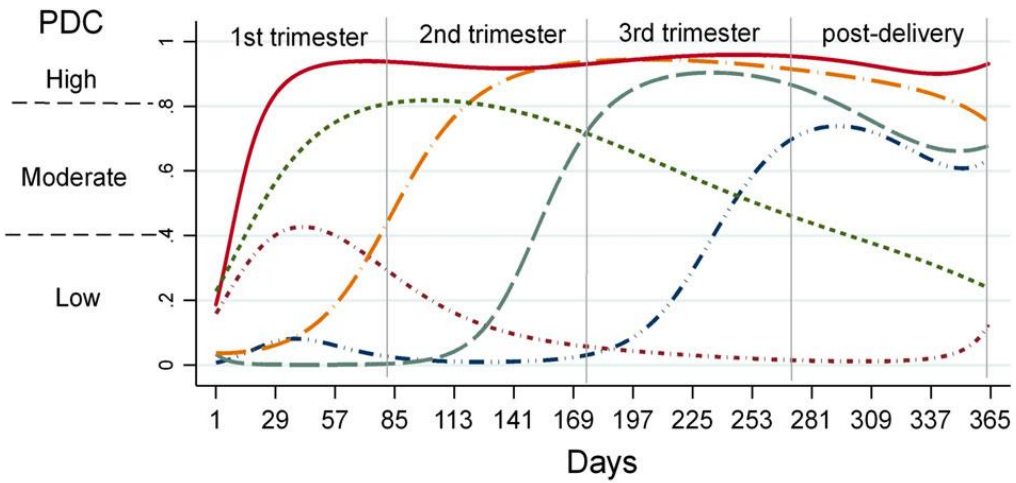


Caritis et al. *AJOG* 2017; Bastian et al. *AJOG* 2017

Adherence trajectories of buprenorphine therapy among pregnant women in a large state Medicaid program in the United States

Wei-Hsuan Lo-Ciganic[1] | Julie M. Donohue[2] | Joo Yeon Kim[2] | Elizabeth E. Krans[3,4]
Bobby L. Jones[5] | David Kelley[6] | Alton E. James[2,7] | Marian P. Jarlenski[2]

	Early Initiators with			
	Persistently High Adherence (n = 747)	Moderate-to-High Adherence (n = 357)	Declining Adherence (n = 248)	Early Discontinuation (n = 393)
Buprenorphine treatment patterns				
Mean daily dose (mg/day) during first trimester, (SD)†	17.4 (5.5)	13.3 (7.5)	16.6 (5.9)	12.6 (8.5)
Mean daily dose (mg/day) during pregnancy, (SD)†	17.6 (5.5)	15.7 (5)	16.5 (5.8)	15.5 (6.2)



The Pregnancy Recovery Center: A women-centered treatment program for pregnant and postpartum women with opioid use disorder

Elizabeth E. Krans[a,b,*], Stephanie Bobby[a], Michael England[a], Robert H. Gedekoh[a], Judy C. Chang[a,b], Bawn Maguire[a], Patty Genday[a], Dennis H. English[a]

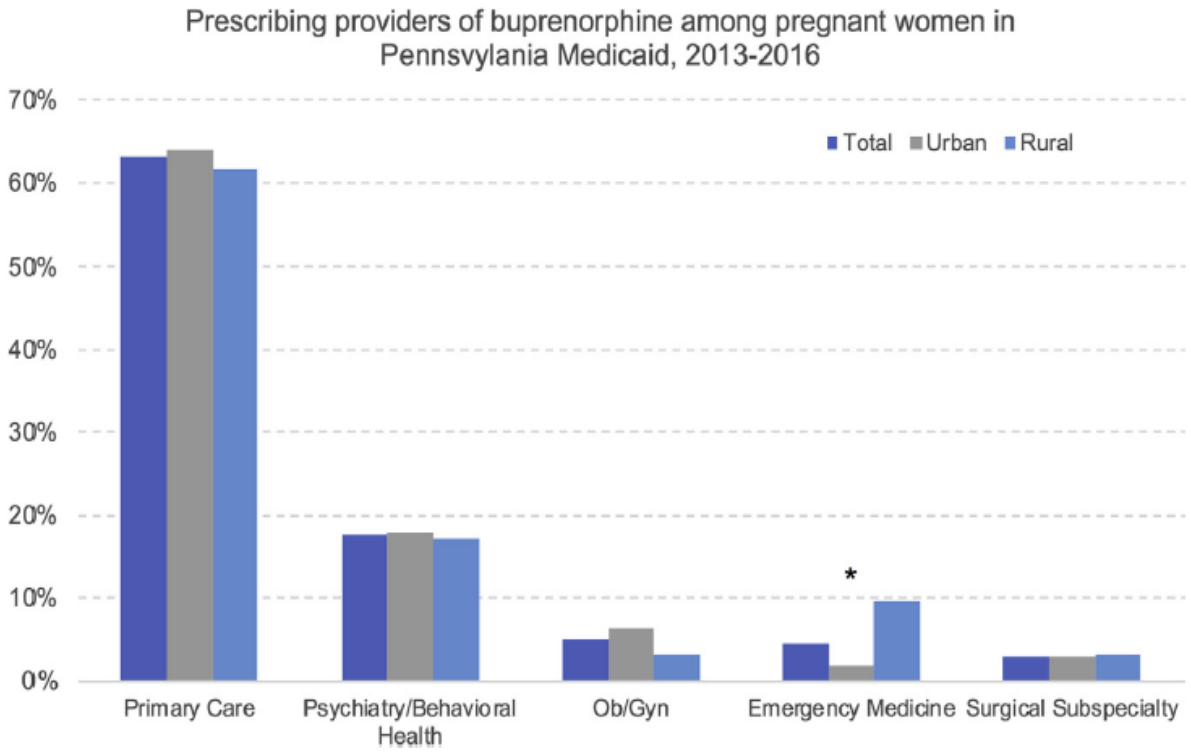
Outcomes among PRC vs. non-PRC pregnant women with OUD, n=248

	PRC N=71	Non-PRC N=177	P-value
Illicit opioid use at delivery	3 (4.2%)	20 (11.3%)	0.08
Delivery dose [mg; mean (± SD)]	16.0 (± 6.8)	14.1 (± 5.6)	0.02
# of prenatal care visits [mean (± SD)]	9.2 (± 3.2)	8.6 (± 3.2)	0.23
Postpartum visit attendance	38 (67.9%)	61 (52.6%)	0.05
Breastfeeding at time of hospital discharge	34 (48.6%)	70 (40.7%)	0.26
Highly effective postpartum contraception (i.e. LARC)	17 (23.9%)	23 (13.0%)	0.03

Women-centered programming for women with opioid use disorder	
Topic	**Recommendations**
Family planning	• Encourage long-acting reversible contraceptive (LARC) methods • Provide immediate postpartum LARC services
Infant Feeding	• All patients should receive breastfeeding education and support • Initiate engagement with WIC (Womens, Infants and Children/Food and Nutritional Services)
Trauma-informed care	• Understanding the neurobiology of trauma • Support training of trauma-informed care for all staff • Screen for physical and sexual violence • Coordinate care with behavioral health/psychiatric care teams
Parenting	• Provide parenting skills training and education • Link patients and children to social support services (i.e. WIC, early intervention programs)
Childcare	• Provide safe sleep education • Offer and provide childcare services during recovery appointment times
Housing/resource Assistance	• Integrate social services with an on-site social worker • Develop and coordinate a “Plan of Safe Care” with social services providers
Infectious Disease	• Provide sexually transmitted disease testing and treatment • Connection to HCV/HIV treatment providers if identified on screening • Encourage condom use
Prenatal/Postpartum Care	• Ensure compliance with prenatal and postpartum care visits • Additional prenatal visits may be warranted to address psychosocial
Behavioral Health	• Offer women-only support groups • Screen for co-occurring depression/anxiety

MAT and Ob/Gyn

FIGURE
Medical specialty of buprenorphine prescribers for pregnant women with opioid use disorder, 2013–2016 (n = 569)



Hollander et al. *AJOG*, 2019

Response: clinical pathways

Postpartum pain management

Vaginal Delivery (Standard)

Precheck	Order:	Order Sentence Details:
☑	ibuprofen	600 mg, By Mouth, Q6H, Drug Form: Tab, Duration: 24 HR, Should not be given within 6 hours of Ketorolac (ToradoL) administration
☑	ibuprofen	600 mg, By Mouth, Q6H, Drug Form: Tab, PRN, Pain, Mild (1-3), Start: T+1;N, Should not be given within 6 hours of Ketorolac (ToradoL) administration
☑	acetaminophen	650 mg, By Mouth, Q6H, Drug Form: Tab, PRN, Pain (Breakthrough) Acetaminophen: At home: Use no more than 3000mg/24hrs In hospital: Use no more than 4000mg/24hrs

Vaginal Delivery (OUD)

Precheck	Order:	Order Sentence Details:
☑	ibuprofen	800 mg, By Mouth, Q8H, Drug Form: Tab, Should not be given within 6 hours of Ketorolac (Toradol) administration
☑	acetaminophen	650 mg, By Mouth, Q6H, Drug Form: Tab, PRN, Pain (Breakthrough) Acetaminophen: At home: Use no more than 3000mg/24hrs In hospital: Use no more than 4000mg/24hrs
☐	buprenorphine	mg, Sublingual, Daily, Drug Form: Tab, Do not use any other opioids with these medications. NSAIDs and/or Acetaminophen can be prescribed in conjunction.
☐	methadone	mg, By Mouth, Drug Form: Tab, Do not use any other opioids with these medications. NSAIDs and/or Acetaminophen can be prescribed in conjunction.

Postpartum pain management

Cesarean Delivery (Standard)

Precheck	Order:	Order Sentence Details:
☑	ketorolac (Toradol)	30 mg, IV Push, Q6H, Drug Form: Injection, Duration: 4 Dose(s)/Time(s), See UPMC/RX guidelines for med specific IV push rates
☑	ibuprofen	600 mg, By Mouth, Q6H, Drug Form: Tab, Start: T+1:N, Should not be given within 6 hours of Ketorolac (Toradol) administration
☑	acetaminophen	650 mg, By Mouth, Q6H, Drug Form: Tab, PRN, Pain, Moderate (4-6) Acetaminophen: At home: Use no more than 3000mg/24hrs In hospital: Use no more than 4000mg/24hrs
☑	oxycodone	5 mg, By Mouth, Q4H, Drug Form: Tab, PRN, Pain, Severe (7-10)
☐	oxycodone	10 mg, By Mouth, Q4H, Drug Form: Tab, PRN, Pain (Breakthrough)

Cesarean Delivery (OUD)

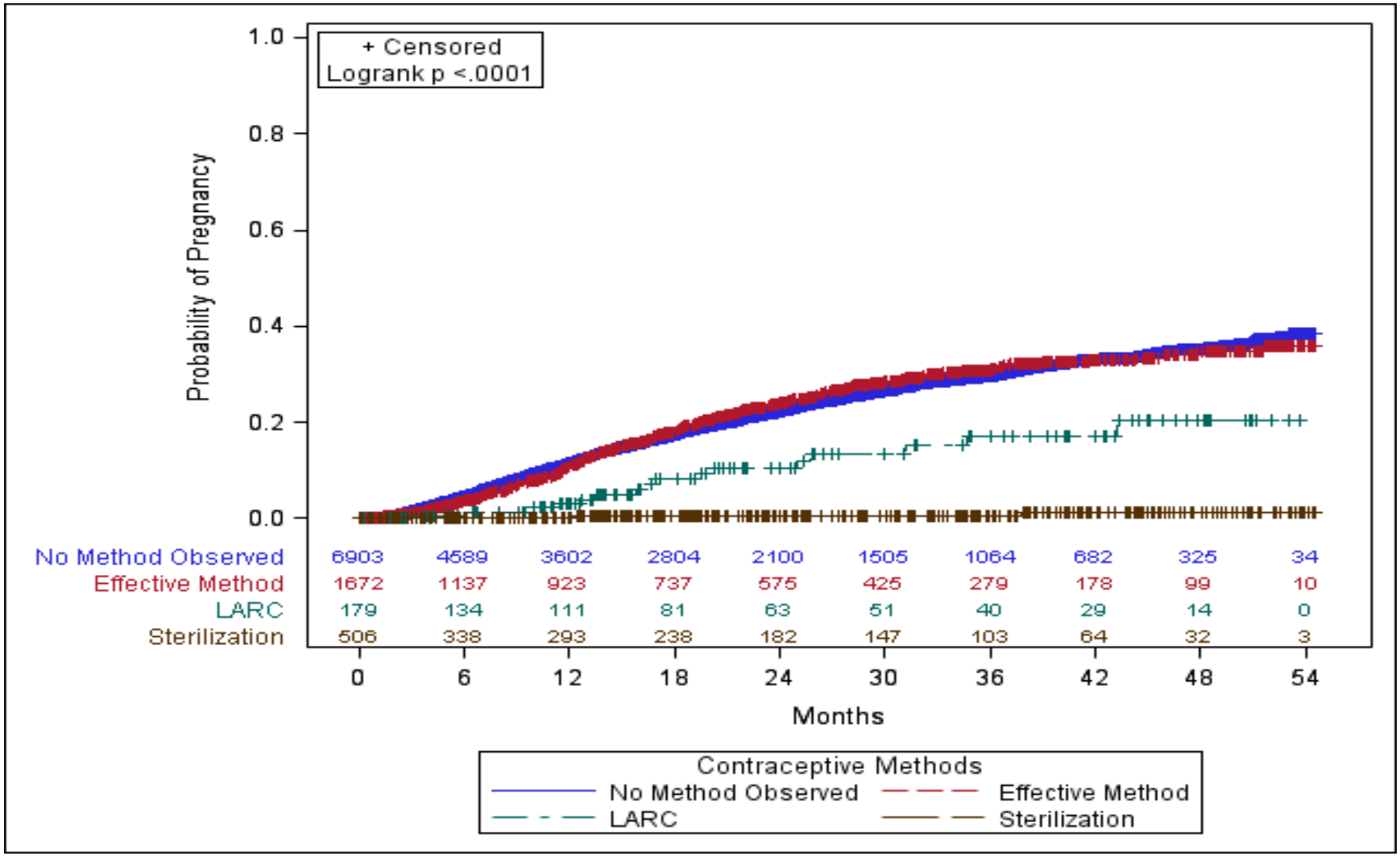
Precheck	Order:	Order Sentence Details:
☑	ketorolac (Toradol)	30 mg, IV Push, Q6H, Drug Form: Injection, Duration: 8 Dose(s)/Time(s), See UPMC/RX guidelines for med specific IV push rates
☑	ibuprofen	800 mg, By Mouth, Q8H, Drug Form: Tab, Start: T+2:N, Should not be given within 6 hours of Ketorolac (Toradol) administration
☑	acetaminophen	650 mg, By Mouth, Q6H, Drug Form: Tab, PRN, Pain (Breakthrough) Acetaminophen: At home: Use no more than 3000mg/24hrs In hospital: Use no more than 4000mg/24hrs
☐	buprenorphine	mg, Sublingual, Daily, Drug Form: Tab, Do not use any other opioids with these medications. NSAIDs and/or Acetaminophen can be prescribed in conjunction.
☐	methadone	mg, By Mouth, Drug Form: Tab, Do not use any other opioids with these medications. NSAIDs and/or Acetaminophen can be prescribed in conjunction.

Postpartum contraceptive use and interpregnancy interval among women with opioid use disorder

Elizabeth E. Krans[a,b,*], Joo Yeon Kim[c], Alton Everette James III[c], David K. Kelley[d], Marian Jarlenski[c]

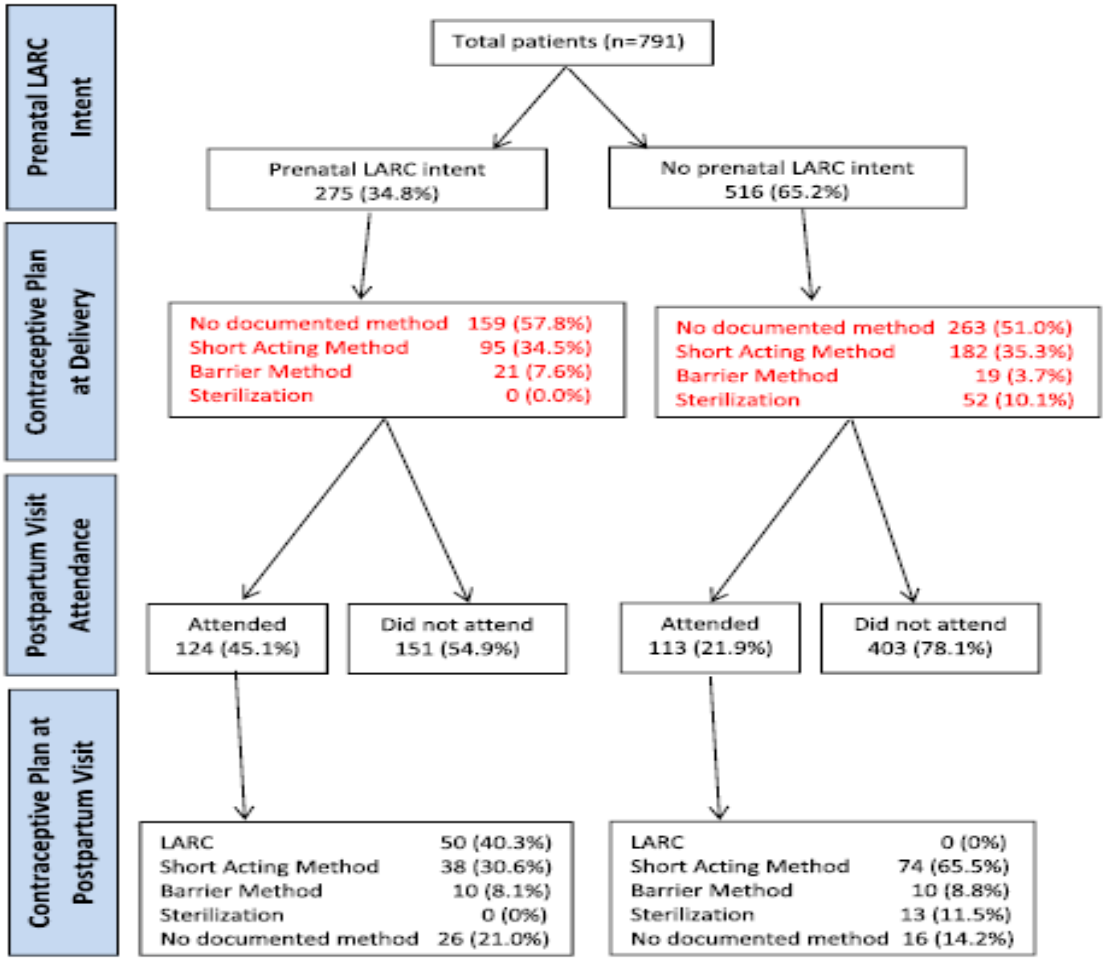
N=9260	
No method observed	6903 (74.5)
Effective methods (user-dependent)	1672 (18.1)
Oral contraceptives	1219 (13.2)
Injection	309 (3.3)
Vaginal ring	144 (1.6)
Patch	0 (0)
Highly effective methods	685 (7.4)
Female sterilization	506 (5.5)
LARC	179 (1.9)

Postpartum contraceptive method choice and time to next pregnancy



Prenatal intent and postpartum receipt of long-acting reversible contraception among women receiving medication-assisted treatment for opioid use disorder

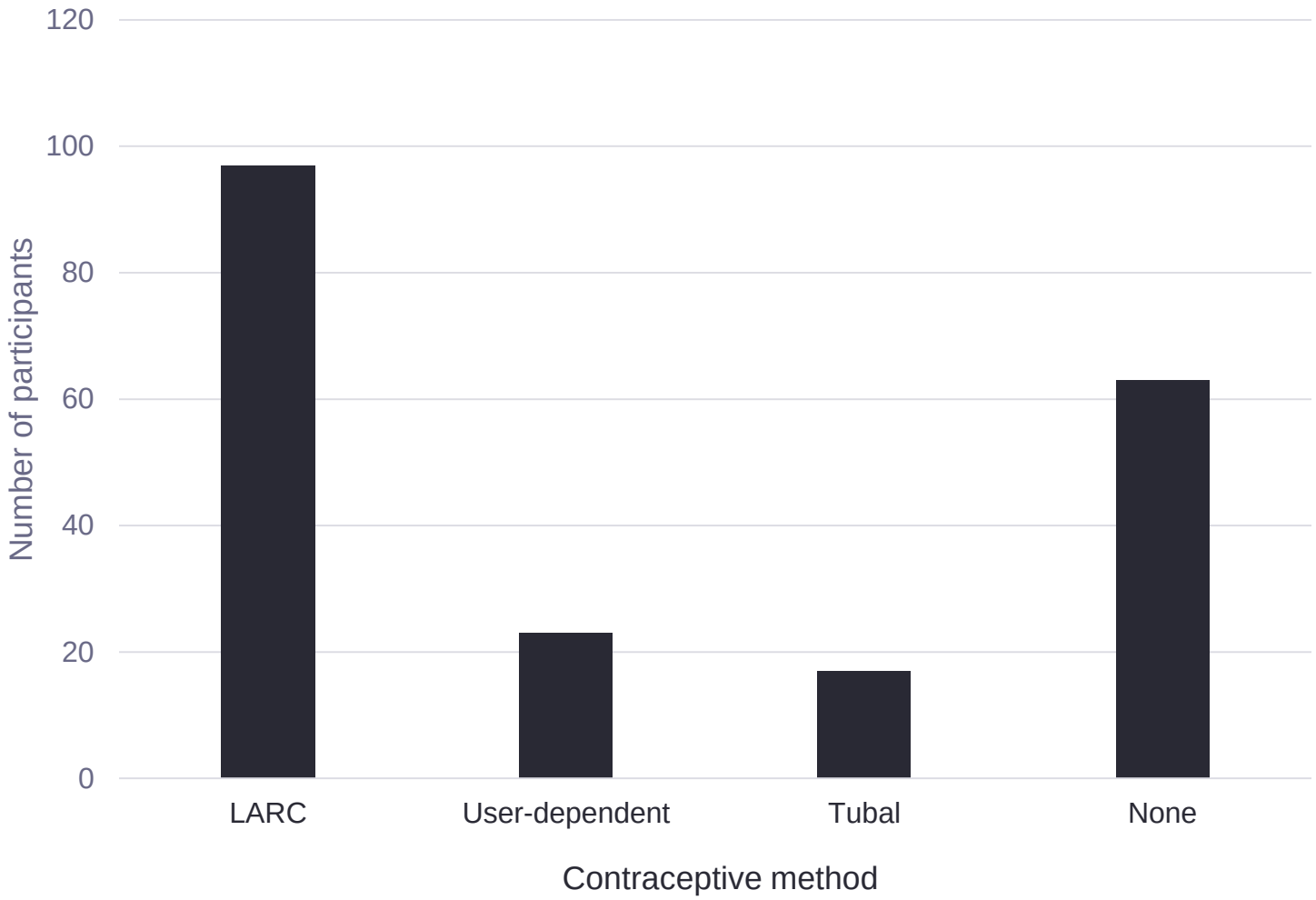
Anupama Kotha [a], Beatrice A. Chen [a,b], Lauren Lewis [c], Shannon Dunn [b], Katherine P. Himes [a,b], Elizabeth E. Krans [a,b,*]



Immediate postpartum contraception

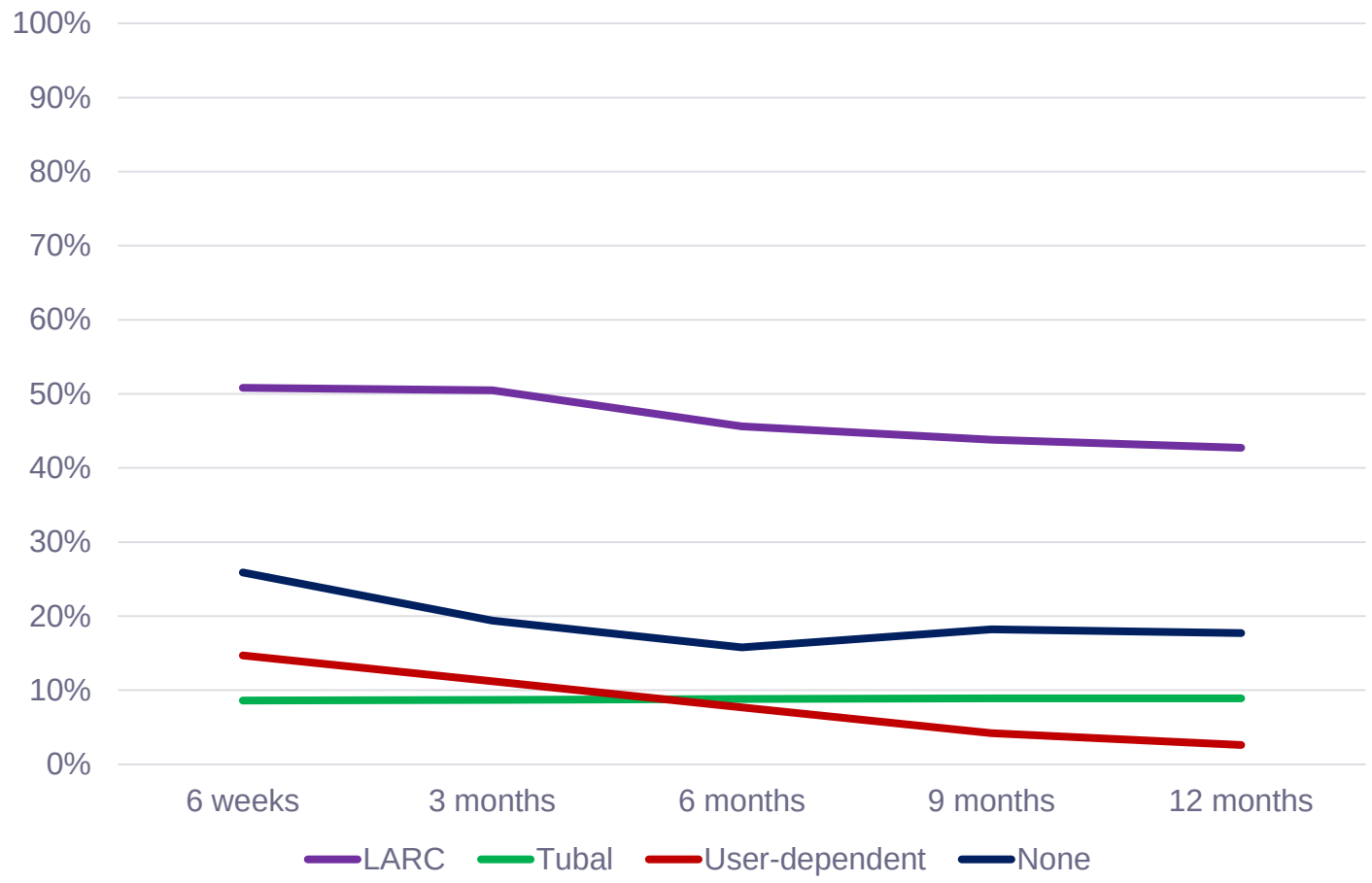
- Plan NOW
  - Prospective observational clinical trial of 200 pregnant women with OUD
  - Following contraceptive counseling, participants were offered Nexplanon in the immediate postpartum period (1-4 days after delivery) vs. usual care and followed for 1 year postpartum
- Outcomes
  - Postpartum contraceptive use, continuous hormonal contraceptive rates, rapid repeat pregnancy, contraceptive satisfaction
  - Sexual behavior, postpartum depression, breastfeeding, stress

Immediate postpartum contraceptive method choice



97 (48.5%) chose Nexplanon (LARC) vs. 103 (51.5%) non-LARC method

Contraceptive method continuation at 12 months postpartum



Repeat pregnancy and interpregnancy interval at 12 months postpartum

Repeat Pregnancies n=21		
	Unintended	**Intended**
Number of pregnancies	14 (66.7)	7 (33.3)
Interpregnancy interval	4-12 months	6-12 months
Any postpartum contraception		
None	5 (35.7)	6 (85.7)
Depo	6 (42.9)	1 (14.3)
Nexplanon	2 (14.3)	0 (0.0)
Nuvaring	1 (7.1)	0 (0.0)
OCP	0 (0.0)	1 (14.3)

Maternal-Infant Dyad

- A structurally and functionally interconnected metabolic unit shared by a mother and fetus through the placenta

- “There is no such thing as a baby … If you set out to describe a baby, you will find you are describing a baby and someone. A baby can not exist alone, but is essentially part of a relationship.”

(D.W. Winnicott 1966)