

Management of Maternal Opioid Use Disorder to Improve Outcomes of Neonatal Abstinence Syndrome

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Tulane Neonatal Opioid Withdrawal Symposium * September 7, 2018 * New Orleans, LA

Disclosure

I **do not** have relationship(s) with commercial interests.

A commercial interest is any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients.

Case presentations

1. 35yo G6P3 presents to Labor and Delivery with vaginal bleeding and preterm labor, precipitous SVD, no prenatal care, discloses heroin use 12 hours prior.
2. 23yo G3P0 presents at 18w with symptoms of acute opiate withdrawal (nausea, vomiting, body aches, sweating), used street suboxone & percocet 2 days prior, states her prenatal provider told her to go to a hospital.

Objectives

- Introduce scale of opioid use in women of reproductive age
- Review professional society guidelines for management of opioid use disorders during pregnancy
- Share state strategies to prevent and mitigate impact of Neonatal Opioid Withdrawal Syndrome
- Discuss participants' barriers to implementation & opportunities for collaboration/improvement
- Share resources

Acknowledgements:

*David Schiff, MD MS, Mass General
Kelley Saia, MD, Boston University Medical Center
Mishka Terplan, MD MPH, VCU*

Objectives

- Introduce scale of opioid epidemic in women of reproductive age
 - Historical content
 - Epidemiology
- Review guidelines for management of maternal opioid use disorder
- Share state strategies to prevent and mitigate impact of Neonatal Opioid Withdrawal Syndrome
- Discussion: barriers to implementation & opportunities for collaboration/improvement

“I want to do the right thing by my baby. I want to do the right thing in general for myself. But I probably wouldn’t have done anything if I wasn’t pregnant.”

-RESPECT the Story Study, 2016



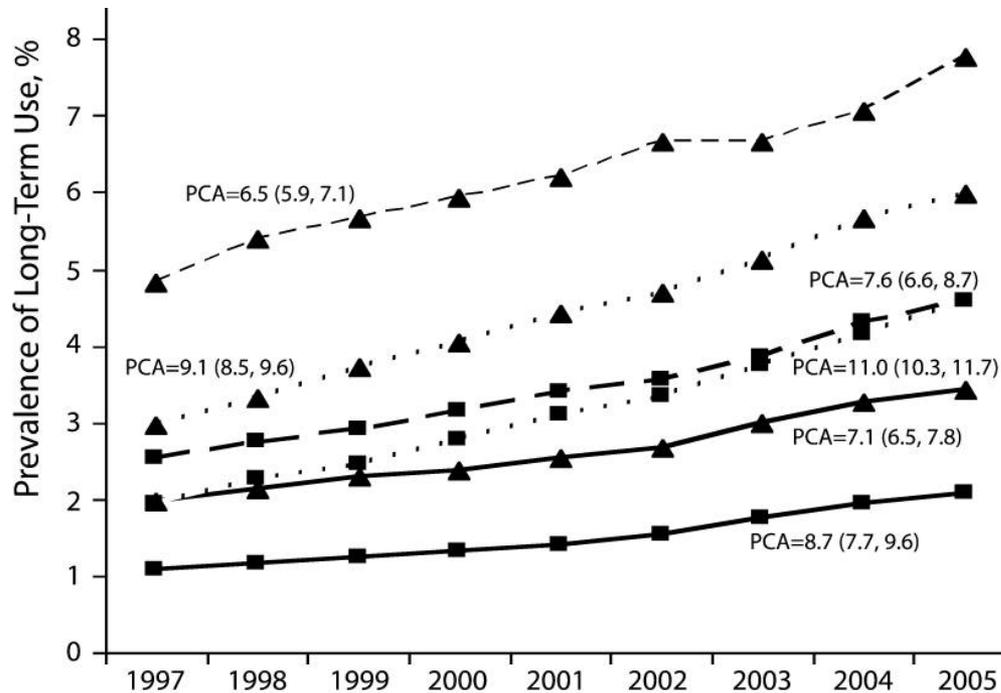
Eugene Grasset, La Morphinomane
[The Morphine Addict], 1897



Laudanum bottle. Source: University of Buffalo, Addiction Research Unit

Opioid use among women

- Women are more likely to be prescribed opioids, more likely to use them for a longer period of time



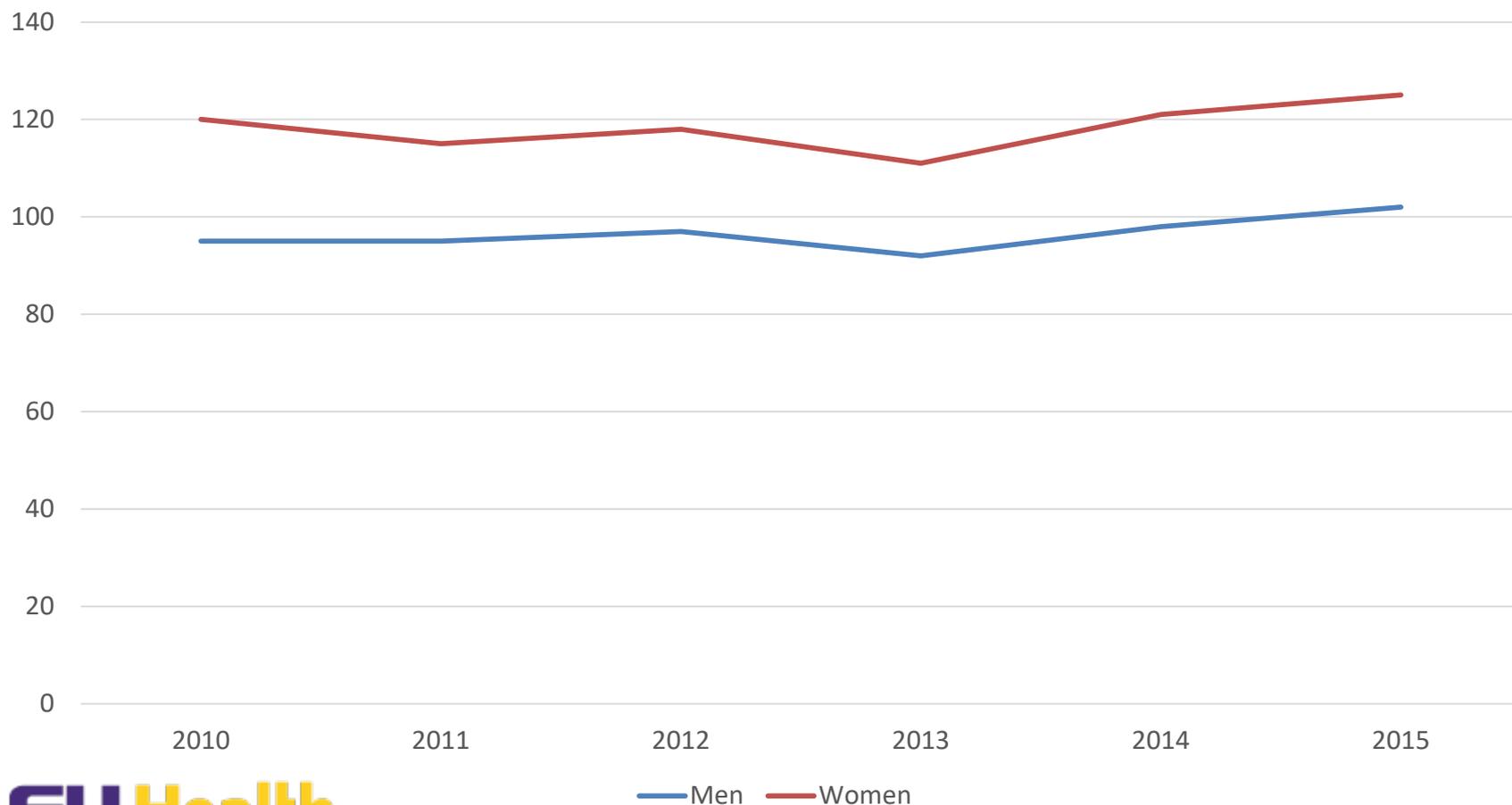
Group Health Cooperative, Campbell, *AJPH*, 2010

Slide courtesy

David Schiff, MD MS, Mass General



Opioid prescriptions per 100 Louisiana residents, by gender (2010-2015)

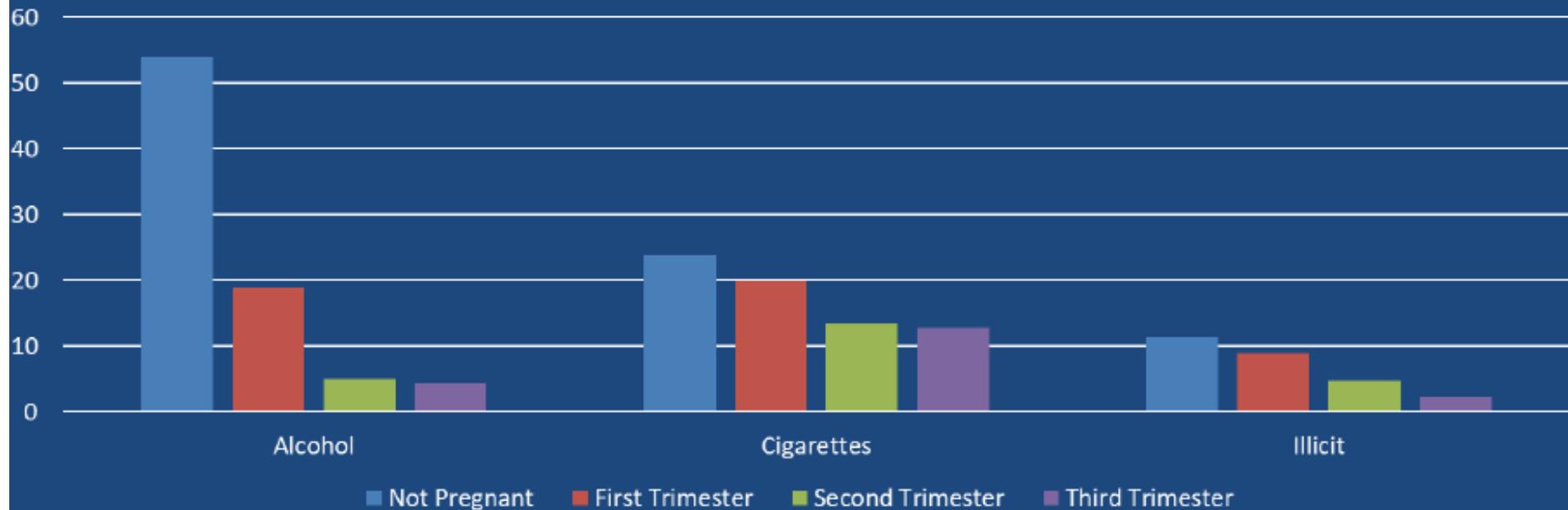


Opioid use in women

- Women now using heroin at similar rates to men, significant increases over the past four decades

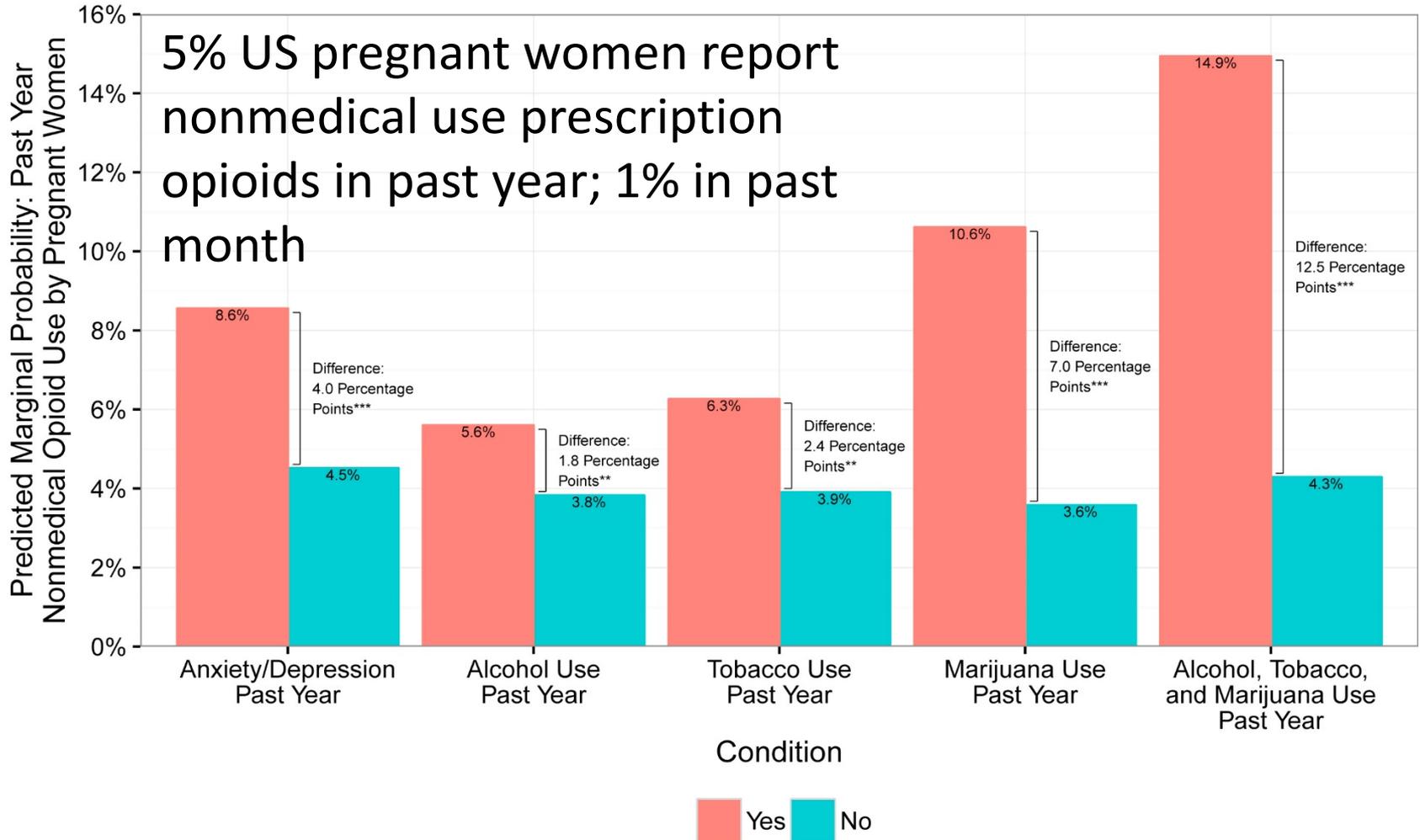
Cicero, *JAMA Psychiatry*, 2014

What happens when women who use drugs get pregnant?



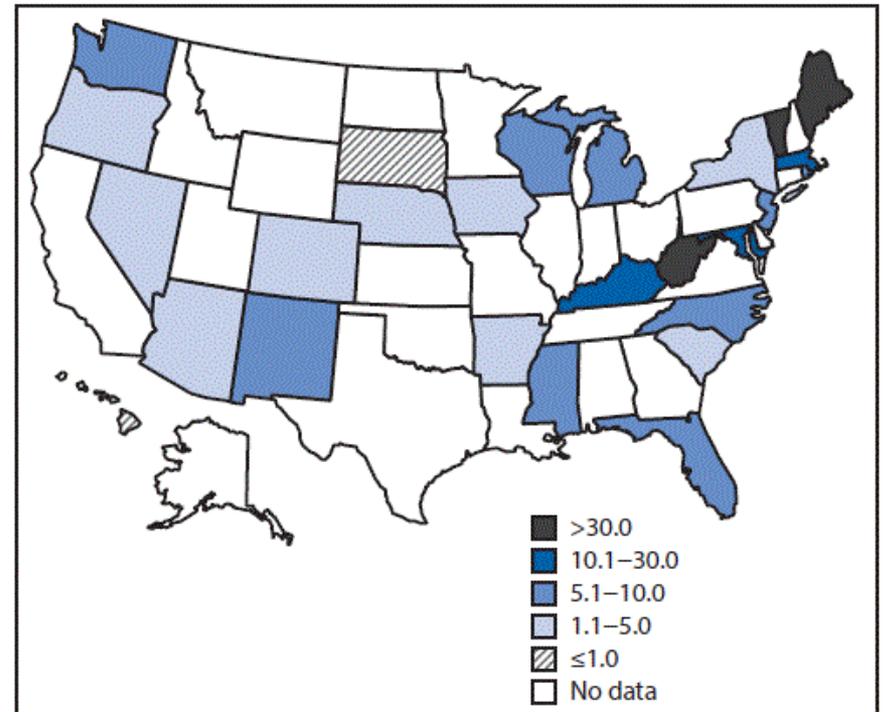
National Survey Drug Use and Health 2013/2014
Past Month Use Data

Nonmedical Opioid Use in Pregnancy



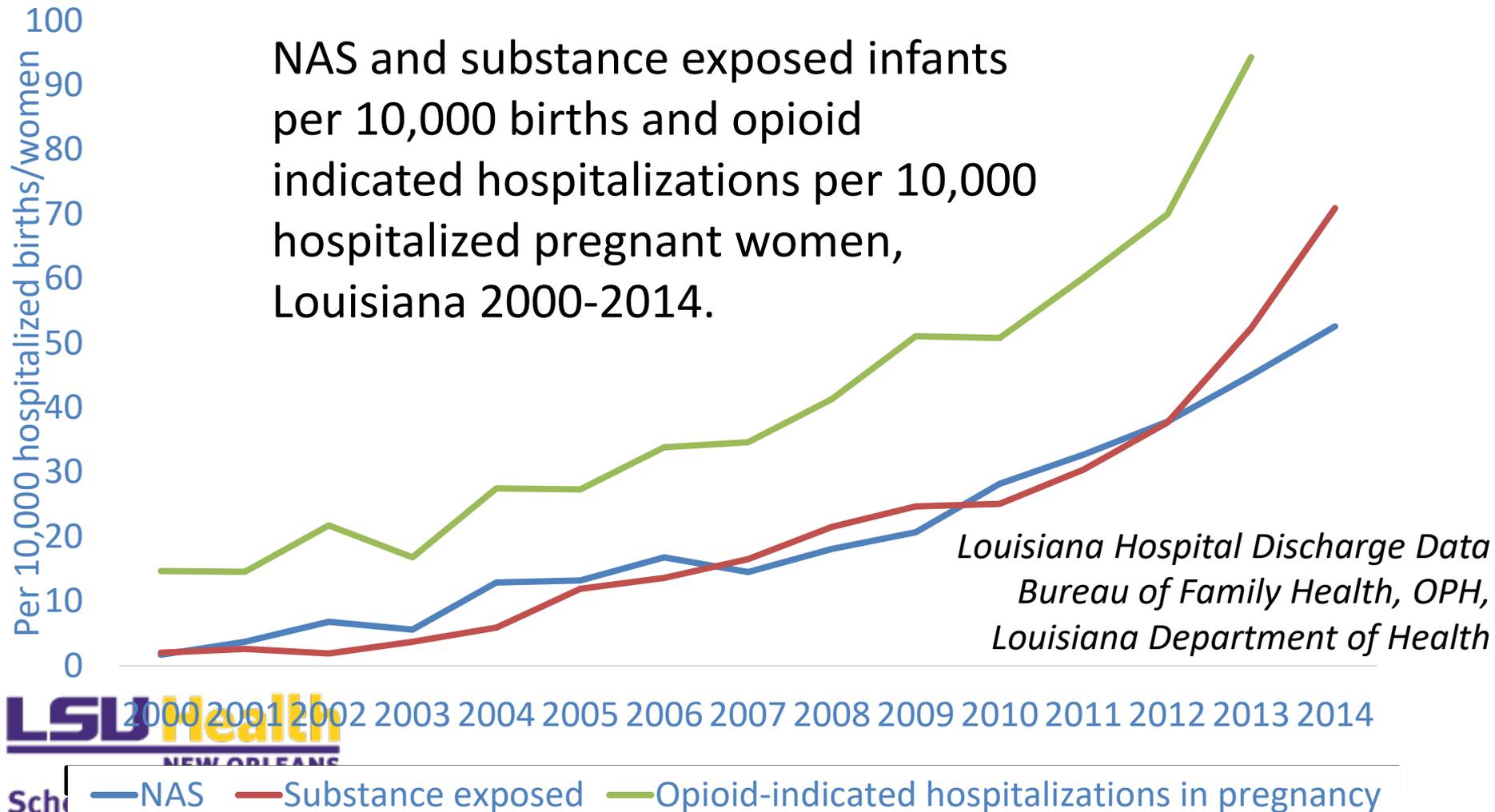
Neonatal abstinence syndrome > “Neonatal opioid withdrawal syndrome”

- Increase in neonatal opioid withdrawal syndrome affecting 1 per 1,000 births in 2000 to 5-6 per 1,000 births in 2015 (Patrick, 2012, Ko, 2016)
- Appalachia/New England with highest rates, in some states >30 per 1,000 births

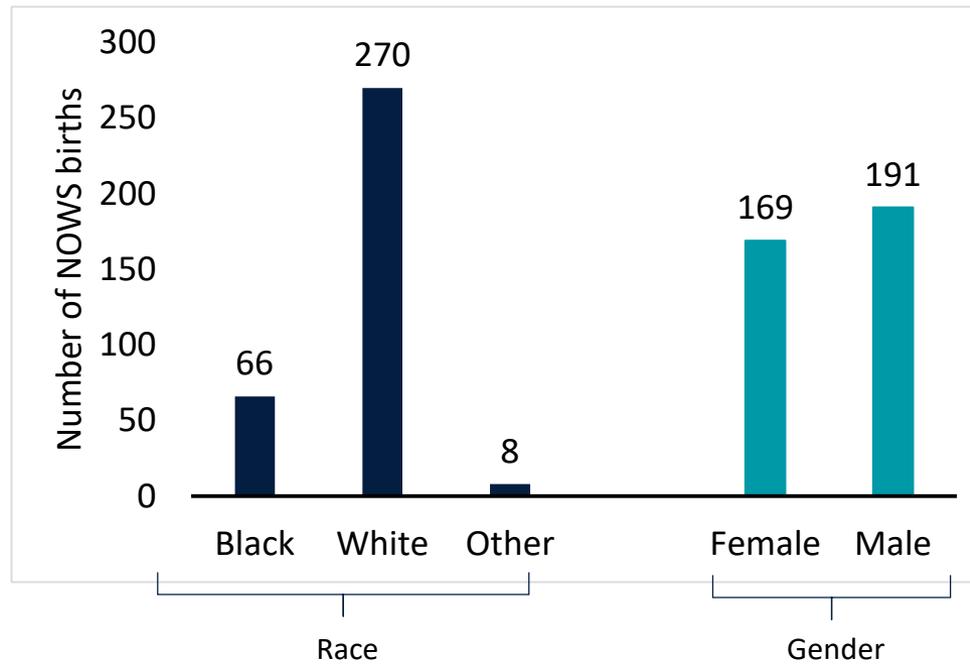


2012-2013 State Inpatient Databases, Ko, 2016

Neonatal opiate withdrawal syndrome per 10,000 Louisiana births 2000-2014

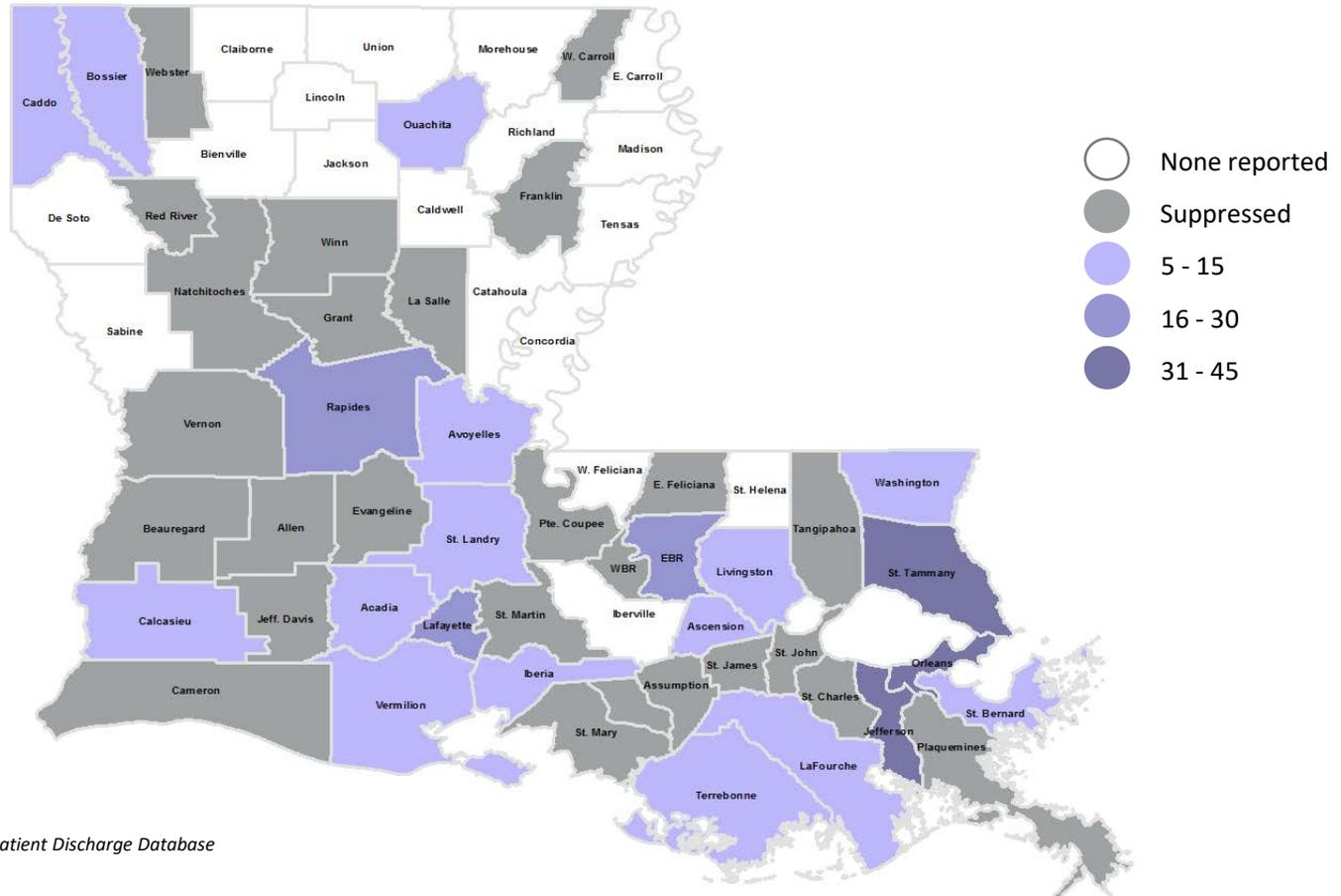


Demographics of babies born with NOWS Louisiana, 2017



Data source: Louisiana Hospitalization Inpatient Discharge Database
Code used to define NOWS: P96.1

Neonatal Opioid Withdrawal Syndrome births by parish of patient residence Louisiana, 2017



Data source: Louisiana Hospitalization Inpatient Discharge Database
Code used to define NOWS: P96.1

Maternal Opioid Use (2014)

Characteristics of pregnant women	With indication of opioid use (N= 581) N [%]	Without indication of opioid use (N= 61,050) N [%]
Age*		
15 to 24	162 [28]	22,656 [37]
25 to 34	363 [62]	32,331 [53]
35 to 44	56 [10]	6,063 [10]
Race/ethnicity*		
African American	128 [22]	21,316 [35]
Caucasian/White	402 [69]	32,205 [53]
Other/Unknown	46 [9]	6,180 [12]
Marital Status*		
Married/Life partner	153 [26]	24,806 [41]
Single	373 [64]	33,175 [54]
Divorced/Separated	27 [4]	1,281 [3]
Unknown	29 [5]	1,788 [3]
Employment Status*		
Employed fulltime	122 [21]	20,113 [33]
Employed part-time	16 [3]	1,598 [3]
Not employed	259 [45]	20,130 [33]
Other/Unknown	189 [31]	19,209 [31]

Outline

- Introduce scale of opioid epidemic in women of reproductive age
- Review professional society guidelines for management of opioid use disorder during pregnancy
 - Prevention
 - Screening & connection to medication assisted treatment
 - Management of comorbidities
 - Urine drug screening
 - Prenatal care models
 - Managing stigma
- Define “neonatal abstinence syndrome” and discuss assessment and treatment of neonatal withdrawal symptoms from in-utero opioid exposure
- Share state strategies to prevent and mitigate impact of NAS/NOWS
- Discuss participants’ barriers to implementation & opportunities for collaboration/improvement

“And I had to stay in the hospital for about a month. They tried to keep me here as long as they could, honestly. Probably, for that specific reason. Stay clean and stuff. They wanted to find me a placement. But they never did. And I ended up leaving. I got tired.”

-RESPECT the Story Study, 2016

Opioid use disorder

- Chronic treatable relapsing, remitting disease
- Treated successfully with medication, behavioral therapy, and recovery support
- Pattern of opioid use characterized by
 - Tolerance
 - Craving
 - Inability to control use
 - Continued use despite adverse consequences



Prevention of opioid use disorders

- Is an opioid indicated?
- Alternative modalities for chronic pain
- Obtain history of substance use and use LA Prescription Drug Monitoring Program
<https://louisiana.pmpaware.net/login>
- Discuss risks and benefits and review treatment goals before prescribing
- **Are psychiatric comorbidities being managed?**
- Discuss **reproductive goals** and maintain access to tools for family planning and birth spacing

ONE KEY QUESTION®

- “Would you like to be pregnant in next year?”
- <https://powertodecide.org/one-key-question>
- Endorsed by 30 professional organizations
- Yes
 - Medication review!
 - Preconception/early PNC
 - Folic acid
 - Substance use screening
- No
 - Contraception use, access, EC
- OK Either way
- Not sure
- Goal is to start conversation, not categorize women

Assessment during pregnancy

- Early identification is key
- SBIRT (Screening, Brief Intervention, Referral Tx)
 - Allows for early intervention and treatment that minimizes potential harms to the mother, fetus, neonate
 - Maximizes motivation for change during pregnancy
- Universal screening is recommended (4Ps, NIDA, CRAFFT)
- **Selective screening by “risk factors” perpetuates discrimination and misses most women with problematic use**

How well are we doing with screening?

Louisiana Medicaid SUD Screening in Pregnancy for CY 2017 Births

	Distinct Count of Women	Rate
Number of women who gave birth in CY2017	34,896	
Number of women who gave birth in CY2017 and have a claim for SUD Screening during pregnancy with the following CPT codes: 99408, 99409, G0396, G0397, G0442, G0443, H0049, H0050	1,324	3.79%
Number of women who gave birth in CY2017 and have a claim for SUD Screening during pregnancy with CPT code H0049	1,317	3.77%
Number of women who gave birth in CY2017 and have a claim for SUD Screening during pregnancy with CPT code H0050	7	0.02%
Number of women who gave birth in CY2017 and have a claim for SUD Screening during pregnancy with CPT codes H0049 or H0050	1,322	3.79%

Excludes women who had dual eligibility/third party insurance at any point during the pregnancy. Limited to women who were enrolled in Medicaid during the month of delivery. Data courtesy Louisiana Medicaid/University Louisiana at Monroe, 9/5/18.

Routine urine drug screening is controversial and not recommended

- Not effective as sole assessment
 - Short detection window & substance dependent
 - False positives occur and are devastating
 - Might not capture sporadic or intermittent use
 - Does not capture synthetic opioids (may need confirmation testing)
- Ethical issues – patient needs to give consent prior to specimen collection on L+D in compliance with law – (Ferguson vs the City of Charleston, 2001)

Medication-assisted treatment of OUDs in pregnancy

- Opioid agonist treatment (OAT) with methadone or buprenorphine is the standard of care for treatment of pregnant women with OUD; naloxone should not be withheld for resuscitation in overdose
- MOTHER Trial (2010)
 - RCT of Buprenorphine v. Methadone
 - Buprenorphine: shortened length of stay for infants
 - Methadone: lower discontinuation (18% v. 33%)

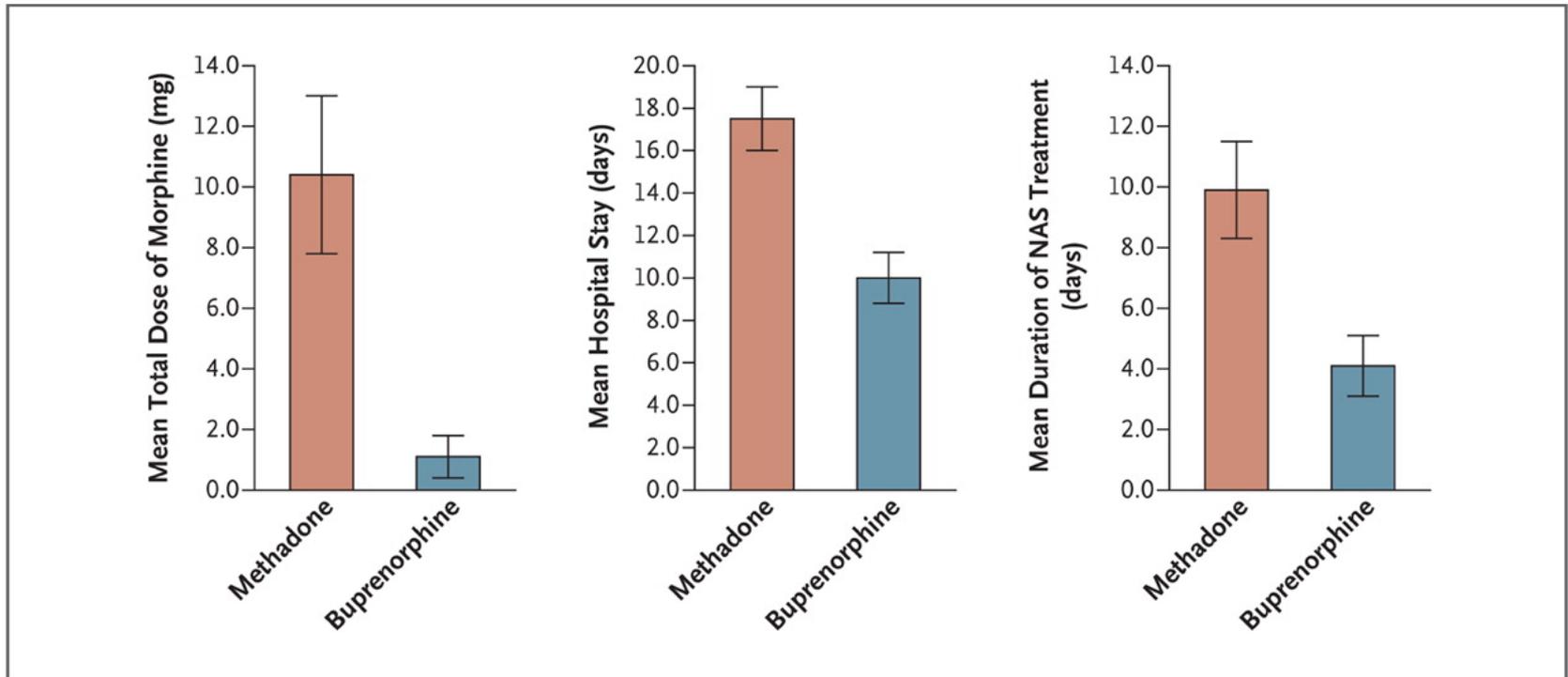
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

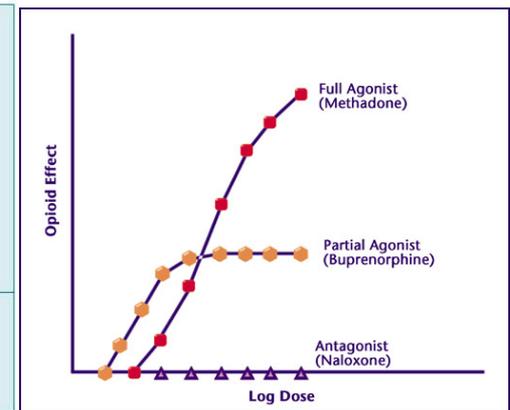
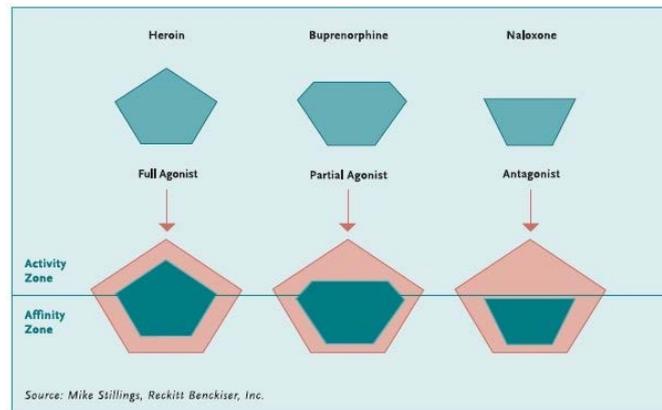
Neonatal Abstinence Syndrome after Methadone or Buprenorphine Exposure

Hendrée E. Jones, Ph.D., Karol Kaltenbach, Ph.D., Sarah H. Heil, Ph.D., Susan M. Stine, M.D., Ph.D., Mara G. Coyle, M.D., Amelia M. Arria, Ph.D., Kevin E. O'Grady, Ph.D., Peter Selby, M.B., B.S., Peter R. Martin, M.D., and Gabriele Fischer, M.D.
Jones HE et al. N Engl J Med 2010;363:2320-2331.

Mean Neonatal Morphine Dose, Length of Neonatal Hospital Stay, and Duration of Treatment for Neonatal Abstinence Syndrome



Jones HE et al. N Engl J Med 2010;363:2320-2331.



Medically supervised withdrawal

- “Pharmacotherapy is preferable to medically assisted withdrawal because withdrawal is associated with high relapse rates which lead to worse outcomes”
- No relationship between methadone dose and severity of NAS/NOWS symptoms
- Women with methadone dose <80mg had higher risk of illicit drug use prior to birth with same average NAS/NOWS scores (13.3 vs 13.6d day)

Berghella AJOG 2013



Comprehensive OB/addiction treatment

- Early Start, is the largest obstetric clinic-based substance use treatment program
- Participants had significantly lower preterm birth, improved birthweight, placental abruption, and less fetal demise
- Program reduced maternal and neonatal health care costs

Journal of Perinatology (2008) 28, 597–605
© 2008 Nature Publishing Group All rights reserved. 0743-8346/08 \$30
www.nature.com/jp



ORIGINAL ARTICLE

Substance abuse treatment linked with prenatal visits improves perinatal outcomes: a new standard

NC Goler¹, MA Armstrong², CJ Taillac³ and VM Osejo³

¹Department of Obstetrics and Gynecology, The Permanente Medical Group, Northern California Region, Vallejo, CA, USA; ²Division of Research, Kaiser Permanente Medical Care Program, Oakland, CA, USA and ³Kaiser Foundation Health Plan, Patient Care Services, Oakland, CA, USA

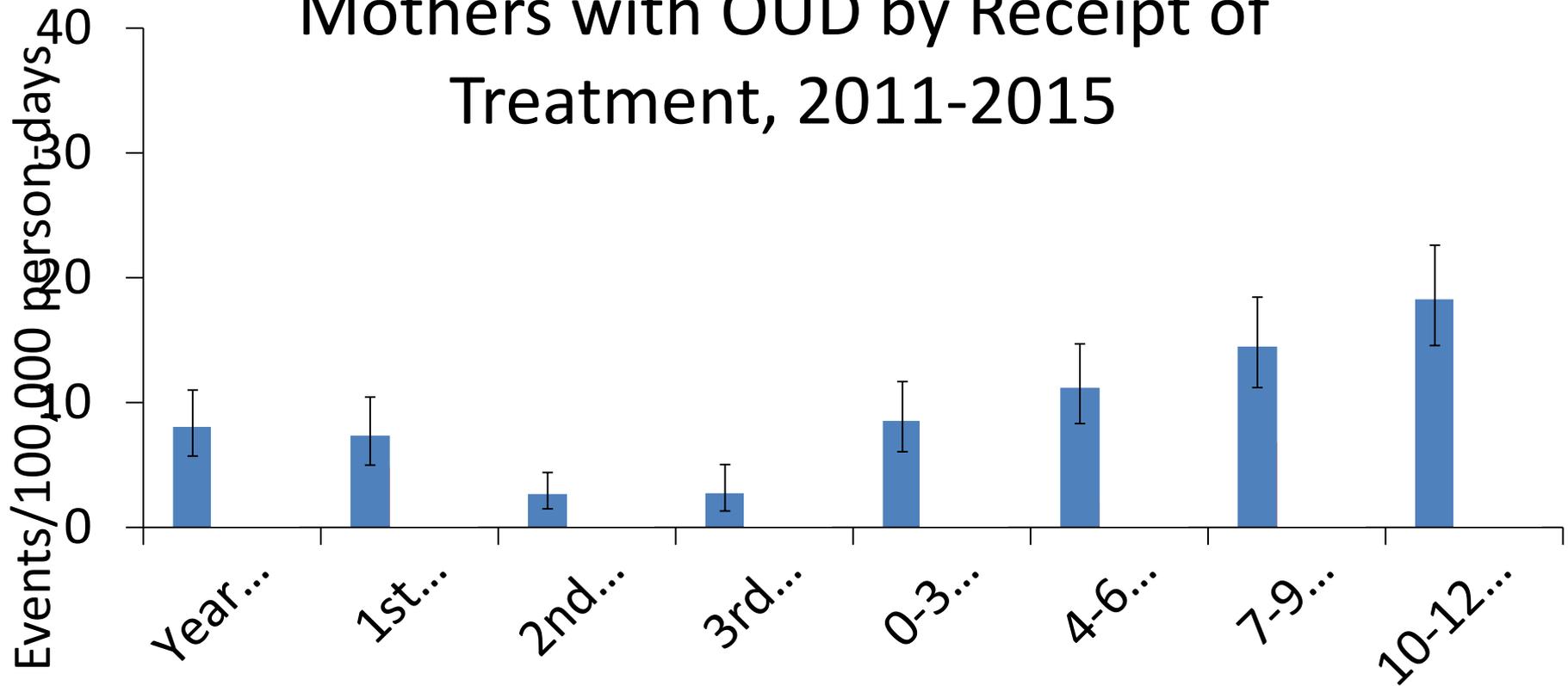


Early Start

A Cost-Beneficial Perinatal Substance Abuse Program

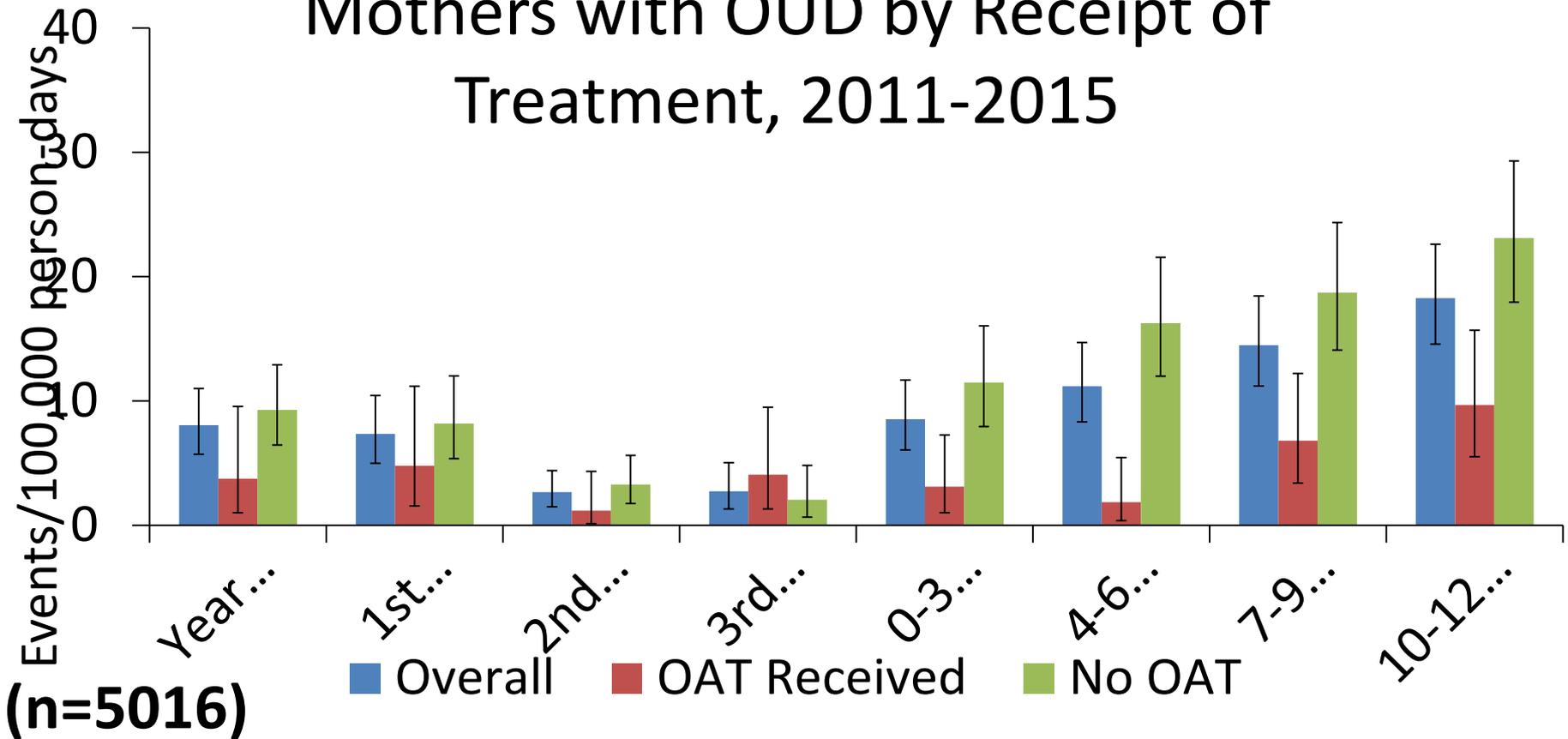
Nancy C. Goler, MD, Mary Anne Armstrong, MA, Veronica M. Osejo, BS, Yun-Yi Hung, PhD, Monica Haimowitz, LCSW, and Aaron B. Caughey, MD, PhD

Opioid Overdose Rates Among MA Mothers with OUD by Receipt of Treatment, 2011-2015



(n=5016)

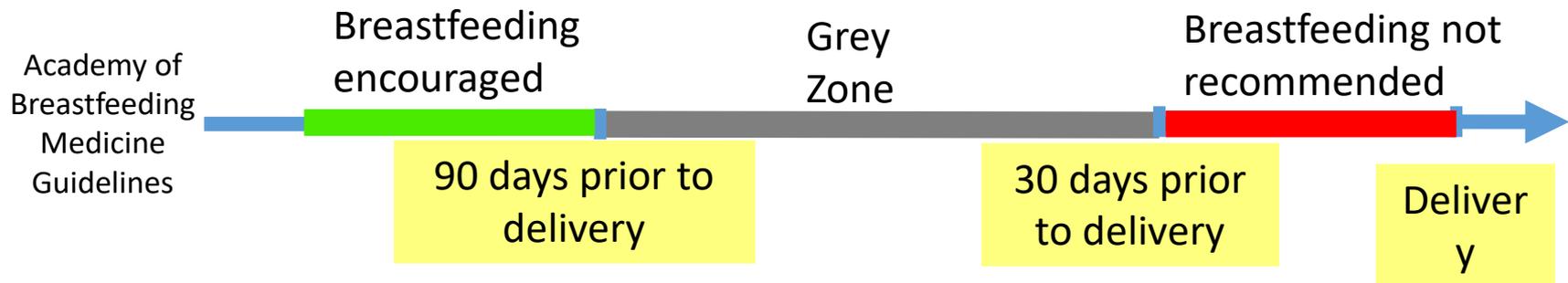
Opioid Overdose Rates Among MA Mothers with OUD by Receipt of Treatment, 2011-2015



Manuscript in Preparation, Schiff and Nielsen, 2017

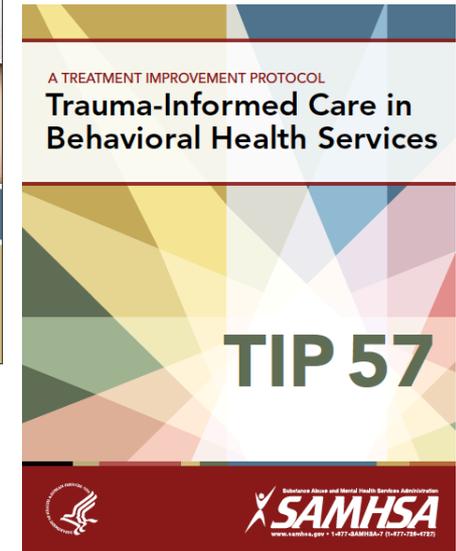
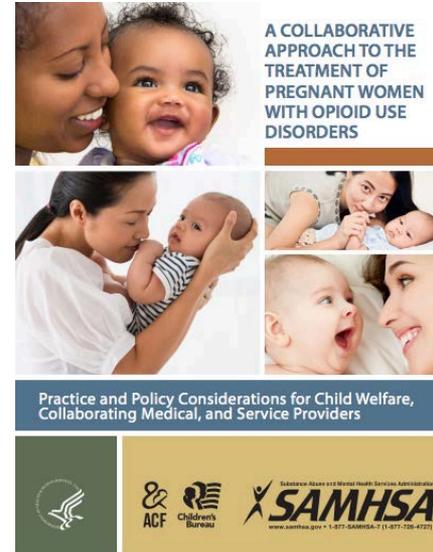
Breastfeeding and substance use

- Breastfeeding decreases the severity of NAS
- Professional organizations support breastfeeding in substance exposed infants if mother is:
 - In a substance use treatment program on opioid agonist therapy
 - Receiving consistent prenatal care
 - No medical contraindications to breastfeeding
 - No illicit drug use for a specified time period prior to delivery:



Gender-specific treatment programs

- Trauma-informed programs providing safe, welcoming, supportive, empowering programs
- Availability of specialized supports for pregnant and parenting women
- Comprehensive Mental Health Services
- Childcare
- Transportation



Co-managing mood disorders

- Safety of SSRIs in pregnancy with exception of paroxetine (cardiac defects)
- Most common effect is poor neonatal adaptation (PNA), prolonged when SSRIs combined with benzodiazepines
- SSRIs +benzodiazepines can impact NAS severity
- Mild moderate depression> CBT /interpersonal therapy
- First line treatment for anxiety> SSRIs
- Benzos relatively contraindicated in women with OUDs, can exacerbate sedating effects of MAT



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

LSU Health
NEW ORLEANS
School of Medicine

EXCLUSIVE: A Look Inside the CIA

TIME

CrACK Kids

Their mothers used drugs, and now it's the children who suffer

OUTDOOR SYSTEMS

IF YOU ARE ADDICTED TO DRUGS

Get birth control - get \$200 cash

STOP THE CYCLE OF ADDICTED NEWBORNS NOW!

1-888-30-CRACK

www.cashforbirthcontrol.com

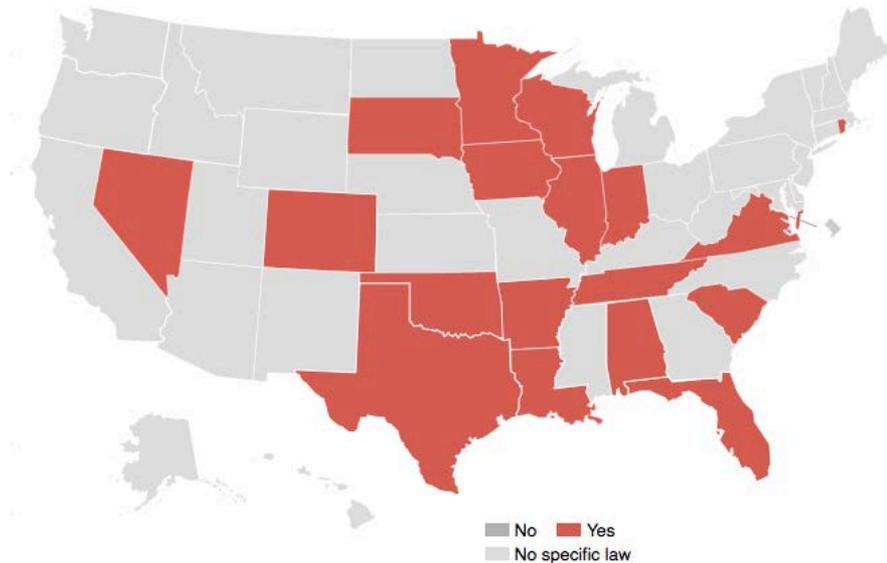
C.R.A.C.K., Children Requiring A Caring Community, is a non-profit organization

MAKE A TAX DEDUCTIBLE DONATION TODAY

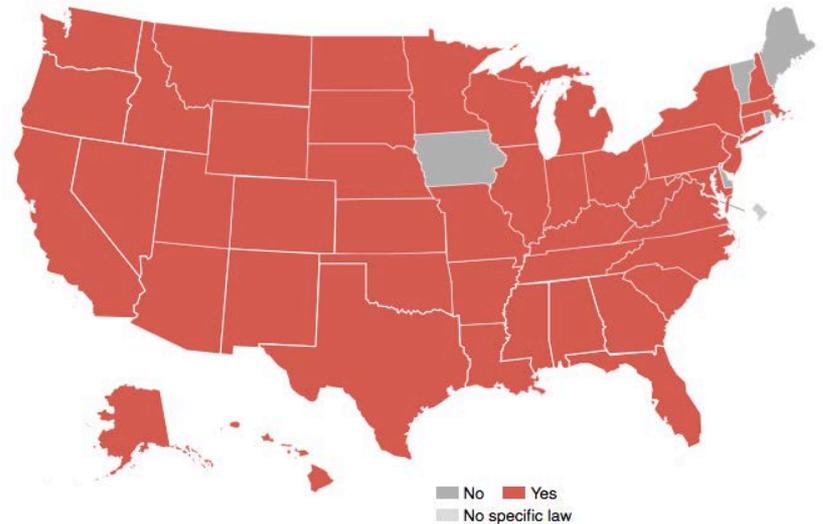


State prosecution/reporting laws

Substance “abuse” during pregnancy = child abuse



Prosecution for drug use



Propublica, 2015; Guttmacher Institute 2017

“I haven’t had any [prenatal care]. I went to the doctor that time that he told me to wean off. And then I made an appointment for a month later, but I never went back because I was still dirty. I didn’t want to piss dirty. I wanted to get clean...or at least do something like this where I’m on medication.”

-RESPECT the Story Study, 2016

Outline

- Introduce scale of opioid epidemic in women of reproductive age
- Review professional society guidelines for management of opioid use disorder during pregnancy
- Define “neonatal abstinence syndrome”/NOWS and discuss assessment and treatment of neonatal withdrawal symptoms from in-utero opioid exposure
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- Discuss participants’ barriers to implementation & opportunities for collaboration/improvement

A quick detour on language...

- Neonatal “Abstinence” Syndrome ?
- NAS initially coined by Loretta Finnegan in 1970’s

abstinence 

noun | ab·sti·nence | \ˈab-stə-nən(t)s\

“the practice of abstaining from something: the practice of not doing or having something that is wanted or enjoyable”



“the fact or practice of restraining oneself from indulging in something, typically alcohol.”

- Favored term by SAHMSA since 2016 is “Neonatal Opioid Withdrawal Syndrome”

A quick detour on language...

AG: Moms giving birth to drug-addicted babies committing 'child abuse'

Boston Herald staff Monday, March 23, 2015



Drug-addicted babies: Wailing, gnashing of teeth

Help's available for women, children but little used

By MELISSA KLARIC Herald Staff Writer Apr 9, 2016

Drug-addicted babies in Mass. are triple national rate

By [Tracy Jan](#) | GLOBE STAFF JUNE 19, 2014



New Online

Views 0

Citations 0

Altmetric 22



Medical News & Perspectives

ONLINE FIRST FREE



April 27, 2017

More ▾

A Day in the Life: NICU Medical Director Tends to Opioid-Addicted Infants

Jennifer Abbasi

Article Information

JAMA. Published online April 27, 2017. doi:10.1001/jama.2017.3567

Neonatal opiate withdrawal syndrome

- Expected and treatable consequence of opioid exposure in utero (ACOG 2012)
 - Illicit opioids, prescription opioids including medication-assisted therapy (methadone, buprenorphine)
- Without clear long term negative outcomes
- NOT “addiction” = chronic disease of control, craving, diminished recognition of problems in behaviors and relationships, progressive disease with relapse and remission
- Mechanism not understood, boys more likely to withdraw

Treatment options

Non-pharmacologic

- Rooming-in with parents
- Breastfeeding
- Skin-to-skin
- Swaddling, cuddling

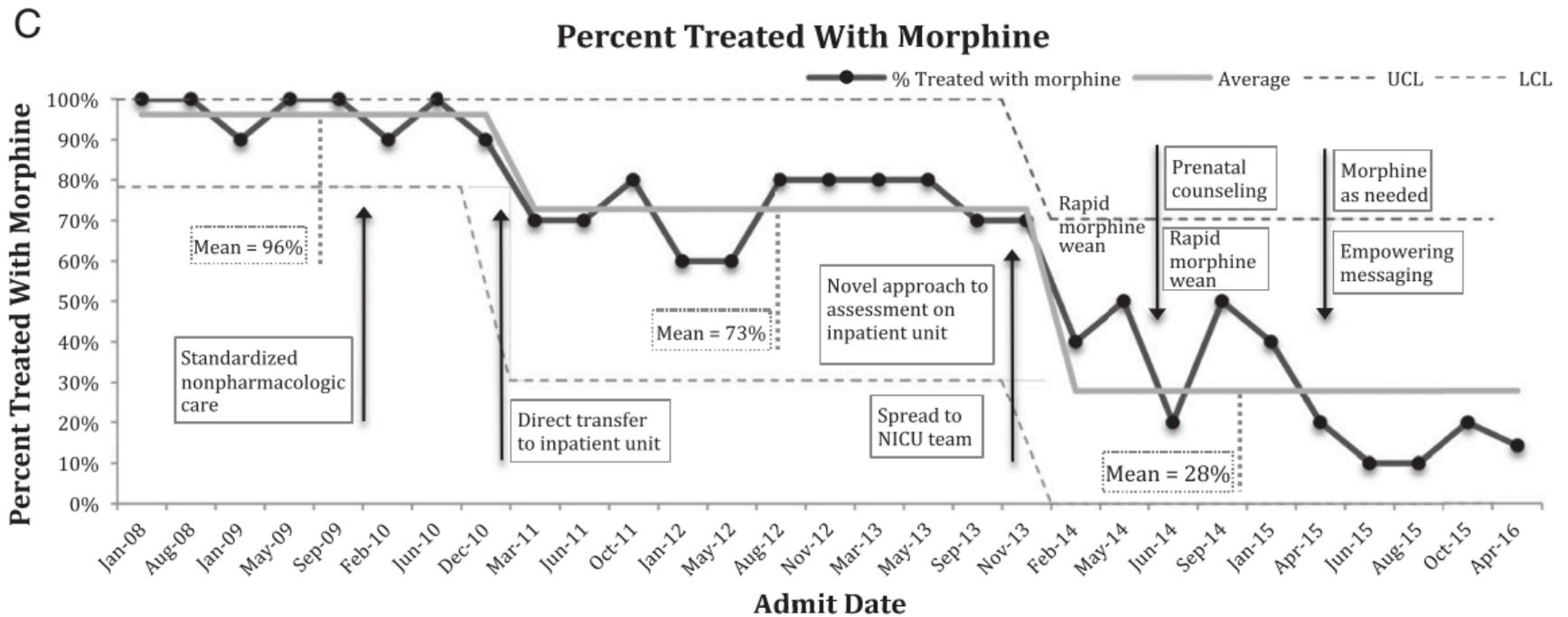
(Abrahams, 2007 and 2010; Holmes, 2016; Grossman, 2017; Howard, 2017; MacMillan 2018)

Pharmacologic

- **Morphine** v. Methadone (1st line)
- Buprenorphine
- Clonidine (Adjunctive)
- **Phenobarbital** (Adjunctive)

(Kraft, NEJM, 2017; Hudak, Pediatrics, 2012)

Advances in diagnosis and treatment



Grossman, Pediatrics, 2017

Treatment options

Non-pharmacologic

- Rooming-in with parents
- Breastfeeding
- Skin-to-skin
- Swaddling, cuddling

(Abrahams, 2007; Holmes, 2016; Howard, 2017)

Pharmacologic

- Morphine v. Methadone (1st line)
- Buprenorphine
- Clonidine (Adjunctive)
- Phenobarbital (Adjunctive)

(Kraft, NEJM, 2017; Hudak, Pediatrics, 2012)

- Donor milk, high calorie formula, acupuncture, stochastic vibration, weighted blankets

- Ondansetron
- Clonidine (1st line)

Clinicaltrials.gov

EarlySteps: Early Intervention

For more information about this and other Bureau of Family Health Programs, visit PartnersforHealthyBabies.org or call **1-800-251-BABY**

WE'VE WORKED WITH OVER 17,500 LOUISIANA PARENTS

When you join the program, you're paired with a nurse or parent educator who will work side-by-side with your family to help you achieve the goals you set for yourselves. Our program is always:

- ✓ Built around your needs — we come to you!
- ✓ Confidential, voluntary, and no cost.

WHICH SERVICE ARE YOU ELIGIBLE FOR?

Nurse-Family Partnership (NFP)

Serves families from pregnancy until the child turns 2

- Must be a first time mom
- Less than 29 weeks pregnant
- Mom-to-be is eligible for Medicaid



Parents as Teachers (PAT)

Serves families from pregnancy until the child reaches kindergarten

- Must live in Shreveport, Monroe, or surrounding parishes
- Medicaid-eligible mom-to-be or Medicaid-eligible child 24 months or younger
- Priority given to families with children aged 12 months or younger



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LA state strategies to improve outcomes

- New state opioid surveillance system- mapping need
- 7 day supply limit for new opioid prescriptions
- Expanding access to MAT (buprenorphine)
- Prescription Monitoring Program: utilization nearly tripled from 2014 to 2016.
- Standing order for state-wide access to naloxone signed January, 2017 and resigned in January 2018.
- 1115 Waiver approved by CMS to cover SUD Residential Treatment.
- Pilots focusing on pregnant/postpartum/parenting women

Opportunities for innovation

- LSUHSC New Orleans Perinatal Psychiatry Clinic
- OBH Neonatal Abstinence Restoration Program (specialized inpatient residential treatment for pregnant/parenting women in Baton Rouge)
- HB 658 by Rep. Walt Leger, III establishes a neonatal opiate withdrawal syndrome pilot program to treat infants with NOWS outside of NICU

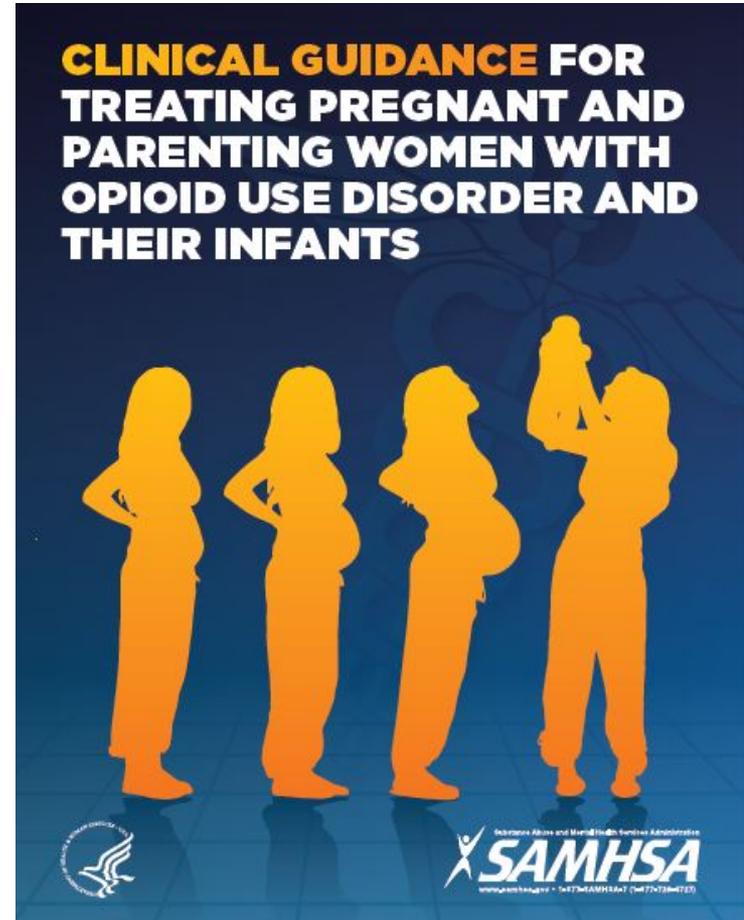
Key Resources



<http://new.dhh.louisiana.gov/assets/docs/BehavioralHealth/NASBooklet.pdf>

LSU Health
NEW ORLEANS
School of Medicine

<https://www.mcpapformoms.org/Toolkits/SubstanceSourcesForProviders.aspx>



<https://store.samhsa.gov/shin/content/SMA18-5054/SMA18-5054.pdf>

All ten Methadone Treatment Programs listed in the *Louisiana Substance Use In Pregnancy Toolkit (2016)* currently accept and serve pregnant women. Services are not specifically integrated with prenatal care.

General services include: Medication assisted treatment (methadone and/or buprenorphine) with individual and/or group counseling.

Regions 1, 5 and 10 now operate under the private opioid addiction treatment services provider, Behavioral Health Group (BHG)

Methadone Treatment Programs (2016)

Louisiana Substance Use In Pregnancy Toolkit

<p>Region 1 DRD New Orleans Medical Clinic ★ Amanda Karistai, Manager 417 S. Johnson Street New Orleans, LA 70112 Phone: 504.524.7205 Fax: 504.581.4702</p>	<p>Karen M. McDonald, Manager 11445 Reiger Road Baton Rouge, LA 70809 Phone: 225.932.9867 Fax: 225.932.9870</p>
<p>Region 3 Choices of Louisiana, Inc. Jo Ann Brown, Manager 128 Woodland Ave. LaPlace, LA 70068 Phone: 985.651.3777 Fax: 985.651.3770</p>	<p>Region 4 Opiate Replacement Therapy Center of America Tarnie Alexander, Manager 2013 Rees Street Breaux Bridge, LA 70517-1118 Phone: 337.332.4878 Fax: 337.332.4866</p>
<p>Region 5 Lake Charles Substance Abuse Clinic ★ Jacinda Malveaux, Manager 2829 4th Avenue, Ste 200 Lake Charles, LA 70601 Phone: 337.433.8281 Fax: 337.433.7938</p>	<p>Region 6 Choices of Louisiana, Alexandria William Powell, Manager 2116 North Bolton Ave. Alexandria, LA 71303 Phone: 318.445.1250 Fax: 318.445.1493</p>
<p>Region 7 Center for Behavioral Health, LA April Gilchrist, Manager 1303 Line Avenue, Suite 600 Shreve., LA 71101 Phone: 318.425.3400 Fax: 318.425.3447</p>	<p>Region 8 Center for Behavioral Health, LA Michele Saleh, Manager 1910 Ruffin Drive Monroe, LA 71203 Phone: 318.340.9596 Fax: 318.340.9598</p>
<p>Region 9 Choices of Louisiana, Inc North Shore Roye T Brown, Manager 615 Pride Drive Hammond, LA 70401 Phone: 985.419.1666 Fax: 985.428.899</p>	<p>Region 10 N.O. Narcotics Treatment Center ★ Amanda Karistai, Manager 1141 Whitney Ave. Bldg 4 Gretna, LA 70056 Phone: 504.347.1120 Fax: 504.347.1782</p>

All Phone #’s Verified



Opportunities for training in buprenorphine provision

Online only training (no OBGYN focus):

<https://elearning.asam.org/products/treatment-of-opioid-use-disorder-waiver-qualifying-8-hours-online>
(\$199)

*October Dallas
*December San Antonio

SEP
14
2018

9/14/2018 | HSHS St. John's Hospital | Springfield, IL

The ASAM Treatment of Opioid Use Disorder Course: OB/GYN Focus

Format: Blended - four hours online, four hours live.

Host: American College of Obstetricians and Gynecologists

This course is designed with a focus on women's health.

SEP
28
2018

9/28/2018 | Moody Gardens Hotel and Convention Center | Galveston, TX

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Host: American College of Obstetricians and Gynecologists

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SEP
29
2018

9/29/2018 | The Pyle Center | Madison, WI

The ASAM Treatment of Opioid Use Disorder Course

Format: Blended - four hours online, four hours live.

Host: Wisconsin Society of Addiction Medicine

Barriers? Gaps? Ideas?

Can we work together to address our discomforts?

Prevention, Screening & Treatment of Neonatal Abstinence Syndrome

Response to House
Concurrent Resolution
No. 162

Submitted March 1, 2016

Conclusions

- Women more likely to be prescribed opioids, develop OUD
- OUD in pregnancy/NOWS incidence increasing
- Medication-assisted treatment with co-management of mood disorders is standard of care during pregnancy and improves NOWS outcomes but does not eliminate NOWS
- Medically assisted withdrawal & routine urine drug screening not recommended
- NOWS is an expected and treatable consequence of in-utero opioid exposure, managed with assessment of symptoms and medication
- New techniques for assessing and treating NOWS are emerging, mainly focused on reducing infant hospitalization length and costs
- Postpartum time period is a particularly risky time point for relapse/OD/death
- You can help us fill the gaps!

Questions?

Thank you!

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Case presentations

1. 35yo G6P3 presents to Labor and Delivery with vaginal bleeding and preterm labor, precipitous SVD, no prenatal care, discloses heroin use 12 hours prior.
2. 23yo G3P0 presents at 18w with symptoms of acute opiate withdrawal (nausea, vomiting, body aches, sweating), used street suboxone & percocet 2 days prior, states her prenatal provider told her to go to a hospital.