Photo by Amax Photo/Getty Images

Substance Use in Pregnancy: Impacts of State Policies on Maternal and Child Outcomes

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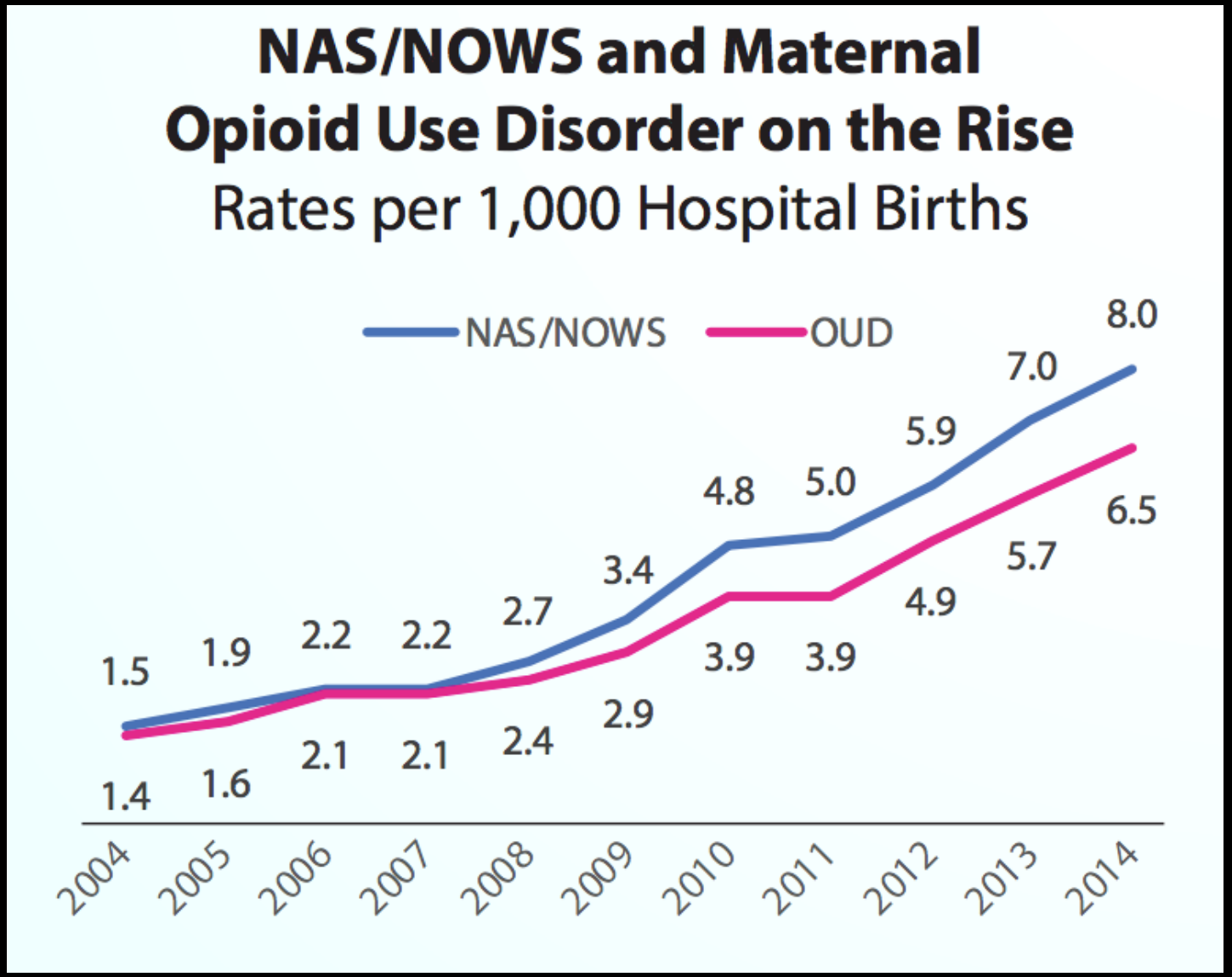
Tufts University | School of Medicine

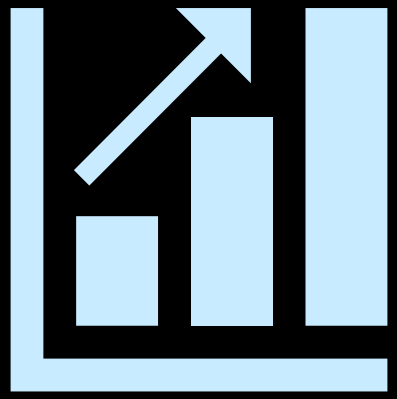
The Barbara Bush Children's Hospital At Maine Medical Center

RAND Corporation

Maternal opioid use disorder and neonatal abstinence syndrome (NAS) are both increasing



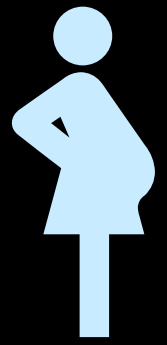
Source: Winkelman



From 2017-2020, drug overdose deaths among pregnant and postpartum people increased by *81%*

Source: Bruzelius

Untreated opioid use during pregnancy → health risks for mother and infant



Maternal depression and anxiety
Maternal mortality
Low birth weight
Preterm birth
Congenital abnormalities
Impaired neurodevelopment
Neonatal opioid withdrawal syndrome

Sources: Patrick, ACOG

How have policymakers responded to substance use in pregnancy?

With policies intended to:

Support women in accessing treatment for substance use disorders

Deter women from using substances in pregnancy through punitive actions

How have policymakers responded to substance use in pregnancy?

Targeted **treatment programs** for pregnant women (19 states)

Priority access to treatment programs (18 states)

Protection from **discrimination** (10 states)

Drug **testing** required for suspected prenatal substance use (8 states)

Reporting required for prenatal substance use (26 states)

Prenatal substance use considered grounds for **civil commitment** (3 states)

Prenatal substance use considered **child abuse or neglect** (24 states)

Prenatal substance use considered a **criminal offense** (formerly 1 state, expired in 2016)

More treatment-supportive

More punitive

How have policymakers responded to substance use in pregnancy?

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More treatment-supportive

More punitive

Within each policy type, it's even more complicated…

Morbidity and Mortality Weekly Report

Evaluation of State-Mandated Reporting of Neonatal Abstinence Syndrome — Six States, 2013–2017

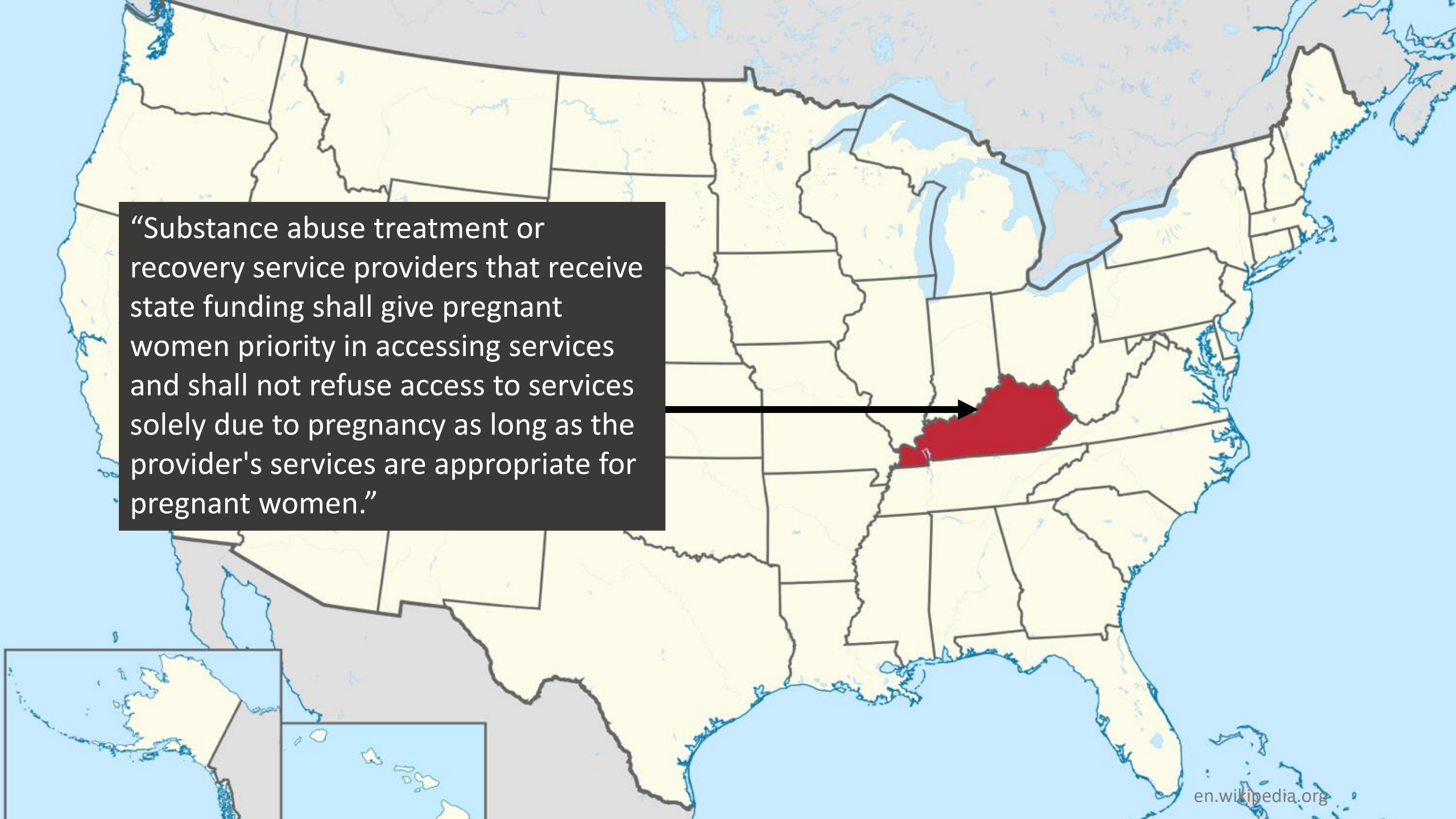
Shahla M. Jilani, MD[1]; Meghan T. Frey, MA, MPH[2]; Dawn Pepin, JD[3,4]; Tracey Jewell, MPH[5]; Melissa Jordan, MS[6]; Angela M. Miller, PhD[7]; Meagan Robinson[8]; Tomi St. Mars, MSN[9]; Michael Bryan, PhD[10]; Jean Y. Ko, PhD[11]; Elizabeth C. Ailes, PhD[2]; Russell F. McCord, JD[2,12]; Julie Gilchrist, MD[13]; Sarah Foster, MPH[11]; Jennifer N. Lind, PharmD[2]; Lindsay Culp, JD[14]; Matthew S. Penn, JD[4]; Jennita Reefhuis, PhD[2]

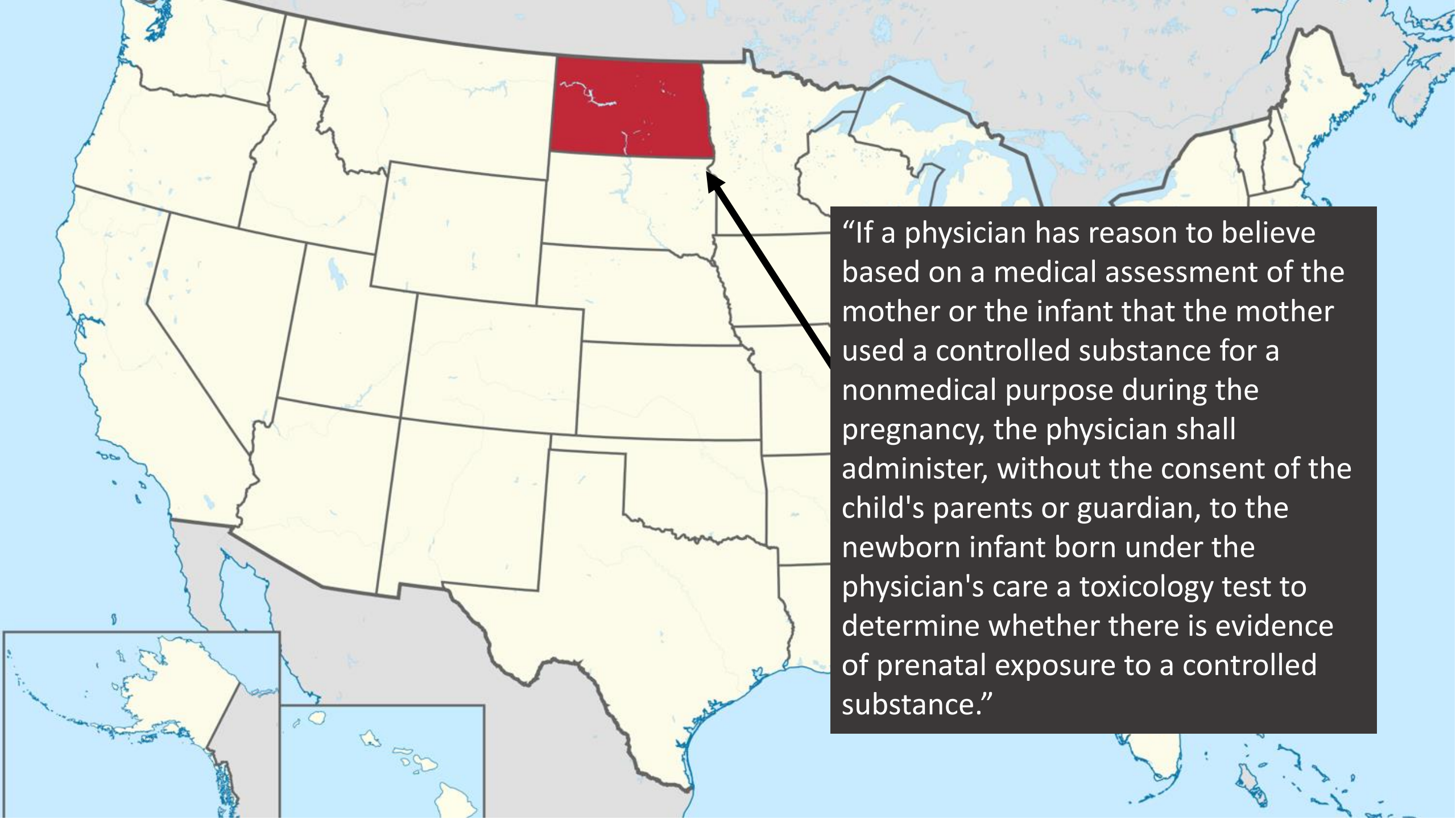
Key findings:

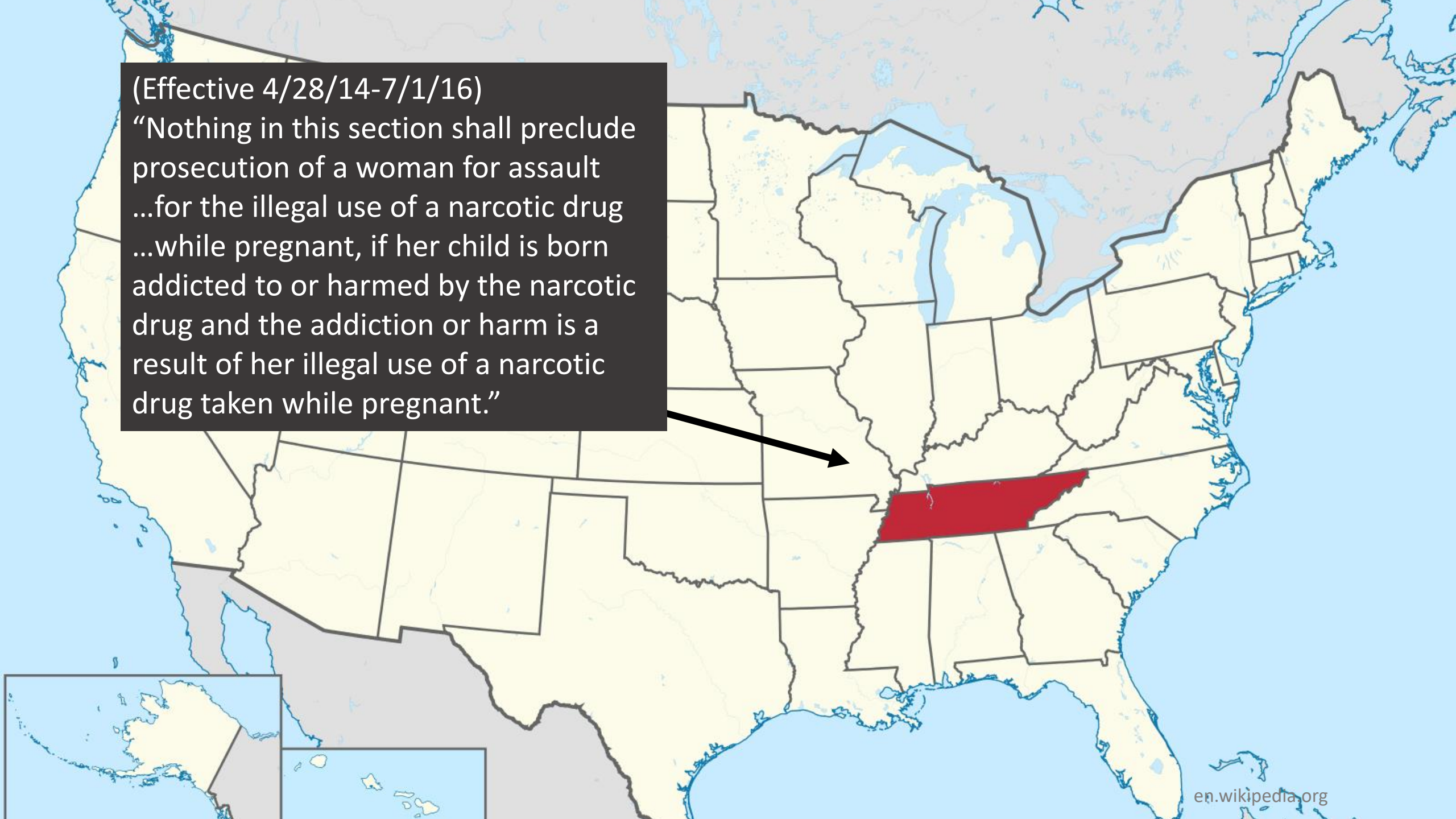
- NAS incidence could be quantified to inform programs and services.
- Differences in reporting methods and case definitions might influence states' abilities to monitor NAS incidence

ıtion mandating neonatal abstinence syndrome (NAS) case reporting — six states, 2013–2017

State	Citation	Effective year	Is there a definition of NAS used in the law?	Who must report NAS?		To whom must NAS be reported?		Time frame for reporting to	
				Provider/Facility*	Dept. of Health	Dept. of Health	Legislative body	Dept. of Health	Legislative body
Arizona	AZ. Admin. code § R9–4–602	2017	No	Yes	—	Yes	—	5 business days	N/A
Florida	FL. Admin. Code Ann. r. 64D-3.029	2014	No	Yes	—	Yes	—	6 months†	N/A
Georgia	GA. Code Ann. §	2017	Yes§	Yes	Yes¶	Yes	Yes	N/A**	annually


“Substance abuse treatment or recovery service providers that receive state funding shall give pregnant women priority in accessing services and shall not refuse access to services solely due to pregnancy as long as the provider's services are appropriate for pregnant women.”
en.wikipedia.org


“If a physician has reason to believe based on a medical assessment of the mother or the infant that the mother used a controlled substance for a nonmedical purpose during the pregnancy, the physician shall administer, without the consent of the child's parents or guardian, to the newborn infant born under the physician's care a toxicology test to determine whether there is evidence of prenatal exposure to a controlled substance.”


(Effective 4/28/14-7/1/16)
“Nothing in this section shall preclude prosecution of a woman for assault …for the illegal use of a narcotic drug …while pregnant, if her child is born addicted to or harmed by the narcotic drug and the addiction or harm is a result of her illegal use of a narcotic drug taken while pregnant.”
en.wikipedia.org

Professional organizations and federal agencies recommend a non-punitive approach to substance use in pregnancy

"In general, a coordinated multidisciplinary approach without criminal sanctions has the best chance of helping infants and families. Obstetric care providers have an ethical responsibility to their pregnant and parenting patients with substance use disorder to discourage the separation of parents from their children solely based on substance use disorder, either suspected or confirmed." (American College of Obstetricians and Gynecologists and American Society of Addiction Medicine)

"Stigma, provider bias, and legal consequences pose additional barriers to screening and subsequent identification of women in need of treatment." (CDC)

"[The American Nurses Association] opposes laws that may result in punitive legal actions and result in incarceration of pregnant women because of substance use disorder."

Photo: Fotolia

Professional organizations and federal agencies recommend a non-punitive approach to substance use in pregnancy

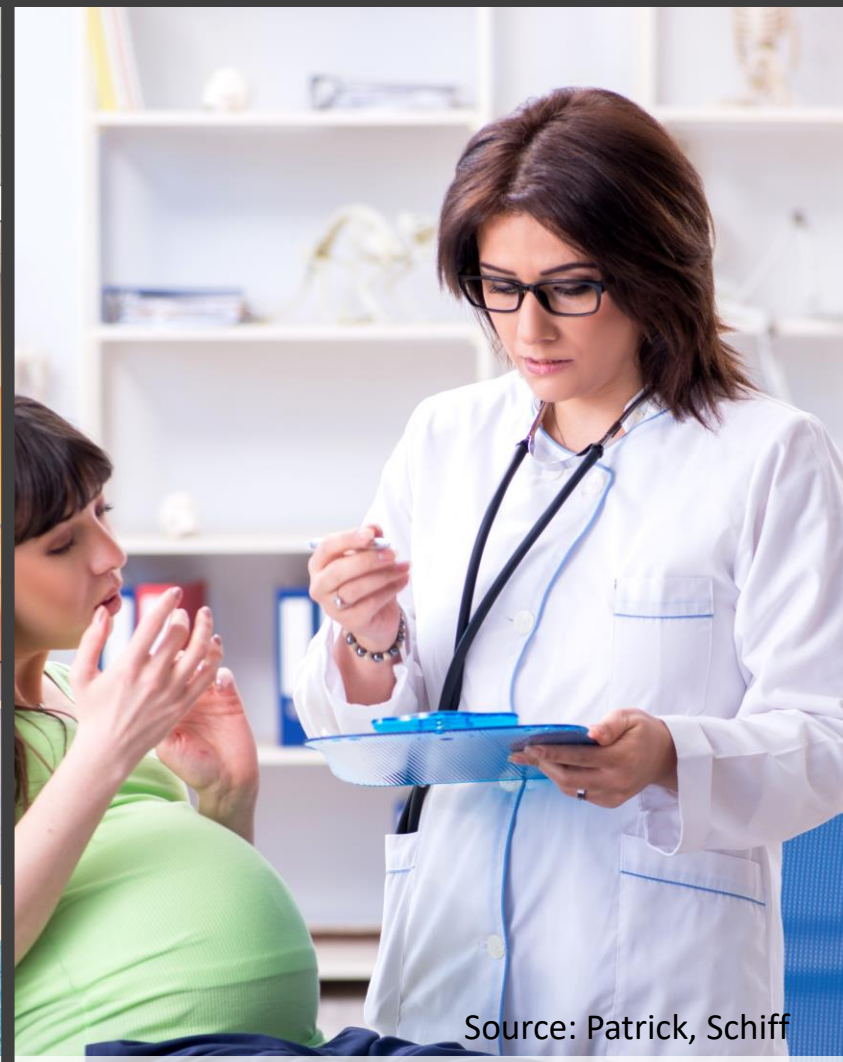
- American Medical Association
- American College of Obstetricians and Gynecologists
- National Perinatal Association
- American Academy of Family Physicians
- American Society of Addiction Medicine
- American Public Health Association
- Association of Women's Health, Obstetrics and Neonatal Nurses
- American College of Nurse Midwives
- American Academy of Pediatrics
- March of Dimes
- American Psychological Association
- National Organization of Fetal Alcohol Syndrome
- American Psychiatric Association
- National Association of Public Child Welfare Administrators
- National Council on Alcoholism and Drug Dependence
- Association of Maternal and Child Health Programs

Sources: Pregnancy Justice, Lyerly

Experts agree that a public health approach is needed

Primary Prevention

Access to Treatment



Source: Patrick, Schiff

Provider-Patient Relationship

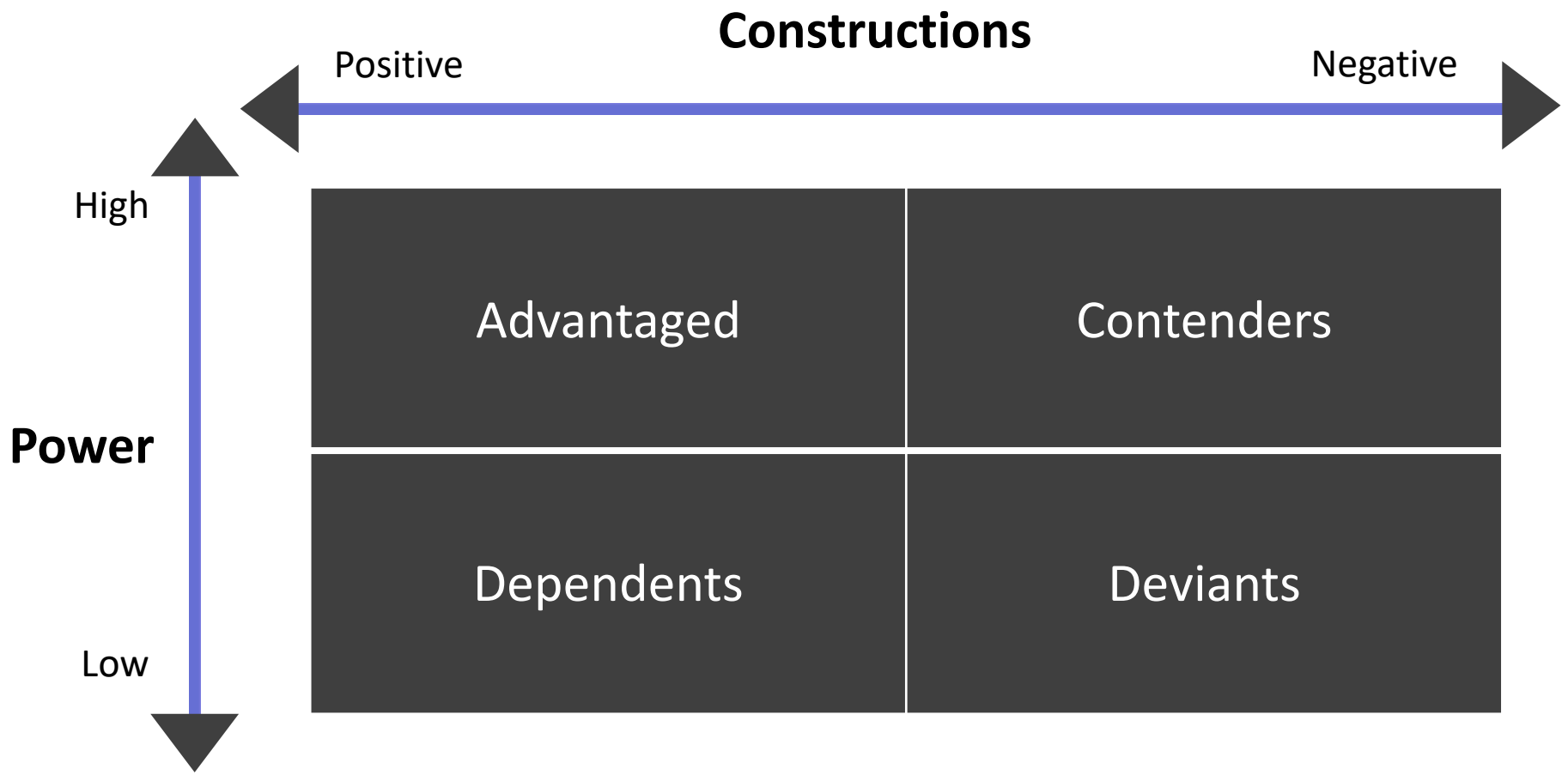
Yet, state policy environments have become increasingly punitive

Primary Prevention

Access to Treatment

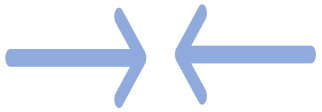
Provider-Patient Relationship

What is driving these punitive approaches?



Source: Schneider and Ingram

Three distortions of ethical reasoning



Conflict: Assumes competing, rather than shared interests

Vessels: Views mother solely as the environment for the fetus

Blame: Polices and punishes the mother for her perceived moral failing

Sources: Angelotta, Faden, Lyerly

Prior studies: care seeking and diagnoses of OUD during pregnancy

Women's Health Issues
Volume 26, Issue 6, November–December 2016, Pages 595-601

Policy Matters

A Moral or Medical Problem? The Relationship between Legal Penalties and Treatment Practices for Opioid Use Disorders in Pregnant Women

Presented at the Perinatal Mental Health Conference, Chicago, Illinois, November 2015, and the American Academy of Addiction Psychiatry Annual Meeting, Huntington Beach, California, December, 2015.

Cara Angelotta MD [a], Carol J. Weiss MD [b], John W. Angelotta PhD [c], Richard A. Friedman MD [b]

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JAMA Network Open

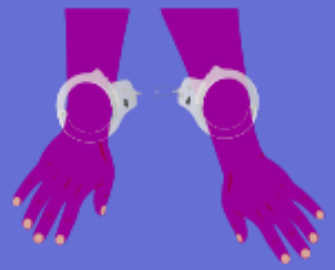
Original Investigation | Substance Use and Addiction

Association of Criminal Statutes for Opioid Use Disorder With Prevalence and Treatment Among Pregnant Women With Commercial Insurance in the United States

Laura E. Gressler, MS; Savyasachi Shah, MPH, BDS; Fadia T. Shaya, PhD, MPH

Study motivation

Some state policies punish pregnant women for substance use by:



criminalizing substance use in pregnancy

considering it grounds for civil commitment

considering it child abuse or neglect

Research question

Photo: www.marchofdimes.org

Are state punitive or reporting policies related to substance use during pregnancy associated with rates of neonatal abstinence syndrome (NAS)?

Methods

- Repeated cross-sectional study
- Data source: State Inpatient Databases (SID) from 8 states
- 2003-2014
- Conducted difference-in-difference analysis of live births States without punitive or reporting policies were compared with states with policies before and after policy enactment using logistic regression models
- Models were adjusted for individual and county-level factors and state and year fixed effects

Key findings

JAMA Network | Open

Original Investigation | Pediatrics

Association of Punitive and Reporting State Policies Related to Substance Use in Pregnancy With Rates of Neonatal Abstinence Syndrome

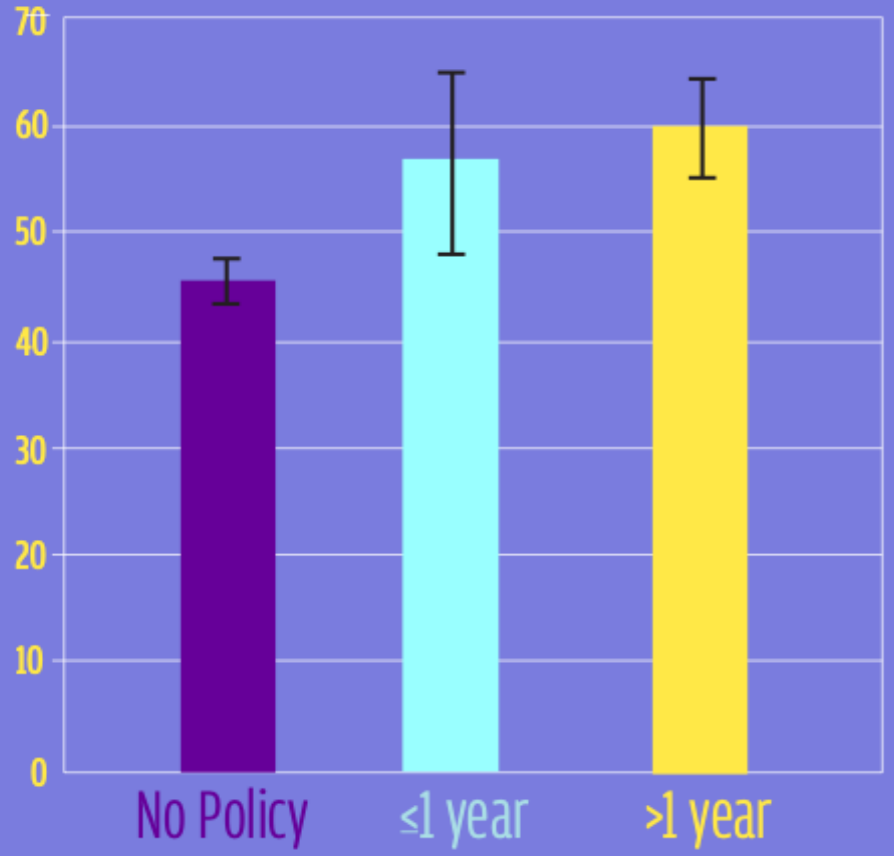
Laura J. Faherty, MD, MPH, MS; Ashley M. Kranz, PhD; Joshua Russell-Fritch, MS; Stephen W. Patrick, MD, MPH, MS; Jonathan Cantor, PhD; Bradley D. Stein, MD, PhD

- 4,567,963 live births in the sample; 23,377, or 0.5% had NAS
- Among infants in states with punitive policies, odds of NAS were significantly greater during the first full year after policy enactment
  - aOR=1.25, 95% CI, 1.06-1.45, *P* = 0.007
- Odds of NAS were also higher over the longer term (>1 year after enactment)
  - aOR=1.33, 95% CI, 1.17-1.51, *P*<0.001
- Annual NAS rate:
  - 46 (95% CI, 43-48) infants with NAS/10,000 births in states without punitive policies
  - 57 (95% CI, 48-65) infants with NAS/10,000 births in states with punitive policies during the first year after enactment
  - 60 (95% CI, 56-65) infants with NAS/10,000 births in states with punitive policies in effect for >1 year
- No association between reporting policies and odds of NAS

We found *higher* rates of NAS in states with punitive policies

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:***



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**

Potential explanations

- Pregnant and postpartum women maybe disengaging from the health care system
- Might be missing key opportunities for interventions that could reduce the likelihood of having an infant with prenatal opioid exposure:
  - Avoiding or ceasing the nonmedical use of opioids
  - Accessing family planning services
  - Receiving mental health care
- Consistent prenatal care and OUD treatment could address other risk factors for more severe NAS: tobacco use and use of other substances
- It may be that reporting policies were not associated with as much disengagement from health care services as punitive policies

Limitations

- Did not consider policy components or effectiveness of implementation
- Did not consider other policies that may have been associated with maternal opioid use and engagement in treatment for SUD
- Used a convenience sample of 8 states, so findings may not be fully generalizable
- Misclassification may have affected the identification of NAS
- NAS is a heterogeneous condition; may result from the use of medications other than opioids during pregnancy, as well as medication treatment for OUD
  - NAS could have resulted from pregnant women receiving medication treatment, but access to treatment, particularly pharmacotherapy, was limited for pregnant women during the years we examined
  - Therefore, unlikely to explain our results

Subsequent studies have found similar results…

BEHAVIORAL HEALTH CARE

By Danielle N. Atkins and Christine Piette Durrance

DOI: 10.1377/hlthaff.2019.00785
HEALTH AFFAIRS 39,
NO. 5 (2020): 756–763

State Policies That Treat Prenatal Substance Use As Child Abuse Or Neglect Fail To Achieve Their Intended Goals

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ADDICTION
SSA SOCIETY FOR THE STUDY OF ADDICTION

Research Report | Full Access

Association between punitive policies and neonatal abstinence syndrome among Medicaid-insured infants in complex policy environments

Laura J. Faherty, Sara Heins, Ashley M. Kranz, Stephen W. Patrick, Bradley D. Stein

…and have examined maternal and dyadic outcomes

ELSEVIER

Addictive Behaviors

Volume 90, March 2019, Pages 272-277

Substance use disorder treatment admissions and state-level prenatal substance use policies: Evidence from a national treatment database

Katy B. Kozhimannil [a], William N. Dowd [b], Mir M. Ali [c], Priscilla Novak [c], Jie Chen [c]

…and have examined maternal and dyadic outcomes

Addictive Behaviors
Volume 90, March 2019, Pages 272-277

Substance
and state-
Evidence

Katy B. Kozhimannil

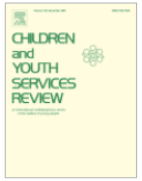
Journal of Substance Abuse Treatment
Volume 140, September 2022, 108800

Impact of prenatal substance use policies on commercially insured pregnant females with opioid use disorder

Nadia Tabatabaeepour [a], Jake R. Morgan [b], Ali Jalali [a], Shashi N. Kapadia [a], Angélica Meinhofer [a]

…and have examined maternal and dyadic outcomes

Children and Youth Services Review
Volume 130, November 2021, 106194



The impact of state-level prenatal substance use policies on infant foster care entry in the United States

Danielle N. Atkins [a], Christine Piette Durrance [b]

…and have examined maternal and dyadic outcomes

Bottom line: punitive policies don’t benefit mothers, infants, or the dyad

They discourage women from seeking prenatal care and substance use treatment

If they do come in for care, these policies further discourage women from openly discussing their concerns about substance use

What needs to happen instead? (1)

Photo: www.marchofdimes.org

- **Policy makers seeking to reduce NAS rates should consider strategies that focus on primary prevention**
  - Encourage responsible opioid prescribing to women of reproductive age
  - Address the mental health needs of women with substance use disorders
  - Ensure access to family planning (preconception and interconception care that align with women's reproductive goals)
  - Expand access and remove barriers to evidence-based treatment

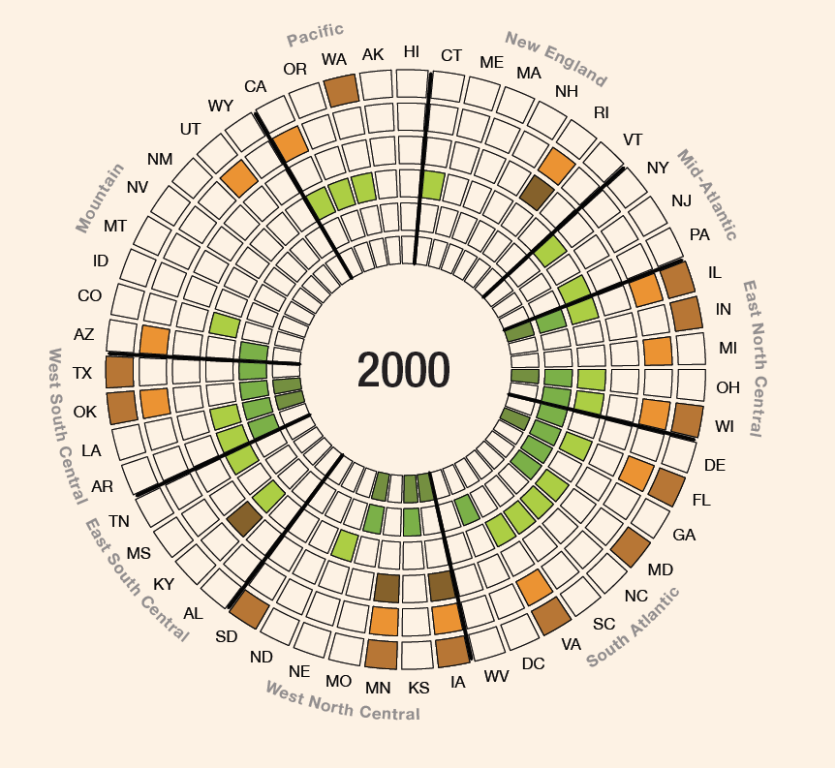
What needs to happen instead? (2)

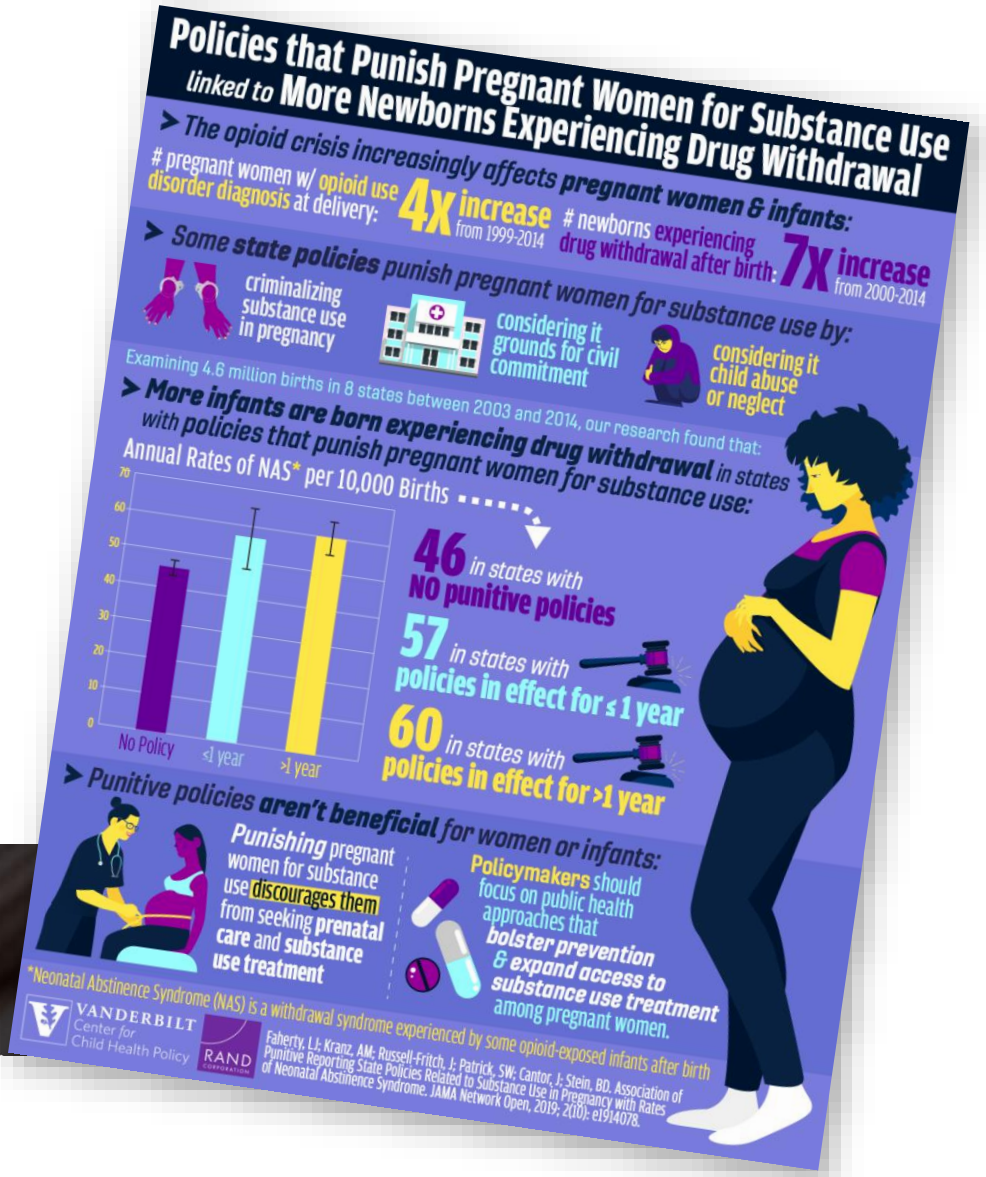
Photo: www.marchofdimes.org

- **Emphasize ethical, dyadic approaches**
  - Prioritize the shared rather than conflicting interests in the dyad
  - Recognize the roles of stigma, classicism, sexism, and racism
  - Address the systemic issues rather than blaming the individual

Source: Lyerly

Getting the message out





COMMENTARY *(Tennessee Justice Center)*

Policies That Punish Pregnant Women for Substance Use Don't Help Mother or Baby

Informing policy at state and federal levels

Briefed Legislative Staff for a US House Representative

Informed Advocates for Children and Families

Image via Andy Dean Photography/Fotolia

Future work

- **Continue to advance methods to link mothers and infants** to examine policy impacts on the dyad and look throughout the perinatal continuum
- Rigorously examine strategies that are intended to address the **needs of the dyad** (Plans of Safe Care)
- Use qualitative methods to explore individuals' **knowledge, awareness, and perceptions** of these policies and how these influence policymaking, policy implementation, and care-seeking
- Dig deeper on racial inequities in policy impacts

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Questions?

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