

Maternal and Child Health Indian Country ECHO

Maternal Substance Misuse and Neonatal Abstinence Syndrome

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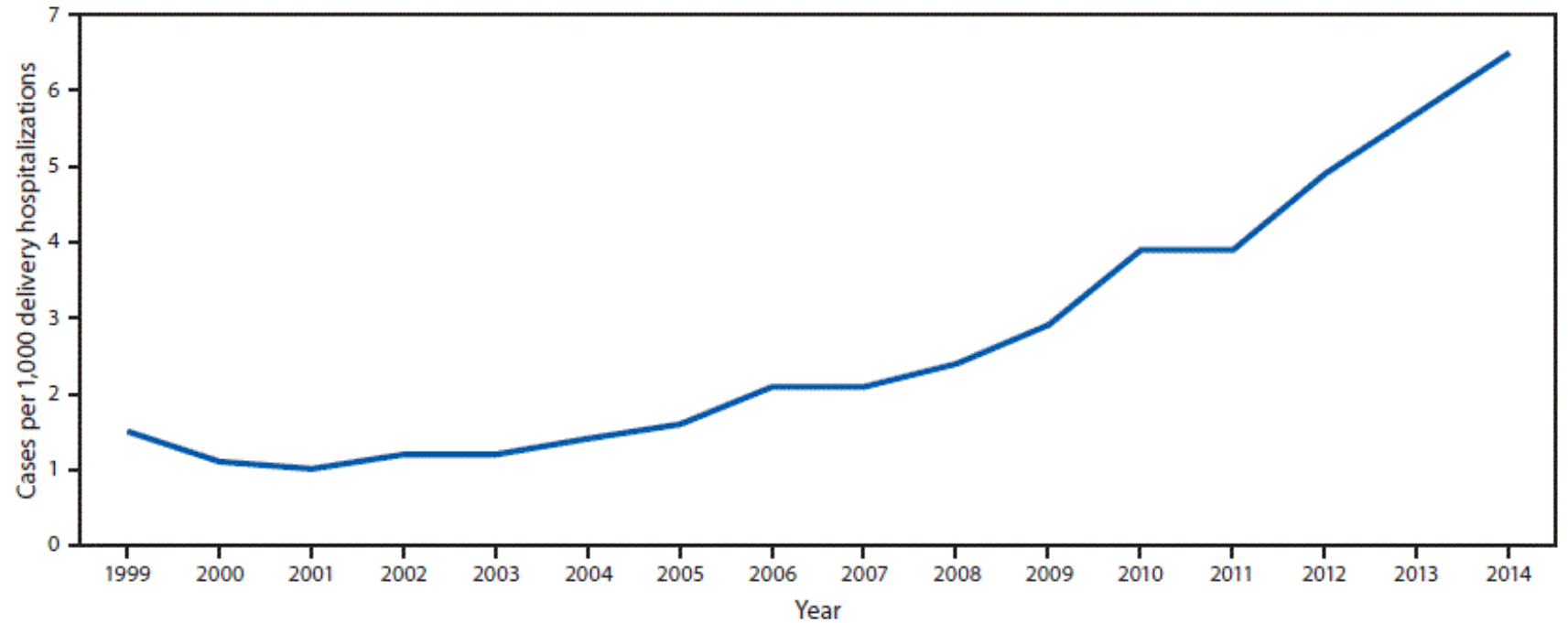
Significance of Substance Exposure During Pregnancy

- Prenatal substance exposure can have negative effects on **fetal development and infant health**, if not identified and not treated in a timely manner, could lead to seizures or even death.
- Fetal Alcohol Spectrum Disorder (FASDs) can result in physical and developmental problems, both cognitive and functional disabilities.
- **Preterm labor, fetal withdrawal, stillbirth, and neonatal abstinence syndrome (NAS)**, and maternal mortality are established adverse effects of substance misuse during pregnancy.

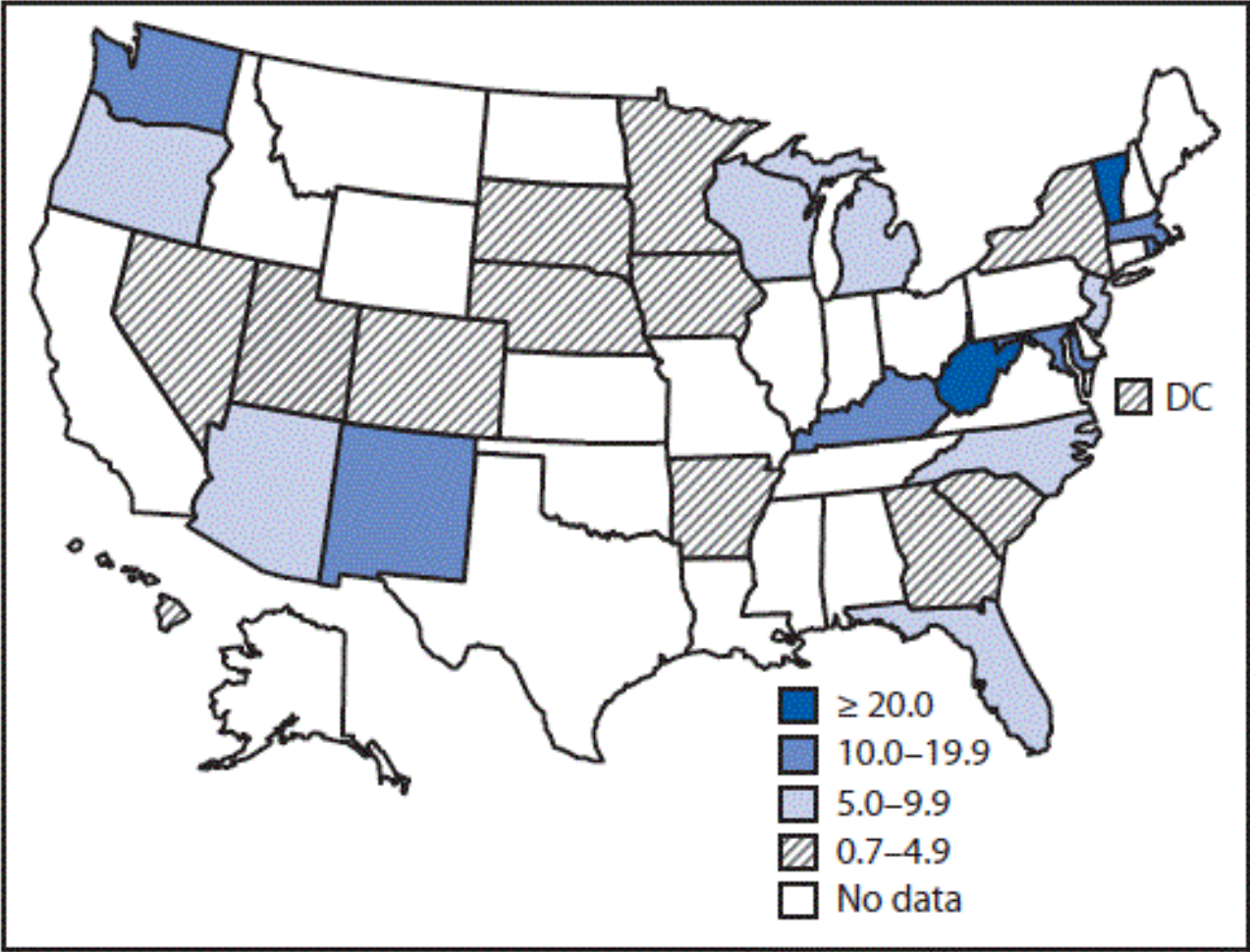
Neonatal Abstinence Syndrome (NAS)

- A post-natal withdrawal syndrome experienced by some *in utero* drug-exposed infants
- NAS is often caused when a women misuses pharmaceutical opioids (either prescribed or not), or other drugs during pregnancy:
 - Painkillers prescribed following injury or surgery
 - Benzodiazepines commonly prescribed for anxiety
 - Heroin
- Withdrawal caused by opioids during the first 28 days of life is also called neonatal opioid withdrawal syndrome (NOWS)

National prevalence of opioid use disorder per 1,000 delivery hospitalization increased 333% from 1999 to 2014

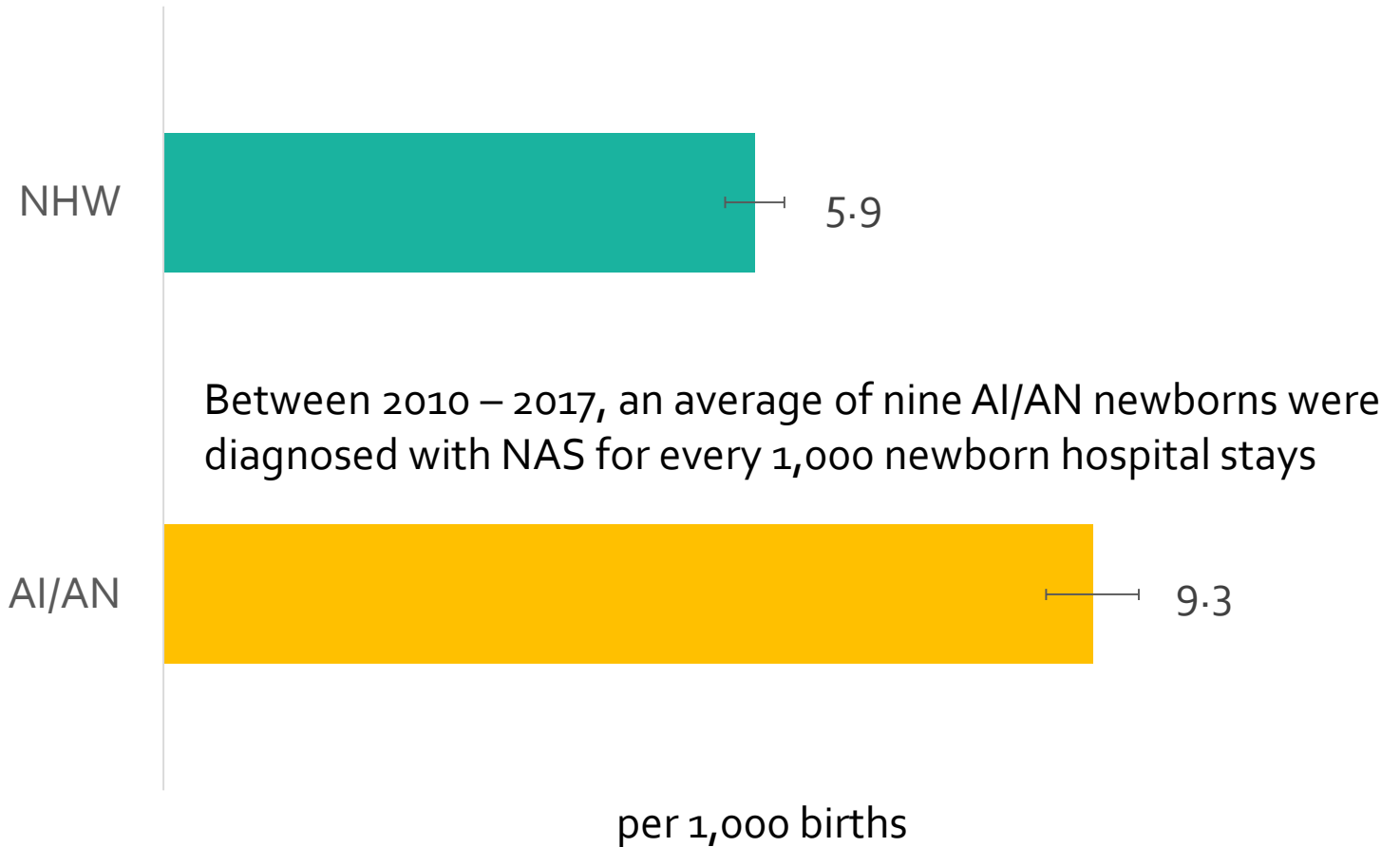


Prevalence of opioid use disorder per 1,000 delivery hospitalizations, State Inpatient Database, Healthcare Cost and Utilization Project, 28 states, 2013-2014



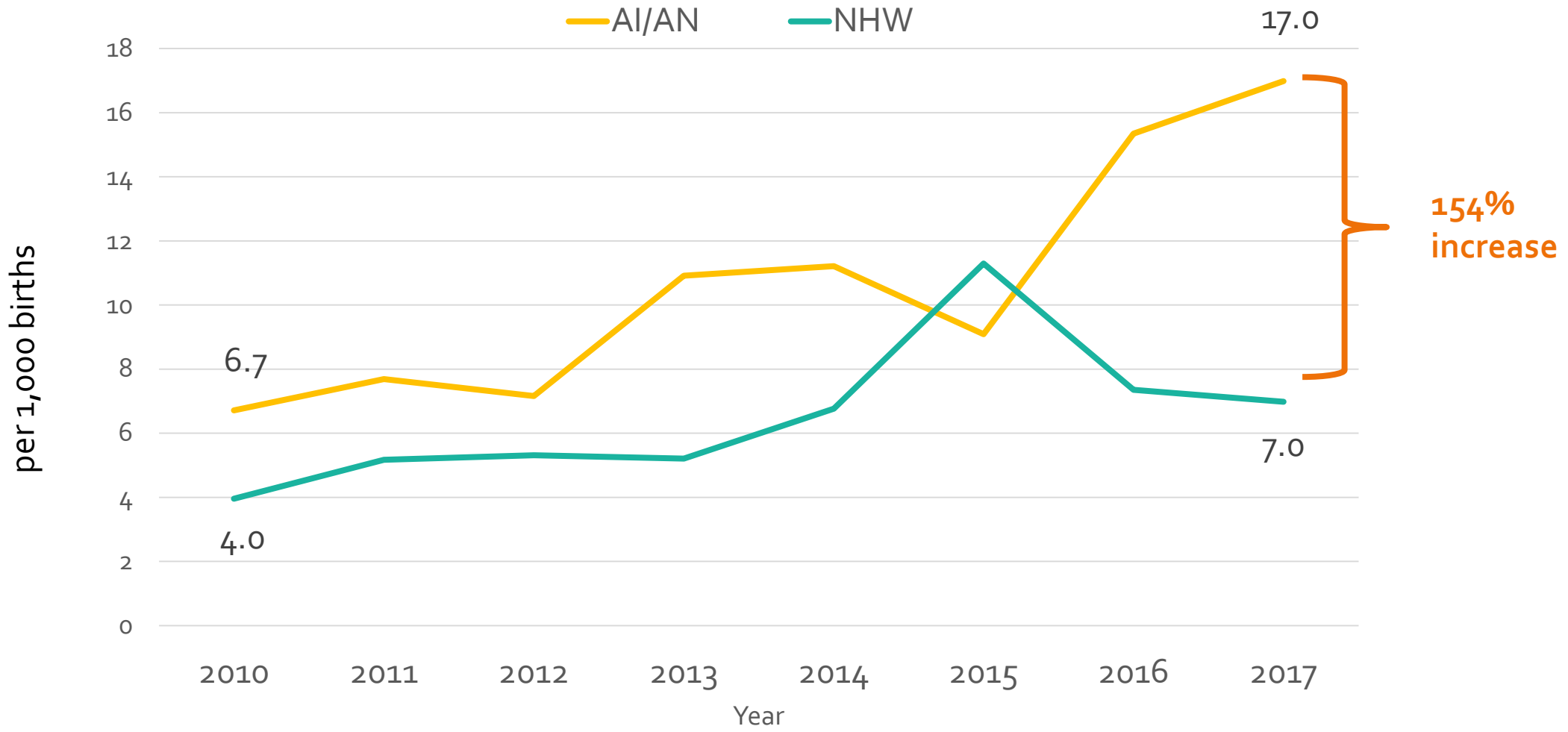
Neonatal Abstinence Syndrome rates among hospital births in Oregon

The rate of in neonatal abstinence syndrome was **1.6 times higher** for AI/AN newborns than for Non-Hispanic White newborns



Data Source: Oregon hospital discharge data corrected for AI/AN racial misclassification

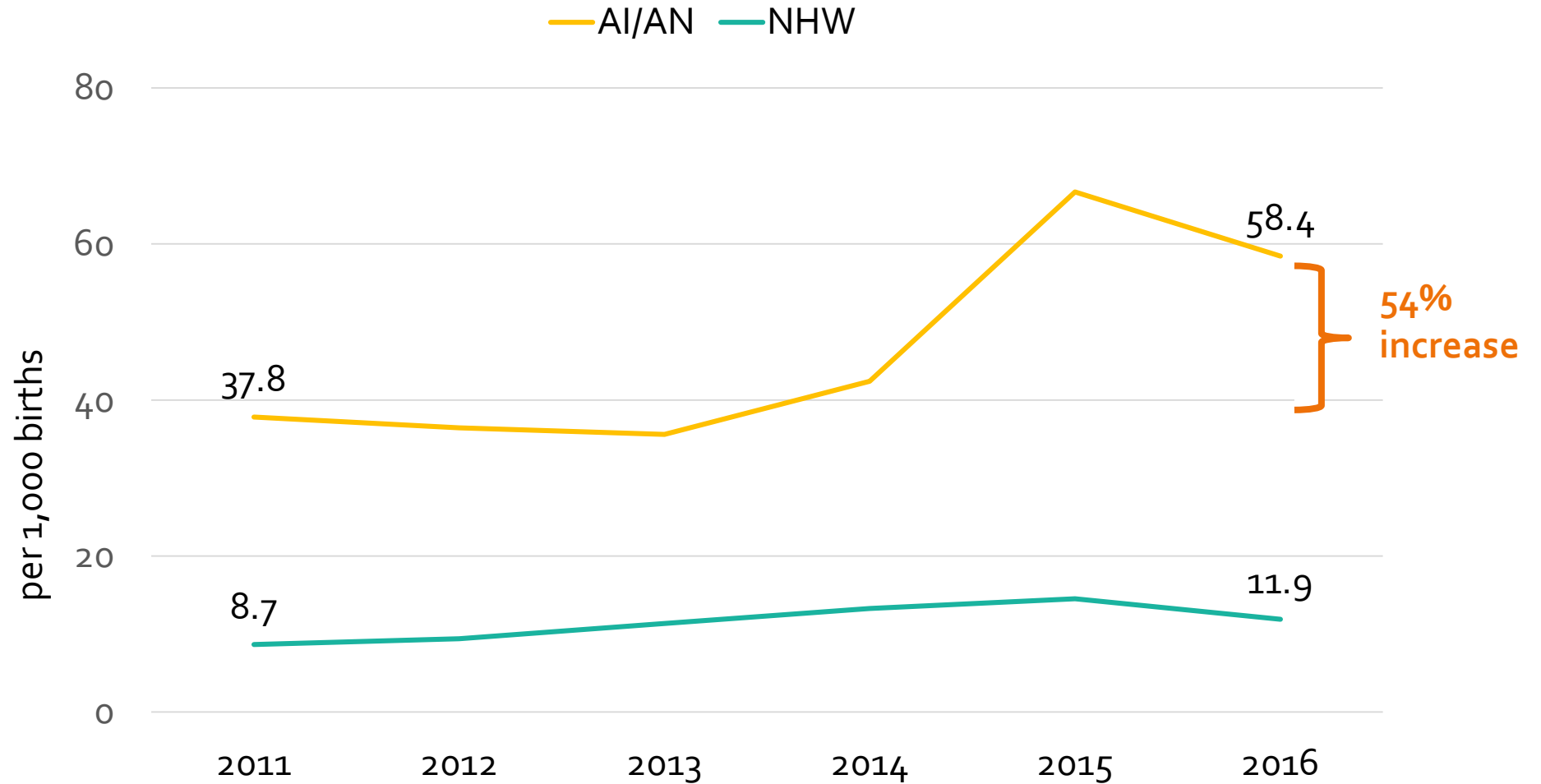
The rate of NAS among AI/AN newborns in Oregon went from 6.7 per 1,000 live births in 2010 to 17.0 in 2017



Data Source: Oregon Association of Hospitals & Health Systems, corrected for AI/AN racial misclassification

The rate of NAS among AI/AN newborns in Washington went from 37.8 per 1,000 live births in 2011 to 58.4 in 2016

The risk of being diagnosed with NAS was **3.9 times** higher for AI/AN newborns than for NHW newborns



Data Source: Washington inpatient hospital discharge data, corrected for misclassified AI/AN race

Clinical Presentation and Management

- Onset: 12-24 hrs. (heroin), 48-72 hrs. (methadone, buprenorphine) up to 5-7 days
- Signs of withdrawal:
 - **Central Nervous System** - crying, inconsolable, tremor, poor sleep, seizures
 - **Gastrointestinal** - poor feeding/vomiting/loose stool
 - **Autonomic Activation** - fever, yawning, mottling, tachypnea, nasal flaring
- Assessment- repeated evaluation and scoring every 3-4 hours using modified Finnegan NAS score
- Non-pharmacologic interventions: comforting measures, environmental controls, maternal support
- Pharmacologic treatment (50-60%): morphine, methadone or buprenorphine

Benefits of treatment during pregnancy

- Opioid agonist therapies can improve outcomes
 - Buprenorphine and methadone are recommended to treat opioid use disorder during pregnancy



- Reduce risk of newborn drug withdrawal
- Reduce re-hospitalized within 30 days of being born
- Reduce risk of overdose death



- Increase newborn birthweights
- Increase chance to go to term
- Increase breastfeeding

Improving infant outcomes begins before birth

Common Barriers & Challenges

- **Stigma** related to pregnant women with substance use disorders
 - Pregnant women had a harder time accessing opioid treatment than non-pregnant women
- **Insurance**: Fewer patients with Medicaid were accepted for appointments than those with private insurance

Listening sessions from five Tribes in Minnesota shared factors that inhibit Native women with substance use disorders from accessing treatment:

- **Fear**
- **Lack of Trust**
- **Need for education**
- **Transportation and child care**

Opioid Epidemic and Maternal Health Crisis during COVID- 19 pandemic

- Due to COVID-19, pregnant women with substance use disorders (SUD) may have had **interrupted treatment** due to closure of substance use treatment clinics, social distancing and shelter in place orders **affecting mental health**, bystander overdose rescue, and **threats to incomes** or **other hardship**
- Reported spike in drug overdose-related ED visits during COVID-19, which may lead to rising rates of NAS
- A study found that patients with a recent diagnosis of SUD were at significantly increased risk for COVID-19 (within past year)

Integrating substance use and prenatal care

- Onsite shifted to telemedicine/in-person prenatal care model
- Pregnant patients with OUD treated with methadone, the expansion of take-home dosing protocols

Wang, Q. Q., Kaelber, D. C., Xu, R., & Volkow, N. D. (2021). COVID-19 risk and outcomes in patients with substance use disorders: analyses from electronic health records in the United States. *Molecular psychiatry*, 26(1), 30-39.

Patton, E. W., Saia, K., & Stein, M. D. (2021). Integrated substance use and prenatal care delivery in the era of COVID-19. *Journal of Substance Abuse Treatment*, 124, 108273.

Integrated Care

- Encourage breastfeeding if mother in recovery
- Rooming-in



- Shorter length of hospital stay
- Reduction in need for pharmacologic treatment

Other Support

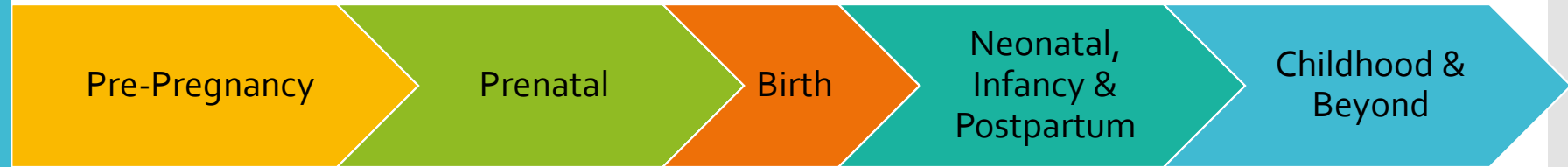
- Tele-treatment programs for substance use disorder
- Anti-stigma care, trauma-informed care
- Assess social risk (e.g., food insecurity, housing, violence, etc.)
- Psychosocial interventions, such as counseling, patient navigation support, peer-support groups, peer recovery coach

Wu, D., & Carre, C. (2018). The impact of breastfeeding on health outcomes for infants diagnosed with neonatal abstinence syndrome: a review. *Cureus, 10*(7).

Newman, A. I., Mauer-Vakil, D., Coe, H., Newton, L., Wilkerson, E., McKnight, S., & Brogly, S. B. (2020). Rooming-in for Infants at Risk for Neonatal Abstinence Syndrome: Outcomes 5 Years following Its Introduction as the Standard of Care at One Hospital. *American Journal of Perinatology*.

MacMillan, K. D. L., Rendon, C. P., Verma, K., Riblet, N., Washer, D. B., & Holmes, A. V. (2018). Association of rooming-in with outcomes for neonatal abstinence syndrome: a systematic review and meta-analysis. *JAMA pediatrics, 172*(4)

Key Considerations



- **Culturally-centered program for AI/AN women** who use substances during pregnancy, including **before, during, and after pregnancy**; need for sensitivity and creativity to improve the delivery of care, beyond birth
- Integrated prenatal care and substance use treatment, working across disciplines and sectors, may deliver benefits and sustain solutions for both mothers and neonates throughout the perinatal period.

Related Resources

- [Trauma Informed Care and COVID-19. Dr. Danica Brown, Behavioral Health Manager at NPAIHB](#)
- [Plans of Safe Care Learning Modules | NCSACW \(samhsa.gov\)](#)
- [Clinical Guidance for Treating Pregnant and Parenting Women With Opioid Use Disorder and Their Infants | SAMHSA Publications and Digital Products](#)
- [Caring for Babies with Prenatal Substance Exposure-
\[https://www2.gov.bc.ca/assets/gov/family-and-social-supports/foster-parenting/baby_steps_caring_babies_prenatal_substance_exposure.pdf\]\(https://www2.gov.bc.ca/assets/gov/family-and-social-supports/foster-parenting/baby_steps_caring_babies_prenatal_substance_exposure.pdf\)](#)
- [Home | National Center on Substance Abuse and Child Welfare \(NCSACW\) \(samhsa.gov\)](#)

Acknowledgements

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