

Preventing NAS: From Preconception to Early Childhood

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Kentucky Public Health
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CABINET FOR HEALTH
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Objectives

- 🛡️ Define primary, secondary, and tertiary prevention as they relate to NAS
- 🛡️ Describe how data inform recommendations for NAS prevention
- 🛡️ Identify ways to implement NAS prevention strategies within your agency or community

What is NAS?

Neonatal Abstinence Syndrome (NAS)

- Signs and symptoms associated with sudden discontinuation of prenatal substance exposure at delivery
- Can be caused by prescription and over-the-counter substances
- Diagnosis does not inherently indicate illegal activity

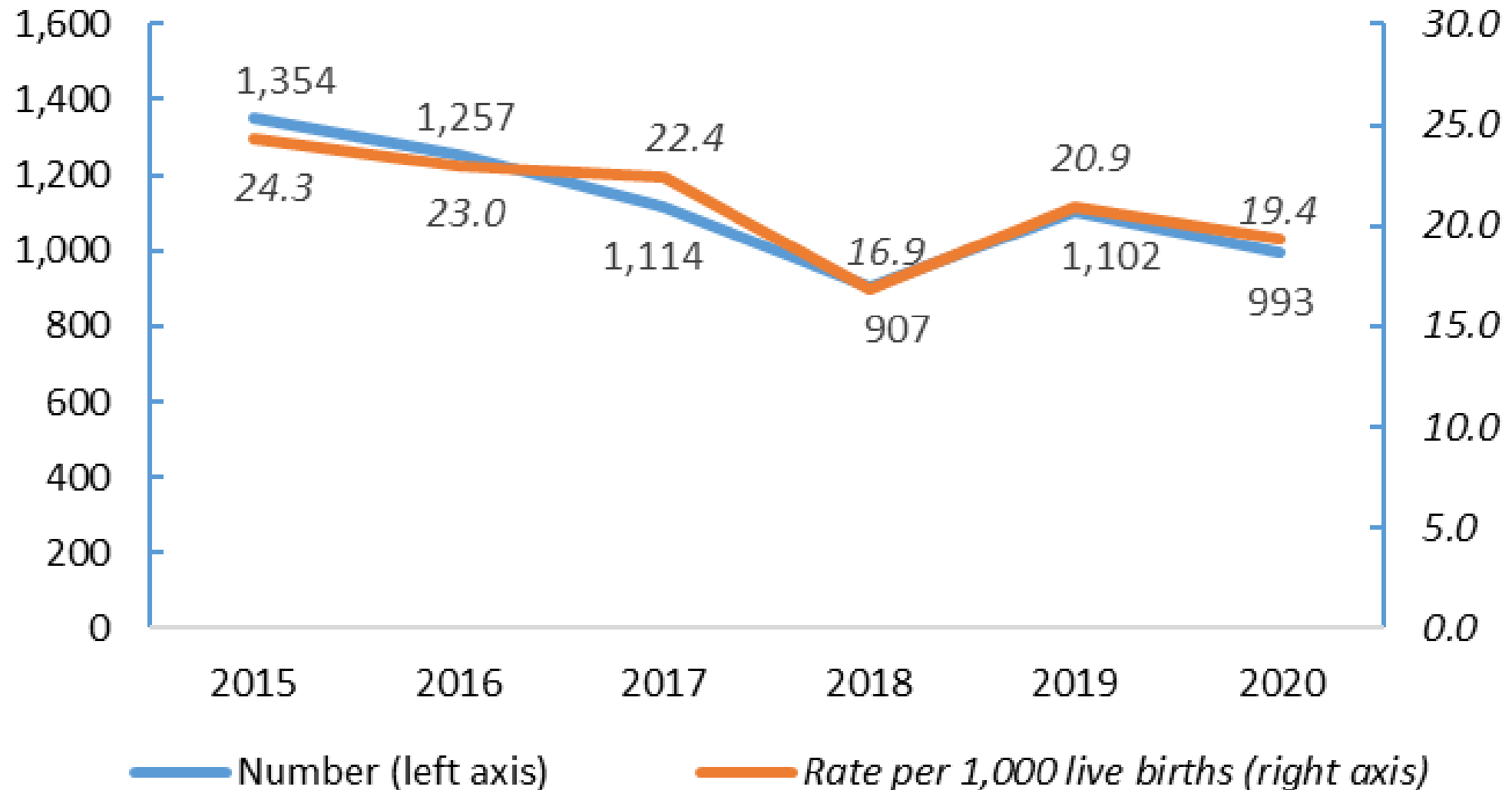
Presentation of NAS

- Non-specific, severity, onset, and duration may vary
- Similar to withdrawal in adults- restlessness, tremors, seizure, vomiting, fever, sweating, and apnea
- Treatment through comfort care or pharmacological interventions

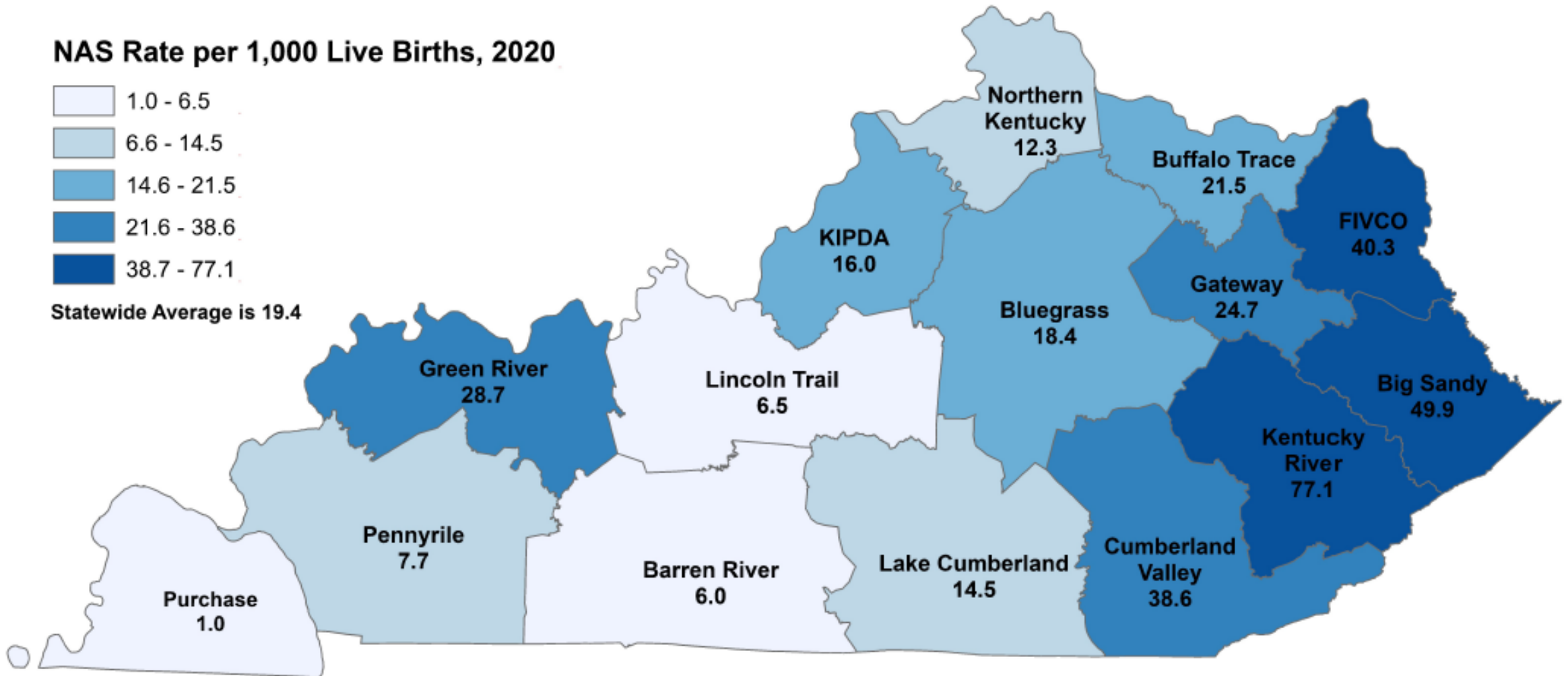
Public Health NAS Reporting Registry

- 🛡️ In 2013 the Kentucky General Assembly enacted Kentucky Revised Statute (KRS) 211.676
- 🛡️ Effective July 15, 2014, NAS became a reportable condition with mandatory reporting of cases that meet all criteria:
 - Kentucky residents
 - NAS
 - History of prenatal substance exposure
 - Reporting of other cases is allowable and sometimes encouraged
- 🛡️ A second law, KRS 211.678, calls for an annual data report

Kentucky Resident NAS Cases, 2015-2020



NAS Rate by ADD of Residence, 2020

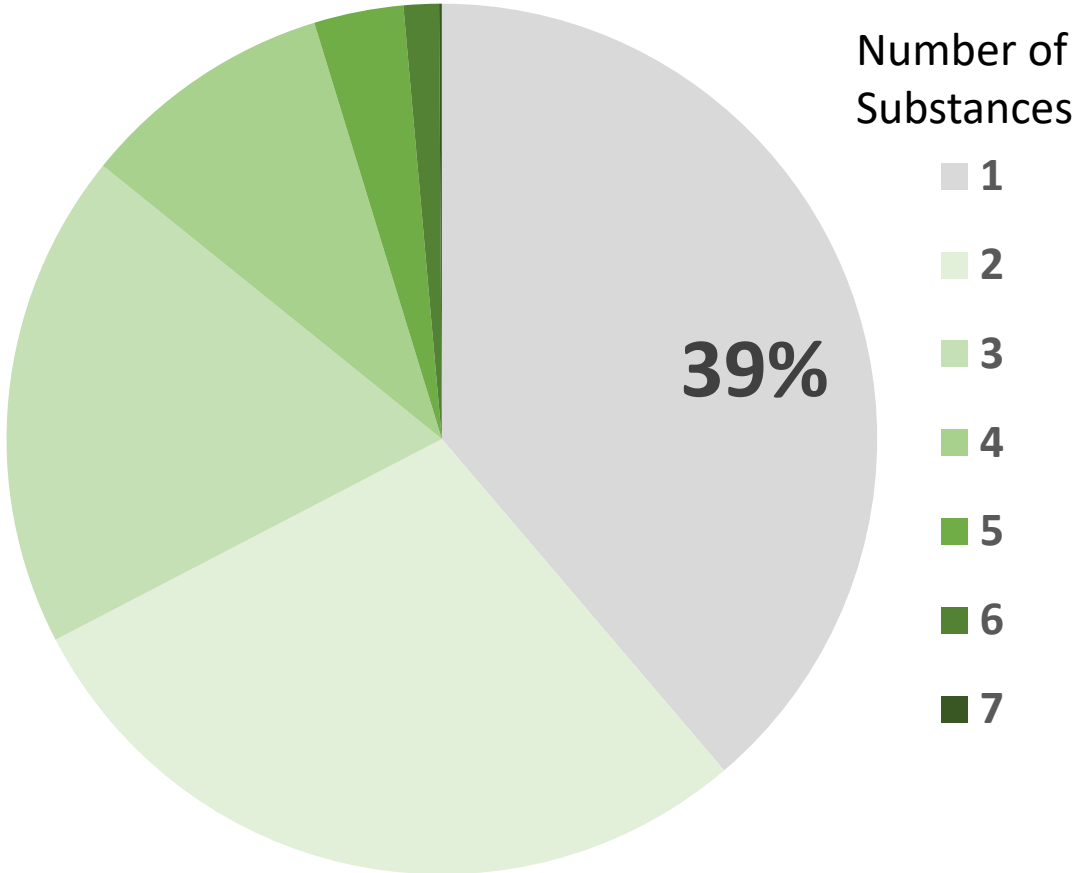


April 5, 2023

Data Source: Neonatal Abstinence Syndrome Reporting Registry; Kentucky Certificate of Live Birth
Shapefiles from Kentucky Geography Network

Reported Substances

Type	Percent
Any of the below opioids	86%
Buprenorphine	64%
Heroin	19%
Methadone	11%
Fentanyl	10%
Amphetamines*	36%
Cannabis	28%
Benzodiazepines	11%



*including methamphetamine

Prevention and Harm Reduction

Primary prevention

- Reducing the occurrence of prenatal substance exposure

Secondary prevention

- Treating known substance use to minimize the severity of consequences

Tertiary prevention

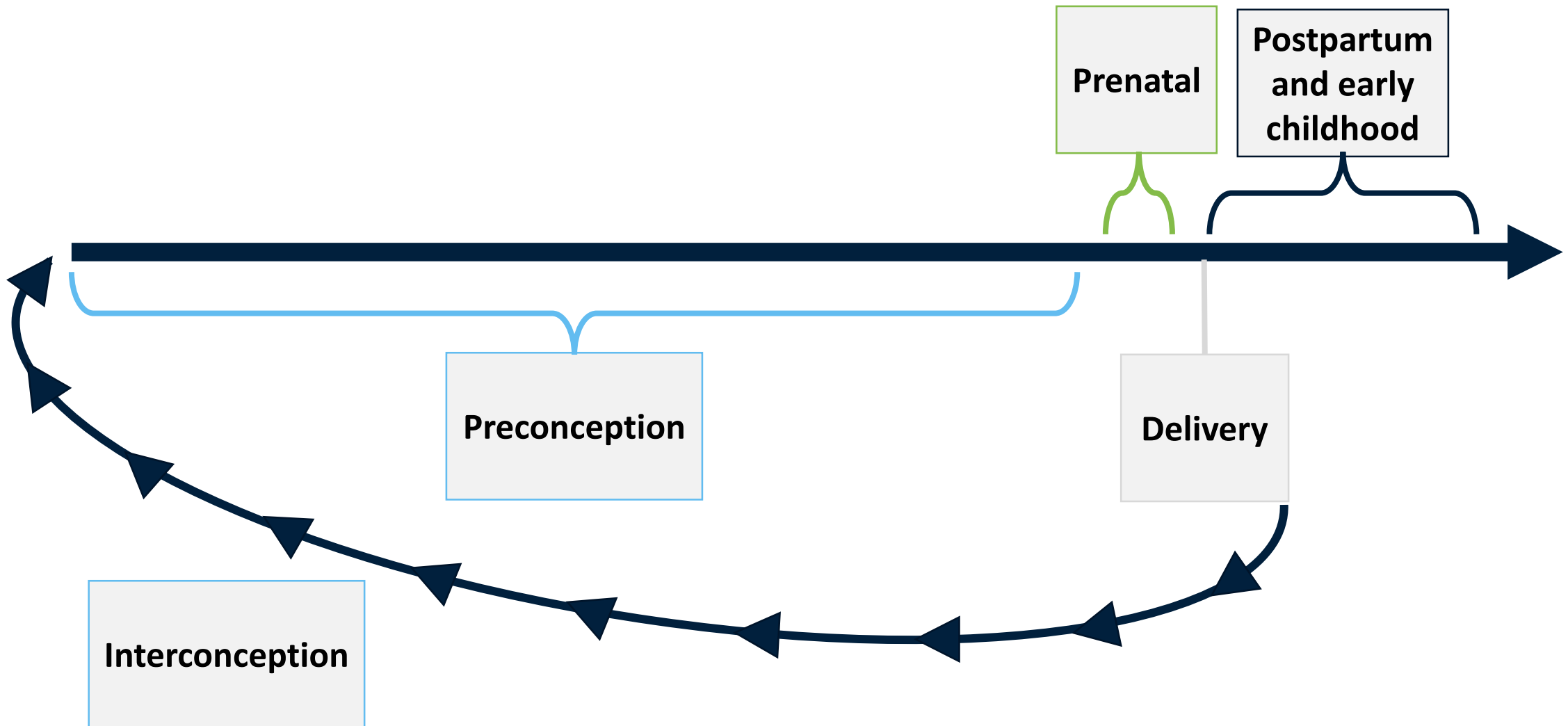
- Promoting long-term well-being for children with NAS and their families

Harm reduction

- Usually overlaps with secondary and tertiary prevention

 For more examples and activities, check out the [NICHQ NAS Framework](#)

NAS Prevention Timeline



Reviewing the Recommendations

- 🛡️ Span the period from preconception through early childhood
 - Rationale
 - Data
- 🛡️ Break down each component
 - Opportunity to brainstorm implementation
 - What can your agency do?
 - Type of agency
 - Suggestion
 - How it furthers this goal
 - Barriers or facilitators





Across the Timeline

Promote optimal well-woman health, periconceptional health, prenatal care, and postpartum care

- 🛡️ Screening for substance use disorder (SUD)
- 🛡️ Screening for comorbidities
 - Hepatitis C – 38%
- 🛡️ Referral to treatment and counseling
- 🛡️ Prescription management
 - Replacement therapy – 54%
 - Pain therapy – 6%
 - Psychiatric or neurological – 5%
- 🛡️ Monitoring for fetal complications
 - Low birth weight – 15%
 - NICU admission – 29%

46% of mothers in the registry had prenatal care that was less than adequate.

Implementing this Recommendation

-  Optimal well-woman health
-  Periconceptional health
-  Prenatal care
-  Postpartum care

Across the Timeline

Referral and enrollment in medication for opioid use disorder (MOUD) programs

🏥 MOUD programs can be very successful

- Buprenorphine is the most common substance in the NAS Registry (64%).





🏥 findhelpnowky.org can be used to locate a variety of treatment options

🏥 MOUD providers should:

- incorporate comprehensive services to address the complex needs of the mother and family
- be accessible while pregnant or postpartum
- be trained in family-oriented protocols

54% of mothers in the registry had prescriptions for replacement therapy.

Implementing this Recommendation


-  Screening
-  Referral
-  Enrollment
-  Continued engagement

Preconception and Postpartum

Improve access to long-acting reversible contraception (LARC)

 Highly effective birth control

- Intrauterine device
- Arm implant

 18% of infants with NAS were their mothers' first live birth, compared to 42% of infants without NAS





 Kentucky Medicaid covers LARCs

 Providers should make LARCs and other birth control accessible

- Syringe exchange programs could facilitate injectable contraception

Nearly 90% of pregnancies among women with opioid use disorder (OUD) are unintended (Heil et al., 2010)

Implementing this Recommendation

-  Insurance coverage
-  Accessibility
-  Perception
-  Timing of insertion

Prenatal Through Early Childhood

Increase enrollment in services such as WIC and Health Access Nurturing Development Services (HANDS)

Opportunities for engagement

- Education
- Referrals to services
- Monitoring well-being

Can support families and mitigate risk factors





- Educational attainment, insurance, social support

Breastfeeding support

- Less likely to plan on breastfeeding (39% vs 73%)
- About 22% actually initiate breastfeeding
- It can reduce the severity of NAS and is recommended unless contraindicated.

54% of mothers whose babies have NAS enrolled in WIC prenatally

Implementing this Recommendation

-  Referrals to WIC
-  Referrals to HANDS
-  Enrollment processes
-  Encouraging engagement

Prenatal through Delivery

Implement a plan of safe care

- 🛡️ All babies should have a plan of safe care before hospital discharge
 - Especially in families with SUD
 - 86% referred to DCBS - 43% of those were accepted

- 🛡️ Coordinate and integrate services needed for the impacted child, parent(s), and/or caregiver(s)
 - 70% discharged to the care of biological parent(s)

Less than one quarter of children in the NAS Registry were discharged to kinship care, foster care, an adoptive parent, or an institution.

Implementing this Recommendation

Who plays a role?

- Public health
- Behavioral health
- Child welfare
- Healthcare providers
- Others

 Planning would occur at the state level and implementation would occur at the local level

Prenatal through Early Childhood




Education for parents on abusive head trauma (AHT) and safe sleep

- 🛡️ All families should receive
 - Evidence-informed education
 - Use the **ABCDs** of safe sleep
 - In-person, prenatally and at delivery
 - Regardless of number of previous children

- 🛡️ 50% of cases reviewed by the Child Fatality and Near Fatality External Review Panel identified substance misuse by a caregiver
- 🛡️ Polysubstance exposure was especially common among reviewed infant cases

Substance use is a common risk factor in child death reviews in Kentucky

Implementing this Recommendation

-  Healthcare facility buy-in
-  Uptake by providers
-  Family reception

Delivery Through Early Childhood

Implement the practice of modeling safe sleep among healthcare and childcare providers

Benefits of modeling

- Modeling reinforces education
- Seeing unsafe sleep practices can weaken or counteract messaging

Universal recommendation

- All staff have a role
- Educate and intervene when unsafe sleep is being practiced
- Explain medically necessary modifications, when needed

Substance use is a risk factor in 32% of SUID Registry cases.

Implementing this Recommendation

- 🏥 Healthcare facility buy-in
- 🏥 Uptake by providers
- 🏥 Uptake by all staff
- 🏥 Family reception




Systems

Increase collaboration among programs that address and prevent OUD and maternal morbidities and mortality

- 🛡️ Programs should work together
 - Collect and share data
 - Implement prevention activities
 - Evaluate outcomes

- 🛡️ Kentucky Perinatal Quality Collaborative (KyPQC)
- 🛡️ KY Alliance for Innovation on Maternal Health (AIM)
- 🛡️ Maternal Mortality Review Committee (MMRC)
- 🛡️ NAS Public Health Reporting Registry

Implementing this Recommendation

-  Collect and share data
-  Implement prevention activities
-  Evaluate outcomes

Recap - Implementing recommendations

1. Promote optimal health
2. Referral to MOUD
3. Increase LARC access
4. Referral to WIC and HANDS
5. Implement plan of safe care
6. Educate on AHT and safe sleep
7. Model safe sleep
8. Interagency collaboration

 What can your agency do?

 Share:

- Type of agency
- Suggestion
- How it furthers this goal
- Barriers or facilitators

Partner Recommendations




From the Maternal Mortality Review Committee (MMRC):

- 🛡️ Utilize Kentucky All Schedule Prescription Electronic Report (KASPER)
- 🛡️ Monitor source and dosage of prescriptions
- 🛡️ Develop treatment management protocols that address the social determinants of health
- 🛡️ Additional postpartum follow up before the standard 6-week visit
- 🛡️ Extend obstetric and postpartum health coverage to one year
- 🛡️ Link patients to a community health worker for ongoing support

Remember: In 2019, 54% of all maternal mortality cases had SUD linked to their death

Partner Recommendations

From the Viral Hepatitis Program:

-  Breastfeeding is safe for mothers with HCV infections if they do not have damaged, cracked, or bleeding nipples.
-  Women should be tested for spontaneous HCV clearance at 9-12 months postpartum.
-  All children born to women with HCCV infection should have testing at 18 months of age, plus additional testing at 3 years old if it is positive.

Remember: Among women who are hepatitis C positive, perinatal transmission occurs in 5-6% of pregnancies, and injection drug use makes transmission more likely (Corcorran, 2021)

Ideas for Future Recommendations

- 🛡️ Screening for Hepatitis C virus prenatally, postpartum, and in early childhood
- 🛡️ Promote breastfeeding
- 🛡️ Promote well-child visits
- 🛡️ Educate parents on medication safety
- 🛡️ Other ideas?

Thank you!

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