

Neonatal Abstinence Syndrome Monitoring System

In 2023, Minnesota’s legislature passed the state’s Comprehensive Drug Overdose and Morbidity Prevention Act (Minn. Stat. § 144.0528). Part of this Act directs the Commissioner of Health to “design a system to assess, address, and prevent the impacts of drug overdose and morbidity on those who are pregnant, their infants, and children,” and to “identify communities, families, infants, and children affected by substance use disorder in order to recommend focused interventions, prevention, and services.”

To achieve these goals, the Minnesota Department of Health (MDH) will expand on existing efforts to monitor neonatal abstinence syndrome (NAS) in Minnesota, aiming to better support pregnant individuals, infants, families, and communities affected by substance use disorder. The program will apply a socio-ecological public health model to track trends, better understand the full range of infant and childhood outcomes related to NAS and strengthen the evidence base for services. Timely and accurate data will inform public health responses by identifying specific population needs and guiding targeted prevention, intervention, and supportive services.

These surveillance measures are supported by Minnesota Statutes § 144.05, which authorizes the Commissioner of Health to “conduct studies and investigations to promote and protect the health of the people of the state.” This includes the ability to collect and analyze health data as part of public health surveillance (Minn. Stat. § 144.05 subd. 1).

Why it is necessary

When substances are used during pregnancy, the drugs can pass through the placenta to the fetus. When the infant is born, they no longer receive these substances and may begin to experience a range of withdrawal symptoms, known as neonatal abstinence syndrome (NAS). When withdrawal is due to opioid exposure, it may be referred to more specifically as neonatal opioid withdrawal syndrome (NOWS). The opioid epidemic led to a sharp increase in NAS/NOWS cases, with maternal opioid use in the United States rising 130% from 2010-2017, and NAS cases rising 83% (Jilani SM, 2022). A public health emergency was declared (Substance Abuse and Mental Health Services Administration, 2025), and many states now monitor impacts through NAS surveillance (Council of State and Territorial Epidemiologists, n.d.).

Health impacts of NAS

Infants with NAS may require medical care to manage initial symptoms, and it is important that appropriate follow-up care continues after discharge as these infants are at higher risk for long-term impacts. Potential impacts include developmental delays, learning difficulty, behavioral concerns, and problems with vision, speech and language (Maguire DJ, 2016).

It is important to note that infants and families impacted by NAS often live in social environments that may include risk factors such as poverty, unstable housing, exposure to continued substance use, and limited access to healthcare. These conditions can compound the challenges already associated with NAS, increasing the need for coordinated, comprehensive support. Supportive services offered through local public health systems and community-based organizations play a critical role in reducing long-term impacts and promoting healthier outcomes for both infants and their families.

MDH will work with stakeholders, including people with lived experience, to develop and implement a neonatal abstinence syndrome monitoring system and a robust public health response for infants and their families.

Benefit to Minnesotans

Using a standardized way to report cases of NAS, such as the system developed by the Council of State and Territorial Epidemiologists, helps track how often NAS occurs and identify trends more accurately. This shared approach provides stronger data to inform improvements to programs and services that support affected infants and families. It also helps build a consistent process for connecting families to care and support, which can reduce racial and geographic gaps in access across Minnesota. NAS cases in Minnesota can be seen in the 2023 NAS data brief (Minnesota Department of Health, 2023).

Protecting privacy

MDH recognizes how important it is to protect the data privacy rights of pregnant people and their babies. The data collected are considered private data and can only be used for purposes identified by state statute (Minn. Stat. § 13.3805).

References

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