



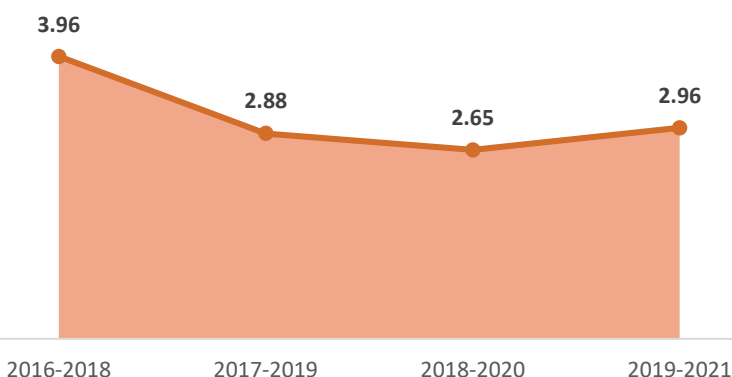
Neonatal Abstinence Syndrome Wyoming, 2016 – 2021

Neonatal Abstinence Syndrome (NAS) is a group of signs of withdrawal that occurs following *in utero* exposure to medications or illicit substances, most commonly opioids. NAS may also occur with exposures to benzodiazepines, selective serotonin reuptake inhibitors (SSRIs or commonly used antidepressants) and barbiturates. NAS due to opioid exposure can result from maternal use of prescription opioids as legitimately prescribed, misuse of prescription opioids, use of illicit opioids (like heroin), or from medication used to treat opioid use disorder (like methadone).¹ NAS symptoms may include seizures, excessive irritability, poor feeding, dehydration, and temperature instability. Infants with NAS may experience longer hospital stays and are more likely to experience other complications including low birth weight, respiratory problems, jaundice, and sepsis.² Not all exposed infants experience NAS, and their risk for long-term health impacts are not well understood.

Surveillance of NAS

In 2019, the Council of State and Territorial Epidemiologists (CSTE) created a standardized case definition for NAS. The definition includes Tier 1 case reporting focused on reporting from providers to public health authorities and Tier 2 case reporting focused on administrative data (claims data using ICD10 diagnosis codes). Because NAS is not a reportable condition in Wyoming, this fact sheet uses the Tier 2 definition (administrative data) to present Wyoming NAS rates from hospital discharge data based on ICD10 code P96.1 among neonates (babies 28 days or younger). According to 2019 national data, the rate of NAS was **6.1/1,000 live births**, a decrease from 7.1/1000 lives births in 2017.³ Wyoming rates are presented as 3-year rolling rates due to small numbers.

The NAS rate in Wyoming has stayed relatively stable from 2016-2021, and continues to be lower than the US estimate. Because the number of NAS cases and births in WY are low, caution should be used when comparing WY to US or making conclusions about trends over the five year period.



Rate of NAS per 1,000 live births
Data source: WY Hospital Discharge Data

During 2016-2021 in Wyoming hospitals:

- An average of **17 neonates per year** were diagnosed with NAS-
- Rate of NAS: **3.5 per 1,000 live births**
- Average length of hospital stay was **6.7 days** among NAS neonates compared with 2 days among infants who did not have a diagnosis related to drug exposure-
- Outcomes (based on ICD10 codes) among the neonates with NAS:
 - Seizures **1.0%**
 - Respiratory distress syndrome **3.0%**
 - Feeding difficulties **1.0%**

As stated previously, not all exposed infants experience NAS. Information on the number of Wyoming hospital discharges among neonates with ICD-10 codes indicating the neonate was affected by maternal substance use, with or without a diagnosis of NAS, can be found [here](https://health.wyo.gov/wp-content/uploads/2022/10/Substance-Exposed-Neonates-in-Wyoming-Technical-Documents-2022.pdf).

<https://health.wyo.gov/wp-content/uploads/2022/10/Substance-Exposed-Neonates-in-Wyoming-Technical-Documents-2022.pdf>

Limitations:

- ICD10 coding is reflective of claims billed. The coding may not accurately reflect the true number of cases.
- Data represent only Wyoming hospitals, so neonates treated at out-of-state facilities are not included.
- Hospital reporting of discharge data in Wyoming is voluntary; not all hospitals reported data every quarter or every year.

References

1. Ko JY, Patrick SW, Tong VT, Patel R, Lind JN, Barfield WD. Incidence of Neonatal Abstinence Syndrome – 28 States, 1999–2013. MMWR Morb Mortal Wkly Rep 2016;65:799–802
2. Hudak ML, Tan RC; COMMITTEE ON DRUGS; COMMITTEE ON FETUS AND NEWBORN; American Academy of Pediatrics. Pediatrics. 2012 Feb;129(2):e540-60. doi: 10.1542/peds.2011-3212. Epub 2012 Jan 30.
3. Federally Available Data Resource Document 11/2/2020 available at: <https://mchb.tvisdata.hrsa.gov/uploadedfiles/TvisWebReports/Documents/FADResourceDocument.pdf>