



Department of Health and Social Services
Valerie J. Davidson, Commissioner

3601 C Street, Suite 540
Anchorage, Alaska 99503 <http://dhss.alaska.gov/dph/Epi>

Division of Public Health
Jay C. Butler, MD, Chief Medical Officer
and Director

Local (907) 269-8000
24 Hour Emergency (800) 478-0084

Editors:
Joe McLaughlin, MD, MPH
Louisa Castrodale, DVM, MPH

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Neonatal Abstinence Syndrome among Medicaid-Eligible Births — Alaska, 2004–2015

Background

The incidence of Neonatal Abstinence Syndrome (NAS), primarily associated with prenatal exposure to opiates, is increasing both nationally and in Alaska.^{1,2} NAS infants are vulnerable and may need additional support beyond what is provided by health care specialists during the neonatal period.³ In Alaska, health care providers are responsible for reporting NAS infants to the Office of Children's Services (OCS), which assesses the safety of the home environment and the need for intervention.^{3,4} This *Bulletin* improves upon methodology previously published to determine NAS rates among Alaska Medicaid births,¹ and describes the involvement of OCS with these cases during the first 3 months after birth.

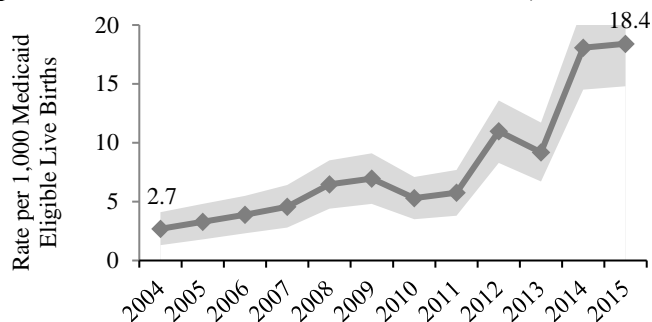
Methods

We used three data sources: Medicaid claims, Alaska birth records, and OCS case files. Infants with NAS were identified in 2004–2015 Medicaid claims data by extracting ICD-9-CM and ICD-10-CM codes for “Drug Withdrawal Syndrome in Newborn” (779.5 and P96.1) occurring within 28 days of birth from all diagnosis fields. Multiple claims for the same infant were de-duplicated based on name, date of birth, and Medicaid ID. NAS infants were linked with birth records and OCS reports on name and date of birth. Additional linkages were completed based on mother's last name and aliases identified through OCS. Trends were tested using regression analysis.

Results

We identified 541 infants who were diagnosed with NAS during 2004–2015. The annual number of Medicaid-enrolled infants with NAS ranged from a low of 15 in 2004 to a high of 100 in 2015. We observed a statistically significant increase in NAS rates over the 12-year time period ($p < 0.01$; Figure).

Figure. NAS Rate per 1,000 Medicaid Eligible Live Births per Year and 95% Confidence Band — Alaska, 2004–2015



Nearly all (99.4%) NAS infants were linked to Alaska birth certificates. Average NAS rates were highest among residents of the Southeast region and the Mat-Su Borough (11.0 and 10.9 per 1,000 Medicaid eligible births, respectively) and lowest for the Southwest and Northern regions (2.1 and 1.9 per 1,000 Medicaid eligible births, respectively).

Of the 541 infants diagnosed with NAS during 2004–2015, 347 (64%) were reported to OCS for prenatal exposure to illicit substances or prescription drugs. All reports occurred before 3 months of age. Of the 347 reported NAS infants, 296 (85%) were determined by OCS to warrant further investigation. Within 1 month of being reported to OCS, 47% (139/296) of the NAS infants were temporarily or permanently removed from their homes, and 52% (72/139) of the removed infants were placed with other family members for care. While the *number* of NAS infants who were reported, investigated, or removed from their homes increased along with the NAS rates during 2004–2015 ($p < 0.01$), the *proportion* of NAS infants who were reported, investigated, or removed remained constant ($p = 0.3$, $p = 0.5$, and $p = 0.3$, respectively; data not shown).

Discussion

During 2004–2015, the rate of NAS among Medicaid eligible live births increased nearly seven-fold, from < 3 to > 18 cases per 1,000 live births. A previously published NAS *Bulletin* extracted NAS codes only from the principal diagnosis field in the Medicaid database.¹ By extracting NAS codes from every diagnosis field, this analysis identified an even greater increase in NAS rates among the Alaska Medicaid population.

The majority of infants diagnosed with NAS were reported to OCS for prenatal exposure to illicit substances. Reports are investigated when the information received indicates a child may be unsafe or at high-risk for maltreatment. If the child is determined to be unsafe in the home and an in-home safety plan is not possible, they may be removed on a temporary or permanent basis. OCS makes an effort to place infants with relatives, and prioritizes reunification when appropriate. Additional follow-up is needed to better understand the long-term outcomes of infants diagnosed with NAS.

Preventing prenatal substance exposure is an important step in optimizing the health of newborns. However, early identification and intervention at birth can mitigate the negative effects. Signs associated with NAS typically manifest within 24 hours of birth, but may be delayed for 7 days or more after delivery.⁵ NAS signs vary by the type of opioid, maternal drug history, and maternal and infant metabolism, among other factors. Standardized screening protocols for both maternal substance abuse and signs of withdrawal in infants can help identify mothers and infants who need ongoing medical and social support.⁴

Recommendations

1. Birthing hospitals should implement a standardized screening protocol for NAS. As symptoms may not manifest until after discharge, protocols should include observation and follow-up for infants whose mothers are using prescription opioids or illicit drugs, or whose mothers are on replacement therapy.
2. Assure that comprehensive discharge planning and coordinated postpartum care and support are in place for all NAS infants, many of whom may suffer from persistent subacute symptoms. In addition to establishing a regular pediatric medical provider, this plan should include maternal substance abuse treatment, mental health treatment, and referral and enrollment in early intervention/infant learning programs (EI/ILP).⁴
3. Per Alaska Statute, health care providers caring for an infant they deem has been adversely affected by exposure to a controlled substance should promptly notify the Office of Children's Services (phone: 1-800-478-4444).³
4. Refer to [EpiBulletin No. 5 2016](#) for recommendations pertaining to the prevention of NAS.¹

References

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