

Iowa Department of Public Health



Iowa Department of Public Health – Bureau of Family Health Report to the Iowa Department of Human Services – Iowa Medicaid Enterprise

Newborn abstinence syndrome by Medicaid status among Iowa residents, 2012 – 2017

Iowa Department of Public Health - Bureau of Family Health

- December 2018

Report purpose: The purpose of the fact sheet is to report the incidence of newborn abstinence syndrome by the newborns' Medicaid status from 2012 – 2017.

Background: Newborn abstinence syndrome (NAS) occurs when a pregnant woman takes opiate or narcotic drugs, such as heroin, codeine, oxycodone (OxyContin), methadone or buprenorphine. These and other substances pass through the placenta and the baby becomes addicted along with the mother. At birth, the baby is still dependent on the drug. Because the baby is no longer getting the drug after birth, the infant may experience withdrawal symptoms, or NAS. Infants born with NAS can suffer from increased irritability, hypertonia, tremors, feeding tolerance, emesis, watery stools, seizures and respiratory distress. The overall incidence of NAS in the United States has increased by almost 300 percent during 1999 - 2013¹. However, at the state level there is considerable variation in both NAS incidence and trends. In 2013, state level NAS incidences ranged from 0.7 per 1,000 live birth (Hawaii) to 33.4 per 1,000 live births (West Virginia).

Data Source: Data for this report were derived from the Iowa Hospital Discharge Data (HDD) file for years 2012-2017. Newborn records with coding for NAS were identified using ICD-9-CM diagnostic code 779.5 (“drug withdrawal syndrome in infant of dependent mother”) and ICD-10-CM diagnostic code P96.1 (“neonatal withdrawal symptoms from maternal use of drug of addiction”). NAS incidence rates per 1,000 live births to Iowa residents in Iowa hospitals were calculated for each year. Average hospital charges (reported as total charges) and the average length of stay (in days) were calculated for Iowa resident newborns with NAS diagnostic codes and for all other Iowa resident births. Out-of-hospital births, Iowa resident births that occurred outside of Iowa, and non-resident births were excluded from this report. Medicaid status was based on the HDD primary source of payment to include Medicaid fee for service and Medicaid managed care organizations.

Results: The incidence of NAS was higher among newborns for whom Medicaid was the primary source of payment during 2012–2017 (Table 1). At the same time, regardless of payment source, Iowa's incidence of NAS remains well below the national average of 6.0 per 1,000 live births. In addition, the actual number of infants diagnosed with NAS is slightly greater than one case per county based on 2017 data. Although Iowa's NAS rate is low, NAS infants' average hospital stay (Table 2 & Figure 1) and cost of hospitalization (Table 3 & Figure 2) is significantly greater than that of all other live births in Iowa.

Recommendations:

- Encourage primary care providers to screen women of reproductive age for contraceptive use, pregnancy intention, illicit drug use and prescription drug use.
- Encourage primary care providers to discuss a [reproductive life plan](#) with women of reproductive age, including current prescription and illegal drug use.
- To improve NAS recognition and initiation of appropriate treatment services, create a structured screening protocol to screen newborns for perinatal exposure to prescription and illicit drugs.
- Listen to and watch the Webinar – [NAS: What you need to Know](#) presented by Cheryl Jones, ARNP, Health Services Coordinator, Child Health Specialty Clinics

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. DOI: <http://dx.doi.org/10.15585/mmwr.mm6531a2>

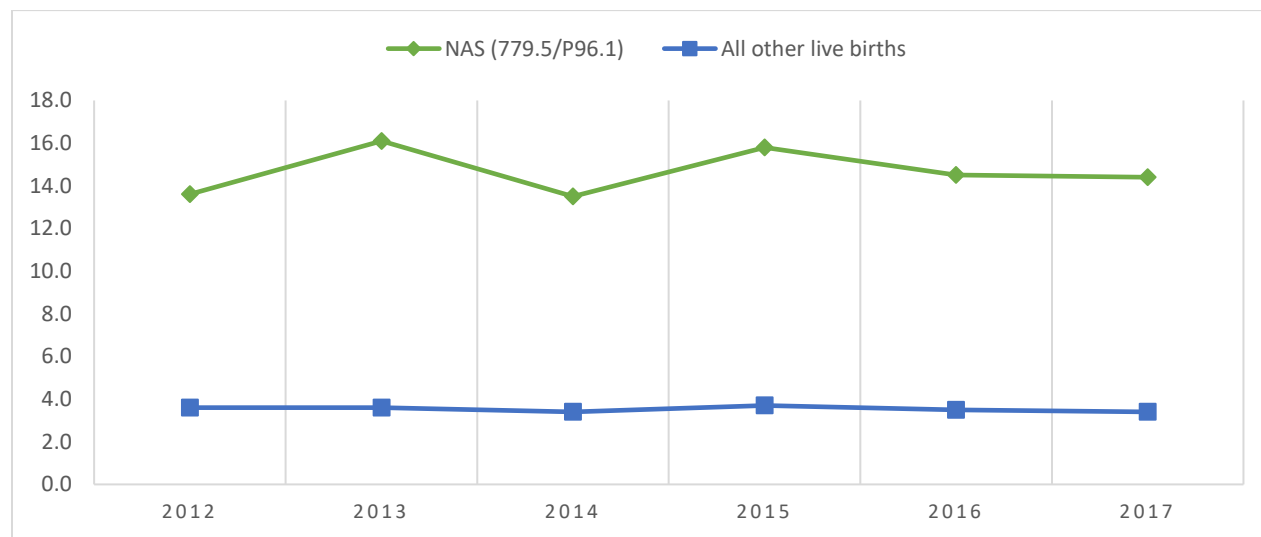
Table 1. Number and rate of infants/1000 live births diagnosed with newborn abstinence syndrome (NAS²) by Medicaid status and State Total, 2012-2017, Iowa resident births³

Year	Medicaid ⁴		Non-Medicaid ⁵		State Total	
	Number	Rate	Number	Rate	Number	Rate
2017	84	5.0	25	1.1	112	2.9
2016	97	5.8	14	0.6	111	2.3
2015	88	5.5	25	1.0	113	2.8
2014	94	6.6	27	1.2	121	3.3
2013	73	5.1	23	1.1	96	3.6
2012	70	4.8	13	0.6	83	2.8

Table 2. **Average length of hospital stay** (measured in days) for newborns with NAS compared to all live births, by Medicaid status and State Total, 2012-2017, Iowa resident births

Year	Medicaid		Non-Medicaid		State Total	
	NAS	Non-NAS	NAS	Non-NAS	NAS	Non-NAS
2017	13.3	3.8	18.2	3.1	14.4	3.4
2016	15.7	3.9	6.7	3.1	14.5	3.5
2015	16.3	3.8	13.1	3.3	15.8	3.7
2014	12.7	3.8	16.4	3.1	13.5	3.4
2013	17.5	3.8	11.4	3.4	16.1	3.6
2012	14.2	3.8	10.6	3.3	13.6	3.6

Figure 1. **Average length of stay** for infants born with NAS compared to all live births, Iowa, 2012-2017



² Incidence numerator consisted of NAS cases per ICD-9 code 779.5 (01.01.12 – 09.30.15) and ICD-10 code P96.1 (10.01.15 to present)

³ Data source – Iowa Hospital Discharge Data (HDD)

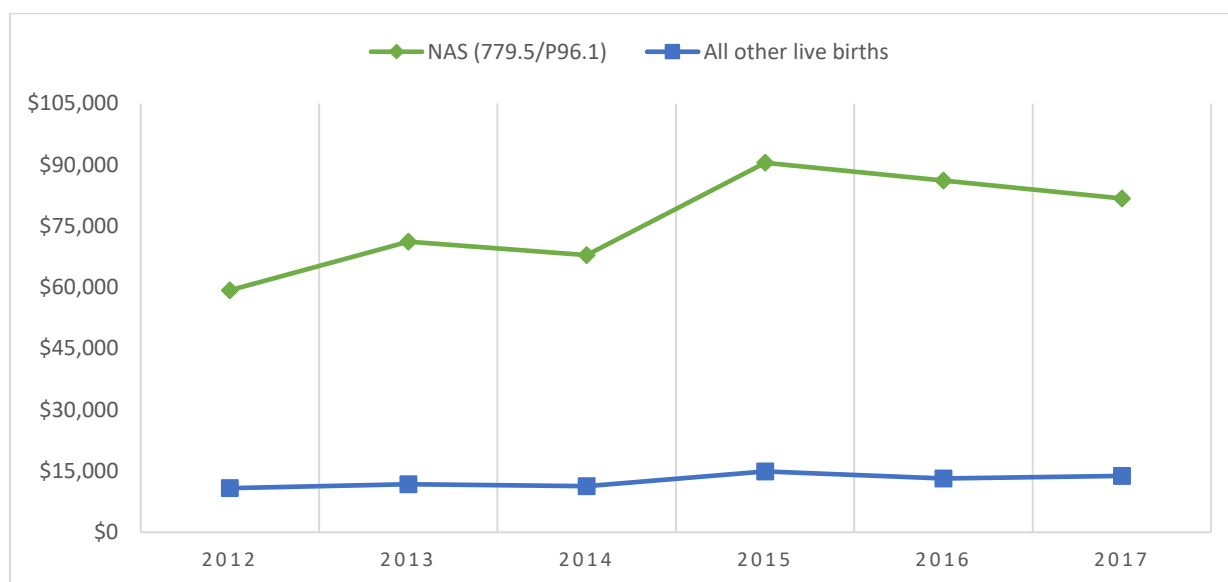
⁴ Medicaid status is based on the HDD primary payment source and includes fee-for-service, Medicaid managed care, and starting in 2016, the Medicaid MCOs

⁵ Non-Medicaid status includes private insurance, self-pay, and other governmental payment sources

Table 3. **Average total charges for newborns with NAS** compared to all live births, by Medicaid status and State Total, 2012-2017, Iowa resident births

Year	Medicaid		Non-Medicaid		State Total	
	NAS	Non-NAS	NAS	Non-NAS	NAS	Non-NAS
2017	\$75,939	\$16,627	\$101,032	\$11,539	\$81,764	\$13,794
2016	\$96,057	\$16,035	\$19,592	\$11,020	\$86,169	\$13,187
2015	\$87,184	\$16,627	\$78,757	\$12,434	\$90,494	\$14,909
2014	\$55,610	\$13,302	\$112,934	\$10,012	\$67,865	\$11,312
2013	\$70,386	\$12,945	\$73,812	\$10,925	\$71,171	\$11,734
2012	\$57,566	\$12,633	\$68,495	\$9,531	\$59,278	\$10,814

Figure 2. **Average total charges** for infants born with NAS compared to all live births, Iowa, 2012-2017



ADDITIONAL INFORMATION^a

For additional information or to obtain copies of this data report, contact Debbie Kane at Debbie.kane@idph.iowa.gov, 515-281-4952, or at the Iowa Department of Public Health, Bureau of Family Health, at 321 E. 12th Street, Des Moines, IA 50309 or toll-free at 1-800-383-3826.

^a The Iowa Department of Public Health acknowledges the [Maternal and Child Health Epidemiology Program](#), Field Support Branch, Division of Reproductive Health, National Center for Chronic Disease Prevention and Public Health Promotion, Centers for Disease Control and Prevention for analytic support and preparation of this data report.