

# OFFICE OF BEHAVIORAL HEALTH, DISABILITY, AND AGING POLICY

# **ISSUE BRIEF**

August 19, 2024

# CHARACTERISTICS OF PREGNANT AND POSTPARTUM WOMEN WITH OPIOID-EXPOSED BIRTHS AND THEIR CHILDREN ACCORDING TO TYPE OF BEHAVIORAL HEALTH TREATMENT

### **KEY POINTS**

- Prenatal opioid use is known to be a significant risk factor for adverse birth outcomes and can have
  long-lasting neurodevelopmental impacts on affected infants. In contrast, relatively little is known
  about how child development outcomes vary based on the receipt of treatment for substance use
  disorders or other comorbid behavioral health conditions during pregnancy. This descriptive
  analysis examined a linked mother-child Medicaid claims dataset to examine characteristics of
  pregnant women who used opioids in the prenatal period and had a live birth (age 18-45), their
  receipt of medications for opioid use disorder (MOUD) and/or intensive behavioral health services
  during pregnancy, and birth/child outcomes based on type of treatment received during
  pregnancy.
- Forty-five percent of women who had an opioid-exposed birth received MOUD during pregnancy; 24% received intensive behavioral health services only, and 31% received neither MOUD nor intensive behavioral health services.
- MOUD treatment was most common among pregnant women aged 25-45 with an opioid-exposed birth (43-49%), and least common among younger pregnant women aged 18-24 (35%).
- A higher percentage of non-Hispanic White women with an opioid-exposed birth (48%) received MOUD during pregnancy than Hispanic women (37%) or non-Hispanic Black women (18%).
- Most women with an opioid-exposed birth who received MOUD in the prenatal period were prescribed buprenorphine (87%) as opposed to methadone (16%).
- Five percent of women with an opioid-exposed birth who received MOUD during pregnancy were in detoxification at some point in the 9 months preceding birth.
- Prenatal care use was slightly higher among those pregnant women with an opioid-exposed birth who received MOUD (76%), followed closely by those receiving intensive behavioral health services only (74%).
- Among women with an opioid-exposed birth, the prevalence of preterm birth was 19% among those who received MOUD, and 15% among those who received intensive behavioral health services.

# **BACKGROUND**

Maternal opioid use and diagnoses of Neonatal Abstinence Syndrome (NAS) have increased significantly in the United States over the last decade.<sup>1</sup> Increased maternal substance use has contributed to maternal mortality in the United States, with one recent study documenting a marked increase in drug overdose mortality among pregnant and postpartum mothers between 2018 and 2021.<sup>2,3</sup> Treatment for opioid use disorder (OUD) with medications for OUD (MOUD),<sup>4</sup> in combination with other evidence-based behavioral therapies if indicated

and appropriate,<sup>5</sup> is strongly recommended for pregnant and postpartum women given the negative maternal health and birth outcomes associated with maternal opioid use. Maternal opioid use has been linked to neonatal opioid withdrawal and fever, respiratory symptoms, tremors and even seizures,<sup>6</sup> with studies finding long-lasting neurodevelopmental impacts through preschool age.<sup>7</sup> While previous studies have examined the impact of prenatal opioid use on early childhood development, evidence of the relationship between receipt of intensive behavioral health services and MOUD during pregnancy and subsequent child outcomes is lacking. This study represents findings from a descriptive analysis of a linked mother-child Medicaid claims dataset to examine the characteristics of pregnant women with an opioid-exposed birth who received MOUD (with or without intensive behavioral health services), intensive behavioral health services (without MOUD), or neither; additional analysis describes the mental health and neurodevelopment outcomes of children in the first two service receipt categories at 1 year and 3 years.

# **STUDY DESIGN**

Data from the IBM® MarketScan® Multi-State Medicaid Database from January 1, 2012, through December 31, 2019, was used to conduct the analysis. This database contains individual-level, deidentified Medicaid enrollment and claims from MarketScan data contributors (6-10 participating states each year). The study sample included mothers with a live birth aged 18-45 years who had 9 months of continuous coverage prior to giving birth and met one of three categories for opioid-exposed births: (a) an ICD-9-CM claim, prior to October 1, 2015 or ICD-10-CM claim for NAS within the 6 weeks following birth; (b) a maternal OUD diagnosis during the prenatal period; or (c) an infant with an ICD-10-CM P04.14 "newborn affected by maternal use of opiates" claim. Infants included in the sample had at least 1 year of continuous enrollment following birth. A subanalysis included children with 3 years of continuous enrollment to examine mental health and neurodevelopmental outcomes at preschool age. This results in a sample that includes 10,352 mother-child dyads where the child was followed throughout the first year of life, and a sub-sample of 4,549 mother-child dyads where the child was followed until he/she is 3 years old. Maternal characteristics examined included race, sex, age, and type of MOUD. See *Appendix A* for sample characteristics.

Child outcomes of interest were identified based on ICD-10-CM claims and included being diagnosed as small for gestational age, a history of low birthweight and preterm birth at age 1; and mental health diagnosis and neurodevelopmental diagnosis at age 3 (see *Appendix B*). MOUD treatment outcomes included any outpatient administration of buprenorphine or methadone in the 9 months prior to birth and mean length of MOUD use. Intensive behavioral health services included withdrawal management, intensive outpatient care, partial hospitalization, residential care, inpatient psychiatric care received in the 9 months prior to birth (see *Appendix C*).

# **FINDINGS**

Forty-five percent of women who had opioid-exposed births received MOUD (with or without intensive behavioral health services) during pregnancy; 24% received intensive behavioral health services only, and 31% received neither MOUD nor intensive behavioral health services. MOUD use is more common among pregnant women than the general population of adults age 18 and above with OUD, among whom just 23.4% received a MOUD treatment in 2021.<sup>a</sup> Prior research shows that women are more likely to reduce substance use and seek treatment during pregnancy. Still, fewer than half of the women in our sample received it, despite MOUD being recommended as first-line treatment for OUD during pregnancy. This finding mirrors

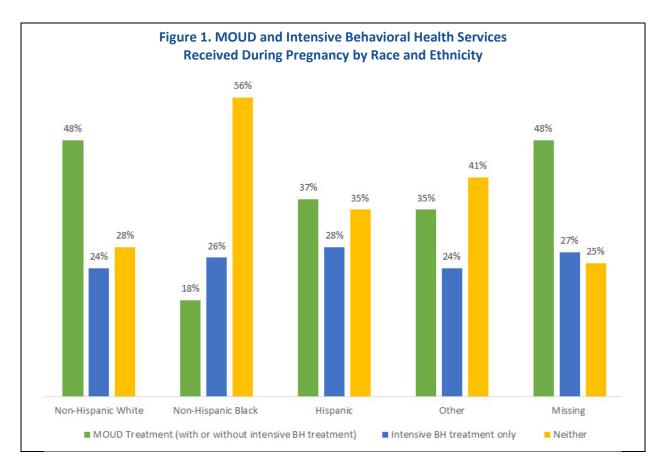
August 2024 ISSUE BRIEF 2

\_

<sup>&</sup>lt;sup>a</sup> See NSDUH 2021, detailed tables. Table 5.43B. <a href="https://www.samhsa.gov/data/sites/default/files/reports/rpt39441/NSDUHDetailedTabs2021/NSDUH

those of another study using Medicaid records from nine states which found that MOUD use in pregnant women with OUD can range anywhere from 38% to 66%. The study period (2012-2019) only 1-2% of obstetricians-gynecologists (OB/GYNs) in the United States had a DATA waiver to prescribe buprenorphine, illustrating potential gaps in MOUD treatment capacity among the maternity care workforce.

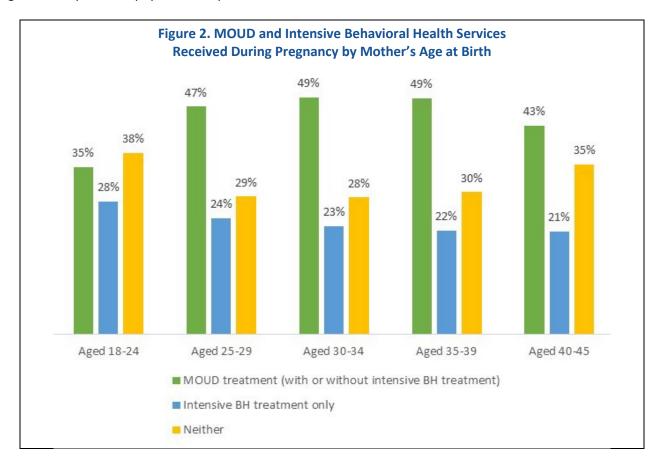
Table 1: Maternal-Infant Dyads by Type of Behavioral Health Services Received During Pregnancy				
	Dyads (N)	Dyads (%)		
All maternal-infant pairs with opioid exposure	10,352			
Receipt of MOUD	4,632	45%		
Receipt of intensive behavioral health services and no MOUD	2,516	24%		
Neither MOUD nor intensive behavioral health services	3,204	31%		



MOUD treatment was most common among White pregnant women with opioid-exposed births, followed by Hispanic women, with Black women being least likely to receive MOUD (Figure 1). A higher percentage of non-Hispanic White women (48%) received MOUD during pregnancy compared to Hispanic women (37%) or non-Hispanic Black women (18%) or "other" (more than one race or Native American/American Indian) women (35%). Intensive behavioral health treatment was similar through all categories, between 24% for non-Hispanic White and Other women to 28% for Hispanic women. These findings demonstrating disparities in receipt of MOUD overlap with findings from a prior publications which show that Black or Hispanic race/ethnicity is associated with a lower likelihood of MOUD use, similar results to our study. <sup>11</sup> Notably in our study, these

disparities were present despite the fact that all of the women in the sample had health insurance coverage. These findings may reflect the impacts of a range of economic and social barriers, including structural racism, that Black and Hispanic women face in accessing services beyond having health insurance.

Among pregnant women with maternal opioid use, those aged 25 and older were more likely to receive MOUD (43-49%) than younger pregnant women aged 18-24 (35%) (*Figure 2*). The percentage of women who accessed intensive behavioral health services only was higher in the 18-24 age group (28%) as compared to older ages (21-24%). Young women have been previously identified as a high-risk group for opioid use. According to the National Survey of Drug Use and Health (NSDUH), women aged 18-25 have represented the highest percentage of women with opioid misuse for 4 years in a row (2017-2020). This suggests that women age 18-25 represent a population in particular need of MOUD treatment.



Among women who accessed MOUD in the prenatal period, the majority received buprenorphine (87%) as opposed to methadone (17%), and the mean length of MOUD use<sup>b</sup> was 5 months (*Table 1*). Some women received both MOUD medications, likely because the type of MOUD was changed during the course of their pregnancy. The higher use of buprenorphine in this claims data analysis is likely a result of two factors. First, buprenorphine can be prescribed in physician offices which significantly increases access to treatment, while methadone is dispensed in highly regulated OTPs.<sup>13</sup> Second, it has been previously noted that methadone use is not always tracked in claims and it is less likely to be covered by Medicaid plans, especially prior to 2020 when the SUPPORT Act provision requiring Medicaid coverage of all 3 FDA-approved OUD medications had not started yet.<sup>14</sup> This finding is consistent with other studies using birth certificates and linked administrative

August 2024 ISSUE BRIEF 4

-

<sup>&</sup>lt;sup>b</sup> "Mean length of MOUD use" was defined as average number of months of using MOUD during pregnancy among all mother-child dyads included in the sample.

datasets, and clinic based studies which have also found higher use of buprenorphine during pregnancies.<sup>15,16</sup> This suggests that buprenorphine is a particularly important treatment modality during pregnancy because it is easier to access than methadone, and that insurance coverage policies may have direct impact on access, and use of, MOUDs.

**Five percent of women who received MOUD during pregnancy were in withdrawal management at some point in the 9 months preceding birth (***Table 2***)**. Withdrawal management is not needed for either buprenorphine or methadone initiation and is not recommended for pregnant women with substance use disorder (SUD).<sup>5</sup> Withdrawal management is associated with high rates of return to substance use, and increased rates of adverse birth outcomes.<sup>17</sup> Future efforts should concentrate on limiting further use of withdrawal management in this population and instead providing access to evidence-based treatments such as MOUD and support services.<sup>17</sup>

Table 2: MOUD and Intensive Behavioral Health Services During the Prenatal Period					
MOUD and/or Intensive Behavioral Health Services Receipt During Prenatal Period, %	Receipt of MOUD During Prenatal Period	Receipt of Intensive Behavioral Health Services Without MOUD During Prenatal Period			
Type of MOUD Treatment					
Buprenorphine	87.4%				
Methadone	15.6%				
Median number of months with any MOUD	5 (7)				
Intensive Behavioral Health Services					
Withdrawal management	5.4%	1.2%			
Intensive outpatient care	17.7%	19.1%			
Partial hospitalization	0.0%	<11*			
Residential care	0.6%	1.9%			
Inpatient psychiatric care	0.0%	0.0%			
* "<11" represents too few results to show in the cell.					

Prenatal care use was slightly higher among women who received MOUD (76%) compared to women who received intensive behavioral health services (74%) (*Table 3*). The median number of prenatal visits was also higher for those receiving MOUD than for those receiving intensive behavioral health services. These findings are in line with a previously found association between women with stable SUD (in treatment) and increased use of prenatal care.<sup>18</sup> Women with OUD often receive little, or no prenatal care, and present late in the pregnancy to receive treatment.<sup>19,20</sup> Prenatal care can facilitate access to SUD treatment.<sup>5</sup>

Table 3: MOUD and/or Receipt of Intensive Behavioral Health Services  During Pregnancy and Prenatal Care Utilization			
Prenatal Visits  All Maternal- Infant Pairs  Receipt of MOUD Treatment  Receipt of MOUD Behavioral Health Service: Without MOUD Treatmen			
At least 1 visit in the first trimester (176-280 days prior to birth)	71.0%	75.9%	73.7%
Median number of prenatal visits (interquartile range)	12 (10)	14 (12)	12 (10)

Among children followed through 3 years of life (n=4,549 dyads), preterm birth was more common among those whose mothers received MOUD (19%) compared to those whose mothers received only intensive behavioral health services (15%) (*Table 4*). In contrast, the percentage of infants who were small for their gestational age was slightly lower among infants whose mothers received MOUD treatment (1%), compared to infants whose mothers received only intensive behavioral health services (1.2%). Interpretation of these findings is limited by the observational nature of this study -- importantly, the study does not provide evidence of any causal relationship between MOUD or intensive behavioral health services receipt and infant health outcomes. Indeed, a previous study using Medicaid claims from Pennsylvania found that a longer duration of MOUD receipt is associated with reduction in preterm birth, <sup>17</sup> indicating that there are dimensions of MOUD treatment that may have a more meaningful impact on infant outcomes. Rigorous quasi-experimental studies may be able to better elucidate and explain the associations we observe between MOUD receipt during pregnancy and infant outcomes.

Mental health and neurodevelopment disorders were somewhat lower for children whose mothers received intensive behavioral health services (4.6% and 3.6%) or those that received MOUD (5.4% and 4.2%) compared to the total sample (5.5% and 4.7%) (*Table 4*). Since our study is observational, this finding is not evidence of a causal relationship between the type of behavioral health services received in pregnancy and child outcomes. Notably, less than 20% of the children in our sample had 3 years of continuous coverage, which indicates high churning among children of mothers with opioid-exposed births. In comparison, the churning rate among children in Medicaid is estimated at 8% per year.

Table 4: Infant Outcomes Following Prenatal Opioid Exposure and Child Outcomes After at Age 3					
Outcomes	All Maternal- Infant Pairs	Receipt of MOUD	Receipt of Behavioral Health Services and No MOUD During Prenatal Period		
Total dyads	4,549	2,056	1,061		
Birth Outcomes	Birth Outcomes				
Preterm birth, %	18.9%	19.3%	14.6%		
Small for gestational age, %	1.3%	1.0%	1.2%		
Mental Health and Neurodevelopmental Outcomes during First 3 Years					
Number of children with 3 years of follow up, %	19.2%	18.4%	13.9%		
Any mental health outcome, %	5.5%	5.4%	4.6%		
Any neurodevelopmental outcome, %	4.7%	4.2%	3.6%		

Speech and language disorders, followed by attention-deficit/hyperactivity disorder (ADHD), are the most common disorders among children at age 3 (*Table 5*). This pattern was observed in all treatment groups. However, the rates of speech/language disorders were slightly lower for children whose mothers received treatment. The pattern also mirrors the relative prevalence of neurodevelopmental disorders in the general population of young children -- for example, between 2008 and 2011, speech and language impairment were also the most common qualifying conditions for special educational services among school aged children with NAS in Tennessee.<sup>7</sup> Previous research has found an increased risk of neurodevelopmental disorders among children with prenatal opioid exposure, with one meta-analysis identifying a 2-3 fold higher likelihood of ADHD among children with NAS compared to those that do not have a NAS diagnosis.<sup>22</sup> Screening for ADHD and other neurodevelopmental disorders among children with prenatal opioid exposure is therefore particularly

important, and early identification of these conditions can facilitate receipt of early intervention services at preschool age and special education services at school age.

Table 5: Neurodevelopmental Outcomes Among Children with a 3 Year Follow up by Type of Treatment Received Prenatally			
Neurodevelopmental Outcomes During First 3 Years  All Maternal- Infant Pairs  Receipt of MOUD  Receipt of MOUD  and No MOUD			
0.2%	<11*	<11*	
3.1%	2.5%	2.5%	
0.9%	1.0%	<11*	
1.3%	1.3%	<11*	
0.7%	0.7%	<11*	
1.0%	1.1%	<11*	
	All Maternal- Infant Pairs  0.2%  3.1%  0.9%  1.3%  0.7%	All Maternal- Infant Pairs  Receipt of MOUD  0.2% <11* 3.1% 2.5% 0.9% 1.0% 1.3% 1.3% 0.7% 0.7%	

#### **LIMITATIONS**

The findings of our study should be interpreted in light of several limitations. First, our sample includes only those mothers with opioid-exposed births who had continuous 9-month Medicaid coverage throughout their pregnancy, and is therefore likely capturing women who enrolled in Medicaid prior to the start of their pregnancy and were eligible through a pathway other than the pregnancy pathway (e.g., income eligibility, Supplemental Security Income receipt). We used this sample restriction to ensure that we could observe all care billed to Medicaid during the prenatal period; the trade-off, however, is that our sample is less representative of all pregnant people enrolled in Medicaid. In particular, since states generally apply higher income eligibility limits for the pregnancy pathway, our sample is likely lower-income on average than the universe of Medicaid-enrolled pregnant people. As a result of the 9-month prenatal continuous coverage requirement, also missing from our sample are infants and children who might have been prenatally exposed to opioids or have a NAS diagnosis, but whose mothers did not have continuous Medicaid coverage throughout their entire pregnancy. For our analyses of child neurodevelopmental outcomes, our requirement of 3 years of continuous enrollment may have further contributed to selection bias by restricting our sample to children who did not experience interruptions in their coverage or churn during this timeframe. Future studies may want to relax these requirements to estimate the association between prenatal MOUD and infant and child outcomes. An additional limitation is that our study was based on Medicaid-covered mother-child dyads from a select group of states. Our sample was relatively small, and we did not employ statistical testing or causal inference designs, which make the findings less generalizable and not suitable for causal interpretation. As such, the findings of the study might not be generalizable to a national Medicaid sample. Finally, our approach identifies the subpopulations of pregnant people who received MOUD and people who received intensive behavioral health services; within the full reference sample, however, we do not identify whether people received outpatient, less intensive behavioral health services, or whether they received no behavioral health care at all. The full reference sample, which is used as a comparator, should therefore be viewed as a heterogenous group among whom some individuals may have received outpatient behavioral health services, but no MOUD or intensive service receipt.

# **DISCUSSION**

Addressing prenatal substance exposure, including prenatal opioid exposure, is an important public health priority, as substance use is a leading underlying cause of maternal mortality<sup>2</sup> and more than two-thirds of women with pregnancy-related mental health deaths have had substance use.<sup>23</sup> MOUD receipt during pregnancy has been associated with continued use of medication in the postpartum period, 15 while increased length of MOUD can reduce the risk for overdose among postpartum women.<sup>17</sup> Still, only 45% of the pregnant people in our study who had opioid-exposed births used MOUD prenatally. despite MOUD being the recommended treatment approach during pregnancy. 4,5 Our analysis also demonstrates that, among our sample, large disparities existed in receipt of MOUD treatment between White, non-Hispanic pregnant women and Black non-Hispanic women, and White, non-Hispanic women and Hispanic women. This underscores the importance of efforts focused on equity to SUD treatment in order to improve access to treatment services for all. Our descriptive analyses comparing prenatal care use, infant outcomes and child neurodevelopmental outcomes between the full sample of pregnant people with opioid-exposed births and the subsample who received MOUD found mixed results. As acknowledged above, these observational analyses were subject to a number of limitations. Quasi-experimental study designs could further advance our understanding of how receipt of MOUD and other behavioral health services in pregnancy impacts infant and child outcomes. For children with opioid exposure, timely identification and diagnosis allow access to early intervention services through Individuals with Disabilities Education Act in order to improve their cognitive and developmental outcomes.

One approach to increase the use of MOUD during pregnancy could be through increased screening and SBIRT (Screening, Brief Intervention and Referral to Treatment) in maternity care settings, and integration of OB/GYN and SUD care settings coupled with increased prescribing of buprenorphine among maternity care providers. The Fiscal Year 2023 Omnibus Appropriations Act removed the DATA waiver for buprenorphine prescribing with the goal of increasing MOUD prescribing among a larger number and broader range of health care practitioners, including OB/GYNs. Increasing uptake of buprenorphine prescribing among maternity care providers can help contribute to higher use of MOUD among pregnant women and greater integration of substance use and OB/GYN care.

In 2017, HHS released the <u>Protecting Our Infants Strategy</u> to guide its programs on prenatal substance exposure and NAS which incorporates dyadic approaches to care. Efforts to increase access to MOUD and support services at federal level were announced actions on provider training, data, and treatment through the <u>Maternal Health Blueprint</u> in June 2022. In October 2022, the Office of National Drug Control Policy released a <u>Substance Use in Pregnancy</u> action plan, which outlined commitments from agencies across the Federal Government. More recently HHS' <u>Overdose Prevention Strategy</u> included specific programs to address opioid use among pregnant and postpartum women through improved prevention and treatment and the <u>HHS Maternal Mental Health Strategy</u> proposes efforts to further prevention, treatment, recovery and education for pregnant and postpartum women with SUD and providers. The population of pregnant women with SUD continues to have limited access to care but ongoing federal efforts show promise that this trend can be reversed to improve health outcomes for mothers with SUD and their children.

# **APPENDIX A**

Study Sample Characteristics for Medicaid Covered Mother-Child Dyads				
Characteristic	All Maternal-Infant Pairs			
Number of mother infant/dyads	10,352			
Maternal age (years) at birth, %				
18–24	24.8			
25–29	39.6			
30–34	25.6			
35–39	8.7			
40–45	1.3			
Maternal race/ethnicity, %				
Non-Hispanic White	83.3			
Non-Hispanic Black	9.2			
Hispanic	0.9			
Other	0.9			
Missing	5.6			
Urban (vs rural), %	71.5			
Presumed opioid use disorder in pregnancy, % (not mutually exclusive)				
Opioid use disorder diagnosis during pregnancy	86.4			
NAS birth	47.7			
Prenatal opioid exposure	3.0			
Type of MOUD treatment during prenatal period, % (not mutually exclusive)				
Buprenorphine	39.1			
Methadone	7.0			
Median number of months with any MOUD (interquartile range)	5 (7)			

August 2024 ISSUE BRIEF

9

# **APPENDIX B**

Value Type	Code	Code System	Definition
Premature	H351	ICD-10-CM	Retinopathy of prematurity
Premature	H3510	ICD-10-CM	Retinopathy of prematurity, unspecified
Premature	H35101	ICD-10-CM	Retinopathy of prematurity, unspecified, right eye
Premature	H35102	ICD-10-CM	Retinopathy of prematurity, unspecified, left eye
Premature	H35103	ICD-10-CM	Retinopathy of prematurity, unspecified, bilateral
Premature	H35109	ICD-10-CM	Retinopathy of prematurity, unspecified, unspecified eye
Premature	H3511	ICD-10-CM	Retinopathy of prematurity, stage 0
Premature	H35111	ICD-10-CM	Retinopathy of prematurity, stage 0, right eye
Premature	H35112	ICD-10-CM	Retinopathy of prematurity, stage 0, left eye
Premature	H35113	ICD-10-CM	Retinopathy of prematurity, stage 0, bilateral
Premature	H35119	ICD-10-CM	Retinopathy of prematurity, stage 0, unspecified eye
Premature	H3512	ICD-10-CM	Retinopathy of prematurity, stage 1
Premature	H35121	ICD-10-CM	Retinopathy of prematurity, stage 1, right eye
Premature	H35122	ICD-10-CM	Retinopathy of prematurity, stage 1, left eye
Premature	H35123	ICD-10-CM	Retinopathy of prematurity, stage 1, bilateral
Premature	H35129	ICD-10-CM	Retinopathy of prematurity, stage 1, unspecified eye
Premature	H3513	ICD-10-CM	Retinopathy of prematurity, stage 2
Premature	H35131	ICD-10-CM	Retinopathy of prematurity, stage 2, right eye
Premature	H35132	ICD-10-CM	Retinopathy of prematurity, stage 2, left eye
Premature	H35133	ICD-10-CM	Retinopathy of prematurity, stage 2, bilateral
Premature	H35139	ICD-10-CM	Retinopathy of prematurity, stage 2, unspecified eye
Premature	H3514	ICD-10-CM	Retinopathy of prematurity, stage 3
Premature	H35141	ICD-10-CM	Retinopathy of prematurity, stage 3, right eye
Premature	H35142	ICD-10-CM	Retinopathy of prematurity, stage 3, left eye
Premature	H35143	ICD-10-CM	Retinopathy of prematurity, stage 3, bilateral
Premature	H35149	ICD-10-CM	Retinopathy of prematurity, stage 3, unspecified eye
Premature	H3515	ICD-10-CM	Retinopathy of prematurity, stage 4
Premature	H35151	ICD-10-CM	Retinopathy of prematurity, stage 4, right eye
Premature	H35152	ICD-10-CM	Retinopathy of prematurity, stage 4, left eye
Premature	H35153	ICD-10-CM	Retinopathy of prematurity, stage 4, bilateral
Premature	H35159	ICD-10-CM	Retinopathy of prematurity, stage 4, unspecified eye
Premature	H3516	ICD-10-CM	Retinopathy of prematurity, stage 5
Premature	H35161	ICD-10-CM	Retinopathy of prematurity, stage 5, right eye
Premature	H35162	ICD-10-CM	Retinopathy of prematurity, stage 5, left eye
Premature	H35163	ICD-10-CM	Retinopathy of prematurity, stage 5, bilateral
Premature	H35169	ICD-10-CM	Retinopathy of prematurity, stage 5, unspecified eye
Premature	H3517	ICD-10-CM	Retrolental fibroplasia
Premature	H35171	ICD-10-CM	Retrolental fibroplasia, right eye
Premature	H35172	ICD-10-CM	Retrolental fibroplasia, left eye

Value Type	Code	Code System	Definition
Premature	H35173	ICD-10-CM	Retrolental fibroplasia, bilateral
Premature	H35179	ICD-10-CM	Retrolental fibroplasia, unspecified eye
Premature	O4201	ICD-10-CM	Preterm prem ROM, onset labor within 24 hours of rupture
Premature	O42011	ICD-10-CM	Pretrm prem ROM, onset labor w/n 24 hours of rupt, first tri
Premature	O42012	ICD-10-CM	Pretrm prem ROM, onset labor w/n 24 hours of rupt, 2nd tri
Premature	O42013	ICD-10-CM	Pretrm prem ROM, onset labor w/n 24 hours of rupt, third tri
Premature	O42019	ICD-10-CM	Pretrm prem ROM, onset labor w/n 24 hours of rupt, unsp tri
Premature	04211	ICD-10-CM	Preterm premature ROM, onset labor > 24 hours fol rupture
Premature	042111	ICD-10-CM	Pretrm prem ROM, onset labor > 24 hours fol rupt, first tri
Premature	O42112	ICD-10-CM	Pretrm prem ROM, onset labor > 24 hours fol rupt, second tri
Premature	042113	ICD-10-CM	Pretrm prem ROM, onset labor > 24 hours fol rupt, third tri
Premature	O42119	ICD-10-CM	Pretrm prem ROM, onset labor > 24 hours fol rupt, unsp tri
Premature	O4291	ICD-10-CM	Preterm prem ROM, unsp time betw rupture and onset labor
Premature	O42911	ICD-10-CM	Pretrm prem ROM, unsp time betw rupt and onset labr, 1st tri
Premature	042912	ICD-10-CM	Pretrm prem ROM, unsp time betw rupt and onset labr, 2nd tri
Premature	042913	ICD-10-CM	Pretrm prem ROM, unsp time betw rupt and onst labr, 3rd tri
Premature	042919	ICD-10-CM	Pretrm prem ROM, unsp time betw rupt and onst labr, unsp tri
Premature	O6010	ICD-10-CM	Preterm labor with preterm delivery, unspecified trimester
Premature	O6010X0	ICD-10-CM	Preterm labor w preterm delivery, unsp trimester, unsp
Premature	O6010X1	ICD-10-CM	Preterm labor with preterm delivery, unsp trimester, fetus 1
Premature	O6010X2	ICD-10-CM	Preterm labor with preterm delivery, unsp trimester, fetus 2
Premature	O6010X3	ICD-10-CM	Preterm labor with preterm delivery, unsp trimester, fetus 3
Premature	O6010X4	ICD-10-CM	Preterm labor with preterm delivery, unsp trimester, fetus 4
Premature	O6010X5	ICD-10-CM	Preterm labor with preterm delivery, unsp trimester, fetus 5

Value Type	Code	Code System	Definition
Premature	O6010X9	ICD-10-CM	Preterm labor w preterm delivery, unsp trimester, oth fetus
Premature	O6012	ICD-10-CM	Preterm labor second tri w preterm delivery second trimester
Premature	O6012X0	ICD-10-CM	Preterm labor second tri w preterm delivery second tri, unsp
Premature	O6012X1	ICD-10-CM	Preterm labor second tri w preterm del second tri, fetus 1
Premature	O6012X2	ICD-10-CM	Preterm labor second tri w preterm del second tri, fetus 2
Premature	O6012X3	ICD-10-CM	Preterm labor second tri w preterm del second tri, fetus 3
Premature	O6012X4	ICD-10-CM	Preterm labor second tri w preterm del second tri, fetus 4
Premature	O6012X5	ICD-10-CM	Preterm labor second tri w preterm del second tri, fetus 5
Premature	O6012X9	ICD-10-CM	Preterm labor second tri w preterm delivery second tri, oth
Premature	O6013	ICD-10-CM	Preterm labor second tri w preterm delivery third trimester
Premature	O6013X0	ICD-10-CM	Preterm labor second tri w preterm delivery third tri, unsp
Premature	O6013X1	ICD-10-CM	Preterm labor second tri w preterm del third tri, fetus 1
Premature	O6013X2	ICD-10-CM	Preterm labor second tri w preterm del third tri, fetus 2
Premature	O6013X3	ICD-10-CM	Preterm labor second tri w preterm del third tri, fetus 3
Premature	O6013X4	ICD-10-CM	Preterm labor second tri w preterm del third tri, fetus 4
Premature	O6013X5	ICD-10-CM	Preterm labor second tri w preterm del third tri, fetus 5
Premature	O6013X9	ICD-10-CM	Preterm labor second tri w preterm delivery third tri, oth
Premature	O6014	ICD-10-CM	Preterm labor third tri w preterm delivery third trimester
Premature	O6014X0	ICD-10-CM	Preterm labor third tri w preterm delivery third tri, unsp
Premature	O6014X1	ICD-10-CM	Preterm labor third tri w preterm del third tri, fetus 1
Premature	O6014X2	ICD-10-CM	Preterm labor third tri w preterm del third tri, fetus 2
Premature	O6014X3	ICD-10-CM	Preterm labor third tri w preterm del third tri, fetus 3
Premature	O6014X4	ICD-10-CM	Preterm labor third tri w preterm del third tri, fetus 4
Premature	O6014X5	ICD-10-CM	Preterm labor third tri w preterm del third tri, fetus 5
Premature	O6014X9	ICD-10-CM	Preterm labor third tri w preterm delivery third tri, oth
Premature	P0720	ICD-10-CM	Extreme immaturity of newborn, unspecified weeks of gestation
Premature	P0721	ICD-10-CM	Extreme immaturity of newborn, gestational age less than 23 completed weeks
Premature	P0722	ICD-10-CM	Extreme immaturity of newborn, gestational age 23 completed weeks
Premature	P0723	ICD-10-CM	Extreme immaturity of newborn, gestational age 24 completed weeks
Premature	P0724	ICD-10-CM	Extreme immaturity of newborn, gestational age 25 completed weeks
Premature	P0725	ICD-10-CM	Extreme immaturity of newborn, gestational age 26 completed weeks

Value Type	Code	Code System	Definition
Premature	P0726	ICD-10-CM	Extreme immaturity of newborn, gestational age 27 completed weeks
Premature	P0730	ICD-10-CM	Preterm newborn, unspecified weeks of gestation
Premature	P0731	ICD-10-CM	Preterm newborn, gestational age 28 completed weeks
Premature	P0732	ICD-10-CM	Preterm newborn, gestational age 29 completed weeks
Premature	P0733	ICD-10-CM	Preterm newborn, gestational age 30 completed weeks
Premature	P0734	ICD-10-CM	Preterm newborn, gestational age 31 completed weeks
Premature	P0735	ICD-10-CM	Preterm newborn, gestational age 32 completed weeks
Premature	P0736	ICD-10-CM	Preterm newborn, gestational age 33 completed weeks
Premature	P0737	ICD-10-CM	Preterm newborn, gestational age 34 completed weeks
Premature	P0738	ICD-10-CM	Preterm newborn, gestational age 35 completed weeks
Premature	P0739	ICD-10-CM	Preterm newborn, gestational age 36 completed weeks
Premature	P590	ICD-10-CM	Neonatal jaundice associated with preterm delivery
Premature	P612	ICD-10-CM	Anemia of prematurity
Premature	36220	ICD-9-CM	Retinopathy of prematurity, unspecified
Premature	36222	ICD-9-CM	Retinopathy of prematurity, stage 0
Premature	36223	ICD-9-CM	Retinopathy of prematurity, stage 1
Premature	36224	ICD-9-CM	Retinopathy of prematurity, stage 2
Premature	36225	ICD-9-CM	Retinopathy of prematurity, stage 3
Premature	36226	ICD-9-CM	Retinopathy of prematurity, stage 4
Premature	36227	ICD-9-CM	Retinopathy of prematurity, stage 5
Premature	36221	ICD-9-CM	Retrolental fibroplasia
Premature	65811	ICD-9-CM	Premature rupture of membranes, delivered, with or without mention of antepartum condition
Premature	65810	ICD-9-CM	Premature rupture of membranes, unspecified as to episode of care or not applicable
Premature	65821	ICD-9-CM	Delayed delivery after spontaneous or unspecified rupture of membranes, delivered, with or without mention of antepartum condition
Premature	65820	ICD-9-CM	Delayed delivery after spontaneous or unspecified rupture of membranes, unspecified as to episode of care or not applicable
Premature	64420	ICD-9-CM	Early onset of delivery, unspecified as to episode of care or not applicable
Premature	64421	ICD-9-CM	Early onset of delivery, delivered, with or without mention of antepartum condition
Premature	76520	ICD-9-CM	Unspecified weeks of gestation
Premature	76521	ICD-9-CM	Less than 24 completed weeks of gestation
Premature	76522	ICD-9-CM	24 completed weeks of gestation
Premature	76523	ICD-9-CM	25-26 completed weeks of gestation
Premature	76524	ICD-9-CM	27-28 completed weeks of gestation
Premature	76509	ICD-9-CM	Extreme immaturity, 2,500 grams and over

Value Type	Code	Code System	Definition
Premature	76525	ICD-9-CM	29-30 completed weeks of gestation
Premature	76526	ICD-9-CM	31-32 completed weeks of gestation
Premature	76527	ICD-9-CM	33-34 completed weeks of gestation
Premature	76528	ICD-9-CM	35-36 completed weeks of gestation
Premature	7742	ICD-9-CM	Neonatal jaundice associated with preterm delivery
Premature	7766	ICD-9-CM	Anemia of prematurity
Premature	790	DRG	EXTREME IMMATURITY OR RESPIRATORY DISTRESS SYNDROME, NEONATE;
Premature	791	DRG	PREMATURITY W MAJOR PROBLEMS
Premature	792	DRG	PREMATURITY W/O MAJOR PROBLEMS
Low Weight	76420	ICD-09-CM	"Light-for-dates", unspecified [weight]
Low Weight	76421	ICD-09-CM	"Light-for-dates," less than 500 grams
Low Weight	76422	ICD-09-CM	"Light-for-dates," 500-749 grams
Low Weight	76423	ICD-09-CM	"Light-for-dates," 750-999 grams
Low Weight	76424	ICD-09-CM	"Light-for-dates," 1,000-1,249 grams
Low Weight	76425	ICD-09-CM	"Light-for-dates," 1,250-1,499 grams
Low Weight	76426	ICD-09-CM	"Light-for-dates," 1,500-1,749 grams
Low Weight	76427	ICD-09-CM	"Light-for-dates," 1,750-1,999 grams
Low Weight	76428	ICD-09-CM	"Light-for-dates," 2,000-2,499 grams
Low Weight	76491	ICD-09-CM	Fetal growth retardation, unspecified, less than 500 grams
Low Weight	76492	ICD-09-CM	Fetal growth retardation, unspecified, 500-749 grams
Low Weight	76493	ICD-09-CM	Fetal growth retardation, unspecified, 750-999 grams
Low Weight	76494	ICD-09-CM	Fetal growth retardation, unspecified, 1,000-1,249 grams
Low Weight	76495	ICD-09-CM	Fetal growth retardation, unspecified, 1,250- 1,499 grams
Low Weight	76496	ICD-09-CM	Fetal growth retardation, unspecified, 1,500- 1,749 grams
Low Weight	76497	ICD-09-CM	Fetal growth retardation, unspecified, 1,750- 1,999 grams
Low Weight	76498	ICD-09-CM	Fetal growth retardation, unspecified, 2,000- 2,499 grams
Low Weight	P0700	ICD-10-CM	Extremely low birth weight newborn unspecified weight
Low Weight	P0701	ICD-10-CM	Extremely low birth weight newborn less than 500 grams
Low Weight	P0702	ICD-10-CM	Extremely low birth weight newborn 500-749 grams
Low Weight	P0703	ICD-10-CM	Extremely low birth weight newborn 750-999 grams
Low Weight	P0710	ICD-10-CM	Other low birth weight newborn unspecified weight
Low Weight	P0714	ICD-10-CM	Other low birth weight newborn1000-1249 grams
Low Weight	P0715	ICD-10-CM	Other low birth weight newborn 1250-1499 grams
Low Weight	P0716	ICD-10-CM	Other low birth weight newborn 1500-1749 grams
Low Weight	P0717	ICD-10-CM	Other low birth weight newborn 1750-1999 grams
Low Weight	P0718	ICD-10-CM	Other low birth weight newborn 2000-2499 grams
Well-Child Visit	90460	CPT Code	Immunization administration (IA) through 18 years of age via any route of administration, with counseling by physician or other qualified health care

Value Type	Code	Code System	Definition
Well-Child Visit	90461	CPT Code	each additional vaccine or toxoid component administered Report 90461 in conjunction with 90460
Well-Child Visit	90471	CPT Code	A (includes percutaneous, intradermal, subcutaneous, or intramuscular injections); one vaccine (single or combination vaccine/toxoid).
			Do not report 90471 in conjunction with 90473.
Well-Child Visit	90472	CPT Code	each additional vaccine (single or combination vaccine/toxoid) (List separately to code for primary procedure.)  Use 90472 in conjunction with 90460, 90471, or 90473.
Well-Child Visit	90473	CPT Code	A (includes intranasal or oral administration); one vaccine (single or combination vaccine/toxoid)
			Do not report 90473 in conjunction with 90471
Well-Child Visit	90474	CPT Code	each additional vaccine (single or combination vaccine/toxoid) (List separately to code for primary procedure
			Use 90474 in conjunction with 90460, 90471, or 90473
Well-Child Visit	99381	CPT Code	Age-Based Preventive Visit CPT Codes (patients <1 year) for a new patient
Well-Child Visit	99382	CPT Code	Age-Based Preventive Visit CPT Codes (patients 1-4 years) for new patient
Well-Child Visit	99391	CPT Code	Age-Based Preventive Visit CPT Codes (patients <1 year) for established patient
Well-Child Visit	99392	CPT Code	Age-Based Preventive Visit CPT Codes (patients 1-4 years) for established patient
Well-Child Visit	99429	CPT Code	Unlisted preventative medicine service. Report code 99429 only when a more specific preventive medicine service code does not exist.
Well-Child Visit	G0438	HCPCS	Annual wellness visit; includes a personalized prevention plan of service (pps), initial visit
Well-Child Visit	G0439	HCPCS	Annual wellness visit, includes a personalized prevention plan of service (pps), subsequent visit
Well-Child Visit	S0302	HCPCS	Completed early periodic screening diagnosis and treatment (epsdt) service (list in addition to code for appropriate evaluation and management service)
Well-Child Visit	V202	ICD-9-CM	Routine infant or child health check
Well-Child Visit	V2031	ICD-9-CM	Health supervision for newborn under 8 days
Well-Child Visit	V2032	ICD-9-CM	Health supervision for newborn 8 to 28 days old
Well-Child Visit	Z00110	ICD-10-CM	Age-Based Preventive Visit without abnormal finding (patients <1 year)
Well-Child Visit	Z00111	ICD-10-CM	Age-Based Preventive Visit without abnormal finding (patients <1 year)
Well-Child Visit	Z00121	ICD-10-CM	Age-Based Preventive Visit with abnormal finding (patients <1 year)
Well-Child Visit	Z00129	ICD-10-CM	Age-Based Preventive Visit without abnormal finding (patients <1 year)

Value Type	Code	Code System	Definition
Behavioral/Emotional Disorder	G47.20	ICD-10-CM	Circadian rhythm sleep disorder, unspecified type
Behavioral/Emotional Disorder	G47.21	ICD-10-CM	Circadian rhythm sleep disorder, delayed sleep phase type
Behavioral/Emotional Disorder	G47.22	ICD-10-CM	Circadian rhythm sleep disorder, advanced sleep phase type
Behavioral/Emotional Disorder	G47.23	ICD-10-CM	Circadian rhythm sleep disorder, irregular sleep wake type
Behavioral/Emotional Disorder	G47.24	ICD-10-CM	Circadian rhythm sleep disorder, free running type
Behavioral/Emotional Disorder	G47.27	ICD-10-CM	Circadian rhythm sleep disorder in conditions classified elsewhere
Behavioral/Emotional Disorder	G47.29	ICD-10-CM	Other circadian rhythm sleep disorder
Behavioral/Emotional Disorder	G47.8	ICD-10-CM	Other sleep disorders
Behavioral/Emotional Disorder	G47.9	ICD-10-CM	Sleep disorder, unspecified
Intellectual Disorder	F70	ICD-10-CM	Mild intellectual disabilities
Intellectual Disorder	F71	ICD-10-CM	Moderate intellectual disabilities
Intellectual Disorder	F72	ICD-10-CM	Severe intellectual disabilities
Intellectual Disorder	F73	ICD-10-CM	Profound intellectual disabilities
Intellectual Disorder	F78	ICD-10-CM	Other intellectual disabilities
Intellectual Disorder	F79	ICD-10-CM	Unspecified intellectual disabilities
Developmental Delay	F80.0	ICD-10-CM	Phonological disorder
Developmental Delay	F80.1	ICD-10-CM	Expressive language disorder
Developmental Delay	F80.2	ICD-10-CM	Mixed receptive-expressive language disorder
Developmental Delay	F80.4	ICD-10-CM	Speech and language development delay due to hearing loss
Developmental Delay	F80.8	ICD-10-CM	Other developmental disorders of speech and language
Developmental Delay	F80.81	ICD-10-CM	Childhood onset fluency disorder
Developmental Delay	F80.82	ICD-10-CM	Social pragmatic communication disorder
Developmental Delay	F80.89	ICD-10-CM	Other developmental disorders of speech and language
Developmental Delay	F80.9	ICD-10-CM	Developmental disorder of speech and language, unspecified
Developmental Delay	F82	ICD-10-CM	Specific developmental disorder of motor function
Behavioral/Emotional Disorder	F84.0	ICD-10-CM	Autistic disorder
Behavioral/Emotional Disorder	F84.2	ICD-10-CM	Rett's syndrome
Behavioral/Emotional Disorder	F84.3	ICD-10-CM	Other childhood disintegrative disorder
Behavioral/Emotional Disorder	F84.5	ICD-10-CM	Asperger's syndrome

Value Type	Code	Code System	Definition
Behavioral/Emotional Disorder	F84.8	ICD-10-CM	Other pervasive developmental disorders
Behavioral/Emotional Disorder	F84.9	ICD-10-CM	Pervasive developmental disorder, unspecified
Behavioral/Emotional Disorder	F88	ICD-10-CM	Other disorders of psychological development
Behavioral/Emotional Disorder	F89	ICD-10-CM	Unspecified disorder of psychological development
Behavioral/Emotional Disorder	F90.0	ICD-10-CM	Attention-deficit hyperactivity disorder, predominantly inattentive type
Behavioral/Emotional Disorder	F90.1	ICD-10-CM	Attention-deficit hyperactivity disorder, predominantly hyperactive type
Behavioral/Emotional Disorder	F90.2	ICD-10-CM	Attention-deficit hyperactivity disorder, combined type
Behavioral/Emotional Disorder	F90.8	ICD-10-CM	Attention-deficit hyperactivity disorder, other type
Behavioral/Emotional Disorder	F90.9	ICD-10-CM	Attention-deficit hyperactivity disorder, unspecified type
Behavioral/Emotional Disorder	F91.0	ICD-10-CM	Conduct disorder confined to family context
Behavioral/Emotional Disorder	F91.1	ICD-10-CM	Conduct disorder, childhood-onset type
Behavioral/Emotional Disorder	F91.3	ICD-10-CM	Oppositional defiant disorder
Behavioral/Emotional Disorder	F91.8	ICD-10-CM	Other conduct disorders
Behavioral/Emotional Disorder	F91.9	ICD-10-CM	Conduct disorder, unspecified
Behavioral/Emotional Disorder	F93.0	ICD-10-CM	Separation anxiety disorder of childhood
Behavioral/Emotional Disorder	F93.8	ICD-10-CM	Other childhood emotional disorders
Behavioral/Emotional Disorder	F93.9	ICD-10-CM	Childhood emotional disorder, unspecified
Behavioral/Emotional Disorder	F94.0	ICD-10-CM	Selective mutism
Behavioral/Emotional Disorder	F94.1	ICD-10-CM	Reactive attachment disorder of childhood
Behavioral/Emotional Disorder	F94.2	ICD-10-CM	Disinhibited attachment disorder of childhood
Behavioral/Emotional Disorder	F94.8	ICD-10-CM	Other childhood disorders of social functioning
Behavioral/Emotional Disorder	F94.9	ICD-10-CM	Childhood disorder of social functioning, unspecified
Behavioral/Emotional Disorder	F95.0	ICD-10-CM	Transient tic disorder

Value Type	Code	Code System	Definition
Behavioral/Emotional Disorder	F95.1	ICD-10-CM	Chronic motor or vocal tic disorder
Behavioral/Emotional Disorder	F95.2	ICD-10-CM	Tourette's disorder
Behavioral/Emotional Disorder	F95.8	ICD-10-CM	Other tic disorders
Behavioral/Emotional Disorder	F95.9	ICD-10-CM	Tic disorder, unspecified
Behavioral/Emotional Disorder	F98.0	ICD-10-CM	Enuresis not due to a substance or known physiological condition
Behavioral/Emotional Disorder	F98.1	ICD-10-CM	Encopresis not due to a substance or known physiological condition
Behavioral/Emotional Disorder	F98.21	ICD-10-CM	Rumination disorder of infancy
Behavioral/Emotional Disorder	F98.29	ICD-10-CM	Other feeding disorders of infancy and early childhood
Behavioral/Emotional Disorder	F98.3	ICD-10-CM	Pica of infancy and childhood
Behavioral/Emotional Disorder	F98.4	ICD-10-CM	Stereotyped movement disorders
Behavioral/Emotional Disorder	F98.8	ICD-10-CM	Other specified behavioral and emotional disorders with onset usually occurring in childhood and adolescence
Behavioral/Emotional Disorder	F98.9	ICD-10-CM	Unspecified behavioral and emotional disorders with onset usually occurring in childhood and adolescence
Behavioral/Emotional Disorder	F40.00	ICD-10-CM	Agoraphobia, unspecified
Behavioral/Emotional Disorder	F40.01	ICD-10-CM	Agoraphobia with panic disorder
Behavioral/Emotional Disorder	F40.02	ICD-10-CM	Agoraphobia without panic disorder
Behavioral/Emotional Disorder	F40.10	ICD-10-CM	Social phobia, unspecified
Behavioral/Emotional Disorder	F40.11	ICD-10-CM	Social phobia, generalized
Behavioral/Emotional Disorder	F42	ICD-10-CM	Obsessive-compulsive disorder
Behavioral/Emotional Disorder	F43.0	ICD-10-CM	Acute stress reaction
Behavioral/Emotional Disorder	F43.20	ICD-10-CM	Adjustment disorder, unspecified
Behavioral/Emotional Disorder	F43.21	ICD-10-CM	Adjustment disorder with depressed mood
Behavioral/Emotional Disorder	F43.22	ICD-10-CM	Adjustment disorder with anxiety
Behavioral/Emotional Disorder	F43.23	ICD-10-CM	Adjustment disorder with mixed anxiety and depressed mood

Value Type	Code	Code System	Definition
Behavioral/Emotional Disorder	F43.24	ICD-10-CM	Adjustment disorder with disturbance of conduct
Behavioral/Emotional Disorder	F43.25	ICD-10-CM	Adjustment disorder with mixed disturbance of emotions and conduct
Behavioral/Emotional Disorder	F43.29	ICD-10-CM	Adjustment disorder with other symptoms
Behavioral/Emotional Disorder	F43.8	ICD-10-CM	Other reactions to severe stress
Behavioral/Emotional Disorder	F43.9	ICD-10-CM	Reaction to severe stress, unspecified
Behavioral/Emotional Disorder	F51.4	ICD-10-CM	Sleep terrors [night terrors]
Behavioral/Emotional Disorder	F51.5	ICD-10-CM	Nightmare disorder
Behavioral/Emotional Disorder	F51.8	ICD-10-CM	Other sleep disorders not due to a substance or known physiological condition
Behavioral/Emotional Disorder	F51.9	ICD-10-CM	Sleep disorder not due to a substance or known physiological condition, unspecified
Developmental Delay	R62.0	ICD-10-CM	Delayed milestone in childhood
Developmental Delay	R62.50	ICD-10-CM	Unspecified lack of expected normal physiological development in childhood
Developmental Delay	R62.51	ICD-10-CM	Failure to thrive in child over 28 days old
Developmental Delay	R62.52	ICD-10-CM	Short stature (child)
Developmental Delay	R62.59	ICD-10-CM	Other lack of expected normal physiological development in childhood
Developmental Delay	P92.6	ICD-10-CM	Failure to thrive in child under 28 days old

# **APPENDIX C**

Value Type	Code	Code System	Definition
Withdrawal management	H0008	СРТ	Alcohol and/or drug services; sub-acute detoxification (hospital inpatient)
Withdrawal management	H0009	CPT	Alcohol and/or drug services; acute detoxification (hospital inpatient)
Withdrawal management	H0010	CPT	Alcohol/drug svc-subacute detox-RES program inpt
Withdrawal management	H0011	CPT	Alcohol/drug svc-acute detox-RES prog inpt
Withdrawal management	H0012	СРТ	Alcohol/drug svc-subac detox RES program outpt
Withdrawal management	H0013	СРТ	Alcohol/drug svc-acute detox RES program outpt
Withdrawal management	H0014	СРТ	Alcohol/drug svc- ambulatory detoxification
Inpatient care	Н0008	СРТ	Alcohol and/or drug services; sub-acute detoxification (hospital inpatient)
Inpatient care	H0009	СРТ	Alcohol and/or drug services; acute detoxification (hospital inpatient)
Inpatient care	H0010	CPT	Alcohol/drug svc-subacute detox-RES program inpt
Inpatient care	H0011	CPT	Alcohol/drug svc-acute detox-RES prog inpt
Residential care	H0012	CPT	Alcohol/drug svc-subac detox RES program outpt
Residential care	H0013	CPT	Alcohol/drug svc-acute detox RES program outpt
Residential care	H0017	CPT	Alcohol/drug svc-acute detox RES program outpt
Residential care	H0018	CPT	Alcohol/drug svc-acute detox RES program outpt
Residential care	H0019	СРТ	Behav hlth-long-term RES w/o room & board, diem
Inpatient care	H0015	CPT	Alcohol/drug svc-intensive outpatient program
Partial Hospitalization	H0035	СРТ	Mental health partial hosp, treatment <24 hours

# **REFERENCES**

- 1. Hirai AH, Ko JY, Owens PL, Stocks C, Patrick SW. (2021). Neonatal Abstinence Syndrome and maternal opioid-related diagnoses in the US, 2010-2017. *JAMA*; 325(2): 146-155. doi:10.1001/jama.2020.24991.
- 2. Trost S, Beauregard J, Chandra G, Njie F, Berry J, Harvey A, Goodman DA. (2022). *Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017-2019*. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. Available at: https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/data-mmrc.html.
- 3. Han B, Compton W, Einstein E, Elder E, Volkow N. (2023). Pregnancy and postpartum drug overdose deaths in the US before and during the COVID-19 pandemic. *JAMA Psychiatry*. doi:10.1001/jamapsychiatry.2023.4523.
- 4. American College of Obstetricians and Gynecologists. (2017). Opioid use and opioid use disorder in pregnancy. Committee on Obstetric Practice Opinion No. 711. *Obstet Gynecol*; 130: e81-94. Available at: <a href="https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2017/08/opioid-use-and-opioid-use-disorder-in-pregnancy">https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2017/08/opioid-use-and-opioid-use-disorder-in-pregnancy</a>.
- 5. Substance Abuse and Mental Health Services Administration. (2018). Clinical Guidance for Treating Pregnant and Parenting Women and Opioid Use Disorder and Their Infants. Available at: <a href="https://store.samhsa.gov/product/Clinical-Guidance-for-Treating-Pregnant-and-Parenting-Women-With-Opioid-Use-Disorder-and-Their-Infants/SMA18-5054">https://store.samhsa.gov/product/Clinical-Guidance-for-Treating-Pregnant-and-Parenting-Women-With-Opioid-Use-Disorder-and-Their-Infants/SMA18-5054</a>.
- 6. Jansson LM, Patrick SW. (2019). Neonatal Abstinence Syndrome. *Pediatr Clin North Am*; 66(2): 353-367. doi:10.1016/j.pcl.2018.12.006.
- 7. Fill MA, Miller AM, Wilkinson RH, Warren MD, Dunn JR, Schaffner W, Jones TF. (2018). Educational disabilities among children born with Neonatal Abstinence Syndrome. *Pediatrics*; 142(3): e20180562. doi:10.1542/peds.2018-0562.
- 8. Jarlenski M, Kim JY, Ahrens K. (2021). Healthcare patterns of pregnant women and children affected by OUD in 9 state Medicaid populations. *J Addict Med*; 15(5): 406-413. doi:10.1097/ADM.0000000000000780.
- 9. Tiako MJN, Culhane J, South E, Srinivas SK, Meisel ZF. (2020). Prevalence and geographic distribution of obstetrician-gynecologists who treat Medicaid enrollees and are trained to prescribe buprenorphine. *JAMA Netw Open*; 3(12): e2029043. doi:10.1001/jamanetworkopen.2020.29043.
- 10. Rosenblatt RA, Andrilla CHA, Catlin M, Larson EH. (2015). Geographic and specialty distribution of US physicians trained to treat opioid use disorder. *Ann Fam Med*; 13(1): 23-6. doi:10.1370/afm.1735.
- 11. Schiff DM, Nielsen T, Hoeppner BB, Terplan M, Hansen H, Bernson D, Diop H, Bharel M, Krans EE, Selk S, Kelly JF, Wilens TE, Taveras EM. (2020). Assessment of racial and ethnic disparities in the use of medication to treat opioid use disorder among pregnant women in Massachusetts. *JAMA Netw Open*; 3(5): e205734. doi:10.1001/jamanetworkopen.2020.5734.
- 12. Substance Abuse and Mental Health Services Administration. (2022). 2020 National Survey on Drug Use and Health: Women. Available at: <a href="https://www.samhsa.gov/data/sites/default/files/reports/slides-2020-nsduh/2020NSDUHWomenSlides072522.pdf">https://www.samhsa.gov/data/sites/default/files/reports/slides-2020-nsduh/2020NSDUHWomenSlides072522.pdf</a>.
- 13. Substance Abuse and Mental Health Services Administration. (2022). *Certification of Opioid Treatment Programs*. Available at: <a href="https://www.samhsa.gov/medication-assisted-treatment/become-accredited-opioid-treatment-program">https://www.samhsa.gov/medication-assisted-treatment/become-accredited-opioid-treatment-program</a>.

- 14. Austin A, Bona VD, Cox M. (2021). Prenatal use of medication for opioid use disorder and other prescription opioids in cases of neonatal opioid withdrawal syndrome: North Carolina Medicaid, 2016-2018. *Am J Public Health*; 111(9): 1682-1685. doi:10.2105/AJPH.2021.306374.
- 15. Schiff DM, Nielsen TC, Hoeppner BB, Terplan M, Hadland SE, Bernson D, Greenfield SF, Bernstein J, Bharel M, Reddy J, Taveras EM, Kelly JF, Wilens TE. (2021). Methadone and buprenorphine discontinuation among postpartum women with opioid use disorder. *Am J Obstet Gynecol*; 225(4): 424.e1-424.e12. doi:10.1016/j.ajog.2021.04.210.
- 16. Petrich M, Battin M, Walker E, Brown M, Abdelwahab M, Ma'ayeh M, Rood KM. (2022). Comparison of neonatal outcomes in pregnant women undergoing medication-assisted treatment of opioid use disorder with methadone or buprenorphine/naloxone. *J Matern Fetal Neonatal Med*; 1-6. doi:10.1080/14767058.2022.2130238.
- 17. Krans E, Kim JY, Chen Q. (2021). Outcomes associated with the use of medications for opioid use disorder during pregnancy. *Addiction*; 116(12): 3504-3514. doi:10.1111/add.15582.
- 18. Lennox R, Patel T, Marmel A, Shaw E. (2021). Prenatal care outcomes in women with substance use disorders: A retrospective cohort study. *J Obstet Gynaecol Can*; 43(7): 850-855. doi:10.1016/j.jogc.2020.10.021.
- 19. Simmons E, Austin AE. (2022). Association of prenatal substance use with prenatal and postpartum care: Evidence from the Pregnancy Risk Assessment Monitoring System, 2016-2019. *Prev Med*; 159: 107065. doi:10.1016/j.ypmed.2022.107065. Epub 2022 Apr 22.
- 20. Clemans-Cope L, Lynch V, Howell E, Hill I, Holla N, Morgan J, Johnson P, Cross-Barnet C, Thompson JA. (2019). Pregnant women with opioid use disorder and their infants in three state Medicaid programs in 2013-2016. *Drug Alcohol Depend*; 195: 156-163. doi:10.1016/j.drugalcdep.2018.12.005.
- 21. MACPAC. (2021). *An Updated Look at the Rates of Churn and Coverage in Medicaid and CHIP*. Available at: <a href="https://www.macpac.gov/wp-content/uploads/2021/10/An-Updated-Look-at-Rates-of-Churn-and-Continuous-Coverage-in-Medicaid-and-CHIP.pdf">https://www.macpac.gov/wp-content/uploads/2021/10/An-Updated-Look-at-Rates-of-Churn-and-Continuous-Coverage-in-Medicaid-and-CHIP.pdf</a>.
- 22. Rees P, Stilwell P. (2020). Childhood health and educational outcomes after Neonatal Abstinence Syndrome: A systematic review and meta-analysis. *J Pediatr*; 226: 149-156.e16. doi:10.1016/j.jpeds.2020.07.013.
- 23. Trost SL, Beauregard JL, Smoots AN, Ko JY, Haight SC, Simas TAM, Byatt N, Madni SA, Goodman D. (2021). Preventing pregnancy-related mental health deaths: Insights from 14 US Maternal Mortality Review Committees, 2008-17. *Health Aff* (Millwood); 40(10): 1551-1559. doi:10.1377/hlthaff.2021.00615.

# **U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**

## Office of the Assistant Secretary for Planning and Evaluation

200 Independence Avenue SW, Mailstop 447D Washington, D.C. 20201

For more ASPE briefs and other publications, visit: aspe.hhs.gov/reports



### **ABOUT THE AUTHORS**

Kristina D. West, M.S., L.L.M., works in the Office of Behavioral Health, Disability, and Aging Policy in the Office of the Assistant Secretary for Planning and Evaluation. Mir M. Ali, Ph.D., worked in in the same office at the time of the analysis.

Rachel M. Henke, Ph.D., and Michael A. Head, M.S., worked at IBM Consulting at the time of the analysis.

### **SUGGESTED CITATION**

West, K.D., Ali, M.M., Henke, R.M., & Head, M.A. Characteristics of Pregnant and Postpartum Women with Opioid-Exposed Births and Their Children According to Type of Behavioral Health Treatment (Issue Brief). Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. August 2024.

## **COPYRIGHT INFORMATION**

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

Subscribe to ASPE mailing list to receive email updates on new publications: aspe.hhs.gov/join-mailing-list

For general questions or general information about ASPE: aspe.hhs.gov/about