Prenatal Substance Exposure in Washington State

Prevalence, Treatment, and Other Service Needs

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Report for the Washington State Health Care Authority Division of Behavioral Health and Recovery

PRENATAL SUBSTANCE EXPOSURE, defined as the exposure of a fetus to alcohol or non-prescription drugs due to maternal use while pregnant, can affect a growing fetus and lead to long-term negative effects on child development in areas such as growth, behavior, and cognition (Behnke et al 2013; Eiden, Perry, Ivanova, and Marcus, 2023). Evidence-based substance use treatment for pregnant and postpartum mothers who use substances can improve outcomes for families and children (Goodman, Whalen, and Hodder, 2019; Barber and Terplan, 2023). This report summarizes recent trends in prenatal substance exposure among infants in Washington's Medicaid program (Apple Health); mothers' access to treatment during pregnancy and postpartum; and opportunities to supplement treatment with additional supports.

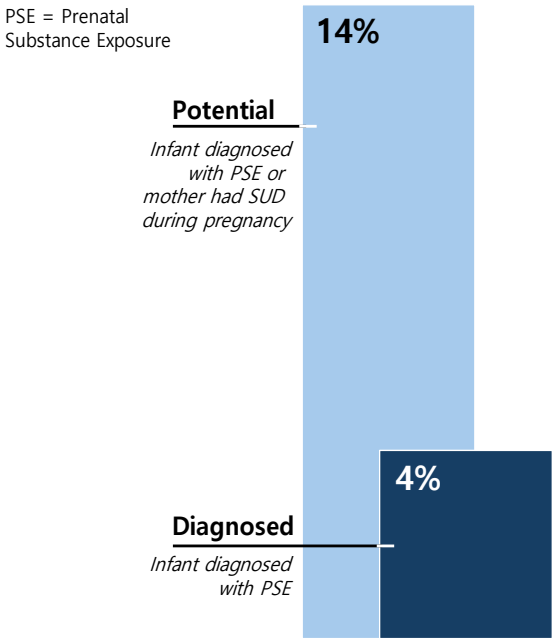
Key Findings

1. **Four of every 100 infants with Apple Health coverage were diagnosed with prenatal exposure to alcohol or drugs** (see Figure 1). When including infants diagnosed with prenatal substance exposure (PSE) and those whose mothers had a substance use disorder (SUD) during pregnancy, the percent of Apple Health enrolled infants with potential prenatal substance exposure grows to 14 percent.
2. **Among mothers of infants with potential prenatal substance exposure, 42 percent received any SUD treatment in the first two years of the infant's life.** The rate is higher for mothers of infants with diagnosed exposure (69 percent).
3. **Infants exposed to substances prenatally were involved with state services and systems at higher rates than other infants with Apple Health coverage.** More than one-third of infants with diagnosed PSE experienced homelessness or housing instability in their first year of life.

FIGURE 1

Prenatal Exposure to Alcohol or Drugs Among Infants Enrolled in Apple Health

SFYs 2017 – 2023



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Study Design

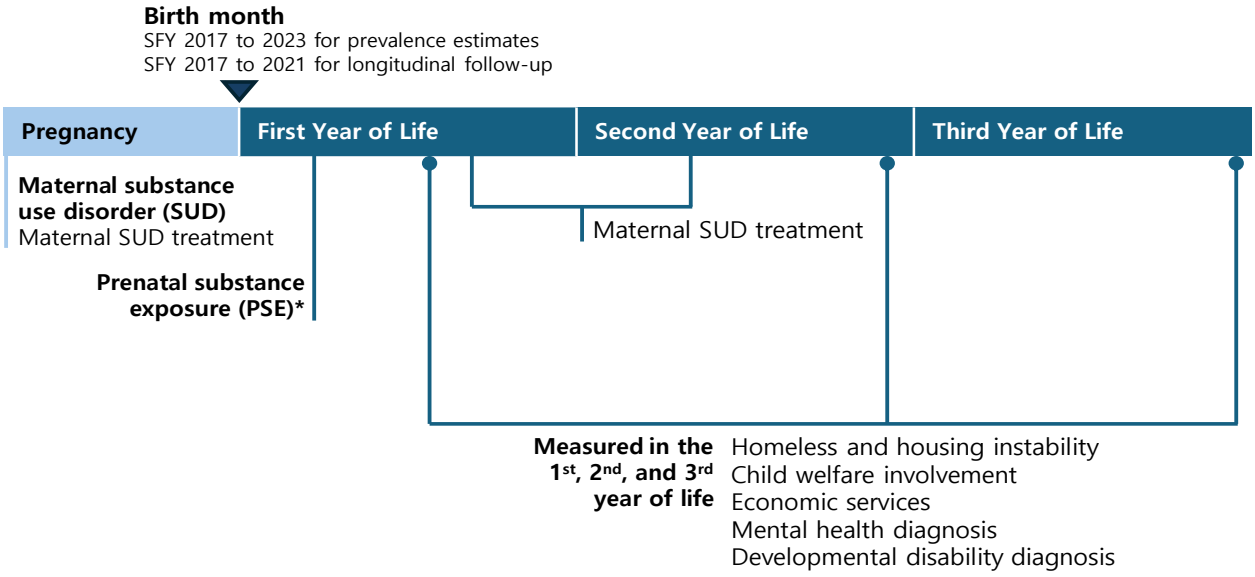
To examine the prevalence of prenatal substance exposure, access to treatment, and other support needs, we identified a cohort of infants born in state fiscal years (SFY) 2017 to 2023. To be included in the cohort, infants must be matched to their birth mothers using linked birth certificate data and have at least 1 month of Apple Health coverage in each year of their first 3 years of life. In addition, infants' mothers must have at least 1 month of Apple Health coverage during pregnancy and in the 1st and 2nd year of the infant's life. Prevalence trends include the full SFY 2017 to 2023 cohort. Because we allow a 2-year follow up period for follow-up measures, the population for these measures are limited to infants born in SFY 2017 to 2021. The SFY 2017 to 2021 cohort includes 128,431 infants.

We used ProviderOne medical claims data contained in the DSHS Integrated Client Databases (ICDB; Mancuso and Huber 2021) to identify prenatal substance exposure through both infant and maternal diagnoses. Prenatal substance exposure was defined in two ways (additional details available in technical notes):

1. **Diagnosed prenatal substance exposure (diagnosed PSE)** in which the infant received a diagnosis of prenatal substance exposure. Diagnoses in this category include newborn affected by maternal use of alcohol, opiates, amphetamines, sedative-hypnotics, cocaine, hallucinogens, cannabis, and other or unspecified drugs of addiction, as well as infants diagnosed with neonatal withdrawal symptoms from maternal use of drugs of addiction or fetal alcohol syndrome within the first year of life.
2. **Potential prenatal substance exposure (potential PSE)**, which includes infants with diagnosed PSE and adds infants whose mothers have diagnoses of SUD during pregnancy. Maternal SUD includes diagnoses of alcohol and non-prescription drug use, and specific drug categories including opioids, cannabis, sedatives, cocaine, stimulants, other psychoactive substances, and other drugs. Maternal nicotine use was excluded from this analysis.

FIGURE 2

Study Timeline



*Prenatal substance exposure is measured using diagnoses made by clinicians after the infant is born. See Technical Notes for details.

We examined both the narrow diagnosed PSE and broader potential PSE populations because, while mothers and infants from both groups would likely benefit from access to SUD treatment and other wraparound support services, the infants with diagnosed prenatal exposure exhibit symptoms in infancy related to exposure and therefore have higher risk for developmental problems. Additionally, as this report will show, many more infants are born to mothers with SUD than are diagnosed with PSE. Each of these populations are important for HCA to consider when planning for expansion or enhancements available to families impacted by substance use.

We also used ProviderOne data to measure maternal SUD treatment during pregnancy as well as within the first 2 years of the child's life. Specifically, we measured broad SUD treatment services, as well as participation in two parent-specific treatment programs: Pregnant and Parenting Women (PPW) and Substance Using Pregnant People (SUPP).

We used additional ICDB data to measure infant outcomes in the 1st, 2nd, and 3rd years of life, including homelessness or housing instability, child welfare involvement, economic services, mental health diagnoses, and developmental disabilities diagnoses. See study timeline above in Figure 2.

Results

Prenatal Substance Exposure, SFY 2017 – 2023

Of the 225,161 infants born in Washington in SFY 2017 – 2023 while enrolled in Apple Health, 14 percent were potentially prenatally exposed to alcohol or non-prescription drugs.

Potential exposures included both infants diagnosed with prenatal substance exposures within their first year of life and infants of mothers with a substance use disorder indicated during their pregnancy.

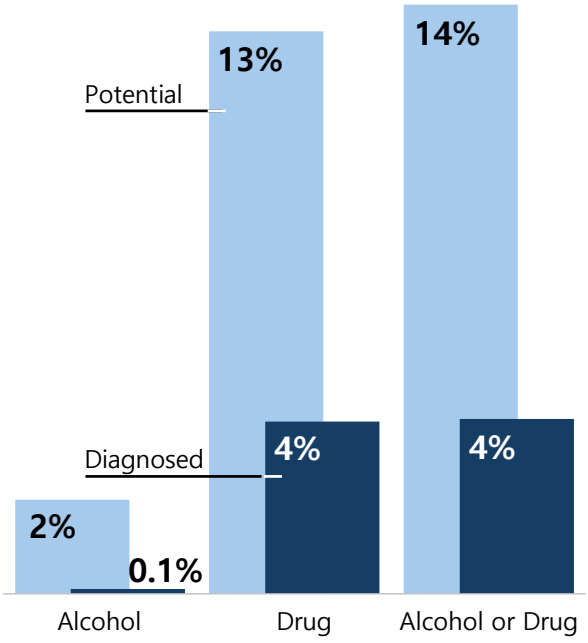
Rates of potential prenatal exposure were higher for drugs than alcohol.

An estimated 2 percent of infants were potentially prenatally exposed to alcohol, while 13 percent were potentially exposed to non-prescription drugs (Figure 3). Rates of potential prenatal exposure to both alcohol and drugs increased from SFY 2017 through SFY 2020 and declined thereafter, though these fluctuations were minor (Appendix Table 1).

FIGURE 3

Prenatal Substance Exposure Among Infants Enrolled in Apple Health

SFYs 2017 – 2023



Connections to Treatment for Mothers of Infants with Prenatal Substance Exposure

Among infants with potential or diagnosed PSE, we report the proportions of their mothers who received SUD treatment during pregnancy and who received SUD treatment between the child's birth and 2nd birthday. We also examine the receipt of parent-specific SUD treatment including the Pregnant and Parenting Women (PPW) program during pregnancy, the PPW program between the child's birth and 2nd birthday, and the Substance Using Pregnant People (SUPP) program during pregnancy. PPW is designed to meet the needs of pregnant and parenting women with substance use disorders.

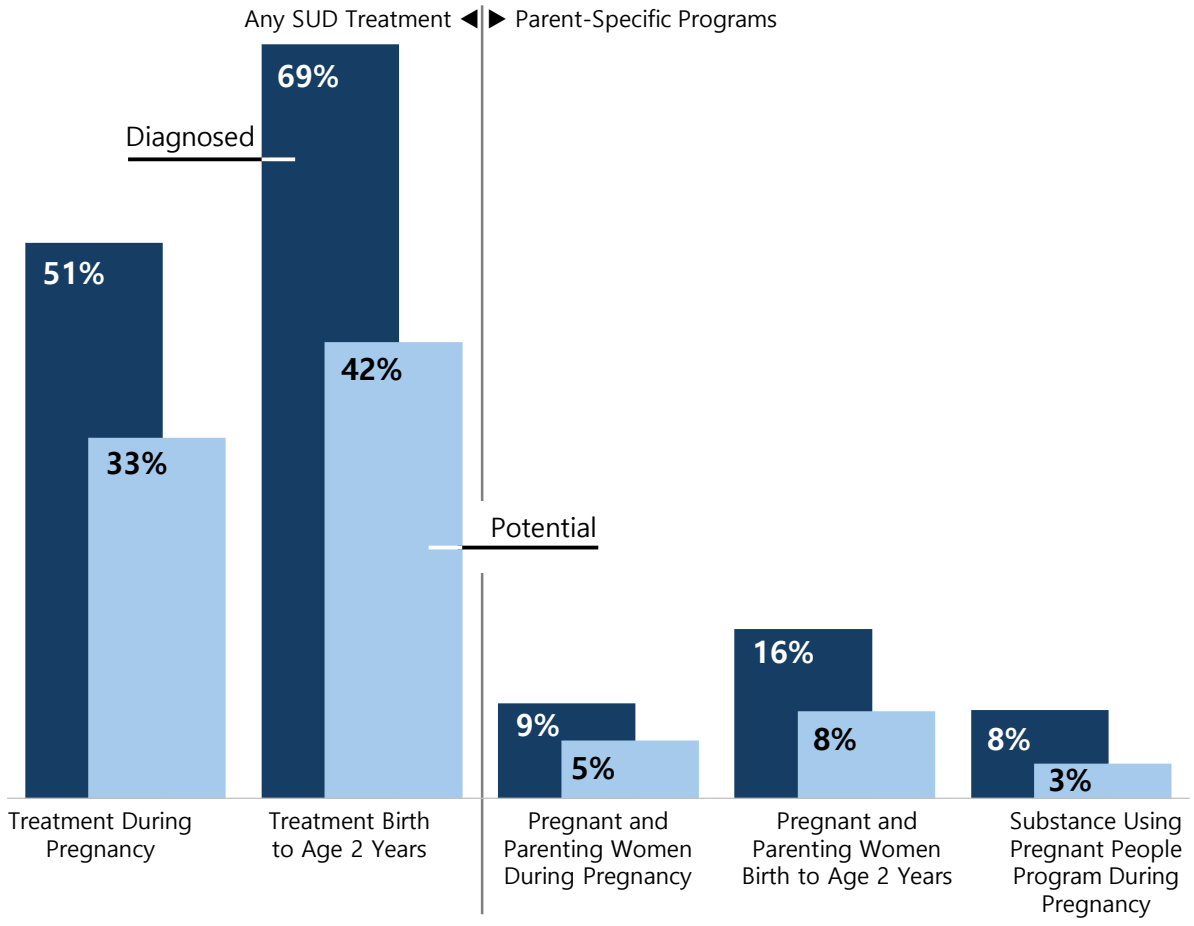
PPW services include outpatient and residential treatment services, housing support services, as well as therapeutic interventions for children.[1] SUPP is an inpatient, up to 26-day, hospital-based program that provides withdrawal management, medical stabilization and treatment, and substance use treatment to pregnant individuals with a medical need and substance use history.[2]

The proportions of mothers receiving general and parent-specific substance use treatment were higher for children with diagnosed prenatal substance exposure than those with potential exposure (Figure 4). Among children with diagnosed prenatal substance exposure during their first year of life, 51 percent of their mothers received any substance use disorder treatment during pregnancy and 69 percent between child's birth and their 2nd birthday. Comparative treatment rates for mothers of infants with potential substance exposure were 33 percent during pregnancy and 42 percent from birth to age 2. Lower proportions of mothers accessed parent-specific than more general treatment; 9 percent of mothers of children diagnosed with prenatal substance exposure received PPW during pregnancy, 16 percent received PPW between the birth of their child and when that child turned 2, and 8 percent received SUPP during their pregnancy or in the month their child was born.

FIGURE 4

Substance Use Treatment Among Mothers of Infants with Potential or Diagnosed Prenatal Substance Exposure

SFYs 2017 – 2023



[1] For more information on PPW, please see: https://www.hca.wa.gov/assets/program/fact-sheet-pregnant-parenting-women-services.pdf.
[2] For more information on SUPP, please see: https://www.hca.wa.gov/free-or-low-cost-health-care/i-need-medical-dental-or-vision-care/substance-using-pregnant-people-supp-program.

Additional Support Needs for Children with Prenatal Substance Exposure

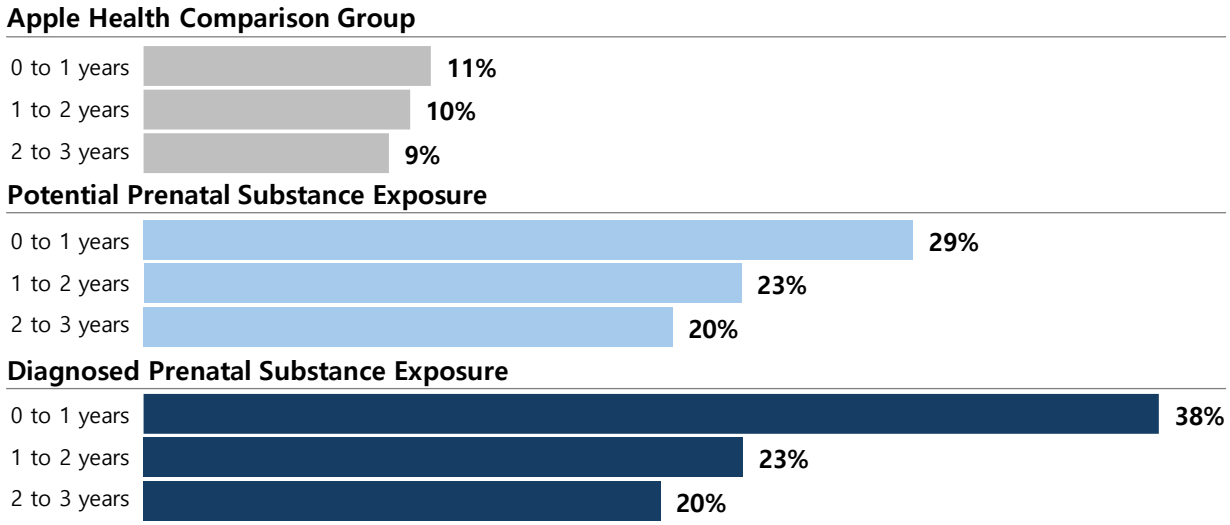
We report rates of homelessness and housing instability, child welfare involvement, economic service use, and medical diagnoses in the 3 years after children are born in order to provide information about other support needs among infants affected by prenatal substance exposure. We compare rates for infants born between SFY 2017 and 2021 with potential or diagnosed prenatal substance exposure to rates for children born during the same time period who were enrolled in Apple Health (the 'Apple Health comparison group'). All measures in this section are based on information in administrative data about the infant.

Thirty-eight percent of children diagnosed with prenatal substance exposure experienced homelessness or housing instability in their first year of life (Figure 5), a rate about 3.5 times that of the Apple Health comparison group. Twenty-nine percent of children with potential prenatal substance exposure experienced homelessness or unstable housing in their first year, which was lower than for infants with diagnosed PSE but higher than for the Apple Health comparison population. By the 2nd and 3rd year of the infants' lives, rates of homelessness and housing instability had declined and were similar between infants with diagnosed PSE and potential PSE (23 percent in the 2nd year of life and 20 percent in the 3rd year of life) though rates remained higher than those observed in the Apple Health comparison group (10 percent in the 2nd year of life and 9 percent in the 3rd year of life). While infants with diagnosed PSE experienced higher rates of homelessness before their first birthday than infants with potential PSE, this difference dissipates by their 2nd and 3rd years of life.

FIGURE 5

Experienced Homelessness and Housing Instability Before Age 3

SFY 2017—2021

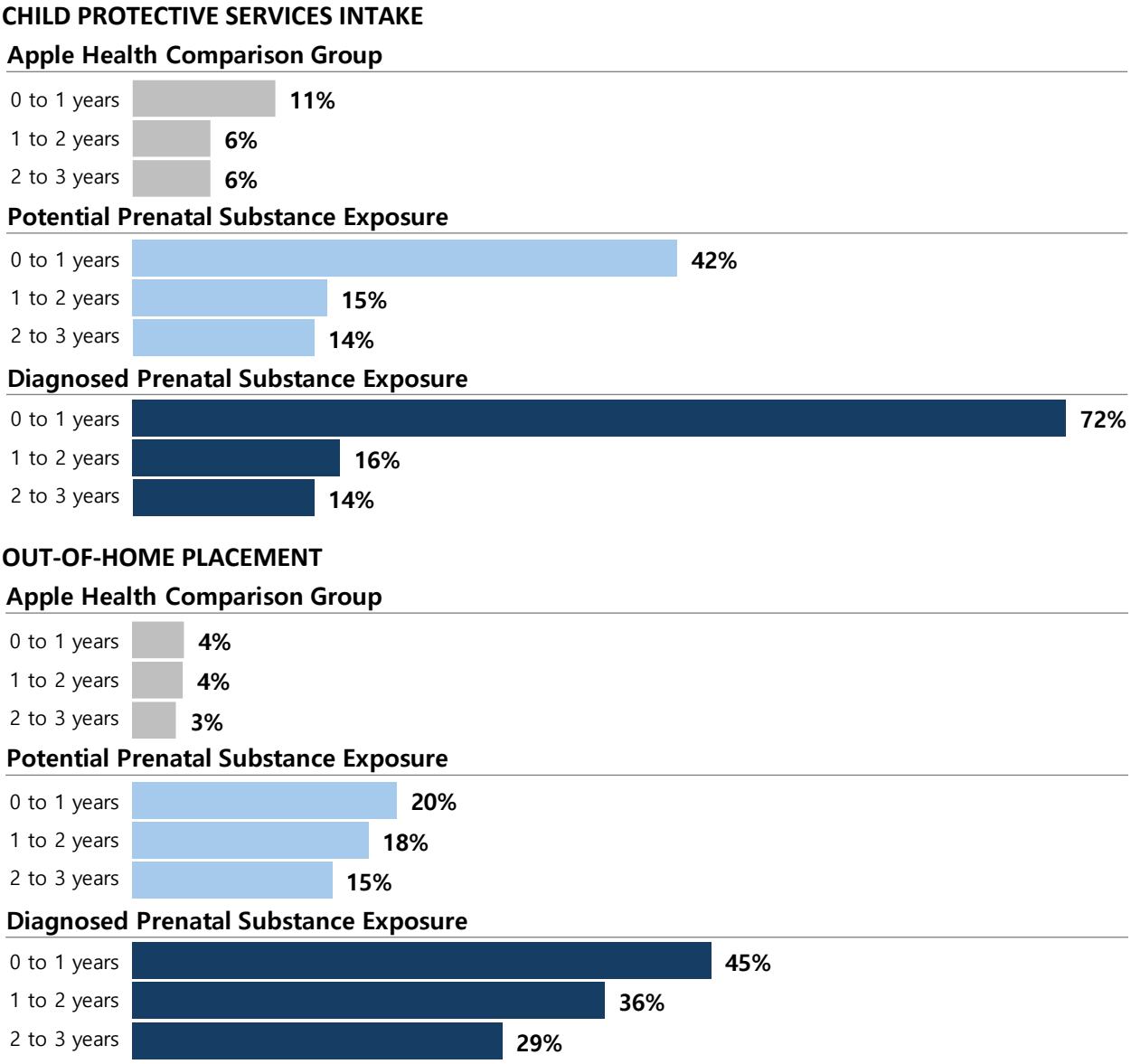


As shown in Figure 6, children with potential and diagnosed prenatal substance exposure were involved in the child welfare system at much higher rates than the Apple Health comparison population (Figure 6). Any exposure, whether potential or diagnosed, is associated with higher rates of child protective services (CPS) intakes and out-of-home placement, across each year of life, but particularly so for infants under age 1. When comparing those with diagnosed PSE to the broader potential PSE population, CPS intakes were much higher among infants with diagnosed PSE in their first year (72 percent) than for infants with potential PSE (42 percent), but this difference dissipates by ages 2 and 3. However, out-of-home placement remained higher, about twice the rate, for infants with diagnosed PSE compared to those with potential PSE at each year of life (45 versus 20 percent in year 1; 36 versus 18 percent in year 2, and 28 versus 15 percent in year 3, respectively).

FIGURE 6

Involvement with Child Protective Services Before Age 3

SFYs 2017 – 2023



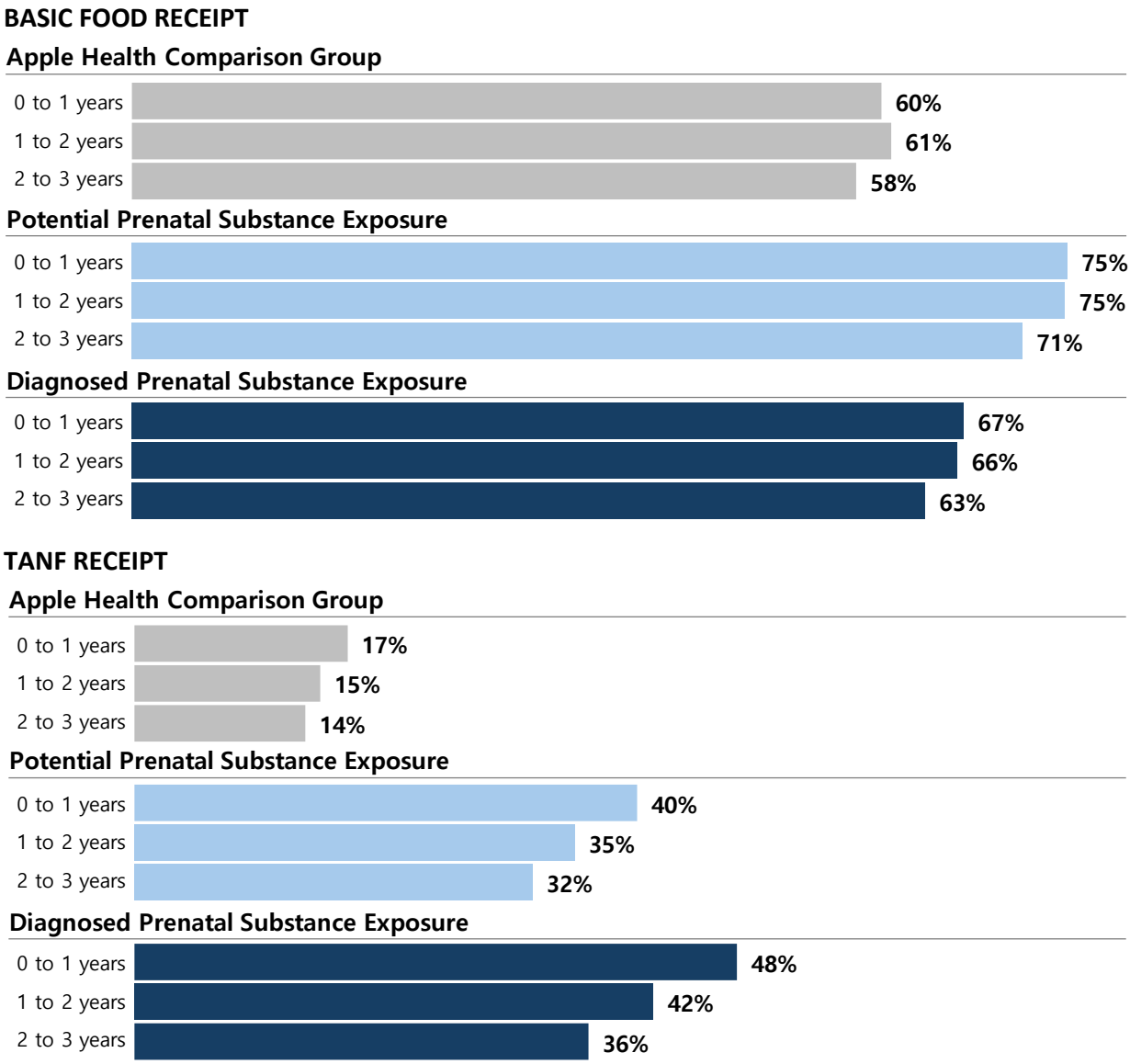
Most infants with Apple Health born in SFY 2017—2021 were recipients of Basic Food, Washington State's food assistance program, in the first 3 years of their lives (Figure 7). A higher proportion of infants with potential prenatal substance exposure received Basic Food (71-75 percent) than children with diagnosed exposure (63-66 percent) or those in the Apple Health comparison group (58-61 percent).

In contrast, **TANF receipt was higher for infants with potential or diagnosed prenatal substance exposure** (32-48 percent) than for infants in the Apple Health comparison group (14-17 percent), indicating that prenatal substance exposure is strongly associated with economic disadvantage. In all cases, the proportion of infants receiving TANF was lower with each increasing year of age.

FIGURE 7

Basic Food and TANF Receipt Before Age 3

SFYs 2017 – 2023



Infant and early childhood mental health is an important and expanding policy and practice area nationally and in Washington State. About one in five children birth to age 5 have a mental, behavioral, or developmental disorder (Vasileva et al., 2021). Exposure to substances prenatally, as well as caretaking by mothers actively using substances during infancy and young childhood, may impact the likelihood of developing such a condition. Therefore, we examine differences in diagnosis of mental health and developmental conditions for infants with diagnosed and potential PSE, compared to infants with Apple Health.

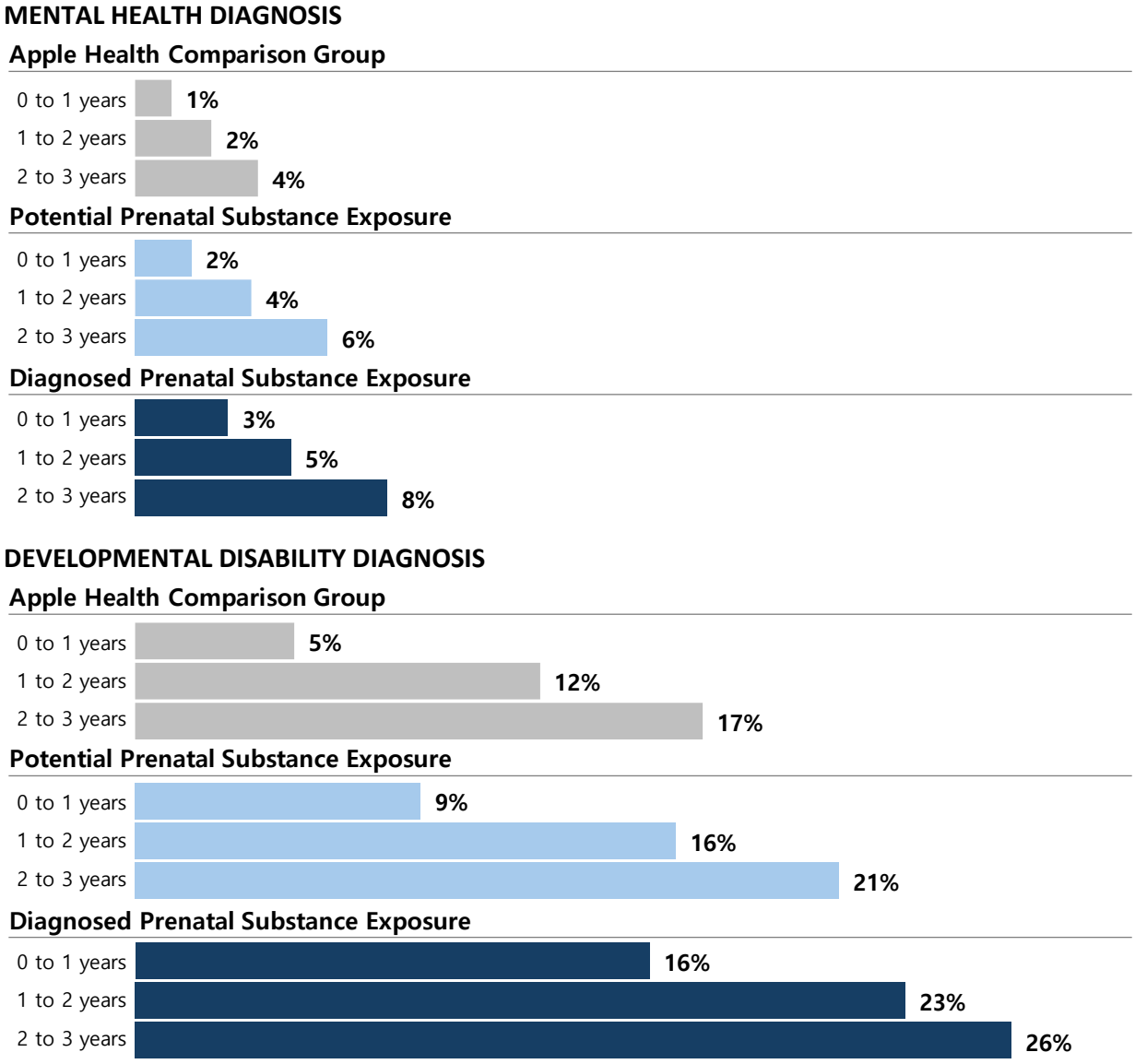
Both rates of mental health and developmental disability diagnoses increase with each year following children's births for all groups (Figure 7). However, at every age, rates of mental health and developmental disorders among infants with PSE were higher than for infants enrolled in Apple Health, with infants with diagnosed PSE showing the highest rates of both types of conditions across the first 3 years after birth.

This finding suggests that infants with exposure to substances or whose mothers are substance users may benefit from mental health and developmental screenings, and where indicated developmentally appropriate mental health treatment and connections to the Early Supports for Infants and Toddlers (ESIT) program. Also, the increasing rates within each year of life suggests that mental health or developmental impacts may not show up immediately, but may manifest later in childhood.

FIGURE 8

Developmental Disability and Mental Health Diagnoses Before Age 3

SFYs 2017 – 2023



Discussion

This study provides information on the scale of prenatal substance exposure in Washington State between SFY 2017 and SFY 2023 and on connections to substance use treatment for affected families. Prenatal substance exposure has remained relatively stable across this period: around 4 percent of infants on Apple Health had diagnoses of prenatal substance exposure and around 14 percent had potential prenatal substance exposure. Mothers of infants diagnosed with substance exposure have higher rates of all forms of substance use treatment examined in this report. Nearly 70 percent of mothers with infants diagnosed with substance exposure receive some substance use disorder treatment in the 2 years following the birth of the exposed infant, compared to 42 percent of mothers of infants with potential exposure.

Families of infants with substance exposure often have additional areas of need besides substance use treatment. For example, they experience higher rates of homelessness and housing instability, involvement in the child welfare system, TANF and Basic Food receipt, and diagnoses of mental health and developmental conditions than other infants receiving Apple Health. Both infants with potential and diagnosed PSE experience higher rates of these needs compared to infants on Apple Health, though rates are generally highest for those with diagnosed exposure. **This finding suggests that additional supports would be helpful to all infants with mothers who use substances, not just those who are diagnosed with PSE.** Further, infants exposed to substances should be prioritized for receiving mental health and developmental assessments over early childhood, so they can be connected to developmentally appropriate mental health services, the ESIT program, and other developmental supports.

Increasing access to substance use treatment for pregnant and parenting mothers, especially those whose children have documented prenatal substance exposure, would be an important step in supporting families. Additionally, programs that provide a broader set of wraparound supports to mothers with SUD and their family members could help this population. For example, the Parent-Child Assistance Program (PCAP) is a home visitation and case-management model for pregnant and parenting mothers with SUD that aims to help mothers build healthy families and prevent future children from being exposed to substances. The program provides outreach, practical assistance, and coaching and connects clients to SUD treatment and other social and health services to support recovery. These types of programs, which support families holistically, when paired with evidence-based substance use treatment, could provide a pathway to recovery and help to grow healthier families.

TECHNICAL NOTES

STUDY DESIGN AND OVERVIEW

We used the DSHS Integrated Client Databases (ICDB) to identify mother-infant pairs enrolled in Apple Health where either 1) the infant was diagnosed with prenatal exposure to alcohol or non-prescription drugs as an infant or 2) the mother had a diagnosis of substance use disorder (SUD) during the prenatal period during SFY 2017 to SFY 2023. When the infant was diagnosed with prenatal substance exposure (irrespective of whether the mother had diagnosed SUD) we refer to these mother-infant pairs as having **diagnosed prenatal substance exposure**. When either the infant was diagnosed with prenatal substance exposure or the mother had a diagnosis of SUD during the prenatal period we refer to these mother-infant pairs as having **potential prenatal substance exposure**. Therefore, the diagnosed prenatal substance exposure mother-infant pairs are a subset of the broader potential prenatal substance exposure group. If a mother had an infant with substance exposure in multiple years, she would be included in each yearly total.

Mother-infant pairs were identified using Department of Health (DOH) birth certificate records, which only provide information on the identity of mother, child, and when available, father, and the birth date. Birth records were used only to identify mother-infant pairs, and did not provide any additional data for the analysis. Since our study relies on DOH birth certificates to identify mother-infant pairs, the numbers of births we identify will be somewhat lower than total Medicaid-paid births in any given year.

We report prenatal substance exposure trends by year from SFY 2017 to SFY 2023. Because we allow a 2-year follow up period to measure whether a mother engaged in SUD treatment services, rates of SUD services are limited to SFY 2017 to SFY 2021. Finally, to report the needs of infants with prenatal substance exposure we pool mother-baby pairs over SFY 2017 to SFY 2021 and report these measures for the pooled population. To explore how needs change over time, we report infants' measures by year: before 1st birthday, 1 year old to 2nd birthday, and 2 years old to 3rd birthday.

DATA SOURCES AND MEASURES

Data used for this analysis were taken the ICDB which includes more than 2 decades of service utilization, expenditure, and outcome data from over 30 state agency data systems (Mancuso and Huber, 2021).

Prenatal substance exposure. Prenatal substance exposure was measured using ICD-10 codes in ProviderOne medical claims information for mother-baby pairs enrolled in Apple Health and who could be linked together using Washington State Department of Health (DOH) birth records.

- **Diagnosed prenatal substance exposure** refers to mother-baby pairs where the infant was diagnosed with prenatal substance exposure within the first year of life. ICD-10 codes used include P043 'Newborn affected by maternal use of alcohol'; Q860 'Fetal alcohol syndrome (dysmorphic)'; P0414 'Newborn affected by maternal use of opiates'; P0416 'Newborn affected by maternal use of amphetamines'; P0417 'Newborn affected by maternal use of sedatives-hypnotics'; P0440 'Newborn affected by maternal use of unspecified drugs of addiction'; P0441 'Newborn affected by maternal use of cocaine'; P0442 'Newborn affected by maternal use of hallucinogens'; P0449 'Newborn affected by maternal use of other drugs of addiction'; P0481 'Newborn affected by maternal use of cannabis'; P961 'Neonatal withdrawal symptoms from maternal use of drugs of addiction'. Note that the majority of infants with diagnosed PSE had mothers who had an indication of SUD in the prenatal period (88 percent).
- **Potential prenatal substance exposure** refers to mother-baby pairs where the infant has any of the diagnosis above and/or the mother has an indication in the ICDB of substance use disorder (SUD) in the prenatal period (9 months prior to birth or the birth month). SUD refers to any maternal diagnosis of alcohol use disorder, or drug use disorder. Drug use disorders include the following categories of drugs: opioids, cannabis, sedatives-hypnotics, cocaine, other stimulants, other psychoactive substances, unspecified drugs. The measure also includes diagnoses of drug use complicating a pregnancy or delivery, or maternal care for damage to a fetus. We refer to this measure as potential prenatal substance exposure because these sources do not necessarily always reflect active use. Note that only a fraction of infants with potential PSE were directly diagnosed with PSE (27 percent).

Substance use treatment. Among those with identified prenatal substance exposure, we identify whether the mother received any treatment in the pregnancy period and whether she received any SUD treatment before the infant turned 2. We breakdown SUD treatment measures as follows:

- **SUD treatment during pregnancy** refers to the receipt of any SUD treatment (outpatient, inpatient residential, medications for opioid use disorder, or medications for alcohol use disorder) during the 8 months prior to birth. (Note that 8 months is a uniform time period used to proxy the prenatal period, and may include a small time window prior to pregnancy in the case of some pre-term births.)

- **SUD treatment prior to 2nd birthday** refers to the receipt of any SUD treatment (outpatient, inpatient residential, medications for opioid use disorder, or medications for alcohol use disorder) during the 24 months following birth.

- **PPW prior to 2nd birthday** refers to the receipt of any Pregnant or Parenting Women (PPW) services prior to the 2nd birthday. PPW is identified through ProviderOne claims data with one of the following combinations of procedure codes and modifier codes used to bill for PPW services (1) procedure code H0001 and modifier code HD which identifies PPW substance use disorder assessment; (2) procedure code H0019 and modifier code HB which identifies PPW residential treatment with children, without room and board, per diem; (3) procedure code H0019 and modifier code HD which identifies PPW residential treatment without children, without room and board, per diem or (4) procedure code H2036 and modifier code HD which identifies PPW room and board.
- **SUPP prior to 2nd birthday** refers to the receipt of any Substance Using Pregnant People (SUPP) services prior to the 2nd birthday. SUPP services were identified in ProviderOne claims information where the revenue code was equal to 0129 and there was a primary diagnosis of pregnancy complicated by alcohol or drug use on the claim (099311, 099312, 099313, 099315, 099321, 099322, 099323, 099325) and where the billing provider National Provider Identifier (NPI) was one of the following: 1013074061 (Evergreen Health Monroe located in Monroe, WA), 1154378859 (Harbor Regional Community Hospital located in Aberdeen, WA), 1841231461 (MultiCare Good Samaritan Hospital located in Puyallup, WA), 1700037801 (Providence Regional Medical Center Everett located in Everett, WA), 1306992151 (Swedish Medical Center located in Seattle, WA). Only those five hospitals were approved to provide SUPP in the study period.

Childhood experiences. All measures below are based on information in the ICDB for the infant. Each measure is identified in the first, second, and third year of the infant's life.

- **Homelessness and housing instability** is measured through administrative records in the Automated Client Eligibility System (ACES) used for public benefit eligibility determination and including information on living situations, Homelessness Management Information System (HMIS) used for delivery and tracking of homeless services, and ProviderOne claims data which includes diagnosis codes related to homelessness.
- **Child Protective Services (CPS) intake** is measured using administrative data from the FamLink child welfare case management system linked to the ICDB. This measure includes CPS intakes accepted for investigation, CPS intakes with a family assessment response (FAR intakes) or CPS risk only intakes where the infant was listed as the victim or as associated child.
- **Out-of-home placement** is measured using administrative data from the FamLink child welfare case management system linked to the ICDB. This measure includes infants in the mother-baby pairs who are placed out of the home under the supervision of DCYF's child welfare oversight. This includes babies placed in foster, kinship, or other types of care (e.g. receiving or a pediatric interim care center).
- **Mental health diagnosis** is identified using ICD-10 diagnosis codes in ProviderOne medical claims linked to the infant. Diagnoses indicating mental health disorders include adjustment disorders, anxiety disorders, ADHD, behavioral sleep disorders, childhood behavioral, emotional, or social disorders, impulse or conduct disorders, depressive disorders, eating disorders, obsessive-compulsive disorders, post-traumatic stress or other stress disorders, relational disorders, somatoform disorders, other mental health disorders, and mental health disorders not otherwise specified.
- **Developmental disorder diagnosis** is identified using ICD-10 diagnosis codes in ProviderOne medical claims linked to the infant. Developmental disorder diagnoses include autism spectrum disorders, congenital and chromosomal development disorders, fetal alcohol syndrome, intellectual disabilities, language disorders, learning disabilities, motor disorders, and other developmental disorders.
- **Basic Food receipt** is identified using administrative data contained the Automated Client Eligibility System (ACES).
- **Temporary Assistance for Needy Families (TANF) receipt** is identified using administrative data in ACES.

APPENDIX TABLE 1

Prenatal Substance Exposure Among Infants Enrolled in Apple Health

SFY 2017—2021

Calendar Year	2017	2018	2019	2020	2021	2022	2023
Number of Births	**35,839**	**33,986**	**32,626**	**31,550**	**30,624**	**30,151**	**30,385**
Any substance							
Infant Diagnosis, *ages 0-1 years*	3.3%	4.1%	4.3%	4.3%	4.3%	4.4%	4.1%
Maternal Treatment Need, *during pregnancy*	12.9%	13.4%	13.5%	13.8%	13.5%	13.2%	12.4%
Potential Exposure	13.4%	14.0%	14.0%	14.3%	14.0%	13.8%	13.0%
Alcohol							
Infant Diagnosis, *ages 0-1 years*	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Maternal Treatment Need, *during pregnancy*	2.0%	2.2%	2.3%	2.3%	2.0%	2.0%	2.0%
Potential Exposure	2.0%	2.3%	2.4%	2.3%	2.1%	2.1%	2.0%
Drugs							
Infant Diagnosis, *ages 0-1 years*	3.2%	4.1%	4.2%	4.2%	4.2%	4.3%	4.1%
Maternal Treatment Need, *during pregnancy*	12.3%	12.9%	12.9%	13.2%	12.9%	12.6%	11.8%
Potential Exposure	12.8%	13.5%	13.4%	13.8%	13.4%	13.1%	12.3%

NOTE: Potential exposures included births with an infant substance exposure diagnosis in the first year of life or maternal substance use treatment need diagnosis during pregnancy.

REFERENCES

Behnke, M and Smith, V COMMITTEE ON SUBSTANCE ABUSE, COMMITTEE ON FETUS AND NEWBORN; Prenatal Substance Abuse: Short- and Long-term Effects on the Exposed Fetus. *Pediatrics* March 2013; 131 (3): e1009–e1024. 10.1542/peds.2012-3931

Eiden, R. D., Perry, K. J., Ivanova, M. Y., & Marcus, R. C. (2023). Prenatal substance exposure. *Annual Review of Developmental Psychology*, *5*(1), 19-44. doi:10.1146/annurev-devpsych-120621-043414

Goodman D, Whalen B, Hodder LC. It's Time to Support, Rather Than Punish, Pregnant Women With Substance Use Disorder. *JAMA Netw Open.* 2019;2(11):e1914135. doi:10.1001/jamanetworkopen.2019.14135

Mancuso, D and Huber, A. (2021) *DSHS Integrated Client Databases*. DSHS Research and Data Analysis Division, Olympia, WA. https://www.dshs.wa.gov/sites/default/files/rda/reports/research-11-205.pdf

Vasileva M, Graf RK, Reinelt T, Petermann U, Petermann F. Research review: A meta-analysis of the international prevalence and comorbidity of mental disorders in children between 1 and 7 years. *J Child Psychol Psychiatry*. 2021 Apr;62(4):372-381. doi: 10.1111/jcpp.13261. Epub 2020 May 20. PMID: 32433792.

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