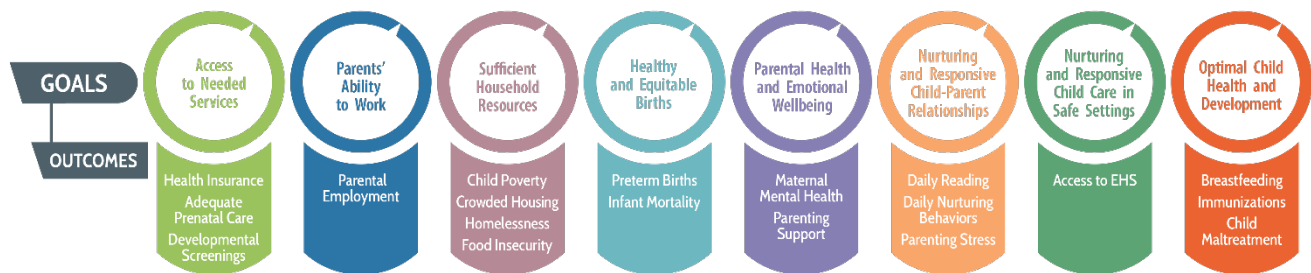


2025 Prenatal-to-3 State Policy Roadmap

Methods and Sources

How Do We Calculate State-Level Indicators of Child and Family Wellbeing?



Outcomes Measure Progress Toward Policy Goals

Based on the science of the developing child, we have identified **19 outcome measures** to track the overall health and wellbeing of infants and toddlers and their parents. Each outcome is aligned with a prenatal-to-3 (PN-3) policy goal and illustrates states' success in meeting that goal or indicates where a state is lagging. In this document, the information for the source data and calculation parameters for each outcome is organized by the PN-3 policy goal with which it is aligned.

All outcome measures were calculated intentionally in the negative direction to demonstrate where states have room for improvement and to help states prioritize the PN-3 goals that are lagging. Where the relative rank is reported, these state-level estimates were used to rank states from best (1) to worst (51), with higher estimates indicating poorer performance. Importantly, the best state on a given outcome does not necessarily indicate a target for all other states to strive toward; even in the states with the best outcomes, many children and families are struggling. Outcome estimates were rounded to one decimal point prior to ranking and states with the same rounded estimate were assigned the same rank. If multiple states had the same rank, the subsequently assigned rank value would reflect the duplicate ranks and skip values. For example, if two states were both assigned a rank value of 17, the next rank assigned would be 19. When states are assigned the same rank value, they are sorted alphabetically. The median state indicates that half of states have outcomes that measure better than that state and half of states have outcomes that are worse.

For all outcomes, estimates were based on the most recently available data through early June 2025. In a few cases, older data are used for the Roadmap outcome measures; in these cases, newer data were unavailable or there were quality concerns about newer data. Where applicable, notes on these cases are discussed within measures. For most measures, we use a single year of data to generate state-level estimates of the measure. We use one year of data to illustrate the year over year changes in the numerator because the denominators are relatively steady. Using multiple years of data would smooth some of the changes in the numerator, masking fluctuations in the data. Although using a single year of data shows the most

nuanced estimates over time, it limits our sample size and leads to limited reliability for some measures in some states. Below, we explain when estimates do not meet our reliability criteria and should be interpreted with caution.

GOAL: ACCESS TO NEEDED SERVICES

Measure 1: % Low-Income Women Uninsured

Definition:

The percentage of low-income ($\leq 138\%$ of the federal poverty level) adult women of childbearing age (19 to 44) who report they do not have any health insurance coverage

Notes:

1. **Numerator:** The number of low-income ($\leq 138\%$ of the FPL) adult women of childbearing age who reported not having health insurance coverage during the prior calendar year
2. **Denominator:** The number of adult (age 19 to 44) women of known age and with known poverty status whose poverty threshold is at or below 138% of the federal poverty level (FPL)
3. The sample was limited to low-income adult women of childbearing age with known age and poverty status. For this particular measure, the sample was limited to women aged 19 to 44, as people aged 18 and under are eligible for Medicaid as a child and qualify for different Medicaid coverage once they turn 19. Women living in group quarters were excluded from the sample.
4. Race/ethnic groups were calculated using the Hispanic origin and race variables provided in the ACS. From these two variables, four mutually exclusive race/ethnic groups were created: White, non-Hispanic; Black, non-Hispanic; Hispanic; and Other. The "Other" category includes those who identified as "American Indian alone," "Alaskan Native alone," "American Indian and Alaskan Native tribes specified," "Asian alone," "Native Hawaiian and other Pacific Islander alone," "Some other race alone," or "2+ major race groups."
5. The poverty threshold uses the US Census calculation of poverty and is based on the total income of all individuals aged 15 or older who are related to the head of household through marriage, birth or adoption. Income from cohabiting partners who are not married and unrelated children (including foster children) are not included in the calculation of family income. This family income is compared to federal poverty thresholds based on related family size and composition (*povpip*).¹
6. All estimates were calculated in Stata 18 using both ACS person-level weights, to provide national and state representative estimates, and replicate weights to appropriately adjust standard errors to account for any sampling bias. Given the age and poverty limits imposed on the sample (women age 19-44 with incomes $\leq 138\%$ of the federal poverty level) and the calculation of estimates by state, incorporating both population and sampling weights helps to account for exogenous sources of variance and improve the accuracy of estimates.
7. The US Census Bureau recommends using a 90% confidence interval for evaluating the accuracy of estimates using ACS data.²

¹ US Census Bureau (n.d.). *How the Census Bureau measures poverty*. As of August 26, 2020. Retrieved on September 9, 2021 from <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>

² Appendix 3 "Measures of Sampling Error" in US Census Bureau (2008). *A compass for understanding and using American Community Survey data: What general data users need to know*. US Government Printing Office, Washington, DC.

8. A few states had estimates with confidence interval widths that were larger than the recommended 10% margin of error. In 2023, three states (North Dakota, South Dakota, and Wyoming) had over criteria confidence intervals ranging from 11.9% to 13.3%.

Source:

US Census Bureau. (2024). *2023 American Community Survey (ACS) 1-Year Public Use Microdata Sample (PUMS)* [Data set]. <https://www.census.gov/programs-surveys/acs/microdata.html>

Measure 2: % Births to Women Not Receiving Adequate Prenatal Care

Definition:

The percentage of births to women who received no prenatal care, whose prenatal care started in the fifth month of pregnancy or later, or who received fewer than 50% of expected prenatal visits based on when prenatal care was initiated and the gestational age at delivery.

Notes:

1. March of Dimes calculations were based on the Adequacy of Prenatal Care Utilization Index and identified those births to women who either had no prenatal care, whose prenatal care started in the fifth month of pregnancy or later, or who received fewer than 50% of expected prenatal visits based on when prenatal care was initiated and the gestational age at delivery.³
2. The American College of Gynecologists recommends 14 prenatal visits for a normal term pregnancy, with 1 visit per month up to 28 weeks, 1 visit every two weeks from 29 to 36 weeks, and 1 visit per week from 37 to 40 weeks.
3. Although data by race/ethnicity were not available for each individual year, data disaggregated into three mutually exclusive groups (White, non-Hispanic; Hispanic; and Black, non-Hispanic) were available as averages across the most recent three years (2021-2023) of natality data from March of Dimes Peristats.

Source:

National Center for Health Statistics, final natality data. Kotelchuck M. An evaluation of the Kessner Adequacy of Prenatal Care Index and a proposed Adequacy of Prenatal Care Utilization Index. *Am J Public Health* 1994; 84: 1414-1420. Retrieved March 7, 2025, from www.marchofdimes.org/peristats.

Measure 3: % Children < 3 Not Receiving Developmental Screening

Definition:

Percentage of children ages 10 months through 35 months whose parent reports the child did not receive a developmental screening using a parent-completed screening tool in the past year

³ Kotelchuck, M. (1994). *An evaluation of the Kessner Adequacy of Prenatal Care Index and a proposed Adequacy of Prenatal Care Utilization Index*. *American Journal of Public Health*, 84, 1414-1420.

Notes:

1. **Numerator:** The number of children between the ages of 10 and 35 months whose parent reported they had not received a developmental screening using a parent-completed screening tool in the past year
2. **Denominator:** The number of children between the ages of 10 and 35 months whose parent responded yes or no to a survey item regarding their receipt of a parent-completed screening tool
3. The sample was limited to children between the ages of 10 and 35 months whose parent responded to a survey item regarding their receipt of a developmental screening tool.
4. To improve accuracy in calculating sample estimates, especially at the state-level, three years of NSCH data (2021, 2022, and 2023) were combined to create one multi-year dataset. The Census Bureau revised how race and ethnicity information is imputed and weighted in the 2016-2021 datasets and estimates should not be compared across years in the Roadmap because Roadmaps prior to the 2024 Roadmap use the original data files.⁴
5. Approximately 1.1% of children ages 10 to 35 months in the three-year combined data file were missing data for developmental screenings. In accordance with the reporting practice of the Data Resource Centers' Interactive Data Query (<https://www.childhealthdata.org/browse/survey>), cases with missing data were excluded from the analysis.⁵
6. All estimates were calculated in Stata 18 using NSCH provided person level weights and adjusting standard errors based on sampling stratum. Per NSCH guidance the individual year population weight was divided by three to account for the combined data.⁶
7. NSCH guidance recommends using a 95% confidence interval and identifying estimates with confidence interval widths that exceed 20% as having questionable reliability and accuracy.⁷ There were no states with an estimate that had a confidence interval width larger than the recommended margin of error.

Source:

US Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2022-2024). *2021-2023 National Survey of Children's Health (NSCH) Public-Use Data* [Data set]. <https://www.census.gov/programs-surveys/nsch.html>

GOAL: PARENTS' ABILITY TO WORK

⁴ US Census Bureau (2023, October 2). National Survey of Children's Health: Data File Enhancement Technical Document. Retrieved November 14, 2023 from https://www2.census.gov/programs-surveys/nsch/technical-documentation/NSCH_Enhancements%20_Technical_Document.pdf

⁵ Child and Adolescent Health Measurement Initiative. Data Resource Center, supported by Cooperative Agreement U59MC27866 from the US Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2019). *The impact of missing values on population count estimates in the 2016 National Survey of Children's Health*. Revised 3/4/19. Retrieved May 15, 2020 from https://www.childhealthdata.org/docs/default-source/nsch-docs/nsch_impact-of-missing-cases_revised_03-02-19_generic.pdf?sfvrsn=d0c25e17_2

⁶ US Census Bureau (2020). *National Survey of Children's Health: Guide to multi-year estimates*. As of August 21, 2020. Retrieved June 1, 2021 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/NSCH-Guide-to-Multi-Year-Estimates.pdf>

⁷ US Census Bureau, Associate Director of Demographic Programs, National Survey of Children's Health. (2020). *2019 National Survey of Children's Frequently asked questions*. As of September 2020. Retrieved October 5, 2020 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/2019-NSCH-FAQs.pdf>

Measure 4: % Children < 3 Without Any Full-Time Working Parent

Definition:

Percentage of children under age 3 living in a family in which no parent has regular, full-time (35 hours per week or more), year-round (50 weeks of the year) employment

Notes:

1. **Numerator:** The number of children under age 3 who have no parent reporting that they have regular, full-time (35 hours per week or more), year-round (50 weeks per year or more) employment
2. **Denominator:** The number of children under age 3 living with parents who have valid labor force participation data or who are not reported to be living with either parent and are not living in group quarters
3. The sample was limited to children under age 3 whose parents have valid labor force participation data or who are not reported to be living with either parent. Year-round employment was defined as working 35 hours per week or more for at least 50 weeks during the 12 months prior to the survey.
4. For children living in two parent households, neither parent had secure employment; for children living in single parent families, the resident parent was not securely employed. Children whose parents were not labor-force eligible (under age 16) or who were reported to not be living with any parents were considered to have insecurely employed parents. Children whose parents provided inconsistent employment information (e.g., reported their status as unemployed but had valid data for hours worked) or who were living in group quarters were excluded from the sample.
5. Parents' resident status with the child was determined by merging in the parent location variables (*momloc*, *momloc2*, *poploc*, *poploc2*), as determined by the University of Minnesota's IPUMS USA and available in the single year 2023 IPUMS ACS data file, with the 2023 ACS 1-Year PUMS data file. The IPUMS familial interrelationship variables were used in the identification of resident parents as they allow for the identification and inclusion of both cohabiting and same sex couples.⁸
6. Race/ethnic groups were calculated using the Hispanic origin and race variables provided in the ACS. From these two variables, four mutually exclusive race/ethnic groups were created: White, non-Hispanic; Black, non-Hispanic; Hispanic; and Other, non-Hispanic. The "Other" category includes those who identified as "American Indian alone," "Alaskan Native alone," "American Indian and Alaskan Native tribes specified," "Asian alone," "Native Hawaiian and other Pacific Islander alone," "Some other race alone," or "2+ major race groups."
7. All estimates were calculated in Stata 18 using both ACS person-level weights, to provide national and state representative estimates, and replicate weights to appropriately adjust standard errors to account for any sampling bias.
8. The US Census Bureau recommends using a 90% confidence interval for evaluating the accuracy of estimates using ACS data.⁹
9. Eleven states had estimates with confidence interval widths that were larger than the recommended 10% margin of error in 2023. Alaska, Delaware, the District of Columbia, Montana, New Hampshire, North Dakota, Rhode Island, South Dakota, Vermont, West Virginia, and Wyoming had out of range intervals ranging from 10.2% to 15.2%.

⁸ See <https://usa.ipums.org/usa/chapter5/NewfamilyinterrelationshipvariablesinIPUMSUSA.shtml> for a thorough description of how IPUMS determines the location of parents in the household.

⁹ Appendix 3 "Measures of Sampling Error" in US Census Bureau (2008). *A compass for understanding and using American Community Survey data: What general data users need to know*. US Government Printing Office, Washington, DC.

Sources:

1. US Census Bureau. (2024). *2023 American Community Survey (ACS) 1-Year Public Use Microdata Sample (PUMS)* [Data set]. <https://www.census.gov/programs-surveys/acs/microdata.html>
2. Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. *IPUMS USA: Version 15.0* [Data set]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>

GOAL: SUFFICIENT HOUSEHOLD RESOURCES

Measure 5: % of Children < 3 in Poverty

Definition:

Percentage of children under age 3 whose family lives below 100% of the federal poverty level (FPL)

Notes:

1. **Numerator:** The number of children under age 3 living in a household in which they are related to the household head whose family income falls below 100% of the federal poverty level
2. **Denominator:** The number of children under age 3 living in a household in which they are related to the household head and have valid poverty data
3. The sample was limited to children under age 3 living in a household in which they are related to the household head and have valid poverty data. Children living in group quarters or who were unrelated to the head of household (e.g., foster children or children of unmarried cohabiters) were excluded from the sample. The poverty threshold uses the US Census calculation of poverty and is based on the total income of all individuals aged 15 or older who are related to the head of household through marriage, birth or adoption. Income from cohabiting partners who are not married and unrelated children (including foster children) are not included in the calculation of family income. This family income is compared to federal poverty thresholds based on related family size and composition (*povpip*).¹⁰
4. Race/ethnic groups were calculated using the Hispanic origin and race variables provided in the ACS. From these two variables, four mutually exclusive race/ethnic groups were created: White, non-Hispanic; Black, non-Hispanic; Hispanic; and Other, non-Hispanic. The “Other” category includes those who identified as “American Indian alone,” “Alaskan Native alone,” “American Indian and Alaskan Native tribes specified,” “Asian alone,” “Native Hawaiian and other Pacific Islander alone,” “Some other race alone,” or “2+ major race groups.”
5. All estimates were calculated in Stata 18 using both ACS person-level weights, to provide national and state representative estimates, and replicate weights to appropriately adjust standard errors to account for any sampling bias.

¹⁰ US Census Bureau (n.d.). *How the Census Bureau measures poverty*. Revised August 26, 2020. Retrieved on September 9, 2021 from <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>

6. The US Census Bureau recommends using a 90% confidence interval for evaluating the accuracy of estimates using ACS data.¹¹
7. Six states had estimates with confidence interval widths that were larger than the recommended 10% margin of error in 2023. Alaska, Delaware, New Mexico, Vermont, West Virginia, and Wyoming had confidence interval widths that fell outside of the 10% margin of error, ranging from 10.1% to 14.0%.

Source:

US Census Bureau. (2024). *2023 American Community Survey (ACS) 1-Year Public Use Microdata Sample (PUMS)* [Data set]. <https://www.census.gov/programs-surveys/acs/microdata.html>

Measure 6: % Children < 3 Living in Crowded Households

Definition:

Percentage of children under age 3 living in a household in which there is more than one person per room or more than two people per bedroom

Notes:

1. **Numerator:** The number of children under age 3 living in a household in which there is more than one person per room or more than two people per bedroom
2. **Denominator:** The number of children under age 3 living in a household reporting valid household size and providing data regarding the number of rooms and bedrooms in the household
3. The sample was limited to the number of children under age 3 with valid household size and housing structure data. Children living in group quarters were excluded from the sample.
4. Race/ethnic groups were calculated using the Hispanic origin and race variables provided in the ACS. From these two variables, four mutually exclusive race/ethnic groups were created: White, non-Hispanic; Black, non-Hispanic; Hispanic; and Other, non-Hispanic. The "Other" category includes those who identified as "American Indian alone," "Alaskan Native alone," "American Indian and Alaskan Native tribes specified," "Asian alone," "Native Hawaiian and other Pacific Islander alone," "Some other race alone," or "2+ major race groups."
5. All estimates were calculated in Stata 18 using both ACS person-level weights, to provide national and state representative estimates, and replicate weights to appropriately adjust standard errors to account for any sampling bias.
6. The US Census Bureau recommends using a 90% confidence interval for evaluating the accuracy of estimates using ACS data.¹²
7. Seven states had estimates with confidence interval widths that were larger than the US Census' recommended 10% margin in 2023. Alaska, Delaware, the District of Columbia, Hawaii, North Dakota, Rhode Island, and Wyoming had out of range confidence interval values ranging from 10.7% to 16.1%.

¹¹ Appendix 3 "Measures of Sampling Error" in US Census Bureau (2008). *A compass for understanding and using American Community Survey data: What general data users need to know*. US Government Printing Office, Washington, DC.

¹² Ibid.

Source:

US Census Bureau. (2024). *2023 American Community Survey (ACS) 1-Year Public Use Microdata Sample (PUMS)* [Data set]. <https://www.census.gov/programs-surveys/acs/microdata.html>

Measure 7: % Children < 3 Experiencing Homelessness

Definition:

The percentage of children under age 3 experiencing homelessness.

Notes:

1. **Numerator:** The number of first graders identified as homeless
2. **Denominator:** The number of first graders enrolled in school
3. SchoolHouse Connection partnered with Poverty Solutions at the University of Michigan to generate estimates of the percentage of children birth through age three experiencing homelessness. Poverty Solutions relied on data from the Department of Education for the number of first graders experiencing homelessness. While data on homelessness may be collected for children before first grade, local education agencies (LEAs) are required to ask about homelessness and report these data federally. Additionally, first grade is the earliest that school enrollment is mandatory, so it is the earliest that data on homelessness is collected on nearly all children.
4. Poverty Solutions estimated the percentage of first graders experiencing homelessness by dividing the number of first graders experiencing homelessness by the number of first graders enrolled in school. This percentage was then applied to the birth through age three population and “yields a conservative estimate, since homelessness is still under-identified and under-reported by K12 school districts and early childhood development providers.”¹³ The resulting calculation is an estimate of young children experiencing homelessness. Following the same logic, we applied the percentage of first graders experiencing homelessness to children birth through age two. The reported percentage of children under age three experiencing homelessness is likely an underestimate because research suggests that infancy is the time period a person in the US is most likely to experience homelessness.¹⁴
5. Poverty Solutions used the McKinney-Vento definition of homelessness because it is an expansive definition of homelessness and includes living situations such as people sharing a household due to economic hardship.¹⁵
6. Although the Department of Education data does not include students who are homeschooled or enrolled in private school, the data are seen as nearly universal. The collection of data on homelessness varies by state. In some states, all families with children enrolled in public school are given a questionnaire on housing, but, in other states, a family is given a questionnaire only if there is reason to suspect the family is experiencing housing instability. The difference in data collection methods may lead to further undercounting of children experiencing homelessness.

¹³ SchoolHouse Connection. (2024, March 20). *Infant and Toddler Homelessness Across 50 States: 2021-2022*. SchoolHouse Connection. <https://schoolhouseconnection.org/article/infants-and-toddlers-homelessness>

¹⁴ Gubits, D., Shinn M., Bell S., Wood M., Dstrup S., Solari, C. (2015). *Family options study: Short-term impacts of housing and services interventions for homeless families*. Retrieved from https://www.huduser.gov/portal/sites/default/files/pdf/FamilyOptionsStudy_final.pdf

¹⁵ *The McKinney-Vento Definition of Homeless*. (n.d.) National Center for Homeless Education. <https://nche.ed.gov/mckinney-vento-definition/>

7. SchoolHouse Connection also reported the percentage of children experiencing homelessness who are served by LEAs, are enrolled in Early Head Start, and are enrolled in a home visiting program. Children may be served by multiple programs and there is not a way to de-duplicate the data. Only LEAs with education for homeless youth subgrants are required to collect data on services provided. Approximately a quarter of LEAs receive these subgrants and are required to provide the data, so service data in a majority of LEAs may not be reported.
8. Fluctuation in the estimate of children experiencing homelessness over time is not inherently good or bad. Fluctuation may represent changes in the proper identification of children experiencing homelessness rather changes in the actual prevalence of children experiencing of homelessness. Improving the identification of children experiencing homelessness is important to connect those children to valuable services.

Source:

SchoolHouse Connection. (2025, April 30). *Infant and Toddler Homelessness Across 50 States: 2022-2023*. SchoolHouse Connection. <https://schoolhouseconnection.org/article/infant-and-toddler-homelessness>

Measure 8: % of Households Reporting Child Food Insecurity

Definition:

The percentage of households with at least one child under age 3 who reported experiencing low or very low **child** food security

Notes:

1. **Numerator:** The number of households with at least one child under age 3 reporting low or very low child food security
2. **Denominator:** The number of households with at least one child under age 3 with a valid score on the child food security scale
3. The sample was limited to households with at least one child under age 3 with valid child food security scale data. The child food security scale was selected instead of the household food security scale to more realistically capture the food security situation for children in the household. Parents frequently shield children from experiencing hunger even though they may report low or very low food security for themselves. Estimates of household food security may overestimate the food insecurity experience of children in the household and this may be especially true for younger children as research suggests that older children in the household may be more likely to experience food insecurity compared to younger children.¹⁶
4. The race and ethnicity of the first child under age 3 listed in the household was assigned to the whole household.
5. To improve data quality and accuracy of state-level estimates, per US Census Current Population Survey guidance, estimates were calculated using the three most recent years of CPS, Food Security Supplement data (2021, 2022, and 2023) and household-level population weights were adjusted by three to account for the multi-year dataset.¹⁷

¹⁶ Nord, M., & Bickel, G. (2002). *Measuring children's food security in US households, 1995-99*. FANRR-25, US Department of Agriculture, Economic Research Service.

¹⁷ US Census Bureau (n.d.). *Which data source to use*. As of March 20, 2018. Retrieved on April 28, 2020 from <https://www.census.gov/topics/income-poverty/poverty/guidance/data-sources.html>

6. All estimates (national and state-level) were calculated in Stata 18 using both household-level population weights (for representative estimates) and replicate weights to account for any sampling bias.
7. The US Census Bureau recommends using a 90% confidence interval for evaluating the accuracy of estimates using CPS data.
8. Several states (Alabama, Alaska, Arizona, Connecticut, Delaware, Hawaii, Idaho, Kentucky, Massachusetts, Minnesota, Mississippi, Nebraska, Nevada, New Mexico, Oregon, Rhode Island, South Carolina, South Dakota, and Wyoming) had estimates with confidence interval widths that were larger than the recommended 10% margin of error, with over criteria confidence intervals ranging from 10.1% to 17.9%. The sample sizes in Maine and Vermont were too small to generate a reliable estimate.

Source:

US Bureau of Labor Statistics and US Census Bureau. (2022-2024). *2021-2023 Current Population Survey (CPS), Food Security Supplement (FSS) Public Use Microdata Sample (PUMS)* [Data set]. https://www.census.gov/data/datasets/time-series/demo/cps/cps-supp_cps-repwgt/cps-food-security.html

GOAL: HEALTHY AND EQUITABLE BIRTHS

Measure 9: % Babies Born Preterm (< 37 Weeks)

Definition:

Percentage of babies born in the past year who were born prior to 37 weeks gestational age

Notes:

1. **Numerator:** The number of births in the past year in which the baby was born prior to 37 weeks gestational age
2. **Denominator:** The number of births in the past year with known gestational age
3. The sample was limited to births in the past year with valid gestational age information. Per Vital Statistics guidance, the obstetric estimated (OE) gestational age was used to measure gestational age instead of the last menstrual period (LMP) gestational age.¹⁸
4. Race/ethnic groups based on mother's race and ethnicity were calculated using the Hispanic origin and 6-race category variables provided in CDC WONDER. From these two variables, four mutually exclusive race/ethnic groups were created. If a birth was identified with a Hispanic mother, then the birth was categorized as Hispanic regardless of the race of the mother. Next, births were identified as those to Black, non-Hispanic mothers, then White, non-Hispanic mothers. The fourth group was created from all other non-Hispanic mothers (Asian, American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, more than one race, or unknown/not stated). Births to mothers whose Hispanic origin was reported as unknown on the birth certificate were excluded from the percentages reported by race/ethnic group.

¹⁸ Martin, J.A., Osterman, M.J., Kirmeyer, S.E., & Gregory, E.C. (2015). *Measuring gestational age in vital statistics data: Transitioning to the obstetric estimate*. National Vital Statistics Reports from the Center for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System, 64(5), 1-20.

5. CDC reporting rules require the suppression of sub-national counts of 9 or fewer births.¹⁹

Source:

United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2023, on CDC WONDER Online Database, December 2024. Accessed at <https://wonder.cdc.gov/natality-current.html> on January 13, 2025.

Measure 10: # of Infant Deaths per 1,000 Births

Definition:

The number of infant deaths within the first year per 1,000 live births.

Notes:

1. Per CDC guidance, when available national estimates disaggregated by race/ethnicity were derived from the Vital Statistics period linked birth/infant death data. Race/ethnic subgroups are based on the race and ethnicity of the mother; using the linked birth/death file provides better accuracy in identifying mother's race/ethnicity from birth certificate data. To fully provide the rate of infant deaths at the state-level, state estimates were derived from the mortality file. The mortality file does not require the child to have a valid US (or US territory) birth certificate and provides a more complete picture of the state-level infant mortality rate.²⁰

Source:

Ely, D.M., & Driscoll, A.K. (2025). *Infant mortality in the United States, 2023: Data from the period linked birth/infant death file*. National Vital Statistics Reports, 74 (7), 8-9, 17.

GOAL: PARENTAL HEALTH AND WELLBEING

Measure 11: % Children < 3 Whose Mother Reports Fair/Poor Mental Health

Definition:

Percentage of children under age 3 whose mother rates her own mental/emotional health as fair or poor

Notes:

1. **Numerator:** The number of children under age 3 whose mother rated her own mental/emotional health as fair or poor
2. **Denominator:** The number of children under age 3 whose mother provided a valid response to a survey item regarding her current mental/emotional health

¹⁹ Centers for Disease Control (CDC) National Center for Health Statistics (NCHS). (n.d.). *CDC WONDER Datasets - Data use restrictions*. As of February 10, 2020. Retrieved May 15, 2020 from <https://wonder.cdc.gov/DataUse.html#>

²⁰ Ely, D.M., & Driscoll, A.K. (2022). *Infant mortality in the United States, 2018: Data from the period linked birth/infant death file*. National Vital Statistics Reports, 71 (5), 3.

3. The sample was limited to children under age 3 whose mother responded to a survey item regarding her current mental/emotional health. Children who did not have a mother listed as either adult in the household (generally children living with grandparents, in single father households, or living with other relatives) were excluded from the analyses.
4. To improve accuracy in calculating sample estimates, especially at the state-level, three years of NSCH data (2021, 2022, and 2023) were combined to create one multi-year dataset. The Census Bureau revised how race and ethnicity information is imputed and weighted in the 2016-2021 datasets and estimates should not be compared across years in the Roadmap because Roadmaps prior to the 2024 Roadmap use the original data files.²¹
5. Approximately 0.5% of children under 3 with a mother in the household were missing data for maternal mental health in the three-year combined data file. In accordance with the reporting practice of the Data Resource Centers' Interactive Data Query (<https://www.childhealthdata.org/browse/survey>), cases with missing data were excluded from the analysis.²²
6. All estimates were calculated in Stata 18 using NSCH provided person level weights and adjusting standard errors based on sampling stratum. Per NSCH guidance the individual year population weight was divided by three to account for the combined data.²³
7. NSCH guidance recommends using a 95% confidence interval and identifying estimates with confidence interval widths that exceed 20% as having questionable reliability and accuracy.²⁴ No states had estimates that exceeded the 20% width.

Source:

US Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2022-2024). *2021-2023 National Survey of Children's Health (NSCH) Public-Use Data* [Data set]. <https://www.census.gov/programs-surveys/nsch.html>

Measure 12: % Children < 3 Whose Parent Lacks Parenting Support

Definition:

²¹ US Census Bureau (2023, October 2). National Survey of Children's Health: Data File Enhancement Technical Document. Retrieved November 14, 2023 from https://www2.census.gov/programs-surveys/nsch/technical-documentation/NSCH_Enhancements%20_Technical_Document.pdf

²² Child and Adolescent Health Measurement Initiative. Data Resource Center, supported by Cooperative Agreement U59MC27866 from the US Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2019). *The impact of missing values on population count estimates in the 2016 National Survey of Children's Health*. Revised 3/4/19. Retrieved May 15, 2020 from https://www.childhealthdata.org/docs/default-source/nsch-docs/nsch_impact-of-missing-cases_revised_03-02-19_generic.pdf?sfvrsn=d0c25e17_2

²³ US Census Bureau (2020). *National Survey of Children's Health: Guide to multi-year estimates*. As of August 21, 2020. Retrieved June 1, 2021 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/NSCH-Guide-to-Multi-Year-Estimates.pdf>

²⁴ US Census Bureau, Associate Director of Demographic Programs, National Survey of Children's Health. (2020). *2019 National Survey of Children's Frequently asked questions*. As of September 2020. Retrieved October 5, 2020 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/2019-NSCH-FAQs.pdf>

Percentage of children under age 3 whose parent reported that during the past year there was not someone they could turn to for emotional parenting support

Notes:

1. **Numerator:** The number of children under age 3 whose parent reported that during the past year they did not have someone they could turn to for emotional parenting support
2. **Denominator:** The number of children under age 3 whose parent responded yes or no to a survey item regarding the availability of someone providing emotional parenting support over the past year
3. The sample was limited to children under age 3 whose parent responded to a survey item regarding emotional parenting support. To improve accuracy in calculating sample estimates, especially at the state-level, three years of NSCH data (2021, 2022, and 2023) were combined to create one multi-year dataset. The Census Bureau revised how race and ethnicity information is imputed and weighted in the 2016-2021 datasets and estimates should not be compared across years in the Roadmap because Roadmaps prior to the 2024 Roadmap use the original data files.²⁵
4. Approximately 2.3% of children under 3 in the three-year combined data file were missing data for parenting support. In accordance with the reporting practice of the Data Resource Centers' Interactive Data Query (<https://www.childhealthdata.org/browse/survey>), cases with missing data were excluded from the analysis.²⁶
5. All estimates were calculated in Stata 18 using NSCH provided person level weights and adjusting standard errors based on sampling stratum. Per NSCH guidance the individual year population weight was divided by three to account for the combined data.²⁷
6. NSCH guidance recommends using a 95% confidence interval and identifying estimates with confidence interval widths that exceed 20% as having questionable reliability and accuracy.²⁸ No states had estimates that exceeded the 20% width.

Source:

US Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2022-2024). *2021-2023 National Survey of Children's Health (NSCH) Public-Use Data* [Data set]. <https://www.census.gov/programs-surveys/nsch.html>

²⁵ US Census Bureau (2023, October 2). National Survey of Children's Health: Data File Enhancement Technical Document. Retrieved November 14, 2023 from https://www2.census.gov/programs-surveys/nsch/technical-documentation/NSCH_Enhancements%20_Technical_Document.pdf

²⁶ Child and Adolescent Health Measurement Initiative. Data Resource Center, supported by Cooperative Agreement U59MC27866 from the US Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2019). *The impact of missing values on population count estimates in the 2016 National Survey of Children's Health*. Revised 3/4/19. Retrieved May 15, 2020 from https://www.childhealthdata.org/docs/default-source/nsch-docs/nsch_impact-of-missing-cases_revised_03-02-19_generic.pdf?sfvrsn=d0c25e17_2

²⁷ US Census Bureau (2020). *National Survey of Children's Health: Guide to multi-year estimates*. As of August 21, 2020. Retrieved June 1, 2021 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/NSCH-Guide-to-Multi-Year-Estimates.pdf>

²⁸ US Census Bureau, Associate Director of Demographic Programs, National Survey of Children's Health. (2020). *2019 National Survey of Children's Frequently asked questions*. As of September 2020. Retrieved October 5, 2020 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/2019-NSCH-FAQs.pdf>

GOAL: NURTURING AND RESPONSIVE CHILD-PARENT RELATIONSHIPS

Measure 13: % Children < 3 Not Read to Daily

Definition:

Percentage of children under age 3 whose family did not read to them daily during the prior week

Notes:

1. **Numerator:** The number of children under age 3 whose parent reported that family members read to them fewer than 7 days in the prior week
2. **Denominator:** The number of children under age 3 whose parent reported on the frequency of family reading behaviors
3. The sample was limited to children under age 3 whose parent responded to a survey item regarding family reading behaviors.
4. To improve accuracy in calculating sample estimates, especially at the state-level, three years of NSCH data (2021, 2022, and 2023) were combined to create one multi-year dataset. The Census Bureau revised how race and ethnicity information is imputed and weighted in the 2016-2021 datasets and estimates should not be compared across years in the Roadmap because Roadmaps prior to the 2024 Roadmap use the original data files.²⁹
5. Approximately 2.0% of children under 3 in the three-year combined data file were missing data on family reading behavior. In accordance with the reporting practice of the Data Resource Centers' Interactive Data Query (<https://www.childhealthdata.org/browse/survey>), cases with missing data were excluded from the analysis.³⁰
6. All estimates were calculated in Stata 18 using NSCH provided person level weights and adjusting standard errors based on sampling stratum. Per NSCH guidance the individual year population weight was divided by three to account for the combined data.³¹
7. NSCH guidance recommends using a 95% confidence interval and identifying estimates with confidence interval widths that exceed 20% as having questionable reliability and accuracy.³² No states had estimates that exceeded the 20% width.

²⁹ US Census Bureau (2023, October 2). National Survey of Children's Health: Data File Enhancement Technical Document. Retrieved November 14, 2023 from https://www2.census.gov/programs-surveys/nsch/technical-documentation/NSCH_Enhancements%20_Technical_Document.pdf

³⁰ Child and Adolescent Health Measurement Initiative. Data Resource Center, supported by Cooperative Agreement U59MC27866 from the US Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2019). *The impact of missing values on population count estimates in the 2016 National Survey of Children's Health*. Revised 3/4/19. Retrieved May 15, 2020 from https://www.childhealthdata.org/docs/default-source/nsch-docs/nsch_impact-of-missing-cases_revised_03-02-19_generic.pdf?sfvrsn=d0c25e17_2

³¹ US Census Bureau (2020). *National Survey of Children's Health: Guide to multi-year estimates*. As of August 21, 2020. Retrieved June 1, 2021 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/NSCH-Guide-to-Multi-Year-Estimates.pdf>

³² US Census Bureau, Associate Director of Demographic Programs, National Survey of Children's Health. (2020). *2019 National Survey of Children's Frequently asked questions*. As of September 2020. Retrieved October 5, 2020 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/2019-NSCH-FAQs.pdf>

Source:

US Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2022-2024). *2021-2023 National Survey of Children's Health (NSCH) Public-Use Data* [Data set]. <https://www.census.gov/programs-surveys/nsch.html>

Measure 14: % Children < 3 Nurtured Daily

Definition:

Percentage of children under age 3 whose family did not sing songs or tell stories to them every day during the prior week

Notes:

1. **Numerator:** The number of children under age 3 whose parent reported that family members told stories or sang songs with the child fewer than 7 days of the prior week
2. **Denominator:** The number of children under age 3 whose parent reported on the frequency of family storytelling and other nurturing behaviors (singing songs)
3. The sample was limited to children under age 3 whose parent responded to a survey item regarding family nurturing behaviors.
4. To improve accuracy in calculating sample estimates, especially at the state-level, three years of NSCH data (2021, 2022, and 2023) were combined to create one multi-year dataset. The Census Bureau revised how race and ethnicity information is imputed and weighted in the 2016-2021 datasets and estimates should not be compared across years in the Roadmap because Roadmaps prior to the 2024 Roadmap use the original data files.³³
5. Approximately 2.0% of children under 3 in the three-year combined data file were missing data on family nurturing behaviors. In accordance with the reporting practice of the Data Resource Centers' Interactive Data Query (<https://www.childhealthdata.org/browse/survey>), cases with missing data were excluded from the analysis.³⁴
6. All estimates were calculated in Stata 18 using NSCH provided person level weights and adjusting standard errors based on sampling stratum. Per NSCH guidance the individual year population weight was divided by three to account for the combined data.³⁵

³³ US Census Bureau (2023, October 2). National Survey of Children's Health: Data File Enhancement Technical Document. Retrieved November 14, 2023 from https://www2.census.gov/programs-surveys/nsch/technical-documentation/NSCH_Enhancements%20_Technical_Document.pdf

³⁴ Child and Adolescent Health Measurement Initiative. Data Resource Center, supported by Cooperative Agreement U59MC27866 from the US Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2019). *The impact of missing values on population count estimates in the 2016 National Survey of Children's Health*. Revised 3/4/19. Retrieved May 15, 2020 from https://www.childhealthdata.org/docs/default-source/nsch-docs/nsch_impact-of-missing-cases_revised_03-02-19_generic.pdf?sfvrsn=d0c25e17_2

³⁵ US Census Bureau (2020). *National Survey of Children's Health: Guide to multi-year estimates*. As of August 21, 2020. Retrieved June 1, 2021 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/NSCH-Guide-to-Multi-Year-Estimates.pdf>

7. NSCH guidance recommends using a 95% confidence interval and identifying estimates with confidence interval widths that exceed 20% as having questionable reliability and accuracy.³⁶ No states had estimates that exceeded the 20% width.

Source:

US Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2022-2024). *2021-2023 National Survey of Children's Health (NSCH) Public-Use Data* [Data set]. <https://www.census.gov/programs-surveys/nsch.html>

Measure 15: % Children < 3 Whose Parent Reports Not Coping Very Well

Definition:

Percentage of children under age 3 whose parent reports they are not coping “very well” with the day-to-day demands of parenting

Notes:

1. **Numerator:** The number of children under age 3 whose parent reported that they are not coping very well with the demands of parenting
2. **Denominator:** The number of children under age 3 whose parent responded to a survey item regarding how well they are coping with the demands of parenting
3. The sample was limited to children under age 3 whose parent responded to a survey item regarding parenting stress and coping. Responses to the survey item were on a four-point scale: very well, somewhat well, not very well, or not well at all. Our calculation grouped the last three categories (somewhat well, not very well, or not well at all).
4. To improve accuracy in calculating sample estimates, especially at the state-level, three years of NSCH data (2021, 2022, and 2023) were combined to create one multi-year dataset. The Census Bureau revised how race and ethnicity information is imputed and weighted in the 2016-2021 datasets and estimates should not be compared across years in the Roadmap because Roadmaps prior to the 2024 Roadmap use the original data files.³⁷
5. Approximately 1.9% of children under 3 in the three-year combined data file were missing data for parenting stress and coping. In accordance with the reporting practice of the Data Resource Centers' Interactive Data Query (<https://www.childhealthdata.org/browse/survey>), cases with missing data were excluded from the analysis.³⁸

³⁶ US Census Bureau, Associate Director of Demographic Programs, National Survey of Children's Health. (2020). *2019 National Survey of Children's Frequently asked questions*. As of September 2020. Retrieved October 5, 2020 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/2019-NSCH-FAQs.pdf>

³⁷ US Census Bureau (2023, October 2). National Survey of Children's Health: Data File Enhancement Technical Document. Retrieved November 14, 2023 from https://www2.census.gov/programs-surveys/nsch/technical-documentation/NSCH_Enhancements%20_Technical_Document.pdf

³⁸ Child and Adolescent Health Measurement Initiative. Data Resource Center, supported by Cooperative Agreement U59MC27866 from the US Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2019). *The impact of missing values on population count estimates in the 2016 National Survey of Children's Health*. Revised 3/4/19. Retrieved May 15, 2020 from https://www.childhealthdata.org/docs/default-source/nsch-docs/nsch_impact-of-missing-cases_revised_03-02-19_generic.pdf?sfvrsn=d0c25e17_2

6. All estimates were calculated in Stata 18 using NSCH provided person level weights and adjusting standard errors based on sampling stratum. Per NSCH guidance the individual year population weight was divided by three to account for the combined data.³⁹
7. NSCH guidance recommends using a 95% confidence interval and identifying estimates with confidence interval widths that exceed 20% as having questionable reliability and accuracy.⁴⁰ No states had estimates that exceeded the 20% width.

Source:

US Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). (2022-2024). *2021-2023 National Survey of Children's Health (NSCH) Public-Use Data* [Data set]. <https://www.census.gov/programs-surveys/nsch.html>

GOAL: NURTURING AND RESPONSIVE CHILD CARE IN SAFE SETTINGS

Measure 16: % Children Without Access to Early Head Start

Definition:

The estimated percentage of income-eligible children (those in families whose poverty status was at or below 100% of the federal poverty level) under age 3 without access to Early Head Start (as measured through the total number of EHS slots).

Notes:

1. **Numerator:** The number of EHS slots (regardless of funding source) available in all EHS programs (traditional EHS, American Indian, Alaska Native (AIAN) and migrant EHS) as provided in Head Start Notice of Award data
2. **Denominator:** The number of children under age 3 living in households in which they are related to the household head and the household income level at or below 100% of the Federal Poverty Level, as estimated from two years of the American Community Survey (ACS)
3. The sample was limited to children with valid poverty status data living in households with incomes at or below 100% of the FPL.
4. The data for the numerator (the number of funded EHS slots for children under age 3) came from the Notice of Grant Award data. Previously, we used the number of funded EHS slots that came from the self-reported Program Information Reports (PIRs) populated by grant recipients. Beginning in 2023, we switched to the Notice of Grant Award data upon guidance from the Administration for Children and Families (ACF)⁴¹ and the National Institute for Early

³⁹ US Census Bureau (2020). *National Survey of Children's Health: Guide to multi-year estimates*. As of August 21, 2020. Retrieved June 1, 2021 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/NSCH-Guide-to-Multi-Year-Estimates.pdf>

⁴⁰ US Census Bureau, Associate Director of Demographic Programs, National Survey of Children's Health. (2020). *2019 National Survey of Children's Frequently asked questions*. As of September 2020. Retrieved October 5, 2020 from <https://www2.census.gov/programs-surveys/nsch/technical-documentation/methodology/2019-NSCH-FAQs.pdf>

⁴¹ J. Escobar, U.S. Department of Health & Human Services Administration for Children & Families, personal communication, September 14, 2023.

Education Research (NIEER)⁴² that the Notice of Grant Award data is a more authoritative source for funded enrollment than the PIRs.

5. The denominator reflects population level estimates from the American Community Survey (ACS) Public-Use Microdata Sample (PUMS) for the sample of children under the age of 3 whose family poverty value was at or below 100% of the federal poverty level (FPL).
6. Sample size estimates were calculated in Stata 18 using ACS-provided person-level weights. Given the age and income limits imposed on the sample (children under age 3 living in families at or below 100% FPL) and the estimates by state, two years of ACS data were combined to improve data quality and accuracy and all weights were appropriately adjusted to account for the two combined years of data. Children living in group quarters or whose family poverty status was not available (e.g., foster children or children who were unrelated to the head of household) were excluded from the calculation.
7. We considered weighted estimates of the count of children living in families at or below 100% FPL with a relative standard error of 30% or greater as having questionable reliability. The relative standard error for all states' estimates was below this threshold.
8. Estimates are impacted by both the numerator and denominator. For example, a state's value of the percent of children without access to Early Head Start could decrease both because of decreases to the numerator (fewer funded EHS slots) or increases to the denominator (more children in poverty). Annual estimates should be compared conservatively, because two factors drive changes in the overall estimate of the percent of children without access to Early Head Start.
9. The US Census calculation of poverty is based on the total income of all individuals aged 15 or older who are related to the head of household through marriage, birth or adoption. Income from cohabiting partners who are not married and unrelated children (including foster children) are not included in the calculation of family income. This family income is compared to federal poverty thresholds based on related family size and composition (*poverty*).⁴³
10. A single year of the funded slot data from the EHS, reflecting all program types and funding sources, was paired with two combined years of data from the ACS PUMS 1-year data, reflecting income-eligible children under age 3. The 2023 EHS Notice of Award data were paired with the 2022-2023 ACS samples.

Sources:

1. US Department of Health & Human Services, Office of Head Start. (2025, February 27). *Head Start Program Facts: Fiscal Year 2023*. Retrieved on March 7, 2025, from <https://headstart.gov/program-data/article/head-start-program-facts-fiscal-year-2023>.
2. US Census Bureau. (2023-2024). *2022-2023 American Community Survey (ACS) 1-Year Public Use Microdata Sample (PUMS)* [Data set]. <https://www.census.gov/programs-surveys/acs/microdata.html>

GOAL: OPTIMAL CHILD HEALTH AND DEVELOPMENT

Measure 17: % Children Whose Mother Reported Never Breastfeeding

⁴² A. Krauss, NIEER, personal communication, August 4, 2023.

⁴³ US Census Bureau (n.d.). *How the Census Bureau measures poverty*. As of August 27, 2019. Retrieved on April 28, 2020 from <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>

Definition:

Percentage of children ages 19 to 35 months whose mother reported never breastfeeding

Notes:

1. **Numerator:** The number of children between the ages of 19 and 35 months whose mother reported they never breastfed the child
2. **Denominator:** The number of children between the ages of 19 and 35 months whose mother reported yes or no to an item regarding whether the child was ever breastfed
3. The sample was limited to children between the ages of 19 and 35 months whose mother responded to a survey item regarding breastfeeding of the child.
4. All estimates were calculated in Stata 18 using NIS-Child provided person-level weights and adjusting standard errors based on sampling stratum.
5. NIS-Child guidance recommends considering estimates as having questionable reliability and accuracy if they violate one of three criteria: 1) have a 95% confidence interval width greater than 20 percentage points, 2) having a standard error to estimate ratio greater than 0.3, or 3) having an unweighted denominator of fewer than 30 cases.⁴⁴ The estimates for all states met the quality criteria.

Source:

US Department of Health and Human Services (US DHHS), National Center for Immunization and Respiratory Diseases. (2024). *The 2023 National Immunization Survey-Child (NIS-Child)* [Data set]. Atlanta, GA: Centers for Disease Control and Prevention. <http://www.cdc.gov/vaccines/imz-managers/nis/datasets.html>

Measure 18: % Children < 3 Not Up to Date on Immunizations

Definition:

Percentage of children ages 19 to 35 months who are not up to date on the combined 7-vaccine series

Notes:

1. **Numerator:** The number of children ages 19 to 35 months who are not up to date on the combined 7-vaccine series, based on the child's age
2. **Denominator:** The number of children ages 19 to 35 months with adequate provider-verified immunization information
3. The sample was limited to children ages 19 to 35 months with adequate provider-verified information regarding immunizations. Children with at least one vaccination verified by a provider are considered to have adequate provider-verified data. The combined 7-vaccine series consists of 4 or more Diphtheria, tetanus, and acellular pertussis (DTaP)

⁴⁴ US Department of Health and Human Services (US DHHS), National Center for Immunization and Respiratory Diseases. (2020). *A user's guide for the 2019 public-use data file*. Centers for Disease Control and Prevention, Presented by NORC at the University of Chicago. Retrieved January 26, 2021 from <https://www.cdc.gov/vaccines/imz-managers/nis/downloads/NIS-PUF19-DUG.pdf>

vaccinations; 3 or more polio vaccinations; 1 or more measles-containing (MCV) vaccinations; 3 or 4 Hib vaccinations (depending upon vaccine manufacturer); 3 or more hepatitis B vaccinations; 1 or more varicella vaccinations (administered at 12 months or older); and 3 or more pneumococcal vaccinations.⁴⁵ The NIS-Child public use data file contains a constructed variable indicating whether the child is up-to-date on the combined 7-vaccine series based on the age of the child at the time of the survey and provider-verified vaccination data.

4. All estimates were calculated in Stata 18 using NIS-Child provided person-level weights, modified for adequate provider data, and adjusting standard errors based on sampling stratum.
5. NIS-Child guidance recommends considering estimates as having questionable reliability and accuracy if they violate one of three criteria: 1) have a 95% confidence interval width greater than 20 percentage points, 2) having a standard error to estimate ratio greater than 0.3, or 3) having an unweighted denominator of fewer than 30 cases.⁴⁶ The estimates for all states met the quality criteria.
6. The national percentage of children under age 3 not up to date on immunizations rose noticeably between the 2022 NIS-Child (27.9%) and 2023 NIS-Child (30.5%) files. The NIS-Child documentation theorizes that this change may be due to the early close of the NIS-Child provider data collection in 2023, the change in the immunization history questionnaire design, or the change in weighting procedures. The documentation notes, however, that none of these changes explain the differences in vaccination coverage entirely.⁴⁷

Source:

US Department of Health and Human Services (US DHHS), National Center for Immunization and Respiratory Diseases. (2024). *The 2023 National Immunization Survey-Child (NIS-Child)* [Data set]. Atlanta, GA: Centers for Disease Control and Prevention. <http://www.cdc.gov/vaccines/imz-managers/nis/datasets.html>

Measure 19: Maltreatment Rate per 1,000 Children < 3

Definition:

The rate of substantiated incidents of child maltreatment (per 1,000) for children under age 3

Notes:

1. **Numerator:** The number of unique child maltreatment victims under age 3
2. **Denominator:** The number of children under age 3
3. The sample was limited to children under age 3. The numerator is derived from the restricted-use NCANDS Child Files and is the unique count of substantiated child maltreatment victims under age 3. The denominator is derived from Census Population Estimates and is the estimate of the total number of children under age 3.
4. The National Data Archive on Child Abuse and Neglect (NDACAN) occasionally releases updated NCANDS data files that result in minor changes to the estimates of child maltreatment. Estimates presented in the 2025 Roadmap are based on NDACAN data as of April 1, 2025.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Centers for Disease Control and Prevention (September 2024). *National Immunization Survey-Child: Error Profile for the 2023 NIS-Child*. Retrieved April 1, 2025 from <https://www.cdc.gov/childvaxview/media/pdfs/2024/09/Error-Profile-2023-NIS-Child.pdf>

5. The analyses presented in this publication were based on data from the National Child Abuse and Neglect Data System (NCANDS). These data were provided by the National Data Archive on Child Abuse and Neglect at Cornell University, and have been used with permission. The data were originally collected under the auspices of the Children's Bureau. Funding was provided by the Children's Bureau, Administration on Children, Youth, and Families, Administration for Children and Families, US Department of Health and Human Services. The collector of the original data, the funding agency, NDACAN, Cornell University, and the agents or employees of these institutions bear no responsibility for the analyses or interpretations presented here. The information and opinions expressed reflect solely the opinions of the authors.

Sources:

1. US Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2025). *National Child Abuse and Neglect Data System (NCANDS) Child File, FFY 2023v1* [Data set]. Available from the National Data Archive on Child Abuse and Neglect Web site, <http://www.ndacan.cornell.edu>
2. US Census Bureau, Population Division. (2024). *Annual state resident population estimates for 6 race groups (5 race alone groups and two or more races) by age, sex, and Hispanic origin: April 1, 2020 to July 1, 2023 – sc-est2023-alldata6.csv* [Data set]. Retrieved July 15, 2024 from <https://www.census.gov/data/tables/time-series/demo/pepest/2020s-state-detail.html>