Minnesota Early Childhood Risk, Reach, and Resilience

Key Indicators of Early Childhood Development in Minnesota, County by County

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SUMMARY AND IMPLICATIONS

Minnesota Early Childhood Risk, Reach, and Resilience

Summary and implications

Purpose

Researchers across disciplines and specialties agree. The physical, social, and economic health and well-being of adults and society are strongly influenced by experiences in early childhood. The most cost-efficient time to build foundational skills, to assure the healthy development of all young children, to break the cycle of disadvantage for vulnerable children, and to prevent achievement and health inequities is in the very early stages of development.

This report describes potential risks to the healthy development of young children and the extent of coverage of publicly-funded services to meet their early learning, health, and basic needs. This report also includes new and emerging indicators of risk, reach, and resilience.

Finally, this 2018 report reviews and notes changes since the 2015 Minnesota Early Childhood Risk and Reach report in the indicators of early childhood well-being and the availability and accessibility of key services from a county-level perspective. It is intended to be a resource for all early childhood stakeholders in order to guide and inform resource allocation and policy.

Methodology

For every **risk indicator**, each county was assigned to one of four risk categories, based on comparisons to the statewide average of all the counties. These comparisons were based on z-scores, which represent the number of standard deviations that an individual county-level indicator falls above or below the statewide average. Each county also has a **composite risk score**, one of four risk categories assigned bases which sums the z-scores for each county across all indicators, calculates the average and standard deviation, and then assigns each county another z-score. This composite score was then used to assign counties to one of the four risk categories.

Indicators of reach measure the proportion of eligible children served by eight publicly-funded programs in Minnesota. Similar to the risk indicators, each county was assigned to one of four reach categories, based on comparisons to the statewide average of all the counties for every reach indicator. In addition to being reported in tables, the reach indicators are also mapped onto the composite risk score map to provide readers with a sense of each program's coverage in relation to the overall level of risk or need.

Key findings: Risk indicators

Economic risks

- In 2016, 10.5 percent of all births in the state were to mothers with less than a high school degree, up from nearly 8 percent in 2012. Twelve of Minnesota's counties (three more than in 2012) fall in the high-risk category on this indicator, all of which are located in greater Minnesota. Mahnomen County has the highest rate (27%).
- Statewide, 5.4 percent of children under age 6 have no parent in the labor force, ranging from 14.5 percent in Hubbard County to 1.5 percent in Carver County.
- About 16 percent of children are living in poverty in Minnesota (poverty level is about $20,000 per year for a family of three and about $24,000 for a family of four). Fourteen counties spread throughout the state fall in the highest risk category on this indicator.

Health risks

- The teen birth rate in Minnesota is 14 births per 1,000 girls age 15 to 19, down from 20 births since 2012. Eleven counties are high risk, 4 more than in 2012. Mahnomen, Watonwan, Nobles, and Cass counties have the highest rates at 59, 44, 38, and 34 births per 1,000 teen girls, respectively.
- In 2016, an estimated 21 percent of births in Minnesota lacked adequate prenatal care, similar to the percentage in 2012 (22%). Most counties are low to moderate risk on this indicator. The 11 high-risk counties are scattered throughout the state, including multiple counties in the southeast and northwest regions.
- In 2016, 5 percent of births were low-weight births (under 5.5 pounds). The 14 counties in the high-risk category are spread throughout the state.
- Minnesota's infant mortality rate is 5 deaths per 1,000 births. The rate in Cook County (16.3) and Mahnomen County (11.9) are the highest.
- Four percent of children in Minnesota under age 6 lacked health care coverage (2012-2016), with the range stretching from under 2 percent in Jackson County to a high of 18 percent in Watonwan.
- About 39 percent of 2-year-old children (age 24 through 35 months) lacked the recommended childhood immunizations in 2017. Immunization levels range from 50 percent in Roseau County to 89 percent in Traverse County. Thirteen counties fall into the high-risk category.

Family stability risks

- Eighteen percent of children under age 5 changed residences at least once in the past year (2012-2016). Six counties fall in the high-risk category, down from 11 in the prior time period.
- In 2016, 38 in 1,000 children under age 5 statewide had a maltreatment report filed during the year, up from 25 in 2013. Traverse County has the state's highest rate, at 141 per 1,000 children.
- In 2016, 13 in 1,000 children under age 6 statewide were in foster care, up from about 8 in 2013. Beltrami has the state's highest rate, at 99 per 1,000 children.

Overall risk status

Each county was assigned to one of the four risk categories, based on its average score across all indicators relative to other counties. This single score is meant to focus attention and begin conversations about where counties fall along the continuum of risk, which counties are in greatest need, and what we might learn from counties with the lowest-risk environments for young children.

Minnesota has an estimated 423,100 children age 5 and younger living in 87 counties, about 13,000 fewer than in 2015. (Three counties with about 900 children under age 6 lack sufficient data to assess overall risk).

- About 131,000 (31%) children (up from 80,000 in 2015) live in 14 (up from 12 in 2015) counties categorized low risk. The counties with the most indicators at low risk levels are Carver, Washington, Scott, Wright, Morrison, and Nicollet.
- About 74,000 (18%) children (down from 155,000 children in 2015) live in 29 (down from 37) counties categorized as low to moderate risk.
- About 199,000 (47%) children (up from 132,000 children in 2015) live in 30 (up from 19) moderate-to-high risk counties, including Hennepin and Ramsey counties. Ramsey County fell in the high-risk category overall in 2015.
- About 18,500 (4%) children (down from 68,000 children in 2015) live in 11 (down from 15) high-risk counties. The counties with the most indicators at high risk levels are Beltrami, Mahnomen, Cass, Pine, Mille Lacs, and Nobles.

Key findings: Reach indicators

Reach of health programs

- Fifty-nine percent of eligible children under age 6 are served by the Special Supplemental Nutrition Program for Women, Infants, and children (WIC). That percentage is down from 70 percent in 2013 due to both an expansion in the number eligible and a reduction in the number served. In general, greater Minnesota counties have higher levels of WIC reach than counties in the metro area.
- The Family Home Visiting Program reaches 13 percent of the targeted low-income families (at or below 200% of poverty level) with children under age 5. In general, high-reach counties tend to be in greater Minnesota.

Reach of human services

- Nearly half of children under age 6 in low-income families (at or below 125% of poverty level) are covered by Minnesota Family Investment Program. The coverage ranges from 12 percent in Fillmore County to 100 percent in Red Lake County. In the Twin Cities metro area, Hennepin (61%) and Ramsey Counties (57%) have relatively high coverage levels.
- Thirteen percent of children under age 6 in low-income families (at or below 200% of poverty level) are served by the Child Care Assistance Program, the same as in 2014. The coverage ranges from 3 percent in Todd County to 25 percent in Brown County. Counties in the southeast Minnesota, near Rochester, have high levels of CCAP reach, while counties in the northwest have lower levels.
- Statewide, 49 per every 1,000 children under age 6 enrolled in Minnesota Health Care Programs were assessed and treated for mental health issues, up from 40 in 2013. The 10 low-reach and 10 high-reach counties are scattered across greater Minnesota.

Reach of education programs

- About 38 percent of kindergartners received developmental screenings at age 3 by the Early Childhood Screening Program in 2016. The reach ranges from 21 percent in Hubbard County to about 75 percent in Big Stone, Douglas, Murray, and Red Lake counties. In the metro area, Hennepin (29%) and Ramsey (23%) counties have low reach levels.
- Statewide, about 28 percent of eligible children under age 6 living in poverty are served by Head Start and Early Head Start. The coverage ranges from 11 percent or below in Carver and Washington counties in the metro area and Fillmore, Isanti, Rock, St. Louis,

and Sibley counties in greater Minnesota to 80 percent or higher in Big Stone, Hubbard, Lac qui Parle, Marshall, Pennington, and Roseau counties.

- In 2017, 7 percent of all children under age 5 were served by early intervention and early childhood special education services, up from 4 percent in 2014, ranging from 1 to 14 percent of children per county.
- We added three early education programs in this report. In 2016-17, Early Childhood Family Education (ECFE) served about 5 percent of children under age 5; the School Readiness Program served 14-15 percent of children age 3 and 4; and Voluntary Pre-kindergarten served about 5 percent of 4-year olds.

Emerging indicators

The 2018 Risk, Reach, and Resilience report also provides data at the state level, as available, and research information on how the following emerging risk, reach, and resilience indicators affect child development. It includes the rationale for adding three indicators of resilience.

The emerging indicators are:

- **Risk:** Maternal depression, substance use by parents and related fetal and early childhood health issues, parental incarceration, housing cost burden and homelessness, food insecurity
- **Reach:** Dental and oral health check-ups, mental health consultation to child care programs, early learning scholarships
- **Resilience:** Positive social and instrumental support, healthy attachment relationships, father involvement

Conclusions and implications

Nearly 217,500 children in Minnesota live in moderate-to-high or high-risk counties, representing 51 percent of all children under age 6 with potential risks to healthy development, up from 46 percent in 2015.

Eight of the 11 high-risk counties are also high risk for children living in poverty, and 5 of the 11 have high proportions of American Indian children, who tend to experience more inequities in access to services and in well-being.

The reach of publicly funded early childhood programs in Minnesota varies by county and ranges overall from about 5 percent to about 60 percent of eligible children. In some counties, the greater availability of services may contribute to a lower risk level; in other counties, a greater level of services may have resulted from efforts to target the higher risk levels that are present in the county.

Throughout Minnesota, developmental risk levels are likely to rise without concerted efforts to rectify income inequality and racial inequities and to improve the reach of early childhood health, family support, and education programs.

Although every early childhood risk factor is a concern, no single risk factor determines a child's developmental trajectory. Development is probabilistic, not deterministic. Nevertheless, cumulative risk has been found to be the most predictive of adverse outcomes in childhood and across the lifespan. Models of child development and concepts of vulnerability and resilience suggest that child development is a process of continuous, dynamic, and bidirectional interactions between the child and his or her environment, including relationships within families, culture, and social systems. Importantly, each of these models emphasizes the importance of stable and nurturing early relationships in the developmental process. Supporting and restoring fundamental adaptive relationships and systems for human development are top priorities for promoting competence and resilience in young children and their families. These theories imply that the opportunities for intervention are as numerous as the consequences of cumulative risk. There is no threshold at which intervention is futile.[1-7]

Finally, this report is a useful tool to describe and compare indicators of early childhood development at the county level. This version, updated from 2015, adds data on three early education reach indicators and research-based rationale for adding other indicators of developmental risk and resilience. Despite its contributions, incomplete data and a lack of comprehensive, cross-agency, integrated early childhood data management systems leave many questions unanswered about access to services, cumulative early childhood risks, and the relationship between risk and reach over time. Moreover, data on child and family strengths and resilience would provide a more complete picture of early child development in Minnesota. We hope that this and other reports encourage integrative data collection on the range of early childhood experiences as well as services and community supports that promote resilience.

INTRODUCTION

Minnesota Early Childhood Risk, Reach, and Resilience

Introduction

Minnesota has about 423,100 children age 5 and younger, about 13,000 fewer than in 2015. This report describes the potential risks to their healthy development and the extent of coverage of publicly-funded services to meet their early learning, health, and basic needs. The report was produced by a partnership of Wilder Research, Institute of Child Development at the University of Minnesota, and the Minnesota Departments of Education (MDE), Health (MDH), and Human Services (DHS), supported by a grant from the Irving Harris Foundation to the University of Minnesota. It updates a 2015 version of this report, which was inspired by a similar report for Louisiana published in 2012, co-sponsored by Tulane University and Louisiana State University and led by Geoffrey Nagle.[8]

Purpose

The report is intended to provide useful county-level information about the development of young children in Minnesota to counties, agencies, and other stakeholders so that they can strategically work together for the benefit of children and families. By identifying and comparing indicators of risk and access to services to support children and families at risk county by county, the report also intends to highlight regions of greatest need and opportunities for collaboration and integration of services across departments and geographic areas.

Background and context

The research across domains is clear. The physical, social, and economic health and well-being of adults are strongly influenced by experiences in early childhood that form the foundation for the development of effective cognitive and social skills. Children who experience adverse events or prolonged toxic stress associated with poverty, child abuse and neglect, and other negative life events, as well as those with developmental delays, often require interventions to build the foundational skills necessary to reach their potential and to become productive citizens. The most cost-efficient time to assure the healthy development of all young children, to break the cycle of disadvantage for vulnerable children, and to prevent educational and health inequities is in the very early stages of development.[9-12]

In Minnesota, most information on the experiences of young children has been reported only at the statewide level. Disparities based on geography, income, and race/ethnicity are noted when data are available, but data have usually been limited or dichotomized, for example, comparing the Twin Cities metro area to the rest of Minnesota and comparing families at or below federal poverty level incomes to those with incomes above the poverty level. Recent examples include the following:

In 2009, Wilder Research and the Project for Babies produced *Babies in Minnesota*, which provided a snapshot of how young children and their parents in Minnesota were faring, presenting indicators and trends with regard to births, newborns, infants, and toddlers as well as family strengths and stressors. The report found that most of the 286,580 children age 3 and younger in Minnesota were healthy, but a sizeable number (at least 15-20%) were vulnerable, as evidenced by inequities in access to services and in well-being. Moreover, young children of color were among the most vulnerable. The report also noted that incomplete data and the lack of an integrated early childhood data system left many questions unanswered about the well-being of children and access to needed services.[13]

In 2011, MDH released the findings from a first ever statewide survey regarding adverse or traumatic childhood experiences (ACEs), which have been linked to poor physical and mental health and chronic disease in adulthood. Adult survey respondents were asked to recall if they had experienced nine types of adversity before the age of 18. More than half (55%) had one or more adverse childhood experience, with adversity more common among those adults who did not graduate from high school, who were unmarried, or who were unemployed. The most common ACEs were verbal abuse (28%), alcoholic or substance-abusing parent (24%), mental illness (17%), and physical abuse (16%).[14]

In 2011, Wilder Research prepared the *School Readiness Report Card* for the Minnesota Early Childhood Advisory Council with many of the same indicators as this report but only at the state level. The *Report Card* noted that nearly one in five children under age 6 in Minnesota lived in poverty, and 61 percent of children under age 6 living in poverty were children of color (particularly American Indian and black children), who also suffered multiple inequities in health, social well-being, education, and access to resources.[15]

An April 2015 report from Minnesota DHS provides insights into the living conditions of Minnesota children living in poverty. *How prevalent are family risk factors among Minnesota children who receive Medical Assistance or MinnesotaCare?* uses administrative data to describe parent, family, and environmental risk factors (not child-level factors) experienced by children enrolled in Minnesota Health Care Programs. The risk factors were selected because they are associated with negative health outcomes. For example, about 13 percent of the nearly 400,000 children age 17 and younger have a parent with a diagnosed serious mental illness, 10 percent have a parent with a chemical health diagnosis, and a third live in areas of concentrated poverty. Three-quarters receive food stamps.[16]

An April 2018 report by the Minnesota Office of the Legislative Auditor (OLA) evaluates nine early childhood programs, including three programs in this report -- Early Childhood Health and Development Screening, Family Home Visiting, and Head Start and Early Head Start. The OLA concluded that early childhood programs in Minnesota are fragmented, due in part to variation in their eligibility criteria and funding streams, which may lower access and reach of needed services. The OLA also noted that lack of data integration as well as missing and incomplete data inhibit analysis of participation and assessment of effectiveness across programs.[17]

This report updates the 2015 *Minnesota Early Childhood Risk and Reach* report, describing indicators of early childhood development county by county. Differences and disparities by income and race/ethnicity, which have been highlighted in other reports, however, are not routinely available at the county level and are not featured in this report.

Reporting information on the experiences of young children at the county level in Minnesota is useful because our state is one of nine states that deliver services through a "state-supervised and county-administered" system. That is, state agencies set the rules, distribute state and federal funds through competitive or formula grants, and monitor county performance. The 87 Minnesota counties are responsible for delivering social services, public health, and other services. Counties also raise additional revenue through property taxes, sales taxes, and fees. In counties with low property values, high levels of poverty, and limited economic activity, less revenue is available for service delivery, which contributes to uneven availability of programs and services across the state.

Methodology

Risk indicators

The 12 risk indicators included in this report measure several dimensions of the potential risk to the well-being and quality of life for young children. The selected economic, family stability, and health indicators, chosen in consultation with the advisory committee for this report, are publicly available at the county level and updated annually. The full list is on page 15. Specific notes on individual indicators, including reasons each was chosen, are included in their respective sections.

Each risk indicator is presented as a standardized measure to allow county-by-county comparisons. For example, counties are not compared on the number of children living in poverty; instead they are compared based on the rate of poverty among children. County-specific data are provided in the accompanying tables, along with national and state averages when available. The specific sources for each indicator are noted in each section. Some data were not available for certain counties, as noted in the tables by an asterisk.

We have also developed maps showing a "risk level" based on each of these indicators. Level of risk is based on a comparison of counties within Minnesota only. For every indicator, each county was assigned to one of four risk categories, based on comparisons to the statewide average of all the counties. These comparisons were based on z-scores, which represent the number of standard deviations that an individual county-level indicator falls above or below the statewide average. Risk category assignments were made as follows:

- Low risk: z-score of less than -1: (more than 1 standard deviation below the mean)
- Low to moderate risk: z-score of -1 or more and less than 0 (less than 1 standard deviation below the mean)
- Moderate to high risk: z-score of 0 to less than 1 (less than 1 standard deviation above the mean)
- High risk: z-score of 1 or higher (more than 1 standard deviation above the mean)

Composite risk

Finally, a composite or overall risk score for each county combines information on all of the risk indicators. (Three counties lacking data on four or more risk indicators are excluded). To derive the overall composite risk, the z-scores for all individual risk indicators were summed for each county, the average and standard deviation calculated across counties, and a new z-score assigned to each county. Based on the overall composite score, counties were assigned to one of the four overall risk categories. Counties averaging at least one standard deviation above the mean on all indicators were assigned to the high-risk category, and those averaging at least one standard deviation below the statewide average were assigned to the low risk category.

Reach indicators

Indicators of reach measure the proportion of eligible or potentially eligible children served by eight publicly funded programs in Minnesota. Data for the reach indicators were provided by the Minnesota Departments of Education, Health, and Human Services. The full list of programs is on page 56. Specific notes on each indicator, including the benefits and eligibility of each program, and the details of how we calculated the extent of each reach indicator, are included in their respective sections.

Similar to the risk indicators, each county was assigned to one of four reach categories, based on comparisons to the statewide average of all the counties for every reach indicator. In addition to being reported in tables, the reach indicators are also mapped onto the composite risk score map to provide readers with a sense of each program's coverage in relation to the overall level of risk or need.

Limitations

Risk and reach categories of low and high are relative to the average levels of all the counties. Consequently, being at low risk may still pose challenges to many children and families. Similarly, high reach may still be insufficient to meet needs of many children and families.

Risk and reach indicators are limited to data available at the county level. The lack of a comprehensive and integrated statewide data system and standards for data collection and reporting limits the reporting to individual risk and program indicators and our ability to assess cumulative risk and the comprehensiveness of service reach.

Calculating the number of children eligible to receive services (the denominators in the reach equations) is challenging because program eligibility requirements vary and are usually based on different levels of household income as well as other factors of need and circumstances. In addition, county populations and income levels are based on multi-year samples. The results, while inexact, are still useful for comparisons across counties.

The data provided by the state agencies are not always inclusive of all services or all populations served. For example, the Minnesota Family Investment Program does not include extended cases with caregivers with mental illness, developmental disabilities, and chemical health issues; the screening data are limited to education services and do not include developmental screening by health care providers. Tribal data, moreover, are not always included within state agency data.

Finally, data are not routinely collected or available at the county level regarding potential protective factors for children, such as the extent to which they have secure attachment and nurturing relationships within their families.

New and emerging indicators in this report

This 2018 report adds new data on three early education programs: Early Childhood Family Education (ECFE), the School Readiness Program, and Voluntary Pre-Kindergarten.

This report also provides limited available data and background research on how these emerging risk, reach, and resilience indicators affect child development:

- **Risk:** Maternal depression, housing cost burden and homelessness, substance use by parents and related fetal and early childhood health issues, parental incarceration, food insecurity
- **Reach:** Dental and oral health check-ups, mental health consultation to child care programs, and early learning scholarships
- **Resilience:** Positive social and instrumental support, healthy attachment relationships, father involvement

Future reports

Although this report added data on three early education reach indicators and some rationale for adding data when available on indicators of developmental risk and resilience, data are still not available at the county level on desired new indicators to better inform policy and practice in Minnesota counties. Examples include improved data on child mobility, the social and mental health needs of parents and families, access to social and economic supports and combinations of services, father involvement in child well-being, and family strengths and assets. Report partners continue to aspire that future reports address racial/ethnic disparities, highlight school district boundaries or sub-regions within counties, and focus on prenatal to age 3 experiences that provide the foundation for development.

RISK INDICATORS

Minnesota Early Childhood Risk, Reach, and Resilience

Risk indicators

In the pages that follow you will find a description, map, and table for 12 indicators of risk for Minnesota's youngest children. These risks are grouped into three categories:

Economic risks

- Births to mothers with less than a high school degree
- Children under age 6 with no parent in the workforce
- Children under age 6 living in poverty

Health risks

- Teen birth rate
- Inadequate prenatal care
- Low-weight births
- Infant mortality rate
- Children under age 6 without health care coverage
- Lack of immunizations

Family stability risks

- Child mobility
- Maltreatment reports filed
- Children under age 6 in foster care

This section concludes with a composite risk score that consolidates the various risk factors and helps to contextualize the reach factors, which are shown in the next section of the report.

Economic risk indicators

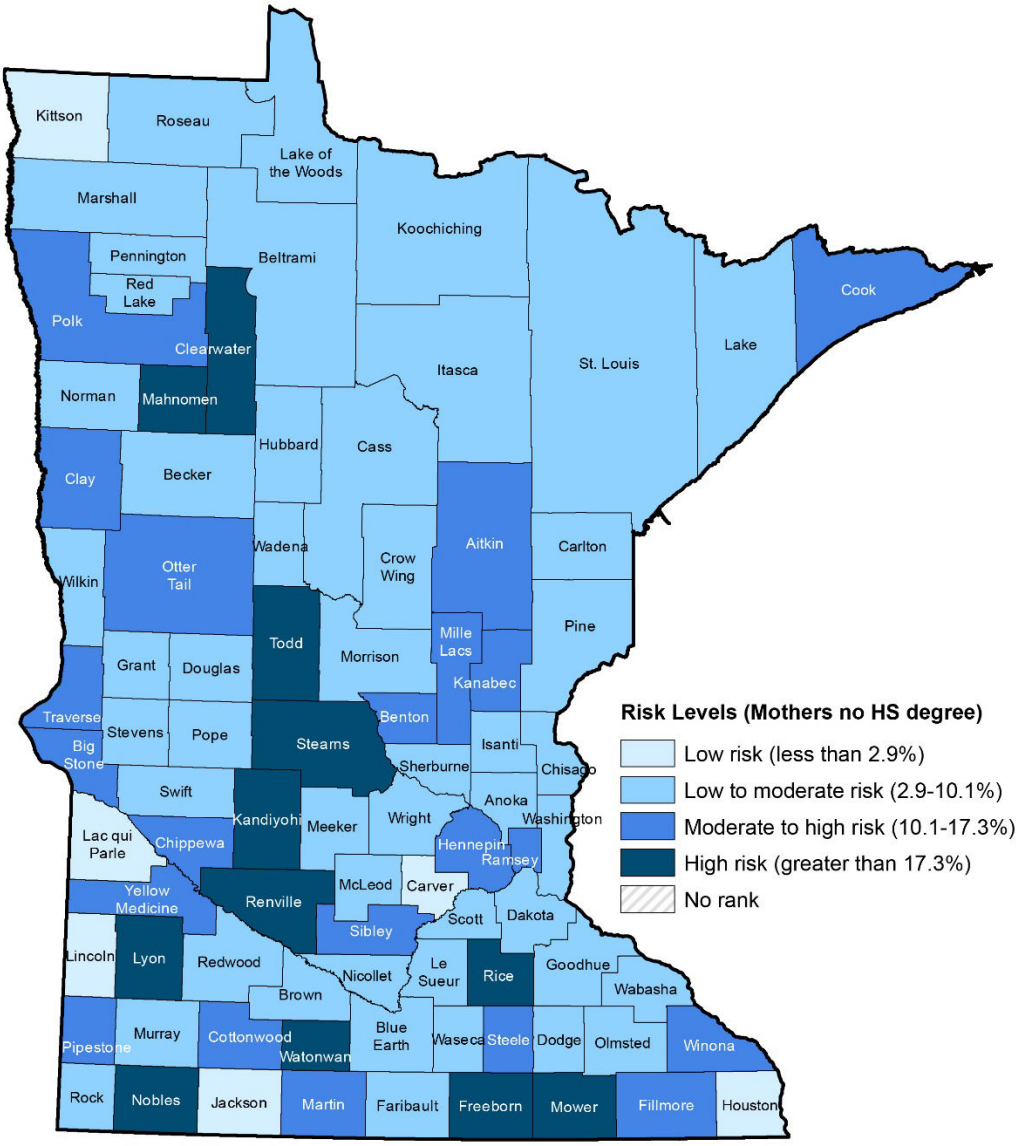
Births to mothers with less than a high school degree

Maternal education is one of the strongest predictors of disparities in child health, behavioral, and cognitive outcomes in the first two years of life. Children of mothers with more education are more likely to be up to date on their immunizations, and greater maternal education is associated with lower infant mortality. Mothers with less than a high school degree often experience financial strain, which can affect their mental health, level of stress, and parenting quality. These factors have been linked to child behavior problems and lower performance on standardized tests related to school readiness.[18-23]

In 2016, 10.5 percent of all births in the state were to mothers with less than a high school degree, up from nearly 8 percent in 2012.

Twelve Minnesota counties (three more than in 2012) fall in the high-risk category on this indicator, all of which are located in greater Minnesota. Mahnomen County, located in the northwest part of the state, has the highest share of babies born to mothers with less than a high school degree (27%), and Lac Qui Parle County has the lowest share (0%). Six counties fall in the low risk category on this measure.

1a. Births to mothers with less than a high school degree, mapped by county (2016)



Source. Wilder Research analysis of data from Minnesota Department of Health.

1b. Births to mothers with less than a high school degree, by county (2016)

	%	Risk level		%	Risk level		%	Risk level
			Hubbard	7.4	2	Pipestone	16.9	3
Minnesota	**10.5**	**—**	Isanti	5.0	2	Polk	11.9	3
Aitkin	10.7	3	Itasca	6.9	2	Pope	5.9	2
Anoka	7.6	2	Jackson	1.8	1	Ramsey	15.1	3
Becker	10.0	2	Kanabec	13.9	3	Red Lake	4.9	2
Beltrami	9.1	2	Kandiyohi	26.1	4	Redwood	9.3	2
Benton	10.1	3	Kittson	0.0	1	Renville	18.0	4
Big Stone	16.7	3	Koochiching	5.0	2	Rice	19.1	4
Blue Earth	7.3	2	Lac Qui Parle	0.0	1	Rock	3.5	2
Brown	6.1	2	Lake	5.1	2	Roseau	6.1	2
Carlton	6.1	2	Lake of the Woods	4.8	2	St. Louis	8.6	2
Carver	2.7	1	Le Sueur	9.5	2	Scott	6.2	2
Cass	8.0	2	Lincoln	1.5	1	Sherburne	5.7	2
Chippewa	12.4	3	Lyon	18.2	4	Sibley	13.3	3
Chisago	5.7	2	McLeod	8.1	2	Stearns	17.3	4
Clay	10.7	3	Mahnomen	27.0	4	Steele	11.4	3
Clearwater	17.7	4	Marshall	4.7	2	Stevens	5.0	2
Cook	10.6	3	Martin	12.4	3	Swift	5.5	2
Cottonwood	14.4	3	Meeker	6.5	2	Todd	21.0	4
Crow Wing	7.8	2	Mille Lacs	15.8	3	Traverse	12.1	3
Dakota	7.1	2	Morrison	6.9	2	Wabasha	8.2	2
Dodge	6.0	2	Mower	23.6	4	Wadena	6.5	2
Douglas	4.8	2	Murray	4.9	2	Waseca	9.0	2
Faribault	9.3	2	Nicollet	7.1	2	Washington	3.2	2
Fillmore	16.0	3	Nobles	50.0	4	Watonwan	22.6	4
Freeborn	18.6	4	Norman	8.2	2	Wilkin	4.6	2
Goodhue	7.7	2	Olmsted	8.2	2	Winona	11.8	3
Grant	8.3	2	Otter Tail	12.6	3	Wright	3.0	2
Hennepin	12.2	3	Pennington	5.4	2	Yellow Medicine	10.8	3
Houston	0.5	1	Pine	8.7	2			

Source. Wilder Research analysis of data from Minnesota Department of Health.

Note. Level 1 = low risk (less than 2.9%), level 2 = low to moderate risk (2.9% - 10.1%), level 3 = moderate to high risk (10.1% - 17.3%), level 4 = high risk (greater than 17.3%). Some counties may display identical values but different risk levels due to rounding.

Children under age 6 with no parent in the labor force

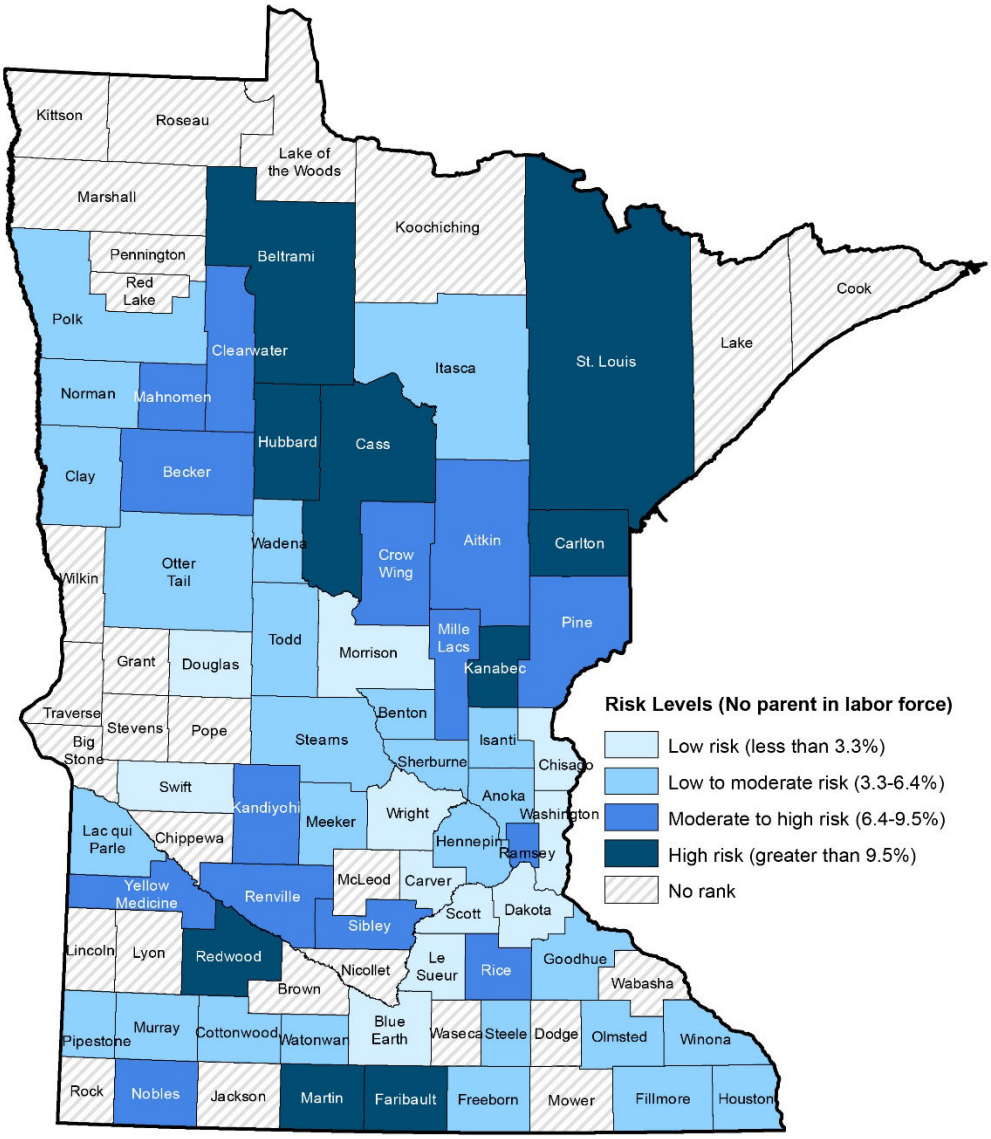
Parental unemployment is associated with stress, anxiety, and depression in the unemployed adult, which can lead to an increase in family stress and contribute to a host of negative outcomes for children, including low birth weight, child abuse, low academic achievement, and behavior problems. Further, families with no working parent are much more likely to live in poverty, which in itself poses a risk, particularly for young children.[24-28]

Minnesota generally has a high level of workforce participation, and Minnesota's parents are no exception. Statewide, the proportion of all children under age 6 without a working parent is 5.4 percent, well below the national rate of 9.2 percent.

Nine counties fall in the high-risk category, including Hubbard County, located in the north-central part of the state, which has the highest share of children living with no working parent (14.5%). Carver County has the lowest share (1.5%). Data for 27 out of 87 counties were not reported due to large margins of error.

This indicator differs from the 2015 report, which reported rates for children under age 18 because data were not available in the census for younger age groupings.

2a. Children under age 6 with no parent in the labor force, mapped by county (2012-2016)



Source. Wilder Research analysis of data from U.S. Census Bureau, American Community Survey, 2012-2016.
Note. Reliable data were not available for counties categorized as "no rank."

2b. Children under age 6 with no parent in the labor force, by county (2012-2016)

	%	Risk level		%	Risk level		%	Risk level
U.S.	**9.2**	—	Hubbard	14.5	4	Pipestone	5.8	2
Minnesota	**5.4**	—	Isanti	4.5	2	Polk	5.5	2
Aitkin	7.5	3	Itasca	5.0	2	Pope	*	*
Anoka	4.8	2	Jackson	*	*	Ramsey	7.2	3
Becker	6.7	3	Kanabec	13.8	4	Red Lake	*	*
Beltrami	11.5	4	Kandiyohi	8.5	3	Redwood	11.7	4
Benton	6.2	2	Kittson	*	*	Renville	8.4	3
Big Stone	*	*	Koochiching	*	*	Rice	7.5	3
Blue Earth	2.9	1	Lac qui Parle	3.8	2	Rock	*	*
Brown	*	*	Lake	*	*	Roseau	*	*
Carlton	13.1	4	Lake of the Woods	*	*	St. Louis	10.0	4
Carver	1.5	1	Le Sueur	2.8	1	Scott	2.9	1
Cass	11.3	4	Lincoln	*	*	Sherburne	5.5	2
Chippewa	*	*	Lyon	*	*	Sibley	6.9	3
Chisago	2.6	1	McLeod	*	*	Stearns	5.2	2
Clay	4.2	2	Mahnomen	8.9	3	Steele	5.8	2
Clearwater	7.2	3	Marshall	*	*	Stevens	*	*
Cook	*	*	Martin	11.4	4	Swift	3.2	1
Cottonwood	6.0	2	Meeker	4.5	2	Todd	5.5	2
Crow Wing	8.7	3	Mille Lacs	7.3	3	Traverse	*	*
Dakota	3.2	1	Morrison	2.3	1	Wabasha	*	*
Dodge	*	*	Mower	*	*	Wadena	5.7	2
Douglas	1.9	1	Murray	5.3	2	Waseca	*	*
Faribault	12.0	4	Nicollet	*	*	Washington	2.8	1
Fillmore	3.6	2	Nobles	8.2	3	Watonwan	5.7	2
Freeborn	6.3	2	Norman	5.4	2	Wilkin	*	*
Goodhue	5.5	2	Olmsted	4.8	2	Winona	4.8	2
Grant	*	*	Otter Tail	5.5	2	Wright	2.4	1
Hennepin	5.8	2	Pennington	*	*	Yellow Medicine	8.5	3
Houston	5.5	2	Pine	7.5	3			

Source. Wilder Research analysis of data from U.S. Census Bureau, American Community Survey, 2012-2016.

Note. Starred counties (*) are suppressed due to high margins of error. Level 1 = low risk (less than 3.3%), level 2 = low to moderate risk (3.3% - 6.4%), level 3 = moderate to high risk (6.4% - 9.5%), level 4 = high risk (greater than 9.5%). Some counties may display identical values but different risk levels due to rounding.

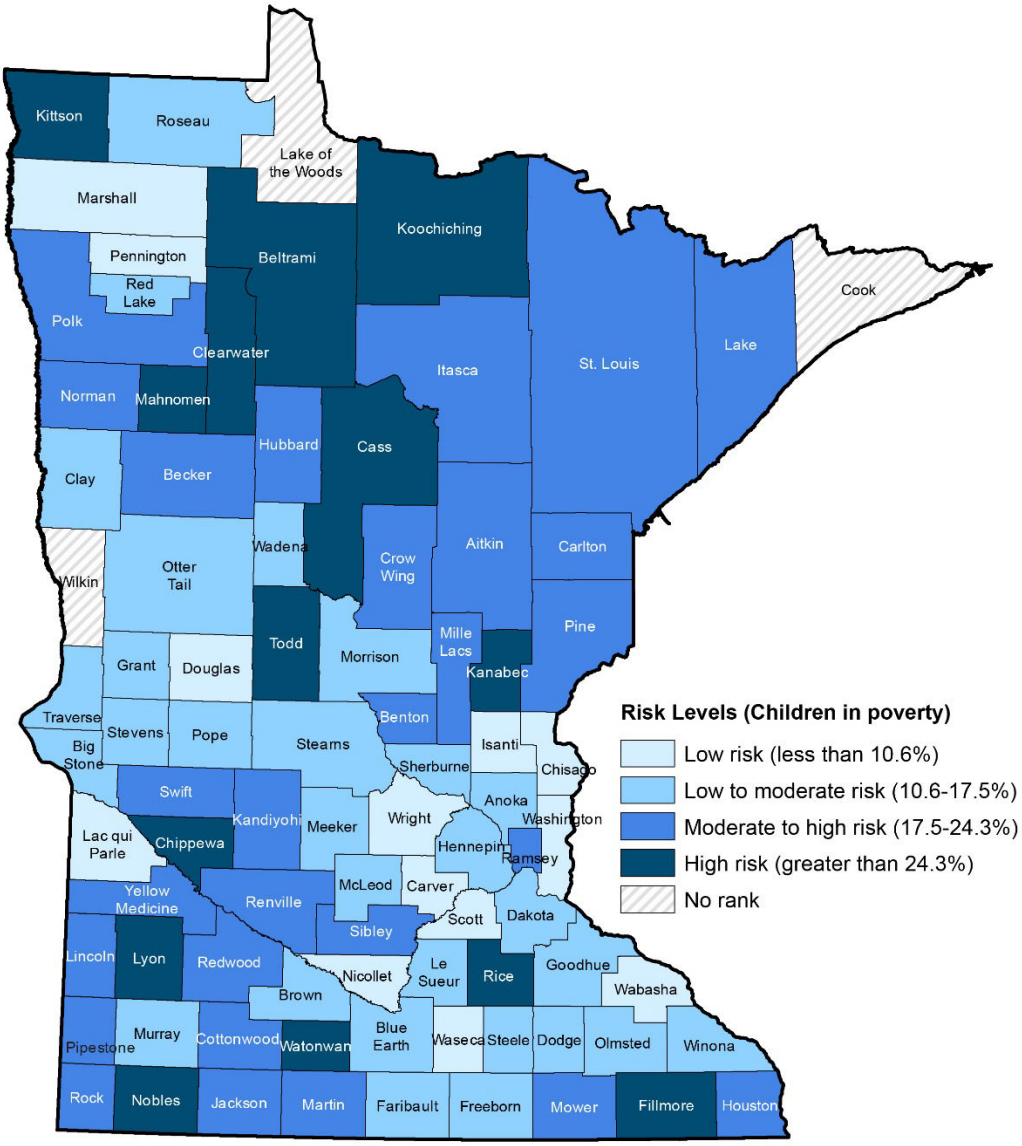
Children under age 6 living in poverty

Poverty can have profound and enduring effects across nearly all domains of children's well-being. Poverty early in life has been associated with poorer outcomes in early language and cognitive development, as well as later academic achievement and educational attainment. The stressors associated with living in impoverished conditions can affect children's emotional, mental, behavioral, and physical health through chronic physiological stress responses. Children who are raised in poverty are more likely to remain in poverty in adulthood. The effects of poverty on parental mental health and stress also are associated with negative impacts on children. Finally, income is almost as strongly related to achievement in childhood as parental education.[29-31]

About one in six young children in Minnesota is living in poverty. In 2016, the federal poverty level was about $20,000 for a family of three and about $24,000 for a family of four.

The poverty rates among children in the 14 high-risk counties exceed the national rate of about one in four children. In two of those counties, one in every three children lives in poverty. These high-risk counties are spread throughout the state. On the other hand, thirteen counties fall in the low-risk category for this indicator, each of which has an early childhood poverty rate of about one in ten (11%) or less.

3a. Children under age 6 living in poverty, mapped by county (2012-2016)



Source. Wilder Research analysis of data from U.S. Census Bureau, American Community Survey, 2012-2016.
Note. Reliable data were not available for counties categorized as "no rank."

3b. Children under age 6 living in poverty, by county (2012-2016)

	%	Risk level		%	Risk level		%	Risk level
U.S.	**23.5**	**—**	Hubbard	23.0	3	Pipestone	22.9	3
Minnesota	**15.7**	**—**	Isanti	8.2	1	Polk	19.7	3
Aitkin	18.7	3	Itasca	19.7	3	Pope	15.5	2
Anoka	10.7	2	Jackson	17.6	3	Ramsey	23.1	3
Becker	24.1	3	Kanabec	30.1	4	Red Lake	12.1	2
Beltrami	30.4	4	Kandiyohi	20.4	3	Redwood	23.4	3
Benton	23.9	3	Kittson	25.1	4	Renville	19.4	3
Big Stone	14.8	2	Koochiching	29.2	4	Rice	24.7	4
Blue Earth	13.0	2	Lac qui Parle	10.4	1	Rock	21.5	3
Brown	12.9	2	Lake	17.9	3	Roseau	14.7	2
Carlton	20.9	3	Lake of the Woods	*	*	St. Louis	20.8	3
Carver	3.5	1	Le Sueur	11.4	2	Scott	7.0	1
Cass	31.9	4	Lincoln	19.5	3	Sherburne	11.3	2
Chippewa	24.8	4	Lyon	27.1	4	Sibley	22.3	3
Chisago	6.0	1	McLeod	15.3	2	Stearns	17.4	2
Clay	13.5	2	Mahnomen	38.6	4	Steele	15.2	2
Clearwater	24.9	4	Marshall	4.7	1	Stevens	11.8	2
Cook	*	*	Martin	23.1	3	Swift	18.9	3
Cottonwood	22.4	3	Meeker	11.8	2	Todd	26.5	4
Crow Wing	19.4	3	Mille Lacs	19.2	3	Traverse	12.5	2
Dakota	11.5	2	Morrison	14.0	2	Wabasha	7.8	1
Dodge	11.2	2	Mower	19.0	3	Wadena	16.4	2
Douglas	10.4	1	Murray	13.7	2	Waseca	9.1	1
Faribault	15.4	2	Nicollet	10.1	1	Washington	6.7	1
Fillmore	28.0	4	Nobles	26.1	4	Watonwan	24.7	4
Freeborn	15.9	2	Norman	18.3	3	Wilkin	*	*
Goodhue	12.7	2	Olmsted	11.9	2	Winona	13.6	2
Grant	16.4	2	Otter Tail	13.5	2	Wright	9.2	1
Hennepin	16.8	2	Pennington	10.5	1	Yellow Medicine	18.2	3
Houston	19.9	3	Pine	19.0	3			

Source. Wilder Research analysis of data from U.S. Census Bureau, American Community Survey, 2012-2016.

Note. Starred counties (*) are not reported due to high margins of error. Level 1 = low risk (less than 10.6%), level 2 = low to moderate risk (10.6% - 17.5%), level 3 = moderate to high risk (17.5% - 24.3%), level 4 = high risk (greater than 24.3%). Some counties may display identical values but different risk levels due to rounding.

Health risk indicators

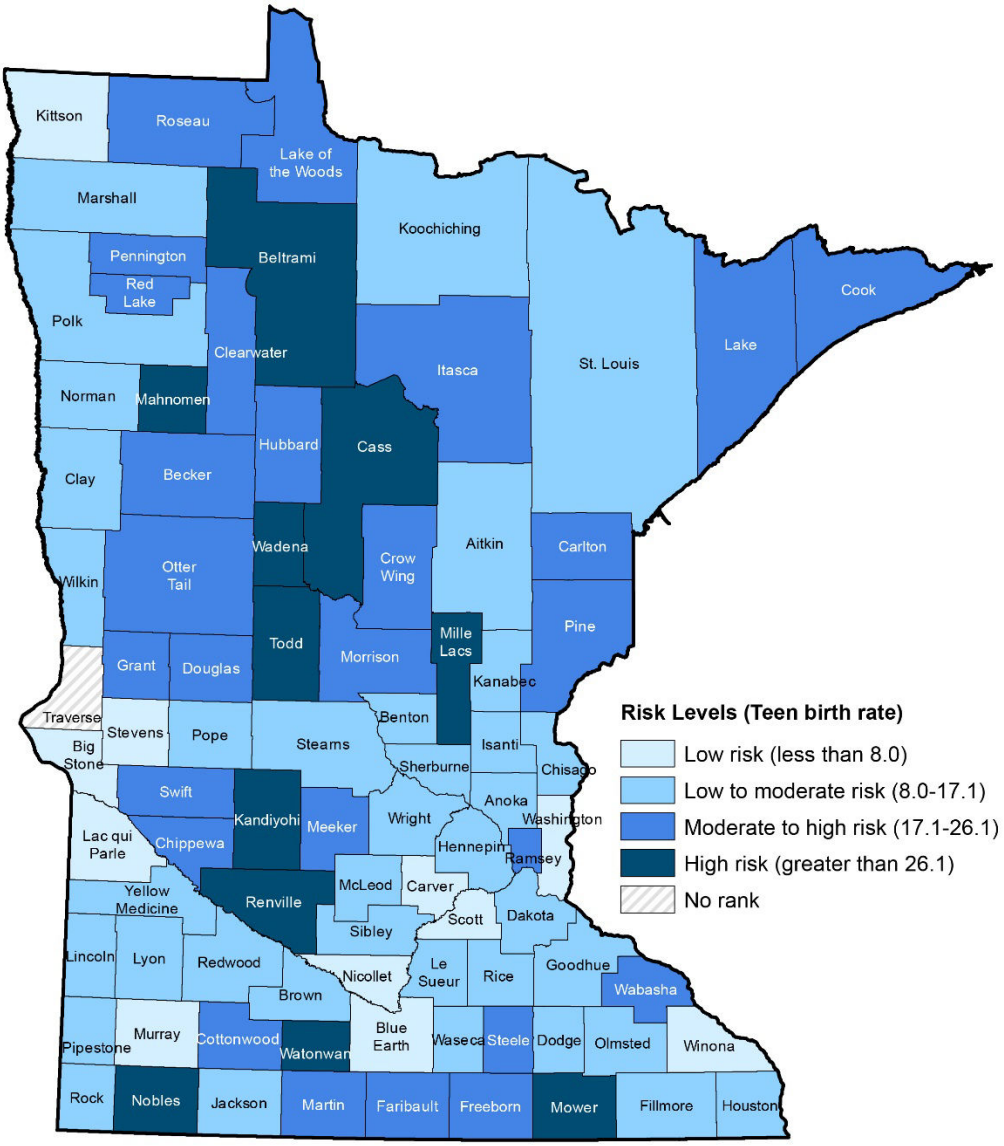
Teen birth rate

Parenting during the teenage years can have adverse effects for both parent and child. Because teen mothers' educational and career opportunities are often hindered by the need to care for a child, they are 40 percent less likely to obtain a high school diploma by age 22. Children of teen mothers are more likely to experience poor outcomes in areas such as academic achievement and behavioral problems such as inattention and hyperactivity. Such early adjustment problems, in turn, have been associated with intergenerational patterns of risk, including school dropout, unemployment, and early parenthood. These children of teen parents also experience higher rates of morbidity and mortality in childhood.[32-36]

At 14 births per every 1,000 girls age 15 through 19 in Minnesota, the state's teen birth rate has dropped by 6 births per 1,000 since 2010-12. Both the state and the nation have seen improvement on this measure.

Of the eleven high-risk counties on this measure, the highest rates are in Mahnomen (59 per 1,000 female teens), Watonwan (44), Nobles (38), and Cass (34) counties. Mahnomen's rate was 96 per 1,000 in 2010-12.

4a. Teen birth rate (per 1,000 females age 15-19), mapped by county (2014-2016)



Source. Wilder Research analysis of data from the Minnesota Department of Health.
Notes. Teen birth rate is the number of live births per 1,000 females age 15-19. The Minnesota Department of Health does not provide rates for counties with fewer than 20 events.

4b. Teen birth rate (per 1,000 females age 15-19), by county (2014-2016)

	Rate	Risk level		Rate	Risk level		Rate	Risk level
			Hubbard	20.8	3	Pipestone	16.6	2
Minnesota	**13.9**	**—**	Isanti	12.0	2	Polk	16.5	2
Aitkin	9.8	2	Itasca	21.6	3	Pope	16.1	2
Anoka	11.1	2	Jackson	13.1	2	Ramsey	19.2	3
Becker	17.7	3	Kanabec	16.7	2	Red Lake	17.5	3
Beltrami	31.3	4	Kandiyohi	27.9	4	Redwood	10.0	2
Benton	11.6	2	Kittson	6.8	1	Renville	28.1	4
Big Stone	5.3	1	Koochiching	13.5	2	Rice	10.1	2
Blue Earth	7.1	1	Lac Qui Parle	7.1	1	Rock	12.7	2
Brown	15.3	2	Lake	25.7	3	Roseau	18.4	3
Carlton	19.3	3	Lake of the Woods	23.0	3	St. Louis	13.8	2
Carver	4.5	1	Le Sueur	12.3	2	Scott	7.0	1
Cass	33.7	4	Lincoln	10.3	2	Sherburne	10.0	2
Chippewa	25.9	3	Lyon	15.5	2	Sibley	12.6	2
Chisago	12.2	2	McLeod	15.0	2	Stearns	10.4	2
Clay	9.8	2	Mahnomen	59.2	4	Steele	23.8	3
Clearwater	23.4	3	Marshall	10.7	2	Stevens	5.8	1
Cook	17.5	3	Martin	18.7	3	Swift	17.3	3
Cottonwood	19.2	3	Meeker	20.1	3	Todd	26.3	4
Crow Wing	23.9	3	Mille Lacs	27.4	4	Traverse	*	*
Dakota	9.9	2	Morrison	17.1	3	Wabasha	17.1	3
Dodge	12.1	2	Mower	26.6	4	Wadena	30.8	4
Douglas	17.5	3	Murray	2.7	1	Waseca	12.9	2
Faribault	17.3	3	Nicollet	7.6	1	Washington	7.2	1
Fillmore	12.2	2	Nobles	38.4	4	Watonwan	44.2	4
Freeborn	24.1	3	Norman	16.7	2	Wilkin	9.4	2
Goodhue	16.1	2	Olmsted	13.1	2	Winona	7.7	1
Grant	18.8	3	Otter Tail	18.4	3	Wright	10.0	2
Hennepin	14.1	2	Pennington	26.0	3	Yellow Medicine	16.8	2
Houston	11.1	2	Pine	25.9	3			

Source. Wilder Research analysis of data from the Minnesota Department of Health.

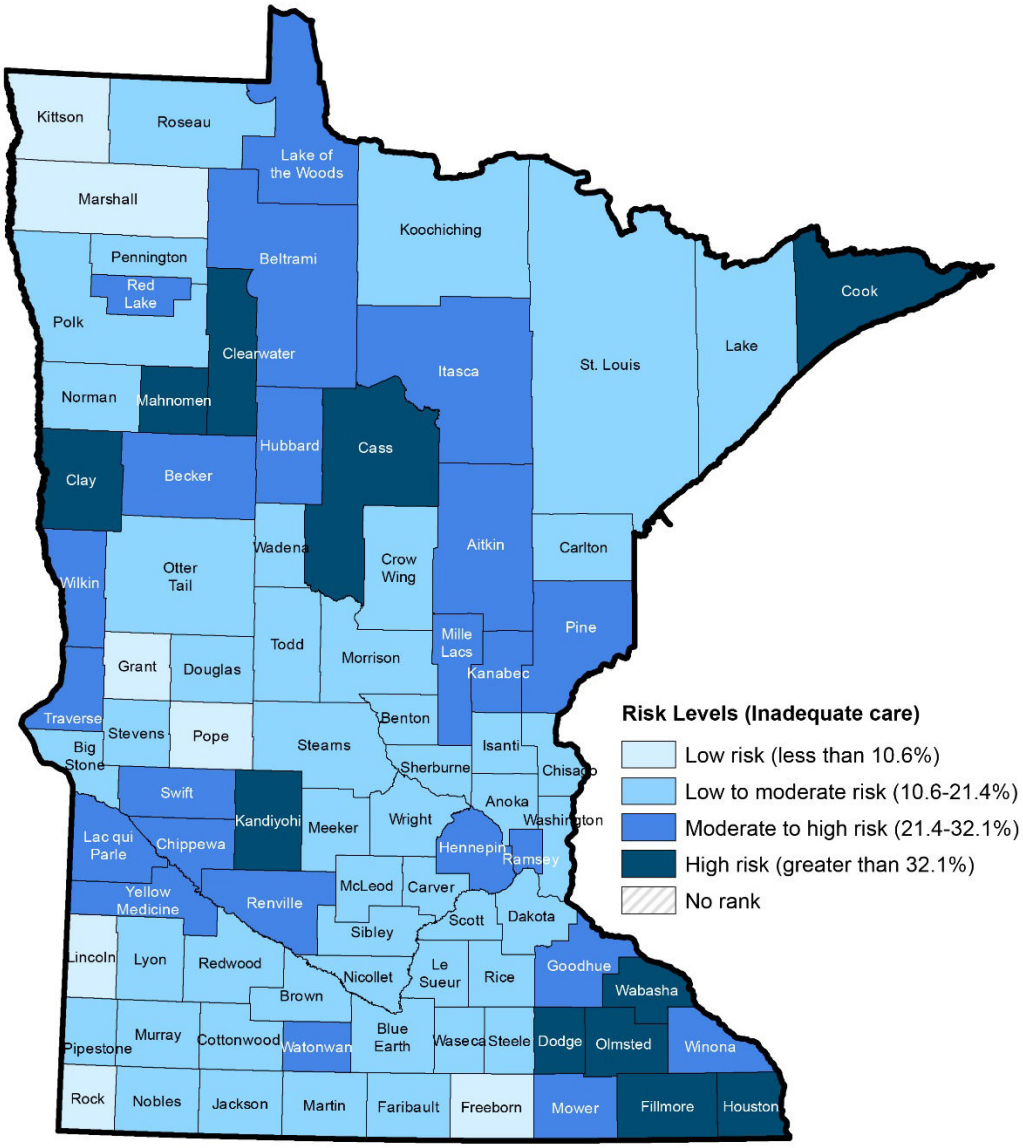
Note. Teen birth rate is the number of live births to females age 15 through 19, standardized as births per 1,000. * Data is not available for Traverse County, as the Minnesota Department of Health does not provide rates for counties with fewer than 20 events. Level 1 = low risk (less than 8.0), level 2 = low to moderate risk (8.0 – 17.1), level 3 = moderate to high risk (17.1 – 26.1), level 4 = high risk (greater than 26.1). Some counties may display identical values but different risk levels due to rounding.

Inadequate prenatal care

Prenatal care comprises a combination of preventive measures, primarily offered during ongoing appointments with a health care provider throughout pregnancy. These appointments provide an opportunity for the provider to educate the expectant mother about anything that might alter the normal development of her fetus, leading to a decrease in substance use in mothers with adequate prenatal care. Further, prenatal supervision facilitates early detection of potentially harmful complications in both mother and offspring, such as high blood pressure or fetal abnormalities. Inadequate prenatal care, therefore, poses risks for both mother and child and has been linked to increased rates of infant morbidity and mortality. Nationally, American Indian women are less likely to receive adequate prenatal care.[37-39]

In 2016, an estimated 21 percent of births in Minnesota lacked adequate prenatal care, placing those infants at higher health risk. The largest share of counties is low-to-moderate risk. The 11 high-risk counties are scattered throughout the state, including clusters in the southeast and northwest regions.

5a. Inadequate prenatal care (all births), mapped by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Health.
Note. "Inadequate" includes no or intermediate care.

5b. Inadequate prenatal care (all births), by county (2016)

	%	Risk level		%	Risk level		%	Risk level
			Hubbard	26.2	3	Pipestone	13.6	2
Minnesota	**21.4**	**—**	Isanti	17.4	2	Polk	18.5	2
Aitkin	22.7	3	Itasca	24.5	3	Pope	9.4	1
Anoka	20.8	2	Jackson	12.8	2	Ramsey	27.8	3
Becker	27.6	3	Kanabec	24.0	3	Red Lake	31.3	3
Beltrami	31.3	3	Kandiyohi	34.9	4	Redwood	19.7	2
Benton	15.3	2	Kittson	5.0	1	Renville	28.3	3
Big Stone	17.4	2	Koochiching	16.8	2	Rice	18.9	2
Blue Earth	11.2	2	Lac Qui Parle	24.1	3	Rock	7.7	1
Brown	17.8	2	Lake	16.0	2	Roseau	14.0	2
Carlton	16.2	2	Lake of the Woods	23.1	3	St. Louis	14.0	2
Carver	16.7	2	Le Sueur	17.7	2	Scott	13.0	2
Cass	32.9	4	Lincoln	3.2	1	Sherburne	18.9	2
Chippewa	26.9	3	Lyon	16.8	2	Sibley	19.8	2
Chisago	14.8	2	McLeod	14.2	2	Stearns	15.0	2
Clay	36.4	4	Mahnomen	57.8	4	Steele	12.7	2
Clearwater	33.1	4	Marshall	9.4	1	Stevens	14.1	2
Cook	58.7	4	Martin	12.5	2	Swift	25.2	3
Cottonwood	19.7	2	Meeker	21.1	2	Todd	18.3	2
Crow Wing	13.2	2	Mille Lacs	27.1	3	Traverse	24.0	3
Dakota	17.2	2	Morrison	12.3	2	Wabasha	42.0	4
Dodge	38.7	4	Mower	25.5	3	Wadena	13.9	2
Douglas	11.0	2	Murray	14.9	2	Waseca	13.7	2
Faribault	19.5	2	Nicollet	11.4	2	Washington	14.8	2
Fillmore	42.1	4	Nobles	18.0	2	Watonwan	24.2	3
Freeborn	10.1	1	Norman	11.1	2	Wilkin	28.6	3
Goodhue	29.7	3	Olmsted	49.8	4	Winona	22.3	3
Grant	9.8	1	Otter Tail	16.2	2	Wright	15.1	2
Hennepin	22.4	3	Pennington	17.3	2	Yellow Medicine	26.8	3
Houston	50.0	4	Pine	28.6	3			

Source. Wilder Research analysis of data from the Minnesota Department of Health.

Note. Inadequate prenatal care includes no or intermediate care. Level 1 = low risk (less than 10.6%), level 2 = low to moderate risk (10.6% – 21.4%), level 3 = moderate to high risk (21.4% – 32.1%), level 4 = high risk (greater than 32.1%). Some counties may display identical values but different risk levels due to rounding.

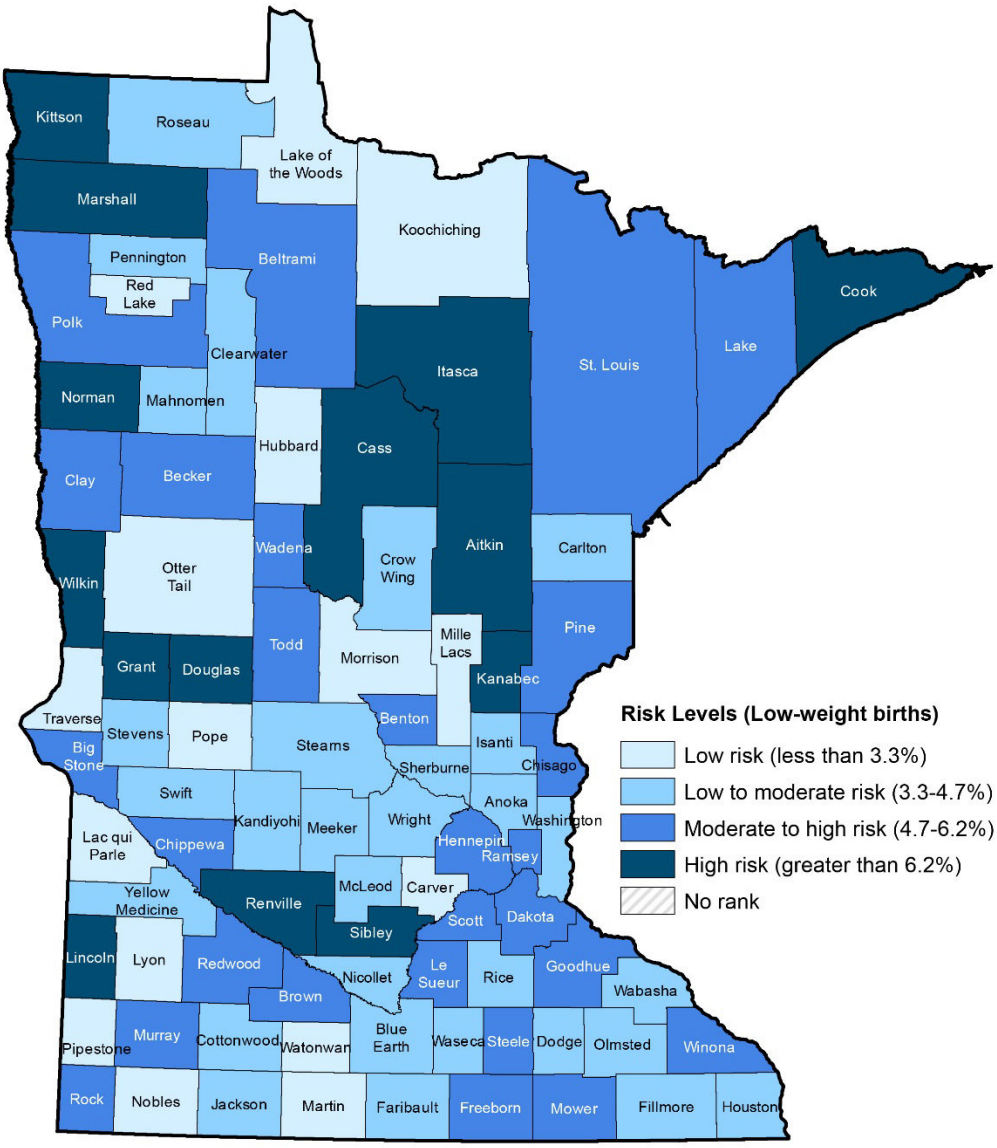
Low-weight births

Infants born weighing less than 2,500 grams (5 pounds, 5 ounces) are considered Low Birth Weight (LBW). Birth weight is an important predictor of health outcomes. In recent decades, survival rates for LBW infants have increased, but these children are still 20 times more likely to succumb to infant mortality than normal weight babies. Additionally, LBW babies are at a higher risk for negative outcomes, including medical, cognitive, and psychological problems, which may persist throughout the lifespan.[40-42]

In comparison to the nation as a whole, low-weight births are relatively rare in Minnesota. In fact, according to Minnesota Compass, Minnesota is among the 10 states with the fewest low-weight births.

Overall, 4.9 percent of Minnesota births are considered low-weight births. Fourteen counties in the high-risk category with rates exceeding 6.2 percent are scattered throughout the state.

6a. Low-weight births, mapped by county (2016)



Source. Wilder Research analysis of data from Minnesota Department of Health.
Note. Includes only single-child births. Low birth weight is defined as less than 5.5 pounds.

6b. Low-weight births, by county (2016)

	%	Risk level		%	Risk level		%	Risk level
U.S.	**6.4**	**—**	Hubbard	3.0	1	Pipestone	1.7	1
Minnesota	**4.9**	**—**	Isanti	3.7	2	Polk	5.5	3
Aitkin	6.6	4	Itasca	7.0	4	Pope	1.8	1
Anoka	4.3	2	Jackson	4.5	2	Ramsey	5.8	3
Becker	4.8	3	Kanabec	6.9	4	Red Lake	2.5	1
Beltrami	5.5	3	Kandiyohi	4.6	2	Redwood	5.7	3
Benton	5.2	3	Kittson	6.9	4	Renville	6.8	4
Big Stone	5.5	3	Koochiching	2.0	1	Rice	4.0	2
Blue Earth	4.0	2	Lac qui Parle	3.1	1	Rock	5.6	3
Brown	5.7	3	Lake	6.1	3	Roseau	4.5	2
Carlton	4.5	2	Lake of the Woods	2.4	1	Scott	5.0	3
Carver	3.2	1	Le Sueur	6.1	3	Sherburne	4.2	2
Cass	7.4	4	Lincoln	6.2	4	Sibley	6.2	4
Chippewa	4.8	3	Lyon	1.6	1	St. Louis	5.3	3
Chisago	5.9	3	Mahnomen	4.5	2	Stearns	4.3	2
Clay	4.9	3	Marshall	7.8	4	Steele	5.5	3
Clearwater	4.3	2	Martin	2.8	1	Stevens	4.0	2
Cook	8.3	4	McLeod	3.9	2	Swift	3.8	2
Cottonwood	4.7	2	Meeker	4.4	2	Todd	4.8	3
Crow Wing	4.5	2	Mille Lacs	3.0	1	Traverse	3.0	1
Dakota	4.8	3	Morrison	2.2	1	Wabasha	4.3	2
Dodge	4.5	2	Mower	4.8	3	Wadena	5.6	3
Douglas	6.8	4	Murray	5.0	3	Waseca	4.2	2
Faribault	4.5	2	Nicollet	4.5	2	Washington	4.4	2
Fillmore	3.8	2	Nobles	3.2	1	Watonwan	2.7	1
Freeborn	5.0	3	Norman	6.8	4	Wilkin	6.8	4
Goodhue	4.9	3	Olmsted	4.5	2	Winona	5.4	3
Grant	7.4	4	Otter Tail	3.2	1	Wright	4.3	2
Hennepin	5.5	3	Pennington	4.2	2	Yellow Medicine	4.3	2
Houston	3.8	2	Pine	4.8	3			

Source. Wilder Research analysis of data from the Minnesota Department of Health. U.S. data from the National Center for Health Statistics.

Note. Includes only single-child births. Low birth weight is defined as less than 5.5 pounds. Level 1 = low risk (less than 3.3%), level 2 = low to moderate risk (3.3% – 4.7%), level 3 = moderate to high risk (4.7% – 6.2%), level 4 = high risk (greater than 6.2%). Some counties may display identical values but different risk levels due to rounding.

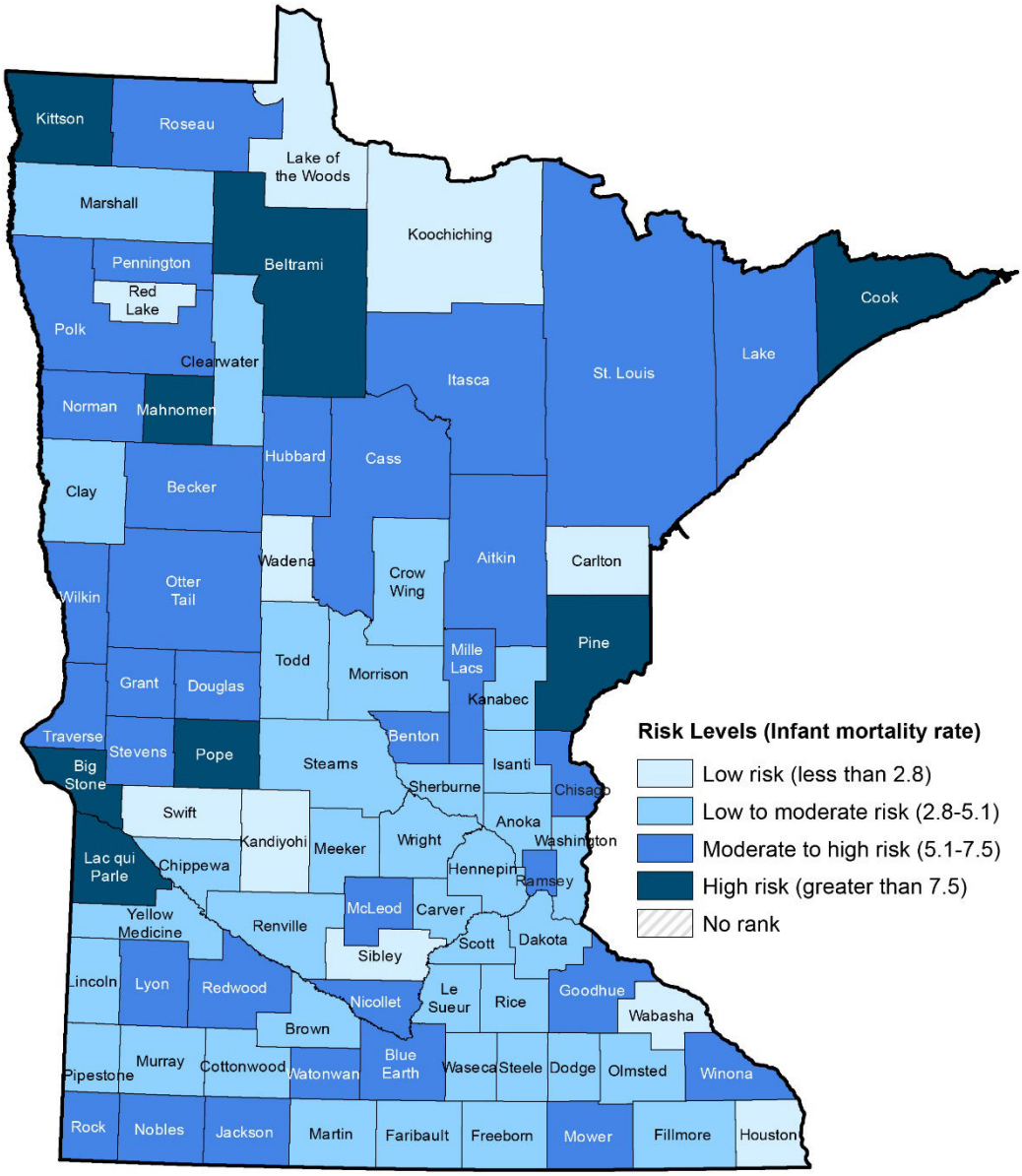
Infant mortality rate

Infant mortality is defined as the number of infant deaths per 1,000 live births. Nationally, infant mortality rates have fallen more steeply in the past decade for whites than for blacks, with black infants succumbing to infant mortality at 2.4 times the rate for non-Hispanic whites. American Indians have 1.6 times the infant mortality rate as non-Hispanic whites.[43-44]

While the Minnesota infant mortality rate of 5 deaths per 1,000 births approximates the nationwide rate of nearly 6 per 1,000, the rates among American Indian and African American babies are more than double the rates of white babies in Minnesota.

Cook County (16.3) and Mahnomen County (11.9) have the state's highest rates of risk per 1,000. On the other hand, two Minnesota counties, Lake of the Woods and Red Lake, reported no infant mortality over the most recent five year span (2001-2015).

7a. Infant mortality (rate per 1,000 live births), mapped by county (2011-2015)



Source. Wilder Research analysis of data from the Minnesota Department of Health.
Note. Reliable data were not available for counties categorized as "no rank."

7b. Infant mortality (rate per 1,000 live births), by county (2011-2015)

	Rate	Risk level		Rate	Risk level		Rate	Risk level
U.S.	**5.9**	**—**	Hubbard	5.4	3	Pipestone	3.4	2
Minnesota	**5.0**	**—**	Isanti	4.9	2	Polk	6.9	3
Aitkin	7.2	3	Itasca	6.7	3	Pope	9.5	4
Anoka	4.0	2	Jackson	5.3	3	Ramsey	6.3	3
Becker	6.3	3	Kanabec	4.0	2	Red Lake	0.0	1
Beltrami	10.0	4	Kandiyohi	2.4	1	Redwood	6.4	3
Benton	5.7	3	Kittson	8.4	4	Renville	4.7	2
Big Stone	10.8	4	Koochiching	1.9	1	Rice	5.0	2
Blue Earth	7.1	3	Lac Qui Parle	9.2	4	Rock	5.4	3
Brown	4.3	2	Lake	5.7	3	Roseau	5.3	3
Carlton	2.7	1	Lake of the Woods	0.0	1	St. Louis	6.3	3
Carver	3.5	2	Le Sueur	3.9	2	Scott	2.9	2
Cass	5.2	3	Lincoln	2.8	2	Sherburne	4.9	2
Chippewa	3.6	2	Lyon	5.5	3	Sibley	2.3	1
Chisago	5.4	3	McLeod	5.8	3	Stearns	4.9	2
Clay	4.7	2	Mahnomen	11.9	4	Steele	3.8	2
Clearwater	3.7	2	Marshall	3.6	2	Stevens	5.2	3
Cook	16.3	4	Martin	3.6	2	Swift	1.9	1
Cottonwood	3.8	2	Meeker	4.4	2	Todd	5.0	2
Crow Wing	5.0	2	Mille Lacs	6.2	3	Traverse	6.0	3
Dakota	4.6	2	Morrison	3.7	2	Wabasha	2.6	1
Dodge	3.2	2	Mower	5.6	3	Wadena	1.1	1
Douglas	6.4	3	Murray	4.7	2	Waseca	4.6	2
Faribault	4.1	2	Nicollet	5.6	3	Washington	4.4	2
Fillmore	3.9	2	Nobles	5.6	3	Watonwan	6.6	3
Freeborn	4.6	2	Norman	5.7	3	Wilkin	5.8	3
Goodhue	5.8	3	Olmsted	4.0	2	Winona	5.4	3
Grant	5.7	3	Otter Tail	5.6	3	Wright	4.2	2
Hennepin	4.9	2	Pennington	5.4	3	Yellow Medicine	5.1	2
Houston	2.0	1	Pine	7.6	4			

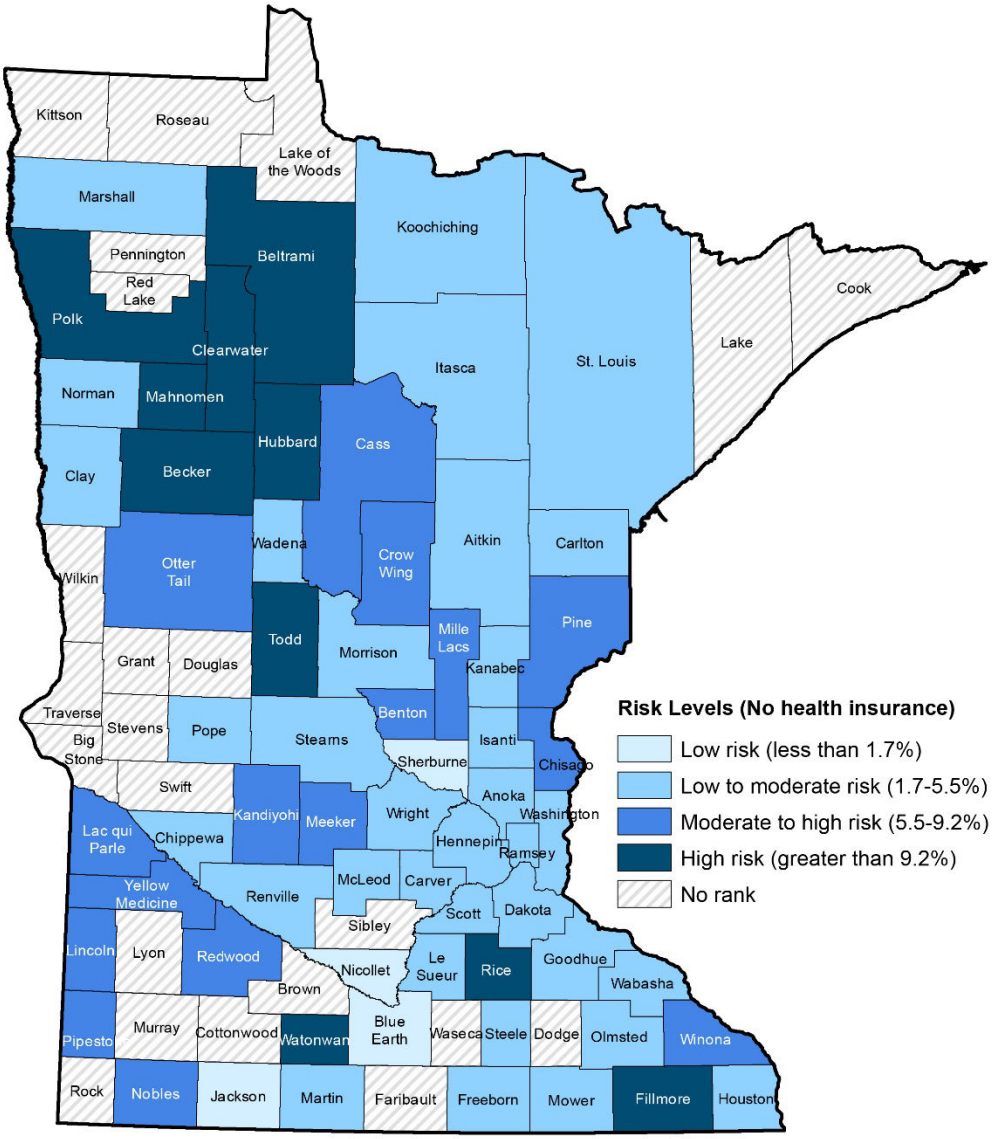
Source. Wilder Research analysis of data from the Minnesota Department of Health. U.S. data from the National Center for Health Statistics (2016).
Note. Infant mortality rates represent deaths to children less than one year old per 1,000 births. Level 1 = low risk (less than 2.75), level 2 = low to moderate risk (2.75 – 5.12), level 3 = moderate to high risk (5.12 – 7.49), level 4 = high risk (greater than 7.49). Some counties may display identical values but different risk levels due to rounding.

Children under age 6 without health care coverage

Young children's health is essential to their overall development, well-being, and school readiness. Young children's health status has been closely tied to access to health care coverage and related services, including prenatal care; preventive screening and well-child visits; and continuous, comprehensive, coordinated care (i.e., a medical home). Uninsured children are less likely than insured children to receive medical care for common childhood conditions and, when hospitalized, are at greatest risk for increased morbidity and mortality. Untreated health problems and a lack of preventive care contribute to higher rates of serious illness, absenteeism in preschool, physical and emotional distress, and long-term disability.[45-47]

Health care coverage has been in a rapid transition since the passage of the Affordable Care Act in 2010. For a county-by-county look at coverage among younger children, we used data collected over the 2012-2016 time period. During that time, 4.1 percent of children in Minnesota under age 6 lacked health care coverage, with the range spanning from 1.4 percent in Jackson County to a high of 17.9 percent in Watonwan County.

8a. Children under age 6 without health care coverage, mapped by county (2012-2016)



Source. Wilder Research analysis of data from U.S. Census Bureau, American Community Survey, 2012-2016.
Note. Reliable data were not available for counties categorized as "no rank."

8b. Children under age 6 without health care coverage, by county (2012-2016)

	%	Risk level		%	Risk level		%	Risk level
U.S.	**4.8**	**—**	Hubbard	9.3	4	Pipestone	6.2	3
Minnesota	**4.1**	**—**	Isanti	3.9	2	Polk	9.2	4
Aitkin	3.2	2	Itasca	4.5	2	Pope	2.2	2
Anoka	3.4	2	Jackson	1.4	1	Ramsey	3.6	2
Becker	9.6	4	Kanabec	3.8	2	Red Lake	*	*
Beltrami	12.1	4	Kandiyohi	6.3	3	Redwood	6.0	3
Benton	5.7	3	Kittson	*	*	Renville	3.7	2
Big Stone	*	*	Koochiching	3.3	2	Rice	10.9	4
Blue Earth	1.7	1	Lac qui Parle	6.0	3	Rock	*	*
Brown	*	*	Lake	*	*	Roseau	*	*
Carlton	4.4	2	Lake of the Woods	*	*	St. Louis	2.7	2
Carver	3.0	2	Le Sueur	2.7	2	Scott	2.7	2
Cass	5.9	3	Lincoln	7.9	3	Sherburne	1.6	1
Chippewa	2.6	2	Lyon	*	*	Sibley	*	*
Chisago	5.5	3	McLeod	3.5	2	Stearns	3.1	2
Clay	3.9	2	Mahnomen	11.8	4	Steele	1.9	2
Clearwater	12.5	4	Marshall	2.2	2	Stevens	*	*
Cook	*	*	Martin	3.2	2	Swift	*	*
Cottonwood	*	*	Meeker	6.2	3	Todd	15.3	4
Crow Wing	6.4	3	Mille Lacs	5.9	3	Traverse	*	*
Dakota	2.7	2	Morrison	4.1	2	Wabasha	3.1	2
Dodge	*	*	Mower	2.9	2	Wadena	4.3	2
Douglas	*	*	Murray	*	*	Waseca	*	*
Faribault	*	*	Nicollet	1.5	1	Washington	3.8	2
Fillmore	17.3	4	Nobles	7.8	3	Watonwan	17.9	4
Freeborn	2.3	2	Norman	5.4	2	Wilkin	*	*
Goodhue	4.8	2	Olmsted	2.9	2	Winona	5.6	3
Grant	*	*	Otter Tail	6.7	3	Wright	3.1	2
Hennepin	4.0	2	Pennington	*	*	Yellow Medicine	9.0	3
Houston	1.8	2	Pine	7.9	3			

Source. Wilder Research analysis of data from U.S. Census Bureau, American Community Survey, 2012-2016.

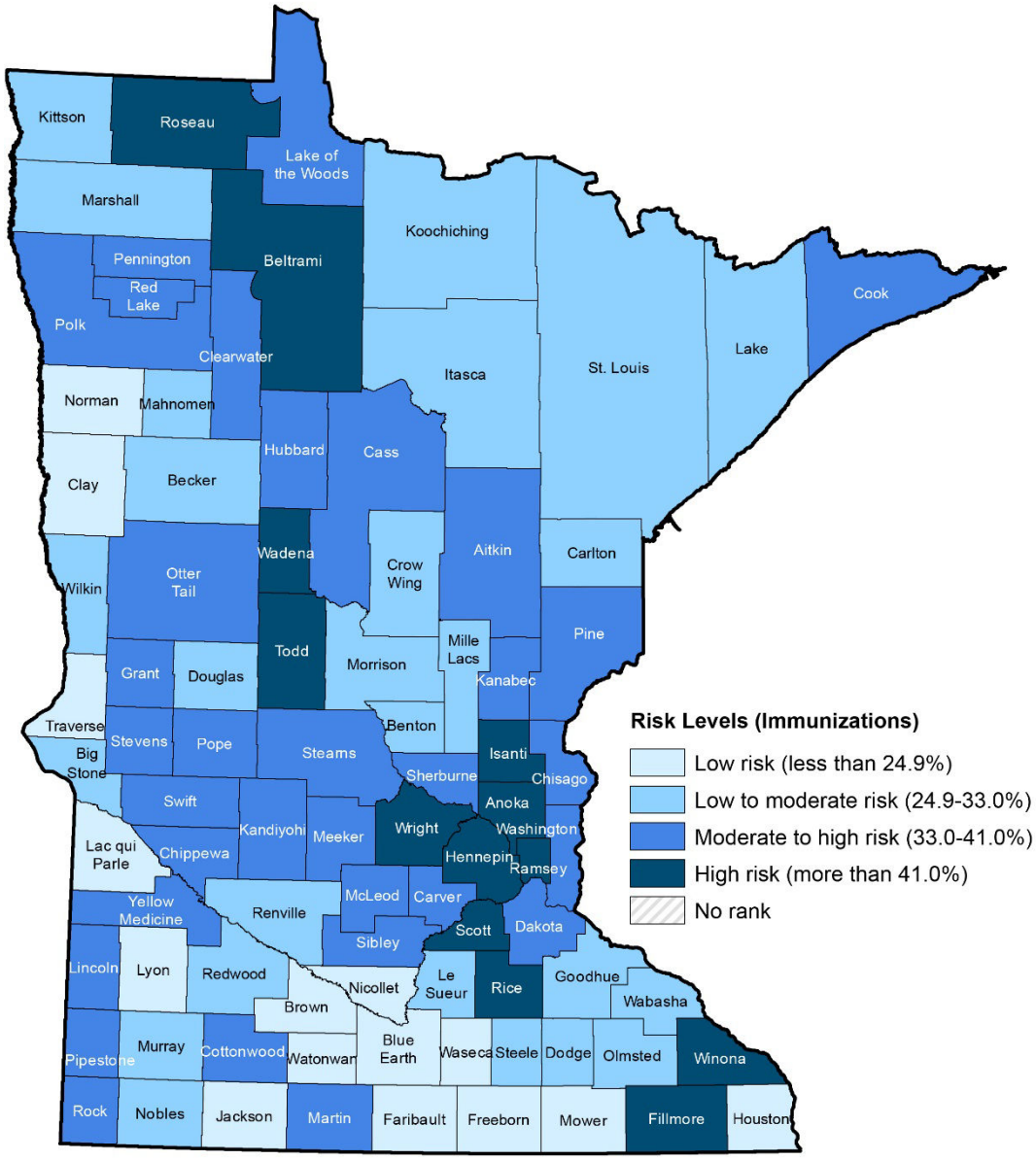
Note. Starred counties (*) are not reported due to high margins of error. Level 1 = low risk (less than 1.7%), level 2 = low to moderate risk (1.7% – 5.5%), level 3 = moderate to high risk (5.5% – 9.2%), level 4 = high risk (greater than 9.2%). Some counties may display identical values but different risk levels due to rounding.

Lack of immunizations

Immunizations are important, particularly in light of recent increases in outbreaks of preventable communicable disease, such as measles. Outbreaks of this kind can be prevented by "herd" immunity. If outbreaks do occur, they may be fatal for children who are too young to be immunized and for those who are immuno-compromised. Lack of immunizations is also an indicator of irregular medical care.[48-52]

In Minnesota, 39 percent of 2-year-old children (age 24 through 35 months) were not up to date on the recommended childhood immunizations in 2017, ranging from 11 percent in Traverse County to 50 percent in Roseau County. Thirteen counties fall into the high-risk level.

9a. Children age 24 through 35 months who are lacking full series of immunizations, mapped by county (2017)



Source. Wilder Research analysis of data from the Minnesota Department of Health.
Note. Includes children age 24 through 35 months.

9b. Children age 24 through 35 months who are lacking full series of immunizations, by county (2017)

	%	Risk level		%	Risk level		%	Risk level
			Hubbard	37.3	3	Pipestone	37.6	3
Minnesota	**39.1**	**—**	Isanti	44.5	4	Polk	33.0	3
Aitkin	35.7	3	Itasca	31.8	2	Pope	37.9	3
Anoka	41.6	4	Jackson	23.8	1	Ramsey	44.8	4
Becker	25.6	2	Kanabec	34.4	3	Red Lake	38.2	3
Beltrami	42.0	4	Kandiyohi	34.9	3	Redwood	25.0	2
Benton	27.9	2	Kittson	30.6	2	Renville	30.8	2
Big Stone	31.2	2	Koochiching	26.9	2	Rice	44.0	4
Blue Earth	18.0	1	Lac Qui Parle	23.5	1	Rock	39.4	3
Brown	19.9	1	Lake	31.8	2	Roseau	50.3	4
Carlton	29.7	2	Lake Of The Woods	37.0	3	St. Louis	31.5	2
Carver	36.8	3	Le Sueur	28.8	2	Scott	47.7	4
Cass	40.3	3	Lincoln	33.8	3	Sherburne	36.1	3
Chippewa	38.5	3	Lyon	24.2	1	Sibley	33.7	3
Chisago	34.8	3	Mahnomen	30.8	2	Stearns	35.9	3
Clay	20.0	1	Marshall	26.3	2	Steele	31.1	2
Clearwater	39.2	3	Martin	35.0	3	Stevens	39.4	3
Cook	37.5	3	McLeod	37.2	3	Swift	34.2	3
Cottonwood	37.0	3	Meeker	38.2	3	Todd	44.0	4
Crow Wing	31.5	2	Mille Lacs	31.4	2	Traverse	10.5	1
Dakota	40.3	3	Morrison	28.4	2	Wabasha	29.9	2
Dodge	32.8	2	Mower	23.8	1	Wadena	47.1	4
Douglas	25.7	2	Murray	25.3	2	Waseca	17.3	1
Faribault	21.9	1	Nicollet	20.3	1	Washington	36.0	3
Fillmore	41.1	4	Nobles	26.5	2	Watonwan	20.3	1
Freeborn	22.4	1	Norman	22.1	1	Wilkin	30.8	2
Goodhue	29.7	2	Olmsted	28.1	2	Winona	48.4	4
Grant	39.8	3	Otter Tail	38.7	3	Wright	41.8	4
Hennepin	46.6	4	Pennington	36.1	3	Yellow Medicine	33.8	3
Houston	21.5	1	Pine	38.7	3			

Source. Wilder Research analysis of data from the Minnesota Department of Health.

Note. Includes children age 24 through 35 months. Level 1 = low risk (less than 24.9%), level 2 = low to moderate risk (24.9% – 33.0%), level 3 = moderate to high risk (33.0% – 41.0%), level 4 = high risk (greater than 41.0%). Some counties may display identical values but different risk levels due to rounding.

Family stability risk indicators

Child mobility

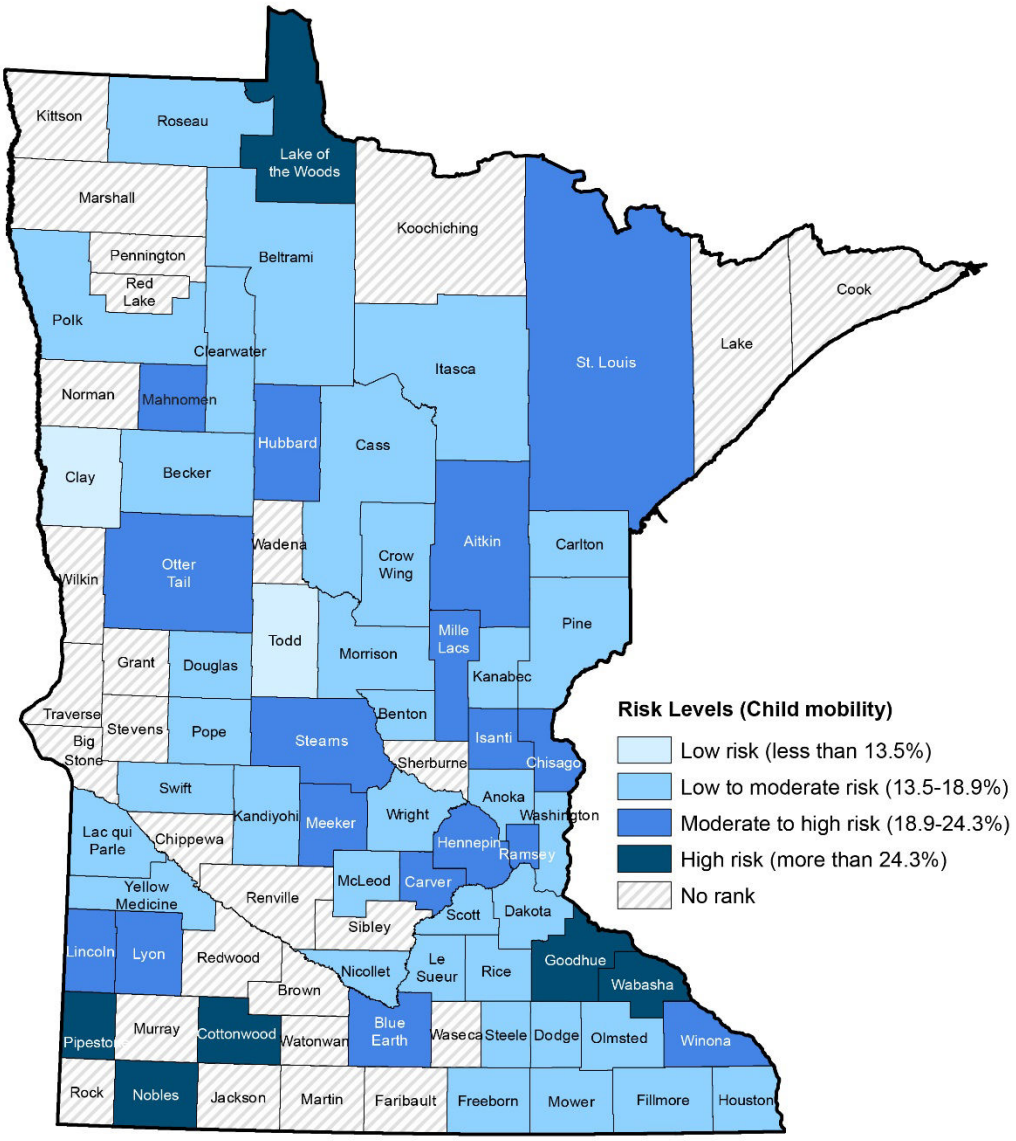
Residential instability poses a considerable risk for children across domains of functioning. There are several potential explanations for this connection. Adjusting to a move can be severely stressful for a child. Poverty – which has its own adverse effects—also coincides with high mobility. Rising mobility rates, particularly for low-income children, are cause for concern as the lack of a stable residence has been found to hinder children's academic, socio-emotional, and behavioral development.[53-56]

Minnesota's rate of child mobility (18%), measured as the proportion of all children under age 5 who have moved in the prior year, is similar to the national rate (20%).

On a county-by-county basis, 6 counties fall in the high-risk category, down from 11 in the prior time period. Data for 27 of the state's 87 counties were suppressed due to large margins of error.

This measure does not include migrant groups and is not the same as "highly mobile," used to characterize people experiencing homelessness. This measure would be more useful if data were available to more accurately depict housing instability and the number of moves associated with higher risk.

10a. Child mobility (children under age 5 who have moved residences at least once in the past year), mapped by county (2012-2016)



Source. Wilder Research analysis of data from U.S. Census Bureau, American Community Survey, 2012-2016.
Note. Reliable data were not available for counties categorized as "no rank."

10b. Child mobility (children under age 5 who have moved residences at least once in the past year), by county (2012-2016)

	%	Risk level		%	Risk level		%	Risk level
US	**19.9**	**—**	Hubbard	20.5	3	Pipestone	24.5	4
Minnesota	**18.2**	**—**	Isanti	22.0	3	Polk	15.1	2
Aitkin	23.9	3	Itasca	17.8	2	Pope	17.3	2
Anoka	15.4	2	Jackson	*	*	Ramsey	21.9	3
Becker	14.3	2	Kanabec	17.0	2	Red Lake	*	*
Beltrami	15.0	2	Kandiyohi	17.3	2	Redwood	*	*
Benton	16.7	2	Kittson	*	*	Renville	*	*
Big Stone	*	*	Koochiching	*	*	Rice	18.1	2
Blue Earth	21.2	3	Lac qui Parle	18.8	2	Rock	*	*
Brown	*	*	Lake	*	*	Roseau	15.0	2
Carlton	18.0	2	Lake of the Woods	51.0	4	St. Louis	20.7	3
Carver	18.9	3	Le Sueur	14.6	2	Scott	14.7	2
Cass	16.1	2	Lincoln	22.2	3	Sherburne	*	*
Chippewa	*	*	Lyon	22.5	3	Sibley	*	*
Chisago	20.4	3	McLeod	15.0	2	Stearns	20.7	3
Clay	13.3	1	Mahnomen	20.5	3	Steele	17.3	2
Clearwater	15.5	2	Marshall	*	*	Stevens	*	*
Cook	*	*	Martin	*	*	Swift	16.1	2
Cottonwood	26.2	4	Meeker	20.5	3	Todd	13.2	1
Crow Wing	18.1	2	Mille Lacs	20.1	3	Traverse	*	*
Dakota	18.8	2	Morrison	14.1	2	Wabasha	27.3	4
Dodge	15.6	2	Mower	14.3	2	Wadena	*	*
Douglas	17.9	2	Murray	*	*	Waseca	*	*
Faribault	*	*	Nicollet	18.6	2	Washington	15.5	2
Fillmore	14.2	2	Nobles	25.0	4	Watonwan	*	*
Freeborn	16.6	2	Norman	*	*	Wilkin	*	*
Goodhue	24.5	4	Olmsted	18.0	2	Winona	19.3	3
Grant	*	*	Otter Tail	19.9	3	Wright	15.8	2
Hennepin	19.6	3	Pennington	*	*	Yellow Medicine	16.7	2
Houston	18.2	2	Pine	14.7	2			

Source. Wilder Research analysis of data from U.S. Census Bureau, American Community Survey, 2012-2016.

Note. Starred counties (*) are not reported due to high margins of error. Level 1 = low risk (less than 13.5%), level 2 = low to moderate risk (13.5% – 18.9%), level 3 = moderate to high risk (18.9% – 24.3%), level 4 = high risk (greater than 24.3%). Some counties may display identical values but different risk levels due to rounding.

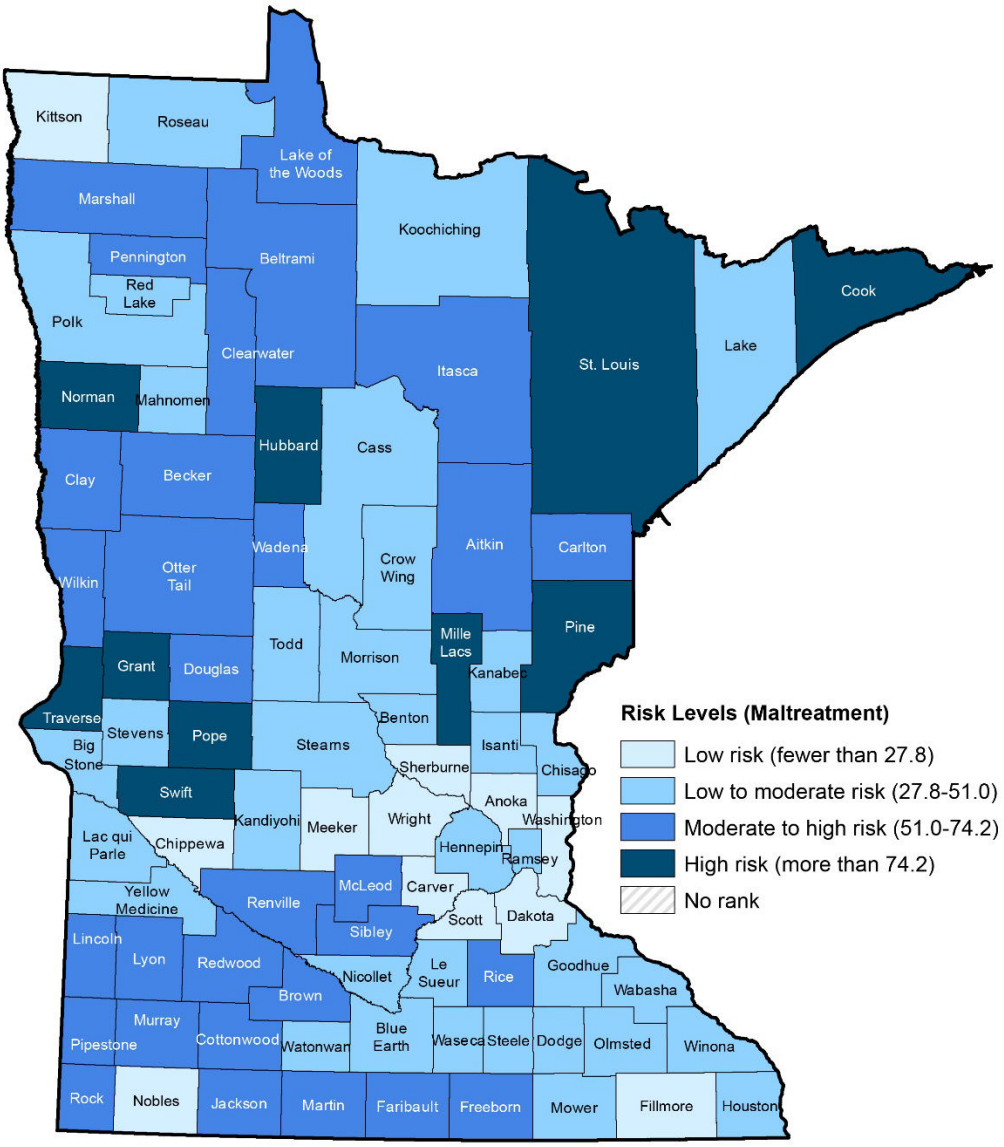
Maltreatment reports filed

Child maltreatment includes physical, emotional, and sexual abuse as well as neglect by a parent, caregiver, or another person in a custodial position. Although children of all ages can be victims of maltreatment, infants and young children are particularly vulnerable. Children under age 4 are at greatest risk for severe injury and death from abuse and disproportionately experience extreme neglect compared with older children.

Child maltreatment can have negative effects on health due to severe injury. In addition, extreme stress related to various forms of trauma can disrupt early development of the brain as well as nervous and immune systems, placing children at risk for poor physical and mental health outcomes across the lifespan.[57-61]

In 2016, 38 in 1,000 children under age 5 statewide had a maltreatment report filed during the year, including family assessments, family investigations, and facility investigations. The rate in 2013 was 25 in 1,000. Traverse County has the state's highest rate, at 141 per 1,000 children, nearly double the highest rate in 2013.

11a. Children under age 5 with filed maltreatment report during the year (rate per 1,000) mapped by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Human Services, and Bridged-Race Population Estimates, U.S. Centers for Disease Control and Prevention.

Note. Rate per 1,000 children under age 5 by county during 2016.

11b. Children under age 5 with filed maltreatment report during the year (rate per 1,000) by county (2016)

	Rate	Risk level		Rate	Risk level		Rate	Risk level
			Hubbard	93.0	4	Pipestone	54.1	3
Minnesota	**39.4**	**—**	Isanti	37.5	2	Polk	33.3	2
Aitkin	61.0	3	Itasca	70.7	3	Pope	84.1	4
Anoka	22.2	1	Jackson	59.4	3	Ramsey	30.0	2
Becker	56.0	3	Kanabec	50.1	2	Red Lake	44.1	2
Beltrami	59.2	3	Kandiyohi	36.9	2	Redwood	54.1	3
Benton	30.6	2	Kittson	20.5	1	Renville	51.3	3
Big Stone	43.0	2	Koochiching	39.5	2	Rice	51.9	3
Blue Earth	48.9	2	Lac Qui Parle	37.9	2	Rock	54.1	3
Brown	53.1	3	Lake	40.9	2	Roseau	38.9	2
Carlton	71.6	3	Lake of the Woods	59.5	3	St. Louis	84.9	4
Carver	23.6	1	Le Sueur	42.5	2	Scott	23.1	1
Cass	43.9	2	Lincoln	54.1	3	Sherburne	26.4	1
Chippewa	26.7	1	Lyon	54.1	3	Sibley	58.5	3
Chisago	30.3	2	McLeod	59.3	3	Stearns	29.6	2
Clay	58.3	3	Mahnomen	44.1	2	Steele	44.6	2
Clearwater	57.1	3	Marshall	51.8	3	Stevens	42.4	2
Cook	106.8	4	Martin	68.5	3	Swift	83.0	4
Cottonwood	59.4	3	Meeker	15.3	1	Todd	33.6	2
Crow Wing	46.8	2	Mille Lacs	99.0	4	Traverse	141.2	4
Dakota	20.8	1	Morrison	46.2	2	Wabasha	41.7	2
Dodge	44.6	2	Mower	48.3	2	Wadena	54.3	3
Douglas	62.1	3	Murray	54.1	3	Waseca	44.6	2
Faribault	68.5	3	Nicollet	29.2	2	Washington	23.0	1
Fillmore	26.5	1	Nobles	24.0	1	Watonwan	43.8	2
Freeborn	54.1	3	Norman	75.9	4	Wilkin	52.8	3
Goodhue	42.6	2	Olmsted	30.3	2	Winona	47.9	2
Grant	106.7	4	Otter Tail	52.8	3	Wright	23.2	1
Hennepin	43.6	2	Pennington	55.9	3	Yellow Medicine	36.8	2
Houston	50.6	2	Pine	134.6	4			

Source. Wilder Research analysis of data from the Minnesota Department of Human Services.

Note. Rate per 1,000 children under age 5, by county. Maltreatment Reports include all family assessments, family investigations, and facility investigations. American Indian Child Welfare Initiative data from the Leech Lake Band of Ojibwe and White Earth Nation are not included. Des Moines Valley HHS allocated to Cottonwood and Jackson counties. Faribault-Martin allocated to Faribault, and Martin Counties. Minnesota Prairie allocated to Dodge, Steele, and Waseca counties. Southwest HHS allocated to Lincoln, Lyon, Murray, Rock, Pipestone, and Redwood counties. Level 1 = low risk (less than 27.8), level 2 = low to moderate risk (27.8 – 51.0), level 3 = moderate to high risk (51.0– 74.2), level 4 = high risk (greater than 74.2). Some counties may display identical values but different risk levels due to rounding.

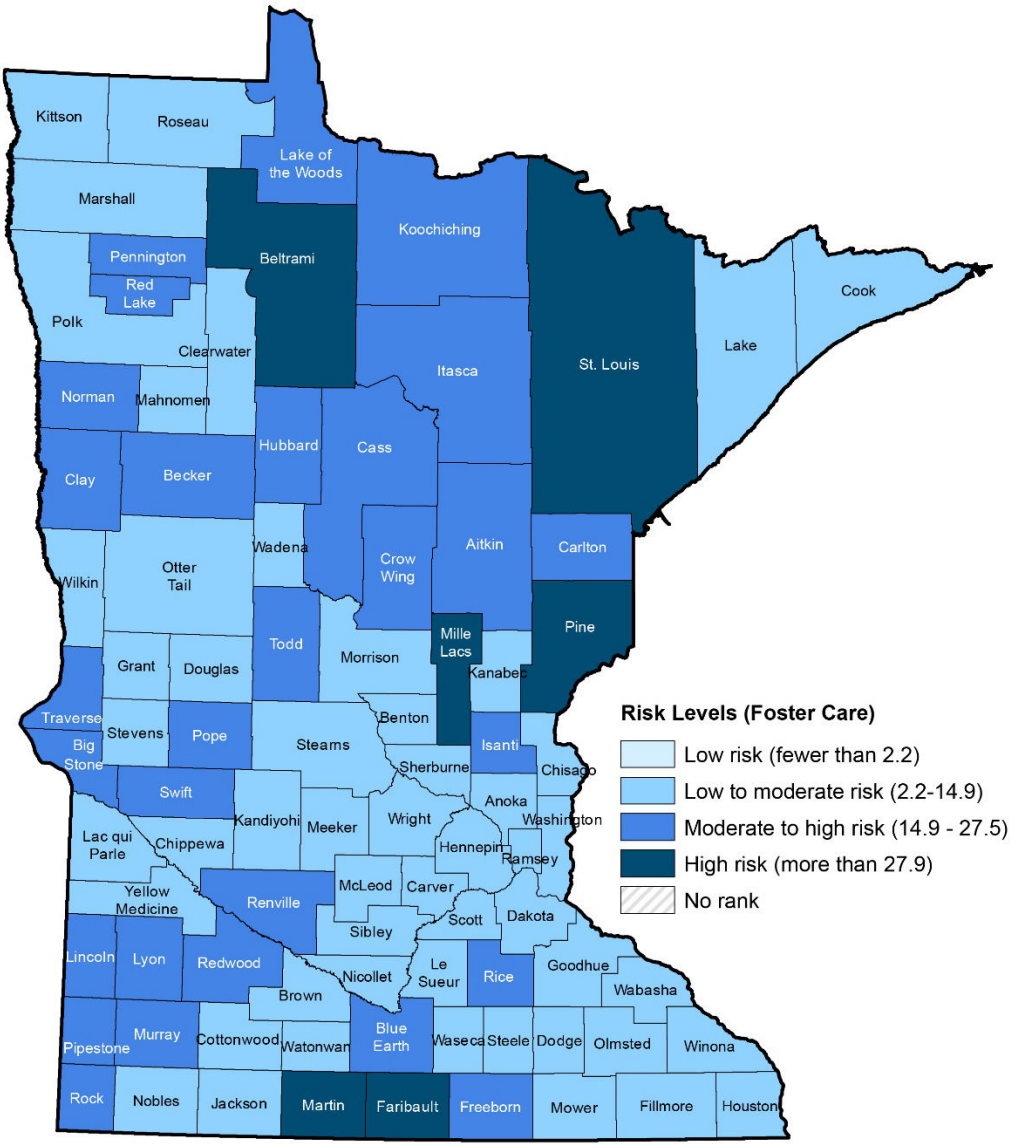
Children under age 6 in foster care

Foster care, also called out-of-home care, is the placement of children away from their parents, due to concern that they are at risk of significant harm or in need of temporary care due to special needs of the child or parental unavailability or needs.

Placement in the child welfare system, particularly when there is a lack of a stable foster home, is a clear risk indicator for young children. Children in foster care often enter the system with existing vulnerabilities. Two-thirds of children placed in foster homes experience a placement change in the first two years, with nearly half of all children experiencing a placement change in the first six months. The instability that accompanies placement changes can exacerbate the already existing vulnerabilities, placing children at increased risk for inadequate medical care, as well as adverse psychosocial and neurobiological outcomes including attachment disturbances and both internalizing and externalizing behaviors.[62-69]

In 2016, about 13 in 1,000 children under age 6 statewide were in foster care, up from about 8 in 1,000 in 2013. Beltrami has the state's highest rate, at 99 per 1,000 children, more than double the rate of 45 per 1,000 children in 2013. No counties are included in the low-risk category based on the higher overall mean rate and a larger standard deviation than in the 2015 report.

12a. Children under age 6 in foster care (rate per 1,000), mapped by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Human Services, and Bridged-Race Population Estimates, U.S. Centers for Disease Control and Prevention.

12b. Children under age 6 in foster care (rate per 1,000), by county (2016)

	Rate	Risk level		Rate	Risk level		Rate	Risk level
			Hubbard	27.3	3	Pipestone	15.8	3
Minnesota	**12.5**	**—**	Isanti	15.1	3	Polk	10.2	2
Aitkin	16.7	3	Itasca	25.8	3	Pope	17.0	3
Anoka	6.0	2	Jackson	10.5	2	Ramsey	11.0	2
Becker	23.1	3	Kanabec	13.4	2	Red Lake	21.8	3
Beltrami	99.0	4	Kandiyohi	11.9	2	Redwood	15.8	3
Benton	10.3	2	Kittson	3.2	2	Renville	17.8	3
Big Stone	21.0	3	Koochiching	21.1	3	Rice	19.0	3
Blue Earth	17.0	3	Lac Qui Parle	5.1	2	Rock	15.8	3
Brown	8.6	2	Lake	12.9	2	Roseau	3.5	2
Carlton	18.5	3	Lake of the Woods	23.0	3	St. Louis	35.8	4
Carver	3.5	2	Le Sueur	7.6	2	Scott	3.4	2
Cass	20.0	3	Lincoln	15.8	3	Sherburne	5.8	2
Chippewa	3.0	2	Lyon	15.8	3	Sibley	4.9	2
Chisago	14.4	2	McLeod	14.9	2	Stearns	12.0	2
Clay	16.2	3	Mahnomen	9.6	2	Steele	11.2	2
Clearwater	7.2	2	Marshall	4.4	2	Stevens	5.7	2
Cook	10.5	2	Martin	27.6	4	Swift	27.3	3
Cottonwood	10.5	2	Meeker	2.9	2	Todd	22.3	3
Crow Wing	23.1	3	Mille Lacs	60.0	4	Traverse	19.2	3
Dakota	4.1	2	Morrison	13.1	2	Wabasha	8.2	2
Dodge	11.2	2	Mower	9.8	2	Wadena	14.4	2
Douglas	12.4	2	Murray	15.8	3	Waseca	11.2	2
Faribault	27.6	4	Nicollet	7.4	2	Washington	3.9	2
Fillmore	4.9	2	Nobles	9.4	2	Watonwan	5.5	2
Freeborn	17.2	3	Norman	17.8	3	Wilkin	9.6	2
Goodhue	10.2	2	Olmsted	4.5	2	Winona	9.3	2
Grant	8.8	2	Otter Tail	11.5	2	Wright	5.5	2
Hennepin	11.0	2	Pennington	23.3	3	Yellow Medicine	11.2	2
Houston	14.5	2	Pine	30.2	4			

Source. Wilder Research analysis of data from the Minnesota Department of Health.

Note. Rate per 1,000. Level 1 = low risk (less than 2.23), level 2 = low to moderate risk (2.23 – 14.89), level 3 = moderate to high risk (14.89 – 27.54), level 4 = high risk (greater than 27.54). Some counties may display identical values but different risk levels due to rounding.

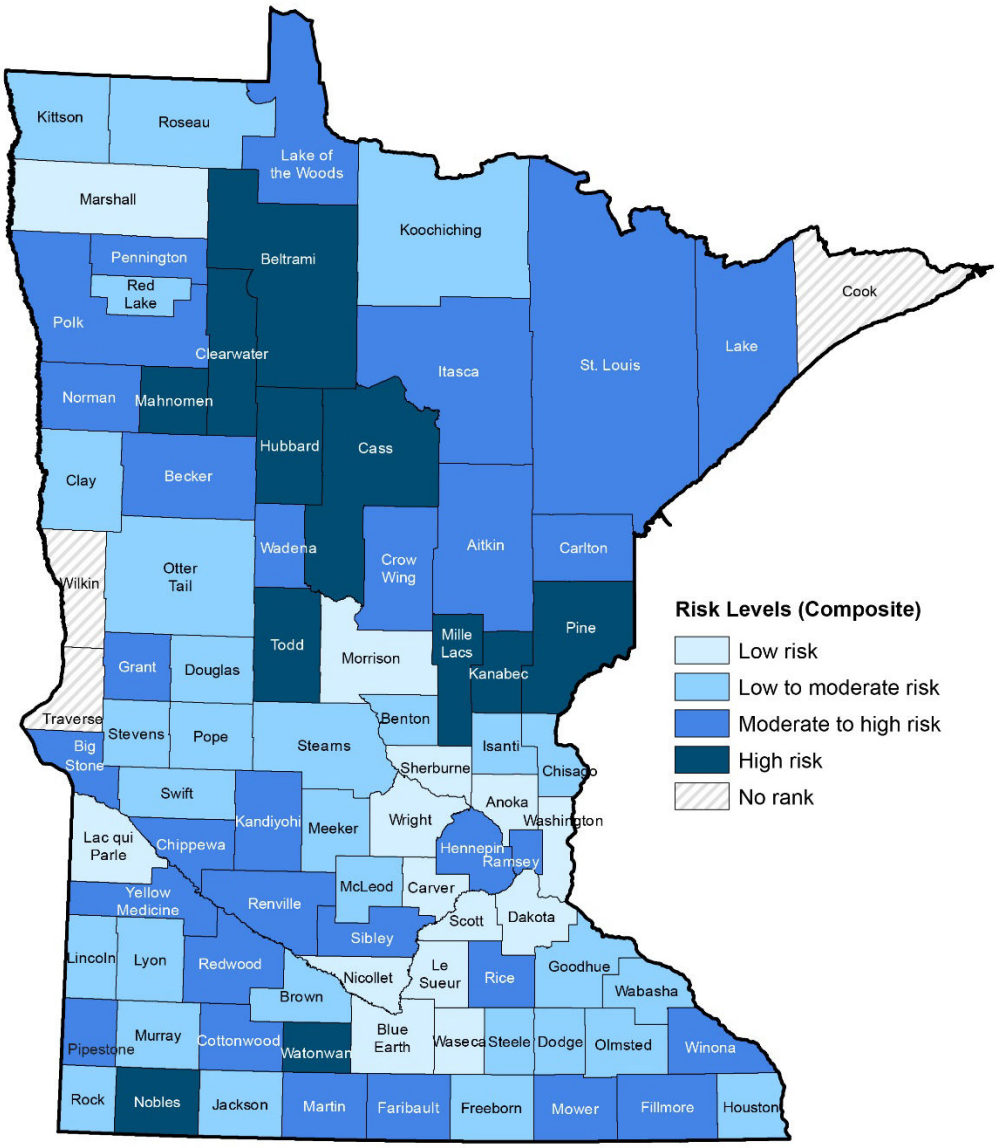
Overall risk status

The overall risk composite score assigns each county to one of the four risk categories, based on their average score across all indicators relative to other counties. This single score is meant to focus attention and start conversations about where counties fall along the continuum of risk, the availability and accessibility of resources in high-risk counties, and what we can learn from counties that provide the lowest-risk environments for young children.

Eleven counties fall in the high-risk category, down from 15 in 2015. Eight of the 11 high-risk counties are also high risk for children living in poverty, and 5 of the 11 have high proportions of American Indian children, who tend to experience more inequities in accessing services and in well-being. For details see the Appendix, which has maps depicting the overall risk status relative to the racial composition of each county.

In addition, 30 counties (11 more than in 2015) scored in the moderate-to-high risk category, including Hennepin and Ramsey counties. Twenty-nine counties are considered low-to-moderate risk, and 14 are low risk.

13a. Overall risk status, mapped by county



Note. Cook, Traverse, and Wilkin counties lacked reliable data for four or more risk indicators, therefore were omitted from the overall risk calculation.

13b. Overall risk status (1 is lowest risk and 4 is highest risk), by county (2018)

	Risk level		Risk level		Risk level
		Hubbard	4	Pipestone	3
		Isanti	2	Polk	3
Aitkin	3	Itasca	3	Pope	2
Anoka	1	Jackson	2	Ramsey	3
Becker	3	Kanabec	4	Red Lake	2
Beltrami	4	Kandiyohi	3	Redwood	3
Benton	2	Kittson	2	Renville	3
Big Stone	3	Koochiching	2	Rice	3
Blue Earth	1	Lac Qui Parle	1	Rock	2
Brown	2	Lake	3	Roseau	2
Carlton	3	Lake of the Woods	3	St. Louis	3
Carver	1	Le Sueur	1	Scott	1
Cass	4	Lincoln	2	Sherburne	1
Chippewa	3	Lyon	2	Sibley	3
Chisago	2	McLeod	2	Stearns	2
Clay	2	Mahnomen	4	Steele	2
Clearwater	4	Marshall	1	Stevens	2
Cook	*	Martin	3	Swift	2
Cottonwood	3	Meeker	2	Todd	4
Crow Wing	3	Mille Lacs	4	Traverse	*
Dakota	1	Morrison	1	Wabasha	2
Dodge	2	Mower	3	Wadena	3
Douglas	2	Murray	2	Waseca	1
Faribault	3	Nicollet	1	Washington	1
Fillmore	3	Nobles	4	Watonwan	4
Freeborn	2	Norman	3	Wilkin	*
Goodhue	2	Olmsted	2	Winona	3
Grant	3	Otter Tail	2	Wright	1
Hennepin	3	Pennington	3	Yellow Medicine	3
Houston	2	Pine	4		

Note. Starred counties (*) lacked data on 4 or more risk indicators that contribute to this composite. Level 1=low risk, level 2= low to moderate risk, level 3=moderate to high risk, level 4= high risk.

REACH INDICATORS

Minnesota Early Childhood Risk, Reach, and Resilience

Reach indicators

This next section shows the extent of coverage by county of publicly funded programs to meet the early learning, health, and basic needs of children and families eligible to receive services based on income and other criteria. Indicators of the "reach" of services relevant to early childhood development grouped by department are:

Health Programs

- Enrollment in Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
- Family Home Visiting Program participation

Human Services

- Minnesota Family Investment Program coverage
- Child Care Assistance Program participation
- Mental health treatment within Minnesota Health Care Programs

Education Programs

- Early Childhood Screening
- Early Head Start and Head Start enrollment
- Enrollment in early intervention and early childhood special education services
- Early Childhood Family Education enrollment
- School Readiness Program enrollment
- Voluntary Pre-Kindergarten enrollment

In addition to being reported in tables, the reach indicators are mapped onto the composite risk score map, to provide a sense of each program's coverage in relation to the overall level of risk or need in each county.

Health programs

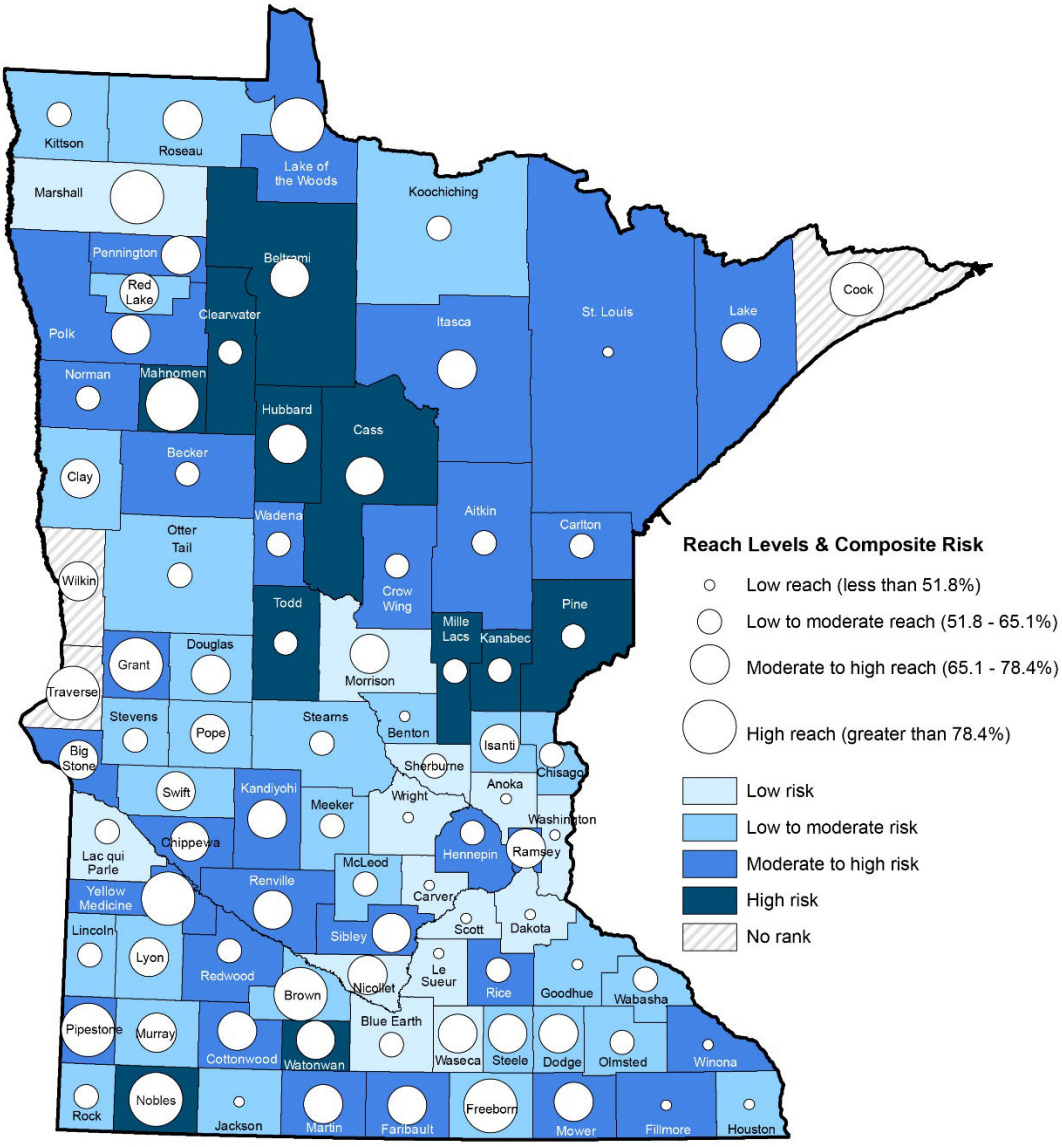
Enrollment in Special Supplemental Nutrition Program for Women, Infants, and Children

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a federal program that serves low-income pregnant, breastfeeding, and postpartum women and infants and children through the month of their 5th birthday. WIC provides nutrient-rich foods, health care and social service referrals, and nutrition counseling and education. Eligible families have incomes at or below 185 percent of federal poverty levels or are Medicaid eligible.

Fifty-nine percent of eligible children under age 6 are served by WIC. That percentage is down from 70 percent in 2013 due to both an expansion in the number eligible and a reduction in the number served. All counties in Minnesota have WIC enrollment. In general, greater Minnesota counties have higher levels of WIC reach than counties in the metro area.

These enrollment figures should be interpreted with caution because, according to MDH, the number of eligible children is likely higher than estimated due to census under-counting of Hispanic and American Indian populations in some counties.

14a. Children ages 0 to 5 living in households below 185% of Federal Poverty Level (FPL) enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children, mapped by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Health and U.S. Department of Health and Human Services; Centers for Disease Control and Prevention, National Center for Health Statistics Bridged-Race Estimates, 2016.

14b. Children ages 0 to 5 living in households below 185% FPL enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children, by county (2016)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	66.7	3	Pipestone	81.5	4
Minnesota	**58.6**	**—**	Isanti	68.3	3	Polk	70.9	3
Aitkin	64.6	2	Itasca	66.2	3	Pope	66.2	3
Anoka	51.8	1	Jackson	47.9	1	Ramsey	68.3	3
Becker	63.1	2	Kanabec	56.7	2	Red Lake	76.1	3
Beltrami	74.5	3	Kandiyohi	78.1	3	Redwood	61.5	2
Benton	47.2	1	Kittson	52.6	2	Renville	71.0	3
Big Stone	70.0	3	Koochiching	54.4	2	Rice	62.4	2
Blue Earth	60.8	2	Lac Qui Parle	60.5	2	Rock	54.1	2
Brown	78.7	4	Lake	66.3	3	Roseau	77.9	3
Carlton	60.1	2	Lake Of The Woods	97.8	4	Saint Louis	51.1	1
Carver	34.1	1	Le Sueur	51.0	1	Scott	46.5	1
Cass	74.2	3	Lincoln	51.9	2	Sherburne	53.9	2
Chippewa	71.4	3	Lyon	72.7	3	Sibley	73.6	3
Chisago	52.8	2	Mahnomen	85.0	4	Stearns	60.5	2
Clay	66.3	3	Marshall	89.1	4	Steele	66.0	3
Clearwater	60.5	2	Martin	68.8	3	Stevens	61.5	2
Cook	*	*	McLeod	60.8	2	Swift	68.2	3
Cottonwood	70.4	3	Meeker	64.2	2	Todd	58.5	2
Crow Wing	59.3	2	Mille Lacs	63.7	2	Traverse	91.5	4
Dakota	45.4	1	Morrison	69.7	3	Wabasha	58.6	2
Dodge	68.1	3	Mower	71.4	3	Wadena	63.0	2
Douglas	68.8	3	Murray	70.9	3	Waseca	75.6	3
Faribault	71.3	3	Nicollet	67.5	3	Washington	42.1	1
Fillmore	42.6	1	Nobles	86.6	4	Watonwan	72.2	3
Freeborn	79.1	4	Norman	58.7	2	Wilkin	73.3	3
Goodhue	45.0	1	Olmsted	58.2	2	Winona	49.9	1
Grant	92.5	4	Otter Tail	60.4	2	Wright	44.5	1
Hennepin	56.3	2	Pennington	72.0	3	Yellow Medicine	78.6	4
Houston	44.6	1	Pine	60.1	2			

Source. Wilder Research analysis of data from the Minnesota Department of Health and U.S. Department of Health and Human Services; Centers for Disease Control and Prevention, National Center for Health Statistics Bridged-Race Estimates, 2016.

Note. The USDA estimates that 27.3% of children age 0-4 are WIC eligible above 185% FPL. In keeping with USDA methodology (https://fns-prod.azureedge.net/sites/default/files/ops/WICEligibles2015-Volume2.pdf), this denominator includes children 0-5 living in households below 185% FPL, plus an additional 27.3% of all children 0-4 living in the county. Level 1 = low reach (less than 51.8%), level 2 = low to moderate reach (51.8% – 65.1%), level 3 = moderate to high reach (65.1% – 78.4%), level 4 = high reach (greater than 78.4%). Some counties may display identical values but different reach levels due to rounding.

Family Home Visiting Program participation

Home visiting programs support healthy parent-child relationships and child growth and development. Home visiting has been shown to be effective in helping families improve health status; achieve economic self-sufficiency; improve positive parenting; reduce child maltreatment; achieve goals such as child spacing, education, and employment; and establish links to community resources.

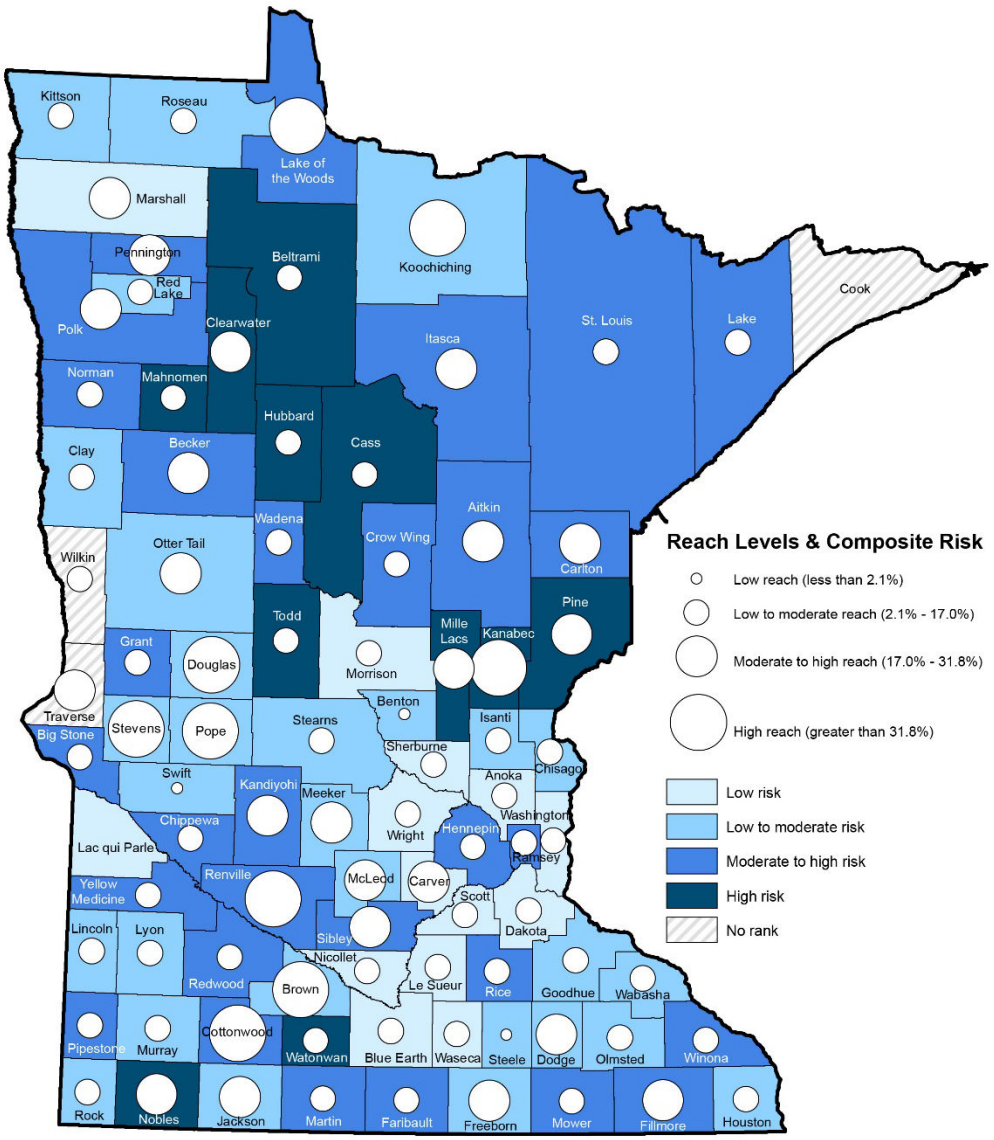
The Family Home Visiting Program is a voluntary, home-based service administered by local public health agencies (counties, cities, or tribal governments). The program works with families at or below 200 percent of federal poverty guidelines who are experiencing a variety of risk factors, including poverty, history of alcohol or other drug use, history of violence or at risk for child abuse or neglect, or adolescent parents. The home visits begin prenatally when possible. Initial assessments are carried out by a public health nurse. Ongoing visits are provided by public health nurses and/or trained home visitors.

Overall, the Family Home Visiting Program reaches 13 percent of the targeted families with children under age 6. All counties in Minnesota have family home visiting services. In general, high-reach counties on this indicator tend to be in greater Minnesota.

Note that the 2015 report included data for only the TANF-funded home visiting.

While the program serves families with children under age 6 at or below 200 percent of federal poverty guidelines who are experiencing a variety of risk factors, due to Census data limitations, the reach levels are based on the number of families with children under age 5 at or below 185 percent of the federal poverty guidelines without regard to any other risk factors.

15a. Percentage of families with children under 5 living below 185% FPL served by the Family Home Visiting Program, mapped by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Health, and U.S. Census Bureau, American Community Survey, 2012-2016.

Note. Data are not available for counties that do not display a *reach* circle.

15b. Percentage of families with children under 5 living below 185% FPL served by the Family Home Visiting Program, by county (2016)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	14.6	2	Pipestone	7.3	2
Minnesota	**13.0**	**—**	Isanti	9.2	2	Polk	19.3	3
Aitkin	22.4	3	Itasca	19.7	3	Pope	41.2	4
Anoka	10.8	2	Jackson	28.6	3	Ramsey	11.1	2
Becker	22.0	3	Kanabec	38.9	4	Red Lake	7.4	2
Beltrami	5.3	2	Kandiyohi	26.1	3	Redwood	9.4	2
Benton	1.7	1	Kittson	2.9	2	Renville	75.3	4
Big Stone	2.3	2	Koochiching	42.3	4	Rice	3.7	2
Blue Earth	5.1	2	Lac qui Parle	*	*	Rock	3.8	2
Brown	39.0	4	Lake	7.5	2	Roseau	12.4	2
Carlton	21.8	3	Lake Of The Woods	56.8	4	Scott	9.6	2
Carver	17.6	3	Le Sueur	12.8	2	Sherburne	3.6	2
Cass	6.1	2	Lincoln	4.3	2	Sibley	27.4	3
Chippewa	4.3	2	Lyon	6.8	2	St. Louis	11.9	2
Chisago	14.4	2	Mahnomen	5.8	2	Stearns	5.2	2
Clay	12.1	2	Marshall	19.4	3	Steele	1.9	1
Clearwater	27.8	3	Martin	15.5	2	Stevens	85.2	4
Cook	*	*	McLeod	22.7	3	Swift	1.7	1
Cottonwood	38.2	4	Meeker	21.1	3	Todd	10.5	2
Crow Wing	4.4	2	Mille Lacs	24.4	3	Traverse	23.1	3
Dakota	14.6	2	Morrison	14.5	2	Wabasha	12.1	2
Dodge	27.4	3	Mower	4.2	2	Wadena	12.3	2
Douglas	40.7	4	Murray	9.4	2	Waseca	16.4	2
Faribault	13.3	2	Nicollet	4.1	2	Washington	11.6	2
Fillmore	18.0	3	Nobles	20.7	3	Watonwan	7.3	2
Freeborn	28.1	3	Norman	14.1	2	Wilkin	5.9	2
Goodhue	14.0	2	Olmsted	10.7	2	Winona	10.9	2
Grant	14.4	2	Otter Tail	21.2	3	Wright	8.7	2
Hennepin	14.0	2	Pennington	22.9	3	Yellow Medicine	4.2	2
Houston	15.7	2	Pine	25.7	3			

Source. Wilder Research analysis of data from the Minnesota Department of Health, and U.S. Census Bureau, American Community Survey, 2012-2016.
Note. Starred (*) counties indicate reliable data not available. Level 1 = low reach (less than 2.1%), level 2 = low to moderate reach (2.1% – 17%), level 3 = moderate to high reach (17% – 31.8%), level 4 = high reach (greater than 31.8%). Some counties may display identical values but different reach levels due to rounding.

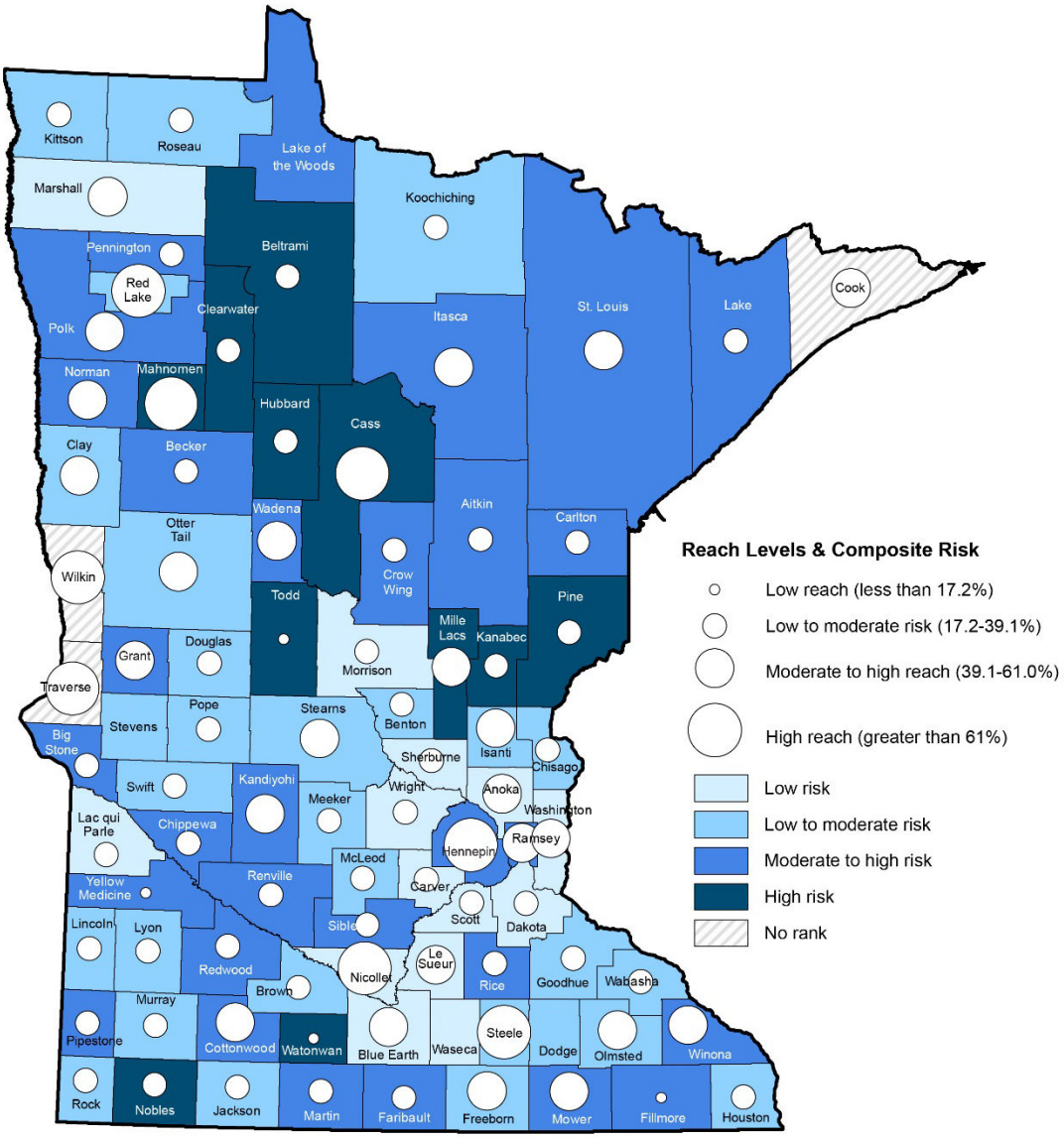
Human Services

Minnesota Family Investment Program coverage

The Minnesota Family Investment Program (MFIP) is the state's version of the federal Temporary Assistance for Needy Families program. It supports low-income families with children and aims to help those families move toward financial stability through work. Parents are supported through cash and food assistance, as well as employment services.

Statewide, nearly half of children under age 6 in low-income families are covered by MFIP, calculated as the percentage of all children under age 6 in families with incomes at or below 125 percent of the poverty level. The coverage ranges from 12 percent in Fillmore County to 100 percent in Red Lake County. In the Twin Cities metro area, Hennepin (61%) and Ramsey Counties (57%) have relatively high coverage levels.

16a. Children under age 6 living at or below 125% FPL covered by Minnesota Family Investment Program, by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Human Services and U.S. Census Bureau, American Community Survey, 2012-2016.

Note. Data are not available for counties that do not display a *reach* circle.

16b. Children under age 6 living at or below 125% FPL covered by Minnesota Family Investment Program, by county (2016)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	31.9	2	Pipestone	29.9	2
Minnesota	**48.1**	**—**	Isanti	44.2	3	Polk	58.8	3
Aitkin	22.2	2	Itasca	45.2	3	Pope	30.6	2
Anoka	50.9	3	Jackson	24.7	2	Ramsey	56.8	3
Becker	21.4	2	Kanabec	28.4	2	Red Lake	100.0	4
Beltrami	36.9	2	Kandiyohi	48.1	3	Redwood	18.3	2
Benton	38.8	2	Kittson	17.7	2	Renville	29.4	2
Big Stone	20.3	2	Koochiching	28.0	2	Rice	24.8	2
Blue Earth	39.9	3	Lac qui Parle	25.0	2	Rock	27.1	2
Brown	38.6	2	Lake	21.0	2	Roseau	34.3	2
Carlton	26.8	2	Lake of the Woods	*	*	St. Louis	52.0	3
Carver	38.3	2	Le Sueur	46.0	3	Scott	34.8	2
Cass	65.2	4	Lincoln	20.8	2	Sherburne	22.7	2
Chippewa	22.8	2	Lyon	29.8	2	Sibley	26.3	2
Chisago	29.2	2	McLeod	22.6	2	Stearns	46.1	3
Clay	60.6	3	Mahnomen	62.3	4	Steele	83.0	4
Clearwater	21.7	2	Marshall	47.9	3	Stevens	*	*
Cook	48.1	3	Martin	30.6	2	Swift	31.2	2
Cottonwood	44.5	3	Meeker	23.1	2	Todd	12.7	1
Crow Wing	26.2	2	Mille Lacs	40.5	3	Traverse	100.0	4
Dakota	35.7	2	Morrison	34.7	2	Wabasha	26.2	2
Dodge	*	*	Mower	52.3	3	Wadena	45.8	3
Douglas	36.7	2	Murray	38.6	2	Waseca	*	*
Faribault	32.5	2	Nicollet	74.2	4	Washington	40.4	3
Fillmore	11.6	1	Nobles	31.4	2	Watonwan	16.7	1
Freeborn	50.4	3	Norman	43.2	3	Wilkin	88.2	4
Goodhue	31.8	2	Olmsted	56.3	3	Winona	48.7	3
Grant	43.2	3	Otter Tail	39.8	3	Wright	18.5	2
Hennepin	61.3	4	Pennington	33.3	2	Yellow Medicine	16.7	1
Houston	20.6	2	Pine	36.2	2			

Source. Wilder Research analysis of data from the Minnesota Department of Human Services and U.S. Census Bureau, American Community Survey, 2012-2016.
Note. Level 1 = low reach (less than 17.2%), level 2 = low to moderate reach (17.2% – 39.1%), level 3 = moderate to high reach (39.1% – 61.0%), level 4 = high reach (greater than 61.0%). Starred counties (*) lacked reliable data for this indicator. Some counties may display identical values but different reach levels due to rounding.

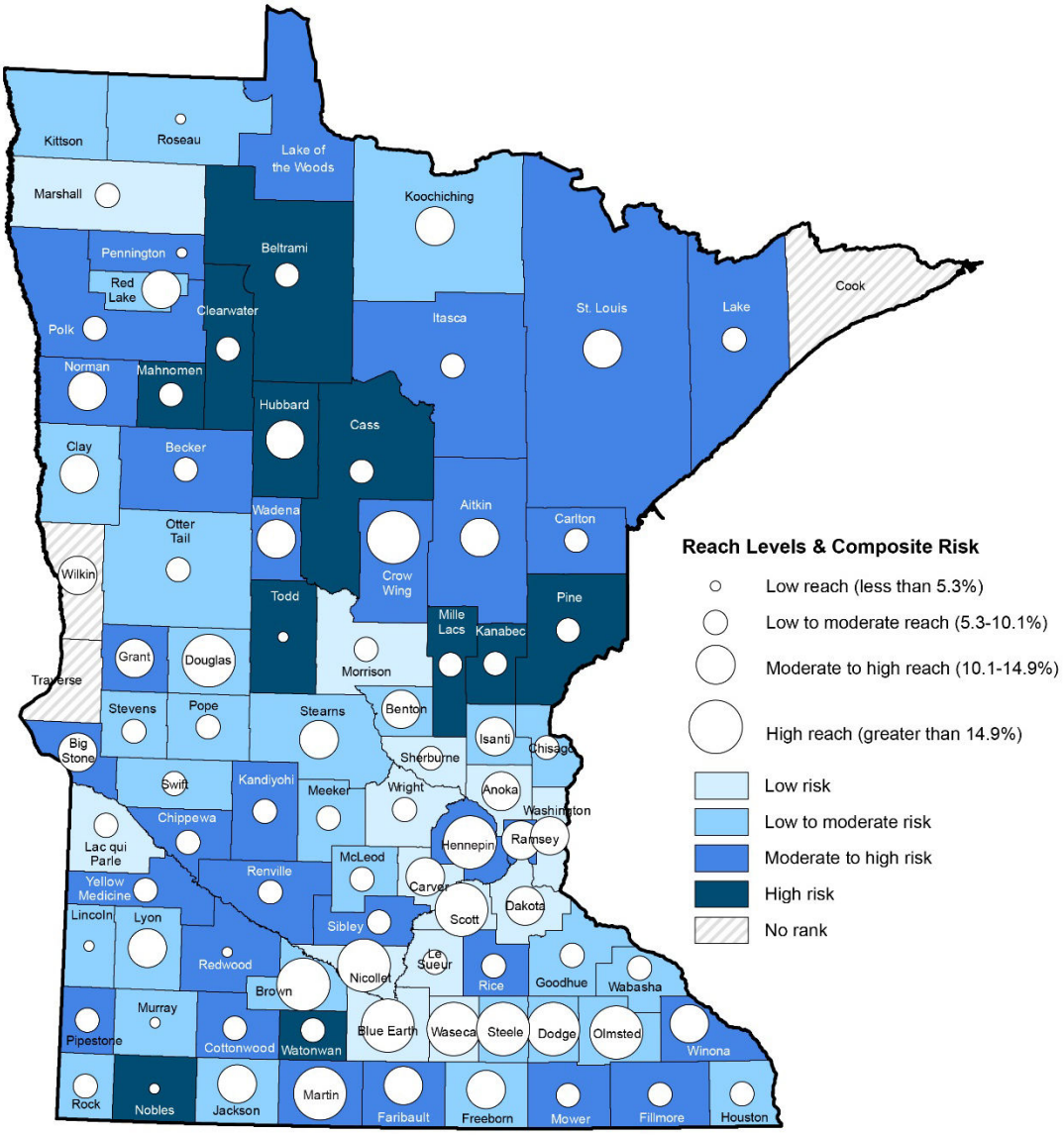
Child Care Assistance Program participation

Subsidies through the Child Care Assistance Program (CCAP) help parents attain and retain employment and education. When used to pay for care that is in safe, stimulating, and developmentally appropriate homes and center-based programs, CCAP subsidies also contribute to healthy child development. Receipt of child care subsidies and continuity of care are dependent upon parental work schedules. In addition, in some counties, wait lists for CCAP subsidies are long. The continuity of child care also may be disrupted for some children if parents do not comply with program requirements.

CCAP is available to families participating in the Minnesota Family Investment Program (MFIP), families with a MFIP case closed within the last 12 months, and low-income families that may be eligible for the Basic Sliding Fee program.

Statewide, 13 percent of children under age 6 in low-income families are served by CCAP, calculated as the percentage of all children under age 6 in families with incomes at or below 200 percent of the poverty level. This reach level is the same as in 2014. The coverage ranges from less than 3 percent in Todd County to 25 percent in Brown County. Counties in the southeast of the state near Rochester have high levels of CCAP reach, while counties in the northwest have lower levels.

17a. Percentage of children under age 6 living in households below 200% FPL served by the Child Care Assistance Program, mapped by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Human Services, 2016, and U.S. Census Bureau, American Community Survey, 2012-2016.

Note. Data are not available for counties that do not display a *reach* circle.

17b. Percentage of children under age 6 living in households below 200% FPL served by the Child Care Assistance Program, by county (2016)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	14.6	3	Pipestone	7.4	2
Minnesota	**13.0**	**—**	Isanti	10.3	3	Polk	6.2	2
Aitkin	12.4	3	Itasca	6.9	2	Pope	8.9	2
Anoka	14.0	3	Jackson	11.2	3	Ramsey	13.1	3
Becker	8.6	2	Kanabec	6.6	2	Red Lake	11.4	3
Beltrami	7.8	2	Kandiyohi	8.1	2	Redwood	4.8	1
Benton	11.2	3	Kittson	*	*	Renville	7.0	2
Big Stone	10.8	3	Koochiching	10.9	3	Rice	8.4	2
Blue Earth	17.4	4	Lac qui Parle	6.7	2	Rock	6.2	2
Brown	24.7	4	Lake	7.3	2	Roseau	4.9	1
Carlton	8.3	2	Lake of the Woods	*	*	St. Louis	12.2	3
Carver	13.6	3	Le Sueur	7.0	2	Scott	16.8	4
Cass	7.8	2	Lincoln	4.5	1	Sherburne	7.4	2
Chippewa	5.8	2	Lyon	12.3	3	Sibley	5.6	2
Chisago	7.6	2	McLeod	6.8	2	Stearns	10.6	3
Clay	13.4	3	Mahnomen	5.8	2	Steele	18.1	4
Clearwater	6.0	2	Marshall	6.7	2	Stevens	9.7	2
Cook	*	*	Martin	15.3	4	Swift	8.5	2
Cottonwood	7.8	2	Meeker	5.6	2	Todd	2.5	1
Crow Wing	16.4	4	Mille Lacs	8.5	2	Traverse	*	*
Dakota	13.7	3	Morrison	7.1	2	Wabasha	5.9	2
Dodge	23.3	4	Mower	9.9	2	Wadena	10.9	3
Douglas	16.6	4	Murray	3.6	1	Waseca	18.8	4
Faribault	12.4	3	Nicollet	23.2	4	Washington	14.1	3
Fillmore	7.4	2	Nobles	2.9	1	Watonwan	5.4	2
Freeborn	11.4	3	Norman	10.2	3	Wilkin	14.9	3
Goodhue	7.9	2	Olmsted	21.1	4	Winona	12.8	3
Grant	10.5	3	Otter Tail	5.7	2	Wright	6.4	2
Hennepin	18.1	4	Pennington	3.7	1	Yellow Medicine	7.5	2
Houston	7.4	2	Pine	6.4	2			

Source. Wilder Research analysis of data from the Minnesota Department of Human Services, 2016, and U.S. Census Bureau, American Community Survey, 2012-2016.

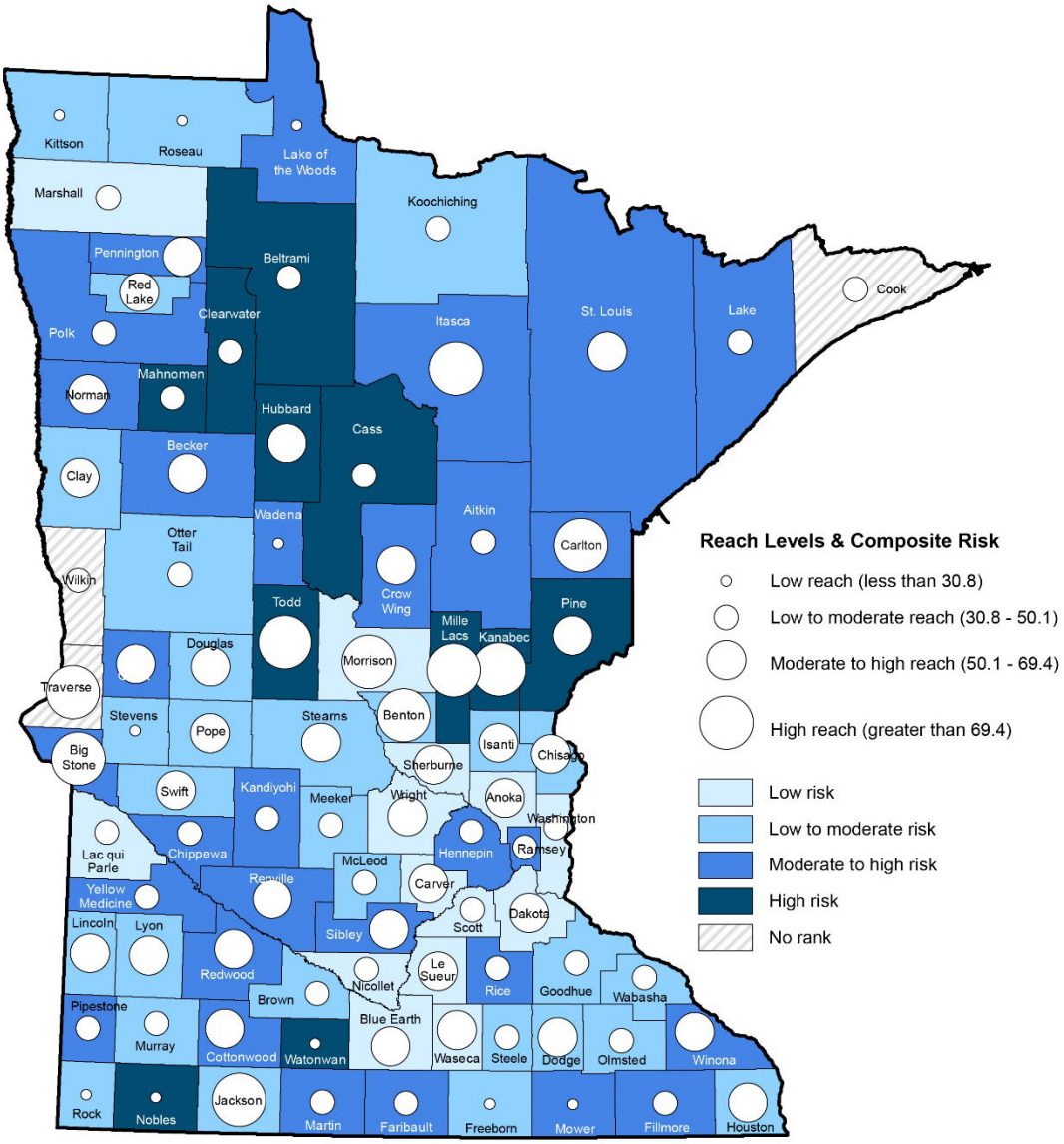
Notes. CCAP data represents average monthly count of children under age 6 served in state fiscal year 2016 by case residence county.
Starred counties (*) lacked data for this indicator. The Minnesota Department of Human Services does not provide rates for counties with fewer than 7 events.
Level 1 = low reach (less than 5.3%), level 2 = low to moderate reach (5.3% – 10.1%), level 3 = moderate to high reach (10.1% – 14.9%), level 4 = high reach (greater than 14.9%). Some counties may display identical values but different reach levels due to rounding.

Mental health treatment within Minnesota Health Care Programs

Infants and young children develop within multiple contexts, including internal contexts shaped by genetics and biology and external environments of parents, families, culture, and socioeconomic class. Early mental health intervention enhances child development by reducing risk factors and increasing protective influences, when possible, within these contexts. Assessment and mental health interventions focus on the primary caregiving relationship(s), which are central to the young child's experiences and influenced by all other contexts. Science suggests that intervention in the very early stages of development, when needed, capitalizes on normative developmental processes and is cost effective.[70]

Statewide in 2016, 49 per 1,000 children under age 6 enrolled in Minnesota Health Care Programs (MinnesotaCare and Medical Assistance) were assessed and treated for mental health issues, up from 40 in 2013. The 10 low-reach and 10 high-reach counties are scattered across greater Minnesota.

18a. Rate of mental health treatment among children under age 6 enrolled in Minnesota Health Care Programs, mapped by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Human Services.

Note. Rate per 1,000 children under age 6. Includes only mental health treatment received through Medicaid and MinnesotaCare.

18b. Rate of mental health treatment among children under age 6, enrolled in Minnesota Health Care Programs, by county (2016)

	Rate	Reach level		Rate	Reach level		Rate	Reach level
			Hubbard	53.9	3	Pipestone	30.8	2
Minnesota	**49.1**	**—**	Isanti	62.1	3	Polk	49.9	2
Aitkin	37.2	2	Itasca	78.8	4	Pope	53.1	3
Anoka	57.7	3	Jackson	79.7	4	Ramsey	32.3	2
Becker	60.1	3	Kanabec	100.3	4	Red Lake	59.9	3
Beltrami	47.1	2	Kandiyohi	34.2	2	Redwood	54.6	3
Benton	83.8	4	Kittson	16.0	1	Renville	54.3	3
Big Stone	110.5	4	Koochiching	48.8	2	Rice	37.9	2
Blue Earth	63.6	3	Lac Qui Parle	41.5	2	Rock	24.1	1
Brown	43.2	2	Lake	41.7	2	Roseau	20.3	1
Carlton	75.0	4	Lake Of The Woods	16.6	1	Scott	48.6	2
Carver	57.5	3	Le Sueur	67.8	3	Sherburne	64.3	3
Cass	47.9	2	Lincoln	54.4	3	Sibley	51.0	3
Chippewa	34.7	2	Lyon	51.2	3	St. Louis	60.3	3
Chisago	64.1	3	Mahnomen	40.9	2	Stearns	61.7	3
Clay	62.2	3	Marshall	47.1	2	Steele	45.9	2
Clearwater	39.5	2	Martin	47.6	2	Stevens	28.8	1
Cook	36.0	2	McLeod	47.7	2	Swift	52.6	3
Cottonwood	51.0	3	Meeker	33.2	2	Todd	82.6	4
Crow Wing	54.8	3	Mille Lacs	98.8	4	Traverse	71.4	4
Dakota	59.0	3	Morrison	82.0	4	Wabasha	32.8	2
Dodge	50.3	3	Mower	23.6	1	Wadena	30.6	1
Douglas	67.8	3	Murray	46.9	2	Waseca	66.9	3
Faribault	49.0	2	Nicollet	44.5	2	Washington	49.9	2
Fillmore	31.1	2	Nobles	16.6	1	Watonwan	22.8	1
Freeborn	22.2	1	Norman	66.3	3	Wilkin	36.4	2
Goodhue	37.1	2	Olmsted	32.6	2	Winona	54.2	3
Grant	58.7	3	Otter Tail	37.4	2	Wright	57.5	3
Hennepin	46.9	2	Pennington	51.8	3	Yellow Medicine	42.0	2
Houston	68.8	3	Pine	50.7	3			

Source. Wilder Research analysis of data from the Minnesota Department of Human Services.

Note. Rate per 1,000 Medicaid and MinnesotaCare enrollees under age 6. Includes only mental health diagnoses received through Medicaid. Level 1 = low reach (less than 30.8), level 2 = low to moderate reach (30.8–50.1), level 3 = moderate to high reach (50.1 – 69.4), level 4 = high reach (greater than 69.4). Some counties may display identical values but different reach levels due to rounding.

Education programs

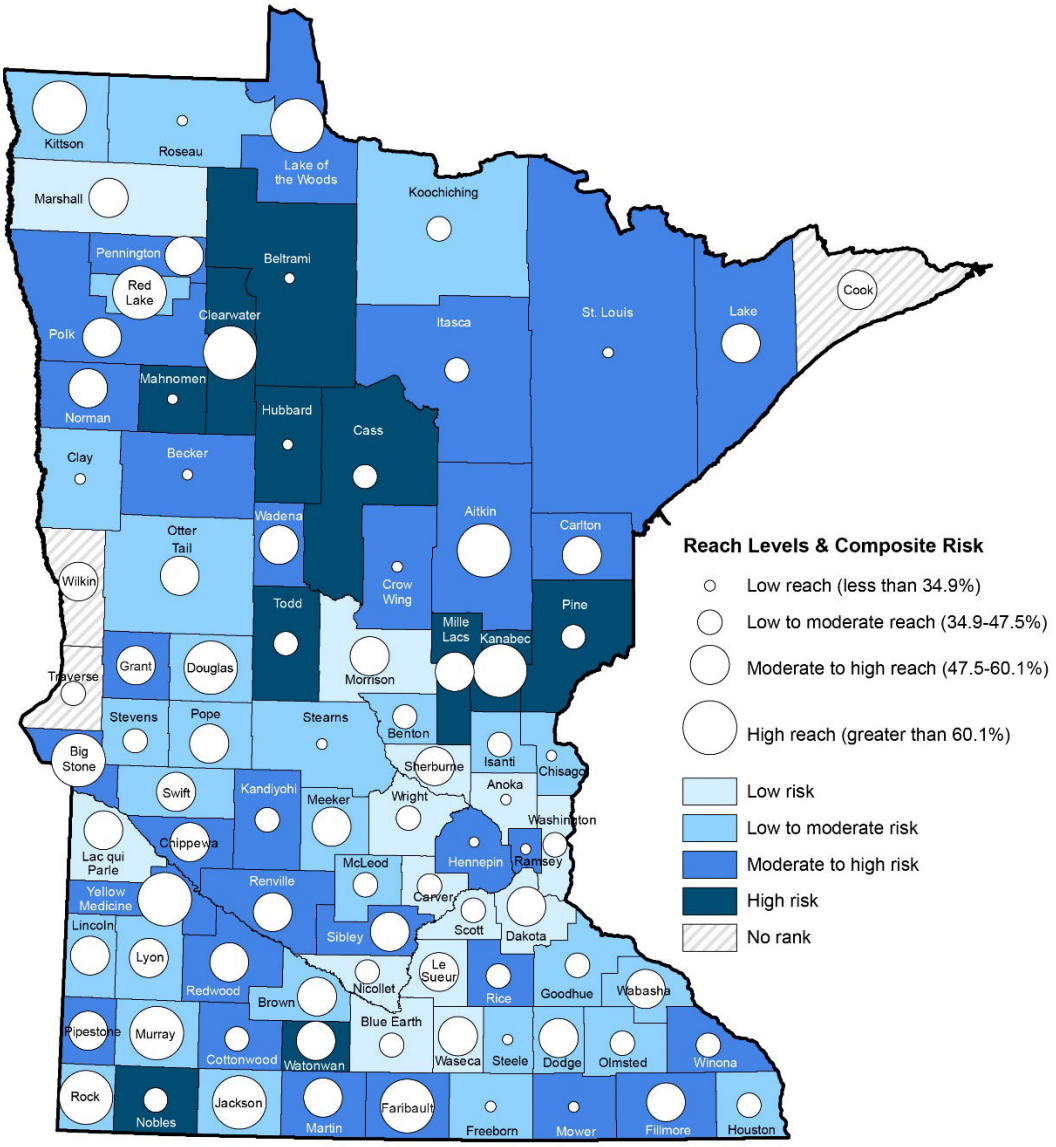
Early childhood screening

Early childhood screening evaluates young children's hearing, vision, immunizations, coordination, speech, and cognitive development, as well as social and emotional skills. Through the screening process, families are connected with specific resources to help them address potential concerns.

Early Childhood Screening is offered throughout the year by local school districts as well as by others such as Head Start, Child and Teen Checkups, and health care providers. Screening is required by state law within 30 days of enrollment in kindergarten and recommended prior to kindergarten. Screening earlier at age 3 provides an opportunity to intervene for better readiness at school entry.

In 2016, about 38 percent of kindergartners were screened in Minnesota at age 3. The reach ranges from 21 percent in Hubbard County to about 75 percent in Big Stone, Douglas, Murray, and Red Lake counties. In the metro area, Hennepin (29%) and Ramsey (23%) counties have low reach levels.

19a. Kindergarteners who received early childhood screening at age 3, by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Education (2015-2016).

19b. Kindergarteners who received early childhood screening at age 3, by county (2016)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	20.9	1	Pipestone	56.6	3
Minnesota	**37.6**	**—**	Isanti	39.8	2	Polk	52.1	3
Aitkin	66.7	4	Itasca	39.1	2	Pope	56.0	3
Anoka	34.3	1	Jackson	63.4	4	Ramsey	22.6	1
Becker	32.1	1	Kanabec	61.9	4	Red Lake	80.4	4
Beltrami	34.2	1	Kandiyohi	40.4	2	Redwood	51.4	3
Benton	35.7	2	Kittson	62.8	4	Renville	55.1	3
Big Stone	74.5	4	Koochiching	35.3	2	Rice	37.1	2
Blue Earth	40.1	2	Lac qui Parle	51.4	3	Rock	69.1	4
Brown	54.7	3	Lake	52.2	3	Roseau	34.1	1
Carlton	49.3	3	Lake of the Woods	65.0	4	Scott	43.2	2
Carver	37.2	2	Le Sueur	49.6	3	Sherburne	58.3	3
Cass	45.9	2	Lincoln	55.9	3	Sibley	50.8	3
Chippewa	58.3	3	Lyon	54.9	3	St. Louis	33.9	1
Chisago	25.7	1	Mahnomen	30.6	1	Stearns	31.5	1
Clay	27.1	1	Marshall	48.0	3	Steele	33.1	1
Clearwater	65.3	4	Martin	52.9	3	Stevens	34.9	2
Cook	56.7	3	McLeod	35.9	2	Swift	58.2	3
Cottonwood	40.9	2	Meeker	53.4	3	Todd	43.2	2
Crow Wing	33.3	1	Mille Lacs	51.0	3	Traverse	44.4	2
Dakota	48.2	3	Morrison	54.8	3	Wabasha	49.8	3
Dodge	48.4	3	Mower	29.2	1	Wadena	50.5	3
Douglas	73.6	4	Murray	73.7	4	Waseca	49.5	3
Faribault	62.1	4	Nicollet	42.2	2	Washington	40.8	2
Fillmore	49.2	3	Nobles	44.3	2	Watonwan	50.7	3
Freeborn	30.7	1	Norman	59.0	3	Wilkin	54.7	3
Goodhue	43.6	2	Olmsted	41.9	2	Winona	38.5	2
Grant	51.3	3	Otter Tail	48.3	3	Wright	46.1	2
Hennepin	28.8	1	Pennington	49.3	3	Yellow Medicine	65.3	4
Houston	45.0	2	Pine	37.1	2			

Source. Wilder Research analysis of data from the Minnesota Department of Education, 2015-2016.

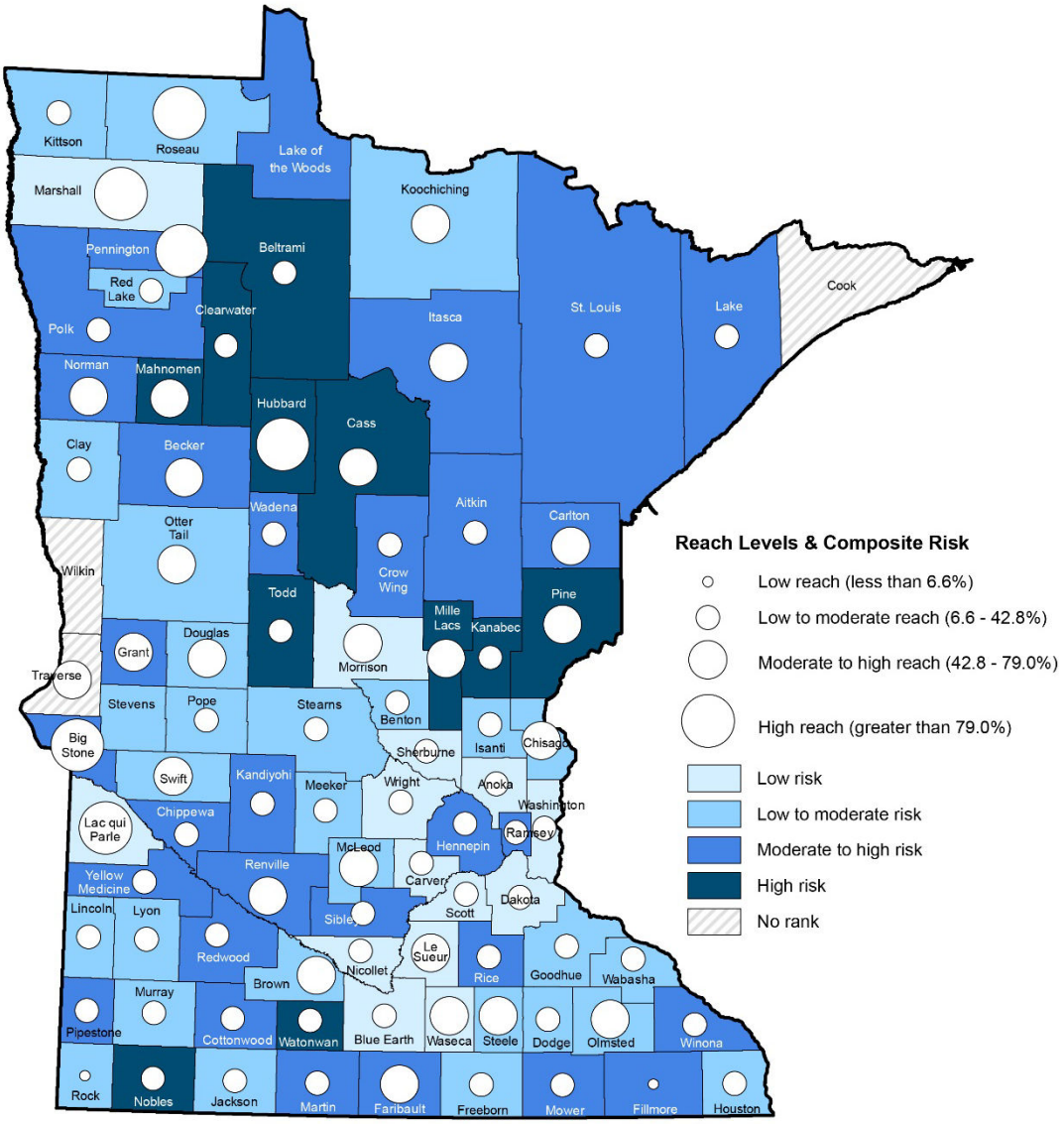
Note. Level 1 = low reach (less than 34.9%), level 2 = low to moderate reach (34.9% – 47.5%), level 3 = moderate to high reach (47.5% – 60.1%), level 4 = high reach (greater than 60.1%). Some counties may display identical values but different reach levels due to rounding.

Early Head Start and Head Start enrollment

Early Head Start and Head Start are comprehensive child development, health, and social service programs for children and families with poverty-level incomes, children with special needs, or children with negative family circumstances such as homelessness. Early Head Start offers home-based services beginning prenatally to nurture child development and parenting skills. For children age 6 weeks to 5 years, options include home visits and full-day, half-day, therapeutic, and inclusion center-based classrooms.

Statewide, about 28 percent of eligible children under age 6 living in poverty are served by Head Start and Early Head Start, calculated as the percentage of all children under age 6 in families with incomes at or below poverty level. In general, greater Minnesota counties have higher levels of reach than counties in the metro area. The coverage ranges from 11 percent or below in Carver and Washington counties in the metro area and Fillmore, Isanti, Rock, St. Louis, and Sibley counties in greater Minnesota to 80 percent or higher in Big Stone, Hubbard, Lac qui Parle, Marshall, Pennington, and Roseau counties.

20a. Children under age 6 living in poverty enrolled in Early Head Start and Head Start, mapped by county (2016)



Source. Wilder Research analysis of data from the Minnesota Department of Education, Head Start Association, 2016; and U.S. Census Bureau, American Community Survey, 2012-2016.

Note. Data are not available for counties that do not display a *reach* circle.

20b. Children under age 6 living in poverty enrolled in Early Head Start and Head Start, by county (2016)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	85.4	4	Pipestone	24.2	2
Minnesota	**27.6**	**—**	Isanti	9.8	2	Polk	28.1	2
Aitkin	41.1	2	Itasca	49.2	3	Pope	32.1	2
Anoka	31.6	2	Jackson	26.5	2	Ramsey	18.0	2
Becker	66.4	3	Kanabec	19.9	2	Red Lake	12.2	2
Beltrami	36.5	2	Kandiyohi	30.5	2	Redwood	13.9	2
Benton	13.1	2	Kittson	41.9	2	Renville	73.8	3
Big Stone	131.1	4	Koochiching	45.5	3	Rice	19.8	2
Blue Earth	37.0	2	Lac qui Parle	83.3	4	Rock	6.5	2
Brown	61.0	3	Lake	28.0	2	Roseau	138.3	4
Carlton	76.8	3	Lake of the Woods	*	*	St. Louis	4.7	1
Carver	10.0	2	Le Sueur	59.9	3	Scott	10.0	2
Cass	71.3	3	Lincoln	14.7	2	Sherburne	13.1	2
Chippewa	19.4	2	Lyon	27.0	2	Sibley	9.8	2
Chisago	45.9	3	McLeod	43.8	3	Stearns	13.1	2
Clay	41.3	2	Mahnomen	66.7	3	Steele	66.7	3
Clearwater	41.9	2	Marshall	242.9	4	Stevens	*	*
Cook	*	*	Martin	26.8	2	Swift	62.4	3
Cottonwood	20.4	2	Meeker	36.1	2	Todd	32.9	2
Crow Wing	41.9	2	Mille Lacs	45.9	3	Traverse	71.4	3
Dakota	12.3	2	Morrison	66.7	3	Wabasha	17.0	2
Dodge	13.3	2	Mower	26.4	2	Wadena	28.2	2
Douglas	67.9	3	Murray	15.4	2	Waseca	59.9	3
Faribault	67.2	3	Nicollet	21.7	2	Washington	10.7	2
Fillmore	6.4	2	Nobles	31.6	2	Watonwan	27.8	2
Freeborn	29.8	2	Norman	47.7	3	Wilkin	*	*
Goodhue	16.7	2	Olmsted	43.7	3	Winona	31.8	2
Grant	56.7	3	Otter Tail	42.8	3	Wright	27.8	2
Hennepin	22.3	2	Pennington	135.5	4	Yellow Medicine	41.7	2
Houston	14.6	2	Pine	45.9	3			

Source. Wilder Research analysis of data from the Minnesota Department of Education.

Note. Due to overlapping service areas, the following counties were combined, and results reflect children served across grouped counties: Benton, Sherburne, and Stearns; Chisago, Mille Lacs, and Pine; Le Sueur, and Waseca. Due to multiple factors--including family mobility and population underestimates within some populations--some counties show more than 100% enrolled. Level 1 = low Reach (less than 5.9%), level 2 = low to moderate Reach (5.9– 42.4%), level 3 = moderate to high Reach (42.4%– 78.9%), level 4 = high Reach (more than 78.9%). Starred counties (*) have Early Head Start and Head Start services but lack reliable population data to calculate the percentage of reach for this indicator.

Enrollment in early intervention and early childhood special education services

The Individuals with Disabilities Education Act (IDEA) is a national law ensuring that early intervention, special education, and related services are provided to children with disabilities. The data presented here are limited to pre-kindergarten children and reflect county location of the programs' district office rather than child's residence.

Under Part C of the Individuals with Disabilities Education Act (IDEA), early intervention services and supports are available in "natural environments" for families and their children age 2 and younger with developmental delays or with certain diagnosed physical or mental disabilities, conditions, or disorders. These include children with low birth weight and children with hearing or vision impairment.

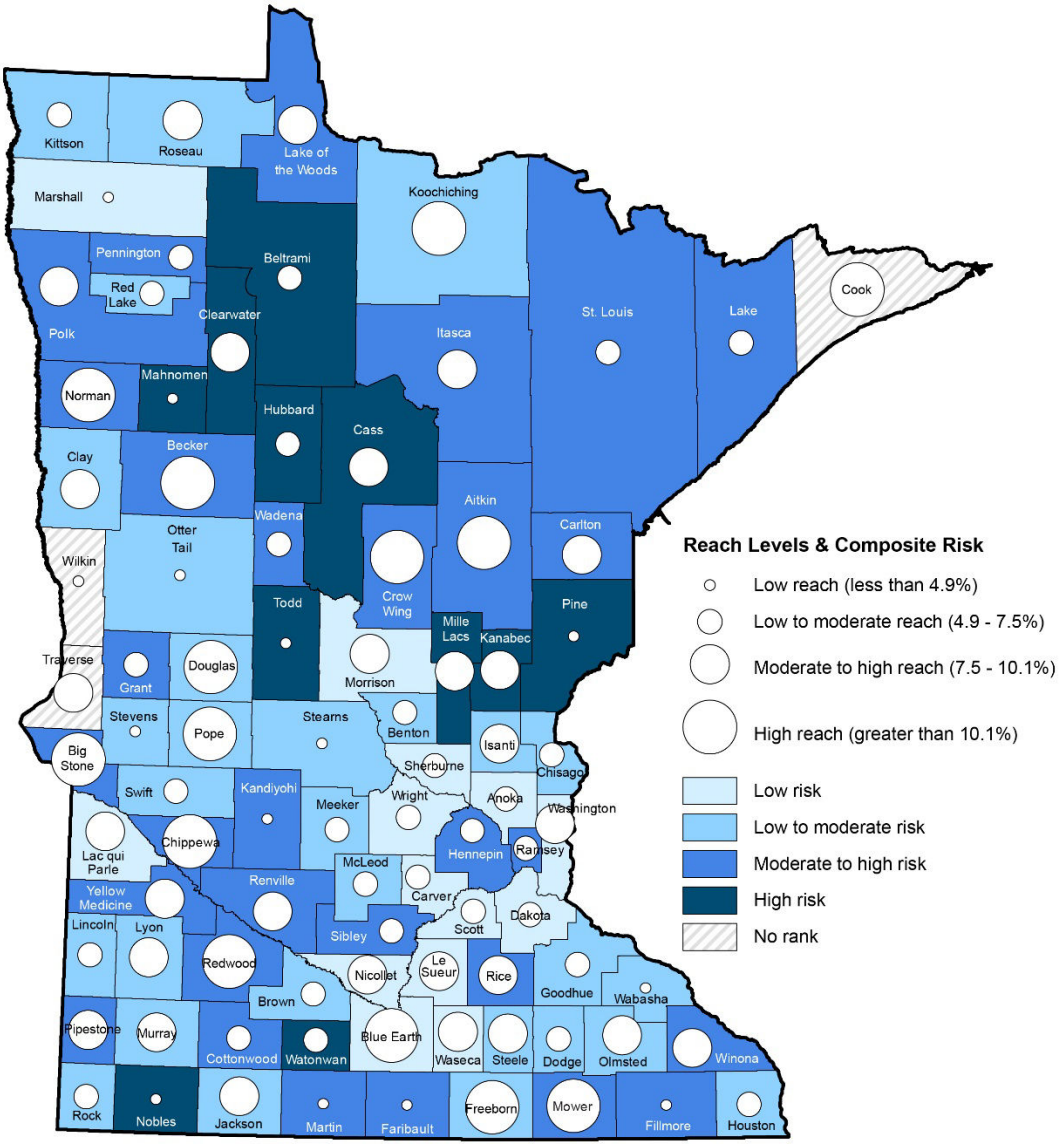
Under Part B of IDEA, children with developmental delays or other disabilities and who are experiencing challenges in their learning and development from age 3 until they begin kindergarten can receive special education services in their home, child care setting, or school, whichever is the least restrictive environment.

Services under Parts C and B include specialized instruction, parent training, and service coordination to help children and their families succeed.

An estimated 15 to 17 percent of Minnesota children under age 6 have developmental disabilities and could benefit from early intervention and special education.

In 2017, 7 percent of all children under age 5 were served by early intervention and early childhood special education services, up from 4 percent in 2014. These services are offered in every county, reaching from 1 to 14 percent of children per county. Lack of early screening and detection and eligibility requirements to receive the services may limit participation.

21a. Children under age 5 enrolled in early intervention and early childhood special education services through Individuals with Disabilities Education Act (IDEA) Parts B and C, mapped by county (2017)



Source. Wilder Research analysis of data from Minnesota Department of Education and Minnesota Department of Education Early Childhood Family Education census data, 2016-2017.

Note. Includes only services received through Individuals with Disabilities Education Act (IDEA) Parts B and C.

21b. Children under age 5 enrolled in early intervention and early childhood special education services through Individuals with Disabilities Education Act (IDEA) Parts B and C, by county (2017)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	7.0	2	Pipestone	10.0	3
Minnesota	**6.9**	**—**	Isanti	8.2	3	Polk	7.7	3
Aitkin	13.6	4	Itasca	8.5	3	Pope	10.9	4
Anoka	7.4	2	Jackson	8.3	3	Ramsey	7.0	2
Becker	11.4	4	Kanabec	9.8	3	Red Lake	6.0	2
Beltrami	5.9	2	Kandiyohi	4.3	1	Redwood	10.7	4
Benton	5.1	2	Kittson	7.0	2	Renville	8.3	3
Big Stone	10.2	4	Koochiching	13.9	4	Rice	8.2	3
Blue Earth	12.8	4	Lac qui Parle	7.8	3	Rock	5.5	2
Brown	5.0	2	Lake	6.7	2	Roseau	9.3	3
Carlton	7.8	3	Lake of the Woods	7.5	3	Scott	6.7	2
Carver	6.3	2	Le Sueur	8.2	3	Sherburne	6.8	2
Cass	7.9	3	Lincoln	6.7	2	Sibley	5.0	2
Chippewa	10.8	4	Lyon	9.6	3	St. Louis	6.6	2
Chisago	6.2	2	Mahnomen	4.0	1	Stearns	4.7	1
Clay	10.0	3	Marshall	4.6	1	Steele	8.1	3
Clearwater	7.5	3	Martin	1.3	1	Stevens	4.4	1
Cook	11.1	4	McLeod	7.3	2	Swift	7.3	2
Cottonwood	7.4	2	Meeker	6.8	2	Todd	4.7	1
Crow Wing	10.5	4	Mille Lacs	9.8	3	Traverse	8.6	3
Dakota	7.5	2	Morrison	8.7	3	Wabasha	4.6	1
Dodge	5.7	2	Mower	11.3	4	Wadena	5.8	2
Douglas	10.6	4	Murray	8.4	3	Waseca	9.9	3
Faribault	2.5	1	Nicollet	9.8	3	Washington	7.6	3
Fillmore	4.1	1	Nobles	3.7	1	Watonwan	6.2	2
Freeborn	11.1	4	Norman	13.5	4	Wilkin	2.2	1
Goodhue	6.8	2	Olmsted	8.0	3	Winona	9.4	3
Grant	5.1	2	Otter Tail	3.9	1	Wright	5.9	2
Hennepin	5.6	2	Pennington	6.8	2	Yellow Medicine	8.2	3
Houston	5.6	2	Pine	3.6	1			

Source. Wilder Research analysis of data from Minnesota Department of Education and Minnesota Department of Education Early Childhood Family Education census data, 2016-2017.

Note. Includes only services received through Individuals with Disabilities Education Act (IDEA) Parts B and C. Level 1 = low reach (less than 4.9%), level 2 = low to moderate reach (4.9% - 7.5%), level 3 = moderate to high reach (7.5% - 10.1%), level 4 = high reach (greater than 10.1%). Some counties may display identical values but different reach levels due to rounding.

New reach indicators

Early Childhood Family Education

Early Childhood Family Education (ECFE), offered by school districts, provides parenting education and support to expectant parents and parents with children from birth through age 4 to support children's learning and development.

Statewide, about 5 percent of children under age 5 are served by ECFE. The highest coverage is in Marshall County (24%) as shown in Figure 22b.

School Readiness Program

School Readiness is a public school early childhood education program open to children from age 3 to enrollment in kindergarten. The goal of the program is to help preschoolers gain skills and behaviors for school success. The program is free for children with one of six risk factors, such as qualifying for free or reduced-price lunch, being an English language learner, or having a potential risk factor that may influence learning.

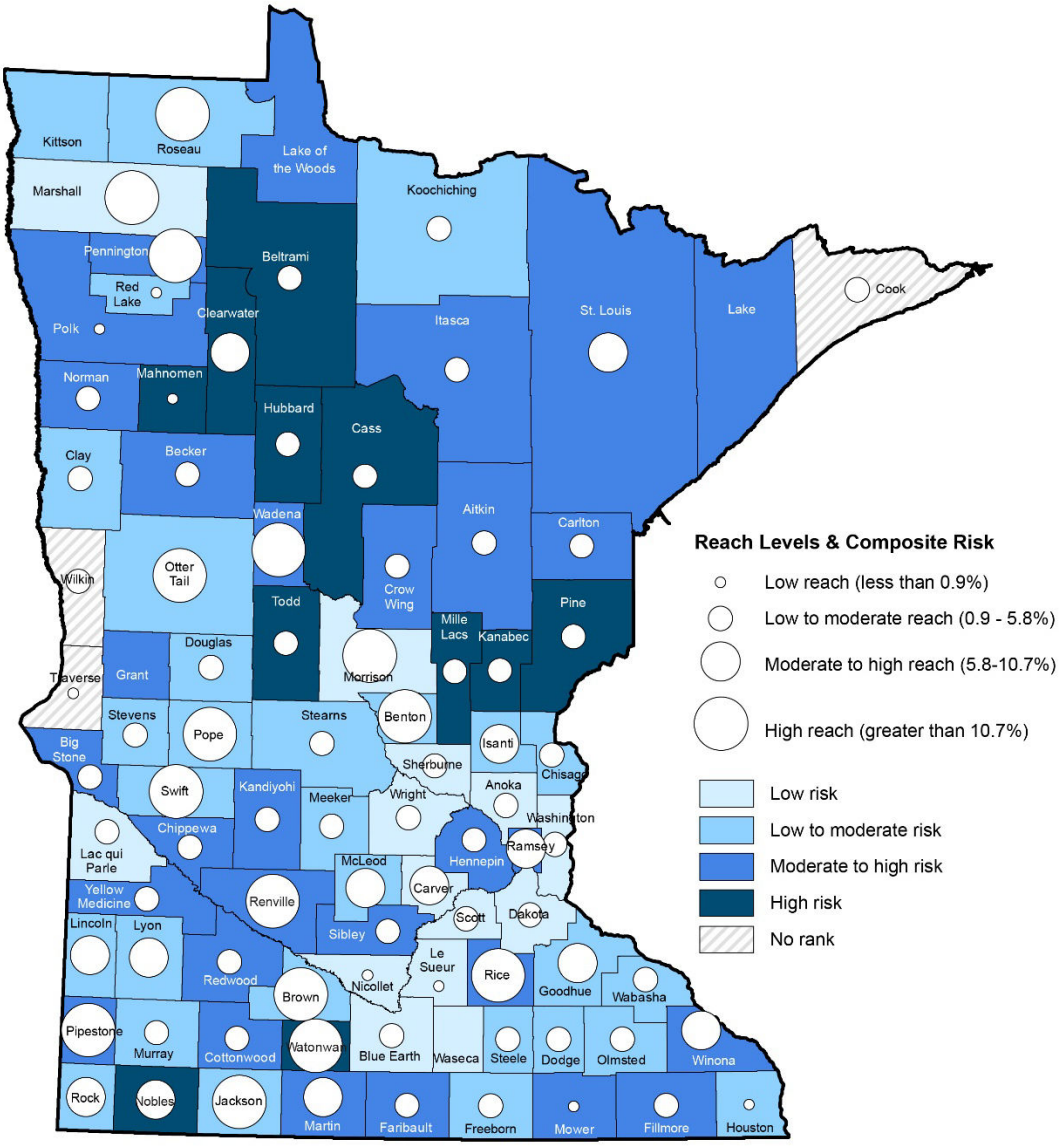
Statewide, about 14 or 15 percent of children age 3 and 4 are served by the School Readiness Program. The highest coverage is in Red Lake (82%) and Cook (73%) counties as shown in Figure 23b.

Voluntary Pre-Kindergarten

School districts and charter schools apply to the Minnesota Department of Education to offer Voluntary Prekindergarten, which uses instruction and curriculum aligned with Minnesota's early learning standards to prepare 4-year-olds for kindergarten.

Statewide, about 5 percent of 4-year-olds are served by the Voluntary Pre-Kindergarten program. See Figure 24b for percentages by county.

22a. Children under age 5 served by Early Childhood Family Education, by county (2016-2017 school year)



Source. Wilder Research analysis of data from Minnesota Department of Education and Minnesota Department of Education Early Childhood Family Education census data, 2016-2017.

Note. Data are not available for counties that do not display a *reach* circle.

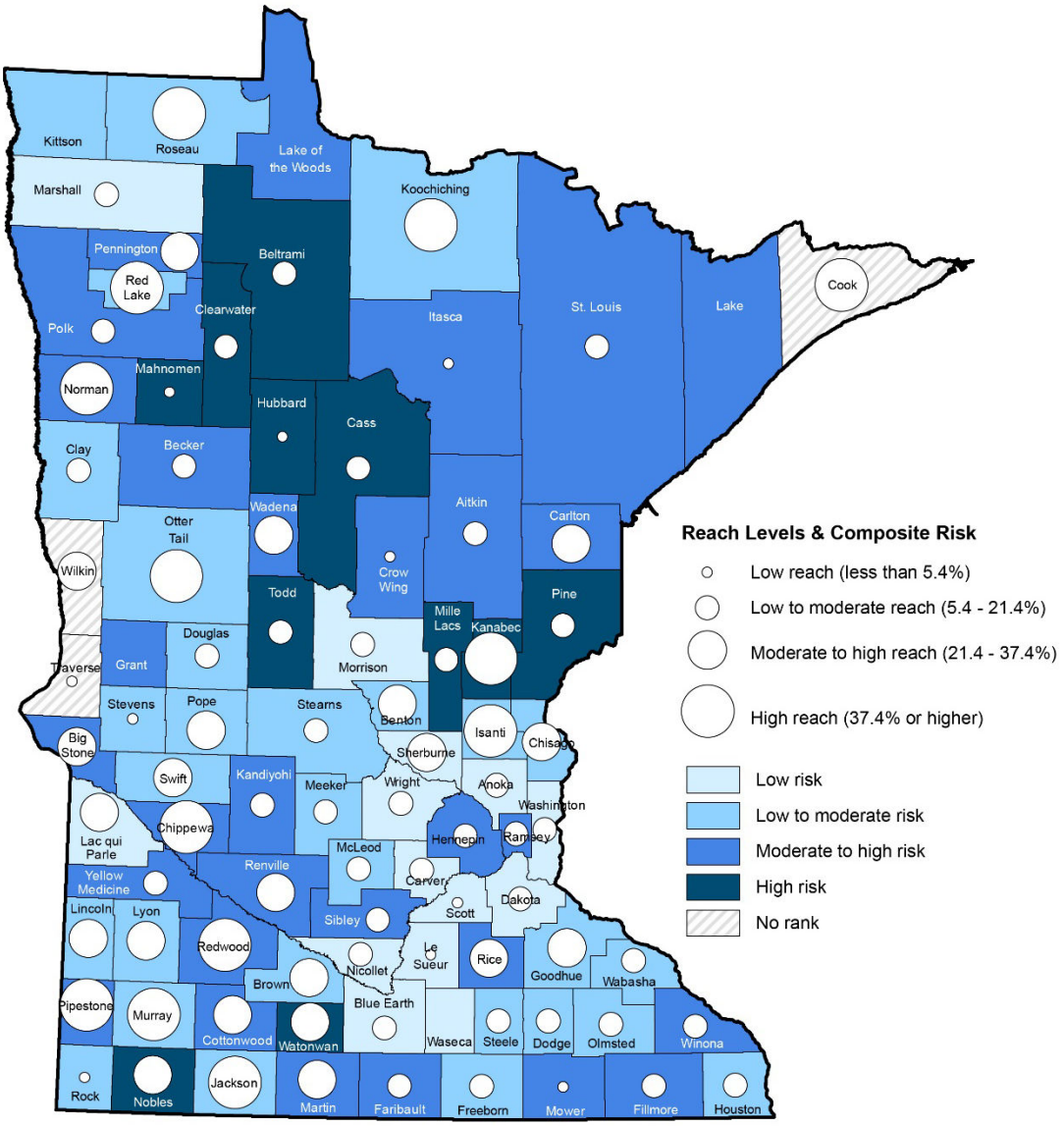
22b. Children under age 5 served by Early Childhood Family Education, by county (2016-2017)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	5.3	2	Pipestone	11.2	4
Minnesota	**4.7**	**—**	Isanti	7.7	3	Polk	0.1	1
Aitkin	2.6	2	Itasca	5.5	2	Pope	12.1	4
Anoka	1.6	2	Jackson	14.7	4	Ramsey	7.3	3
Becker	4.0	2	Kanabec	5.5	2	Red Lake	0.0	1
Beltrami	3.0	2	Kandiyohi	1.5	2	Redwood	5.2	2
Benton	10.8	4	Kittson	*	*	Renville	15.7	4
Big Stone	2.7	2	Koochiching	2.7	2	Rice	14.0	4
Blue Earth	2.1	2	Lac qui Parle	2.5	2	Rock	9.7	3
Brown	12.7	4	Lake	*	*	Roseau	16.0	4
Carlton	5.6	2	Lake of the Woods	*	*	Scott	1.0	2
Carver	6.7	3	Le Sueur	0.0	1	Sherburne	5.7	2
Cass	2.1	2	Lincoln	8.7	3	Sibley	3.6	2
Chippewa	5.7	2	Lyon	9.3	3	St. Louis	8.4	3
Chisago	3.3	2	Mahnomen	0.0	1	Stearns	1.7	2
Clay	2.4	2	Marshall	24.2	4	Steele	4.9	2
Clearwater	8.6	3	Martin	6.1	3	Stevens	1.7	2
Cook	1.2	2	McLeod	7.9	3	Swift	12.7	4
Cottonwood	2.6	2	Meeker	4.9	2	Todd	5.7	2
Crow Wing	1.6	2	Mille Lacs	3.2	2	Traverse	0.0	1
Dakota	5.2	2	Morrison	11.3	4	Wabasha	4.3	2
Dodge	2.9	2	Mower	0.0	1	Wadena	16.1	4
Douglas	1.4	2	Murray	4.0	2	Waseca	*	*
Faribault	1.5	2	Nicollet	0.3	1	Washington	2.1	2
Fillmore	4.0	2	Nobles	8.9	3	Watonwan	17.0	4
Freeborn	4.6	2	Norman	4.5	2	Wilkin	1.9	2
Goodhue	7.7	3	Olmsted	3.9	2	Winona	9.9	3
Grant	*	*	Otter Tail	12.6	4	Wright	5.3	2
Hennepin	3.8	2	Pennington	11.1	4	Yellow Medicine	4.9	2
Houston	0.0	1	Pine	2.0	2			

Source. Wilder Research analysis of data from Minnesota Department of Education and Minnesota Department of Education Early Childhood Family Education census data, 2016-2017.

Note. Starred counties indicate no data reported to MDE. Level 1 = low reach (less than 0.9%), level 2 = low to moderate reach (0.9% – 5.8%), level 3 = moderate to high reach (5.8% – 10.7%), level 4 = high reach (greater than 10.7%).

23a. Children age 3-4 enrolled in School Readiness, by county (2016-2017)



Source. Wilder Research analysis of data from Minnesota Department of Education and Minnesota Department of Education Early Childhood Family Education census data, 2016-2017.

Notes. Children who turn 3 by Sept. 1 are eligible for School Readiness. Children in School Readiness could include children who turn 5 during the school year. Per MDE: Because Invest Early blends funds in Itasca County, those children are reported under Voluntary Pre-Kindergarten and not School Readiness.

Data are not available for counties that do not display a *reach* circle.

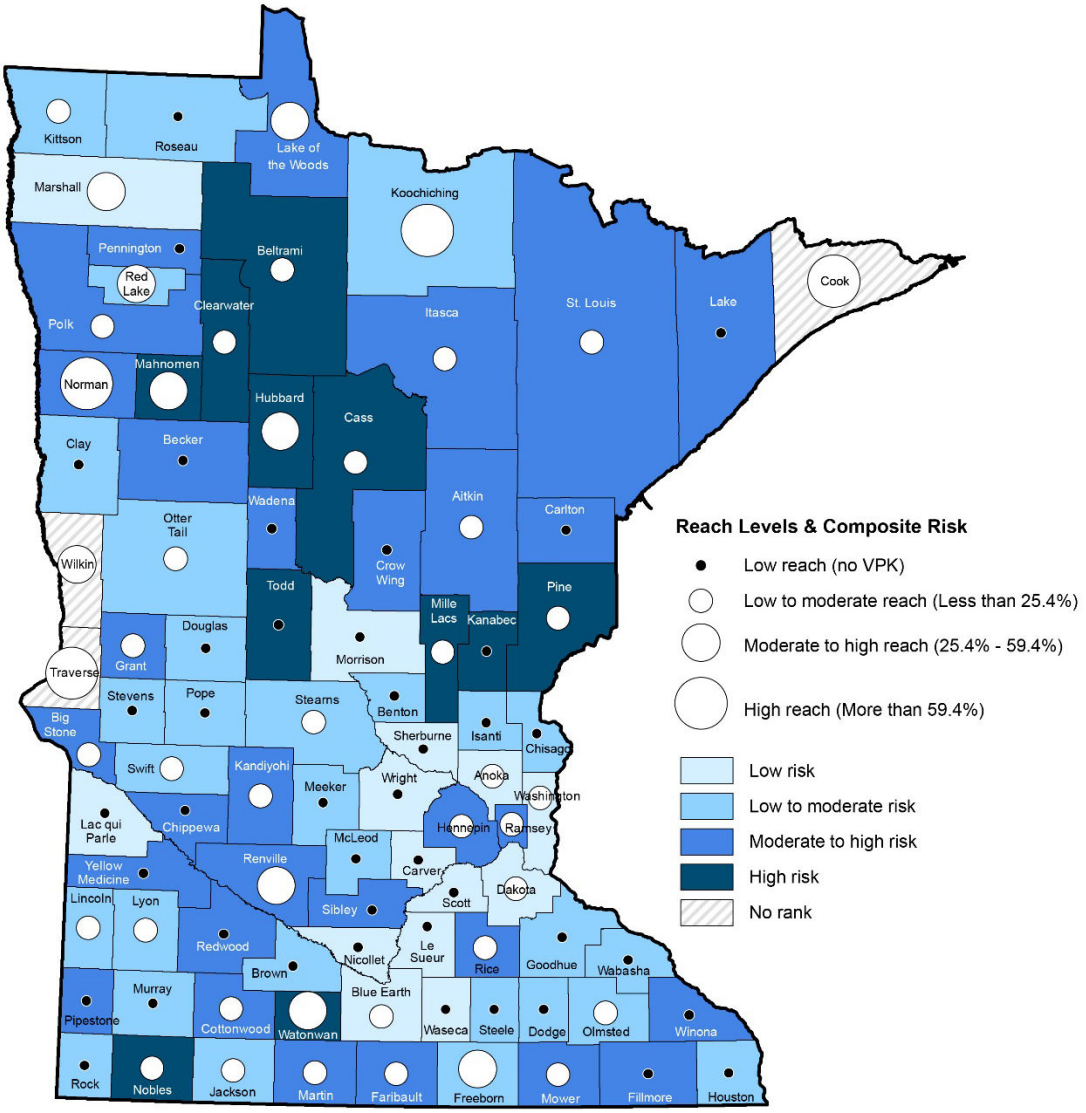
23b. Children age 3-4 enrolled in School Readiness, by county (2016-2017)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	4.9	1	Pipestone	46.7	4
Minnesota	**14.5**	**—**	Isanti	42.8	4	Polk	6.2	2
Aitkin	5.8	2	Itasca	4.4	1	Pope	33.3	3
Anoka	10.7	2	Jackson	48.8	4	Ramsey	15.7	2
Becker	18.7	2	Kanabec	45.3	4	Red Lake	82.2	4
Beltrami	8.1	2	Kandiyohi	8.8	2	Redwood	46.1	4
Benton	27.4	3	Kittson	*	*	Renville	27.3	3
Big Stone	29.1	3	Koochiching	45.3	4	Rice	26.0	3
Blue Earth	6.0	2	Lac qui Parle	22.6	3	Rock	0.0	1
Brown	33.3	3	Lake	*	*	Roseau	43.9	4
Carlton	23.3	3	Lake of the Woods	*	*	Scott	4.5	1
Carver	8.6	2	Le Sueur	0.2	1	Sherburne	27.4	3
Cass	11.8	2	Lincoln	32.0	3	Sibley	14.5	2
Chippewa	38.7	4	Lyon	32.7	3	St. Louis	14.0	2
Chisago	24.4	3	Mahnomen	3.5	1	Stearns	10.0	2
Clay	11.1	2	Marshall	15.6	2	Steele	11.1	2
Clearwater	7.2	2	Martin	31.5	3	Stevens	3.2	1
Cook	73.0	4	McLeod	19.7	2	Swift	33.0	3
Cottonwood	24.4	3	Meeker	15.8	2	Todd	16.1	2
Crow Wing	3.4	1	Mille Lacs	18.8	2	Traverse	0.0	1
Dakota	12.8	2	Morrison	12.3	2	Wabasha	18.0	2
Dodge	17.4	2	Mower	2.8	1	Wadena	35.6	3
Douglas	5.4	2	Murray	37.6	4	Waseca	*	*
Faribault	9.5	2	Nicollet	8.0	2	Washington	20.4	2
Fillmore	19.0	2	Nobles	24.7	3	Watonwan	33.6	3
Freeborn	13.1	2	Norman	50.8	4	Wilkin	23.9	3
Goodhue	25.7	3	Olmsted	8.6	2	Winona	11.7	2
Grant	*	*	Otter Tail	37.8	4	Wright	18.1	2
Hennepin	11.2	2	Pennington	30.5	3	Yellow Medicine	17.4	2
Houston	12.9	2	Pine	16.0	2			

Source. Wilder Research analysis of data from Minnesota Department of Education and Minnesota Department of Education Early Childhood Family Education census data, 2016-2017.

Note. Children who turn 3 by Sept. 1 are eligible for School Readiness. Children in School Readiness could include children who turn 5 during the school year. Starred counties indicate reliable data not available. Level 1 = low reach (less than 5.4%), level 2 = low to moderate reach (5.4% – 21.4%), level 3 = moderate to high reach (21.4% – 37.4%), level 4 = high reach (greater than 37.4%).

24a. Children age 4 enrolled in Voluntary Pre-Kindergarten, by county (2016-2017)



Source. Wilder Research analysis of data from Minnesota Department of Education and Minnesota Department of Education Early Childhood Family Education census data, 2016-2017.

Note. The 2016-2017 school year was the first year of Voluntary Pre-Kindergarten. Voluntary Pre-Kindergarten is not yet available in all districts. Per MDE: Because Invest Early blends funds in Itasca County, those children are reported under Voluntary Pre-Kindergarten and not School Readiness.

24b. Children age 4 enrolled in Voluntary Pre-Kindergarten, by county (2016-2017)

	%	Reach level		%	Reach level		%	Reach level
			Hubbard	47.0	3	Pipestone	0.0	1
Minnesota	**4.7**	**—**	Isanti	0.0	1	Polk	3.0	2
Aitkin	8.9	2	Itasca	22.3	2	Pope	0.0	1
Anoka	6.8	2	Jackson	14.9	2	Ramsey	2.8	2
Becker	0.0	1	Kanabec	0.0	1	Red Lake	38.5	3
Beltrami	2.7	2	Kandiyohi	7.2	2	Redwood	0.0	1
Benton	0.0	1	Kittson	22.0	2	Renville	47.4	3
Big Stone	13.8	2	Koochiching	109.8	4	Rice	4.1	2
Blue Earth	2.7	2	Lac qui Parle	0.0	1	Rock	0.0	1
Brown	0.0	1	Lake	0.0	1	Roseau	0.0	1
Carlton	0.0	1	Lake of the Woods	28.1	3	Scott	0.0	1
Carver	0.0	1	Le Sueur	0.0	1	Sherburne	0.0	1
Cass	6.8	2	Lincoln	11.8	2	Sibley	0.0	1
Chippewa	0.0	1	Lyon	4.9	2	St. Louis	9.8	2
Chisago	0.0	1	Mahnomen	46.3	3	Stearns	3.3	2
Clay	0.0	1	Marshall	27.0	3	Steele	0.0	1
Clearwater	22.4	2	Martin	6.9	2	Stevens	0.0	1
Cook	157.6	4	McLeod	0.0	1	Swift	25.0	2
Cottonwood	25.1	2	Meeker	0.0	1	Todd	0.0	1
Crow Wing	0.0	1	Mille Lacs	6.5	2	Traverse	135.7	4
Dakota	3.7	2	Morrison	0.0	1	Wabasha	0.0	1
Dodge	0.0	1	Mower	13.9	2	Wadena	0.0	1
Douglas	0.0	1	Murray	0.0	1	Waseca	0.0	1
Faribault	20.7	2	Nicollet	0.0	1	Washington	0.9	2
Fillmore	0.0	1	Nobles	16.0	2	Watonwan	41.1	3
Freeborn	35.5	3	Norman	74.6	4	Wilkin	40.0	3
Goodhue	0.0	1	Olmsted	0.9	2	Winona	0.0	1
Grant	9.3	2	Otter Tail	5.0	2	Wright	0.0	1
Hennepin	5.9	2	Pennington	0.0	1	Yellow Medicine	0.0	1
Houston	0.0	1	Pine	6.5	2			

Source. Wilder Research analysis of data from Minnesota Department of Education and Minnesota Department of Education Early Childhood Family Education census data, 2016-2017.

Note. 2016-2017 school year was the first year of Voluntary Pre-Kindergarten. Voluntary Pre-Kindergarten is not yet available in all districts. Counties that do not have a Voluntary Pre-Kindergarten program or reported no enrollment were removed from the calculation. Counties with greater than 100% enrollment represent areas where open enrollment may have occurred, children funded through other programs were served in Voluntary Pre-Kindergarten classrooms, or MDE's 0-4 year old census was underestimated. Level 1 = low reach- VPK may not yet be available (0%), level 2 = low to moderate reach (<25.4%), level 3 = moderate to high reach (25.4% – 59.4%), level 4 = high reach (greater than 59.4%).

EMERGING INDICATORS

Minnesota Early Childhood Risk, Reach, and Resilience

Emerging indicators of risk, reach, and resilience

Since the dissemination of the 2015 Risk and Reach report, the study partners have been collecting and requesting suggestions for indicators that would be useful to include in this report. Lack of data at the county level keeps these indicators from being integrated into the prior sections. This section provides data at the state level, as available, and research information on how each emerging risk and reach indicator affects child development. It also presents the rationale for adding three indicators of resilience. The emerging indicators are:

- **Risk:** Maternal depression, housing cost burden and homelessness, substance use by parents and related fetal and early childhood health issues, parental incarceration, food insecurity
- **Reach:** Dental and oral health check-ups, mental health consultation to child care programs, and early learning scholarships
- **Resilience:** Positive social and instrumental support, healthy attachment relationships, father involvement

Risks

Maternal depression

Maternal depression can affect a child's development in several ways. Depression during pregnancy has been strongly linked to pre-term birth and low birth-weight, which can have psychological, cognitive, and socioemotional effects in childhood and beyond.[71] Depression can increase levels of stress hormones in both the mother and the child during and after pregnancy.[72] In mothers, depression negatively affects nurturing and responsiveness. Among children of depressed mothers, infants may have difficulty with self-soothing and attachment; toddlers may exhibit behavioral and emotional problems, delayed language development, and learning difficulties, leading to special education placement.[73-74]

Screening and intervention for mothers experiencing depression is crucial. However, according to national research findings, less than half of women affected by prenatal or postpartum depression receive treatment.[75] In Minnesota, the annual cost to society of untreated maternal depression has been estimated by Wilder Research to be upwards of $23,000 per year. Intervening at the family level may be useful, as a 2018 study showed that high-quality fathering has been shown to buffer the effects of maternal depression.[76]

- In 2015, an estimated 9.4 percent of new mothers in Minnesota reported postpartum depressive symptoms, according to PRAMS (a national maternal health monitoring system).[77]

Substance use by parents and related fetal and early childhood health issues

Parental substance use, including use of alcohol, tobacco, and illicit drugs like marijuana, cocaine, heroin, and methamphetamine, can adversely affect child health and welfare in a variety of ways. According to the Institute of Medicine, "Of all the substances of abuse including cocaine, heroin and marijuana, alcohol produces by far the most serious neurobehavioral effects in the fetus."[78] Nationally, 10 percent of pregnant women report using alcohol, and one-third of those engage in binge drinking.[79] Fetal exposure to alcohol is associated with a host of physical, cognitive, behavioral, and socioemotional challenges that can last a lifetime.[80]

The ongoing opioid epidemic, which the U.S. Department of Health and Human Services designated a public health emergency in 2017, has also had significant implications for the health and well-being of infants and young children. According to a Zero to Three report, "The Minnesota Opioid Treatment Program Central Registry (2018) found that substance use disorder treatment admission for women who reported being pregnant at time of admission increased 101.7 percent between 2007 and 2016,"[81] and rates of pregnant women in treatment specifically reporting a history of opioid problems has increased dramatically, from 2 percent in the early 1990s to 28 percent in 2012.[82]

Exposure to other substances in utero can also have lasting impacts. In addition to low birthweight and prematurity, effects of prenatal substance exposure persist beyond the acute signs in infancy, contributing to growth deficiencies, cognitive and behavioral problems, motor deficits, facial anomalies and physical defects, and general developmental delays.[83-84]

Living with a parent or caregiver who is abusing substances has been found to be harmful, and is considered an Adverse Childhood Experience. The National Survey on Drug Use and Health found that around 8.7 million minors (1 in 8) had lived with a caregiver abusing drugs or alcohol in the previous year. One-third of those children are under the age of 5.[85] In addition, rates of abuse and neglect are far higher in households where caregivers are abusing substances.[86-87] Specifically, parental drug or alcohol abuse is the leading cause of placement of children in foster care (30%), compared to 25 percent of cases attributed primarily to neglect. The rate of children placed in state custody due to parental substance use more than doubled from 2012 to 2016, from 1 in 7 to over 1 in 4.[87]

Substance abuse can affect parenting through neurobiological pathways, as "the neural systems recruited in parenting are the same neural systems that are compromised by addiction."[88] These neurobiological alterations can be seen behaviorally through parental difficulty responding to their child's cues sensitively, consistently, and appropriately. Changes in the brain associated with substance abuse can even mean that caregiving tasks that would typically be rewarding and pleasurable are experienced as frustrating or stressful.[88]

Family stressors such as mental illness, unemployment, and housing instability often co-occur with parental substance use disorders. Together, these challenges place young children at significant risk for mental health and developmental disorders, parents at risk of losing custody of their children to child welfare, and providers overwhelmed by complex clinical issues.[89-90]

The costs to children's well-being from parental substance misuse more broadly continue to grow as the opioid epidemic persists. According to DHS, Minnesota currently has only eight residential treatment sites that have active state licenses for multigenerational substance abuse and none provides evidence-based mental health interventions for parents and infants. It will be important to increase screening and subsidized coverage of multigenerational substance use treatment, in addition to strengthening prevention and education for parents and families at risk for substance abuse.

- An estimated 7,000 infants in Minnesota are born each year with prenatal alcohol exposure.[91]
- In Minnesota, Neonatal Abstinence Syndrome (NAS) is present in about 10 per 1,000 births (2010-16 Minnesota Health Care Programs claims data). It is highest among Native American mothers (70 per 1,000 of live births), compared to about 9 per 1,000 births to white mothers.[92] NAS is a syndrome resulting from the sudden discontinuation of fetal exposure to substances that were used or abused by the mother during pregnancy.[93-94]

Incarcerated parents

Parental incarceration is an Adverse Childhood Experience, and having had an incarcerated parent increases the likelihood of attachment and relationships difficulties and insufficient material resources, housing instability, behavior problems, poor academic performance, mental health problems, and later criminality.[95-99] Infants and young children in particular are at heightened risk for disruptions in attachment and disrupted brain development when their caregiver is incarcerated. Research has also found that children often witness or are victimized or traumatized by the circumstances surrounding their parent's incarceration, such as criminal activity, the arrival of police at the home, and arrest of their parent. Even after a parent is released from incarceration, young children can be further affected by housing instability and financial strain resulting from their parent's difficulties finding employment and housing with a criminal record.[100-102]

- In Minnesota, an estimated 3,662 children of parents in jail are age 5 and younger.[103-104]

Housing cost burden and homelessness

Housing cost burden and the associated issues of high mobility and homelessness can be harmful to child development. Young children in homeless shelters or otherwise precarious housing situations have been found to be at higher risk for developmental and academic delay, behavioral and socioemotional problems, and child welfare system involvement, including out of home placement.[105-106] Language skills, communication skills, and mental health have been found to be of particular concern among young children experiencing homelessness, with effects above and beyond the effects of poverty.[107] Heightened parent stress due to unstable housing can contribute to an increase in harsh parenting practices or reduce parents' ability to provide basic care, in addition to exacerbating existing substance use or mental health disorders and exposing children to chaotic or crowded living conditions. Moreover, having difficulty obtaining stabile housing can become a barrier to reunification for families involved in the child welfare system with children in foster or other out-of-home care.[108-109]

This measure of risk would be improved if data were available to more accurately depict housing instability and the number of moves associated with higher risk.

- In 2016, 25 percent of households in Minnesota with children under age 6 were considered to have a housing cost burden, paying 30 percent or more of their household income for housing, according to the U.S. Census Bureau.

- According to MDE, in 2016-17, 547 children age 4 and younger were homeless, including 164 in Hennepin County, 103 in Anoka County, 76 in Ramsey County, 52 in Blue Earth County, and 22 in Dakota County.

- Nationally, over half of children in shelters at any given time are under age 6.[110] Similarly, the 2015 Minnesota Homeless Study by Wilder Research estimated that 1,739 children age 5 and younger were homeless across Minnesota, making up about half of all children with their homeless parents in shelters.

Food insecurity

Food insecurity, is defined by the U.S. Department of Agriculture as "the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways."[111] Food insecurity has been linked to a broad range of developmental consequences for children. For example, infants and toddlers in households reporting food-insecurity are more likely to exhibit deficits in general cognitive functioning, language, behavioral regulation, and motor, socioemotional, adaptive, and school skills than their low-income counterparts in food-secure households. Access to adequate nutrition is one of the most basic human needs, and when children are denied that access, it becomes more difficult for them to expend resources on other developmental challenges. Ultimately, inadequate nutrition may impact development permanently.[112-114]

- In 2016, according to MDH, WIC served approximately 59 percent of eligible children under age 6, leaving 41 percent as the estimated percentage as potentially food insecure.

Reach

Dental and oral health check-ups

Good oral health, generally defined as both consistent dental hygiene and dental screenings and reduction and timely filling of cavities, is an important aspect of young children's well-being. Dentists recommend that oral health care begin in infancy, with a child's first preventive dental care visit after their first tooth appears and no later than the first year of life. However, misconceptions about "baby teeth" as unimportant may lead parents to neglect early dental care. In fact, baby teeth play an important role in the healthy growth of permanent teeth, and tooth decay at any age can affect young children's physical health, school adjustment, and social relationships.[115-116]

The rate of cavities in young children has been increasing over the past several decades, and by age 5, nationally, nearly half of children have had a cavity.[117-118] Additionally, having one cavity increases the likelihood of additional decay; specifically, of preschoolers with tooth decay, the average number of affected teeth is five (one quarter of their total number of teeth).[119] Low-income and minority young children experience dental problems at higher rates, and the prevalence of cavities is about 2.5 times higher for low-income 3 to 5-year-olds compared with their peers in higher income families. Low-income preschoolers are also less likely to have these problems addressed as they arise, ultimately leading to increased use of dental services for pain relief than their higher income and non-minority peers. Latino and American Indian children are at particularly heightened risk.[117,120]

- 32 percent of eligible children age 5 and younger received dental or oral health services in 2016.[121-122]

Mental health consultation to child care programs

Suspension and expulsion rates are far greater for preschool-aged than school-aged children, particularly for children of color. Black children consistently comprise around 19 percent of all children enrolled in preschools nationally, but represent nearly half of out-of-school suspensions (about 3.5 times higher than their white counterparts). Black boys receive over three-quarters of such suspensions. Rather than reducing misbehavior, suspension and expulsion adversely impact children's developmental and educational trajectories, contributing to increases in behavior problems, underperformance, and school disengagement while failing to address the social, emotional, and behavioral challenges contributing to the disciplinary action.[123-125]

Researchers have suggested teachers' difficulty addressing student behavior in the classroom and the racial discrepancies in school discipline are related to several overlapping and interacting factors, including a mismatch between classroom or school culture and students' home cultures, implicit bias, and limited understanding of the impacts of toxins and early life stress on vulnerable populations.[126-127]

Early childhood Mental Health Consultation (MHC), one strategy for ameliorating the high rates of suspension and expulsion in preschool settings, is "a problem-solving and capacity-building intervention implemented within a collaborative relationship between a professional consultant with mental health expertise and one or more caregivers, typically an early care and education provider and/or family member." Mental Health Consultation aims to facilitate teachers' greater understanding of normative development and mental health disorders in children and the effects of early stress and instability, which can lead to higher levels of empathy and comprehension of contributors to behavioral, social, and emotional difficulties, ultimately enhancing provider ability to effectively work with all children, including children exhibiting problem behavior. Early childhood MHC has been found to contribute to reductions in disciplinary action and improvements in child behavior in community care and education settings where children reside, without removal, suspension, or clinical treatment.[128-134]

In 2016, the State of Minnesota began a pilot to provide mental health consultation to child care centers and family child care providers enrolled in the Parent Aware program (Minnesota's quality rating system). The consultation is available in all 87 counties and two tribal communities through 40 regionally located licensed mental health professionals with extensive experience and training in early childhood mental health and consultation. The goals of the mental health consultation system are to: 1) prevent expulsion and suspension of young children from child care, 2) address the mental health issues of young children in child care, 3) increase childcare staff morale and retention, and 4) reduce implicit bias in child care.

- According to the Minnesota Department of Human Services, since 2016, 45 sites (17 child care centers and 28 family child care programs) have received mental health consultation, reaching over 1,200 children.

Early Learning Scholarships

High-quality early care and education (ECE) has been shown to have a host of both short- and long-term benefits for children and their families, including lower rates of grade retention and of special education placement in elementary school, along with improved health and reduced criminal justice system involvement as teens and in adulthood.[135-136] In addition to promoting adaptive development in children, ECE has the added benefit of allowing parents to obtain employment[137] while their children are young, which is when families tend to be most economically insecure.[138] Importantly, research suggests that ECE is more beneficial for low-income children and children at highest psychosocial risk.[135,139-141] Research also indicates that ECE can eliminate income-based gaps in achievement and cognitive performance.[139] Cost-benefit analyses have estimated that ECE programs in low-income communities specifically can provide returns of up to nearly eleven dollars per dollar invested.[135-136]

Access to high quality ECE has proven benefits, but those who benefit most currently have the least access. Lack of access to early enrichment, along with the added burden of unemployment or high-cost childcare on parents, shrinks opportunities for children in underserved communities before they even enter school.

Early Learning Scholarships provide access to high-quality child care and early learning programs that participate in the Parent Aware quality rating program. Eligible families must have income at or below 185 percent of the federal poverty level, and participating children must be from 3- up to 5-years-old. Children may be younger than 3 if they meet other criteria, such as being homeless or having a sibling with a scholarship.

- In Fiscal Year 2018, 16,537 children were awarded a scholarship.[142]

Resilience

As mentioned in the introduction to this report, experiences of risk and adversity are not destiny, nor do single factors or experiences determine outcomes. Development is a continuous process throughout the lifespan with individual functioning reflecting an ongoing adaptation to risk and protective influences. Resilience, like pathology, is constructed over time. Within this framework, however, early experiences, whether positive or negative, play a central role in creating a foundation for individual development.

Researchers have noted that, from the beginning, factors that promote well-being and buffer the effects of adversity and risk can be found at all levels of a child's experience, including biological (e.g., temperament), family (e.g., immediate and extended relationships), and community (e.g., school, neighborhood) contexts and even the climate in the society at

large. In particular, supportive relationship experiences increase the probability of positive outcomes in all children and reduce the probability of maladaptation in children experiencing high levels of risk. Positive and healthy bonds with primary caregivers and availability of both social and material support for the family in the community context reduce child and family stress and support healthy physical as well as socio-emotional development.[143-148]

Positive social and instrumental support

Positive social support, defined as a sense of belonging and emotional connectedness within a community or family, is an important protective factor for families with young children, and especially for single parents. Connectedness promotes well-being and positive social behavior and decreases isolation and related mental health concerns. It also contributes to a family's social network and safety net, which can provide practical assistance with such things as child care, transportation, or money when needed. The opposite is also true, however. Increased environmental stressors and heightened individual stress are associated with lower levels of perceived social support.[149-151]

For parents of infants, social support is associated with the quality of their parenting and, in turn, the quality of their attachment relationship with their child. This association also works both ways, so reductions in support and increases in stress can adversely affect child functioning.[150-151]

- No representative or population data are available for children age 5 and younger in Minnesota.

Healthy attachment relationships

The amount and quality of caregiver social support can affect parents' ability to provide consistent, responsive care for young children. A child's sense of security in relationships is crucial in the early childhood period and derived from relationships with primary caregivers. When the child has a healthy or "secure" attachment to a caregiver, it generally implies that the relationship provides "a haven of safety, a source of reassurance when the child is distressed, and a base for exploration."[149] Responsive relationships with adult caregivers promote healthy brain development and buffer or protect young children from challenging experiences that activate internal stress responses.[149-150]

- No representative or population data are available for children age 5 and younger in Minnesota.

Father involvement

Fathers make important and independent contributions to childrearing, and consistent father involvement has been found to be a protective factor, particularly for children in impoverished environments and for children with depressed mothers. Specifically, father presence has been linked to socioemotional and cognitive benefits, such as reduced aggression, improved peer relationships, and the capacity to cope with novelty and challenge. On the other hand, father absence or inconsistent presence has been associated with adverse developmental, educational, and behavioral outcomes.[152-165]

- No representative or population data are available for children age 5 and younger in Minnesota.

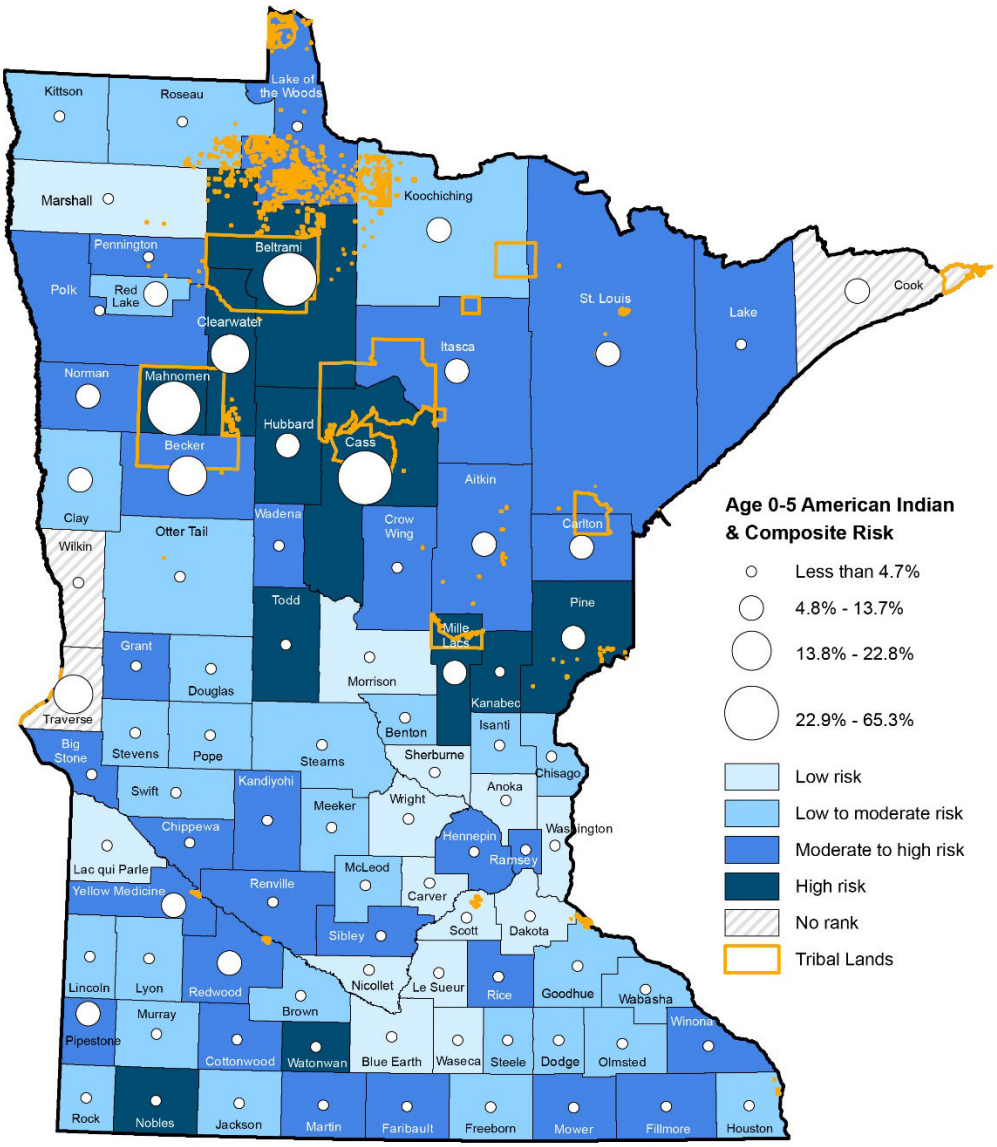
APPENDIX

Minnesota Early Childhood Risk, Reach, and Resilience

Appendix:
Maps depicting racial composition of each county

This Appendix includes maps depicting the overall risk status relative to the racial composition of each county. Counties with * indicate the survey sample of children under age 6 is too small to produce reliable estimates.

A1a. Percentage of children under age 6 who are American Indian compared with overall risk status, mapped by county and Reservation boundaries (in gold) (2016)



Source. Wilder Research analysis of data from Bridged-Race Population Estimates, U.S. Centers for Disease Control and Prevention, 2016.

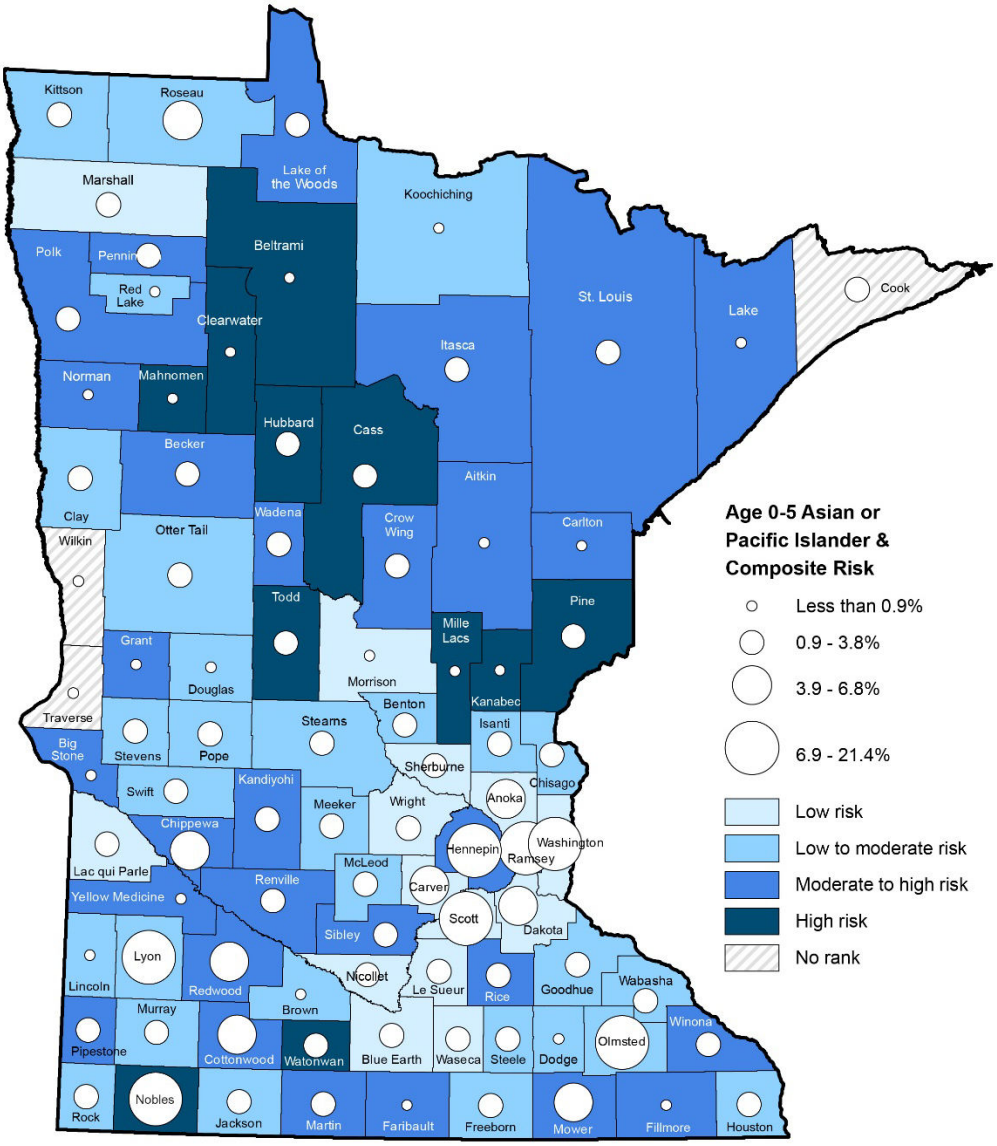
Note. In Minnesota, there are seven Anishinaabe (Chippewa, Ojibwe) reservations and four Dakota (Sioux) communities. The Anishinaabe reservations are Grand Portage located in the northeast corner of the state; Bois Forte located in extreme northern Minnesota; Red Lake located in extreme northern Minnesota west of Bois Forte; White Earth located in northwestern Minnesota; Leech Lake located in the north central portion of the state; Fond du Lac located in northeast Minnesota west of the city of Duluth; and Mille Lacs located in the central part of the state, south and east of Brainerd. The Dakota communities are Shakopee Mdewakanton located south of the Twin Cities near Prior Lake; Prairie Island located near Red Wing; Lower Sioux located near Redwood Falls; and Upper Sioux whose lands are near the city of Granite Falls.

A1b. Percentage of children under age 6 who are American Indian, by county (2016)

	%		%		%
		Hubbard	5.4	Pipestone	6.5
Minnesota	**2.8**	Isanti	1.3	Polk	4.1
Aitkin	8.2	Itasca	8.7	Pope	1.0
Anoka	1.4	Jackson	0.7	Ramsey	2.0
Becker	18.4	Kanabec	1.3	Red Lake	5.3
Beltrami	38.3	Kandiyohi	0.7	Redwood	7.2
Benton	1.2	Kittson	0.6	Renville	2.3
Big Stone	0.3	Koochiching	5.6	Rice	0.9
Blue Earth	0.7	Lac qui Parle	0.3	Rock	1.6
Brown	0.9	Lake	0.3	Roseau	3.6
Carlton	12.2	Lake of the Woods	2.8	Scott	1.7
Carver	0.8	Le Sueur	0.8	Sherburne	0.9
Cass	32.3	Lincoln	0.0	Sibley	0.8
Chippewa	2.6	Lyon	1.5	St. Louis	4.8
Chisago	1.1	Mahnomen	65.3	Stearns	0.9
Clay	5.2	Marshall	2.8	Steele	1.1
Clearwater	17.1	Martin	0.6	Stevens	4.0
Cook	12.5	McLeod	1.0	Swift	0.9
Cottonwood	1.8	Meeker	0.6	Todd	1.8
Crow Wing	2.5	Mille Lacs	12.7	Traverse	19.2
Dakota	1.2	Morrison	0.7	Wabasha	0.1
Dodge	1.2	Mower	2.0	Wadena	2.2
Douglas	0.8	Murray	1.2	Waseca	1.8
Faribault	2.6	Nicollet	1.2	Washington	0.8
Fillmore	0.5	Nobles	4.1	Watonwan	4.6
Freeborn	1.2	Norman	7.6	Wilkin	3.4
Goodhue	3.1	Olmsted	0.4	Winona	1.6
Grant	0.9	Otter Tail	1.8	Wright	0.7
Hennepin	2.4	Pennington	3.2	Yellow Medicine	5.0
Houston	0.2	Pine	7.7		

Sources. Wilder Research analysis of data from the Centers for Disease Control and Prevention, National Center for Health Statistics Bridged-Race Estimates, 2016.

A2a. Percentage of children under age 6 who are Asian or Pacific Islander compared with overall risk status, mapped by county (2016) overall risk status, mapped by county (2016)



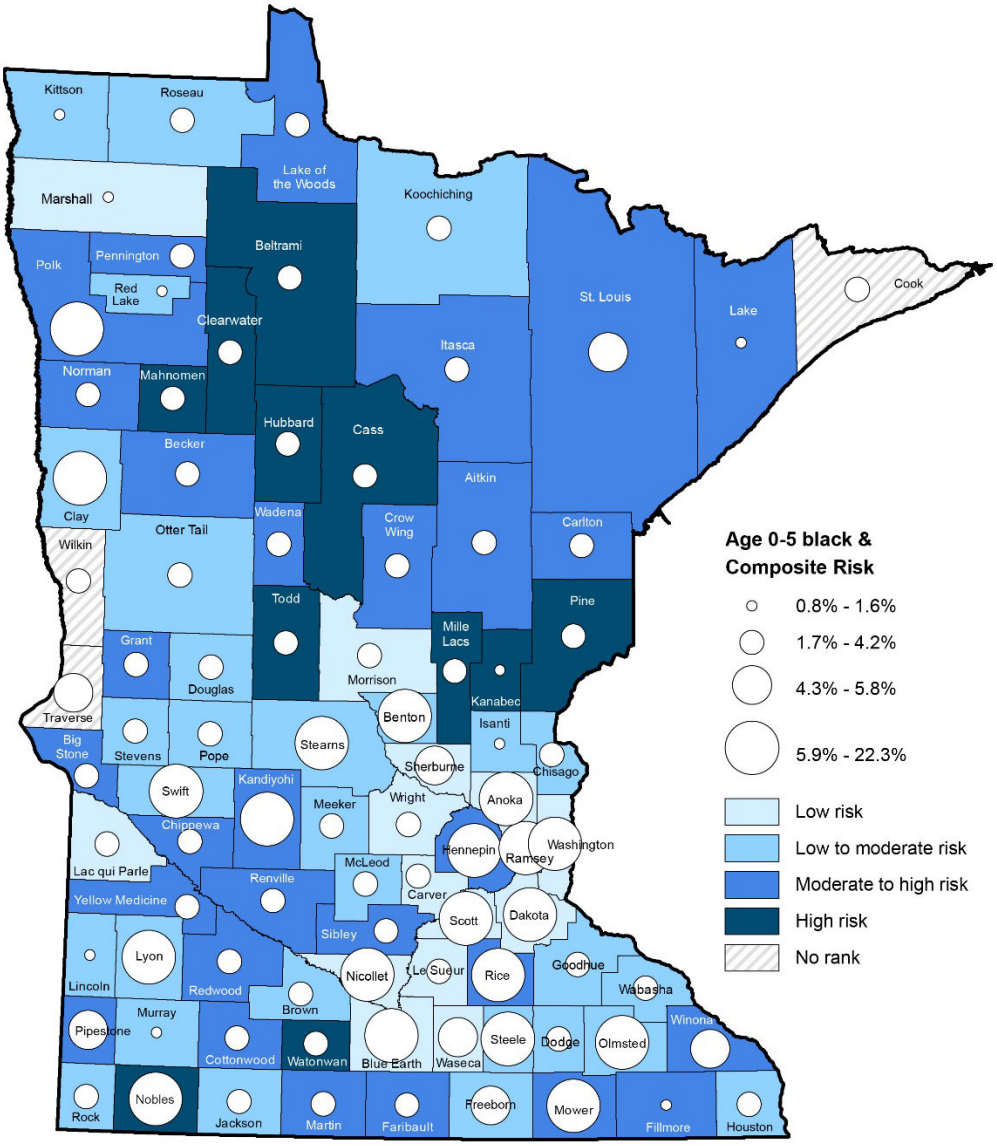
Source. Wilder Research analysis of data from Bridged-Race Population Estimates, U.S. Centers for Disease Control and Prevention, 2016.

A2b. Percentage of children under age 6 who are Asian or Pacific Islander, by county (2016)

	%		%		%
		Hubbard	1.1	Pipestone	2.9
Minnesota	**7.0**	Isanti	1.4	Polk	1.7
Aitkin	0.8	Itasca	0.9	Pope	0.9
Anoka	6.3	Jackson	1.8	Ramsey	21.4
Becker	1.1	Kanabec	0.3	Red Lake	0.0
Beltrami	0.7	Kandiyohi	1.0	Redwood	5.5
Benton	1.6	Kittson	1.0	Renville	3.0
Big Stone	0.3	Koochiching	0.0	Rice	2.7
Blue Earth	1.8	Lac qui Parle	2.1	Rock	2.4
Brown	0.6	Lake	0.8	Roseau	4.0
Carlton	0.5	Lake of the Woods	1.4	Scott	7.4
Carver	4.1	Le Sueur	1.4	Sherburne	1.7
Cass	1.0	Lincoln	0.2	Sibley	1.2
Chippewa	4.9	Lyon	7.9	St. Louis	1.6
Chisago	2.0	Mahnomen	0.0	Stearns	2.4
Clay	1.6	Marshall	1.2	Steele	0.9
Clearwater	0.4	Martin	1.1	Stevens	2.2
Cook	1.7	McLeod	1.1	Swift	1.9
Cottonwood	6.2	Meeker	1.2	Todd	1.7
Crow Wing	0.9	Mille Lacs	0.6	Traverse	0.0
Dakota	6.6	Morrison	0.8	Wabasha	1.1
Dodge	0.7	Mower	6.5	Wadena	0.9
Douglas	0.8	Murray	1.2	Waseca	1.2
Faribault	0.7	Nicollet	2.3	Washington	8.9
Fillmore	0.7	Nobles	7.5	Watonwan	2.2
Freeborn	3.8	Norman	0.7	Wilkin	0.2
Goodhue	1.0	Olmsted	7.4	Winona	2.7
Grant	0.2	Otter Tail	1.4	Wright	1.8
Hennepin	9.5	Pennington	1.9	Yellow Medicine	0.7
Houston	0.9	Pine	1.0		

Source. Wilder Research analysis of data from the Centers for Disease Control and Prevention, National Center for Health Statistics Bridged-Race Estimates, 2016.

A3a. Percentage of children under age 6 who are black or African American compared with overall risk status, mapped by county (2016)



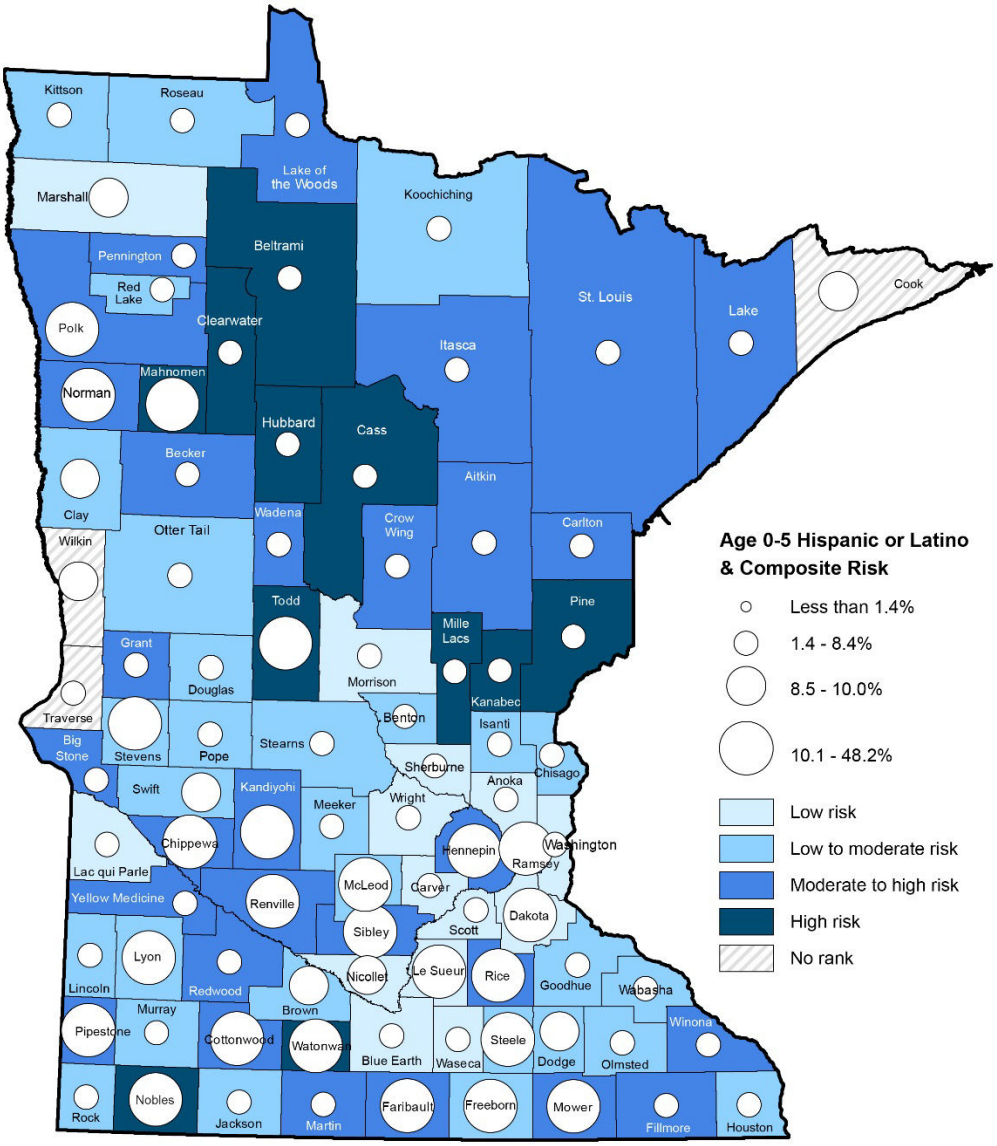
Source. Wilder Research analysis of data from Bridged-Race Population Estimates, U.S. Centers for Disease Control and Prevention, 2016.

A3b. Percentage of children under age 6 who are black or African American, by county (2016)

	%		%		%
		Hubbard	2.2	Pipestone	4.9
Minnesota	**11.7**	Isanti	1.5	Polk	5.9
Aitkin	2.5	Itasca	2.2	Pope	2.2
Anoka	10.9	Jackson	2.5	Ramsey	20.5
Becker	2.5	Kanabec	1.5	Red Lake	1.6
Beltrami	2.6	Kandiyohi	12.0	Redwood	1.7
Benton	7.2	Kittson	1.0	Renville	3.0
Big Stone	2.4	Koochiching	1.7	Rice	9.5
Blue Earth	7.9	Lac qui Parle	3.6	Rock	2.7
Brown	2.0	Lake	0.8	Roseau	2.3
Carlton	2.1	Lake of the Woods	2.8	Scott	8.0
Carver	4.0	Le Sueur	1.8	Sherburne	4.3
Cass	1.7	Lincoln	1.2	Sibley	2.7
Chippewa	3.1	Lyon	7.4	St. Louis	4.2
Chisago	1.6	Mahnomen	2.2	Stearns	12.4
Clay	5.9	Marshall	1.3	Steele	8.3
Clearwater	2.0	Martin	2.7	Stevens	3.9
Cook	2.1	McLeod	2.0	Swift	6.3
Cottonwood	3.6	Meeker	1.9	Todd	2.4
Crow Wing	2.4	Mille Lacs	2.1	Traverse	4.3
Dakota	11.8	Morrison	2.2	Wabasha	3.0
Dodge	2.4	Mower	7.3	Wadena	2.2
Douglas	2.2	Murray	1.4	Waseca	5.6
Faribault	1.6	Nicollet	8.1	Washington	7.9
Fillmore	1.2	Nobles	7.1	Watonwan	2.5
Freeborn	4.4	Norman	1.8	Wilkin	3.4
Goodhue	3.4	Olmsted	10.9	Winona	5.4
Grant	1.8	Otter Tail	3.8	Wright	2.4
Hennepin	22.3	Pennington	3.2	Yellow Medicine	2.1
Houston	2.9	Pine	2.3		

Source. Wilder Research analysis of data from the Centers for Disease Control and Prevention, National Center for Health Statistics Bridged-Race Estimates, 2016.

A4a. Percentage of children under age 6 who are Hispanic or Latino compared with overall risk status, mapped by county (2016)



Source. Wilder Research analysis of data from Bridged-Race Population Estimates, U.S. Centers for Disease Control and Prevention, 2016.

A4b. Percentage of children under age 6 who are Hispanic or Latino, by county (2016)

	%		%		%
		Hubbard	4.4	Pipestone	15.2
Minnesota	**8.8**	Isanti	2.7	Polk	10.9
Aitkin	4.0	Itasca	3.6	Pope	4.7
Anoka	7.0	Jackson	3.3	Ramsey	10.8
Becker	6.2	Kanabec	1.6	Red Lake	7.5
Beltrami	5.5	Kandiyohi	20.3	Redwood	7.4
Benton	3.5	Kittson	2.6	Renville	15.6
Big Stone	3.6	Koochiching	3.0	Rice	14.7
Blue Earth	4.6	Lac qui Parle	4.6	Rock	5.2
Brown	9.1	Lake	1.9	Roseau	1.6
Carlton	3.2	Lake of the Woods	2.3	Scott	6.8
Carver	5.9	Le Sueur	11.1	Sherburne	3.6
Cass	5.7	Lincoln	3.0	Sibley	17.0
Chippewa	13.0	Lyon	12.4	St. Louis	3.5
Chisago	3.5	Mahnomen	12.7	Stearns	6.5
Clay	9.0	Marshall	8.5	Steele	13.9
Clearwater	3.9	Martin	7.7	Stevens	15.5
Cook	9.1	McLeod	11.7	Swift	9.8
Cottonwood	14.0	Meeker	6.5	Todd	11.4
Crow Wing	2.8	Mille Lacs	6.9	Traverse	6.3
Dakota	10.1	Morrison	3.0	Wabasha	6.2
Dodge	9.7	Mower	19.1	Wadena	4.8
Douglas	2.8	Murray	7.8	Waseca	8.1
Faribault	13.3	Nicollet	8.6	Washington	5.3
Fillmore	2.3	Nobles	48.2	Watonwan	41.2
Freeborn	17.4	Norman	11.3	Wilkin	8.7
Goodhue	6.2	Olmsted	7.1	Winona	6.1
Grant	6.6	Otter Tail	6.7	Wright	3.7
Hennepin	11.2	Pennington	5.9	Yellow Medicine	7.8
Houston	2.1	Pine	3.8		

Source. Wilder Research analysis of data from the Centers for Disease Control and Prevention, National Center for Health Statistics Bridged-Race Estimates, 2016.

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