

## DESCRIPTION

Infant mortality is defined as death to infants born live who die before the first birthday. Infant mortality is complex, with multiple associated factors. The five major causes of infant death at the national level are: birth defects, pre-term birth and low birth weight, sudden infant death syndrome (SIDS), pregnancy complications and injuries. The United States has a higher infant mortality rate than 27 other industrialized nations, with rates varying widely across regions. Infant mortality is considered a leading indicator of population health.<sup>1</sup>

## HOW WE ARE DOING

In 2016, the infant mortality rate in the United States was 5.9 deaths per 1,000 live births.<sup>1</sup> During that same year, the infant mortality rate in Minnesota was 5.0 per 1,000 per live births. The Ramsey County rate is higher at 6.3, which does not meet the Healthy People goal of less than 6 per 1000 live births. Over time, the overall infant mortality rates have generally been decreasing, however that is not true for all racial/ethnic groups.<sup>2</sup>

## BENCHMARK INDICATOR

Healthy People 2020: Reduce the rate of all infant deaths (within 1 year).

U.S. Target: Less than 6 per 1,000 live births.<sup>3</sup>

## DISPARITIES

Although the overall infant mortality rate for Ramsey County approaches the Healthy People 2020 target, the infant mortality rate 2014-2016 for infants born to African-American/African women was 11.5 per 1000, significantly higher than the rate of 4.3 for white infants. During that same time period, the infant mortality rate in Ramsey County was 7.6 for Asians and for Hispanics it was 4.7 per 1000 live births. The American Indian population is small in Ramsey County, so it is difficult to draw conclusions from it. However, statewide data indicates that the infant mortality rate for American Indians in Minnesota was 10.7.<sup>2</sup> Similar disparities among all racial/ethnic groups are evident at the national level. The specific cause of infant mortality is of special interest. While disparities between African-American/African and total and/or white populations exist in the five major causes of infant mortality, deaths to African-American/African infants are remarkably disparate due to the leading cause of death: pre-term birth and low-birth weight babies.<sup>4</sup>

Infant death is researched nationally through a framework of Perinatal Periods of Risk (PPOR), which divides fetal and infant deaths into four “Perinatal Periods of Risk” based on both birth weight and age at death. Intended for urban areas with high infant mortality, the PPOR uses vital records to get at root causes and intervention strategies.<sup>5</sup>

An international study examined the infant mortality rate gap between the U.S. and other countries with better rates (e.g. Finland). The U.S. has a similar neonatal mortality (deaths within first month of life) to other countries with low rates, but a substantial difference in post-neonatal mortality. The results of this study suggest that the gap is driven primarily by excess inequality in the U.S., i.e. disadvantaged mothers compared to advantaged mothers (e.g. white, college educated, married).<sup>6</sup>

## Information to note

- The Ramsey County infant mortality rate is higher than both Minnesota and U.S. rates, and does not meet the Healthy People 2020 goal.
- There are significant racial/ethnic disparities related to infant mortality.

<sup>1</sup> Reproductive Health. Centers for Disease Control & Prevention. <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm>. Accessed August 2018.

<sup>2</sup> Health Statistics Portal. Minnesota Department of Health. <https://pqc.health.state.mn.us/mhsq/frontPage.jsp>. Accessed August 2018.

<sup>3</sup> Maternal, Infant and Child Health. Healthy People 2020. <https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>. Accessed August 2018.

<sup>4</sup> Anderson NB, Bulatao RA, Cohen B, eds. Critical Perspectives on Racial and Ethnic Differences in Health in Late Life. Washington, DC: National Academies Press; 2004.

<sup>5</sup> Perinatal Periods of Risk (PPOR). City Match. <https://www.citymatch.org/tools-and-trainings/ppor/>. Accessed August 2018.

<sup>6</sup> Chen A, Oster E, Williams H. Why is infant mortality higher in the US than in Europe? 2014. University of Chicago and NBER. <http://faculty.chicagobooth.edu/emily.oster/papers/imr.pdf>. Published September 29, 2014. Accessed August 2018.

In Minnesota, the majority of infant deaths are within a baby's first 28 days.<sup>7</sup>

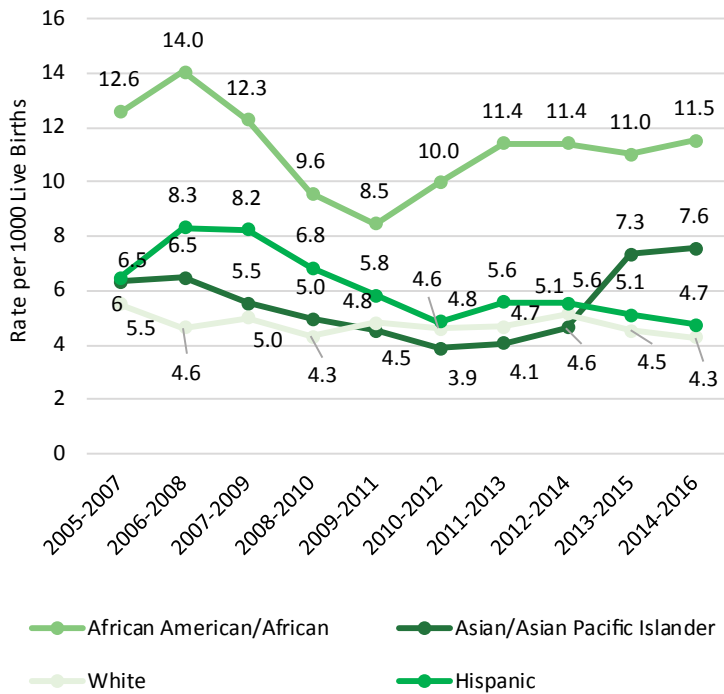
## RISK FACTORS

Deaths occurring in the neonatal period (first month of life) are due mostly to problems with the pregnancy or health of the infant, such as pre-term delivery, birth defects or low birth weight. Infant deaths occurring in the post-neonatal period are more likely to be the result of social and environmental factors such as sudden infant death syndrome (SIDS), exposure to cigarette smoke, or problems with access to health care.<sup>8</sup>

## WHAT RAMSEY COUNTY GOVERNMENT IS DOING

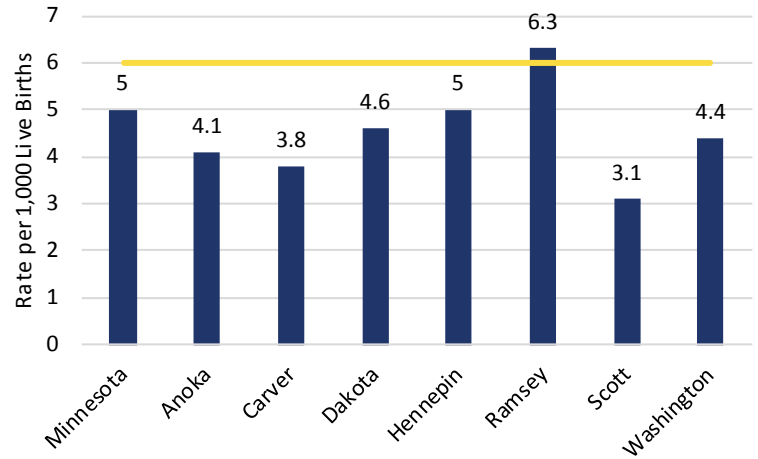
Saint Paul- Ramsey County Public Health started a Birth Equity Institute in 2017, in partnership with the national organization City MatCH, and academic and community organizations and members. The Minnesota Department of Health has also created an Infant Mortality Reduction Plan, and public health staff work closely with state partners to examine causes of infant mortality and find innovative ways in which to achieve lower infant mortality rates.

Infant Mortality Rates, Ramsey County  
3 Year Rolling Averages



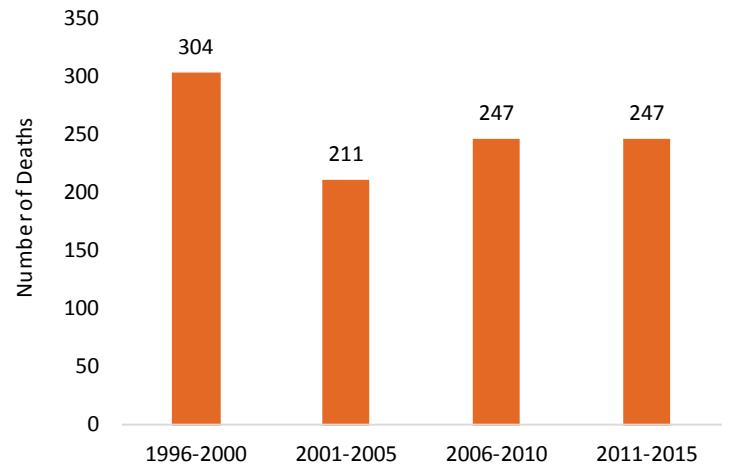
Source: Minnesota Department of Health. Minnesota Vital Statistics.<sup>10</sup>

Infant Mortality Rate, 2012-2016



Source: Minnesota Department of Health. County Profiles.<sup>9</sup>

Infant Deaths, Ramsey County



Source: Minnesota Department of Health. Minnesota Vital Statistics.<sup>10</sup>

<sup>7</sup> Infant mortality reduction plan for Minnesota (Part One). Minnesota Department of Health. 2015. <http://www.health.state.mn.us/divs/cfh/program/infantmortality/content/document/pdf/infantmortalityacc.pdf>. Published March 2015. Accessed August 2018.

<sup>8</sup> Disparities in Infant Mortality. Minnesota Department of Health. 2009. <http://www.health.state.mn.us/divs/chs/infantmortality/infantmortality09.pdf>. Published January 2009. Accessed August 2018.

<sup>9</sup> Minnesota Department of Health. County Profiles. <http://www.health.state.mn.us/web/mndata/county-profiles>. Accessed August 2018.

<sup>10</sup> Minnesota Department of Health. Minnesota Vital Statistics. <https://mhsq.web.health.state.mn.us/frontPage.jsp>. Accessed August 2018.