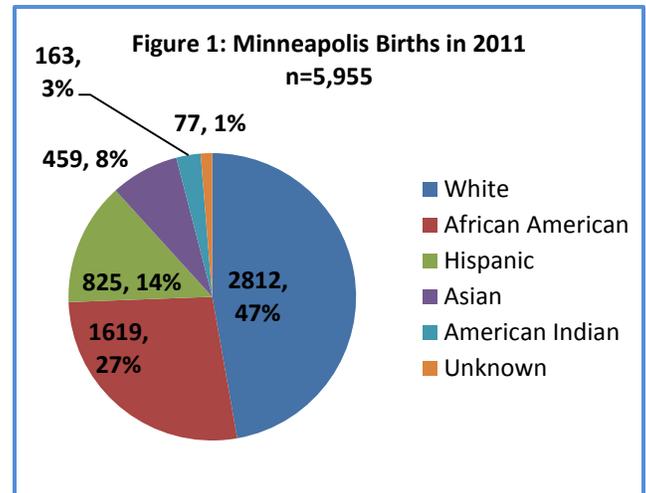


BACKGROUND

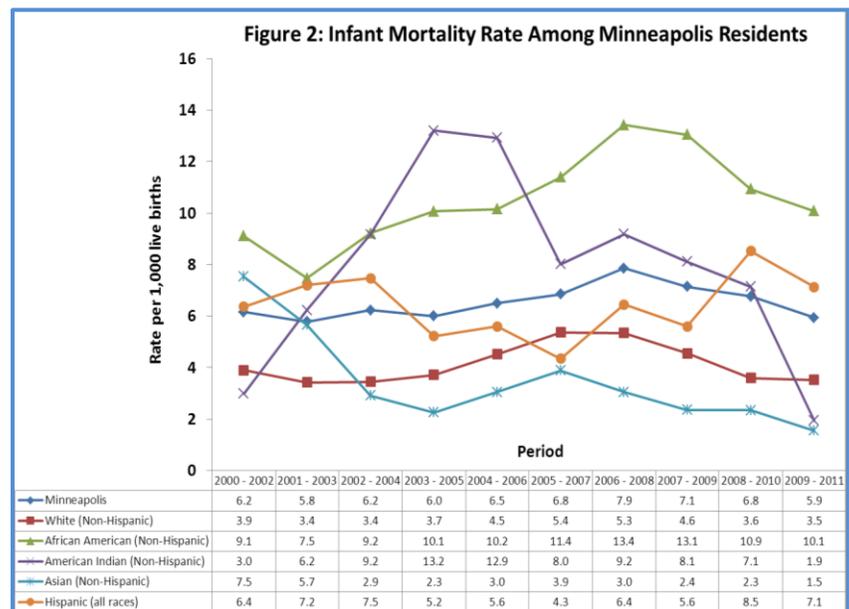
Infant mortality is a strong indicator of population health because it is affected by policies, access to healthcare, economics, environment, social well-being and general living conditions. Birth outcomes, which also include prematurity and low birth weight, are poor in the United States compared with those in other industrialized nations. Despite increased attention to healthy births, socioeconomic and racial/ethnic disparities persist. Due to their importance and sensitivity to external factors, several Healthy People 2020 goals focus on birth outcomes. Healthy People goals are 10-year national targets for the United States created to encourage collaborations and measure the impact of prevention programs.¹

This report provides an update on infant mortality and related trends for Minneapolis, Minnesota between 2000 and 2011. Furthermore, Minneapolis is compared to suburban Hennepin County, the State of Minnesota, and national Healthy People 2020 goals.²



BIRTHS

The number of births to Minneapolis residents in 2011 totaled 5,955 (Figure 1). The largest proportion of births were to White mothers followed by African American mothers and Hispanic mothers. Proportions born to Asian mothers and American Indians were small. Birth rates in Minneapolis declined 8% between 2006 and 2011, with the largest rates of decline in this period seen among Hispanics (34%) and American Indians (28%). The local decline in births is also apparent in the United States as a whole with the CDC recently reporting that birth rates nationally have declined since 2007.



¹ Healthy People 2020. 2013. Source: <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=26#8594>.

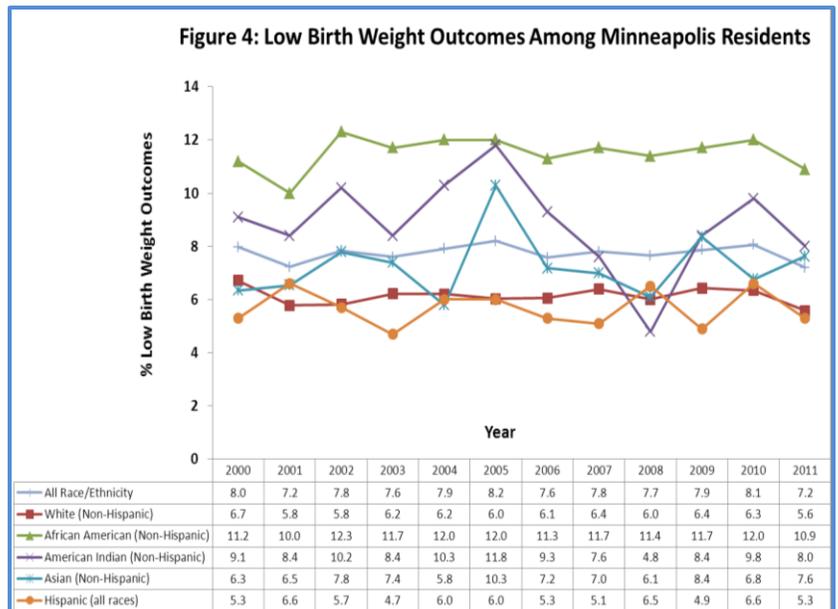
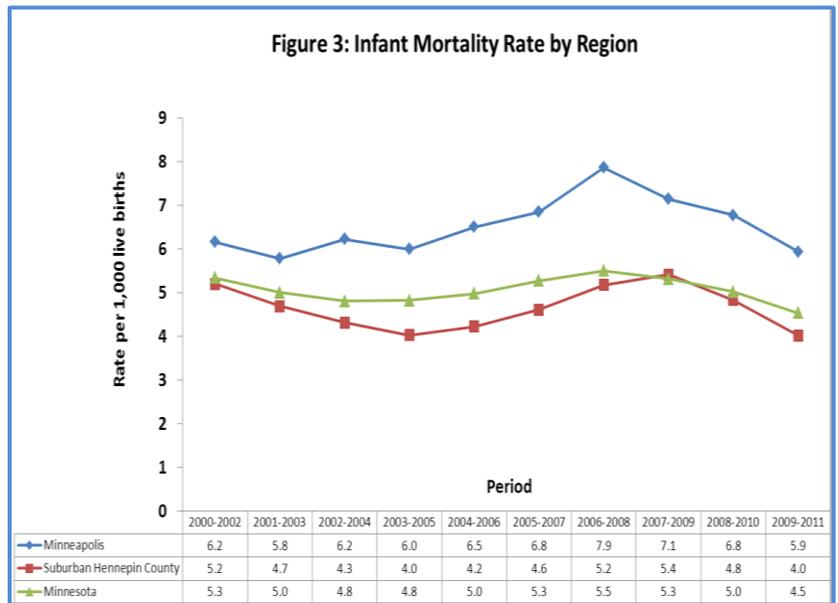
² Minneapolis specific data for this report was obtained from the Minnesota Department of Health vital records (annual birth and death files). State data was compiled using the Minnesota Vital Statistics Interactive Queries website (<https://pgc.health.state.mn.us/mhsg/frontPage.jsp>). County level data was provided by the Epidemiology and Health Assessment Team at the Hennepin County Public Health Department.

INFANT MORTALITY

Infant mortality rate (IMR) is calculated as the number of infant deaths in the first year of life divided by 1000 live births. Any infant who displays signs of life outside of the womb is considered a live birth. This standard formula enables different jurisdictions to be compared. Infant deaths include neonatal deaths, those that occur less than 28 days after birth, and post-neonatal deaths, those that occur between 28 and 364 days of age. Neonatal deaths are typically attributable to a serious birth defect or maternal complications of pregnancy. Post-neonatal deaths are typically accidental and unexpected. The category now referred to as sudden unexpected infant deaths (SUIDS) include deaths resulting from unsafe sleep environments or practices and deaths for which a cause cannot be determined.

Between 2009 and 2011, 108 infants died in Minneapolis, compared with 149 in the previous 3 years. Average deaths per year declined to 36 per year from 49.7 per year. Of these 108 deaths, 70 (64.8%) occurred in the neonatal period and 38 (35.2%) occurred in the post-neonatal period. The 108 recent deaths included 51 infants (47.2%) born to African American mothers, 29 (26.8%) born to white mothers, 20 (18.5%) born to Hispanic mothers, two (1.8%) to Asian mothers, one (0.9%) to an American Indian mother, and five (4.6%) to mothers whose race/ethnicity was not recorded.

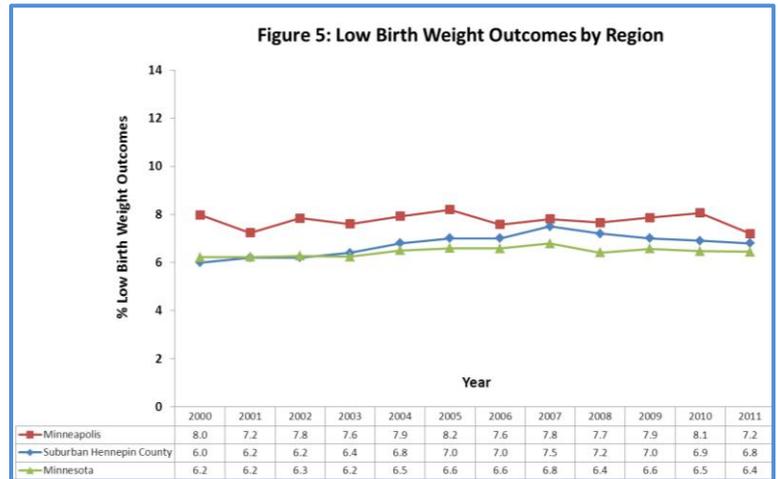
Because the annual number of infant deaths in Minneapolis is relatively small, three-year averages are used to calculate infant mortality rates. The most recent IMR rate is lower (5.9 deaths/1,000 live births) than peak recession and pre-recession levels. The rate increased among American Indian and African Americans prior to the recession and among all racial/ethnic groups during the recession (Figure 2). Since the recession ended, the IMR decreased substantially among all racial, ethnic groups except Hispanics. The recent rates for American Indians and Asians in Minneapolis are historic lows. Trends in suburban Hennepin County and the State of Minnesota mirror the peak during the height of the recent recession (Figure 3).



LOW BIRTH WEIGHT

Low birth weight (less than 5.5 pounds) is a concern because babies born too small are more likely to be hospitalized after birth compared with normal weight infants and are also more likely to experience health problems throughout their lives. Low birth weight rates decreased or remained stable for all racial/ethnic groups in Minneapolis between 2000 and 2011, despite spikes among American Indian and Asian populations just prior to the recession (Figure 4).

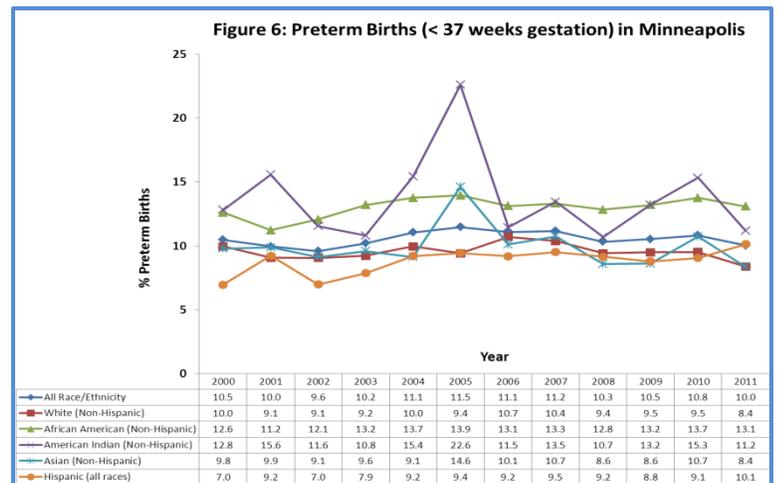
The percentage of low birth weight births in Minneapolis declined from 8.0% in 2000 to 7.2% in 2011, in contrast to increases seen in suburban Hennepin County and The State of Minnesota (Figure 5). The gap between these jurisdictions evident in 2000 narrowed substantially by 2011.



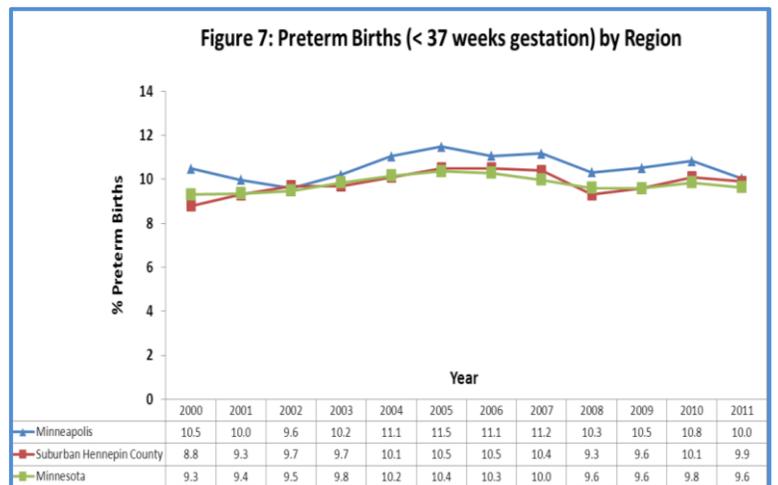
PRETERM BIRTHS

Prematurity is the number one cause of infant mortality and low birth weight. Prematurity also results in a higher rate of hospitalization and ongoing health problems. The preterm birth rate in Minneapolis has stayed fairly stable since 2000, peaking between 2004 and 2005 (Figure 6).

The greatest decrease in prematurity between 2000 and 2011 has been seen among whites (from 10.0% to 8.4%). The rate has also declined for Asians (from 9.8% to 8.4%), and for American Indians (from 12.8% to 11.8%), although this latter group has shown the greatest variation over time. For Hispanics, the preterm birth rate has increased fairly steadily since 2000, and the reasons for this are unknown at this time.



In 2011, the percentage of preterm births in Minneapolis is remarkably similar to those for suburban Hennepin County and The State of Minnesota (Figure 7). This is a change from 2000. The narrowing of the gap is related primarily to rising rates elsewhere combined with a small decrease in Minneapolis. Rates of preterm births for all three areas peaked in 2005 and started to decline noticeably in 2008. However, 2011 levels are still greater than those seen in 2000 for suburban Hennepin County and the State of Minnesota.



COMPARISON OF MINNEAPOLIS BIRTH OUTCOMES TO HEALTHY PEOPLE 2020 GOALS

Minneapolis has met or surpassed major Healthy People 2020 targets related to birth outcomes for the most recent period for which data are available. While the Minneapolis rate of preterm birth has been below the target for every year since 2005, the low birth weight rate has matched the target only in 2001 and 2011, and the infant mortality rate reached the target only for the 2001-2003 and, 2003-2005, and 2009-2011 intervals.

Birth Outcome Indicator	Healthy People 2020 Target	Minneapolis Outcomes
Infant mortality rate (deaths per 1000 live births)	6.0	5.9 between 2009-2011
Low birth weight births (percentage of live births)	7.8%	7.2% in 2011
Preterm births (percentage of live births)	11.4%	10.0% in 2011

CONCLUSIONS AND RECOMMENDATIONS

Overall, birth outcomes in Minneapolis have improved since the recession, and in some cases are better than pre-recession levels. Improvement is seen for most racial/ethnic groups. Although the causes of poor birth outcomes are complex, individual and external factors each play a role. Individual factors that contribute to poor birth outcomes include tobacco, alcohol, or other drug use during pregnancy and pre-existing health conditions such as obesity and diabetes. External factors include lack of stable housing, poverty, domestic violence, stress, and inadequate access to health care. Stress, an individual-level factor can result from social and economic factors. One major risk factor that is preventable is unsafe infant sleep environments.

Efforts promoted by the Minneapolis Health Department and community partners are likely contributing to reducing adverse birth outcomes and sustaining recent progress. These efforts include a substantial increase in prenatal home visiting to families to offer education and support and identify and address risk factors. The Minnesota Visiting Nurse Agency and The Family Partnership receive funding through maternal child health grants administered by the Minneapolis Health Department to ensure services for pregnant women who qualify. A greater focus on father involvement through the Goodwill-EasterSeals Minnesota Father Project, community health care centers, and home visiting programs also offer opportunities to improve maternal and infant well-being.

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