

Overview of the Minnesota Vital Statistics System

What is the Minnesota Vital Statistics System (MVSS)?

The MVSS is a part of the Minnesota Center for Health Statistics at the Minnesota Department of Health. The MVSS exists to compile statistical data on all births, deaths, infant deaths, and fetal deaths to Minnesota residents. These data are provided to MVSS by the Office of Vital Records, the state entity responsible for registering the facts of birth and death in the State of Minnesota using information submitted by hospitals, clinics, or medical examiners.

The Minnesota Center for Health Statistics uses these data to monitor trends in vital statistics (e.g., pregnancy risk factors, birth outcomes, and causes of death), for the state overall and for specific subgroups (e.g., race, age, or county of residence). These trends allow MDH and public health partners to identify emerging issues, develop tailored prevention or intervention programming, and to monitor progress in addressing health disparities. Summary statistics are annually reported in the Annual Health Summary, County Health Tables, and Vital Statistics Trend Reports located on our website.

Example of MDH worksheet used to create a birth record



Worksheet for creating your child's birth record

You are providing information to create your child's birth record and to improve public health. Some of this information prints on the birth certificate. Please complete this worksheet carefully and completely.

Child	Give your child any name you choose. The name you choose will print on your child's birth certificate in CAPITAL letters. Use the letters A-Z. Only spaces, apostrophes (') or hyphens (-) are allowed. You may put an apostrophe (') between any two letters, or at the end of a name.			
	Child's first name	Child's middle name	Child's last name(s)	Suffix
	Child's date of birth (mm/dd/yyyy) ____/____/____	Child's sex <input type="checkbox"/> Single <input type="checkbox"/> Twin <input type="checkbox"/> Triplet	Birth order if not a single	
	To apply for your child's Social Security Number, check 'Yes'. The State of Minnesota will send information to the Social Security Administration to assign your child's social security number. <input type="checkbox"/> Yes <input type="checkbox"/> No			
Parent information	Current first name	Current middle name	Current last name	Suffix
	First name before first marriage	Middle name before first marriage	Last name before first marriage	Suffix
	Birthplace – State or foreign country	Birthplace – City	Date of birth (mm/dd/yyyy) ____/____/____	
	Physical address of residence (include city and zip code)			
	County of residence	If not within city limits, name of township	Social Security Number	
	Mailing address (may be different from physical address of residence) <input type="checkbox"/> Same as residence address			
	Cigarette smoking before and during pregnancy <small>For each three-month period to the right, enter either the number of cigarettes or the number of packs of cigarettes smoked. IF NONE, ENTER "0".</small>		Average number smoked per day: # of cigarettes # of packs	
			3 months before pregnancy	
			First 3 months of pregnancy	
			Second 3 months of pregnancy	
		Last 3 months of pregnancy		
Did you get food for yourself from the Women, Infants & Children (WIC) nutritional program during this pregnancy? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes, what month of pregnancy did you get started in WIC? (1st, 2nd, 3rd, etc.)</i>		Your pre-pregnancy weight (pounds)	Your height (feet/inches)	

Nativity (Birth) Statistics

There are nearly **70,000** births in Minnesota each year. In 2016, 3% of births were to teen mothers, over 8% were to foreign-born women, 20% were to populations of color and American Indians, and a third were to unmarried women.

Nativity data are used to monitor trends in maternal health, access to prenatal care, trends in C-section, and other risk factors for Poor birth outcomes (e.g., low birth weight, preterm delivery) differ by race/ethnicity, age, education, and urban/rural status.

Minnesota Natality Data files are available in electronic format annually from 1959 to the present. Data collection, variables available, and response options for variables have changed over time. Statistical files in SAS format are available from 1980-present. Earlier files (from 1959-1979) are only available in ASCII comma or tab-delimited format.

Birth data available in recent years

- Characteristics of parents (e.g., race, age, education, marital status)
- Mother’s health and risk factors (e.g., smoking, gestational diabetes, no prenatal care)
- Health services (e.g., prenatal care, birth setting, birth attendant, route of delivery)
- Birth outcomes (e.g., low birthweight, preterm delivery)
- Geography (e.g., county of residence, zip code)

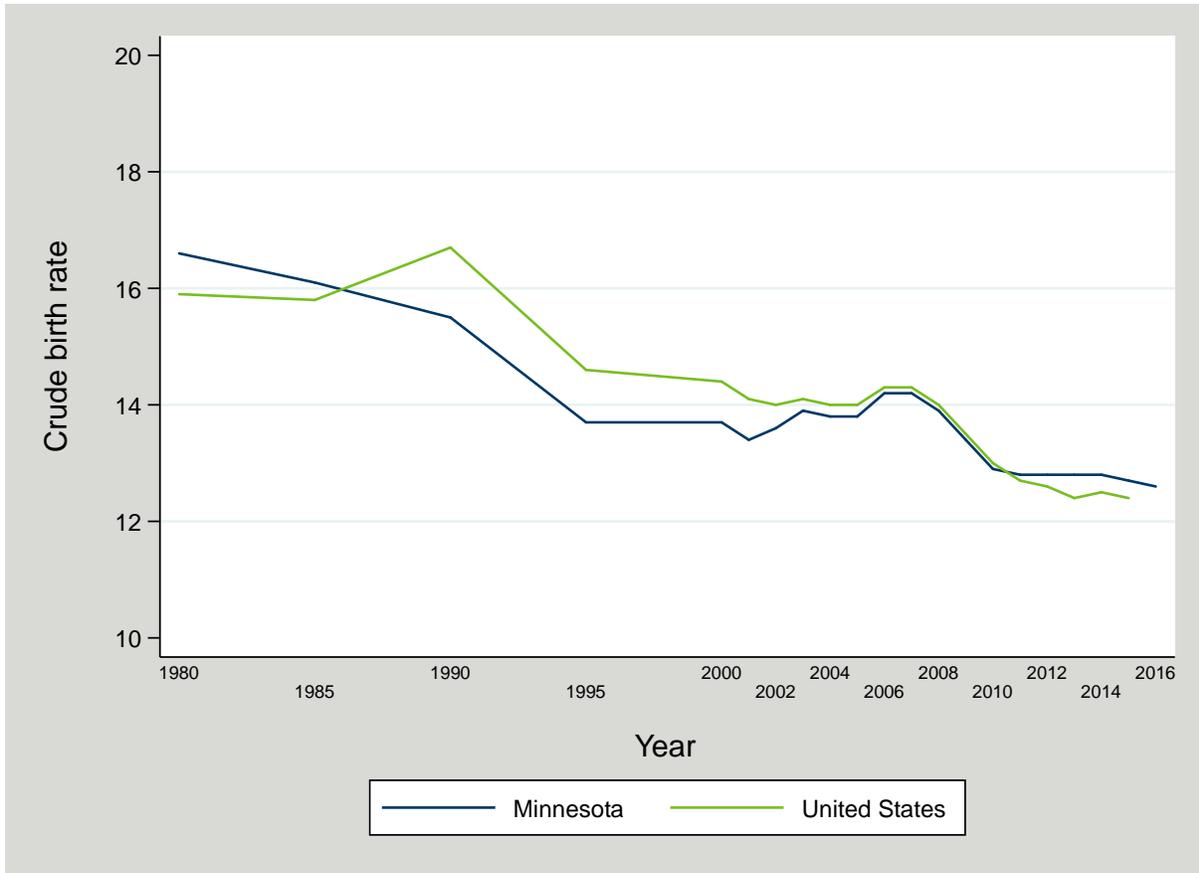


Figure 1. Births per 1,000 total population, Minnesota and US over time.

Mortality (Death) Statistics

There are over **40,000 deaths** in Minnesota each year. In 2016, the crude death rate was 778.7 per 100,000 population. The leading causes of death for all Minnesotans were cancer, heart disease, accidents, respiratory diseases, and Alzheimer’s disease.

Mortality rates and leading causes of death vary greatly by age, race/ethnicity, and geography. While death is inevitable, public health concerns arise when preventable causes of death increase or when new causes of death emerge.

Minnesota Mortality Data files are available in electronic format annually from 1944 to the present. As with natality data, mortality data collection, variables available, and response options for variables have changed over time. All files are available in ASCII format or as Statistical files in SAS format.

Death data available in recent years

- Characteristics of the decedent (e.g., race, age, sex)
- Contributing factors to death as International Classification of Diseases (ICD) codes
- Underlying cause of death as ICD codes (e.g., heart disease, diabetes, cancer, car accident)
- Manner of death (e.g., natural causes, homicide, suicide, unknown)

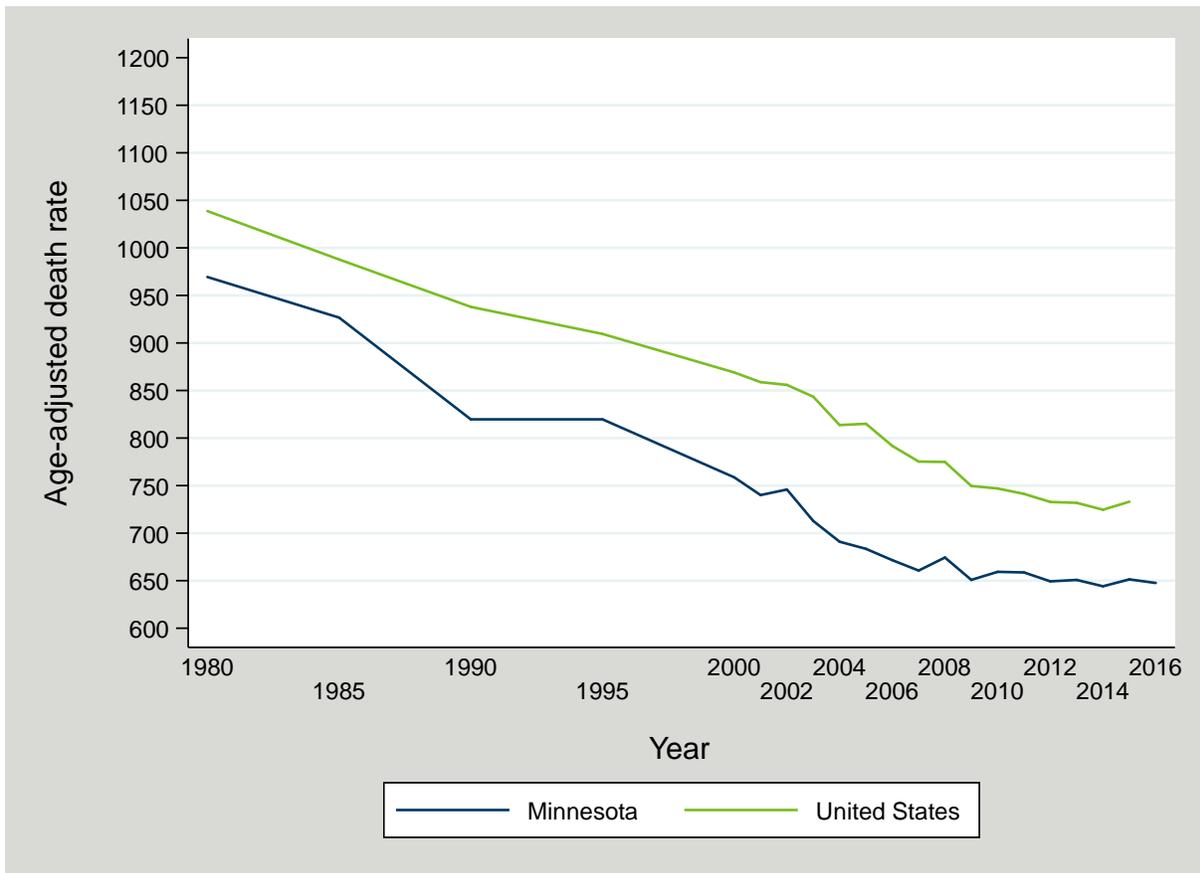


Figure 2. Age-adjusted deaths per 100,000 residents, Minnesota and US over time.

Infant Mortality Statistics

There are over **350 infant deaths** in Minnesota each year. In 2016, the infant mortality rate for Minnesota was 5.1 per 1,000 live births. This is slightly lower than the rate for the United States, which was 5.9 in 2015.

An infant death is the death of an infant born alive that dies before its first birthday. Infant mortality is often used as a summary indicator of the health and wellbeing of a community, a state, or a nation.¹ Despite remarkable declines in overall infant mortality during the past century, the U.S. still has one of the highest infant mortality rates among developed nations.¹ Minnesota’s infant mortality rate is among the lowest overall in the US. However, persistent disparities by race/ethnicity and socioeconomic groups remain.

Infant mortality data files are produced annually by death period, meaning that all infants who die in a given year (period) are linked to birth data from that same year. Linked birth infant death files span 1980-2015 in SAS format and are typically produced 1.5 to 2 years after the death year.

Infant mortality data [linked birth and infant death data]

- Characteristics of mother, risk factors from the pregnancy, and birth outcomes (from birth data)
- Age of death, cause of death, place of death (from death data)

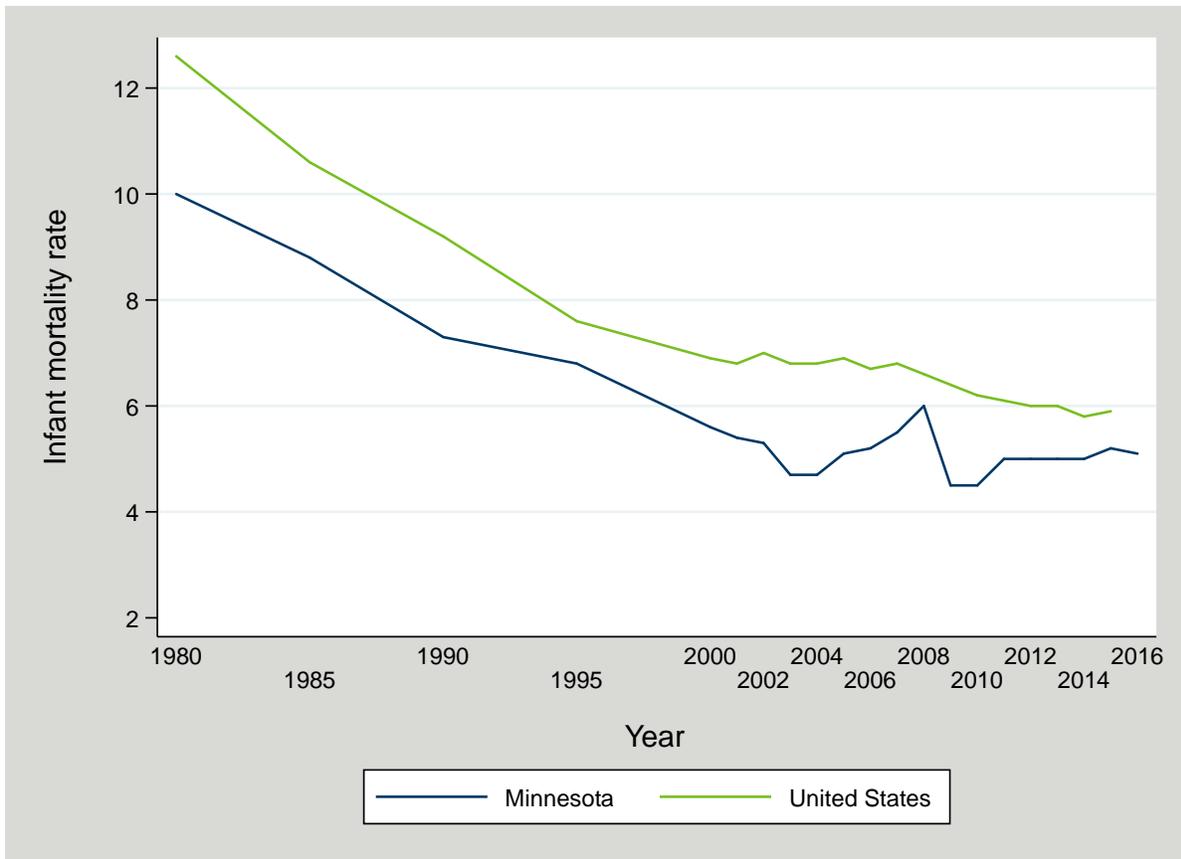


Figure 3. Infant deaths per 1,000 live births, Minnesota and US over time.

Fetal Death Statistics

There are well over **300 fetal deaths** in Minnesota each year. In 2016, the fetal death rate for Minnesota was 5.1 per 1,000 live births plus fetal deaths. This is significantly lower than the United States rate of 6.1 per 1,000 live births plus deaths in 2014. Additionally, the 2016 Minnesota fetal death rate was lower than the 2015 Minnesota rate (5.8), but this was not significantly different.

A fetal death (also called stillbirth) is the intrauterine death of a fetus prior to delivery. Fetal death is an important public health concern, but it gets much less attention than infant deaths.² Fetal deaths effect about 1% of all pregnancies in the US but causes of fetal death are still poorly understood. Known contributors include birth defects and genetic problems, problems with the placenta or umbilical cord, or health conditions of the mother such as uncontrolled diabetes.³

Fetal death statistical data files are produced annually, representing all fetal deaths that die in a given year. Minnesota Fetal Death Data files are available in electronic format annually from 1976 to the present. As with natality and mortality data, data collection, variables available, and response options for variables have changed over time. All files are available in ASCII format or as Statistical files in SAS (from 1980 forward) format.

Fetal death data

- Characteristics of mother, risk factors from the pregnancy, and birth outcomes
- Age of death, cause of death, place of death

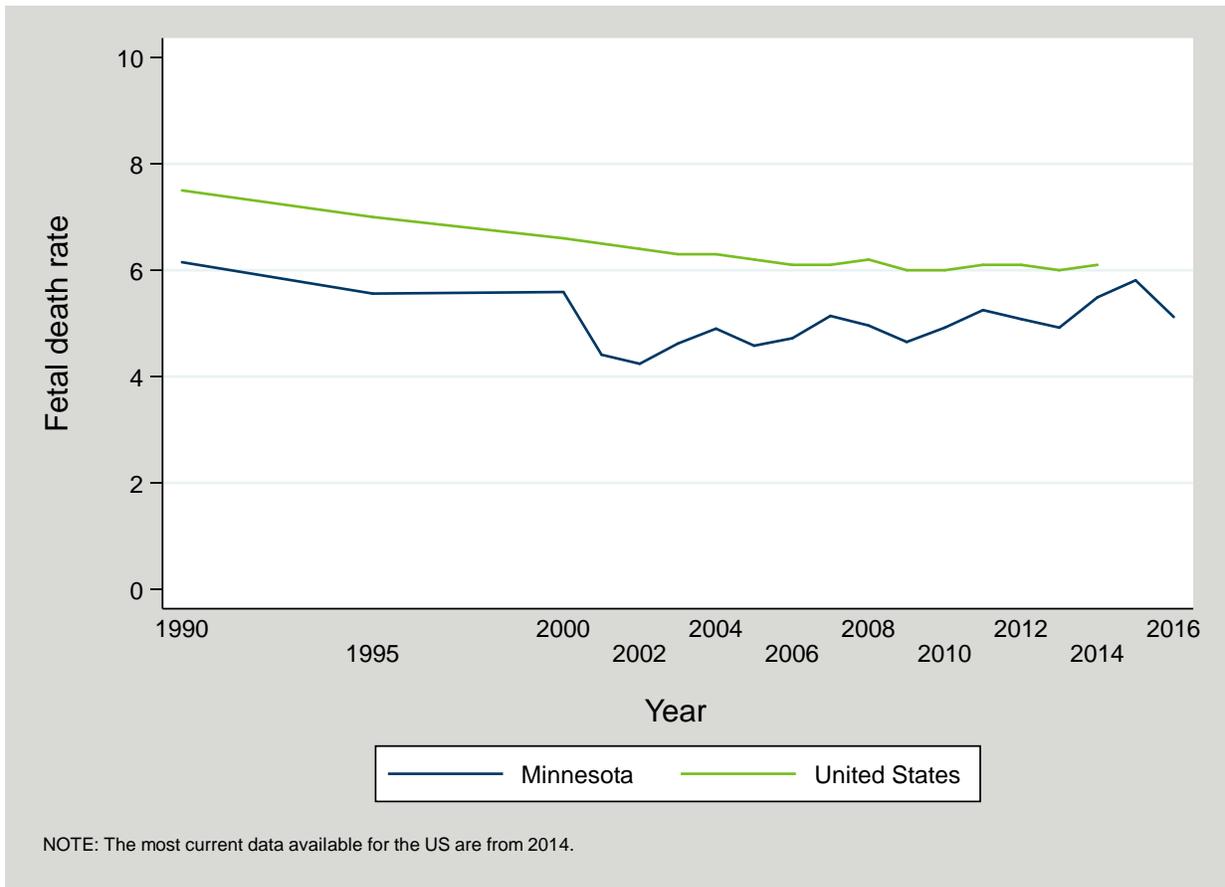


Figure 4. Number of fetal deaths per 1,000 live births + fetal deaths (20 weeks gestation or more), Minnesota and US over time.

OVERVIEW OF MINNESOTA VITAL STATISTICS SYSTEM

References

- ¹MacDorman MF, Mathews TJ, Mohangoo AD, Zeitlin J. International Comparisons of Infant Mortality and Related Factors: United States and Europe, 2010. National vital statistics reports; vol 63 no 5. Hyattsville, MD: National Center for Health Statistics. 2014. Available from: https://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_05.pdf.
- ²MacDorman MF & Gregory ECW. Fetal and Perinatal Mortality: United States 2013. National Vital statistics Reports; Vol 64, no 8. Hyattsville, MD: National Center for Health Statistics. 2015. Available from: https://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_08.pdf.
- ³Facts about Stillbirth. National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention. Page last updated September 7, 2017. Available from: <https://www.cdc.gov/ncbddd/stillbirth/facts.html>

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For questions, to request vital statistics data, or to obtain this document in a different format please contact the Minnesota Center for Health Statistics.

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