

2017 Minnesota Health Statistics

ANNUAL SUMMARY

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2017 MN Health Statistics Annual Summary

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Contents

Introduction	1
Section-Specific Changes	1
Race/Hispanic Ethnicity Data Collection and Reporting.....	3
Geographic Allocation.....	3
Rural/Urban Classification	4
Overview	5
1. Table 1. Percent change between 2016 AND 2017, selected Minnesota Health Statistics for Minnesota Residents.	6
2. Table 2. Percent change between 2016 AND 2017, selected Demographic and Socioeconomic Characteristics for Minnesota Residents.....	7
3. Table 3. Resident Live Births, Crude Birth Rates, Fertility Rates, Minnesota and United States, 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000 - 2017.	8
4. Table 4. Resident Deaths, Infant and Neonatal Deaths Minnesota and United States, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000 - 2017.	9
5. Table 5. Summary of Selected Vital Statistics by Race and Hispanic Ethnicity, Minnesota Residents, 2017.	10
6. Table 6. Summary of Selected Vital Statistics by Urban/Rural Residence, Minnesota Residents, 2017.....	11
Natality.....	13
1. Table 1. Resident Live Births Distributed by County of Occurrence; Live Births by County of Occurrence Distributed by Residence, Minnesota 2017.	14
2. Table 2. Demographic Characteristics of Women who Gave Birth by Race/ Ethnicity, Minnesota Residents, 2017.	16
3. Table 3. Counts and Percentages of Pregnancy Characteristics by Race/Ethnicity, Minnesota Residents, 2017.	17
4. Table 4. Counts and Percentages of Delivery Characteristics and Birth Outcomes by Race/Ethnicity, Minnesota Residents, 2017.....	18
5. Table 5. Counts and Percentages of Selected Pregnancy Characteristics by Urban/Rural Residence, Minnesota Residents, 2017.	19
6. Table 6. Counts and Percentages of Delivery Characteristics and Birth Outcomes by Urban/Rural Residence, Minnesota Residents, 2017.	20
7. Table 7. Route of Delivery by Characteristics of Women Giving Birth, Minnesota Residents, 2017.	21

2017 MINNESOTA HEALTH STATISTICS ANNUAL SUMMARY

8. Table 8. Route of Delivery by Characteristics of Women Giving Birth, Minnesota Residents, 2017.	22
9. Table 9. Number of Race and Hispanic Checkboxes Selected by Minnesota Resident Women Who Gave Birth in 2017.	23
10. Table 10. Live Births by Birth Country of Women Giving Birth, Minnesota Residents, 2017.	24
11. Table 11. Selected Characteristics and Outcomes for Women Who Smoked Before and During Pregnancy, Minnesota Residents, 2017.	25
12. Table 12. Pregnancies Resulting from Infertility Treatments, Minnesota Residents, 2017.	26
Fertility	27
1. Table 1. Total Reported Pregnancies by Pregnancy Outcome, Pregnancy Rate, and Fertility Rate, Minnesota Residents, 1986 - 2017.	28
2. Table 2. Pregnancy Outcomes and Rates by Age of Woman, Minnesota Residents, 2006 - 2017.	29
Deaths	31
1. Table 1. Resident Deaths Distributed by County of Occurrence; Deaths by County of Occurrence Distributed by Place of Residence, Minnesota 2017.	32
2. Table 2. Deaths from Selected Causes by Age and Sex Minnesota Residents, 2017.	34
3. Table 3. MN Ten Leading Causes of Death, Death Rates, Percent of Total Deaths, and Rank Order, Minnesota Residents and U.S., 2017.	50
4. Table 4. Leading Cause of Death by Age, Minnesota Residents, 2017.	51
5. Table 5a. Deaths Due to Selected Causes of Death by Race/Ethnicity, Minnesota Residents, 2017.	52
6. Table 5b. Crude Death Rates for Selected Causes by Race/Ethnicity, Minnesota Residents, 2017.	53
7. Table 6a. Deaths Due to Selected Causes by Rural/Urban Residence, Minnesota Residents, 2017.	54
8. Table 6b. Deaths Due to Selected Causes by Rural/Urban Residence, Minnesota Residents, 2017.	55
Appendices.....	57
Appendix A -- Technical Notes.....	58
Sources of Data.....	58
Rates.....	58
Data Supression	61
Appendix B -- Definitions	62

Introduction

The 2017 Minnesota Health Statistics Annual Summary has undergone a number of changes from past reports in terms of layout, data presented, and the definitions used for some key variables. For some of the data presented, these changes mean that 2017 statistics are not comparable to 2016 or earlier statistics. All users of this document are encouraged to read these introductory notes about the changes so that the tables and data can be appropriately interpreted. The following section provides an overview of the changes to the tables included in each section of the Annual Summary. This is followed by a section describing changes in the reporting of race/ethnicity data that will affect comparability with statistics from previous years. Finally, a rural/urban geography classification has been added to the overview, birth, and death tables. The last section discusses the way these data have been classified for the presentation of statistics by urban/rural residence. A glossary of terms can be found at the end of this report.

Section-Specific Changes

Overview Section

The overview data section presents an overview of the birth, fertility, and mortality statistics, as well as an overview of the demographics of the Minnesota resident population. This section includes several new tables. New Table 2 presents socioeconomic and demographic characteristics of the residents of Minnesota for 2017, as well as statistics for 2016 and changes over time. Tables 3 and 4 have been renumbered, but they still present birth and death statistics over time. New Table 5 presents selected vital statistics by race/ethnicity for Minnesota residents in 2017. This includes summary statistics for fertility, natality (birth), and mortality (death). Detailed presentations of these data appear in each of the respective sections of this report. Former Table 4 presented births, deaths, fetal deaths, and infant deaths by urban area of residence for places with a population of 2,500 or more as of the 2010 Census. This table has been removed. However, city/town-specific data are available by request. Email HealthStats@state.mn.us with your request.

Birth Section

The birth data section has the most substantial changes. Table 1 still presents births by county of residence and county of occurrence. However, because most of the report presents data for Minnesota residents only, this table has been restructured to present births by county of residence first and then shows the county of occurrence data. The rest of the birth tables have been restructured to present most of the statistics by race/ethnicity.

A number of new variables are now presented in the birth tables. Each of these new variables is presented by race/ethnicity, as well as by other key demographic or pregnancy risk factors (e.g., woman's age, educational attainment, adequacy of prenatal care). These new tables include demographic characteristics of women who gave birth and pregnancy and health characteristics of women who gave birth by race/ethnicity. Other tables present route of delivery, birth outcomes, and smoking/cessation by selected sociodemographic characteristics.

Two key variables reported in the birth section that have changed are gestational age and adequacy of prenatal care. In keeping with national reporting standards, the Minnesota reports

are using new methods to calculate and classify these variables. Gestational age was previously reported based on documented last menstrual period. Beginning in 2017, gestational age is based on physician's estimate. Comparisons of the classifications are remarkably similar, except that physician's estimate has fewer missing cases. This change in the classification of gestational age may affect the distributions of preterm births and prenatal care utilization estimates, as these indices use gestational age in their calculations.

Starting in 2017, Kotelchuck's Adequacy of Prenatal Care Utilization (APNCU) index is being used, in keeping with the standards for national reporting. It should be noted that the APNCU results in a different distribution of the adequacy of prenatal care than provided by the previously used GINDEX; thus, previous years' adequacy measures are not comparable. Specifically, in national data, the APNCU identified both a greater number of intensive and slightly more inadequate PNC users than the GINDEX. See Appendix B for additional information on the calculation of adequacy of prenatal care.

Fertility Section

The fertility section has few changes. Table 1 still presents pregnancy and pregnancy outcomes by year, but outcomes are also presented by race/ethnicity and age group for the current year's data. Table 2 remains the same with the exception of a change in the oldest age group. Previously, all women ages 40 and older were grouped together. Because the standard classification of women of reproductive age is 15-44 years, the oldest group is now split into two groups representing ages 40-44 and 45+. Births to women ages 45+ make up a small portion of this group, so the rates for ages 40-44 should reasonably be comparable. Appropriate age-specific population data for ages less than 15 and for ages 45 and older are not defined, so no rates are calculated for these groups.

Mortality Section

The mortality tables have some layout changes, as well as the inclusion of a new table showing leading causes of death by urban/rural residence. Similar to the birth tables, Table 1 still presents death by county of residence and county of occurrence. However, because most of the report presents data for Minnesota residents only, this table shows deaths by county of residence first and then by county of occurrence.

Table 2 still presents deaths from selected causes of death by age group and sex. However, the previous 19 age groups, in 5-year blocks, have been collapsed to 10 categories that represent standard reporting categories used in many national reports. Additionally, causes with fewer than 50 total events in the previous year were removed from this table. The content and layout of Table 3 has not changed, with the exception of adding accidental deaths due to poisoning as a subgroup of accidents, in addition to motor vehicle accidents and falls. Table 5 still presents leading causes by race/ethnicity, and a new Table 6 is now included that shows leading causes of death by level of urban/rural residence.

Race/Hispanic Ethnicity Data Collection and Reporting

More than one race may be selected when reporting race of mother and father on a birth record or fetal death report or when reporting the race of decedent on a death record. In 2017, approximately 2.7% of Minnesota resident birth mothers chose more than one race, while approximately 1.9% of resident death records indicated multiple races.

For those who report more than one race, a bridged-race code is generated by the National Center for Health Statistics (NCHS), assigning that individual to one of the four race categories of White, Black, American Indian, or Asian/Pacific Islander, allowing for statistical comparisons to previous years' data. Due to the small number of multi-race persons in Minnesota, this generated code has little or no effect on the percentages and rates by race reported in this report.

Beginning with reporting year 2017, race/ethnicity data reporting changed from reporting race and Hispanic ethnicity separately to reporting each non-Hispanic race group individually. All birth and death events to those identified as Hispanic are included in the Hispanic group regardless of any other reported races. The final set of mutually exclusive groups are now: non-Hispanic White, non-Hispanic Black, non-Hispanic American Indian, non-Hispanic Asian or other Pacific Islander, non-Hispanic Other or Unknown, and Hispanic. These changes are based on National Vital Statistics System (NVSS) and NCHS practices for reporting race and ethnicity.

The change in race/ethnicity reporting will affect the counts and distributions of the race groups, as they will now only include the non-Hispanic subset of each race group. This reduces the White group by about 5%, the Black group by about 1.5%, the American Indian group by about 8%, and the Asian/Pacific/Islander group by less than 1%. Additionally, 96% of the other or unknowns identify only as Hispanic. Hispanics are no longer included within each race group, which has the effect of increasing or decreasing a specific group's statistic based on whether Hispanics in that group had higher or lower rates than the remaining population of that group. This will result in greater changes than would be expected from one year to another in non-Hispanic race groups' statistics. The greatest changes will be for the American Indian group since 8% identified as Hispanic and are no longer included. This change does not affect the Hispanic results, as that group has always included any self-identified Hispanic regardless of race.

Geographic Allocation

Vital events are classified geographically in two ways. The first is by place of occurrence, (i.e., the state, county, and city in which the birth or death took place). The second and more customary way is by place of residence, (i.e., the state, county, and city that is the usual residence of the decedent in the case of a death or of the mother in the case of a birth). Fetal deaths and infant deaths in cases where the child was never discharged from the hospital are classified to the residence of the mother. While occurrence statistics are accurate and have both administrative value and some statistical importance, resident statistics are the more useful tool when constructing health indices for planning and evaluation purposes. The statistics provided in this report are residence data unless otherwise stated.

Rural/Urban Classification

It is often meaningful to examine health differences across the urban/rural continuum. For many health indicators, residents of large suburban metropolitan areas fare better than residents of either urban metro areas or rural areas. In this report, we use the urban-rural classification scheme for counties that was developed by the National Center for Health Statistics. Counties are classified into six urbanization levels (four metropolitan and two nonmetropolitan), and range from most urban to most rural.

	Urbanization Level	Population	Largest city
Metropolitan	Large urban metro	$\geq 1,000,000$	largest city $\geq 250,000$
	Large suburban metro	$\geq 1,000,000$	largest city $< 250,000$
	Medium metro	250,000 - 999,999	N/A
	Small metro	$< 250,000$	N/A
Nonmetro (rural)	Micropolitan	10,000 - 49,999	urban area $\geq 2,500$
	Non-core	$< 49,999$	no urban area $> 2,500$

Overview Tables

Table 1. Selected Vital Statistics for Minnesota Residents, 2016 and 2017

Table 2. Sociodemographic Characteristics of Minnesota Residents, 2016 and 2017

Table 3. Births, Birth Rates, and Fertility Rates, Minnesota and U.S., 1940 - 2017

Table 4. Deaths and Death Rates, Minnesota and U.S., 1950 - 2017

Table 5. Selected Vital Statistics by Race/Ethnicity, Minnesota Residents, 2017

Table 6. Selected Vital Statistics by Urban/Rural Residence, Minnesota Residents, 2017

Table 1. Percent change between 2016 and 2017, selected Minnesota Health Statistics for Minnesota residents.

Category	2016	2017	Percent Change
Total Population	5,519,952	5,576,606	1.0%
Population of Females 15-44	1,054,178	1,066,806	1.2%
Total Pregnancies to MN Residents	79,219	78,227	-1.3%
Live Births to MN Residents	69,746	68,603	-1.6%
Fetal Deaths	420	406	-3.3%
Birth Rate (births per 1,000 total MN population)	12.6	12.3	-2.4%
Pregnancy Rate (pregnancies per 1,000 females ages 15-44)	75.1	73.3	-2.4%
Fertility Rate (births per 1,000 Females Ages 15-44)	66.2	64.3	-2.9%
Births to Unmarried Mothers (%)	32.3%	32.0%	-1.0%
Low birthweight (Less than 2,500 grams)	6.6%	6.8%	2.7%
Preterm (Less than 37 weeks gestation) ¹	8.8%	8.9%	0.8%
Fetal Deaths ²	420	406	-3.3%
Infant Deaths (Infants aged < 1 year)	357	329	-7.8%
Neonatal Deaths (Infants aged < 28 days)	242	225	-7.0%
Postneonatal Deaths (Infants aged 28 days to < 1 year)	115	104	-9.6%
Death Rate (per 1,000 Total MN Population)	7.8	8.0	2.0%
Infant Mortality Rate (per 1,000 live births)	5.1	4.8	-6.3%
Neonatal Mortality Rate (per 1,000 live births)	3.5	3.3	-5.5%
Postneonatal Mortality Rate (per 1,000 live births)	1.6	1.5	-8.1%
All Deaths	43,050	44,361	3.0%
Cancer Deaths (Malignant Neoplasms)	9,845	9,890	0.5%
Heart Disease Deaths	7,823	8,230	5.2%
Unintentional Injury Deaths	2,661	2,789	4.8%
Alzheimer's Disease Deaths	2,220	2,473	11.4%
Chronic Lower Respiratory Disease Deaths	2,368	2,449	3.4%
Stroke Deaths (Cerebrovascular Diseases)	2,197	2,248	2.3%
Diabetes Deaths	1,269	1,311	3.3%
Suicide Deaths (Intentional Self-harm)	745	781	4.8%

¹ Based on Clinical Estimate of Gestation, all live births.

² Includes all fetal deaths regardless of gestational age.

-- For prenatal care, the 2016 GINDEX measure is not comparable to the 2017 APNCU index. See Introduction and Appendix B for more information.

Table 2. Selected Demographic and Socioeconomic Characteristics of Minnesota Residents, Changes from 2016 to 2017.

Category	2016	2017	Percent Change
Total Population	5,519,952	5,576,606	1.0%
Age groups			
Population < 5 years	352,504	355,231	0.8%
Population 0-19 years	1,428,901	1,439,647	0.8%
Population >= 65 years	832,228	860,209	3.4%
Race/ethnicity¹			
White	4,504,483	4,519,243	0.3%
African American	374,873	390,257	4.1%
American Indian	67,333	68,049	1.1%
Asian/Pacific Islander	286,479	297,650	3.9%
Hispanic/Latino (any race)	291,882	301,407	3.3%
Socioeconomic characteristics²			
Adults 25 years with HS diploma/GED or less	32.3%	31.7%	-1.9%
Total population living in poverty	9.9%	9.5%	-4.0%
Kids < 18 living in poverty	12.3%	11.3%	-8.1%
Kids < 18 living in single-parent headed households	30.1%	27.2%	-9.6%
Unemployed (annual average)	3.8%	3.6%	-5.3%
Median household income	\$65,599.00	\$68,388.00	4.3%
Owner occupied houses	74.6%	75.0%	0.5%
Rural/urban residence³			
Large urban metropolitan area (population >= 1,000,000 and largest city >= 250,000 population)	1,779,839	1,799,998	1.1%
Large suburban metropolitan area (population >= 1,000,000 & largest city < 250,000)	1,648,364	1,670,016	1.3%
Medium metropolitan area (county with population 250,000-999,999)	235,562	235,498	0.0%
Small metropolitan area (county with population < 250,000)	625,247	630,826	0.9%
Micropolitan area (county population 10,000-49,999 and urban area with at least 2,500 population)	660,925	664,265	0.5%
Non-core (Rural) area (county with population < 49,999 and no urban area with > 2,500 population)	575,113	576,003	0.2%

¹ Annual Estimates are bridged-race Vintage 2017 postcensal estimates of the July 1 resident population. These estimates were prepared by the Census Bureau in collaboration with NCHS. Bridged race estimates created for the 5 race or Hispanic categories. Thus, there are no population estimates for other/unknown. For more information or access to the data, see: <https://wonder.cdc.gov/wonder/help/bridged-race.html>

² From the American Community Survey, 1-year estimates files. These estimates may be slightly different than the 5-year estimates in the County Health Tables or Vital Statistics Trends reports.

³ Classification is based on the National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties. See https://www.cdc.gov/nchs/data_access/urban_rural.htm for more detail.

Table 3. Resident Live Births, Crude Birth Rates¹, Fertility Rates², Minnesota and United States, 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000 - 2017.

Year	Live Births		Crude Birth Rate ¹		Fertility Rate ²	
	Minnesota	U.S.	Minnesota	U.S.	Minnesota	U.S.
1940	52,915	2,559,000	19.0	19.4	81.0	79.9
1945	54,656	2,858,000	20.9	20.4	85.1	85.9
1950	75,078	3,632,000	25.2	24.1	119.1	106.2
1955	81,532	4,097,000	25.7	25.0	130.1	118.3
1960	87,523	4,257,850	25.6	23.7	136.0	118.0
1965	70,810	3,760,358	19.7	19.4	105.9	96.3
1970	68,449	3,731,386	18.0	18.4	88.4	89.7
1975	56,463	3,144,198	14.4	14.6	65.4	66.0
1980	67,843	3,612,258	16.6	15.9	70.8	68.4
1985	67,412	3,760,561	16.1	15.8	68.0	66.2
1990	67,985	4,158,212	15.5	16.7	66.3	70.9
1995	63,259	3,899,589	13.7	14.7	60.1	65.6
2000	67,451	4,058,814	13.7	14.7	62.3	67.5
2001	66,617	4,025,933	13.4	14.5	60.9	66.9
2002	68,037	4,021,726	13.6	13.9	62.0	64.8
2003	70,053	4,089,950	13.9	14.1	64.1	66.1
2004	70,614	4,112,052	13.8	14.0	64.5	66.3
2005	70,920	4,140,419	13.8	14.0	64.9	66.7
2006	73,515	4,265,555	14.2	14.2	68.6	68.5
2007	73,675	4,316,233	14.2	14.3	69.6	69.5
2008	72,382	4,251,095	13.9	13.9	69.0	68.4
2009	70,617	4,130,665	13.4	13.5	67.5	66.7
2010	68,407	3,999,386	12.9	13.0	65.4	64.1
2011	68,416	3,953,593	12.8	12.7	65.5	63.2
2012	68,783	3,952,841	12.8	12.6	65.7	63.0
2013	69,183	3,932,181	12.8	12.4	65.9	62.5
2014	69,916	3,988,076	12.8	12.5	66.4	62.9
2015	69,835	3,978,497	12.7	12.4	66.3	62.5
2016	69,746	3,945,875	12.6	12.2	66.2	62.0
2017	68,603	3,855,500	12.3	11.8	64.3	60.3

¹ Live Births per 1,000 total population.

² Live Births per 1,000 Female Population Ages 15-44.

Table 4. Numbers and Rates of Resident Deaths, Infant and Neonatal Deaths; Minnesota and United States,¹ 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000 - 2017.

Year	Deaths				Infant Deaths				Neonatal Deaths			
	Minnesota		United States		Minnesota		United States		Minnesota		United States	
	Number	Rate ²	Number	Rate ²	Number	Rate ³	Number	Rate ³	Number	Rate ⁴	Number	Rate ⁴
1950	27,897	9.4	1,452,454	9.6	1,876	25.0	103,825	29.2	1,430	19.0	72,855	20.5
1955	28,574	9.0	1,528,717	9.3	1,779	21.8	106,903	26.4	1,386	17.0	77,351	19.1
1960	31,596	9.3	1,711,982	9.5	1,881	21.5	110,873	26.0	1,397	16.0	79,733	18.7
1965	32,477	9.0	1,828,136	9.4	1,432	20.2	92,866	24.7	1,075	15.2	66,419	17.7
1970	33,919	8.9	1,921,031	9.5	1,203	17.6	74,667	20.0	944	13.8	56,279	15.1
1975	32,686	8.3	1,892,879	8.8	771	13.7	50,525	16.1	582	10.3	36,416	11.6
1980	33,415	8.2	1,989,841	8.8	679	10.0	45,526	12.6	421	6.2	30,618	8.5
1985	34,793	0.0	2,086,440	8.7	591	8.8	40,030	10.6	364	5.4	26,179	7.0
1990	34,739	7.9	2,148,463	8.6	796	7.3	38,100	9.2	295	4.3	24,309	5.8
1995	37,427	8.1	2,312,132	8.8	427	6.8	29,583	7.6	255	4.0	19,155	4.9
2000	37,595	7.6	2,403,351	8.7	377	5.6	28,035	6.9	252	3.7	18,776	4.6
2001	37,505	7.5	2,416,425	8.5	358	5.4	27,568	6.8	233	3.5	18,265	4.5
2002	38,437	7.7	2,443,387	8.5	362	5.3	28,034	7.0	240	3.5	18,747	4.7
2003	37,603	7.4	2,448,288	8.4	327	4.7	28,025	6.9	218	3.1	18,893	4.6
2004	37,012	7.3	2,397,615	8.2	332	4.7	27,936	6.8	229	3.2	18,593	4.5
2005	37,498	7.3	2,447,903	8.0	363	5.1	28,534	6.9	232	3.3	18,834	4.6
2006	36,963	7.2	2,426,264	8.1	381	5.2	28,527	6.7	243	3.3	18,989	4.5
2007	37,086	7.1	2,423,712	8.0	407	5.5	29,138	6.8	278	3.8	19,058	4.4
2008	38,431	7.4	2,471,984	8.1	433	6.0	28,059	6.6	275	3.8	18,211	4.3
2009	37,801	7.2	2,437,163	7.9	324	4.5	26,412	6.4	188	2.7	17,255	4.2
2010	38,857	7.3	2,468,435	8.0	309	4.5	24,586	6.2	210	3.1	16,188	4.1
2011	39,799	7.4	2,515,458	8.1	339	5.0	23,985	6.1	224	3.3	15,954	4.0
2012	40,020	7.4	2,543,279	8.1	347	5.0	23,629	6.0	249	3.6	15,850	4.0
2013	40,981	7.6	2,596,993	8.2	349	5.0	23,440	6.0	248	3.6	15,867	4.0
2014	41,271	7.6	2,626,418	8.2	352	5.0	23,215	5.8	233	3.3	15,720	3.9
2015	42,652	7.8	2,712,630	8.4	361	5.2	23,455	5.9	262	3.8	15,652	3.9
2016	43,050	7.8	2,744,248	8.5	357	5.1	23,161	5.9	242	3.5	15,282	3.9
2017	44,361	8.0	N/A	8.6	329	4.8	N/A	5.8	225	3.3	N/A	3.8

¹2017 US rates are based on provisional data; final counts are not yet available.

²Deaths per 1,000 Population.

³Infant Deaths per 1,000 Live Births.

⁴Neonatal Deaths (infant born alive and died within first 28 days) per 1,000 Live Births

Table 5. Summary of Selected Vital Statistics by Race and Hispanic Ethnicity¹, Minnesota Residents, 2017.

	Non-Hispanic					Hispanic	TOTAL
	White	African American	American Indian	Asian/ Pacific Isl.	Other/ Unknown		
Fertility (counts)							
Total pregnancies	52,357	11,294	1,392	6,221	1,314	5,620	78,198
Live births	47,890	8,664	1,197	5,492	466	4,894	68,603
Induced abortions ²	4,255	2,545	183	704	834	697	9,218
Fetal deaths ³	212	85	12	25	14	29	377
<i>Late fetal deaths</i>	98	41	8	10	4	12	173
Nativity (percents)							
First-time mothers	38.5%	27.1%	27.7%	36.5%	31.6%	32.0%	36.2%
Late PNC	2.0%	7.1%	16.8%	3.8%	5.2%	5.5%	3.3%
Inadequate PNC	6.4%	21.6%	34.1%	14.7%	10.7%	17.0%	10.3%
C-section (any) delivery	27.7%	29.3%	27.7%	22.6%	26.4%	26.5%	27.4%
<i>Repeat C-section⁴</i>	38.7%	44.9%	53.8%	36.0%	35.8%	46.5%	40.2%
Low birthweight	5.9%	9.6%	9.1%	8.2%	7.5%	7.6%	6.8%
Preterm	8.6%	9.6%	15.5%	8.3%	11.4%	9.5%	8.9%
Mortality (counts)							
Female deaths	20,559	617	320	370	18	189	22,073
Male deaths	20,429	826	332	387	31	283	22,288
Total deaths	40,988	1,443	652	757	49	472	44,361
Perinatal Mortality							
Perinatal deaths ⁵ (Late fetal + Early neonatal)	192	87	14	34	8	21	356
Total infant deaths ⁶	170	81	16	31	7	24	329
Neonatal deaths (<i>< 28 days</i>)	123	58	9	25	4	10	229
<i>Early neonatal death (<i>< 7 days</i>)</i>	94	46	6	24	4	9	183
Postneonatal deaths (<i>28 days - 1 yr</i>)	47	23	7	6	3	14	100

¹ Race/ethnicity based on self-identified race/ethnicity of woman.

² Race and ethnicity data for abortions are not collected and processed the same as for natality data. The other/unknown race category for abortion includes those with multiple races, while multiple races are probabilistically assigned to one of the other four race categories. Thus, the other/unknown race category for natality statistics only includes those with unknown race. Abortion

³ Fetal deaths of less than 20 weeks gestation are not included in the counts. Late fetal deaths are a subset of fetal deaths occurring at 28 weeks or later gestation.

⁴ Repeat C-section is percentage of total C-sections.

⁵ Perinatal deaths include late fetal deaths (28 or more weeks gestation) plus early neonatal deaths (under 7 days of age).

⁶ Infant deaths are period events that occurred in the reporting period and are included in the mortality files.

NOTE: Counts based on <20 events should not be used to calculate rates due to instability of the estimates.

Table 6. Summary of Selected Vital Statistics by Urban/Rural Classification¹, Minnesota Residents, 2017.

	Metropolitan				Non-Metropolitan (Rural)		TOTAL
	Large Urban	Large Suburban	Medium	Small	Micro	Non-Core	
Fertility (counts)							
Total pregnancies	29,150	22,406	2,680	8,854	8,217	6,895	78,202
Live births	24,011	19,869	2,359	8,079	7,722	6,559	68,599
Induced abortions	4,988	2,420	313	739	452	299	9,211
Fetal deaths ²	141	103	8	37	41	32	362
<i>Late fetal deaths</i> (<i>> 28 weeks</i>)	61	46	2	23	23	9	164
Nativity (percents)							
First-time mothers	39.0%	36.3%	38.9%	34.5%	32.3%	31.6%	36.2%
Late PNC	4.2%	2.7%	2.8%	1.7%	3.7%	3.8%	3.3%
Inadequate PNC	13.6%	8.0%	8.1%	7.6%	9.8%	9.6%	10.3%
C-section (any) delivery	26.6%	28.0%	27.3%	26.4%	28.4%	28.7%	30.9%
<i>Repeat C-section</i> ³	36.6%	37.9%	38.1%	45.2%	47.2%	45.6%	40.2%
Low birthweight	7.8%	6.2%	7.3%	6.0%	6.1%	6.6%	7.6%
Preterm	9.2%	8.5%	10.4%	8.4%	8.8%	8.8%	10.0%
Mortality (counts)							
Female deaths	6,704	5,262	1,223	2,383	3,335	3,164	22,071
Male deaths	6,519	5,328	1,229	2,460	3,374	3,370	22,280
Total deaths	13,223	10,590	2,452	4,843	6,709	6,534	44,351
Perinatal Mortality							
Perinatal deaths ⁴ (Late fetal + Early neonatal)	124	89	12	50	44	28	347
Total infant deaths ⁵	119	79	15	41	37	38	329
Neonatal deaths (<i>< 28 days</i>)	79	55	11	30	26	24	225
<i>Early neonatal death</i> (<i>< 7 days</i>)	63	43	10	27	21	19	183
Postneonatal deaths (<i>28 days - 1 yr</i>)	40	24	4	11	11	14	104

¹ Classification is based on the National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties. See Introduction to this report or https://www.cdc.gov/nchs/data_access/urban_rural.htm. 4 are missing county of residence.

² Fetal deaths of less than 20 weeks gestation are not included in the counts. Late fetal deaths are a subset of fetal deaths occurring at 28 weeks or later gestation.

³ Repeat C-section is percentage of total C-sections.

⁴ Perinatal deaths include late fetal deaths (28 or more weeks gestation) plus early neonatal deaths (under 7 days of age).

⁵ Infant deaths are period events that occurred in the reporting period and are included in the mortality files.

NOTE: Counts based on <20 events should not be used to calculate rates due to instability of the estimates.

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Nativity Tables

- Table 1. Births by County of Residence and County of Occurrence, 2017
- Table 2. Characteristics of Women who Gave Birth by Race/Ethnicity, MN Residents, 2017
- Table 3. Selected Pregnancy Characteristics by Race/Ethnicity, MN Residents, 2017
- Table 4. Delivery Characteristics and Infant Outcomes by Race/Ethnicity, MN Residents, 2017
- Table 5. Selected Pregnancy Characteristics by Urban/Rural Residence, MN Residents, 2017
- Table 6. Delivery Characteristics and Infant Outcomes by Urban/Rural, MN Residents, 2017
- Table 7. Route of Delivery by Selected Maternal Characteristics, MN Residents, 2017
- Table 8. Birth Outcomes by Selected Maternal Characteristics, MN Residents, 2017
- Table 9. Number of Race and Hispanic Checkboxes Selected at Birth, MN Residents, 2017
- Table 10. Live Births by Birth Country of Women Giving Birth, MN Residents, 2017
- Table 11. Characteristics and Outcomes for Women Who Smoke, MN Residents, 2017
- Table 12. Pregnancies Resulting from Infertility Treatments, MN Residents, 2017

Table 1. Resident Live Births Distributed by County of Occurrence (n=68,603); Live Births by County of Occurrence Distributed by Residence (n=67,551), Minnesota 2017.

County	Births to MN County Residents across Place of Birth				Births Occurring in EACH County across Place of Residence		
	Total	Within County	<i>Outside County of Residence</i>		Total ¹	Other Minnesota Residents	Out of State Residents
			Within Minnesota	Outside Minnesota			
State Total	68,599	42,158	23,801	2,640	67,547	23,801	1,588
Aitkin	121	53	68	0	65	12	0
Anoka	4,213	1,916	2,287	10	3,071	1,146	9
Becker	399	293	42	64	484	188	3
Beltrami	660	622	30	8	932	307	3
Benton	528	10	518	0	10	0	0
Big Stone	64	35	7	22	66	10	21
Blue Earth	692	618	74	0	1,397	776	3
Brown	274	206	68	0	354	148	0
Carlton	368	86	278	4	175	87	2
Carver	1,170	641	527	2	1,274	630	3
Cass	282	1	279	2	1	0	0
Chippewa	163	77	86	0	124	46	1
Chisago	594	303	235	56	634	323	8
Clay	907	9	26	872	9	0	0
Clearwater	110	8	101	1	8	0	0
Cook	45	7	38	0	7	0	0
Cottonwood	148	93	46	9	119	26	0
Crow Wing	662	488	172	2	687	196	3
Dakota	5,144	2,002	3,126	16	3,077	1,026	49
Dodge	230	2	228	0	4	2	0
Douglas	434	387	42	5	668	280	1
Faribault	140	39	99	2	53	12	2
Fillmore	266	34	176	56	34	0	0
Freeborn	322	254	61	7	340	58	28
Goodhue	494	214	274	6	332	74	44
Grant	60	3	56	1	3	0	0
Hennepin	16,322	14,571	1,702	49	21,676	6,978	127
<i>Bloomington</i>	1,021	7	1,010	4	7	0	0
<i>Edina</i>	475	240	234	1	3,174	2,920	14
<i>Minneapolis</i>	5,871	3,844	2,005	22	9,702	5,761	85
<i>Richfield</i>	530	3	527	0	3	0	0
Houston	229	3	8	218	3	0	0
Hubbard	216	84	127	5	117	33	0
Isanti	430	198	231	1	331	132	1
Itasca	466	368	97	1	421	53	0
Jackson	105	0	80	25	0	0	0
Kanabec	181	103	78	0	223	120	0
Kandiyohi	601	534	66	1	754	220	0
Kittson	64	4	24	36	4	0	0
Koochiching	104	48	54	2	50	2	0
Lac Qui Parle	58	5	42	11	5	0	0
Lake	99	2	97	0	2	0	0
Lake of the Woods	34	1	31	2	1	0	0
Le Sueur	353	3	348	2	3	0	0
Lincoln	74	3	41	30	3	0	0
Lyon	358	304	9	45	500	195	1
McLeod	357	234	122	1	382	148	0
Mahnomen	99	6	77	16	6	0	0

Table 1. Resident Live Births Distributed by County of Occurrence (n=68,603); Live Births by County of Occurrence Distributed by Residence (n=67,551), Minnesota 2017.

County	Births to MN County Residents across Place of Birth				Births Occurring in EACH County across Place of Residence		
	Total	Within County	<i>Outside County of Residence</i>		Total ¹	Other Minnesota Residents	Out of State Residents
			Within Minnesota	Outside Minnesota			
Marshall	131	4	52	75	4	0	0
Martin	231	172	54	5	222	36	14
Meeker	252	118	134	0	141	23	0
Mille Lacs	328	27	300	1	56	29	0
Morrison	357	101	255	1	120	19	0
Mower	525	322	199	4	348	18	8
Murray	87	1	74	12	1	0	0
Nicollet	378	9	369	0	65	54	2
Nobles	384	282	20	82	406	108	16
Norman	83	2	7	74	2	0	0
Olmsted	2,114	2,089	20	5	3,430	1,194	147
Otter Tail	663	388	223	52	481	88	5
Pennington	170	137	9	24	271	132	2
Pine	276	5	268	3	7	1	1
Pipestone	130	53	34	43	84	20	11
Polk	434	124	44	266	183	58	1
Pope	128	47	81	0	87	38	2
Ramsey	7,689	5,279	2,373	37	9,392	3,937	176
<i>St. Paul</i>	<i>4,904</i>	<i>2,590</i>	<i>2,295</i>	<i>19</i>	<i>6,726</i>	<i>3,976</i>	<i>156</i>
Red Lake	41	1	33	7	1	0	0
Redwood	184	74	106	4	91	16	1
Renville	183	41	142	0	44	3	0
Rice	752	312	438	2	381	68	1
Rock	108	41	1	66	99	52	6
Roseau	177	145	24	8	181	27	9
St. Louis	1,991	1,939	50	2	3,000	561	500
<i>Duluth</i>	<i>996</i>	<i>978</i>	<i>18</i>	<i>0</i>	<i>2,378</i>	<i>891</i>	<i>497</i>
Scott	1,835	862	962	11	1,382	517	3
Sherburne	1,216	152	1,061	3	385	233	0
Sibley	156	0	156	0	0	0	0
Stearns	2,058	1,884	169	5	3,146	1,255	7
Steele	421	314	106	1	473	158	1
Stevens	129	76	53	0	98	22	0
Swift	119	0	117	2	0	0	0
Todd	326	205	119	2	577	370	2
Traverse	40	0	19	21	0	0	0
Wabasha	243	3	240	0	3	0	0
Wadena	194	77	114	3	166	88	1
Waseca	198	1	196	1	1	0	0
Washington	2,725	1,129	1,566	30	2,551	1,155	267
Watonwan	159	2	156	1	2	0	0
Wilkin	83	24	14	45	97	5	68
Winona	450	200	119	131	250	26	24
Wright	1,705	631	1,071	3	882	247	4
Yellow Medicine	106	13	75	18	26	13	0

¹ Total births occurring in each county includes births to MN county residents within county of residence (second column).

² County or residence or occurrence is missing for four records.

Table 2. Counts and Percentages for Characteristics of Birth Mother by Race/Ethnicity, MN Residents, 2017.

Total births in each group	Non-Hispanic										TOTAL	
	White		African American		American Indian		Asian/Pacific Islander		Hispanic/Latino			
	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %
	47,890		8,664		1,197		5,492		4,894		68,603	
Age of Mother¹												
< 18 years	189	0.4%	107	1.2%	46	3.8%	38	0.7%	104	2.1%	487	0.7%
18-19 years	809	1.7%	309	3.6%	96	8.0%	96	1.7%	315	6.4%	1,638	2.4%
Teen Mom Total	998	2.1%	416	4.8%	142	11.9%	134	2.4%	419	8.6%	2,125	3.1%
20-24 years	5,659	11.8%	1,638	18.9%	312	26.1%	862	15.7%	1,213	24.8%	9,743	14.2%
25-29 years	14,556	30.4%	2,665	30.8%	378	31.6%	1,602	29.2%	1,275	26.1%	20,583	30.0%
30-34 years	17,727	37.0%	2,465	28.5%	245	20.5%	1,834	33.4%	1,178	24.1%	23,616	34.4%
35-39 years	7,728	16.1%	1,117	12.9%	107	8.9%	855	15.6%	626	12.8%	10,527	15.3%
40-44 years	1,135	2.4%	314	3.6%	12	--	184	3.4%	169	3.5%	1,834	2.7%
45+ years	72	0.2%	49	0.6%	1	--	18	--	14	--	155	0.2%
Educational Attainment²												
< High School	840	2.0%	1,842	27.9%	111	14.9%	566	12.6%	1,148	35.2%	4,523	8.0%
HS Diploma / GED	3,880	9.6%	1,570	32.9%	304	48.1%	643	16.4%	733	34.7%	7,158	13.7%
Some College, No degree	6,395	13.0%	1,423	16.6%	158	30.4%	595	8.6%	534	15.6%	9,134	13.2%
Associate Degree	6,554	11.3%	636	7.2%	90	18.4%	428	5.7%	257	6.2%	7,977	10.0%
Bachelor's Degree	15,424	25.7%	683	7.4%	38	6.4%	1,276	17.1%	356	8.3%	17,801	21.6%
Graduate / Professional Degree	7,977	15.8%	324	3.6%	14	--	953	15.0%	198	4.2%	9,488	13.1%
Unknown	163	0.3%	132	1.5%	28	2.3%	35	0.6%	36	0.7%	654	0.9%
Urban/Rural Residence³												
Large Urban Metro Area	12,539	26.2%	5,368	62.0%	192	16.0%	3,639	66.3%	2,053	41.9%	24,011	35.0%
Large Suburban Metro Area	15,468	32.3%	1,701	19.6%	127	10.6%	1,231	22.4%	1,225	25.0%	19,869	29.0%
Medium/ Small Metro Area	8,422	17.6%	1,032	11.9%	191	16.0%	319	5.8%	406	8.3%	10,438	15.2%
Micropolitan Area	5,854	12.2%	473	5.5%	408	34.1%	196	3.6%	762	15.6%	7,722	11.3%
Noncore (Rural) Area	5,604	11.7%	89	1.0%	279	23.3%	107	1.9%	448	9.2%	6,559	9.6%
Nativity Status												
US born	46,305	96.7%	3,482	40.2%	1,180	98.6%	1,598	29.1%	2,101	42.9%	54,995	80.2%
Foreign-born	1,585	3.3%	5,182	59.8%	17	--	3,894	70.9%	2,793	57.1%	13,608	19.8%

¹ 20 women are missing age and not included in this variable.² Educational attainment calculated for mothers age 25 years and older.³ Four are missing county of residence and are not included in this variable. See Appendix B for more information and definitions of each geographic area type.

Table 3. Counts and Percentages¹ for Selected Pregnancy Characteristics by Race/Ethnicity, MN Residents, 2017.

Total births in each group	Non-Hispanic											
	White		African American		American Indian		Asian/Pacific Islander		Hispanic/Latino		TOTAL	
	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %
	47,890		8,664		1,197		5,492		4,894		68,603	
Previous Live Births												
None	18,444	38.5%	2,349	27.1%	331	27.7%	2,003	36.5%	1,564	32.0%	24,838	36.2%
One	16,500	34.5%	2,231	25.8%	261	21.8%	1,648	30.0%	1,378	28.2%	22,154	32.3%
Two or more	12,910	27.0%	4,079	47.1%	604	50.5%	1,839	33.5%	1,944	39.7%	21,533	31.4%
Prepregnancy BMI²												
Underweight (BMI < 19.0)	1,474	3.1%	332	3.8%	35	2.9%	355	6.5%	132	2.7%	2,344	3.4%
Acceptable (BMI 19.0 - 24.9)	20,507	42.8%	2,767	31.9%	323	27.0%	2,593	47.2%	1,458	29.8%	27,838	40.6%
Overweight (BMI 25.0 - 29.9)	12,795	26.7%	2,512	29.0%	303	25.3%	1,497	27.3%	1,505	30.8%	18,697	27.3%
Obese (BMI 30.0 - 40.9)	10,537	22.0%	2,299	26.5%	374	31.2%	857	15.6%	1,391	28.4%	15,556	22.7%
Morbidly Obese (BMI > 40.9)	1,864	3.9%	419	4.8%	65	5.4%	60	1.1%	214	4.4%	2,633	3.8%
Height/weight missing	713	1.5%	335	3.9%	97	8.1%	130	2.4%	194	4.0%	1,535	2.2%
Trimester Prenatal Care Began												
First	39,011	81.5%	5,611	64.8%	588	49.1%	3,906	71.1%	3,501	71.5%	52,878	77.1%
Second	5,165	10.8%	2,168	25.0%	293	24.5%	1,286	23.4%	1,022	20.9%	10,010	14.6%
Third	788	1.6%	520	6.0%	122	10.2%	182	3.3%	225	4.6%	1,856	2.7%
No prenatal care	183	0.4%	93	1.1%	79	6.6%	27	0.5%	46	0.9%	433	0.6%
Out of state births ³	2,280	4.8%	162	1.9%	83	6.9%	43	0.8%	0	--	2,640	3.8%
Prenatal care not reported	463	1.0%	110	1.3%	32	2.7%	48	0.9%	100	2.0%	786	1.1%
Adequacy of Prenatal Care												
None	183	0.4%	93	1.1%	79	6.6%	27	0.5%	46	0.9%	433	0.6%
Inadequate	2,893	6.0%	1,780	20.5%	329	27.5%	780	14.2%	786	16.1%	6,613	9.6%
Intermediate	3,928	8.2%	1,280	14.8%	167	14.0%	667	12.1%	462	9.4%	6,539	9.5%
Adequate	21,715	45.3%	3,091	35.7%	307	25.6%	2,273	41.4%	1,790	36.6%	29,327	42.7%
Intensive	16,308	34.1%	2,112	24.4%	196	16.4%	1,648	30.0%	1,693	34.6%	22,078	32.2%
Out of state births ³	2,280	4.8%	162	1.9%	83	6.9%	43	0.8%	0	--	2,640	3.8%
Prenatal care not reported	583	1.2%	146	1.7%	36	3.0%	54	1.0%	117	2.4%	973	1.4%

¹ Percentages are column (within each race/ethnicity group) percentages.² BMI = Body Mass Index calculated as weight (kg) / height (meters)².³ Out of state births are MN residents giving birth outside the state of MN. Prenatal care data are not available from some states.

Table 4. Counts and Percentages for Delivery Characteristics and Infant Outcomes by Race/Ethnicity, MN Residents, 2017.

Total births in each group	Non-Hispanic											
	White		African American		American Indian		Asian/Pacific Islander		Hispanic/Latino		TOTAL	
	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %
	47,890		8,664		1,197		5,492		4,894		68,603	
Birth Attendant¹												
MD or DO	41,553	86.8%	7,235	83.5%	1,092	91.2%	4,661	84.9%	4,057	82.9%	58,925	85.9%
Certified Nurse Midwife	5,271	11.0%	1,336	15.4%	86	7.2%	786	14.3%	780	15.9%	8,350	12.2%
Other licensed or lay midwife	437	0.9%	7	--	3	--	1	--	9	--	479	0.7%
Other (RN, EMT, non-med/ or missing)	629	1.3%	86	1.0%	16	--	44	0.8%	48	1.0%	849	1.2%
Delivery setting²												
Hospital	46,528	97.2%	8,617	99.5%	1,183	98.8%	5,462	99.5%	4,845	99.0%	67,047	97.7%
Free-standing birth center	502	1.0%	10	--	2	--	7	--	16	--	543	0.8%
Home	833	1.7%	36	0.4%	11	--	20	0.4%	30	0.6%	977	1.4%
Method of Delivery												
Vaginal	33,858	70.7%	5,872	67.8%	847	70.8%	4,145	75.5%	3,506	71.6%	48,558	70.8%
Vaginal Birth after C-Section	737	1.5%	258	3.0%	19	--	106	1.9%	91	1.9%	1,218	1.8%
Total C-Section ³	13,278	27.7%	2,534	29.2%	331	27.7%	1,240	22.6%	1,297	26.5%	18,803	27.4%
<i>Primary C-section</i>	8,139	61.3%	1,395	55.1%	153	46.2%	793	64.0%	694	53.5%	11,253	59.8%
<i>Repeat C-section</i>	5,139	38.7%	1,139	44.9%	178	53.8%	447	36.0%	603	46.5%	7,550	40.2%
Infant Outcomes												
Gestational Age⁴												
Preterm (< 37 weeks)	4,096	8.6%	830	9.6%	185	15.5%	456	8.3%	466	9.5%	6,086	8.9%
Term (37 - 41 weeks)	43,497	90.8%	7,610	87.8%	998	83.4%	5,007	91.2%	4,406	90.0%	61,913	90.2%
Post Term (42+ weeks)	227	0.5%	210	2.4%	2	--	26	0.5%	10	--	484	0.7%
Birthweight⁵												
Very low birth weight	461	1.0%	200	2.3%	15	--	83	1.5%	62	1.3%	831	1.2%
Low birth weight	2,386	5.0%	635	7.3%	94	7.9%	368	6.7%	309	6.3%	3,817	5.6%
Normal birth weight	39,222	81.9%	7,137	82.4%	906	75.7%	4,805	87.5%	4,124	84.3%	56,571	82.5%
High birth weight	5,791	12.1%	687	7.9%	182	15.2%	236	4.3%	397	8.1%	7,343	10.7%
Number of Infants at Birth												
Singleton	46,105	96.3%	8,361	96.5%	1,155	96.5%	5,379	97.9%	4,739	96.8%	66,185	96.5%
Twins	1,735	3.6%	297	3.4%	42	3.5%	110	2.0%	143	2.9%	2,347	3.4%
Triplets or more	50	0.1%	6	--	0	--	3	--	12	--	71	0.1%

¹ DO = Doctor of Osteopathy; Certified Nurse Midwife includes Certified Nurse midwives and Certified (non-nurse) Midwives.

² Delivery setting missing 36 that are not included in this variable

³ Total C-section includes both primary and repeat C-sections. Primary and repeat C-sections are percentages of Total C-sections.

⁴ Calculated based on clinician's estimate of completed weeks of gestation. 94 are missing gestational age and are not included in this variable.

⁵ Birthweight: VLBW < 1,500 gms (3 lbs 5 oz); LBW < 2,500 (5.5 lbs); normal range 2,500 - 3,900 gms High birthweight 4,000+ grams (8 pounds, 13 ounces). 41 missing birth weight.

Table 5. Counts and Percentages¹ for Selected Pregnancy Characteristics by Urban/Rural Residence,² MN Residents, 2017.

Total births in each group	Metropolitan								Non-Metropolitan (Rural)				TOTAL ²	
	Large Central		Large Fringe		Medium		Small		Micropolitan		Rural			
	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %
	24,011		19,869		2,359		8,079		7,722		6,559		68,599	
Previous Live Births														
None	9,362	39.0%	7,203	36.3%	917	38.9%	2,790	34.5%	2,496	32.3%	2,070	31.6%	24,838	36.2%
One	7,556	31.5%	6,784	34.1%	754	32.0%	2,645	32.7%	2,388	30.9%	2,026	30.9%	22,154	32.3%
Two or more	7,048	29.4%	5,866	29.5%	687	29.1%	2,641	32.7%	2,833	36.7%	2,455	37.4%	21,533	31.4%
Prepregnancy BMI³														
Underweight (BMI < 19.0)	979	4.1%	616	3.1%	56	2.4%	242	3.0%	255	3.3%	196	3.0%	2,344	3.4%
Acceptable (BMI 19.0 - 24.9)	10,389	43.3%	8,052	40.5%	913	38.7%	3,261	40.4%	2,867	37.1%	2,354	35.9%	27,838	40.6%
Overweight (BMI 25.0 - 29.9)	6,421	26.7%	5,555	28.0%	651	27.6%	2,244	27.8%	2,096	27.1%	1,730	26.4%	18,697	27.3%
Obese (BMI 30.0 - 40.9)	4,667	19.4%	4,599	23.1%	603	25.6%	1,923	23.8%	1,979	25.6%	1,784	27.2%	15,556	22.7%
Morbidly Obese (BMI > 40.9)	788	3.3%	696	3.5%	101	4.3%	309	3.8%	393	5.1%	346	5.3%	2,633	3.8%
Height/weight missing	767	3.2%	351	1.8%	35	1.5%	100	1.2%	132	1.7%	149	2.3%	1,535	2.2%
Trimester Prenatal Care Began														
First	18,257	76.0%	16,549	83.3%	2,022	85.7%	5,266	65.2%	5,942	76.9%	4,842	73.8%	52,878	77.1%
Second	4,380	18.2%	2,480	12.5%	238	10.1%	1,195	14.8%	950	12.3%	766	11.7%	10,010	14.6%
Third	817	3.4%	448	2.3%	50	2.1%	119	1.5%	227	2.9%	193	2.9%	1,856	2.7%
No prenatal care	189	0.8%	90	0.5%	16	--	21	0.3%	58	0.8%	58	0.9%	433	0.6%
Out of state births ⁴	86	0.4%	135	0.7%	6	--	1,422	17.6%	394	5.1%	597	9.1%	2,640	3.8%
Prenatal care not reported	282	1.2%	167	0.8%	27	1.1%	56	0.7%	151	2.0%	103	1.6%	786	1.1%
Adequacy of Prenatal Care														
None	189	0.8%	90	0.5%	16	--	21	0.3%	58	0.8%	58	0.9%	433	0.6%
Inadequate	3,079	12.8%	1,493	7.5%	174	7.4%	597	7.4%	699	9.1%	569	8.7%	6,613	9.6%
Intermediate	2,308	9.6%	1,636	8.2%	151	6.4%	1,225	15.2%	692	9.0%	530	8.1%	6,543	9.5%
Adequate	9,616	40.0%	9,258	46.6%	1,227	52.0%	2,872	35.5%	3,486	45.1%	2,873	43.8%	29,332	42.8%
Intensive	8,405	35.0%	7,052	35.5%	756	32.0%	1,868	23.1%	2,210	28.6%	1,797	27.4%	22,088	32.2%
Out of state births ⁴	86	0.4%	135	0.7%	6	--	1,422	17.6%	394	5.1%	597	9.1%	2,640	3.8%
Prenatal care not reported	328	1.4%	205	1.0%	29	1.2%	74	0.9%	183	2.4%	135	2.1%	954	1.4%

¹ Percentages are column (within each urban/rural group) percentages.

² Four individuals are missing county of residence and are not included in total.

³ BMI = Body Mass Index calculated as weight (kg) / height (meters)².

⁴ Out of state births are MN residents giving birth outside the state of MN. Prenatal care data are not available from some states.

Table 6. Counts and Percentages¹ for Delivery Characteristics and Infant Outcomes by Urban/Rural Residence, MN Residents, 2017.

Total births in each group	Metropolitan								Non-Metropolitan (Rural)				TOTAL ²	
	Large Central		Large Fringe		Medium		Small		Micropolitan		Non-Core			
	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %	#	Col %
	24,011		19,869		2,359		8,079		7,722		6,559		60,877	
Birth Attendant³														
MD or DO	19,298	80.4%	17,845	89.8%	2,267	96.1%	6,740	83.4%	6,938	89.8%	5,834	88.9%	58,925	96.8%
Certified Nurse Midwife	4,306	17.9%	1,739	8.8%	46	1.9%	1,130	14.0%	611	7.9%	517	7.9%	8,350	13.7%
Other licensed or lay midwife	143	0.6%	89	0.4%	11	--	60	0.7%	65	0.8%	111	1.7%	479	0.8%
Other (RN, EMT, non-med/ or missing)	264	1.1%	196	1.0%	35	1.5%	149	1.8%	108	1.4%	97	1.5%	849	1.4%
Delivery setting⁴														
Hospital	23,402	97.5%	19,496	98.1%	2,315	98.1%	7,916	98.0%	7,560	97.9%	6,354	96.9%	67,047	110.1%
Free-standing birth center	378	1.6%	148	0.7%	5	--	3	--	8	--	1	--	543	0.9%
Home	221	0.9%	216	1.1%	37	1.6%	157	1.9%	149	1.9%	197	3.0%	977	1.6%
Method of Delivery														
Vaginal	17,174	71.5%	13,992	70.4%	1,674	71.0%	5,759	71.3%	5,384	69.7%	4,574	69.7%	48,558	79.8%
Vaginal Birth after C-Section	442	1.8%	309	1.6%	42	1.8%	184	2.3%	140	1.8%	100	1.5%	1,218	2.0%
Total C-Section ⁵	6,390	26.6%	5,562	28.0%	643	27.3%	2,131	26.4%	2,193	28.4%	1,882	28.7%	18,803	30.9%
Primary C-section	4,054	63.4%	3,452	62.1%	398	61.9%	1,167	54.8%	1,157	52.8%	1,024	54.4%	11,253	59.8%
Repeat C-section	2,336	36.6%	2,110	37.9%	245	38.1%	964	45.2%	1,036	47.2%	858	45.6%	7,550	40.2%
Infant Outcomes														
Gestational Age⁶														
Preterm (< 37 weeks)	2,215	9.2%	1,690	8.5%	246	10.4%	675	8.4%	682	8.8%	576	8.8%	6,086	10.0%
Term (37 - 41 weeks)	21,522	89.6%	18,093	91.1%	2,093	88.7%	7,300	90.4%	6,971	90.3%	5,932	90.4%	61,913	101.7%
Post Term (42+ weeks)	245	1.0%	70	0.4%	15	--	85	1.1%	43	0.6%	26	0.4%	484	0.8%
Birthweight⁷														
Very low birth weight	365	1.5%	221	1.1%	32	1.4%	88	1.1%	73	0.9%	51	0.8%	831	1.4%
Low birth weight	1,497	6.2%	1,009	5.1%	140	5.9%	393	4.9%	396	5.1%	382	5.8%	3,817	6.3%
Normal birth weight	19,898	82.9%	16,399	82.5%	1,887	80.0%	6,646	82.3%	6,359	82.3%	5,379	82.0%	56,571	92.9%
High birth weight	2,238	9.3%	2,230	11.2%	300	12.7%	949	11.7%	889	11.5%	737	11.2%	7,343	12.1%
Number of Infants at Birth														
Singleton	23,110	96.2%	19,197	96.6%	2,267	96.1%	7,801	96.6%	7,456	96.6%	6,350	96.8%	66,185	108.7%
Twins	874	3.6%	662	3.3%	82	3.5%	266	3.3%	260	3.4%	203	3.1%	2,347	3.9%
Triplets or more	27	0.1%	10	--	10	--	12	--	6	--	6	--	71	0.1%

¹ Percentages are column (within each urban/rural group) percentages.

² Four individuals are missing county of residence and are not included in total.

³ DO = Doctor of Osteopathy; Certified Nurse Midwife includes Certified Nurse midwives and Certified (non-nurse) Midwives.

⁴ Delivery setting missing 36 that are not included in this variable

⁵ Total C-section includes both primary and repeat C-sections. Primary and repeat C-sections are percentages of Total C-sections.

⁶ Calculated based on clinician's estimate of completed weeks of gestion. 94 are missing gestational age and are not included in this variable.

⁷ Birthweight: VLBW < 1,500 gms (3 lbs 5 oz); LBW < 2,500 (5.5 lbs); normal range 2,500 - 3,900 gms High birthweight 4,000+ grams (8 pounds, 13 ounces). 41 missing birth weight.

Table 7. Route of Delivery¹ by Characteristics of Women Giving Birth, MN Residents, 2017.

	Vaginal		VBAC		Primary C-Section		Repeat C-Section	
	#	Row %	#	Row %	#	Row %	#	Row %
All Births	48,558	70.8%	1,218	1.8%	11,253	16.4%	7,550	11.0%
Race / Ethnicity								
White	33,858	70.7%	737	1.5%	8,139	17.0%	5,139	10.7%
African American	5,872	67.8%	258	3.0%	1,395	16.1%	1,139	13.1%
American Indian	847	70.8%	19	--	153	12.8%	178	14.9%
Asian/Pacific Islander	4,145	75.5%	106	1.9%	793	14.4%	447	8.1%
Other/Unknown	330	71.7%	7	--	79	17.2%	44	9.6%
Hispanic/Latino	3,506	71.6%	91	1.9%	694	14.2%	603	12.3%
Age of Mother								
< 18 years	420	86.2%	0	--	65	13.3%	2	--
18-19 years	1,343	82.0%	4	--	259	15.8%	31	1.9%
Teen Mom Total	1,763	83.0%	4	--	324	15.3%	33	1.6%
20-24 years	7,564	77.7%	106	1.1%	1,497	15.4%	572	5.9%
25-29 years	15,097	73.4%	354	1.7%	3,307	16.1%	1,816	8.8%
30-34 years	16,395	69.4%	461	2.0%	3,760	15.9%	2,994	12.7%
35-39 years	6,605	62.7%	245	2.3%	1,909	18.1%	1,768	16.8%
40-44 years	1,048	57.2%	45	2.5%	403	22.0%	336	18.3%
45+ years	73	47.4%	3	--	50	32.5%	28	18.2%
Educational Attainment²								
< High School	3,233	71.7%	149	3.3%	504	11.2%	621	13.8%
HS Diploma / GED	4,825	67.4%	165	2.3%	1,108	15.5%	1,056	14.8%
Some College, No degree	6,139	67.2%	188	2.1%	1,562	17.1%	1,242	13.6%
Associate Degree	5,414	67.9%	118	1.5%	1,415	17.7%	1,028	12.9%
Bachelor's Degree	12,502	70.3%	312	1.8%	3,084	17.3%	1,896	10.7%
Graduate / Professional Degree	6,654	70.1%	159	1.7%	1,657	17.5%	1,017	10.7%
Unknown	451	69.5%	17	--	99	15.3%	82	12.6%
Prepregnancy BMI								
Underweight (BMI < 19.0)	1,872	79.9%	34	1.5%	293	12.5%	143	6.1%
Acceptable (BMI 19.0 - 24.9)	21,368	76.8%	497	1.8%	3,823	13.7%	2,141	7.7%
Overweight (BMI 25.0 - 29.9)	13,160	70.4%	371	2.0%	3,038	16.3%	2,121	11.3%
Obese (BMI 30.0 - 40.9)	9,790	62.9%	248	1.6%	3,096	19.9%	2,421	15.6%
Morbidly Obese (BMI > 40.9)	1,306	49.6%	33	1.3%	738	28.0%	556	21.1%
Height or weight not reported	1,062	69.4%	35	2.3%	265	17.3%	168	11.0%
Adequacy of Prenatal Care³								
No Prenatal Care	319	73.7%	14	--	59	13.6%	40	9.2%
Inadequate	4,778	72.3%	163	2.5%	959	14.5%	705	10.7%
Intermediate	4,927	75.3%	161	2.5%	807	12.3%	646	9.9%
Adequate	21,557	73.5%	588	2.0%	4,051	13.8%	3,136	10.7%
Intensive	14,470	65.5%	279	1.3%	4,751	21.5%	2,588	11.7%
Out of state births ⁴	1,837	69.6%	0	--	446	16.9%	356	13.5%
Previous Live Births								
No previous births	17,537	98.3%	8	--	277	1.6%	16	--
One previous live birth	15,490	77.9%	485	2.4%	81	0.4%	3,840	19.3%
Two or more previous births	15,445	77.4%	724	3.6%	88	0.4%	3,688	18.5%

NOTE: Row percentages (route of delivery within each category). Missing data for each variable not included except where shown [age (19), APNCU (954), previous birth (111)]. -- are not calculated due to < 20 count.

¹ Route of delivery missing for 24 women and not included in the table. VBAC = Vaginal Birth after [previous] Cesarean-section.

² Educational attainment reported for mothers age 25 years and older.

³ Adequacy is determined using the Adequacy of Prenatal Care Utilization (APNCU) Index and is not comparable to GINDEX Index used in previous years. See glossary for definitions.

⁴ Out of state births are MN residents giving birth outside the state of MN. Prenatal care data not available from some states.

Table 8. Counts and Percentages¹ of Selected Birth Outcomes by Demographic Characteristics of Women Giving Birth, MN Residents, 2017.

	Preterm ²		Low Birthweight ³		High Birthweight ³	
	#	Row %	#	Row %	#	Row %
All Births	6,086	8.9%	4,648	6.8%	7,343	10.7%
Race and Ethnicity						
White	4,096	8.6%	2,847	5.9%	5,791	12.1%
African American	830	9.6%	835	9.6%	687	7.9%
American Indian	185	15.6%	109	9.1%	182	15.2%
Asian/Pacific Islander	456	8.3%	451	8.2%	236	4.3%
Other/Unknown	53	11.6%	35	7.6%	50	10.8%
Hispanic/Latino	466	9.5%	371	7.6%	397	8.1%
Age of Mother						
< 18 years	47	9.7%	37	7.6%	39	8.0%
18-19 years	167	10.2%	135	8.2%	109	6.7%
Teen Mom Total	214	10.1%	172	8.1%	148	7.0%
20-24 years	865	8.9%	720	7.4%	809	8.3%
25-29 years	1,704	8.3%	1,295	6.3%	2,124	10.3%
30-34 years	1,965	8.3%	1,486	6.3%	2,696	11.4%
35-39 years	1,048	10.0%	761	7.2%	1,365	13.0%
40-44 years	263	14.4%	190	10.4%	182	9.9%
45+ years	23	14.9%	20	12.9%	18	--
Educational Attainment⁴						
< High School	663	9.3%	578	8.0%	609	8.5%
HS Diploma / GED	1,140	9.9%	926	8.0%	1,043	9.1%
Some College, No degree	1,185	9.7%	911	7.5%	1,249	10.2%
Associate Degree	789	8.9%	554	6.3%	1,010	11.4%
Bachelor's Degree	1,469	7.9%	1,066	5.8%	2,271	12.3%
Graduate / Professional Degree	757	8.0%	548	5.8%	1,087	11.4%
Unknown	83	10.9%	65	8.5%	74	9.6%
Prepregnancy BMI						
Underweight (BMI < 19.0)	218	9.3%	226	9.7%	93	4.0%
Acceptable (BMI 19.0 - 24.9)	2,152	7.7%	1,705	6.1%	2,396	8.6%
Overweight (BMI 25.0 - 29.9)	1,586	8.5%	1,167	6.2%	2,169	11.6%
Obese (BMI 30.0 - 40.9)	1,523	9.8%	1,097	7.1%	2,119	13.6%
Morbidly Obese (BMI > 40.9)	315	12.0%	203	7.7%	424	16.1%
Height or weight not reported	292	19.5%	250	16.4%	142	9.3%
Adequacy of Prenatal Care⁵						
None	125	28.9%	110	25.4%	21	4.8%
Inadequate	599	9.1%	520	7.9%	617	9.3%
Intermediate	356	5.4%	282	4.3%	741	11.3%
Adequate	963	3.3%	849	2.9%	3,568	12.2%
Intensive	3,555	16.1%	2,493	11.3%	2,003	9.1%
Out of state births ⁶	334	12.7%	257	9.7%	302	11.4%
Previous Live Births						
No previous births	2,423	9.8%	2,013	8.2%	2,143	8.7%
One previous birth	1,682	7.6%	1,250	5.7%	2,504	11.4%
Two or more previous births	1,963	9.1%	1,371	6.3%	2,682	12.4%

¹ Percentages are row percentages (outcome within each characteristic category).² Preterm are infants born before 37 weeks of gestation. 22 are missing gestational age and are not included in this table.³ Low birthweight < 2,500 grams (5.5 pounds). High birthweight ≥ 4,000 grams (8 pounds, 13 ounces). 41 are missing birthweight.⁴ Educational attainment reported for mothers age 25 years and older.⁵ Adequacy is determined using the Adequacy of Prenatal Care Utilization (APNCU) Index, and is not comparable to GINDEX Index used in previous years. See glossary for more information. Out of state births are MN residents giving birth outside the state of MN. Prenatal care data not available from some states. There are 954 women missing data and not included in this variable.

Table 9. Number of Race and Hispanic Checkboxes Selected by Women Who Gave Birth, Minnesota Residents, 2017.

	Number that selected ¹ each checkbox	
	2016	2017
Race Checkboxes		
White	52,523	51,278
African American	5,427	4,604
Somali	2,620	2,600
Ethiopian	641	801
Liberian	365	361
Kenyan	230	N/A
Sudanese	61	77
Nigerian	197	182
Ghanian	68	N/A
Other African	445	659
American Indian	1,448	1,783
Asian Indian	974	1,027
Chinese	402	431
Filipino	250	257
Japanese	95	96
Korean	303	291
Vietnamese	331	341
Hmong	2,210	2,137
Cambodian	215	205
Laotian	196	166
Other Asian	811	775
Hawaiian	26	42
Guamanian/Chamorro	7	5
Samoan	5	6
Other Pacific Islander	58	80
Other Race	2,875	2,226
Unknown Race		398
Hispanic/Latino Checkboxes		
Mexican	3,342	3,304
Cuban	58	65
Puerto Rican	188	227
Other Hispanic	1,340	1,835
Not Hispanic/Latino	64,457	63,172
Unknown/Nothing Selected	428	537

¹ More than one category may be selected, thus counts sum to more than the Minnesota resident birth total.

Note: Categories correspond to those listed on the birth certificate worksheet and are self-selected by each woman. Counts are the number of records on which that checkbox was indicated. Race(s) chosen do not necessarily correspond to birth country of mother.

Note: Classification of the checkboxes changed from 2016 to 2017. In 2016, all checkboxes selected were documented regardless of other information provided by the woman. In 2017, checkboxes are edited and corrected for inconsistencies to reflect complete race/ethnicity information provided by each woman. Edited codes are the national standard for reporting vital statistics by race/ethnicity.

Table 10. Live Births by Birth Country¹ of Women Giving Birth, MN Residents, 2017.

Woman's Birth Country	Number of Women Born in Each Country
United States	55,056
Foreign-Born	13,547
Somalia	2,490
Mexico	1,621
Ethiopia	956
India	852
Thailand	845
Laos	436
Liberia	394
Kenya	369
Guatemala	307
China	294
Burma	285
Vietnam	254
El Salvador	238
Ecuador	196
South Korea	193
Nigeria	190
Philippines	180
Canada	177
Russia	148
Ukraine	127
Germany	120
Honduras	114
Cambodia	105
Cameroon	90
Iraq	76
Colombia	75
Ghana	75
All Others	2,340

¹The list represents home countries of women giving birth where there were at least 75 women from that country.

Table 11. Selected Characteristics and Outcomes for Women Who Smoked Before or During Pregnancy,

	Total Births	% that Smoked Before or During Pregnancy		% Smokers that Quit Prior to Pregnancy		% Smokers that Quit During Pregnancy	
		#	1.0%	#	%	#	%
All Births	68,603	7,503	10.9%	1,411	18.8%	915	12.2%
Race and Ethnicity²							
White	47,890	5,739	12.0%	1,142	19.9%	715	12.5%
African American	8,664	713	8.2%	109	15.3%	77	10.8%
American Indian	1,197	541	45.2%	32	5.9%	45	8.3%
Asian/Pacific Islander	5,492	200	3.6%	64	32.0%	31	15.5%
Other/Unknown	466	22	4.7%	9	--	1	--
Hispanic/Latino	4,894	288	5.9%	55	19.1%	46	16.0%
Age of Mother							
< 18 years	487	63	12.9%	7	--	13	--
18-19 years	1,638	367	22.4%	82	22.3%	58	15.8%
20-24 years	9,743	1,925	19.8%	362	18.8%	284	14.8%
25-29 years	20,583	2,433	11.8%	467	19.2%	283	11.6%
30-34 years	23,616	1,849	7.8%	348	18.8%	191	10.3%
35-39 years	10,527	746	7.1%	130	17.4%	73	9.8%
40+ years	1,989	117	5.9%	14	--	13	--
Trimester PNC began							
First	52,878	5,152	9.7%	1,084	21.0%	624	12.1%
Second	10,010	1,310	13.1%	171	13.1%	165	12.6%
Third	1,856	352	19.0%	34	9.7%	32	9.1%
None	433	176	40.6%	3	--	7	--
Out of state births ³	2,640	401	15.2%	102	25.4%	80	20.0%
Not reported	786	112	14.2%	17	--	7	--
Delivery Method							
Vaginal	48,558	5,129	10.6%	961	18.7%	631	12.3%
VBAC ⁴	1,218	95	7.8%	11	--	7	--
C-section	18,803	2,277	12.1%	438	19.2%	277	12.2%
Preterm							
< 37 weeks	6,112	902	14.8%	132	14.6%	100	11.1%
Low Birth Weight							
< 2500 grams	4,648	775	16.7%	97	12.5%	81	10.5%

¹ Percentages are row percentages (smoking within each characteristic category).

² Other/unknown races are not shown due to small numbers (n = 22 total smokers).

³ Out of state births are MN residents giving birth outside the state of MN. Prenatal care data not available from some states.

⁴ VBAC - Vaginal Birth After [previous] Cesarean-Section.

Table 12. Pregnancies Resulting from Infertility Treatments, MN Residents, 2017.

	Birth Purity			
	Total	Singleton	Twin	Triplet+ ²
Pregnancies¹				
Total pregnancies	67,383	66,185	1,162	24
# resulting from infertility treatments	1,390	1,188	196	8
% resulting from infertility treatments	2.1%	1.8%	16.9%	--
Age of Mother				
<20 years	0	0	0	0
20-24 years	15	12	3	0
25-29 years	216	186	29	1
30-34 years	567	481	82	4
35-39 years	416	357	56	3
40-44 years	138	116	22	0
45+ years	40	36	4	0
Treatment Type				
Drugs/Artificial Insemination Only	576	517	57	2
Assisted Reproductive Technologies Only	762	626	130	6
Both Methods	23	19	4	0
Method Not Specified	30	26	4	0

¹ Number of pregnancies, not number of births. Each mother is counted only once regardless of the plurality of the pregnancy.

² Due to the small numbers triplets or more are combined. -- rates not calculated due to < 20.

Fertility Tables

Table 1: Pregnancies, Pregnancy Outcome, Birth/Fertility Rates, Minnesota Residents, 2002 - 2017

Table 2: Pregnancies and Pregnancy Rates by Age of Mother, Minnesota Residents, 2007 - 2017

Fertility Table 1. Total Reported Pregnancies by Pregnancy Outcome, Pregnancy Rate, and Fertility Rate, MN Residents, 2002 - 2017.

Year	Total Reported Pregnancies ¹	Live Births	Induced Abortions	Fetal Deaths ²	Female ³ Population Ages 15-44	Pregnancy Rate ⁴	Fertility Rate ⁵
2002	81,284	68,037	12,902	345	1,096,832	74.1	62.0
2003	83,300	70,053	12,918	329	1,093,415	76.2	64.1
2004	83,719	70,614	12,755	350	1,095,018	76.5	64.5
2005	83,555	70,920	12,306	329	1,092,604	76.5	64.9
2006	86,814	73,515	12,948	351	1,070,877	81.1	68.6
2007	86,832	73,675	12,770	387	1,058,541	82.0	69.6
2008	84,653	72,382	11,896	375	1,048,477	80.7	69.0
2009	82,353	70,617	11,391	345	1,046,457	78.7	67.5
2010	79,329	68,407	10,570	352	1,045,681	75.9	65.4
2011	78,942	68,416	10,150	376	1,044,201	75.6	65.5
2012	78,906	68,783	9,758	365	1,046,298	75.4	65.7
2013	78,600	69,183	9,030	387	1,049,636	74.9	65.9
2014	79,534	69,916	9,180	438	1,053,340	75.5	66.4
2015	79,197	69,835	8,898	464	1,054,063	75.1	66.3
2016	79,219	69,746	9,053	420	1,054,178	75.1	66.2
2017	78,227	68,603	9,218	406	1,066,806	73.3	64.3
.....2017.....							
Race/ethnicity							
White	52,379	47,890	4,255	234	814,140	64.3	58.8
Black	11,295	8,664	2,545	86	89,278	126.5	97.0
American Indian	1,392	1,197	183	12	14,575	95.5	82.1
Asian/Pacific Islander	6,222	5,492	704	26	79,470	78.3	69.1
Other/Unknown	1,316	466	834	16	N/A ⁶	--	--
Hispanic (any race)	5,623	4,894	697	32	69,243	81.2	70.7
Woman's age group							
<15 years	25	12	12	1	N/A ⁶	--	--
15-19 years	2,878	2,113	740	25	174,958	16.4	12.1
20-24 years	12,442	9,743	2,640	59	179,390	69.4	54.3
25-29 years	23,314	20,583	2,630	101	180,704	129.0	113.9
30-34 years	25,519	23,616	1,786	117	189,679	134.5	124.5
35-39 years	11,683	10,527	1,080	76	184,352	63.4	57.1
40-44 years	2,155	1,834	298	23	157,723	13.7	11.6
45+ years	188	155	30	3	N/A ⁶	--	--

¹ Includes Live Births, Fetal Deaths and Induced Abortions.

² Fetal Death counts include all reported to the Minnesota Department of Health regardless of gestational age.

³ Total MN Population count by year from MN State Demographic Center: <https://mn.gov/admin/demography/data-by-topic/population-data/our-estimates>. Female population for race/ethnicity and age groups retrieved from CDC WONDER (wonder.cdc.gov) Bridged-Race Population Estimates.

⁴ Number of pregnancies per 1,000 women ages 15 - 44 years.

⁵ Number of live births per 1,000 women ages 15 - 44 years.

⁶ Population estimates for these age groups not calculated.

Fertility Table 2. Pregnancy Rates by Age of Woman Over Time, Minnesota Residents, 2007-2017.

Year/ Event	Total	Age of Woman							
		<15	15-19	20-24	25-29	30-34	35-39	40+	Unkwn
2007									
Reported Pregnancies ¹	86,832	120	7,109	19,971	26,763	20,550	10,038	2,275	6
Age Specific Pregnancy Rate ²	82.0	***	39.1	112.5	154.6	128.8	57.6	11.8	***
2008									
Reported Pregnancies ¹	84,653	114	6,598	18,910	26,455	20,595	9,690	2,291	0
Age Specific Pregnancy Rate ²	80.7	***	36.7	106.7	150.1	128.3	57.0	12.4	***
2009									
Reported Pregnancies ¹	82,353	81	5,981	18,061	25,964	20,672	9,250	2,340	4
Age Specific Pregnancy Rate ²	78.7	***	33.1	97.6	144.6	130.0	56.3	13.1	***
2010									
Reported Pregnancies ¹	79,329	89	5,351	16,455	25,102	21,031	9,023	2,275	3
Age Specific Pregnancy Rate ²	75.9	***	29.9	94.1	135.6	124.9	55.6	13.0	***
2011									
Reported Pregnancies ¹	78,942	72	4,743	15,622	24,946	22,090	9,102	2,356	11
Age Specific Pregnancy Rate ²	75.6	***	26.4	90.6	134.9	125.9	57.9	13.5	***
2012									
Reported Pregnancies ¹	78,906	77	4,392	15,501	24,543	22,865	9,189	2,333	6
Age Specific Pregnancy Rate ²	75.4	***	24.7	88.7	134.3	126.1	58.4	13.5	***
2013									
Reported Pregnancies ¹	78,600	57	3,878	14,698	24,416	23,771	9,604	2,174	2
Age Specific Pregnancy Rate ²	74.9	***	22.1	82.7	135.5	128.0	59.6	12.9	***
2014									
Reported Pregnancies ¹	79,534	53	3,561	14,330	24,435	24,726	10,182	2,243	4
Age Specific Pregnancy Rate ²	75.5	***	20.4	80.0	135.9	131.0	61.5	13.6	***
2015									
Reported Pregnancies ¹	79,197	38	3,161	13,534	24,119	25,357	10,805	2,181	2
Age Specific Pregnancy Rate ²	75.1	***	18.1	75.2	135.7	133.2	63.2	13.6	***
2016									
Reported Pregnancies ¹	79,219	41	3,004	12,939	23,975	25,552	11,453	2,255	0
Age Specific Pregnancy Rate ²	75.1	***	17.2	71.9	135.1	134.8	64.8	14.4	***
2017³									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	45+/unk
Reported Pregnancies ³	78,227	25	2,878	12,442	23,314	25,519	11,683	2,155	175
Age Specific Pregnancy Rate ²	75.1	***	16.4	69.4	129.0	138.4	63.4	13.7	***

¹ Includes live births, all reported fetal deaths and induced abortions

² Pregnancies within a specific age group per 1,000 female population of that same age group. Total rate is calculated per 1,000 female population age 15-44.

³ Beginning with 2017, the older age groups 40+ split to 40-44 and 45+ in order to isolate those in the 15-44 range.

***Appropriate age-specific female population is not available for use in rate calculations.

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Mortality Tables

Table 1. Deaths by County of Residence and County of Occurrence, Minnesota Residents, 2017

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017

Table 3. Leading Causes of Death, Death Rates, and Rank Order, Minnesota and U.S., 2017

Table 4. Leading Causes of Death by Age Groups, Minnesota Residents, 2017

Table 5a. Deaths Due to Selected Causes by Race/Ethnicity, MN Residents, 2017

Table 5b. Cause-Specific Mortality Rates by Race/Ethnicity, MN Residents, 2017

Table 6a. Deaths Due to Selected Causes by Rural/Urban Residence, MN Residents, 2017

Table 6b. Cause-Specific Mortality Rates by Rural/Urban Residence, MN Residents, 2017

Table 1. Resident Deaths Distributed by County of Occurrence (n=44,361); Deaths by County of Occurrence Distributed by Place of Residence (n=44,296), Minnesota 2017.

County	Deaths to MN County Residents across Place of Death				Deaths Occurring in Each County across Place of Residence		
	Total	Within County	<i>Outside County of Residence</i>		Total ¹	Other Minnesota Residents	Out of State Residents
			Within Minnesota	Outside Minnesota			
State Total	44,351	34,848	7,850	1,653	44,289	7,850	1,591
Aitkin	229	146	76	7	164	17	1
Anoka	2,262	1,590	641	31	1,909	303	16
Becker	367	272	17	78	297	20	5
Beltrami	424	350	27	47	404	52	2
Benton	367	243	121	3	315	70	2
Big Stone	79	60	8	11	64	3	1
Blue Earth	499	448	47	4	649	193	8
Brown	302	243	57	2	261	16	2
Carlton	366	256	107	3	285	27	2
Carver	514	325	185	4	445	113	7
Cass	299	179	104	16	221	42	0
Chippewa	164	122	37	5	138	16	0
Chisago	444	310	115	19	393	77	6
Clay	523	285	9	229	308	9	14
Clearwater	114	78	17	19	87	8	1
Cook	59	45	12	2	51	4	2
Cottonwood	146	126	10	10	133	7	0
Crow Wing	714	561	141	12	617	48	8
Dakota	2,594	1,696	859	39	1,944	222	26
Dodge	171	107	63	1	113	6	0
Douglas	424	351	69	4	389	33	5
Faribault	184	116	65	3	126	4	6
Fillmore	228	174	39	15	182	7	1
Freeborn	376	300	66	10	329	21	8
Goodhue	494	396	91	7	459	51	12
Grant	66	45	15	6	51	6	0
Hennepin	8,876	8,136	631	109	10,553	2,115	302
<i>Bloomington</i>	860	503	348	9	637	128	6
<i>Edina</i>	525	391	132	2	1,109	696	22
<i>Minneapolis</i>	2,538	1,920	583	35	3,769	1,665	184
<i>Richfield</i>	294	137	154	3	151	13	1
Houston	179	106	9	64	115	5	4
Hubbard	216	155	37	24	172	16	1
Isanti	319	224	90	5	266	41	1
Itasca	492	383	101	8	432	45	4
Jackson	94	66	12	16	73	6	1
Kanabec	150	101	49	0	118	17	0
Kandiyohi	366	310	50	6	356	45	1
Kittson	77	63	2	12	68	2	3
Koochiching	122	83	34	5	88	3	2
Lac Qui Parle	84	68	12	4	70	2	0
Lake	148	97	51	0	111	12	2
Lake of the Woods	48	30	7	11	32	2	0
Le Sueur	229	124	102	3	137	12	1
Lincoln	71	57	6	8	64	3	4
Lyon	216	161	19	36	174	13	0
McLeod	244	201	34	9	240	33	6
Mahnomen	354	281	71	2	320	36	3

Table 1. Resident Deaths Distributed by County of Occurrence (n=44,361); Deaths by County of Occurrence Distributed by Place of Residence (n=44,296), Minnesota 2017.

County	Deaths to MN County Residents across Place of Death				Deaths Occurring in Each County across Place of Residence		
	Total	Within County	<i>Outside County of Residence</i>		Total ¹	Other Minnesota Residents	Out of State Residents
			Within Minnesota	Outside Minnesota			
Marshall	80	48	12	20	52	4	0
Martin	83	49	8	26	53	3	1
Meeker	246	191	52	3	217	22	4
Mille Lacs	282	188	91	3	232	43	1
Morrison	304	209	93	2	235	25	1
Mower	443	348	88	7	372	20	4
Murray	113	86	12	15	96	10	0
Nicollet	239	139	95	5	161	21	1
Nobles	189	147	16	26	159	10	2
Norman	115	81	7	27	91	7	3
Olmsted	1,056	1,004	41	11	1,953	584	365
Otter Tail	654	520	49	85	561	35	6
Pennington	141	99	8	34	109	7	3
Pine	277	168	100	9	190	22	0
Pipestone	128	95	9	24	107	9	3
Polk	340	222	10	108	252	23	7
Pope	104	78	25	1	84	4	2
Ramsey	4,347	3,683	607	57	5,337	1,380	274
<i>St. Paul</i>	2,118	1,759	335	24	3,458	1,452	247
Red Lake	32	23	7	2	24	1	0
Redwood	199	151	43	5	171	17	3
Renville	174	123	51	0	131	6	2
Rice	577	400	166	11	456	54	2
Rock	124	104	2	18	128	19	5
Roseau	142	116	4	22	126	7	3
St. Louis	2,097	1,989	79	29	2,615	336	290
<i>Duluth</i>	857	822	29	6	1,713	608	283
Scott	682	481	192	9	616	125	10
Sherburne	568	330	231	7	427	92	5
Sibley	125	91	33	1	103	12	0
Stearns	1,044	908	127	9	1,563	642	13
Steele	354	289	61	4	360	69	2
Stevens	84	56	27	1	57	1	0
Swift	137	88	45	4	93	5	0
Todd	194	122	69	3	142	18	2
Traverse	58	40	5	13	43	1	2
Wabasha	196	122	70	4	141	8	11
Wadena	219	160	56	3	202	42	0
Waseca	169	118	50	1	129	10	1
Washington	1,715	1,141	536	38	1,451	261	49
Watonwan	125	82	38	5	94	11	1
Wilkin	80	58	4	18	84	3	23
Winona	444	359	34	51	384	14	11
Wright	856	591	251	14	667	68	8
Yellow Medicine	121	81	31	9	98	16	1

¹ Total deaths occurring in each county also includes deaths to MN county residents within county of residence (second column).

NOTE: Total deaths by county excludes those for whom county of residence (n=3) or both county of residence and county of occurrence are unknown (n=7).

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
A00- B99	I. INFECTIOUS AND PARASITIC DISEASES	T	733	8	1	1	0	1	10	42	135	223	312
		M	358	5	1	1	0	1	6	21	86	112	125
		F	375	3	0	0	0	0	4	21	49	111	187
A00- A09	Intestinal Infections	T	102	2	0	0	0	0	0	3	12	25	60
		M	33	1	0	0	0	0	0	2	5	8	17
		F	69	1	0	0	0	0	0	1	7	17	43
A40- A41	Septicemia	T	396	1	0	0	0	0	5	13	51	139	187
		M	186	0	0	0	0	0	2	2	27	77	78
		F	210	1	0	0	0	0	3	11	24	62	109
B15- B19	Viral Hepatitis	T	56	0	0	0	0	0	0	5	28	20	3
		M	33	0	0	0	0	0	0	3	18	10	2
		F	23	0	0	0	0	0	0	2	10	10	1
Re- sid- ual	Other Infectious and Parasitic Diseases and Sequelae	T	179	5	1	1	0	1	5	21	44	39	62
		M	106	4	1	1	0	1	4	14	36	17	28
		F	73	1	0	0	0	0	1	7	8	22	34
C00- D48	II. NEOPLASMS	T	10,172	1	8	6	8	11	68	364	2,135	4,038	3,533
		M	5,370	1	4	3	6	5	38	173	1,175	2,207	1,758
		F	4,802	0	4	3	2	6	30	191	960	1,831	1,775
C00- C97	Malignant Neoplasms	T	9,890	1	6	6	8	11	62	353	2,104	3,946	3,393
		M	5,216	1	2	3	6	5	33	165	1,159	2,147	1,695
		F	4,674	0	4	3	2	6	29	188	945	1,799	1,698

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Malignant Neoplasms continued													
C00- C14	...of Lip, Oral Cavity, and Pharynx	T	167	0	0	0	0	0	3	6	41	74	43
		M	117	0	0	0	0	0	1	5	33	53	25
		F	50	0	0	0	0	0	2	1	8	21	18
C15	...of Esophagus	T	286	0	0	0	0	0	1	12	82	132	59
		M	244	0	0	0	0	0	1	11	74	118	40
		F	42	0	0	0	0	0	0	1	8	14	19
C16	...of Stomach	T	144	0	0	0	0	0	2	14	32	49	47
		M	79	0	0	0	0	0	1	5	19	29	25
		F	65	0	0	0	0	0	1	9	13	20	22
C18- C21	...of Colon, Rectum, and Anus	T	794	0	0	0	0	0	3	42	182	269	298
		M	420	0	0	0	0	0	1	27	104	162	126
		F	374	0	0	0	0	0	2	15	78	107	172
C22	...of Liver and Intrahepatic Bile Ducts	T	388	0	1	0	0	0	3	16	96	182	90
		M	255	0	0	0	0	0	2	12	72	119	50
		F	133	0	1	0	0	0	1	4	24	63	40
C25	...of Pancreas	T	776	0	0	0	0	0	1	25	174	346	230
		M	402	0	0	0	0	0	1	14	109	179	99
		F	374	0	0	0	0	0	0	11	65	167	131
C32	...of Larynx	T	37	0	0	0	0	0	0	1	11	21	4
		M	30	0	0	0	0	0	0	0	9	17	4
		F	7	0	0	0	0	0	0	1	2	4	0
C33- C34of Trachea, Bronchus, and Lung	T	2,315	0	0	1	0	0	0	40	543	1,063	668
		M	1,195	0	0	0	0	0	0	16	312	554	313
		F	1,120	0	0	1	0	0	0	24	231	509	355

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Malignant Neoplasms continued													
C43-	...Skin	T	177	0	0	0	0	0	5	8	48	55	61
C44		M	110	0	0	0	0	0	3	3	29	34	41
		F	67	0	0	0	0	0	2	5	19	21	20
C50	...of Breast	T	621	0	0	0	0	0	5	43	161	208	204
		M	9	0	0	0	0	0	0	0	2	4	3
		F	612	0	0	0	0	0	5	43	159	204	201
C53	...of Cervix Uteri	T	48	0	0	0	0	0	1	10	19	11	7
		M	0	0	0	0	0	0	0	0	0	0	0
		F	48	0	0	0	0	0	1	10	19	11	7
C54-	...of Corpus Uteri and	T	182	0	0	0	0	0	0	4	41	86	51
C55	Uterus	M	0	0	0	0	0	0	0	0	0	0	0
		F	182	0	0	0	0	0	0	4	41	86	51
C56	...of Ovary	T	217	0	0	0	0	0	1	12	49	81	74
		M	0	0	0	0	0	0	0	0	0	0	0
		F	217	0	0	0	0	0	1	12	49	81	74
C61	...of Prostate	T	582	0	0	0	0	0	0	0	55	206	321
		M	582	0	0	0	0	0	0	0	55	206	321
		F	0	0	0	0	0	0	0	0	0	0	0
C64-	...of Kidney and	T	234	0	0	0	1	0	1	5	57	102	68
C65	Renal Pelvis	M	165	0	0	0	1	0	1	3	48	68	44
		F	69	0	0	0	0	0	0	2	9	34	24

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Malignant Neoplasms continued													
C67	...of Bladder	T	259	0	0	0	0	0	0	2	26	79	152
		M	189	0	0	0	0	0	0	1	16	60	112
		F	70	0	0	0	0	0	0	1	10	19	40
C69- C72	...of Eye, Brain, and Other Parts of Central Nervous System	T	309	0	1	5	2	4	11	38	96	95	57
		M	183	0	0	3	2	0	9	23	54	56	36
		F	126	0	1	2	0	4	2	15	42	39	21
C82- C85	...Non-Hodgkin's Lymphoma	T	419	0	0	0	0	0	1	8	61	163	186
		M	230	0	0	0	0	0	1	7	35	94	93
		F	189	0	0	0	0	0	0	1	26	69	93
C91- C95	...Leukemia	T	437	0	3	0	4	1	7	13	71	161	177
		M	254	0	1	0	2	1	1	7	35	105	102
		F	183	0	2	0	2	0	6	6	36	56	75
C88 C90	...Multiple Myeloma and Immunoproliferative Neoplasms	T	203	0	0	0	0	0	0	4	31	78	90
		M	111	0	0	0	0	0	0	1	20	49	41
		F	92	0	0	0	0	0	0	3	11	29	49
Re- sid- ual	...Other Malignant Neoplasms	T	1,295	1	1	0	1	6	17	50	228	485	506
		M	641	1	1	0	1	4	11	30	133	240	220
		F	654	0	0	0	0	2	6	20	95	245	286
D00- D48	In Situ and Benign Neoplasms and Neoplasms of Uncertain Behavior	T	282	0	2	0	0	0	6	11	31	92	140
		M	154	0	2	0	0	0	5	8	16	60	63
		F	128	0	0	0	0	0	1	3	15	32	77

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
D50- D89	III. DISEASES OF THE BLOOD AND BLOOD- FORMING ORGANS	T	176	0	1	0	0	1	2	9	19	44	100
		M	70	0	0	0	0	1	1	6	8	22	32
		F	106	0	1	0	0	0	1	3	11	22	68
D50- D64	Anemias	T	96	0	1	0	0	0	1	3	8	12	71
		M	32	0	0	0	0	0	0	1	2	6	23
		F	64	0	1	0	0	0	1	2	6	6	48
D65- D89	Other Diseases of the Blood and Blood-Forming Organs	T	80	0	0	0	0	1	1	6	11	32	29
		M	38	0	0	0	0	1	1	5	6	16	9
		F	42	0	0	0	0	0	0	1	5	16	20
E00- E90	IV. ENDOCRINE, NUTRITIONAL, AND METABOLIC DISEASES AND IMMUNITY DISORDERS	T	1,893	4	4	2	0	3	18	74	355	686	747
		M	999	3	1	0	0	3	12	46	226	396	312
		F	894	1	3	2	0	0	6	28	129	290	435
E10- E14	Diabetes Mellitus	T	1,311	0	0	0	0	1	6	55	253	503	493
		M	736	0	0	0	0	1	3	35	166	307	224
		F	575	0	0	0	0	0	3	20	87	196	269
Re- sid- ual	Other Endocrine, Nutritional, Metabolic, and Immunity Disorders	T	582	4	4	2	0	2	12	19	102	183	254
		M	263	3	1	0	0	2	9	11	60	89	88
		F	319	1	3	2	0	0	3	8	42	94	166

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
F00- F99	V. MENTAL AND BEHAVIORAL DISORDERS	T	3,288	0	0	1	0	0	13	54	140	471	2,609
		M	1,219	0	0	0	0	0	7	39	100	249	824
		F	2,069	0	0	1	0	0	6	15	40	222	1,785
F01	Vascular Dementia result of infarction of the brain due to vascular disease	T	351	0	0	0	0	0	0	0	4	49	298
		M	139	0	0	0	0	0	0	0	3	28	108
		F	212	0	0	0	0	0	0	0	0	1	21
F03	Unspecified dementia excludes Alzheimer's Disease [See G30 for Alzheimer's]	T	2,553	0	0	0	0	0	0	1	10	311	2,231
		M	826	0	0	0	0	0	0	0	4	145	677
		F	1,727	0	0	0	0	0	0	1	6	166	1,554
F10- F18, F19	Disorders due to Psychoactive Substance use [excl. tobacco]	T	206	0	0	0	0	0	10	43	93	45	15
		M	153	0	0	0	0	0	6	34	68	34	11
		F	53	0	0	0	0	0	4	9	25	11	4
Re- sid- ual	Other Mental Illness and Disorders of Psychological Development	T	178	0	0	1	0	0	3	10	33	66	65
		M	101	0	0	0	0	0	1	5	25	42	28
		F	77	0	0	1	0	0	2	5	8	24	37
G00- G99	VI. DISEASES OF THE NERVOUS SYSTEM	T	4,307	8	5	4	1	8	40	50	267	965	2,959
		M	1,840	2	4	3	0	6	23	29	157	514	1,102
		F	2,467	6	1	1	1	2	17	21	110	451	1,857
G20- G21	Parkinson's Disease	T	674	0	0	0	0	0	0	0	8	184	482
		M	428	0	0	0	0	0	0	0	8	128	292
		F	246	0	0	0	0	0	0	0	0	56	190

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Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Diseases of Nervous System Continued													
G30	Alzheimer's Disease	T	2,473	0	0	0	0	0	0	1	37	324	2,111
		M	780	0	0	0	0	0	0	0	19	134	627
		F	1,693	0	0	0	0	0	0	1	18	190	1,484
Re-sid-ual	Other Diseases of the Nervous System	T	1,160	8	5	4	1	8	40	49	222	457	366
		M	632	2	4	3	0	6	23	29	130	252	183
		F	528	6	1	1	1	2	17	20	92	205	183
I00-I99	IX. DISEASES OF THE CIRCULATORY SYSTEM	T	11,543	6	1	2	4	9	71	312	1,405	2,754	6,979
		M	5,890	3	1	1	1	7	39	216	1,001	1,711	2,910
		F	5,653	3	0	1	3	2	32	96	404	1,043	4,069
I00-I78	Major Cardiovascular Diseases	T	11,475	5	1	2	4	9	68	308	1,389	2,735	6,954
		M	5,858	3	1	1	1	7	36	215	995	1,701	2,898
		F	5,617	2	0	1	3	2	32	93	394	1,034	4,056
I00-I09, I11, I13, I20-I51	**Diseases of the Heart	T	8,230	2	1	1	4	8	52	248	1,051	1,908	4,955
		M	4,481	1	1	0	1	7	29	182	790	1,260	2,210
		F	3,749	1	0	1	3	1	23	66	261	648	2,745
I00-I09	--Acute Rheumatic Fever and Chronic Rheumatic Heart Diseases	T	110	0	0	0	0	0	1	3	4	33	69
		M	35	0	0	0	0	0	1	3	2	13	16
		F	75	0	0	0	0	0	0	0	2	20	53
I11	--Hypertensive Heart Disease	T	325	0	0	0	0	0	3	10	34	42	236
		M	127	0	0	0	0	0	1	8	21	21	76
		F	198	0	0	0	0	0	2	2	13	21	160

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Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Diseases of Circulatory System Continued													
I13	--Hypertensive Heart and Renal Disease	T	142	0	0	0	0	0	0	1	5	22	114
		M	63	0	0	0	0	0	0	0	4	12	47
		F	79	0	0	0	0	0	0	1	1	10	67
I20- I25	--Ischaemic Heart Disease	T	4,236	0	0	0	0	0	15	128	683	1,143	2,267
		M	2,684	0	0	0	0	0	10	99	550	850	1,175
		F	1,552	0	0	0	0	0	5	29	133	293	1,092
I21- I22	~Acute Myocardial Infarction	T	972	0	0	0	0	0	7	35	172	294	464
		M	593	0	0	0	0	0	4	27	139	210	213
		F	379	0	0	0	0	0	3	8	33	84	251
I23- I24	~Other Acute Ischaemic Heart Diseases	T	36	0	0	0	0	0	0	0	5	11	20
		M	25	0	0	0	0	0	0	0	5	9	11
		F	11	0	0	0	0	0	0	0	0	2	9
I25.0, I25.1	~Atherosclerotic (chronic) Cardiovascular Disease	T	2,788	0	0	0	0	0	8	91	463	711	1,515
		M	1,777	0	0	0	0	0	6	71	368	538	794
		F	1,011	0	0	0	0	0	2	20	95	173	721
I20, I25.2- I25.9	~Other Chronic Ischaemic Heart Diseases	T	440	0	0	0	0	0	0	2	43	127	268
		M	289	0	0	0	0	0	0	1	38	93	157
		F	151	0	0	0	0	0	0	1	5	34	111
I26- I51	--Other Heart Disease	T	3,417	2	1	1	4	8	33	106	325	668	2,269
		M	1,572	1	1	0	1	7	17	72	213	364	896
		F	1,845	1	0	1	3	1	16	34	112	304	1,373

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		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Diseases of Circulatory System Continued													
I50	~Heart Failure	T	1,101	0	0	0	1	1	1	4	43	161	890
		M	487	0	0	0	0	1	1	4	30	98	353
		F	614	0	0	0	1	0	0	0	13	63	537
I26-I28, I30-I39, I42-I49,I51	~All Other Forms of Heart Disease	T	2,316	2	1	1	3	7	32	102	282	507	1,379
		M	1,085	1	1	0	1	6	16	68	183	266	543
		F	1,231	1	0	1	2	1	16	34	99	241	836
I10, I12	**Essential Hypertension & Hypertensive Renal Disease	T	590	0	0	0	0	0	2	5	79	172	332
		M	274	0	0	0	0	0	1	2	55	110	106
		F	316	0	0	0	0	0	1	3	24	62	226
I60- I69	**Cerebrovascular Diseases	T	2,248	1	0	1	0	1	8	35	194	544	1,464
		M	900	0	0	1	0	0	3	16	108	270	502
		F	1,348	1	0	0	0	1	5	19	86	274	962
I70- I78	**Diseases of arteries, arterioles and capillaries	T	407	2	0	0	0	0	6	20	65	111	203
		M	203	2	0	0	0	0	3	15	42	61	80
		F	204	0	0	0	0	0	3	5	23	50	123
I71	--Aortic Aneurysm and Dissection	T	201	0	0	0	0	0	4	9	37	53	98
		M	108	0	0	0	0	0	2	8	29	27	42
		F	93	0	0	0	0	0	2	1	8	26	56
I72- I78	--Other Diseases of the Arteries, Arterioles, and Capillaries	T	206	2	0	0	0	0	2	11	28	58	105
		M	95	2	0	0	0	0	1	7	13	34	38
		F	111	0	0	0	0	0	1	4	15	24	67

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		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Diseases of Circulatory System Continued													
I80- I99	Other Disorders of the Circulatory System	T	68	0	0	0	0	0	3	1	6	10	12
		M	32	0	0	0	0	0	3	1	6	10	12
		F	36	1	0	0	0	0	0	3	10	9	13
J00- J99	X. DISEASES OF THE RESPIRATORY SYSTEM	T	4,035	6	5	1	5	1	16	50	450	1,324	2,177
		M	2,008	3	1	0	1	0	9	20	245	697	1,032
		F	2,027	3	4	1	4	1	7	30	205	627	1,145
J10- J18	Influenza and Pneumonia	T	697	5	1	0	3	1	4	18	67	138	460
		M	336	3	0	0	1	0	2	9	42	72	207
		F	361	2	1	0	2	1	2	9	25	66	253
J10- J11	...Influenza	T	187	0	1	0	2	0	2	5	8	36	133
		M	82	0	0	0	1	0	1	2	6	18	54
		F	105	0	1	0	1	0	1	3	2	18	79
J12- J18	...Pneumonia	T	510	5	0	0	1	1	2	13	59	102	327
		M	254	3	0	0	0	0	1	7	36	54	153
		F	256	2	0	0	1	1	1	6	23	48	174
J40- J47	Chronic Lower Respiratory Diseases	T	2,449	0	0	1	1	0	7	12	289	916	1,223
		M	1,184	0	0	0	0	0	4	4	155	453	568
		F	1,265	0	0	1	1	0	3	8	134	463	655
J43	...Emphysema	T	113	0	0	0	0	0	0	2	17	47	47
		M	59	0	0	0	0	0	0	2	14	22	21
		F	54	0	0	0	0	0	0	0	3	25	26

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		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Diseases of Respiratory System Continued													
J45- J46	...Asthma	T	55	0	0	1	1	0	6	4	13	9	21
		M	14	0	0	0	0	0	4	1	4	1	4
		F	41	0	0	1	1	0	2	3	9	8	17
J44, J47	...Other Chronic Lower Respiratory Diseases	T	2,281	0	0	0	0	0	1	6	259	860	1,155
		M	1,111	0	0	0	0	0	0	1	137	430	543
		F	1,170	0	0	0	0	0	1	5	122	430	612
J69	Pneumonitis Due to Solids and Liquids	T	212	0	0	0	0	0	2	9	22	39	140
		M	122	0	0	0	0	0	2	3	13	28	76
		F	90	0	0	0	0	0	0	6	9	11	64
Re- sid- ual	Other Disease of the Respiratory System	T	677	1	4	0	1	0	3	11	72	231	354
		M	366	0	1	0	0	0	1	4	35	144	181
		F	311	1	3	0	1	0	2	7	37	87	173
K00- K93	XI. DISEASES OF THE DIGESTIVE SYSTEM	T	1,652	3	3	0	1	0	35	138	429	444	599
		M	867	1	2	0	0	0	24	84	263	234	259
		F	785	2	1	0	1	0	11	54	166	210	340
K70, K73- K74	Chronic Liver Disease and Cirrhosis	T	568	0	0	0	0	0	16	96	257	146	53
		M	363	0	0	0	0	0	11	63	169	93	27
		F	205	0	0	0	0	0	5	33	88	53	26
K70	...Alcoholic Liver Disease	T	361	0	0	0	0	0	13	76	192	71	9
		M	247	0	0	0	0	0	10	50	131	49	7
		F	114	0	0	0	0	0	3	26	61	22	2

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		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Diseases of Respiratory System Continued													
K73-	...Other Chronic Liver	T	207	0	0	0	0	0	3	20	65	75	44
K74	Disease and Cirrhosis	M	116	0	0	0	0	0	1	13	38	44	20
		F	91	0	0	0	0	0	2	7	27	31	24
Re- sid- ual	Other Disease of the	T	1,084	3	3	0	1	0	19	42	172	298	546
	Digestive System	M	504	1	2	0	0	0	13	21	94	141	232
		F	580	2	1	0	1	0	6	21	78	157	314
L00- L99	XII. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE	T	68	0	0	0	0	0	0	1	10	24	33
		M	30	0	0	0	0	0	0	0	7	10	13
		F	38	0	0	0	0	0	0	1	3	14	20
M00- M99	XIII. DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE	T	305	1	0	0	1	1	4	13	47	87	151
		M	120	0	0	0	0	0	1	6	20	36	57
		F	185	1	0	0	1	1	3	7	27	51	94
N00- N99	XIV. DISEASES OF THE GENITOURINARY SYSTEM	T	834	1	1	0	0	0	5	10	66	220	531
		M	423	1	1	0	0	0	1	6	43	129	242
		F	411	0	0	0	0	0	4	4	23	91	289
N00-N07, N17-N19, N25-N27	Nephritis, Nephrotic Syndrome, and Nephrosis	T	536	0	0	0	0	0	3	6	42	145	340
		M	282	0	0	0	0	0	0	4	28	81	169
		F	254	0	0	0	0	0	3	2	14	64	171

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
Diseases of Genitourinary System Continued													
N17- N19	Renal Failure	T	514	0	0	0	0	0	2	6	41	141	324
		M	271	0	0	0	0	0	0	4	27	78	162
		F	243	0	0	0	0	0	2	2	14	63	162
Re- sid- ual	Other Diseases of the Genitourinary System	T	298	1	1	0	0	0	2	4	24	75	191
		M	141	1	1	0	0	0	1	2	15	48	73
		F	157	0	0	0	0	0	1	2	9	27	118
P00- P96	XVI. CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD	T	161	160	1	0	0	0	0	0	0	0	0
		M	92	92	0	0	0	0	0	0	0	0	0
		F	69	68	1	0	0	0	0	0	0	0	0
Q00- Q99	XVII. CONGENITAL MALFORMATIONS, DEFORMATIONS, AND CHROMOSOMAL ABNORMALITIES	T	239	93	5	4	3	3	17	17	53	25	19
		M	109	36	3	1	1	0	12	10	30	12	4
		F	130	57	2	3	2	3	5	7	23	13	15
R00- R99	XVIII. SYMPTOMS, SIGNS, AND ABNORMAL CLINICAL AND LABORATORY FINDINGS	T	1,064	22	3	0	0	4	12	18	104	212	689
		M	480	16	3	0	0	3	10	13	72	113	250
		F	584	6	0	0	0	1	2	5	32	99	439

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
V01- Y98	XX. EXTERNAL CAUSES	T	3,845	16	25	13	18	125	641	610	729	580	1,088
		M	2,392	11	21	9	11	92	485	422	512	379	450
		F	1,453	5	4	4	7	33	156	188	217	201	638
V01- X59, Y85-Y86	Accidents	T	2,789	9	17	12	8	49	391	359	478	449	1,017
		M	1,590	4	14	8	4	31	284	233	324	286	402
		F	1,199	5	3	4	4	18	107	126	154	163	615
V01- V99, Y85	**Transport Accidents	T	502	0	7	2	3	33	112	99	116	86	44
		M	357	0	5	1	2	21	81	76	86	57	28
		F	145	0	2	1	1	12	31	23	30	29	16
	+ --Motor Vehicle Accidents	T	452	0	7	2	3	31	111	88	99	72	39
		M	325	0	5	1	2	20	80	69	75	48	25
		F	127	0	2	1	1	11	31	19	24	24	14
V90- V99,Y85	++ --Other Transport Accidents (land, water, air, space)	T	50	0	0	0	0	2	1	11	17	14	5
		M	32	0	0	0	0	1	1	7	11	9	3
		F	18	0	0	0	0	1	0	4	6	5	2
+ V02-V04,V09.0,V09.2,V12-V14,V19.0-V19.2,V19.4-V19.6,V20-V79,V80.3-V80.5,V81.0-V81.1,V82.0-V82.1,V83-V86,V87.0-V87.8,V88.0-V88.8,V89.0,V89.2													
++ V1,V5-V6,V09.1,V09.3-V09.9,V10-V11,V15-V18,V19.3,V19.8-V19.9,V80.0-V80.2,V80.6-V80.9,V81.2-V81.9,V82.2-V82.9,V87.9,V88.9,V89.1,V89.3,V89.9													
W00- X59, Y86	**Non-Transport Accidents	T	2,287	9	10	10	5	16	279	260	362	363	973
		M	1,233	4	9	7	2	10	203	157	238	229	374
		F	1,054	5	1	3	3	6	76	103	124	134	599
W00- W19	--Falls	T	1,176	0	0	0	2	2	3	12	78	228	851
		M	516	0	0	0	1	2	0	9	49	131	324
		F	660	0	0	0	1	0	3	3	29	97	527

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Sex	Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
External Causes -- Accidents Continued													
X00- X09	--Accidental Exposure to Smoke, Fire, and Flames	T	58	1	1	1	0	0	4	4	18	17	12
		M	39	1	1	1	0	0	2	1	11	14	8
		F	19	0	0	0	0	0	2	3	7	3	4
X40- X49	--Accidental Poisoning ¹ and Exposure to Noxious Substances	T	716	0	2	0	2	10	243	217	203	30	9
		M	476	0	2	0	1	5	178	131	131	23	5
		F	240	0	0	0	1	5	65	86	72	7	4
Re- sid- ual	--Other Non-Transport Accidents and Their Sequelae	T	337	8	7	9	1	4	29	27	63	88	101
		M	202	3	6	6	0	3	23	16	47	61	37
		F	135	5	1	3	1	1	6	11	16	27	64
X60- X84, Y87.0	Intentional Self-Harm (Suicide)	T	781	0	0	0	9	56	191	200	200	87	38
		M	625	0	0	0	6	46	154	158	157	69	35
		F	156	0	0	0	3	10	37	42	43	18	3
X72- X74	**By Discharge of Firearms	T	364	0	0	0	2	25	83	81	92	55	26
		M	337	0	0	0	1	23	78	73	87	50	25
		F	27	0	0	0	1	2	5	8	5	5	1
X60-X71, X75-X84, Y87.0	**By Other and Unspecified Means and Their Sequelae	T	417	0	0	0	7	31	108	119	108	32	12
		M	288	0	0	0	5	23	76	85	70	19	10
		F	129	0	0	0	2	8	32	34	38	13	2

Table 2. Deaths from Selected Causes by Age Group and Sex, Minnesota Residents, 2017.

Cause of Death		Total	< 1	1-4	5-9	10-14	15-19	20-34	35-49	50-64	65-79	80+	
		Sex											
ICD10 Code	ALL CAUSES, Total	T	44,315	329	63	34	41	167	952	1,762	6,344	12,097	22,526
		M	22,267	174	42	18	20	118	668	1,091	3,945	6,821	9,370
		F	22,048	155	21	16	21	49	284	671	2,399	5,276	13,156
External Causes Continued													
X85- Y09, Y87.1	<u>Assault (Homicide)</u>	T	122	3	5	1	1	16	39	29	21	7	0
		M	89	3	4	1	1	12	30	21	14	3	0
		F	33	0	1	0	0	4	9	8	7	4	0
X93- X95	**By Discharge of Firearms	T	78	0	0	0	1	15	32	19	7	4	0
		M	60	0	0	0	1	11	27	14	5	2	0
		F	18	0	0	0	0	4	5	5	2	2	0
X85-X92, X96-Y09, Y87.1	**By Other and Unspecified Means and Their Sequelae	T	44	3	5	1	0	1	7	10	14	3	0
		M	29	3	4	1	0	1	3	7	9	1	0
		F	15	0	1	0	0	0	4	3	5	2	0
Y10- Y34, Y87.2,Y89.9	<u>Events of Undetermined Intent</u>	T	73	2	2	0	0	4	19	19	13	11	3
		M	48	2	2	0	0	3	16	9	8	7	1
		F	25	0	0	0	0	1	3	10	5	4	2
Y40- Y84, Y88	<u>Complications of Medical and Surgical Care</u>	T	80	2	1	0	0	0	1	3	17	26	30
		M	40	2	1	0	0	0	1	1	9	14	12
		F	40	0	0	0	0	0	0	2	8	12	18

Note: 46 deaths were unclassified. [H00-H99] Diseases of the eye or ear (3); [O00-O96] Pregnancy and childbirth (18); [Y35] Legal intervention (9); [Y89] Sequelae of war operations; missing cause (15).

¹ 51% of accidental poisonings are due to narcotics and hallucinogens in ages 20-64 years.

Table 3. MN Ten Leading Causes of Death¹, Death Rates per 100,000 Population, Percent of Total Deaths, and Rank Order, Minnesota Residents, 2017.

Cause of Death	Minnesota				United States ²	
	Number of Deaths	Death Rates	Percent of Total	RANK	Death Rates	RANK
Malignant Neoplasms [Cancer] (C00-C97)	9,890	177.3	22.3%	1	185.1	2
Diseases of the Heart (I00-I09,I11,I13,I20-I51)	8,230	147.6	18.6%	2	196.6	1
Accidents (V01-X59,Y85-Y86)	2,789	50.0	6.3%	3	49.9	3
Falls (W00-W19)	1,176	21.1	2.7%			
Accidental poisoning (X40-X49)	716	12.8	1.6%			
Motor Vehicle ³	452	8.1	1.0%			
Alzheimer's Disease (G30)	2,473	44.3	5.6%	4	35.9	6
Chronic Lower Respiratory Diseases (J40-J47)	2,449	43.9	5.5%	5	47.8	4
Cerebrovascular Diseases [Stroke] (I60-I69)	2,248	40.3	5.1%	6	44.0	5
Diabetes Mellitus (E10-E14)	1,311	23.5	3.0%	7	24.8	7
Intentional Self-harm [Suicide] (X60-X84,Y87.0)	781	14.0	1.8%	8	13.9	10
Influenza and Pneumonia (J10-J18)	697	12.5	1.6%	9	15.9	8
Influenza (J10-J11)	187	3.4	0.4%			
Pneumonia (J12-J18)	510	9.1	1.2%			
Parkinsons (G20, G21)	674	12.1	1.5%	10	10.8	14
All Other Causes	12,773	229.0	28.8%		219.8	
Total - All Causes	44,315	794.7			849.3	

¹These are the 10 leading causes of death for residents of Minnesota listed in descending order of prevalence. Categories based on US 113 causes deemed rankable. MN rates and rank order are compared with US rates and rank order.

²United States data are from 2016, the most current available.

³Motor Vehicle cause codes: V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0,V89.2

Note: Codes listed in parantheses are the ICD10 codes included in each category.

Note: 46 deaths were unclassified. [H00-H99] Diseases of the eye or ear (3); [O00-O96] Pregnancy and childbirth (18); [Y35] Legal intervention (9); [Y89] Sequelae of war operations; missing cause (15).

Mortality Table 4. Leading Causes of Death by Age Groups, Counts, and Age/Cause-specific Death Rates, Minnesota Residents, 2017.

	No. ¹ of Deaths	Death Rate ² %	Per 100,000		No. ¹ of Deaths	Death Rate ² %	Per 100,000
1-4 Years				35-49 Years			
Total - all causes	63		22.0	Total - all causes	1,773		170.8
Accidents	17	27.0%	--	Accidents	359	20.2%	34.6
Motor Vehicle	7	11.1%	--	Accidental poisoning ³	217	12.2%	20.9
Malignant Neoplasm	6	9.5%	--	Motor Vehicle	88	5.0%	8.5
Congenital Anomalies	5	7.9%	--	Malignant Neoplasms	353	19.9%	34.0
Assault (Homicide)	5	7.9%	--	Diseases of the Heart	249	14.0%	24.0
				Intentional Self-Harm	200	11.3%	19.3
				Liver Disease, Cirrhosis	96	5.4%	9.2
5-9 Years				50-64 Years			
Total - all causes	34		9.4	Total - all causes	6,347		568.2
Accidents	12	35.3%	--	Malignant Neoplasms	2,104	33.1%	188.4
Motor Vehicle	2	5.9%	--	Diseases of the Heart	1,119	17.6%	100.2
Malignant Neoplasms	6	17.6%	--	Accidents	478	7.5%	42.8
				Accidental poisoning ³	203	3.2%	18.2
				Motor Vehicle	99	1.6%	8.9
				Liver Disease, Cirrhosis	257	4.0%	23.0
				Diabetes Mellitus	253	4.0%	22.6
				Chron. Lower Resp Dis.	289	4.6%	25.9
				Intentional Self-Harm	200	3.2%	17.9
10-14 Years				65-79 Years²			
Total - all causes	41		11.4	Total - all causes	12,104		1898.7
Intentional Self-Harm	9	22.0%	--	Malignant Neoplasms	6,946	57.4%	1,089.6
Accidents	8	19.5%	--	Diseases of the Heart	2,067	17.1%	324.2
Motor Vehicle	3	7.3%	--	Chron. Lower Resp Dis.	916	7.6%	143.7
Malignant Neoplasms	8	19.5%	--	Diabetes Mellitus	503	4.2%	78.9
				Cerebrovascular Diseases	544	4.5%	85.3
				Accidents	449	3.7%	70.4
				Falls	228	1.9%	35.8
				Motor Vehicle	72	0.6%	11.3
15-19 Years				80 Years and Over²			
Total - all causes	167		46.8	Total - all causes	22,536		10,118.0
Intentional Self-Harm	56	33.5%	15.7	Diseases of the Heart	5,277	23.4%	2,369.2
Accidents	49	29.3%	13.7	Malignant Neoplasms	3,393	15.1%	1,523.4
Motor Vehicle	31	18.6%	8.7	Alzheimer's Disease	2,111	9.4%	947.8
Assault (Homicide)	16	9.6%	--	Cerebrovascular Diseases	1,464	6.5%	657.3
Malignant Neoplasms	11	6.6%	--	Chron. Lower Resp Dis.	1,223	5.4%	549.1
				Accidents	1,017	4.5%	456.6
				Falls	851	3.8%	382.1
20-34 Years							
Total - all causes	967		86.2				
Accidents	391	40.4%	34.9				
Accidental poisoning ³	243	25.1%	21.7				
Motor Vehicle	111	11.5%	9.9				
Intentional Self-Harm	191	19.8%	17.0				
Malignant Neoplasms	62	6.4%	5.5				
Diseases of the Heart	51	5.3%	4.5				
Assault (Homicide)	39	4.0%	3.5				

¹ Rates are per 100,000 age group-specific population. Rates are only calculated for those with a count of 20 or more due to the instability and unreliability of rate estimates with fewer than 20 deaths.

² Age groups for those 65 and older were redefined and are not comparable to 65-74 and 75+ from previous years.

³ 51% of accidental poisonings are due to narcotics and hallucinogens in ages 20-64 years.

Mortality Table 5a. Deaths Due to Selected Causes by Race/Ethnicity, MN Residents, 2017.

	Non-Hispanic						Hispanic
	Total	White	African American	American Indian	Asian or Pacific Islander	Other/Unknown	
TOTAL POPULATION¹	5,576,606	4,519,243	390,257	68,049	297,650	N/A	301,407
TOTAL - ALL CAUSES	44,315	40,955	1,441	649	754	44	472
TOTAL - Natural Causes	40,470	37,640	1,210	518	679	36	387
Malignant Neoplasms	9,890	9,186	308	109	167	5	115
Stomach	144	110	6	5	12	0	11
Colon, Rectum and Anus	794	732	29	6	18	0	9
Pancreas	776	727	28	5	6	1	9
Trachea, Bronchus, Lung	2,315	2,166	59	42	36	1	11
Breast	621	588	19	4	6	0	4
Cervix, Uterus, Ovary	447	408	20	3	6	0	10
Prostate	582	556	11	2	8	1	4
Non-Hodgkins Lymphoma	419	399	11	1	5	0	3
Leukemia	437	410	7	3	7	0	10
Other Malignancies	3,355	3,090	118	38	63	2	44
Diabetes Mellitus	1,311	1,102	78	43	59	1	28
Alzheimer's Disease	2,473	2,415	27	4	17	1	9
Major Cardiovascular	11,475	10,712	335	131	198	7	92
Diseases of the Heart	8,230	7,738	222	99	103	6	62
Essential Hypertension & Hypertensive Renal	590	533	26	5	22	0	4
Cerebrovascular	2,248	2,071	71	21	62	1	22
Influenza & Pneumonia	697	659	18	11	6	1	2
Chronic Lower Respiratory Diseases	2,449	2,339	54	34	12	3	7
Chronic Liver Disease and Cirrhosis	568	495	14	31	13	3	12
Nephritis, Nephrotic Syndrome, and Nephrosis	536	476	30	10	13	0	7
All Other Diseases	11,071	10,256	346	145	194	15	115
Total Accidents	2,789	2,438	149	100	42	6	54
Motor Vehicle Accidents	452	388	21	17	10	2	14
Falls	1,176	1,133	13	6	14	0	10
Accidental poisoning	716	521	95	66	8	2	24
Intentional Self-Harm (Suicide)	781	691	21	21	27	2	19
Assault (Homicide)	122	52	54	4	4	0	8
Other External Causes	153	134	7	6	2	0	4

¹ Annual Estimates are bridged-race Vintage 2017 postcensal estimates of the July 1 resident population. These estimates were prepared by the Census Bureau in collaboration with NCHS. Bridged race estimates created for the 5 race or Hispanic categories. Thus, there are no population estimates for other/unknown. For more information or access to the data, see:

<https://wonder.cdc.gov/wonder/help/bridged-race.html>

Note: see Table 5b for crude rates.

Mortality Table 5b. Cause-Specific Mortality Rates^{1,2} by Race/Ethnicity, MN Residents, 2017.

	Non-Hispanic						Hispanic
	Total	White	African American	American Indian	Asian or Pacific Islander	Other/ ³ Unknown	
TOTAL - ALL CAUSES	794.7	906.2	369.2	953.7	253.3	N/A	156.6
TOTAL - Natural Causes	725.7	832.9	310.1	761.2	228.1	N/A	128.4
Malignant Neoplasms	177.3	203.3	78.9	160.2	56.1	N/A	38.2
Stomach	2.6	2.4	--	--	--	N/A	--
Colon, Rectum and Anus	14.2	16.2	7.4	--	--	N/A	--
Pancreas	13.9	16.1	7.2	--	--	N/A	--
Trachea, Bronchus, Lung	41.5	47.9	15.1	61.7	12.1	N/A	--
Breast	11.1	13.0	--	--	--	N/A	--
Cervix, Uterus, Ovary	8.0	9.0	5.1	--	--	N/A	--
Prostate	10.4	12.3	--	--	--	N/A	--
Non-Hodgkins Lymphoma	7.5	8.8	--	--	--	N/A	--
Leukemia	7.8	9.1	--	--	--	N/A	--
Other Malignancies	60.2	68.4	30.2	55.8	21.2	N/A	14.6
Diabetes Mellitus	23.5	24.4	20.0	63.2	19.8	N/A	9.3
Alzheimer's Disease	44.3	53.4	6.9	--	--		--
Major Cardiovascular	205.8	237.0	85.8	192.5	66.5	N/A	30.5
Diseases of the Heart	147.6	171.2	56.9	145.5	34.6	N/A	20.6
Essential Hypertension & Hypertensive Renal	10.6	11.8	6.7	--	7.4	N/A	--
Cerebrovascular	40.3	45.8	18.2	30.9	20.8	N/A	7.3
Influenza & Pneumonia	12.5	14.6	--	--	--	N/A	--
Chronic Lower Respiratory Diseases	43.9	51.8	13.8	50.0	--	N/A	--
Chronic Liver Disease and Cirrhosis	10.2	11.0	--	45.6	--	N/A	--
Nephritis, Nephrotic Syndrome, and Nephrosis	9.6	10.5	7.7	--	--	N/A	--
All Other Diseases	198.5	226.9	88.7	213.1	65.2	N/A	38.2
Total Accidents	50.0	53.9	38.2	147.0	14.1	N/A	17.9
Motor Vehicle Accidents	8.1	8.6	5.4	--	--		--
Falls	21.1	25.1	--	--	--	N/A	--
Accidental poisoning	12.8	11.5	24.3	97.0	--	N/A	8.0
Intentional Self-Harm (Suicide)	14.0	15.3	5.4	30.9	9.1	N/A	--
Assault (Homicide)	2.2	1.2	13.8	--	--	N/A	--
Other External Causes	2.7	3.0	--	--	--	N/A	--

¹ Rates are per 100,000 race/ethnicity specific population. Rates not computed for counts <20 due to unreliability (--).

² Population denominator data are Bridged intersensal estimates obtained from CDC WONDER: wonder.cdc.gov.

³ No cause-specific rates can be calculated for persons of other or unknown races due to no population data for this subgroup.

Note: see Table 5a for counts.

Mortality Table 6a. Deaths Due to Selected Causes by Rural/Urban Residence, MN Residents, 2017.

	Geographic Residence ²					
	Total ¹	Large Urban	Large Suburban	Medium/ Small Metro	Micropolitan	Noncore
TOTAL POPULATION	5,577,487	1,795,829	1,672,349	867,730	664,709	576,870
TOTAL - ALL CAUSES	44,308	13,200	10,578	7,292	6,705	6,533
TOTAL - Natural Causes	40,467	11,855	9,656	6,720	6,219	6,017
Malignant Neoplasms	9,889	2,839	2,522	1,604	1,466	1,458
Stomach	144	50	32	14	26	22
Colon, Rectum and Anus	794	213	206	147	109	119
Pancreas	776	244	180	118	120	114
Trachea, Bronchus, Lung	2,315	627	608	390	342	348
Breast	621	187	189	81	78	86
Cervix, Uterus, Ovary	447	138	122	62	63	62
Prostate	582	153	124	114	96	95
Non-Hodgkins Lymphoma	419	122	104	72	58	63
Leukemia	437	125	110	78	71	53
Other Malignancies	3,354	980	847	528	503	496
Diabetes Mellitus	1,311	391	311	190	190	229
Alzheimer's Disease	2,473	762	626	436	363	286
Major Cardiovascular	11,475	3,179	2,582	2,002	1,856	1,856
Diseases of the Heart	8,230	2,151	1,833	1,462	1,408	1,376
Essential Hypertension & Hypertensive Renal	590	222	131	77	67	93
Cerebrovascular	2,248	676	523	393	323	333
Influenza & Pneumonia	697	195	155	132	108	107
Chronic Lower Respiratory Diseases	2,449	642	627	410	375	395
Chronic Liver Disease and Cirrhosis	567	203	142	80	81	61
Nephritis, Nephrotic Syndrome, and Nephrosis	536	166	129	70	76	95
All Other Diseases	11,070	3,478	2,562	1,796	1,704	1,530
Total Accidents	2,786	977	644	408	371	386
Motor Vehicle Accidents	451	83	115	78	75	100
Falls	1,176	448	284	151	142	151
Accidental Poisoning	714	318	159	102	77	58
Intentional Self-Harm (Suicide)	780	235	227	128	90	100
Assault (Homicide)	122	78	22	8	5	9
Other External Causes	153	55	29	28	20	21

¹ Total excludes 46 missing cause of death and/or 10 missing county of residence.

² Classification is based on the National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties. See https://www.cdc.gov/nchs/data_access/urban_rural.htm for more information.

Note: see Table 6b for crude rates.

Mortality Table 6a. Cause-Specific Mortality Rates^{1,2} by Rural/Urban Residence, MN Residents, 2017.

	Geographic Residence					
	Total ¹	Large Urban	Large Suburban	Medium/ Small Metro	Micropolitan	Noncore
TOTAL - ALL CAUSES	794.4	735.0	632.5	840.4	1,008.7	1,132.5
TOTAL - Natural Causes	725.5	660.1	577.4	774.4	935.6	1,043.0
Malignant Neoplasms	177.3	158.1	150.8	184.9	220.5	252.7
Stomach	2.6	2.8	1.9	--	3.9	3.8
Colon, Rectum and Anus	14.2	11.9	12.3	16.9	16.4	20.6
Pancreas	13.9	13.6	10.8	13.6	18.1	19.8
Trachea, Bronchus, Lung	41.5	34.9	36.4	44.9	51.5	60.3
Breast	11.1	10.4	11.3	9.3	11.7	14.9
Cervix, Uterus, Ovary	8.0	7.7	7.3	7.1	9.5	10.7
Prostate	10.4	8.5	7.4	13.1	14.4	16.5
Non-Hodgkins Lymphoma	7.5	6.8	6.2	8.3	8.7	10.9
Leukemia	7.8	7.0	6.6	9.0	10.7	9.2
Other Malignancies	60.1	54.6	50.6	60.8	75.7	86.0
Diabetes Mellitus	23.5	21.8	18.6	21.9	28.6	39.7
Alzheimer's Disease	44.3	42.4	37.4	50.2	54.6	49.6
Major Cardiovascular	205.7	177.0	154.4	230.7	279.2	321.7
Diseases of the Heart	147.6	119.8	109.6	168.5	211.8	238.5
Essential Hypertension & Hypertensive Renal	10.6	12.4	7.8	8.9	10.1	16.1
Cerebrovascular	40.3	37.6	31.3	45.3	48.6	57.7
Influenza & Pneumonia	43.9	10.9	9.3	15.2	16.2	18.5
Chronic Lower Respiratory Diseases	10.2	35.7	37.5	47.2	56.4	68.5
Chronic Liver Disease and Cirrhosis	9.6	11.3	8.5	9.2	12.2	10.6
Nephritis, Nephrotic Syndrome, and Nephrosis	9.6	9.2	7.7	8.1	11.4	16.5
All Other Diseases	198.5	193.7	153.2	207.0	256.4	265.2
Total Accidents	50.0	54.4	38.5	47.0	55.8	66.9
Motor Vehicle Accidents	8.1	4.6	6.9	9.0	11.3	17.3
Falls	21.1	24.9	17.0	17.4	21.4	26.2
Accidental Poisoning	12.8	17.7	9.5	11.8	11.6	10.1
Intentional Self-Harm (Suicide)	14.0	13.1	13.6	14.8	13.5	17.3
Assault (Homicide)	2.2	4.3	1.3	--	--	--
Other External Causes	2.7	3.1	1.7	3.2	3.0	3.6

¹ Rates are per 100,000 rural/urban specific population. Rates not computed for counts <20 due to instability and unreliability.

² Population denominator data are summed from MN State Demographer's 2017 estimates of population by county: <https://mn.gov/admin/demography/data-by-topic/population-data/our-estimates/>.

Note: see Table 6a for counts.

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Appendices

Appendix A -- Technical Notes

Sources of Data

Vital Events

Birth and death registration and fetal death reports filed with the Office of the Vital Records, Minnesota Department of Health for calendar year 2017 are the source documents for data on vital statistics of Minnesota residents. Late 2017 vital event certificates may have been filed after preparation of the annual report. Future data obtained from MDH may differ from that which appears in this report due to updates to the data year made after the cutoff date.

Live births and deaths to Minnesota residents that occurred in another state are included in this report insofar as they are reported to the Office of Vital Records. The inclusion of these data is made possible by an agreement for exchange of copies of resident certificates among all registration areas in the United States. Not all of the states participate in the exchange of fetal death reports; thus, this report includes only fetal deaths that occurred in Minnesota.

Population Data

Population estimates for 2017 by county, gender, and age group were obtained from the “Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties: April 1, 2010 to July 1, 2017.” Source: U.S. Census Bureau, Population Division; American FactFinder, Table PEPAGESEX. For additional information, see <https://factfinder.census.gov/>.

Population estimates by race/ethnicity are from the bridged-race Vintage 2017 postcensal estimates of the July 1 resident population. These estimates were prepared by the Census Bureau in collaboration with NCHS. Bridged race estimates are created only for the five race or Hispanic categories. Thus, there are no population estimates for other/unknown races. For more information, see: <https://wonder.cdc.gov/wonder/help/bridged-race.html>.

Sociodemographic data are obtained from the American Community Survey, 1-year and 5-year estimates, which are produced by the United States Census Bureau. The 1-year estimates for the preceding year are available in late summer. The 5-year estimates are based on pooled data from the preceding five years and are typically available in December. Five-year estimates are more reliable because they are based on a larger sample size. The 1-year and 5-year estimates are not typically dramatically different from one another.

Estimates of the total populations for Minneapolis, Edina, Bloomington, Richfield, St. Paul, and Duluth were also obtained from the U.S. Census Bureau. However, no age or race-specific data are available for cities.

Rates

Absolute counts of health-related events do not readily lend themselves to comparison between years or across various geographic areas because of population differences and, in

some cases, the small number of reported events. These demographic differences include total numbers of events and of the population, age and sex distributions, and ethnic and/or racial composition. In order to assess the health status of a particular population at a specified time, the absolute number of events is converted to a relative number such as a rate, a ratio, or an index. In cases where there are a small number of birth or death events, rate calculations and sometimes counts, are suppressed (see description at the end of the section). Some of the most common rates are described below. Additional definitions are provided in Appendix B at the end of this document.

Crude Rates

A crude rate is a good measure of the overall magnitude of an event (e.g., birth or death) in a population. The crude rate is useful information for some purposes, such as planning for the delivery of health care services. One should be cautious when comparing crude rates over time or across other geographies such as a county or another state. Notably, differences in crude rates may be due to a substantially younger or older population.

A crude birth or death rate is simply the number of events divided by the total population (the denominator), multiplied by some constant so that the result is not a fraction. For birth rates and death rates, 100,000 is the most commonly used multiplier, resulting in rates per 100,000 total population.

Other frequently reported rates include crude fertility rates, pregnancy rates, and abortion rates, all of which use the population of women ages 15 to 44 years as the denominator. Fertility rates are the number of births divided by the population of women ages 15 to 44 years. Pregnancy rates are the number of pregnancies divided by the population of women ages 15 to 44 years. Abortion rates are the number of abortions divided by the population of women ages 15 to 44 years.

Age-Specific Death Rates

An age-specific death rate is useful in understanding the influence each age group has on the overall crude death rate. Mortality Table 3 shows age-specific death rates for the state of Minnesota, its counties and CHBs, using 10 age groups. Note that the death rate for ages 0-4 is substantially higher than the death rates for the other young age groups (primarily due to a high death rate during infancy); only starting at ages 50-64 does the death rate exceed that for ages 0-4. Not surprisingly, the death rates are many times higher in the oldest age groups. Therefore, a county or CHB with an older population will have a higher overall crude death rate because of the older age distribution.

An age-specific death rate is the number of deaths to an age group divided by the population for that age group, often multiplied by some constant so that the result is not a fraction (for death rates, 100,000 is the most commonly used multiplier). Infant mortality rates are a special case with several different measures. Crude infant death rates can be calculated from the annual mortality data as infant deaths reported in a given year per population of those younger

than one year of age in that year. However, this calculation is not the rate used for research or monitoring infant mortality.

Infant Death Rates

Because infant deaths are strongly associated with characteristics of their birth mothers, the standard is to use a linked birth/infant death data set, which comprises infant death records linked with their individual birth records. This allows for a more thorough examination of maternal demographic, pregnancy, or labor and delivery characteristics, and birth outcomes. This also allows for a more relevant denominator, namely the number of live-born infants rather than the total population of infants.

The national standard for reporting infant mortality is an annual period rate. Annual period rates are based on the linked birth/infant death records for all infants who die in a given year (period) using all live births from that same period as the denominator. Cohort rates are also used in infant mortality research, although they are not reported here (see Infant Mortality in Appendix B for additional information). The infant mortality rate is then defined as the number of infants born alive in a given year that die within the first year of life for every 1,000 live births in that same year.

Additional details about several other infant death-related measures are included in the appendix. This includes fetal deaths, neonatal deaths, and postneonatal deaths.

Age-Adjusted Death Rates

Age adjusting rates is a way to make fairer comparisons between counties/CHBs with different age distributions. For example, a county having a higher percentage of elderly people may have a higher crude death than a county with a younger population merely because the elderly are more likely to die. Age-adjusted death rates are used to eliminate this age bias in the makeup of the populations being compared, thereby providing a much more reliable rate for comparison purposes. The age-adjusted rates provided in Mortality Tables 1 and 8 are calculated using the direct method of age adjustment. Age adjusted death rates are the total number of deaths per 100,000 persons, age-adjusted to the 2000 U.S standard population. For additional information about age-adjustment see: <https://seer.cancer.gov/stdpopulations/>.

Premature Death Rates

Nearly four out of every 10 deaths to Minnesota residents occur to people under 75 years of age. These deaths occur prior to the average life expectancy, thus, it is important to investigate premature deaths that may be potentially preventable. The premature death rate for those under age 75 is the number of deaths to residents under age 75 per 100,000 persons age-adjusted to the 2000 U.S. standard population. Although not included in the Annual Summary, Tables 1, 7, and 8 of the Minnesota County Health Tables include premature deaths to those under age 75, as well as premature death rates (age-adjusted).

Data suppression

In cases where there are fewer than 20 birth or deaths in a specific geography or by a certain characteristic, data may be suppressed in this report. There is a range of different suppression rules used by different agencies. However, we are reporting vital statistics data, so we use the rules from the National Vital Statistics System. Suppression of data serves two purposes: 1) to protect confidentiality and 2) to ensure statistical reliability when calculating rates. Local public health agencies may request unsuppressed counts by sending a request to HealthStats@state.mn.us.

Suppression rules for confidentiality are based on both the size of the geographic area and the number of events. For example, a county can be an area that is sparsely populated or it can have a large population but small cells still occur when stratifying outcomes by other factors such as small ethnicity groups and small age groups. In these cases, there is risk of deductive disclosure. In other words, with the combination of variables, it may be possible to identify a specific person and deduce something about their private health information. In national reports, small counts are sometimes reported (but not a corresponding rate). However, these counts are for VERY large geographic areas, so there is no risk of deductive disclosure. Risk of deductive disclosure only applies to data that include protected health information, most commonly birth or fetal death data.

Suppression rules for reliability are based on the production of unstable rate estimates due to the increased amount of variability (standard deviation) around the estimate. This means that the actual rate may be much higher or much lower. Moreover, a change of one or two events more or less can change the rate dramatically, giving the impression that there is a large change when in fact it is due to random variability of the estimates. For example, in a fictitious place where there are 146 births and 2 infant deaths, the infant mortality rate appears to be 13.7 deaths per 1,000 live births. The following year, in this same place, there are 154 births and 3 infant deaths. The infant mortality rate now appears to be 19.5 deaths per 1,000 live births. It is inappropriate to draw any conclusion from these data because the numbers are too small to produce an estimate that is not subject to random variation. More events in a given time and place will produce relatively stable estimates over time, unless there is an actual cause for a change. This situation applies to any vital event that is reported.

Appendix B -- Definitions

Abortion (induced termination of pregnancy):

An act, procedure, or use of any instrument, medicine, or drug, which is supplied or prescribed for or administered to a pregnant woman, which results in the termination of pregnancy.

Age/cause-specific death rate:

Number of deaths due to a particular underlying cause for a specified age group per 100,000 population comprising the same specified age group.

Age-specific pregnancy rate:

Number of pregnancies (live births plus fetal deaths plus induced abortions) to women of a specified age group per 1,000 females in the population of the same specified age group. The standard pregnancy rate is the number of pregnancies per 1,000 females ages 15-44.

Birthweight:

Birthweight is documented and reported in grams. An infant is considered to have low birthweight if it weighs less than 2,500 grams (5.5 pounds) at birth. Infants defined as macrosomic or high birthweight weigh equal to or more than 4,000 grams (8 pounds, 13 ounces) at birth.

Cause of death:

Causes of death are classified according to the International Classification of Diseases of the World Health Organization (ICD-10). In this report, the underlying cause of death is used to classify the cause of death. The underlying cause of death is either the disease or injury that initiated the series of events leading directly to death or the accident or violence that produced the fatal injury. Other potentially contributing causes of death are not shown in this report.

Crude birth rate:

Number of live births per 1,000 total population.

Crude death rate:

Number of deaths per 1,000 total population or per 100,000 total population.

Fertility rate:

Total number of live births per 1,000 females ages 15 to 44 years.

Fetal death:

Death prior to the complete expulsion or extraction of a product of conception from its mother, irrespective of the duration of the pregnancy. The death is indicated by the fact that, after expulsion or extraction, the fetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. All fetal deaths of 20 weeks or more are required by state statute to be reported using the report of stillbirth/fetal death. In the Minnesota Annual reports, only fetal deaths of 20 weeks or more gestation are reported unless otherwise noted.

Fetal death rate:

Number of fetal deaths per 1,000 live births plus fetal deaths.

Gestation or gestational age:

The period of intrauterine development of the fetus, expressed in completed weeks, defined by the physician's estimate of gestation. Gestational age was previously reported based on documented last menstrual period. Beginning in 2017, gestational age is based on physician's estimate. Comparisons of the classifications are remarkably similar, except physician's estimate has fewer missing cases.

Infant death:

The death of a live-born infant under one year of age. Infants born with no signs of life are classified as fetal deaths (see Fetal death, above).

Infant mortality rate:

The national standard for reporting infant mortality is an annual period rate using linked birth/infant death records. Annual period rates are calculated from records for all infants who die in a given year (period) using all live births from that same period as the denominator. In other words, all infants that die in 2017, regardless of whether they were born in 2016 or 2017 are included for annual period rate calculations. The infant mortality rate is then defined as the number of infants born alive in a given year that die within the first year of life for every 1,000 live births in that same year.

Live birth:

The complete expulsion or extraction of a product of conception from its mother irrespective of the duration of pregnancy which, after such separation, breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered a live birth and is required by state statute to be registered as a live birth, regardless of gestation or length of time living after birth.

Neonatal death:

The death of a live-born infant under 28 days of age.

Neonatal death rate:

Number of neonatal deaths per 1,000 live births.

Perinatal death:

The death of a fetus after 28 weeks of gestation or a live-born infant under 7 days of age.

Perinatal death rate:

Number of perinatal deaths per 1,000 live births plus fetal deaths.

Postneonatal death:

The death of a live-born infant between 28 days and 1 year of age.

Postneonatal death rate:

Number of postneonatal deaths per 1,000 live births.

Prenatal Care (Indices):

Late prenatal care is defined as a woman entering prenatal care in the third trimester or receiving no prenatal care.

Adequacy of prenatal care can be calculated using a variety of indices. For the Minnesota Annual reports, a new index is being used. In previous years, prenatal care adequacy was assessed using the graduated index (GINDEX). The GINDEX is calculated by combining measures of the month or trimester that prenatal care began, the number of prenatal visits, and the gestational age of the infant/fetus at the time of birth. Starting in 2017, Kotelchuck's Adequacy of Prenatal Care Utilization (APNCU) is being used, in keeping with the standards for national reporting. It should be noted that the APNCU results in a different distribution of the adequacy of prenatal care than provided by the previously used GINDEX; thus, previous years' adequacy measures are not comparable. Specifically, in national data, the APNCU identified both a greater number of intensive and slightly more inadequate PNC users.

The APNCU is also calculated using the month prenatal care began, the number of prenatal visits, and the gestational age of the infant/fetus at the time of birth. However, this measure incorporates an estimate of the expected number of prenatal care visits compared with the actual number of prenatal care visits received. The month prenatal care began is used to calculate the adequacy of entry into prenatal care. The expected number of prenatal care visits given gestational age (defined by the American College of Obstetricians and Gynecologists (ACOG)) is calculated and divided by the actual number of visits to create a ratio of expected to actual visits. This ratio is then combined with the adequacy of entry into prenatal care variable to classify the adequacy of prenatal care as Adequate Plus, Adequate, Intermediate, Inadequate, or None.

Intensive use of prenatal care (adequate plus) is associated with poor birth outcomes, due in most part to more prenatal care needed for high risk pregnancies. Thus, distinguishing those with intensive use of prenatal care from those with adequate/expected prenatal care is meaningful for understanding pregnancy risks and adverse birth outcomes.

Residence:

Residence is the geographic area of the usual place of residence of the mother (in the case of a live birth or fetal death) or of the deceased at the time of death. This means, in general, the place where one lives and sleeps most of the time. However, when the decedent's usual residence is in a nursing home or other institution where a patient resided for receiving care, residence is coded to the place, if known, where the patient lived prior to admission to the institution.

Trimester:

One third of the total gestational period necessary for a full-term pregnancy (9 months). Thirteen weeks are allotted to each trimester. The count of weeks begins with the first day of the last menstrual period.