

Multiple Births in Minnesota, 1980-2003

The rate of multiple births in the United States has been increasing since the early 1970s. Babies born as multiple births (i.e., twins, triplets, and higher order births) are at a higher risk for low birthweight (less than 2,500 grams), prematurity (less than 37 weeks gestation) and infant death compared with singleton births. Since 1980, Minnesota has experienced an increased rate of multiple births, a trend that mirrors the rest of the nation. This report will examine characteristics and outcomes of multiple births with respect to maternal age, birthweight and infant mortality.

Birth certificate data for Minnesota residents were obtained for the years 1980-2003. Infant death data were obtained from a linked birth and infant death database for the years 1980-2002. A multiple birth is a birth that results from a multiple pregnancy (i.e., a twin, triplet, quadruplet, or quintuplet pregnancy). Data presented in this report indicate the number of live births from multiple pregnancies. Because some multiple pregnancies may not result in live births, the total number of multiple births may not be an even multiple of the specified multiple pregnancy (e.g., an odd number of twins). In this report, the multiple birth ratio is the number of multiple births per 1,000 live births. The infant mortality rate is defined as the number of infant deaths per 1,000 live births.

Results

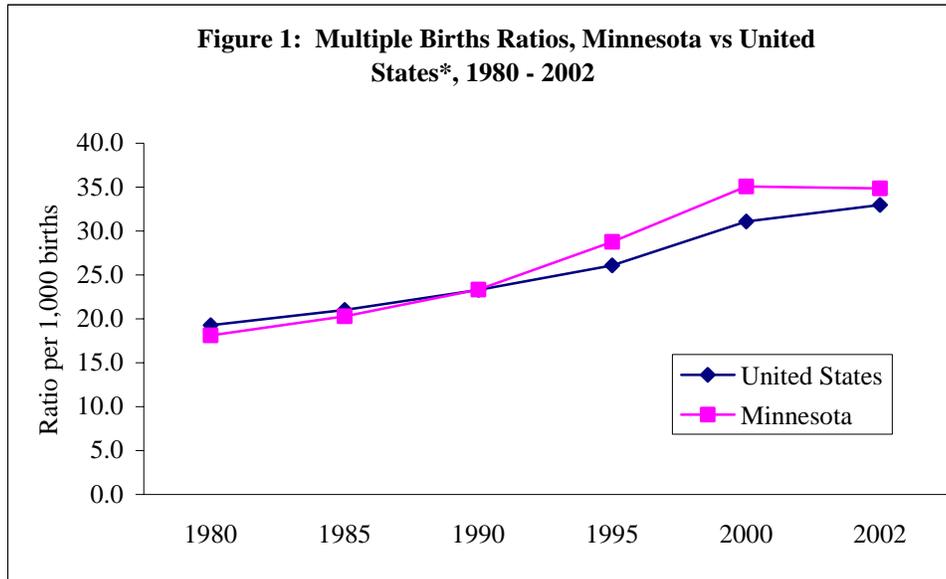
In 2003, multiple births account for 3% of births in Minnesota, but account for 28% of all low birthweight births, 21% of premature births and 19% of deaths to infants born in 2002. Between 1980 and 2003, the number of multiple births to Minnesota residents rose 97 % while the number of singleton births rose only 2 percent. In 1980, 1,204 twin babies were born; by 2003 this figure had grown to 2,259, an 88% increase. (Table 1) Higher order births also rose, though much more dramatically. In 1980, there were 24 higher order births; by 2003 there were 157, a 454% increase.

Table 1: Number of Births by Plurality in Minnesota

Year	Singles	Multiples		
		Twins	Higher Order*	Total
1980	66,615	1,204	24	1,228
1985	66,044	1,311	58	1,369
1990	66,399	1,524	63	1,587
1995	61,431	1,653	166	1,819
2000	65,083	2,191	174	2,365
2003	67,634	2,259	157	2,416

* Triplet, quadruplet, etc.

Over this period of time, Minnesota has experienced an increase in the ratio of multiple births, a trend that mirrors the rest of the nation. As shown in Figure 1, the state’s multiple birth ratio began to climb in the early eighties with accelerated increases after 1990 and level off after 2000. In 1980, only 1 of about 55 live births was a multiple; by 2003, this ratio was 1 of 29 deliveries.



* 2003 data for the United States is not yet available.

Although the increase in multiple birth ratios was exhibited in all racial and ethnic groups, Whites and African Americans consistently had higher multiple birth ratios than did Asians, American Indians and Hispanics. The percentage increase in the multiple birth ratio from the earliest period (1983-1985) to the most recent period (2001-2003) was greater for Whites than other racial groups and Hispanics. (Table 2)

Table 2: Multiple Birth Ratio by Race / Ethnicity in Minnesota

Years	White	African American	American Indian	Asian	Hispanic
1983-1985	20.7	25.4	23.2	16.2	n/a
1988-1990	22.7	26.1	19.6	18.2	n/a
1993-1995	27.7	32.4	21.5	13.4	21.6
1998-2000	34.9	29.2	23.7	13.0	21.8
2001-2003	35.9	35.6	24.0	19.3	22.4
Percent Increase since 1983-1985	74%	40%	3%	19%	3%

Maternal Age as a Factor

The rate of multiple pregnancy increases with maternal age, and it has been estimated by National Center for Health Statistics that about one-third of the national increase in multiple births is the result of the shift towards older childbearing. Table 3 shows total and multiple birth ratios by maternal age. Between 1980 and 2003, the state's multiple birth ratio increased 91 %, from 18.1 to 34.5 multiple births per 1,000 live births. The ratio of multiple births increased in all age groups. The increases are especially notable at ages 30-34, 35- 39, and 40 and older.

Table 3: Multiple Birth Ratio by Age of Mother in Minnesota

Year	Under 20	age 20-24	age 25-29	age 30-34	age 35-39	40 & older	All Ages
1980	10.7	17.2	18.5	22.0	24.5	25.2	18.1
1985	13.4	16.6	21.9	23.7	24.7	23.6	20.3
1990	13.8	16.2	23.1	28.5	34.4	37.4	23.3
1995	13.2	20.5	27.0	35.9	41.1	31.9	28.8
2000	15.0	21.2	30.9	45.0	52.6	60.5	35.1
2003	13.5	23.6	28.7	42.5	53.4	67.1	34.5
Percent Increase from 1980-2003	26.8%	37.5%	55.2%	92.8%	117.6%	166.7%	90.5%

The greatest increases in the multiple birth ratio occurs at ages 30 and higher. In addition, increased rates of multiple birth ratios are present for all age groups. Not included in this discussion is the increasing availability and use of fertility drugs and assisted reproductive technologies as one of the factors related to the increase in multiple births, which is more likely to impact the multiple birth ratio for older mothers, according to National Center for Health Statistics.

Low Birthweight

Infants born as part of a multiple birth are at far greater risk for low birth weight and death within the first year of life than are singletons. In 2003 4.7 % of singletons born to Minnesota residents were of low birth weight (less than 2,500 grams), 52.7 % of multiples were of low birthweight. (Table 4)

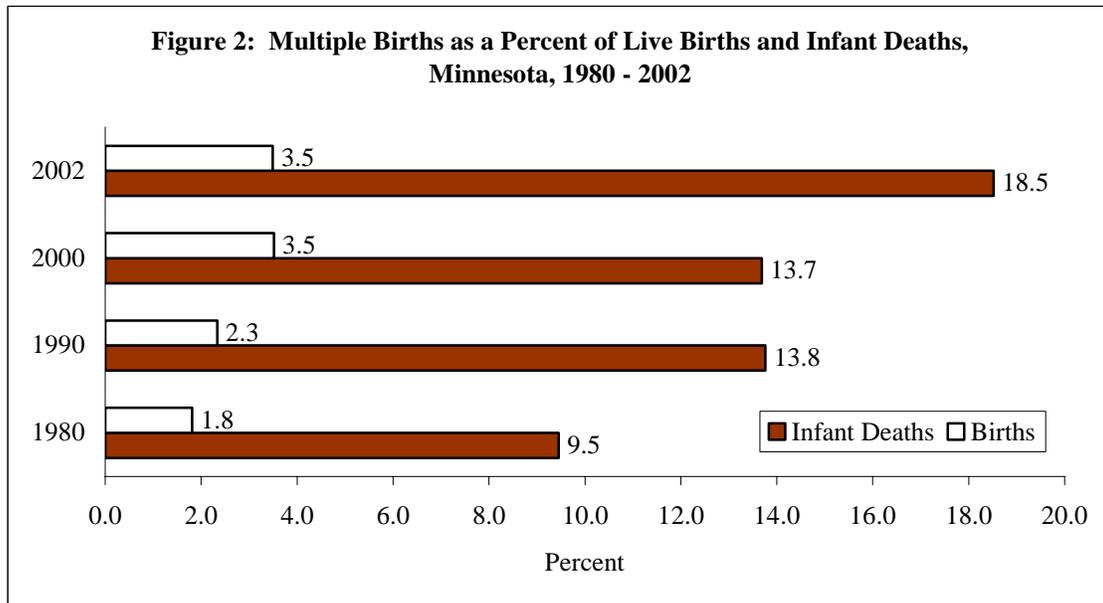
Table 4: Low Birthweight Percent by Plurality, Minnesota, 1980-2003

	1980	1985	1990	1995	2000	2003
All Births	5.1	4.8	5.1	5.9	6.1	6.3
Singletons	4.3	3.9	4.1	4.5	4.5	4.7
Multiples	49.1	46.9	46.3	53.6	52.7	52.7

When the percentage of births of low birthweight is separated into singletons and multiples, it can be seen that while the percentage of all births that are low birth weight has been slowly increasing among Minnesota residents between 1980 and 2003, the percentage of low birth weight singletons has remained relatively constant. (Table 4) The increasing share of births that are multiple is driving the trend in the overall low birthweight percentage and contributing to the difference in low birthweight percentage between singletons and all births.

Infant Mortality

Multiple births comprise a disproportionate share of all infant deaths compared to their share of all births. In 2003, multiple births represented 18.5 % of all infant deaths and only 3.5 % of all births (Figure 2).



Infants born as part of a multiple birth are more than five times as likely to die before reaching their first birthday than singletons (Table 5).

Table 5: Infant Mortality Rates by Plurality, Minnesota, 1980-2003

	1980	1985	1990	1995	2000	2003
All Births	9.7	8.4	7.2	7.1	5.6	5.2
Singletons	8.9	7.6	6.3	6.3	5.0	4.4
Multiples	50.5	46.7	42.2	35.2	22.0	27.4

While the infant mortality rate has decreased among both singletons and multiples, the rate is substantially higher for multiples than for singletons. Nearly ten out of every 1,000 singletons born in 1980 died within a year. By 2003, that rate had dropped to 4.4. However, almost 51 infants born in 1980 as part of a multiple birth died for every 1,000 born as a multiple. The rate had dropped to 27.4 by 2003. For both singletons and multiples, the infant death rate has decreased by approximately 50 % from 1980 to 2003. The trend in the overall infant mortality rate reflects the growing share of multiples as a proportion of all births, and consequently infant deaths.

Minnesota Vital Signs

**Minnesota Center for Health Statistics
Office of Health Policy, Statistics and Informatics
Minnesota Department of Health**

Vital Signs is available on the Minnesota Center for Health Statistics website, <http://www.health.state.mn.us/divs/chs/vitalsigns/index.html>. If you require this document in another format such as large print, Braille, or cassette tape call 651/296-1232 or email healthstats@health.state.mn.us.



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