

FOCUS

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2020 Vital Statistics

COVID-19 dominated Missouri vital statistics in 2020, especially mortality. Total Missouri resident deaths increased by 18.9 percent in 2020 as there were 73,883 deaths or 11,728 more than the 62,155 in 2019. Births decreased by about 4 percent as 69,277 Missouri babies were born compared with 72,103 in 2019. Therefore there was a natural decrease of 4,606 in 2020 as deaths out-numbered births for the first time since Missouri began keeping centralized vital statistics in 1911 (See Table 1). The 18.9 percent increase in deaths was also a record increase for a single year, with the previous high of 13.3 percent occurring in 1918 during the Spanish flu pandemic.

The state life expectancy decreased by 2.1 years in 2020 from 77.4 years in 2019 to 75.3 years, which is the lowest life expectancy in Missouri since 1994. The 2020 Missouri life expectancy of 75.3 years is 2 years less than the national life expectancy of 77.3 years in 2020. Male life expectancy decreased by 2.3 years from 74.6 in 2019 to 72.3 years in 2020. Female life expectancy decreased by 1.9 years from 80.3 in 2019 to 78.4 years in 2020. The difference in life expectancy between the two genders increased to 6.1 years, the largest difference since 1997.

As reflected in Table 2, COVID-19 was the third leading cause of death in Missouri in 2020, as heart disease and cancer continued as numbers one

Table 1
Vital Statistics for Missouri: 2010, 2019 and 2020

	<i>Numbers</i>			<i>Rates per 1,000 Population</i>		
	2010	2019	2020	2010	2019	2020
Births	76,718	72,103	69,277	12.8	11.7	11.3
Deaths	55,054	62,155	73,883	9.2	10.1	12.0
Natural increase	21,664	9,948	-4,606	3.6	1.6	-0.7
Marriages	38,998	36,636	34,425	6.5	6.0	5.6
Divorces	23,349	17,740	16,406	3.9	2.9	2.7
Infant deaths	504	432	392	6.6*	6.0*	5.7*
Abortions	9,796	4,660	3,391	127.7*	64.6*	48.9*
Population (1000s)	5,989	6,140	6,155			

*Per 1,000 live births

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Table 2**Leading Causes of Death with Rates: Missouri Residents 2010, 2019 and 2020**

	Numbers			Rates per 100,000 Population			Percent Change	
	2010	2019	2020	2010	2019	2020	2010-2020	2019-2020
Leading Causes of Death								
Heart	13,741	14,959	15,932	229.4	243.6	258.9	12.8	6.3
Cancer	12,569	12,836	12,907	209.9	209.0	209.7	-0.1	0.3
COVID-19	0	0	7,134	0.0	0.0	115.9	NA	NA
Unintentional injury	2,969	3,930	4,411	49.6	64.0	71.7	44.6	12.0
Motor vehicle	838	950	1,031	14.0	15.5	16.8	19.7	8.3
Falls	645	781	869	10.8	12.7	14.1	31.1	11.0
Poisonings	883	1,483	1,808	14.7	24.2	29.4	99.2	21.6
Other	603	716	703	10.1	11.7	11.4	13.4	-2.0
Chronic lung disease	3,542	3,775	3,877	59.1	61.5	63.0	6.5	2.5
Stroke	2,979	3,019	3,275	49.7	49.2	53.2	7.0	8.2
Alzheimer's disease	1,976	2,781	2,873	33.0	45.3	46.7	41.5	3.1
Diabetes	1,423	1,652	1,844	23.8	26.9	30.0	26.1	11.4
Nephritis & nephrosis	1,300	1,480	1,682	21.7	24.1	27.3	25.9	13.4
Pneumonia & influenza	1,188	1,030	1,169	19.8	16.8	19.0	-4.3	13.2
Other Selected Causes								
Suicide	850	1,130	1,125	14.2	18.4	18.3	28.8	-0.7
Homicide	438	623	802	7.3	10.1	13.0	78.2	28.4
Opioid Deaths	590	1,094	1,375	9.9	17.8	22.3	126.8	25.4
Firearm Deaths	845	1,244	1,425	14.1	20.3	23.2	64.1	14.3
Notes: All causes are based on underlying cause of death except opioid deaths which include contributing causes. COVID-19 deaths as a contributing cause totaled 7,834 in 2020.								

and two, respectively. These were followed in order, by unintentional injuries (accidents), chronic lung disease, stroke, Alzheimer's disease, diabetes, nephritis (kidney disease), and pneumonia and influenza. The Missouri COVID-19 crude death rate in 2020 was 115.9 per 100,000 population, or 11 percent higher than the United States rate of 104.2. While COVID-19 had a large effect on the elderly as the median age at death of COVID decedents was around 80 years, it also caused the death of nearly 1,000 Missourians under age 65 in 2020, making it the fourth leading cause of death for persons in that age group.

COVID-19 was the underlying cause of death for 7,134 Missouri deaths in 2020 as shown in Table 2. COVID-19 was the contributing cause for an additional 700 deaths for a total of 7,834 COVID-19 related deaths. Therefore about two-thirds of the Missouri death increase of 11,728 were COVID-19 related. But deaths also increased in 2020 for all of the other ten leading

causes of death. Those causes with double-digit percentage increases included unintentional injuries (12.0 percent), diabetes (11.4 percent), nephritis (13.4 percent) and pneumonia and influenza (13.2 percent). Stroke deaths increased by 8.2 percent and heart disease deaths by 6.3 percent. Some of the chronic disease mortality increases might have been indirectly related to the pandemic as patients may have been reluctant to see their doctor or go to the hospital when symptoms occurred because of fear of being infected with COVID. It's also possible that some of these increases in chronic disease deaths were due to under-reported COVID-related deaths.

The increase in unintentional injury deaths was primarily associated with drug overdose deaths (accidental poisonings). Opioid-related deaths, which are included in accidental poisonings as well as some suicides and homicides, jumped by more than 25 percent in 2020 from 1,094 in 2019 to 1,375 and was more than double the number in 2010. Opioid-related deaths increased throughout the state

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and among both whites and African-Americans. The COVID pandemic may have contributed to the opioid mortality increase as people were more isolated and unable to access services. Fentanyl was the principal drug most affecting the continued high rate of opioid deaths as 87 percent (1,190) of the opioid deaths were fentanyl-related. This represents an increase in fentanyl-related deaths, as in 2019, there were 859 fentanyl-related deaths, representing 79 percent of the total opioid-related deaths.

Homicides also increased sharply in 2020 and reached a record as 802 Missourians died from homicide, or 28 percent more than the 623 in 2019 and nearly double the 438 homicides in 2010. Suicides remained stable in 2020, although they have increased by about 30 percent since 2010. The use of firearms is a factor in both suicides and homicides. As Table 2 shows, firearm-related deaths increased by 14 percent from 2019 to 2020 from 1,244 from 1,425. There were 704 firearm-related suicides and

Table 3

Trends in Maternal and Child Health Statistics: Missouri 2010, 2019 and 2020

	<i>Numbers</i>			<i>Percents</i>		
	2010	2019	2020	2010	2019	2020
Infant Deaths	504	432	392	6.6*	6.0*	5.7*
White	325	256	225	5.7*	4.9*	4.5*
Black	130	123	119	13.8*	11.7*	11.7*
Low Birth Weight	6,304	6,379	6,037	8.2	8.9	8.7
White	4,174	3,904	3,672	7.3	7.5	7.3
Black	1,498	1,653	1,570	13.9	15.8	15.5
Inadequate Prenatal Care	11,895	14,443	14,009	16.8	21.1	21.3
White	7,152	8,165	8,159	13.5	16.3	16.9
Black	2,987	3,626	3,364	30.8	38.1	37.0
Teen(10-19) Births	7,739	3,889	3,591	10.1	5.4	5.2
White	4,895	2,393	2,218	8.5	4.6	4.4
Black	1,950	844	778	18.0	8.1	7.7
Early Teen (10-17) Births	2,123	901	877	2.8	1.2	1.3
Preterm (<37 weeks) (Obst. Est.) **	7,656	7,840	7,599	10.0	10.9	11.0
Multiple Births	2,855	2,523	2,332	3.7	3.5	3.4
Birth Spacing<18 mos.	5,258	5,335	5,055	12.6	12.5	12.3
Out-of Wedlock Births	30,836	29,133	28,515	40.2	40.4	41.2
Smoking During Pregnancy	14,335	9,133	8,195	18.9	12.8	11.9
Mother Obese	17,945	21,356	21,003	23.8	30.1	30.8
Medicaid Births	32,411	27,486	27,009	46.1	38.6	39.7
WIC Births	35,064	23,916	21,322	46.7	33.9	31.6
Food Stamps Births	24,564	16,338	15,670	34.4	24.6	24.6
C-Sections	24,427	21,640	20,253	31.9	30.1	29.3
Live Births	76,718	72,103	69,277			

*Infant Death rates are per 1,000 live births.

**In 2014, Missouri used a new standard for estimating the gestational age of a newborn, the obstetrical age. Before 2014, in Missouri Vital Statistics annual reports and MOPHIMS/MICA, a calculated gestational age between date of last normal menses and date of birth was used.

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682 homicides in 2019. The combined percentage of 72 percent of total homicides and suicides being firearm-related in 2020 is up slightly from 69 percent in 2019.

Missouri resident births in 2020 decreased for the 12th time in the last 13 years, and thus the decrease in 2020 was more a continuing trend rather than being directly related to the COVID pandemic. There was some acceleration of the decrease at the end of the year, but most of 2020 births were conceived before the pandemic started. The count of 69,277 births in 2020 is the lowest Missouri birth number since 1976.

Between 2019 and 2020, teen births continued to decrease moving from 3,889 to 3,591 births born to mothers under the age of 20. This is a 54 percent decrease from the 2010 count of 7,739. Early teen (less than age 18) births also decreased, moving from 901 in 2019 to 877 in 2020. This is 59 percent lower than the count ten years earlier in 2010. As Table 3 reflects, teen births have experienced substantial decreases among both white and African-American teen mothers.

The infant death rate decreased in 2020 from 6.0 in 2019 to 5.7 per 1,000 live births (see Table 3). This represents a record low Missouri infant mortality rate, and 14 percent below the 2010 rate of 6.6.

The rate of low birth weight (less than 2,500 grams) infants decreased to 8.7 percent in 2020 after reaching a record high of 8.9 percent in 2019. It is the first decrease in the state low birth weight rate since 2012. The 2019 low birth weight rate for African-American infants was 15.5 percent, more than double the rate for white infants of 7.3 percent. The related rate of preterm births (delivering before 37 weeks of pregnancy) increased slightly in 2020 to 11.0 percent from 10.9 percent in 2019.

The rate of inadequate prenatal care increased slightly to 21.3 percent in 2020 from 21.1 in 2019. This may have been affected by the pandemic as mothers may have been reluctant to keep scheduled visits. Inadequate prenatal care is defined as fewer than five visits for preterm pregnancies or fewer than eight visits for term pregnancies or prenatal care beginning after the first four months of pregnancy. The rate uses the number of live births with known prenatal care as the denominator.

Other maternal and child health indicators presented in Table 3 show the following for 2020:

- The rate of out-of-wedlock births increased from 40.4 to 41.2 percent between 2019 and 2020.
- Multiple births decreased from 3.5 percent to 3.4 percent of births.
- Short (less than 18 months) spacing between births decreased from 12.5 percent in 2019 to 12.3 percent in 2020.
- The number and rate of Medicaid births increased in 2020 while WIC births decreased.
- The rate of mothers smoking during pregnancy decreased to 11.9 percent in 2020 from 12.8 percent in 2019 and 18.9 percent in 2010.
- C-sections decreased during the last year from 30.1 percent in 2019 to 29.3 percent in 2020.
- The rate of births to obese (BMI>30) mothers increased to 30.8 percent in 2020 from 30.1 in 2019 and 23.8 in 2010.
- Abortions (see Table 1) decreased 27 percent in 2020 as 3,391 Missouri resident pregnancies were terminated compared with 4,660 in 2019. This sharp decline resulted primarily because more Missouri women were obtaining abortions outside of Missouri in states that do not provide Missouri with individual abortion records.

Marriages and divorces continued long-term declines, but decreases may have been accelerated by the pandemic as weddings were postponed and courthouses were closed. Marriages decreased by 6.0 percent from 36,636 in 2019 to 34,425 in 2020, the lowest number since 1959 (see Table 1). Divorces decreased by 7.5 percent in 2020 as 16,406 Missouri marriages were dissolved compared with 17,740 in 2019, the lowest count since 1967. The marriage to divorce ratio increased from 2.07 in 2019 to 2.10 in 2020.

In summary, COVID-19 had a devastating effect on Missouri in 2020 as total deaths increased by nearly 19 percent and life expectancy decreased by 2.1 years. Deaths out-numbered births for the first time on record. All other leading causes of death also increased in 2020 and there were also sharp increases in opioid deaths and homicides in 2020. Other vital statistics decreased, including births, marriages, divorces, infant deaths and abortions. Births reached its lowest level since 1976 and the infant death rate was a record low.