

Vital Statistics

Missouri resident deaths decreased by over 5,000 from 71,766 in 2022 to 66,470 deaths in 2023 (see Table 1) as the COVID-19 pandemic emergency officially ended in May 2023. COVID-19 mortality decreased by about three-quarters in 2023 from 4,316 deaths in 2022 to 1,106, following a peak of 7,757 COVID-19 deaths in 2021. Births also continued to decrease as 67,065 Missouri resident infants were born in 2023, a decrease of nearly 2,000 from 2022's number of 68,954. The 2023 birth count was the lowest in Missouri since 1945. With the sharper decrease in deaths than in births, Missouri resident births outnumbered deaths for the first time since the pre-pandemic year of 2019, resulting in a natural increase of 595, following a natural decrease of 2,822 in 2022.

As a result of the decreased Missouri mortality, the state life expectancy increased in 2023 by 1.3 years, from 75.3 in 2022 to 76.6 years in 2023. Despite the increase, the 2023 life expectancy was still 0.8 years lower than the pre-pandemic level of 77.4 years in 2019. Male life expectancy increased by 1.4 years from 72.5 in 2022 to 73.9 years in 2023. Female life expectancy also increased by 1.4 years from 78.1 in 2022 to 79.5 years in 2023. The difference in life expectancy between the two genders decreased from 6.1 years in the peak year of 2021 to 5.6 in 2022 and 2023. Note the life expectancies of previous years have been updated with revised population estimates from the Bureau of the Census.

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Table 1
Vital Statistics for Missouri: 2013, 2022 and 2023

	<i>Numbers</i>			<i>Rates per 1,000 Population</i>		
	2013	2022	2023	2013	2022	2023
Births	75,244	68,954	67,065	12.5	11.2	10.8
Deaths	57,256	71,776	66,470	9.5	11.6	10.7
Natural increase	17,988	-2,822	595	3.0	-0.5	0.1
Marriages	38,984	36,103	35,396	6.5	5.8	5.7
Divorces	20,684	16,543	16,220	3.4	2.7	2.6
Infant deaths	488	450	394	6.5*	6.5*	5.9*
Population (1,000s)	6,043	6,177	6,196			

*Per 1,000 live births.

Leading Causes of Death

As reflected in Table 2, COVID-19 went from Missouri's fourth leading cause of death in 2022 to the tenth leading cause in 2023. Heart disease, cancer, and unintentional injuries (accidents) continued as numbers one, two, and three, respectively. Following unintentional injuries, leading causes of death were chronic lung disease, stroke, Alzheimer's disease, diabetes, nephritis (kidney disease), and suicide. Each of these causes moved up one place in 2023 after the large drop in COVID-19 deaths. Seven of the ten leading causes decreased in 2023, while the three that increased (nephritis, cancer, and stroke) showed only slight upward changes.

The largest percentage decrease in death rates by leading cause by far was for COVID-19 at nearly 75%, followed by unintentional injuries at 7.5%, suicides at 7.1% and heart disease at 6.4%. Deaths from Alzheimer's disease, chronic lung disease and diabetes also decreased in 2023. The decrease

in unintentional injury or accidental deaths was contrary to long-term trends, as accidental death rates increased by over 60% from 2013 to 2023 and hadn't decreased since 2019.

The decrease in unintentional or accidental deaths in 2023 occurred in all the leading causes of accidental deaths: poisonings, motor vehicle crashes, falls and the other causes category. Accidental poisonings are primarily associated with drug overdose deaths. Opioid-related deaths, which are included in accidental poisonings as well as some suicides and homicides, accounted for 1,427 deaths in 2023, as shown in Table 2, a decrease of nearly 10% in the rate based on 1,578 deaths in 2022. Fentanyl continued to be the principal drug most affecting opioid deaths, as well over 90% of the opioid deaths continue to be fentanyl-related. Demographically, the largest decreases in Opioid deaths in 2023 were among younger persons under age 35 (27%) and white Missourians (13%).

Table 2
Leading Causes of Death in Missouri Residents With Rates: 2013, 2022 and 2023

Leading Causes	Numbers			Rate per 100,000 Population			Percent Change	
	2013	2022	2023	2013	2022	2023	2013-2023	2022-2023
Heart disease	14,036	16,116	15,124	232.3	260.9	244.1	12.3	-6.4
Cancer	12,902	13,065	13,127	213.5	211.5	211.9	-0.9	0.2
Unintentional injury	2,965	4,922	4,566	49.1	79.7	73.7	62.4	-7.5
Motor vehicle	757	1,105	1,027	12.5	17.9	16.6	42.8	-7.3
Falls	703	895	848	11.6	14.5	13.7	24.5	-5.5
Poisonings	903	2,083	1,881	14.9	33.7	30.4	125.7	-10.0
Other	602	839	810	10.0	13.6	13.1	36.3	-3.8
Chronic lung disease	3,800	3,809	3,709	62.9	61.7	59.9	-1.9	-2.9
Stroke	2,913	3,148	3,157	48.2	51.0	51.0	5.7	0.0
Alzheimer's disease	2,018	2,619	2,517	33.4	42.4	40.6	27.0	-4.2
Diabetes	1,477	1,877	1,860	24.4	30.4	30.0	24.3	-1.2
Nephritis & nephrosis	1,298	1,683	1,710	21.5	27.2	27.6	26.8	1.3
Suicide	958	1,214	1,131	15.9	19.7	18.3	24.0	-7.1
COVID-19	0	4,316	1,106	0.0	69.9	17.8	NA	-74.5

Other Select Causes

Pneumonia & influenza	1,347	1,097	981	22.3	17.8	15.8	-20.3	-10.8
Homicide	390	740	608	6.5	12.0	9.8	85.6	-18.1
Opioid deaths	607	1,578	1,427	10.0	25.5	23.0	154.3	-9.8
Firearm deaths	876	1,491	1,317	14.5	24.1	21.3	66.5	-11.9

Total 57,256 71,776 66,470 947.5 1,162.0 1,072.8 22.6 -7.7

*Note: All causes are based on underlying cause of death except opioid deaths which include contributing causes.

Homicides (not in the top ten causes) decreased by 18% in 2023 to 608 deaths, from 740 in 2022 and 802 in the peak year of 2020, and suicides decreased by 7% from 1,214 in 2022 to 1,131 in 2023. The use of firearms is a factor in both suicides and homicides. Firearm-related homicides and suicides followed the same pattern as total homicides and suicides, with both decreasing. About 66% of suicides and 86% of homicides were firearm-related in 2023. Total firearm-related deaths decreased by about 12% from 1,491 in 2022 to 1,317 in 2023, the lowest firearm-related death total since 2019.

Maternal and Child Health

Missouri resident live births decreased by 2.7% to 67,065 in 2023, the lowest level since 1945, the year before the historic baby boom started. This continues a trend that started after 2007 when Missouri births peaked at 81,883 and has declined 18.1% since then. The same trend has occurred nationally, as births in the United States have decreased by 16.8% since 2007. The Missouri total fertility rate in 2023 of 1.67 births per woman was the lowest in Missouri history. This is the average number of live births a woman would have if a given set of age-specific birth rates (in this case, 2023 rates) applied throughout her reproductive years. If the total fertility rate stays this low, we will have natural decreases in population on a regular basis, not just during the COVID-19 pandemic.

Teen births have been decreasing in Missouri for about 30 years, with numbers currently only about one-third the number 30 years ago and 60% of the teen births 10 years ago. However, the decrease seemed to be flattening the last three years, as the percentage of births under age 20 was 4.8% from 2021 to 2023, and the number of births under 18 increased slightly in 2022 and 2023.

The infant death rate decreased by 9% from 6.5 in 2022 to 5.9 per 1,000 live births in 2023, following an increase of 14% from 2021 to 2022. The rate decreased for both the neonatal (age less than 28 days) and the post-neonatal (age 28 days to 11 months) periods. The neonatal period is primarily related to prematurity-related causes, while the post-neonatal period is more related to care at home. The decrease occurred primarily for white non-Hispanic infants (22%). The African-American non-Hispanic infant death rate of 13.2 per 1,000 live births in 2023 mirrored the 2022 rate and was more than three times the 2023 white rate of 4.3.

The rate of infants with low birth weight (less than 2,500 grams) decreased to 8.9% in 2023 from a rate of 9.1% in 2022, but it was still 11% higher than the

rate of 8.0% in 2013. The 2023 low birth weight rate for African-American non-Hispanic infants was 16.9%, more than 2.2 times the rate for white non-Hispanic infants of 7.6%. The related rate of preterm births (delivering before 37 weeks of pregnancy) also decreased in 2023 to 11.0% from 11.3% in 2022.

The rate of inadequate prenatal care increased slightly from 20.6% in 2022 to 20.8% in 2023. Inadequate prenatal care is defined as fewer than five visits for preterm pregnancies, 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 2023:

- The rate of out-of-wedlock births increased slightly from 39.2% to 39.3% between 2022 and 2023.
- Multiple births decreased from 3.5% to 3.3% of births.
- Short (less than 18 months) spacing between births remained at 12.5% in 2023, the same as 2022's rate.
- The percentage of mothers on Medicaid, on WIC, and on Food Stamps all increased in 2023.
- The rate of mothers smoking during pregnancy decreased to 6.7% in 2023 from 8.0% in 2022 and 17.6% in 2013.
- C-sections decreased during the last year from 30.4% in 2022 to 30.2% in 2023.
- The rate of births to obese (BMI>30) mothers increased to 33.4% in 2023 from 32.9% in 2022 and 24.9% in 2013.

Marriages and divorces both decreased slightly in 2023. Marriages decreased by 2.0% from 36,103 in 2022 to 35,396 in 2023. Divorces also decreased by 2.0% in 2023 as 16,220 Missouri marriages were dissolved compared with 16,543 in 2022. The marriage-to-divorce ratio remained the same in 2022 and 2023 at 2.18.



Table 3
Trends in Missouri Maternal and Child Health Statistics: 2013, 2022 and 2023

	Numbers			Rate		
	2013	2022	2023	2013	2022	2023
Infant deaths	488	450	394	6.5*	6.5*	5.9*
White Non-Hispanic	302	273	207	5.4*	5.5*	4.3*
Black Non-Hispanic	126	121	112	11.7*	13.2*	13.2*
Low birth weight	6,046	6,303	5,985	8.0	9.1	8.9
White Non-Hispanic	3,928	3,871	3,681	7.0	7.8	7.6
Black Non-Hispanic	1,505	1,520	1,436	14.0	16.5	16.9
Inadequate prenatal care	12,982	13,785	13,659	18.6	20.6	20.8
White Non-Hispanic	7,789	7,704	7,439	14.8	16.0	15.7
Black Non-Hispanic	3,213	3,095	3,045	33.2	35.2	36.7
Teen (10-19) births	5,855	3,309	3,204	7.8	4.8	4.8
White Non-Hispanic	3,795	1,982	1,896	6.7	4.0	3.8
Black Non-Hispanic	1,279	664	615	11.8	7.2	7.2
Early teen (10-17) births	1,499	833	849	2.0	1.2	1.3
Preterm (< 37 weeks) (OB-GYN est.)	7,211	7,779	7,402	9.6	11.3	11.0
Multiple births	2,733	2,433	2,239	3.6	3.5	3.3
Birth spacing < 18 months	5,057	5,069	4,936	12.0	12.5	12.5
Out-of-wedlock births	30,360	27,037	26,358	40.3	39.2	39.3
Smoking during pregnancy	13,155	5,424	4,434	17.6	8.0	6.7
Mother obese	18,423	22,155	21,932	24.9	32.9	33.4
Medicaid births	31,809	26,651	26,984	43.0	39.3	40.6
WIC births	33,314	19,078	19,621	45.1	28.1	29.7
Food stamp births	23,313	13,347	13,089	33.1	20.8	21.0
C-sections	23,317	20,944	20,253	31.1	30.4	30.2
Live births	75,244	68,954	67,065			

* Rates are per 100 live births except infant death rates are per 1,000 live births.

Conclusion

In summary, most of the 2023 vital statistics news is positive as the COVID-19 pandemic wound down, and the number of Missouri resident deaths decreased by 7.4% in 2023, and COVID-19-related deaths decreased by 75%. Life expectancy increased by 1.3 years from 2022 to 76.6 years, although still 0.8 years less than it was in the latest pre-pandemic year

of 2019. Births declined by nearly 2,000, but births outnumbered deaths for the first time since 2019. Other positive 2023 news were decreases in infant mortality, accidental deaths, suicides, homicides, and opioid overdose deaths after recent annual increases.

