Changes in Suicide Rates in the United States From 2022 to 2023

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Key findings

Data from the National Vital Statistics System

• The overall age-adjusted suicide rate increased from 2003 to 2018 but did not significantly change between 2018 (14.2 deaths per 100,000 standard population) and 2023 (14.1).

• The suicide rate increased for females age 75 and older from 2022 (4.6) to 2023 (5.1).

• The suicide rate decreased for males age 75 and older from 2022 (43.9) to 2023 (40.7).

• From 2022 to 2023, the age-adjusted suicide rate significantly changed for five states: increasing for Arkansas and decreasing for North Dakota, Iowa, Connecticut, and Arizona.

In 2023, suicide was the 11th leading cause of death in the United States, with no change in ranking since 2021 (1–3). At younger ages, suicide has a higher rank as a leading cause of death. Suicide was the second leading cause of death in 2023 for people ages 10–14, 15–24, and 25–44 (2). This report provides final 2023 mortality rates for suicide and shows changes in rates by age group, sex, and state of residency between 2022 and 2023.

Starting in 2017 for females and 2018 for males, age-adjusted suicide rates have not significantly changed.

• The total age-adjusted suicide rate increased from 2003 (10.8 deaths per 100,000 standard population) to 2018 (14.2) but did not significantly change between 2018 and 2023. The 2023 rate (14.1) was similar to the 2022 rate (14.2) (Figure 1, Table 1).

Figure 1. Age-adjusted suicide rate, by sex: United States, 2003–2023
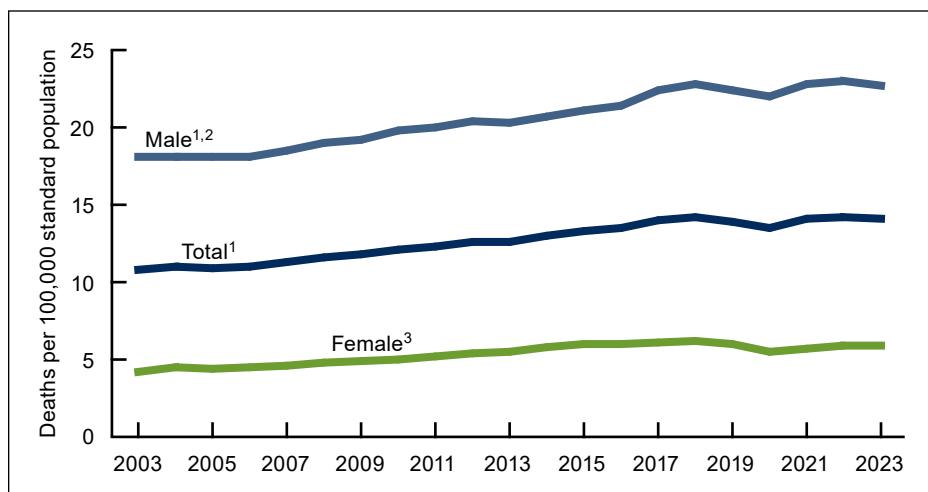
[1]Significant increasing trend from 2003 through 2018; no statistically significant trend from 2018 to 2023 ($p < 0.05$).
[2]Rate for 2023 is significantly lower than 2022 rate ($p < 0.05$).
[3]Significant increasing trend from 2003 through 2017; no statistically significant trend from 2017 to 2023 ($p < 0.05$). The rate for 2023 is significantly lower than 2017 rate ($p < 0.05$).
NOTES: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0. Age-adjusted death rates are calculated using the direct method and the 2000 U.S. standard population.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

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- The suicide rate for males increased from 2003 (18.1) to 2018 (22.8), but the rate did not significantly change between 2018 and 2023 (22.7). The 2023 rate was lower than the 2022 rate (23.0).

- The suicide rate for females increased from 2003 (4.2) to 2017 (6.1), but the 2023 rate (5.9) was lower than in 2017. The 2023 rate was the same as the 2022 rate.

- The suicide rate for males was three to four times the rate for females across the 2003–2023 period.

From 2022 to 2023, the suicide rate for females significantly changed for adults age 75 and older.

- Between 2022 and 2023, the suicide rate for females age 75 and older increased by 10.9%, from 4.6 deaths per 100,000 population to 5.1. Changes were not significant for any other age group (Figure 2, Table 2).

- In 2022 and 2023, the lowest suicide rate for females was among those ages 10–14, and the highest rate was for those ages 45–64.

Figure 2. Suicide rate for females, by age group: United States, 2022 and 2023
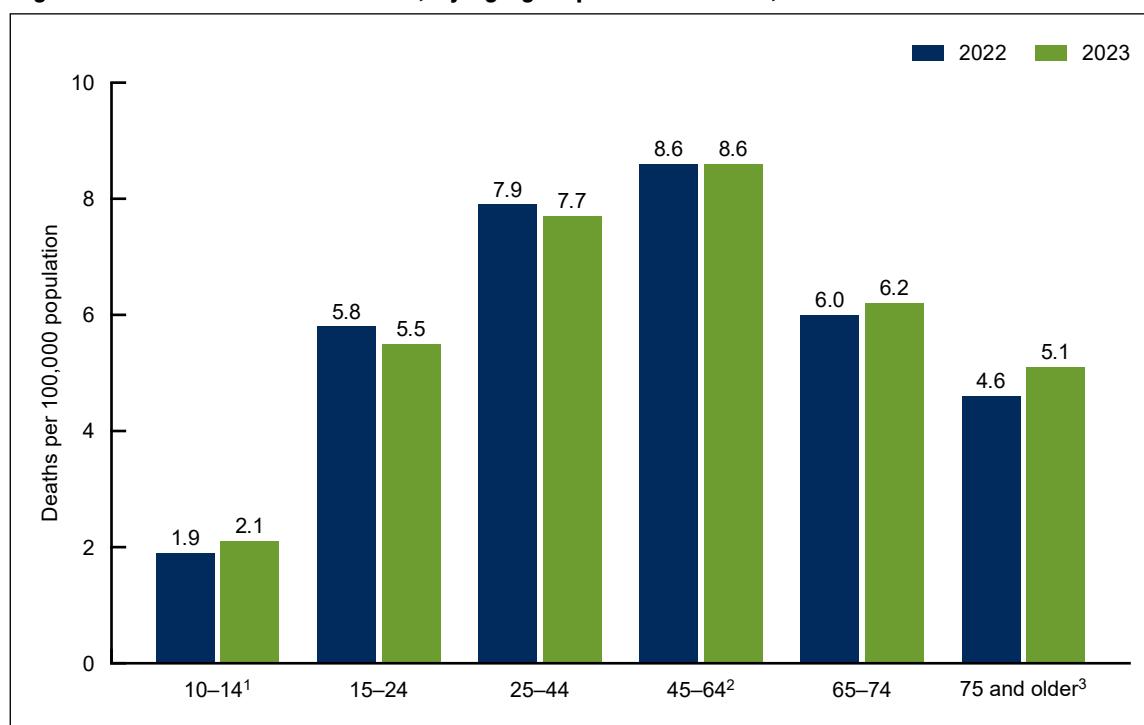
[1]Rate is significantly lower than all other age groups in 2022 and 2023 ($p < 0.05$).
[2]Rate is significantly higher than all other age groups in 2022 and 2023 ($p < 0.05$).
[3]Significant rate increase from 2022 to 2023 ($p < 0.05$).
NOTE: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

The suicide rate for males significantly changed for adults age 75 and older from 2022 to 2023.

- From 2022 to 2023, the suicide rate for males age 75 and older decreased by 7.3%, from 43.9 deaths per 100,000 population to 40.7. Changes were not significant for any other age group (Figure 3, Table 3).

- In 2022 and 2023, the lowest suicide rate for males was among those ages 10–14, and the highest rate was for those age 75 and older.

Figure 3. Suicide rate for males, by age group: United States, 2022 and 2023
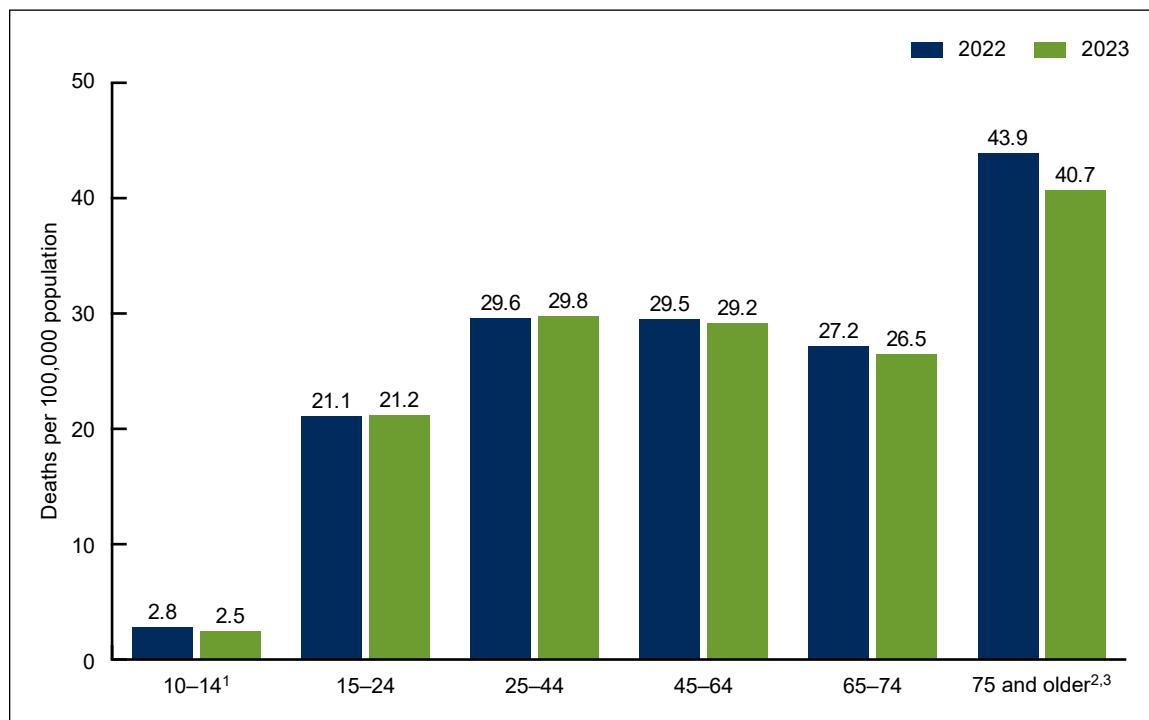
[1]Rate is significantly lower than all other age groups in 2022 and 2023 ($p < 0.05$).
[2]Rate is significantly higher than all other age groups in 2022 and 2023 ($p < 0.05$).
[3]Significant rate decrease from 2022 to 2023 ($p < 0.05$).
NOTE: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

From 2022 to 2023, the age-adjusted suicide rate increased for one state and decreased for four others, with no change in rates for most states.

- The only significant state increase in the suicide rate from 2022 to 2023 was for Arkansas, from 18.0 deaths per 100,000 population to 20.2 (Figure 4, Table 4).

- From 2022 to 2023, the suicide rate significantly decreased for four states: North Dakota (from 22.5 to 17.8), Iowa (18.5 to 15.5), Connecticut (10.6 to 9.1), and Arizona (20.6 to 19.2).

- The other 45 states and the District of Columbia experienced no significant change in the age-adjusted suicide rate between 2022 and 2023.

Figure 4. Change in age-adjusted suicide rate, by state: United States, 2022 to 2023
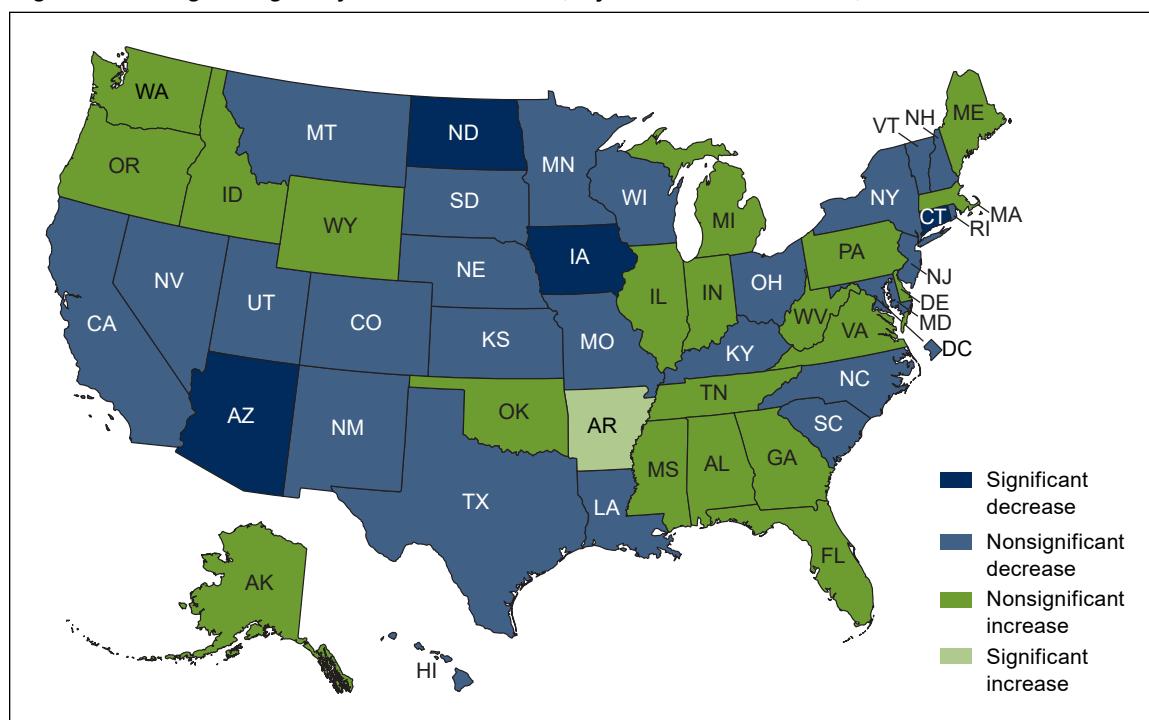
NOTES: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause of death codes U03, X60–X84, and Y87.0. Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population. The U.S. age-adjusted rate decreased nonsignificantly from 14.2 deaths per 100,000 standard population in 2022 to 14.1 in 2023. Rates and rate decreases may be underestimated for states where the percentage of records with a cause of death pending investigation is higher than in previous years.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Summary

This report presents suicide rates from 2003 through 2023, with a focus on recent changes between 2022 and 2023, by age, sex, and state of residency at death. After increasing from 2003 to 2018, the overall age-adjusted rate did not significantly change between 2018 and 2023.

For both males and females, age-specific suicide rates did not significantly change between 2022 and 2023 for age groups younger than 75. For females age 75 and older, the rate increased by 10.9% from 2022 to 2023. For males age 75 and older, the rate decreased 7.3% from 2022 to 2023. Among both males and females, the rates for 2022 and 2023 were lowest among those ages 10–14. In both years, the rate for males was highest among men age 75 and older, and the rate for females highest among women ages 45–64.

The age-adjusted suicide rate significantly changed from 2022 to 2023 for five states. The rate increased for Arkansas and decreased for North Dakota, Iowa, Connecticut, and Arizona.

Data source and methods

Data were analyzed using National Vital Statistics System cause-of-death mortality files for 2003 through 2023 on CDC WONDER (1,2). Suicide deaths were identified using *International Classification of Diseases, 10th Revision* (ICD–10) underlying cause-of-death codes U03, X60–X84, and Y87.0 (4).

Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population (5). Although suicide deaths for children ages 5–9 years are included in total numbers and age-adjusted rates, they are not shown as part of age-specific numbers or rates because of the small number of suicide deaths per year in this age group.

Reported significant patterns in trend analyses may differ from previous reports that use a different time period, particularly with a different start and end year. Trends were evaluated using the Joinpoint Regression Program (version 5.0.2) (6). Joinpoint software was used to fit weighted least-squares regression models to the rates on the logarithmic scale. Analyses were set to allow as many as four joinpoints across the period, as few as two observed time points from any given joinpoint to either end of the data, and as few as one observed time point between any two joinpoints. The permutation tests for model (number of joinpoints) significance were set at an overall alpha level of 0.05. Pairwise comparisons of rates (as in age-adjusted rates for males compared with females and year-to-year comparisons) were conducted using a z test with an alpha level of 0.05 (5). Both Joinpoint software and pairwise z tests were used to evaluate changes in rates over time.

About the authors

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Figure tables

Data table for Figure 1. Age-adjusted suicide rate, by sex: United States, 2003–2023

Year	Total[1]		Male[1,2]		Female[3]	
	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000
2003.	31,484	10.8	25,203	18.1	6,281	4.2
2004.	32,439	11.0	25,566	18.1	6,873	4.5
2005.	32,637	10.9	25,907	18.1	6,730	4.4
2006.	33,300	11.0	26,308	18.1	6,992	4.5
2007.	34,598	11.3	27,269	18.5	7,329	4.6
2008.	36,035	11.6	28,450	19.0	7,585	4.8
2009.	36,909	11.8	29,089	19.2	7,820	4.9
2010.	38,364	12.1	30,277	19.8	8,087	5.0
2011.	39,518	12.3	31,003	20.0	8,515	5.2
2012.	40,600	12.6	31,780	20.4	8,820	5.4
2013.	41,149	12.6	32,055	20.3	9,094	5.5
2014.	42,826	13.0	33,162	20.7	9,664	5.8
2015.	44,193	13.3	33,994	21.1	10,199	6.0
2016.	44,965	13.5	34,727	21.4	10,238	6.0
2017.	47,173	14.0	36,782	22.4	10,391	6.1
2018.	48,344	14.2	37,761	22.8	10,583	6.2
2019.	47,511	13.9	37,256	22.4	10,255	6.0
2020.	45,979	13.5	36,551	22.0	9,428	5.5
2021.	48,183	14.1	38,358	22.8	9,825	5.7
2022.	49,476	14.2	39,273	23.0	10,203	5.9
2023.	49,316	14.1	39,046	22.7	10,270	5.9

[1]Significant increasing trend from 2003 through 2018; no statistically significant trend from 2018 to 2023 ($p < 0.05$).
[2]Rate for 2023 is significantly lower than 2022 rate ($p < 0.05$).
[3]Significant increasing trend from 2003 through 2017; no statistically significant trend from 2017 to 2023 ($p < 0.05$).The rate for 2023 is significantly lower than the 2017 rate ($p < 0.05$).

NOTES: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0. Age-adjusted death rates are calculated using the direct method and the 2000 U.S. standard population.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 2. Suicide rate for females, by age group: United States, 2022 and 2023

Age group	2022		2023	
	Number	Deaths per 100,000	Number	Deaths per 100,000
10–14[1]	190	1.9	213	2.1
15–24.	1,216	5.8	1,176	5.5
25–44.	3,458	7.9	3,443	7.7
45–64[2]	3,570	8.6	3,581	8.6
65–74.	1,076	6.0	1,132	6.2
75 and older[3]	647	4.6	723	5.1

[1]Rate is significantly lower than all other age groups in 2022 and 2023 ($p < 0.05$).
[2]Rate is significantly higher than all other age groups in 2022 and 2023 ($p < 0.05$).
[3]Significant rate increase from 2022 to 2023 ($p < 0.05$).

NOTE: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 3. Suicide rate for males, by age group: United States, 2022 and 2023

	2022		2023	
Age group	Number	Deaths per 100,000	Number	Deaths per 100,000
10–14[1]	303	2.8	268	2.5
15–24.	4,779	21.1	4,760	21.2
25–44.	13,390	29.6	13,543	29.8
45–64.	12,075	29.5	11,888	29.2
65–74.	4,320	27.2	4,330	26.5
75 and older[2,3]	4,395	43.9	4,252	40.7

[1]Rate is significantly lower than all other age groups in 2022 and 2023 ($p < 0.05$).
[2]Rate is significantly higher than all other age groups in 2022 and 2023 ($p < 0.05$).
[3]Significant rate decrease from 2022 to 2023 ($p < 0.05$).

NOTE: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 4. Change in age-adjusted suicide rate, by state: United States, 2022 to 2023

	2022		2023		Percent change from 2022 to 2023
Area	Deaths	Age-adjusted rate	Deaths	Age-adjusted rate	
United States.	49,476	14.2	49,316	14.1	-0.7
Alabama	840	16.3	869	16.8	3.1
Alaska.	200	27.6	206	28.2	2.2
Arizona	1,603	20.6	1,506	19.2	[1]-6.8
Arkansas	547	18.0	626	20.2	[2]12.2
California	4,312	10.4	4,200	10.2	-1.9
Colorado.	1,293	21.1	1,297	20.9	-0.9
Connecticut	398	10.6	356	9.1	[1]-14.2
Delaware	130	11.4	144	12.8	12.3
District of Columbia	44	6.1	41	5.7	-6.6
Florida	3,446	14.1	3,620	14.4	2.1
Georgia.	1,624	14.6	1,670	14.8	1.4
Hawaii.	246	16.6	223	15.3	-7.8
Idaho	444	22.2	460	23.3	5.0
Illinois	1,533	11.7	1,567	11.9	1.7
Indiana	1,152	16.4	1,187	17.0	3.7
Iowa	590	18.5	504	15.5	[1]-16.2
Kansas	596	20.5	569	19.6	-4.4
Kentucky.	823	18.0	813	17.5	-2.8
Louisiana	726	15.6	719	15.6	0.0
Maine	268	17.7	274	18.5	4.5
Maryland.	608	9.5	599	9.3	-2.1
Massachusetts	626	8.3	658	8.6	3.6
Michigan.	1,503	14.7	1,529	14.9	1.4
Minnesota.	860	14.8	812	13.8	-6.8
Mississippi	417	14.0	457	15.5	10.7
Missouri	1,219	19.1	1,143	18.0	-5.8
Montana	329	28.7	310	26.6	-7.3
Nebraska	306	15.6	284	14.5	-7.1
Nevada.	698	21.0	690	20.3	-3.3
New Hampshire	247	16.6	221	14.6	-12.0

See footnotes at end of table.

Data table for Figure 4. Change in age-adjusted suicide rate, by state: United States, 2022 to 2023—Con.

Area	2022		2023		Percent change from 2022 to 2023
	Deaths	Age-adjusted rate	Deaths	Age-adjusted rate	
New Jersey.	769	7.7	709	7.2	-6.5
New Mexico	525	24.7	489	22.8	-7.7
New York	1,765	8.5	1,717	8.3	-2.4
North Carolina	1,614	14.4	1,597	14.3	-0.7
North Dakota	169	22.5	142	17.8	[1]-20.9
Ohio	1,798	15.0	1,792	14.7	-2.0
Oklahoma.	857	21.4	893	21.8	1.9
Oregon	883	19.3	888	19.4	0.5
Pennsylvania	1,955	14.2	1,976	14.3	0.7
Rhode Island	126	10.6	112	9.4	-11.3
South Carolina	853	15.4	818	14.7	-4.5
South Dakota	192	21.6	181	20.7	-4.2
Tennessee	1,245	16.7	1,279	17.3	3.6
Texas	4,368	14.4	4,382	14.2	-1.4
Utah	718	22.1	706	21.5	-2.7
Vermont	128	18.0	125	17.8	-1.1
Virginia	1,208	13.3	1,243	13.6	2.3
Washington.	1,243	14.9	1,287	15.7	5.4
West Virginia	353	18.3	349	18.6	1.6
Wisconsin.	924	15.1	920	15.0	-0.7
Wyoming	155	25.6	157	26.3	2.7

[1]Signficant rate decrease from 2022 to 2023.
[2]Signficant rate increase from 2022 to 2023.

NOTES: Suicide deaths are identified using *International Classification of Diseases, 10th Revision* underlying cause-of-death codes U03, X60–X84, and Y87.0. Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population. Rates and rate decreases may be underestimated for states where the percentage of records with a cause of death pending investigation is higher than in previous years.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

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NCHS Data Brief ■ No. 541 ■ September 2025

Keywords: intentional self-harm • mental health • suicidology • violence • National Vital Statistics System (NVSS)

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