

Data Brief 294. Drug Overdose Deaths in the United States, 1999–2016

Data table for Figure 1. Age-adjusted drug overdose death rates: United States, 1999–2016

Year	Total		Male		Female	
	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000
1999	16,849	6.1	11,258	8.2	5,591	3.9
2000	17,415	6.2	11,563	8.3	5,852	4.1
2001	19,394	6.8	12,658	9.0	6,736	4.6
2002	23,518	8.2	15,028	10.6	8,490	5.8
2003	25,785	8.9	16,399	11.5	9,386	6.4
2004	27,424	9.4	17,120	11.8	10,304	6.9
2005	29,813	10.1	18,724	12.8	11,089	7.3
2006	34,425	11.5	21,893	14.8	12,532	8.2
2007	36,010	11.9	22,298	14.9	13,712	8.8
2008	36,450	11.9	22,468	14.9	13,982	8.9
2009	37,004	11.9	22,593	14.8	14,411	9.1
2010	38,329	12.3	23,006	15.0	15,323	9.6
2011	41,340	13.2	24,988	16.1	16,352	10.2
2012	41,502	13.1	25,112	16.1	16,390	10.2
2013	43,982	13.8	26,799	17.0	17,183	10.6
2014	47,055	14.7	28,812	18.3	18,243	11.1
2015	52,404	16.3	32,957	20.8	19,447	11.8
2016	63,632	19.8	41,558	26.2	22,074	13.4

NOTES: Deaths are classified using the *International Classification of Diseases, Tenth Revision* (ICD–10). Drug-poisoning (overdose) deaths are identified using ICD–10 underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14.

SOURCE: NCHS, National Vital Statistics System, Mortality.

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Data table for Figure 2. Drug overdose death rates, by selected age group: United States, 1999–2016

Year	15–24		25–34		35–44		45–54		55–64		65 and over	
	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000
1999	1,240	3.2	3,236	8.1	6,295	14.0	4,067	11.1	991	4.2	930	2.7
2000	1,435	3.7	3,169	7.9	6,469	14.3	4,389	11.6	1,013	4.2	854	2.4
2001	1,700	4.2	3,410	8.6	6,968	15.5	5,115	13.0	1,185	4.7	910	2.6
2002	2,095	5.1	4,125	10.5	8,064	18.1	6,466	16.2	1,601	6.0	1,060	3.0
2003	2,491	6.0	4,488	11.4	8,358	18.9	7,325	17.9	1,943	6.9	1,070	3.0
2004	2,751	6.6	4,680	11.9	8,439	19.3	8,040	19.3	2,283	7.8	1,104	3.0
2005	2,918	6.9	5,340	13.6	8,506	19.6	8,968	21.1	2,761	9.0	1,203	3.3
2006	3,460	8.1	6,346	16.1	9,373	21.7	10,421	24.1	3,355	10.5	1,321	3.6
2007	3,550	8.2	6,663	16.8	9,152	21.4	11,012	25.1	4,043	12.2	1,435	3.8
2008	3,487	8.0	6,739	16.8	8,885	21.1	11,222	25.2	4,396	12.9	1,587	4.1
2009	3,377	7.7	7,013	17.2	8,524	20.5	11,390	25.4	4,858	13.7	1,721	4.3
2010	3,571	8.2	7,572	18.4	8,546	20.8	11,299	25.1	5,486	15.0	1,722	4.3
2011	3,762	8.6	8,445	20.2	9,130	22.5	11,933	26.7	6,060	15.9	1,892	4.6
2012	3,518	8.0	8,508	20.1	8,948	22.1	11,895	26.9	6,423	16.6	2,094	4.9
2013	3,664	8.3	8,947	20.9	9,320	23.0	12,045	27.5	7,551	19.2	2,344	5.2
2014	3,798	8.6	10,055	23.1	10,134	25.0	12,263	28.2	8,122	20.3	2,568	5.6
2015	4,235	9.7	11,880	26.9	11,505	28.3	12,974	30.0	8,901	21.8	2,760	5.8
2016	5,376	12.4	15,443	34.6	14,183	35.0	14,771	34.5	10,632	25.6	3,075	6.2

NOTES: Deaths are classified using the *International Classification of Diseases, Tenth Revision* (ICD–10). Drug-poisoning (overdose) deaths are identified using ICD–10 underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14.

SOURCE: NCHS, National Vital Statistics System, Mortality.

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Data table for Figure 3. Age-adjusted drug overdose death rates, by state: United States, 2016

State	Number	Deaths per 100,000
Alabama	756	16.2
Alaska	128	16.8
Arizona	1,382	20.3
Arkansas	401	14.0
California	4,654	11.2
Colorado	942	16.6
Connecticut	971	27.4
Delaware	282	30.8
District of Columbia	269	38.8
Florida	4,728	23.7
Georgia	1,394	13.3
Hawaii	191	12.8
Idaho	243	15.2
Illinois	2,411	18.9
Indiana	1,526	24.0
Iowa	314	10.6
Kansas	313	11.1
Kentucky	1,419	33.5
Louisiana	996	21.8
Maine	353	28.7
Maryland	2,044	33.2
Massachusetts	2,227	33.0
Michigan	2,347	24.4
Minnesota	672	12.5
Mississippi	352	12.1
Missouri	1,371	23.6
Montana	119	11.7
Nebraska	120	6.4
Nevada	665	21.7
New Hampshire	481	39.0
New Jersey	2,056	23.2
New Mexico	500	25.2
New York	3,638	18.0
North Carolina	1,956	19.7
North Dakota	77	10.6
Ohio	4,329	39.1
Oklahoma	813	21.5
Oregon	506	11.9
Pennsylvania	4,627	37.9
Rhode Island	326	30.8
South Carolina	879	18.1
South Dakota	69	8.4
Tennessee	1,630	24.6
Texas	2,831	10.1
Utah	635	22.3
Vermont	125	22.2
Virginia	1,405	16.7
Washington	1,102	14.5
West Virginia	884	52.0
Wisconsin	1,074	19.3
Wyoming	99	17.6

NOTES: Deaths are classified using the *International Classification of Diseases, Tenth Revision* (ICD–10). Drug-poisoning (overdose) deaths are identified using ICD–10 underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. The age-adjusted drug overdose death rate in the U.S. in 2016 was 19.8 per 100,000 standard population.

SOURCE: NCHS, National Vital Statistics System, Mortality.

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Data table for Figure 4. Age-adjusted drug overdose death rates, by opioid category: United States, 1999–2016

Year	Any opioid		Heroin		Natural and semisynthetic opioids		Methadone		Synthetic opioids other than methadone	
	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000
1999	8,050	2.9	1,960	0.7	2,749	1.0	784	0.3	730	0.3
2000	8,407	3.0	1,842	0.7	2,917	1.0	986	0.4	782	0.3
2001	9,496	3.3	1,779	0.6	3,479	1.2	1,456	0.5	957	0.3
2002	11,920	4.1	2,089	0.7	4,416	1.5	2,358	0.8	1,295	0.4
2003	12,940	4.5	2,080	0.7	4,867	1.7	2,972	1.0	1,400	0.5
2004	13,756	4.7	1,878	0.6	5,231	1.8	3,845	1.3	1,664	0.6
2005	14,918	5.1	2,009	0.7	5,774	1.9	4,460	1.5	1,742	0.6
2006	17,545	5.9	2,088	0.7	7,017	2.3	5,406	1.8	2,707	0.9
2007	18,516	6.1	2,399	0.8	8,158	2.7	5,518	1.8	2,213	0.7
2008	19,582	6.4	3,041	1.0	9,119	3.0	4,924	1.6	2,306	0.8
2009	20,422	6.6	3,278	1.1	9,735	3.1	4,696	1.5	2,946	1.0
2010	21,089	6.8	3,036	1.0	10,943	3.5	4,577	1.5	3,007	1.0
2011	22,784	7.3	4,397	1.4	11,693	3.7	4,418	1.4	2,666	0.8
2012	23,166	7.4	5,925	1.9	11,140	3.5	3,932	1.2	2,628	0.8
2013	25,052	7.9	8,257	2.7	11,346	3.5	3,591	1.1	3,105	1.0
2014	28,647	9.0	10,574	3.4	12,159	3.8	3,400	1.1	5,544	1.8
2015	33,091	10.4	12,989	4.1	12,727	3.9	3,301	1.0	9,580	3.1
2016	42,249	13.3	15,469	4.9	14,487	4.4	3,373	1.0	19,413	6.2

NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision (ICD-10)*. Drug-poisoning (overdose) deaths are identified using ICD-10 underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Among deaths with drug overdose as the underlying cause, the following multiple cause-of-death codes indicate the drug type(s) involved: Any opioid (T40.0–T40.4, T40.6), heroin (T40.1), natural and semisynthetic opioids (T40.2), methadone (T40.3), and synthetic opioids other than methadone (T40.4). Deaths involving more than one opioid category (e.g., a death involving both methadone and a natural or semisynthetic opioid such as oxycodone) are counted in both categories. Natural and semisynthetic opioids include drugs such as morphine, oxycodone, and hydrocodone; and synthetic opioids other than methadone include drugs such as fentanyl, fentanyl analogs and tramadol. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, with ranges of 75%–79% from 1999 to 2013, and 81%–85% from 2014 to 2016.

SOURCE: NCHS, National Vital Statistics System, Mortality.