

Drug Overdose Deaths among Minnesota Residents

2000-2016

Drug Overdose Deaths among Minnesota Residents, 2000 – 2016

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Rising drug overdose deaths

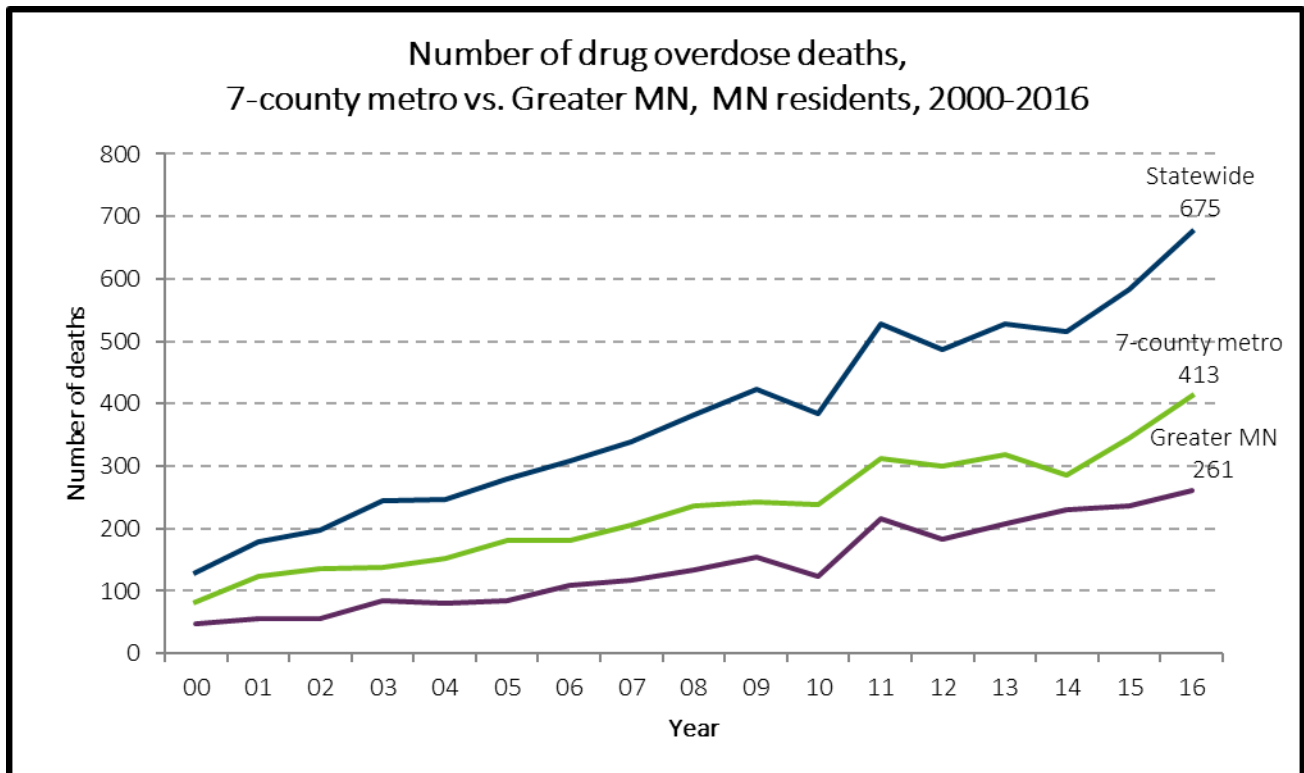
Seven-county Metro compared to Greater Minnesota

Drug overdose deaths among Minnesota residents continued an alarming trend, increasing 16% from 2015 to 2016. Final data collected from Minnesota death certificates show 675 people died from a drug overdose in 2016 compared to 583 deaths in 2015 (chart 1).

Drug overdose deaths are not just a Metro-area problem. Mortality rates in both Greater Minnesota and the Metro have steadily increased since 2000, when they were both less than 3.0 per 100,000 residents (chart 2). However, beginning in 2014 varying trends in the number and rate of drug overdose deaths has been observed for the Metro compared to Greater Minnesota. While the number of drug overdose deaths in the Metro has increased sharply, the number of drug overdose deaths in Greater Minnesota has increased modestly. The 2016 drug overdose mortality rate for the Metro of 13.7 per 100,000 residents is higher than the Greater Minnesota rate of 10.5 per 100,000 residents, and the rate difference has increased over the past two years.

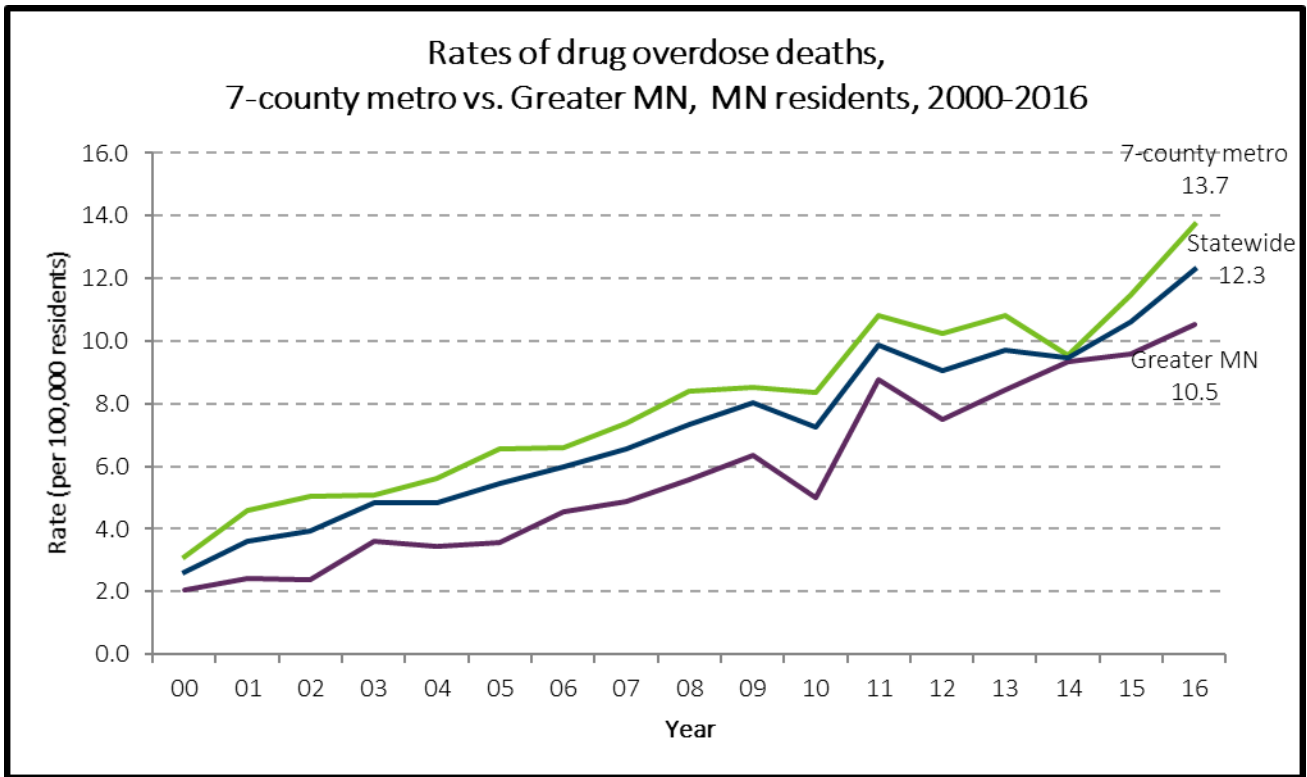
For county-specific data, refer to Appendix 1.

CHART 1: The number of drug overdose deaths among Minnesota residents continued the alarming rise in 2016



SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

CHART 2: The drug overdose mortality rate among Minnesota residents continued the alarming rise in 2016



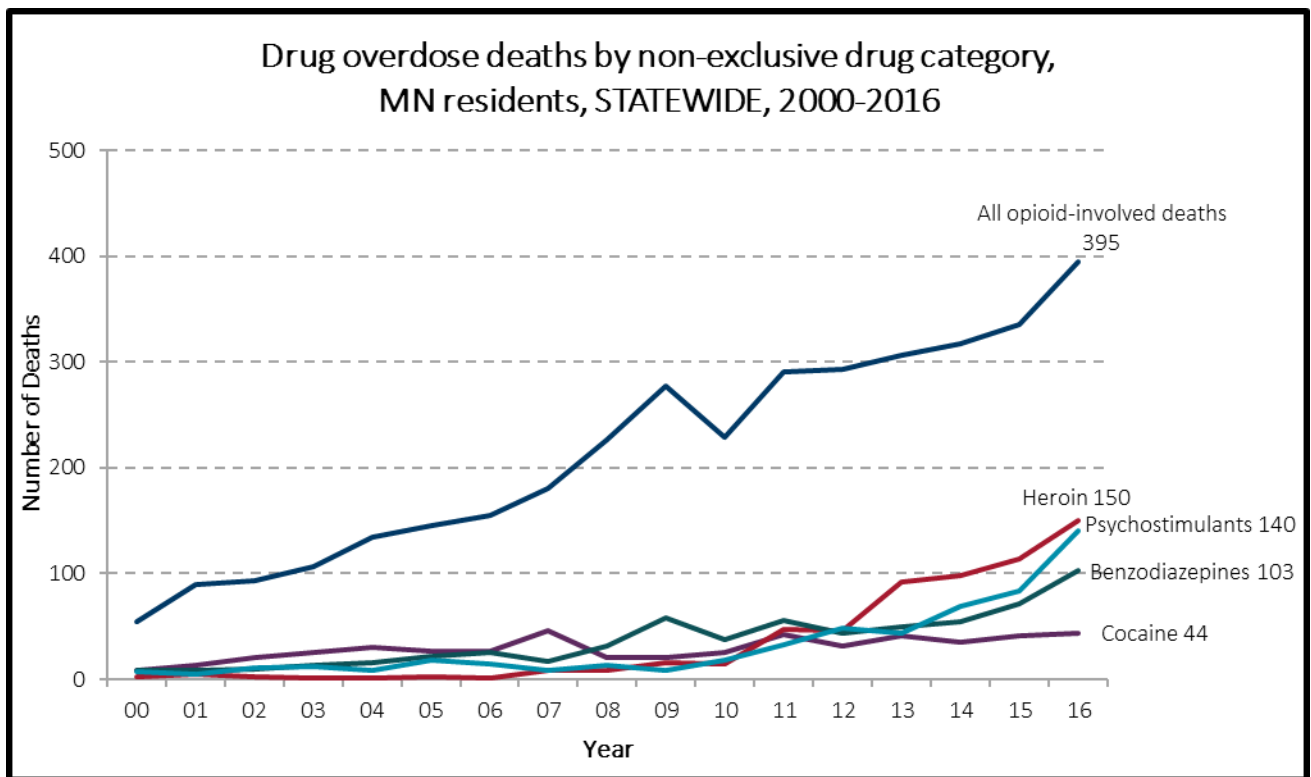
SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Shifts in drug overdose death trends

The increasing drug overdose death trends hold true for four of the five highlighted drug categories, excluding cocaine. In 2016, there were 395 opioid-involved deaths (including prescription opioids, heroin, fentanyl, and fentanyl analogues), 140 psychostimulant-involved deaths (e.g., methamphetamine), 103 benzodiazepine-involved deaths (e.g., Valium), and 44 cocaine-involved deaths among Minnesota residents (chart 3).

For further information about definitions and methodology, refer to Appendix 3

CHART 3: The number of drug overdose deaths by drug category among Minnesota residents



SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

NOTE: Drug categories are non-exclusive

NOTE: Psychostimulants includes methamphetamine

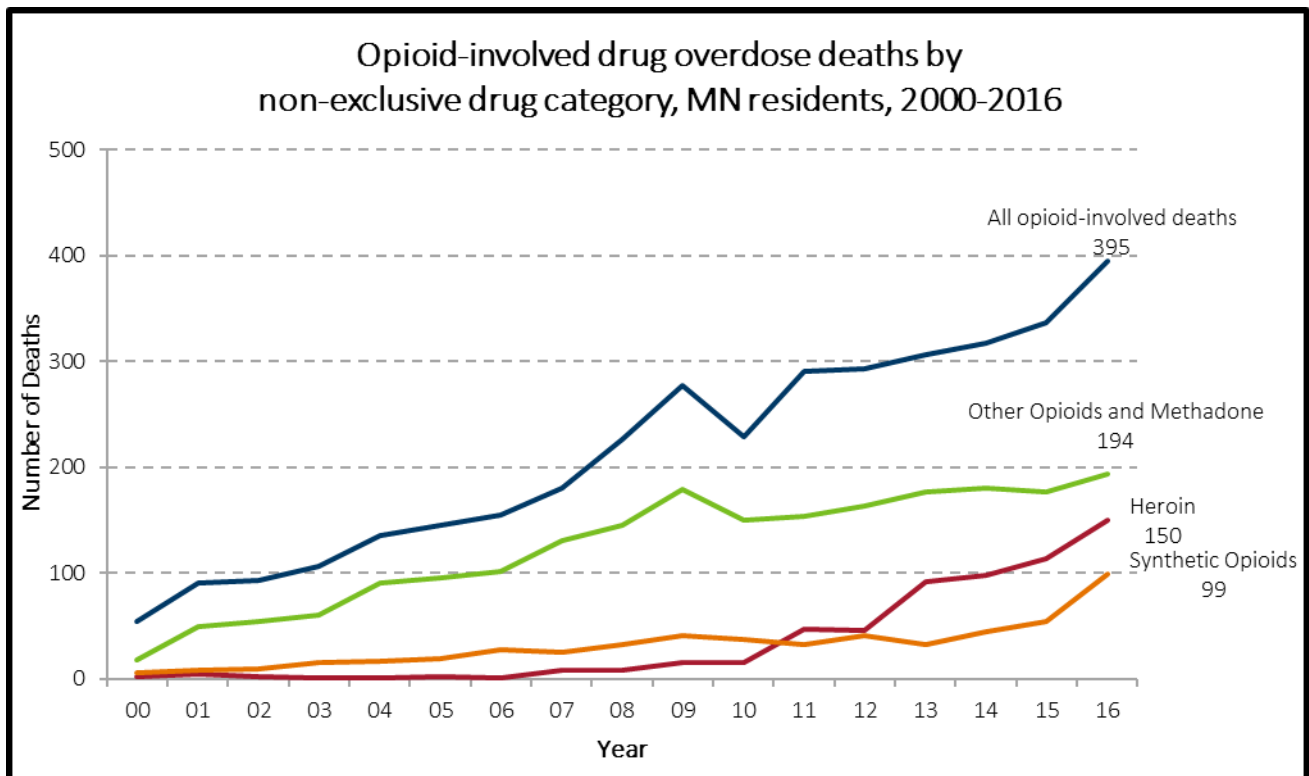
Opioid-involved drug overdose deaths

In recent years, the increase in opioid-involved overdose deaths has shifted to heroin and other synthetic opioids (e.g., fentanyl, tramadol). To provide further detail about the changing trends in opioid-involved overdose deaths, additional analyses were completed with more specific opioid groups (chart 4).

Opioid-involved deaths continued to rise and reached 395 deaths in 2016; an 18% increase from 2015. The number of drug overdose deaths that involved other opioids and methadone (i.e. typically prescribed opioids, such as codeine, oxycodone, or hydrocodone) has remained stable over the past three years. Heroin-involved drug overdose deaths increased 32% from 2015, and continued the steady increase from 2010. A dramatic increase was seen in drug overdose deaths that involved other synthetic opioids (e.g., fentanyl, carfentanil, tramadol), with an 83% increase from 2015. Drug overdose deaths that involved fentanyl or fentanyl analogues are captured within this broader category of other synthetic opioids.

Unfortunately, due to limitations of death certificates, it is not possible to determine where the opioids involved in the drug overdose death originated from (i.e. legally prescribed vs. illegally obtained), apart from heroin. Furthermore, counterfeit pills are being produced with increased precision and without lab testing can be difficult to discern from legally produced and distributed opioids. Therefore, there is potential for significant overlap between these drug categories and a need for proper toxicology testing for each drug overdose death.

CHART 4: Opioid-involved drug overdose deaths continue to rise in Minnesota, driven by heroin and other synthetic opioids



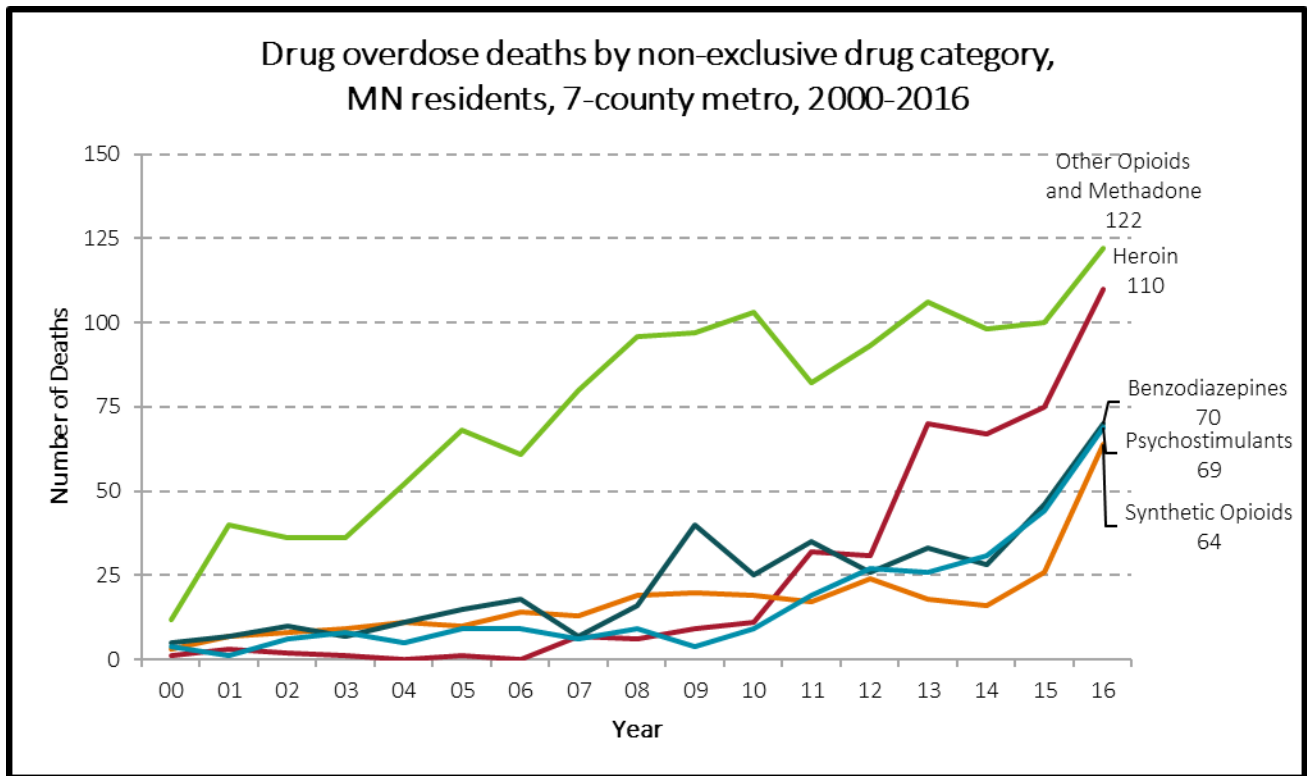
SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

NOTE: Drug categories are non-exclusive

Seven-county Metro compared to Greater Minnesota

In the Seven-county Metro, all drug categories of overdose deaths increased, some dramatically, from 2015 to 2016. Other opioids and methadone-involved deaths increased 22%; heroin-involved deaths increased 47%; benzodiazepine- and psychostimulant-involved deaths increased 57%, respectively; and other synthetic opioid-involved deaths increased 146% (chart 5).

CHART 5: In the seven-county metro, drug overdose deaths increased for all drug categories



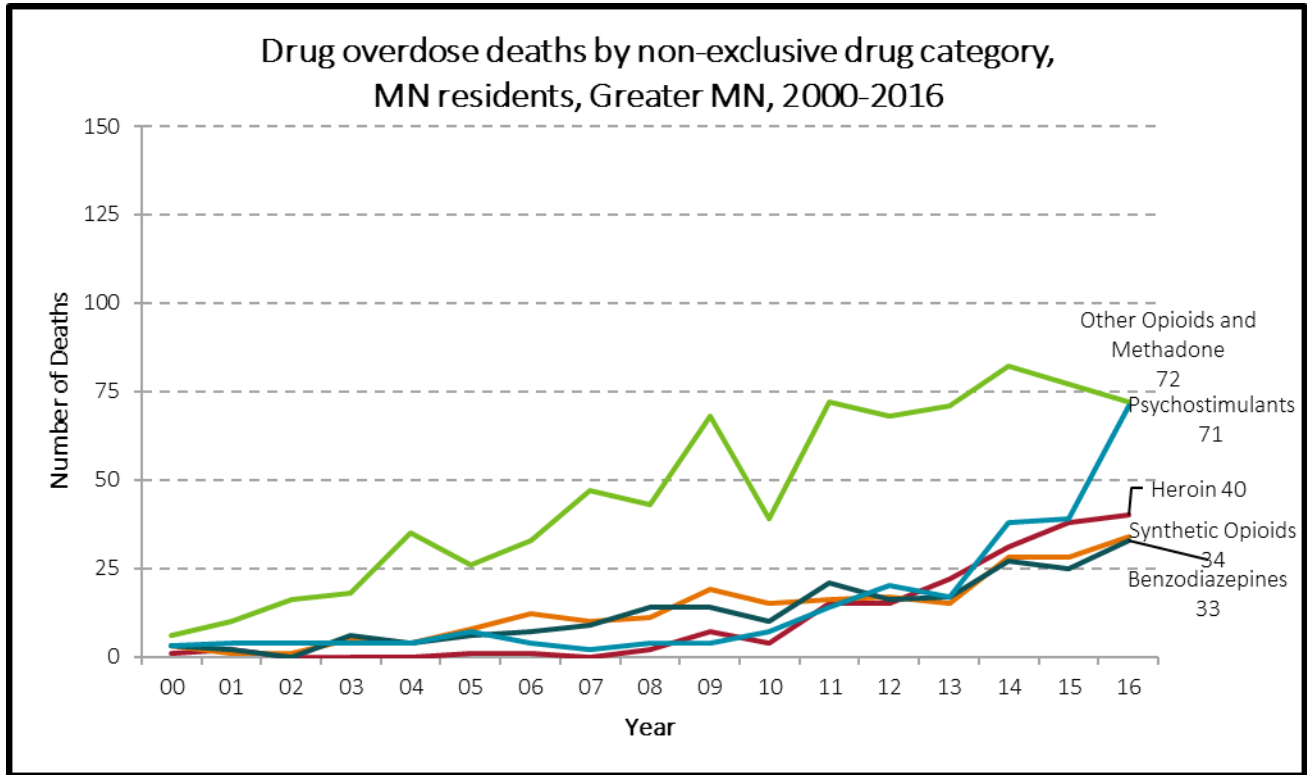
SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

NOTE: Psychostimulants includes methamphetamine

NOTE: Drug categories are non-exclusive

In Greater Minnesota, different trends emerge when examining drug overdose deaths. Other opioid and methadone-involved deaths decreased 12%, while heroin-, other synthetic opioid-, and benzodiazepine-involved deaths increased modestly from 2015 to 2016. However, psychostimulant-involved (e.g., methamphetamine) deaths increased 82% from 2015 to 2016 (chart 6).

CHART 6: In Greater Minnesota, drug overdose deaths increased for psychostimulants while remained stable or decreased for all other drug categories



SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

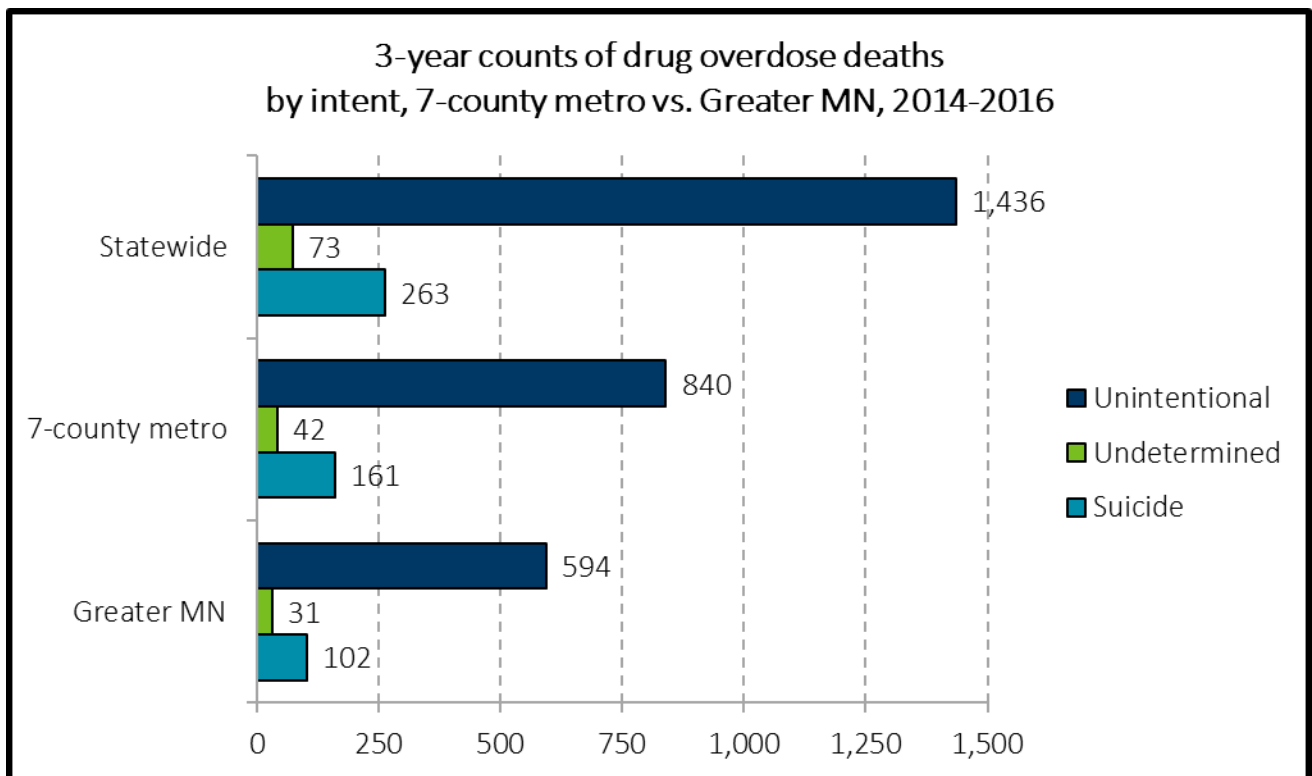
NOTE: Psychostimulants includes methamphetamine

NOTE: Drug categories are non-exclusive

Intent of drug overdose deaths

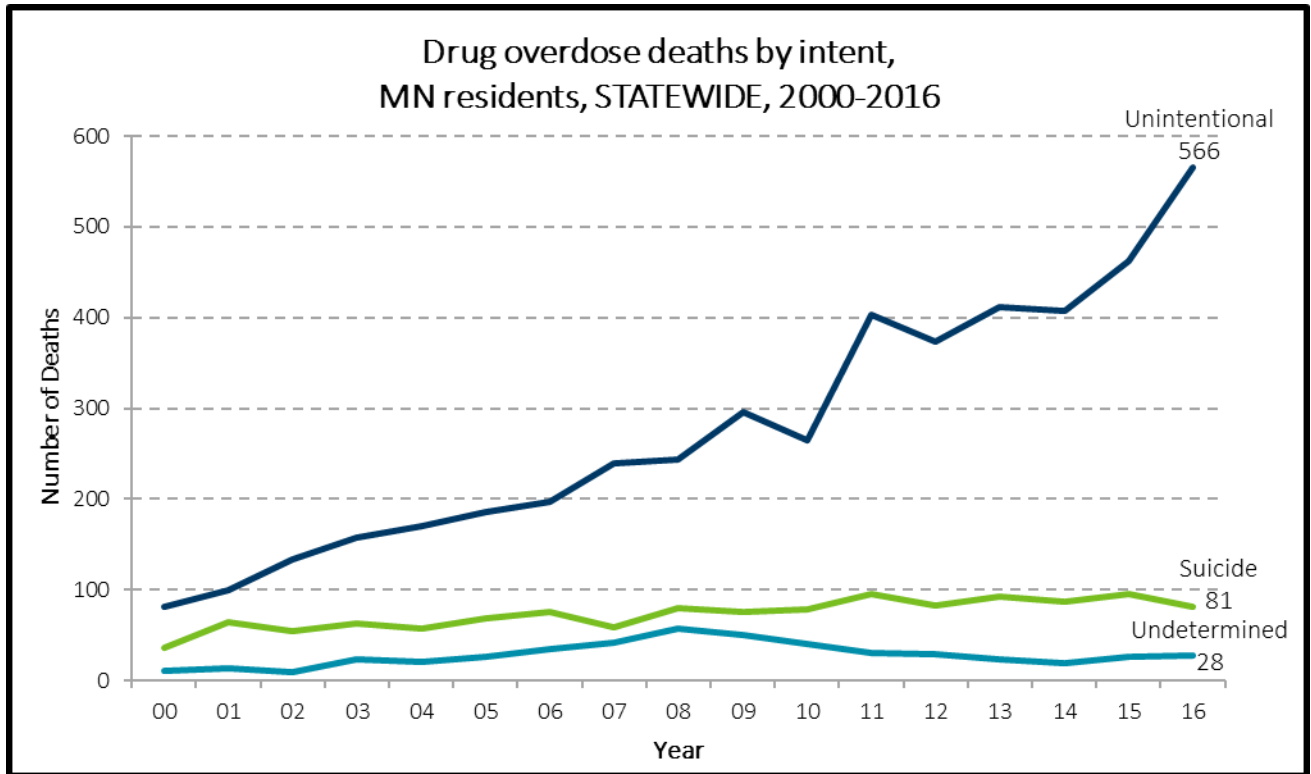
Over the last three years, unintentional drug overdose deaths accounted for a large majority of the Minnesota resident drug overdose deaths (chart 7). This continues a longer trend of a majority of drug overdose deaths being classified as unintentional. Drug overdose deaths classified as a suicide increased from 2000 to 2012, but remained stable over the past five years. The number of drug overdose deaths classified as undetermined peaked in 2008, decreased from 2009 to 2014, and remained level since 2014 (chart 8). While multiple factors influence suicidal behavior, substance use, including drugs and alcohol, is a significant risk factor for suicide and suicidal attempts. Therefore, it is likely that there is overlap between unintentional or undetermined drug overdose deaths and suicides.

CHART 7: A large majority of drug overdose deaths are unintentional



SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

CHART 8: Unintentional drug overdose deaths have risen dramatically, while suicide and undetermined deaths have remained stable over the last five years

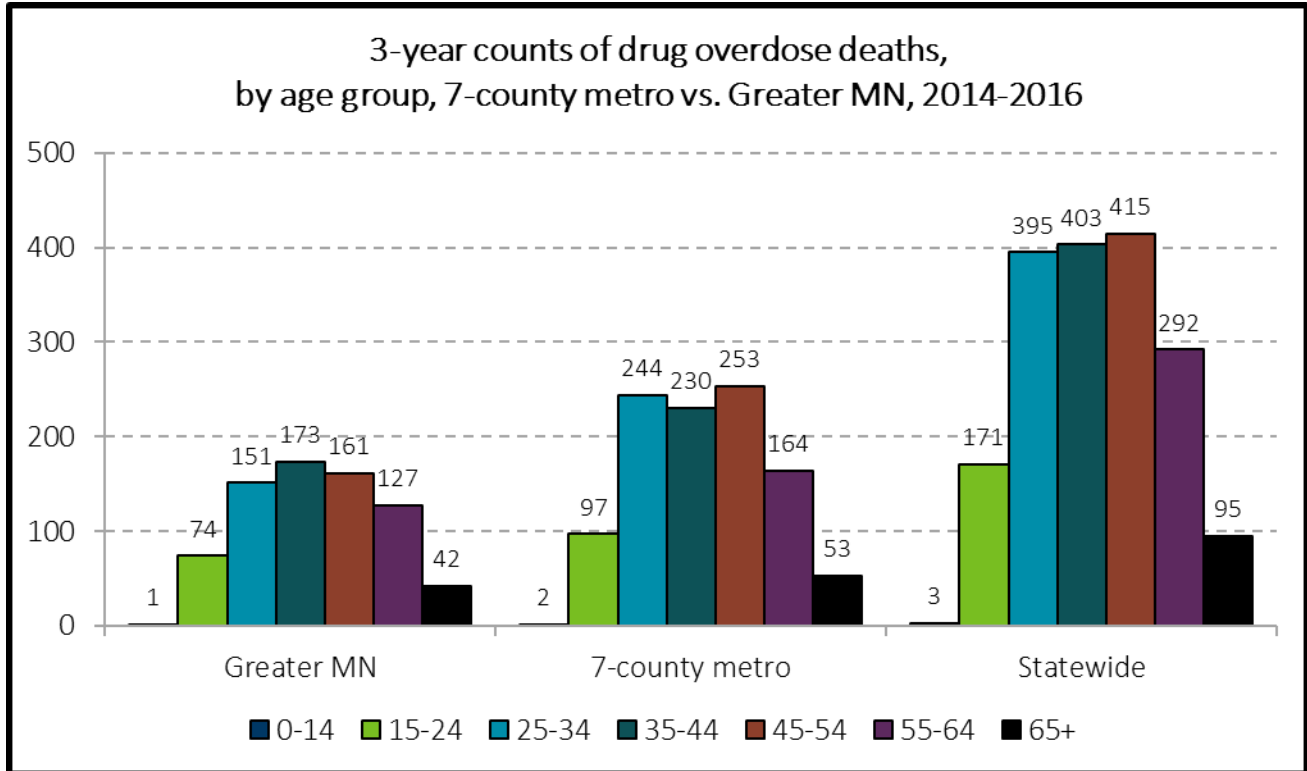


SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Age of drug overdose deaths

From 2014 to 2016, adults aged 45 to 54 years experienced the greatest number of drug overdose deaths (415). The Seven-county Metro had 253 deaths in the 45 to 54 year age group, as well as a similar number in the 25 to 34 year age group (244). However, in Greater Minnesota, the 35 to 44 year age group had the greatest number of drug overdose deaths (173) (chart 9).

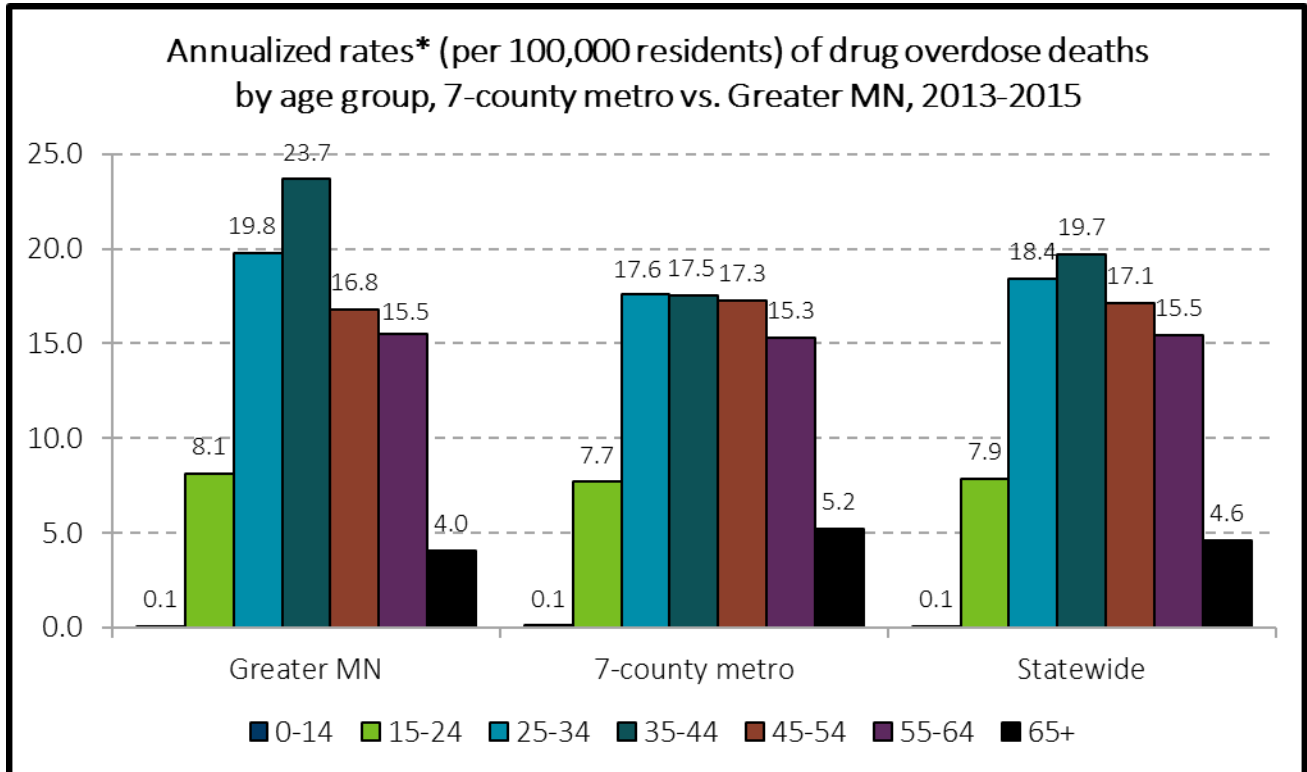
CHART 9: Statewide, adults aged 25 to 54 had the highest number of drug overdose deaths



SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

The rates per 100,000 residents portray a mixed picture. The highest mortality rate in Greater Minnesota jumps out at 23.7 per 100,000 residents in the 35 to 44 year age group. The highest mortality rate in the Seven-county Metro is nearly the same among 25 to 54 year olds (chart 10). This suggests that slightly different phenomena are influencing drug abuse and overdose deaths in the two regions.

CHART 10: Drug overdose mortality rates by age group portray a mixed picture in Minnesota

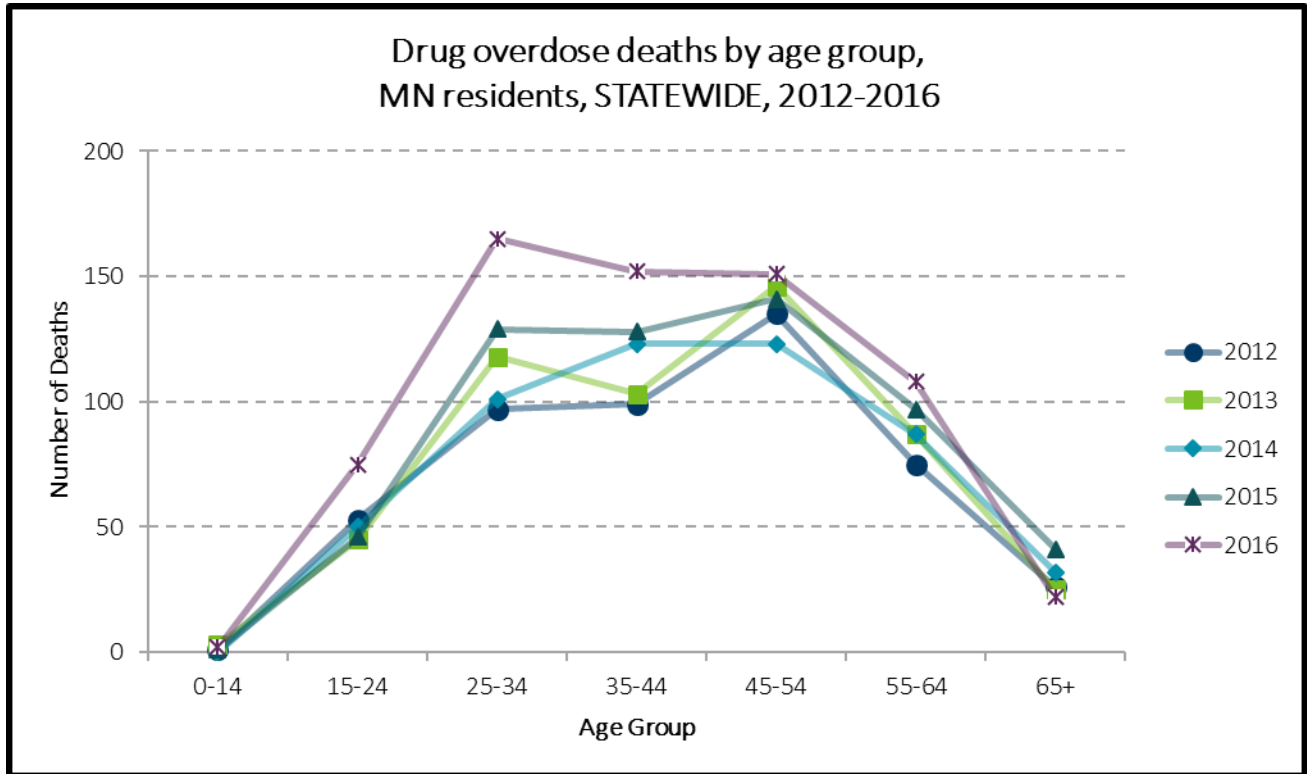


SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

*Crude (unadjusted) rates. 3-year rates were calculated using the Census 2010 population.

The age distribution of drug overdose deaths has been shifting younger over the past five years. Adults aged 45 to 54 years used to account for the largest number of drug overdose deaths, but by 2016, 25 to 34 year olds had the greatest number of drug overdose deaths among Minnesota residents (chart 11). This trend holds true for both Greater Minnesota and the Seven-county Metro.

CHART 11: Drug overdose deaths have been shifting younger over the past five years

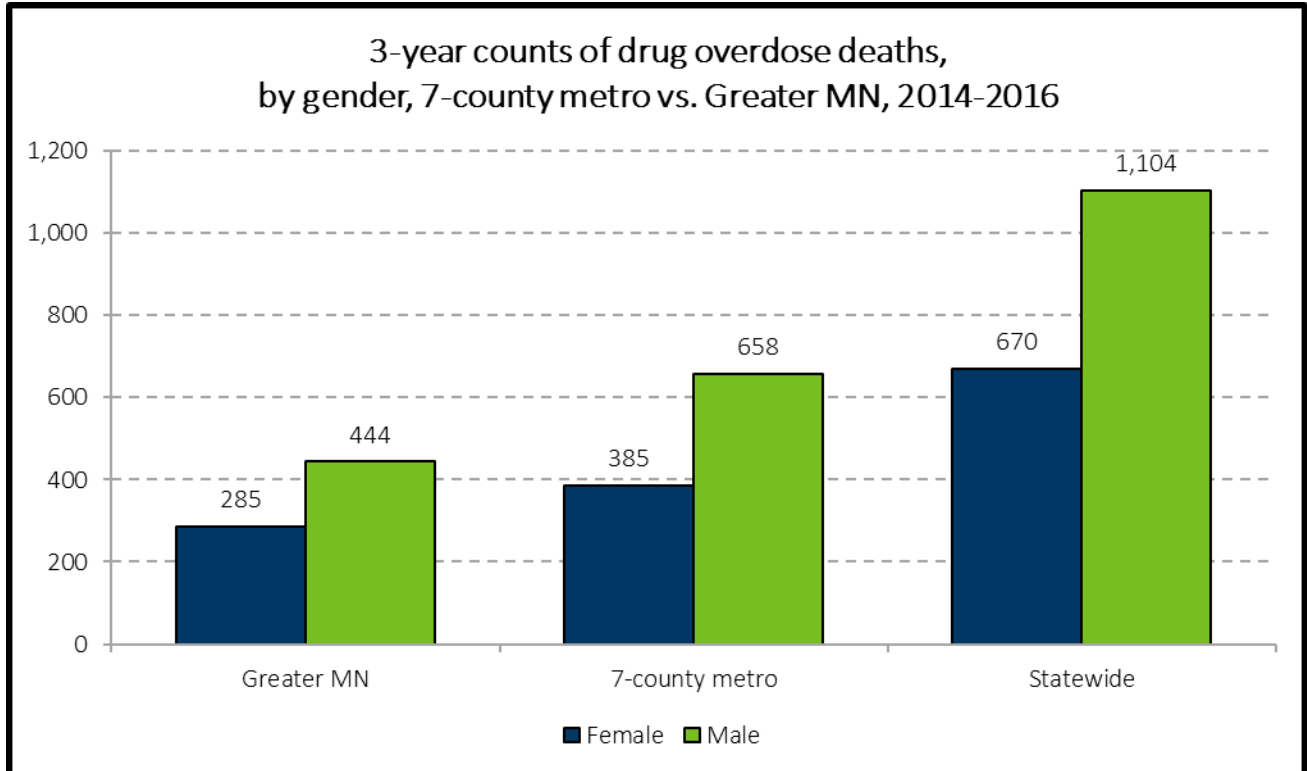


SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Gender of drug overdose deaths

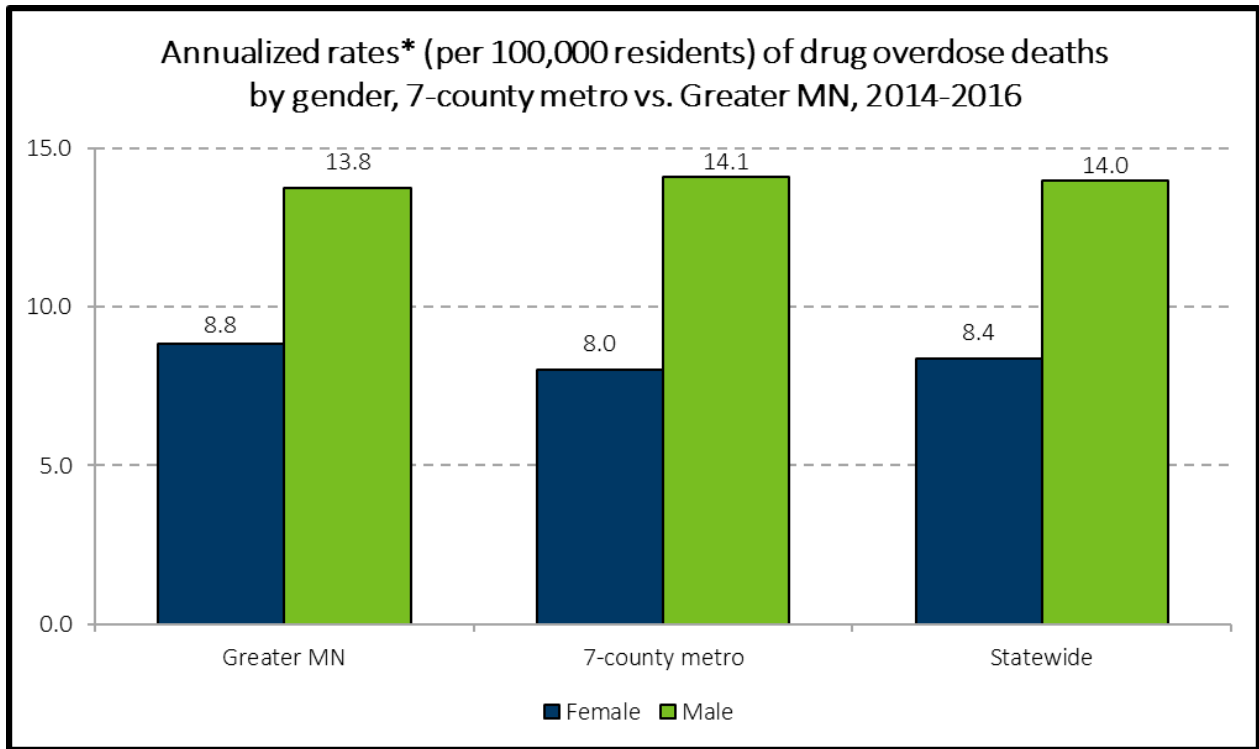
Across Minnesota, men have a higher number and mortality rate of drug overdose death compared with women (chart 12 and chart 13). In 2016, the number of drug overdose deaths for men increased 32%, while the number of drug overdose deaths for women remained stable from 2015. Furthermore, men accounted for about 60% of the drug overdose deaths from 2012 to 2015, but that proportion increased to 67% in 2016 (chart 14).

CHART 12: Men have a higher number of drug overdose deaths compared with women



SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

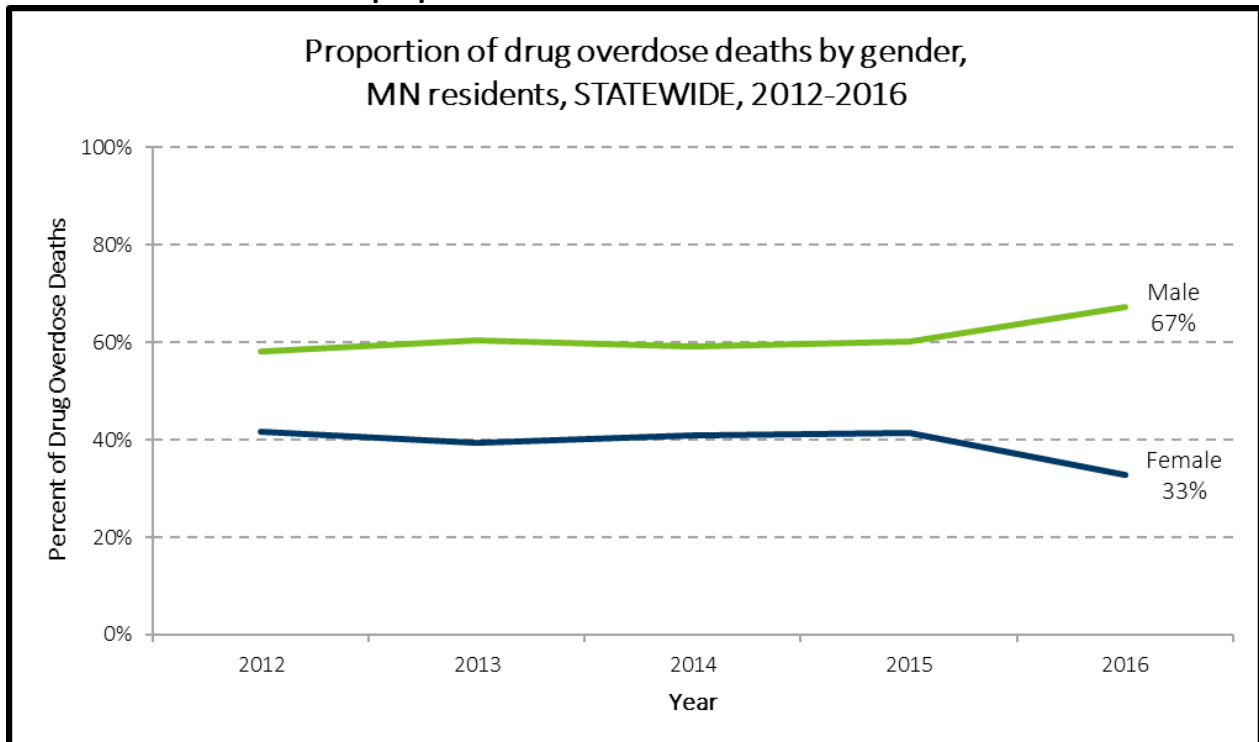
CHART 13: Men have a higher drug overdose mortality rate compared with women



SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

*Crude (unadjusted) rates. 3-year rates were calculated using the Census 2010 population.

CHART 14: A greater percentage of drug overdose deaths occurred among men, and the proportion of deaths increased in 2016

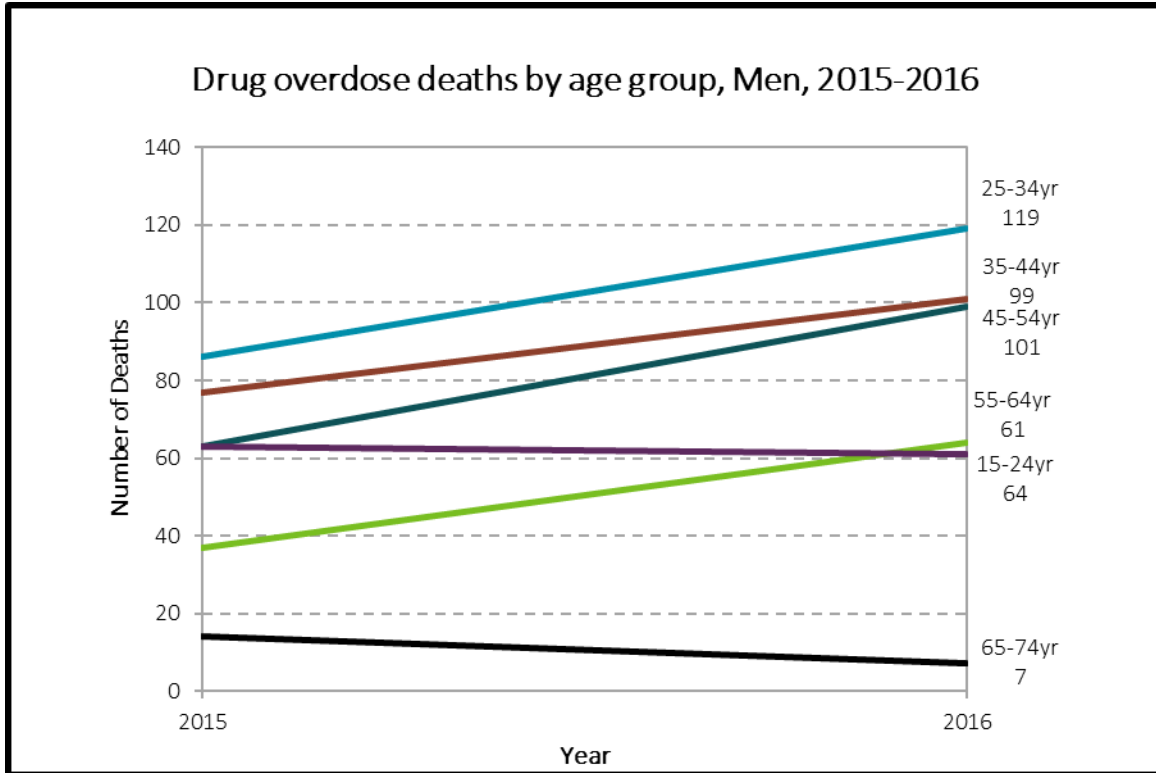


SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Age & gender of drug overdose deaths

As highlighted on the previous page, a majority of drug overdose deaths occur among men, and this trend has been consistent over the past five years. In 2016, the number of drug overdose deaths for men increased, while the number of drug overdose deaths among women remained stable. For men, the number of drug overdose deaths increased across the 25 to 64 year age groups (chart 15).

CHART 15: Among males, increases in drug overdose deaths occurred in most age groups



SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

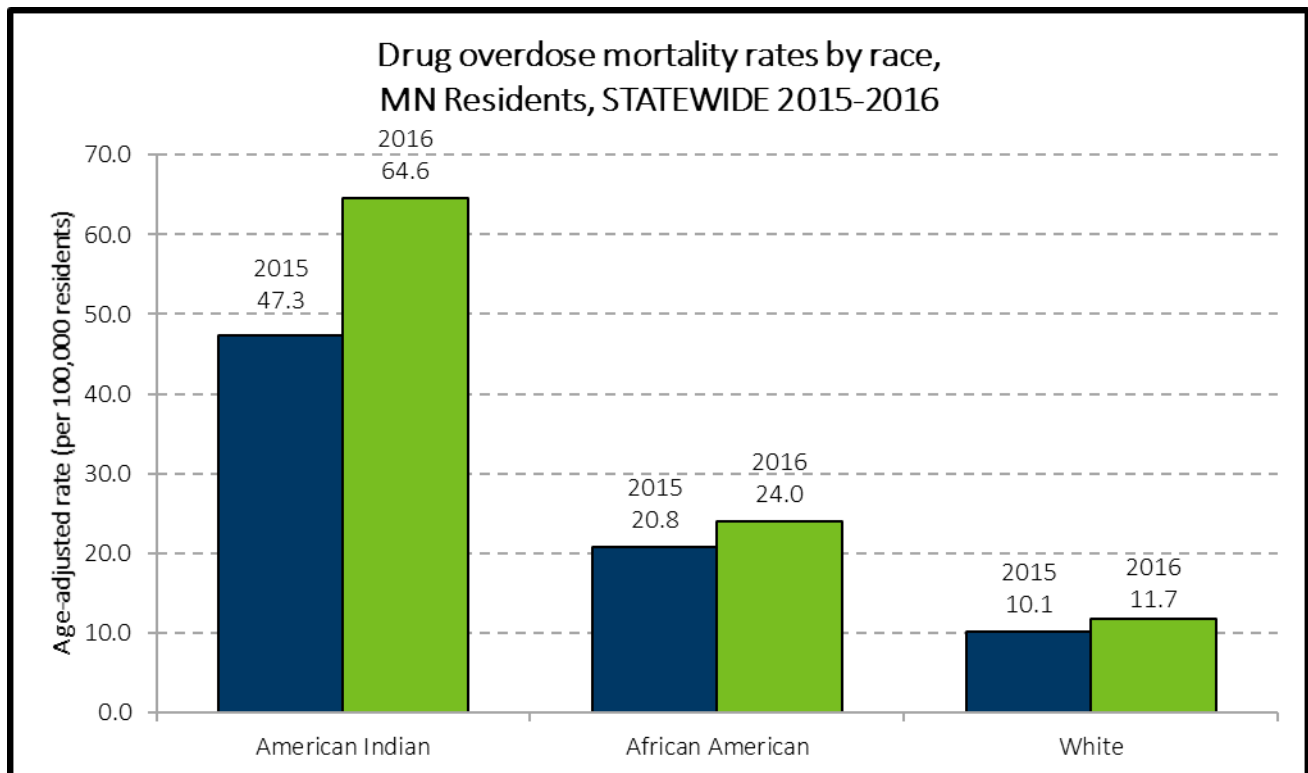
Race disparities in drug overdose deaths

Minnesota ranked sixth lowest among all states in overall drug overdose mortality rate in 2015 (10.6 per 100,000 residents). In 2015, however, Minnesota ranked first amongst all states when measuring the disparity rate ratio of drug overdose deaths among American Indians relative to whites. Native American Minnesotans are five times more likely to die from a drug overdose than white Minnesotans. Rate ratios were calculated for nine states with sufficient numbers of deaths to calculate reliable mortality rates.

In 2015, Minnesota ranked first amongst all states when measuring the disparity-rate ratio of deaths due to drug overdose among African Americans relative to whites. African American Minnesotans are twice as likely to die from drug overdose as white Minnesotans. Rate ratios were calculated for 35 states with sufficient numbers of deaths to calculate reliable mortality rates.

Both of these disparities – between Native American/whites and African Americans/whites – are the greatest rate disparity based on race in the United States. Final 2016 data show the disparity has continued and worsened. While the white drug overdose mortality rate increased from 10.1 to 11.7 per 100,000 white residents, the American Indian mortality rate increased from 47.3 per 100,000 residents to 64.6 per 100,000 residents, and the African American rate increased from 20.8 per 100,000 residents to 24.0 per 100,000 residents (chart 16). Although national 2016 mortality data are not yet available, the disparity rate ratio is likely to remain among the highest in the United States.

CHART 16: The state drug overdose mortality rate masks significant racial disparities



DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Appendix 1 – Drug Category Tables

Table 1: Number of opioid-involved overdose deaths (non-exclusive), by county of residence or metro area and year, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Aitkin	0	0	1	1	2	0	0	1	0	1	2	1	1	4	1	2	2	19
Anoka	5	11	5	11	12	12	14	15	15	18	28	29	29	32	19	24	26	305
Becker	0	0	0	0	1	0	0	1	3	0	0	1	1	2	1	3	2	15
Beltrami	0	0	1	0	2	2	0	2	3	0	2	3	4	1	2	1	2	25
Benton	0	1	0	1	0	0	1	1	3	5	4	2	1	1	1	5	5	31
Big Stone	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	3
Blue Earth	0	0	0	0	0	2	0	1	0	1	2	0	0	0	2	0	5	13
Brown	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	3
Carlton	0	0	0	0	2	1	2	2	4	3	1	3	5	1	6	5	4	39
Carver	0	1	0	3	1	1	1	3	2	1	4	3	2	5	3	5	4	39
Cass	0	0	0	0	2	4	2	0	2	2	2	4	4	5	2	6	0	35
Chippewa	0	0	0	0	0	0	1	0	0	1	1	0	1	0	1	0	0	5
Chisago	0	0	0	1	1	0	1	2	5	1	2	5	6	2	5	5	2	38
Clay	0	0	0	1	0	3	0	6	1	4	2	4	1	3	3	8	4	40
Clearwater	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	3
Cook	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	3
Cottonwood	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	3
Crow Wing	1	2	0	1	2	2	4	3	0	7	0	2	2	5	3	1	3	38
Dakota	2	9	6	7	8	7	6	13	23	28	23	25	25	24	16	24	26	272

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Dodge	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	1	5
Douglas	0	0	0	0	1	0	1	2	0	0	0	6	0	0	2	0	0	12
Faribault	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	4
Fillmore	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	0	1	6
Freeborn	0	0	0	1	1	0	0	0	0	4	1	1	1	2	0	1	0	12
Goodhue	0	0	0	1	1	2	0	2	3	2	1	0	2	2	3	2	3	24
Grant	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Hennepin	32	39	39	38	43	53	53	61	79	73	69	75	93	99	92	101	146	1185
Houston	0	0	0	1	1	0	1	2	1	1	1	1	1	1	0	2	1	14
Hubbard	0	0	1	1	0	0	0	2	1	0	0	1	0	0	0	0	1	7
Isanti	0	0	2	1	0	0	0	2	2	2	1	1	1	0	1	4	7	24
Itasca	0	1	1	0	1	1	2	1	3	4	1	6	0	2	3	3	3	32
Jackson	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	3
Kanabec	0	0	0	0	0	0	0	0	1	2	0	0	1	0	2	1	0	7
Kandiyohi	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	1	1	6
Kittson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Koochiching	0	0	0	0	1	1	0	0	0	0	0	2	0	0	1	0	1	6
Lac Qui Parle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Lake	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	3
Lake of the Woods	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Le Sueur	0	0	0	0	1	0	1	0	0	1	0	0	0	2	0	0	0	5
Lincoln	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Lyon	0	1	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1	6
Mahnomen	0	0	0	0	0	0	0	0	1	1	0	1	0	0	2	0	1	6
Marshall	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Martin	0	0	0	0	1	2	1	0	0	0	1	0	0	0	1	0	0	6
McLeod	0	1	0	0	0	2	2	2	1	3	0	2	3	0	0	0	0	16
Meeker	0	0	0	0	2	0	0	0	2	0	3	0	2	2	2	0	0	13
Mille Lacs	0	0	0	1	0	2	1	1	2	5	1	3	2	3	3	2	4	30
Morrison	0	0	0	0	0	0	3	2	0	1	2	1	3	1	1	2	2	18
Mower	0	0	0	0	0	0	0	2	1	2	0	0	1	2	3	4	2	17
Murray	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
Nicollet	0	0	0	0	0	0	1	0	0	0	1	1	0	1	1	0	0	5
Nobles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Norman	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Olmsted	3	1	0	2	4	0	2	1	1	3	2	5	8	9	11	7	8	67
Otter Tail	0	0	1	1	0	0	1	0	2	1	0	1	1	1	2	3	3	17
Pennington	0	0	1	1	1	1	0	0	0	2	0	1	0	0	1	0	0	8
Pine	0	0	0	1	1	0	1	0	0	1	2	4	3	1	2	3	1	20
Pipestone	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Polk	0	0	1	2	0	0	2	3	1	1	3	1	3	4	3	3	3	30
Pope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Ramsey	3	9	21	10	14	27	14	16	24	25	25	28	31	27	28	35	34	371
Red Lake	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Redwood	0	0	0	0	0	0	0	1	0	1	0	1	0	3	0	2	0	8

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Renville	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	2	0	6
Rice	1	1	0	0	0	0	0	2	4	2	1	3	1	1	3	0	4	23
Rock	0	0	0	0	0	1	1	0	1	0	0	0	0	2	0	0	3	8
Roseau	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	3
Scott	0	2	1	4	3	2	4	5	2	6	3	9	5	2	6	3	9	66
Sherburne	1	1	2	1	3	0	1	4	2	3	5	3	5	4	10	4	8	57
Sibley	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	3	1	7
St. Louis	2	3	0	0	0	0	0	0	0	0	0	15	19	17	26	23	23	128
Stearns	1	2	2	1	3	0	4	5	4	9	1	6	4	8	4	11	8	73
Steele	0	1	0	0	2	0	0	0	1	0	0	0	1	3	1	0	2	11
Stevens	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	1	4
Swift	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Todd	0	0	0	0	0	0	1	0	0	3	1	1	0	1	1	1	0	9
Traverse	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
Wabasha	0	0	0	0	0	1	0	1	1	1	2	1	1	0	0	0	0	8
Wadena	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	1	5
Waseca	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
Washington	1	2	2	0	6	3	4	2	8	10	4	9	6	7	14	10	11	99
Watsonwan	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Wilkin	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Winona	1	1	0	1	1	0	2	1	4	4	1	4	2	4	7	2	1	36
Wright	0	1	1	1	4	5	6	0	0	7	4	4	4	7	5	1	4	54

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Yellow Medicine	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	1	5
7-county metro	43	73	74	73	87	105	96	115	153	161	156	178	191	196	178	202	256	2337
Greater MN	11	17	17	25	44	36	49	58	63	99	60	113	100	110	139	133	138	1212
Unknown County	0	0	2	8	4	4	10	7	10	17	13	0	2	0	0	1	1	79
Total	54	90	93	106	135	145	155	180	226	277	229	291	293	306	317	336	395	3628

SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Underlying cause of death includes ICD-10 code indicating drug overdose (X40-X44, X60-X64, X85, or Y10-Y14); contributing cause of death includes ICD-10 code indicating opioid use (T40.0, T40.1, T40.2, T40.3, T40.4, T40.6). Opioid drug overdose deaths are not exclusive of other drug categories.

7-county metro: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties; Greater Minnesota: Not part of the 7-county;

Unknown county: County FIPS code is invalid or missing

Table 2: Number of heroin-involved overdose deaths (non-exclusive), by county of residence/metro area and year, 2000 – 2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Aitkin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anoka	0	2	0	1	0	1	0	3	1	5	4	11	7	15	6	7	6	69
Becker	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	4
Beltrami	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	3
Benton	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	3
Big Stone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue Earth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Brown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carlton	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	3
Carver	0	0	0	0	0	0	0	1	0	0	1	1	0	3	0	1	2	9
Cass	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4
Chippewa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chisago	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	1	1	7
Clay	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3	6
Clearwater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Cook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cottonwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crow Wing	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	4
Dakota	0	0	0	0	0	0	0	2	2	2	4	6	8	5	5	6	8	48
Dodge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Douglas	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Faribault	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Fillmore	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Freeborn	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Goodhue	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hennepin	1	1	0	0	0	0	0	0	0	2	1	1	3	40	41	46	72	208
Houston	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Hubbard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Isanti	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	1	3	7
Itasca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Jackson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Kanabec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kandiyohi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Kittson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Koochiching	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lac Qui Parle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake Of The Woods	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Le Sueur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Mahnomen	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Marshall	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Martin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
McLeod	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Meeker	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Mille Lacs	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	0	0	6
Morrison	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	3
Mower	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	5
Murray	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Nicollet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nobles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Norman	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Olmsted	1	0	0	0	0	0	0	0	0	2	0	2	1	3	5	4	3	21
Otter Tail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Pennington	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pipestone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Pope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Ramsey	0	0	2	0	0	0	0	0	2	0	1	9	8	6	9	9	13	59
Red Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Renville	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rice	0	0	0	0	0	0	0	0	1	1	0	3	0	0	1	0	4	10

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Rock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roseau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scott	0	0	0	0	0	0	0	1	1	0	0	2	3	0	1	2	6	16
Sherburne	0	0	0	0	0	0	1	0	0	1	0	1	2	0	3	1	3	12
Sibley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
St. Louis	0	0	0	0	0	0	0	0	0	0	0	0	2	1	6	12	8	29
Stearns	0	0	0	0	0	0	0	0	0	1	0	1	0	3	1	1	1	8
Steele	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Stevens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Swift	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Todd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Traverse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wabasha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wadena	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waseca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Washington	0	0	0	0	0	0	0	0	0	0	0	2	2	1	5	4	3	17
Watsonwan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilkin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Winona	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Wright	0	0	0	0	0	0	0	0	0	0	1	1	1	4	3	0	2	12
Yellow Medicine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
7-county metro	1	3	2	1	0	1	0	7	6	9	11	32	31	70	67	75	110	426
Greater MN	1	2	0	0	0	1	1	0	2	7	4	15	15	22	31	38	40	179
Unknown county	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	3
Total	2	5	2	1	1	2	1	8	8	16	15	47	46	92	98	114	150	608

SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Underlying cause of death includes ICD-10 code indicating drug overdose (X40-X44, X60-X64, X85, or Y10-Y14); contributing cause of death includes ICD-10 code indicating heroin use (T40.1).

Heroin drug overdose deaths are not exclusive of other drug categories.

7-county metro: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties; Greater Minnesota: Not part of the 7-county;

Unknown county: County FIPS code is invalid or missing

Table 3: Number of cocaine-involved overdose deaths (non-exclusive), by county of residence/metro area and year, 2000 – 2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Aitkin	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Anoka	0	1	1	1	3	3	1	1	2	1	0	4	6	7	0	4	1	36
Becker	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Beltrami	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	0	4
Benton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Big Stone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue Earth	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Brown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carlton	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
Carver	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Cass	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
Chippewa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chisago	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Clay	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
Clearwater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cottonwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crow Wing	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Dakota	0	2	1	2	0	0	1	1	0	2	1	1	4	1	0	1	2	19
Dodge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Douglas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Faribault	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fillmore	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Freeborn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Goodhue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hennepin	7	3	3	10	13	15	11	24	8	9	13	23	11	19	15	21	23	228
Houston	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Hubbard	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Isanti	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Itasca	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Jackson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanabec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kandiyohi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kittson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Koochiching	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lac Qui Parle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake Of The Woods	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Le Sueur	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Mahnomen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Marshall	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Martin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
McLeod	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Meeker	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Mille Lacs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Morrison	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
Mower	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	1	0	4
Murray	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nicollet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nobles	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Norman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olmsted	0	0	0	2	1	0	0	0	2	1	0	1	2	1	1	2	1	14
Otter Tail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pennington	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Pipestone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polk	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Pope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ramsey	1	1	8	2	2	4	7	9	3	3	6	7	5	6	11	8	10	93
Red Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Renville	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rice	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Rock	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Roseau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scott	0	1	0	2	0	0	2	1	0	1	1	1	0	0	1	0	2	12
Sherburne	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Sibley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Louis	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	4
Stearns	0	0	1	1	0	0	1	1	0	0	0	0	0	2	1	0	0	7
Steele	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Stevens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Swift	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Todd	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Traverse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wabasha	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Wadena	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Waseca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington	0	2	1	0	1	2	0	2	0	1	1	0	1	1	3	1	1	17
Watonwan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilkin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Winona	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Wright	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Yellow Medicine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
7-county metro	8	10	14	17	19	24	22	38	13	17	22	36	27	35	30	35	39	406
Greater MN	1	3	5	7	9	3	5	6	8	3	2	6	5	6	5	6	5	85
Unknown county	0	0	1	1	2	0	0	2	0	1	1	0	0	0	0	0	0	8
Total	9	13	20	25	30	27	27	46	21	21	25	42	32	41	35	41	44	499

SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Underlying cause of death includes ICD-10 code indicating drug overdose (X40-X44, X60-X64, X85, or Y10-Y14); contributing cause of death includes ICD-10 code indicating heroin use (T40.1).

Heroin drug overdose deaths are not exclusive of other drug categories.

7-county metro: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties; Greater Minnesota: Not part of the 7-county;

Unknown county: County FIPS code is invalid or missing

Table 4: Number of benzodiazepine-involved overdose deaths (non-exclusive), by county of residence/metro area and year, 2000 – 2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Aitkin	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Anoka	1	0	0	0	0	0	1	0	2	3	5	5	5	6	5	2	6	41
Becker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beltrami	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3
Benton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3
Big Stone	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Blue Earth	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	4
Brown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carlton	0	1	0	0	0	1	1	0	2	0	2	0	1	0	0	2	1	11
Carver	0	0	0	1	0	1	0	1	0	3	2	0	0	1	2	0	1	12
Cass	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Chippewa	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Chisago	0	0	0	0	0	0	0	2	1	0	2	1	2	0	2	0	1	11
Clay	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
Clearwater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cottonwood	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Crow Wing	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	4
Dakota	0	1	0	2	1	2	3	1	7	15	5	13	11	7	2	10	3	83
Dodge	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2
Douglas	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Faribault	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Fillmore	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Freeborn	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	4
Goodhue	0	0	0	0	0	2	0	0	2	1	0	1	1	1	0	1	3	12
Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hennepin	4	5	8	4	10	9	12	4	4	12	9	13	8	18	16	27	49	212
Houston	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
Hubbard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Isanti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Itasca	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
Jackson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanabec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Kandiyohi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kittson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Koochiching	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Lac Qui Parle	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake Of The Woods	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Le Sueur	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
Mahnomen	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Marshall	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Martin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
McLeod	0	0	0	0	0	0	1	0	0	1	0	2	1	0	0	0	0	5
Meeker	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	3
Mille Lacs	0	0	0	0	0	0	0	0	0	2	1	0	1	0	1	0	1	6
Morrison	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Mower	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Murray	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nicollet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nobles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Norman	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Olmsted	1	1	0	1	0	0	0	0	1	1	0	0	2	3	7	3	6	26
Otter Tail	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	3
Pennington	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Pipestone	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Polk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ramsey	0	0	2	0	0	3	0	0	2	3	3	0	0	1	2	6	7	29
Red Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	3
Renville	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3
Rice	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Rock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roseau	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Scott	0	1	0	0	0	0	1	1	1	4	1	3	2	0	1	0	3	18
Sherburne	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	1	5
Sibley	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	3
St. Louis	1	0	0	0	0	0	0	0	0	0	0	5	4	5	6	3	6	30
Stearns	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	2	0	5
Steele	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	3
Stevens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Swift	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	3
Todd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Traverse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wabasha	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
Wadena	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Waseca	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Washington	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	1	4
Watonwan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilkin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Winona	0	0	0	1	1	0	0	1	0	1	0	3	0	0	3	1	0	11
Wright	0	0	0	1	1	1	1	0	0	0	1	1	0	1	0	0	1	8
Yellow Medicine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
7-county metro	5	7	10	7	11	15	18	7	16	40	25	35	26	33	28	46	70	399
Greater MN	3	2	0	6	4	6	7	9	14	14	10	21	16	17	27	25	33	214
Unknown county	0	0	0	0	1	1	0	1	1	4	3	0	1	0	0	0	0	12
Total	8	9	10	13	16	22	25	17	31	58	38	56	43	50	55	71	103	625

SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Underlying cause of death includes ICD-10 code indicating drug overdose (X40-X44, X60-X64, X85, or Y10-Y14); contributing cause of death includes ICD-10 code indicating benzodiazepine use (T42.4). Benzodiazepine drug overdose deaths are not exclusive of other drug categories.

7-county metro: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties; Greater Minnesota: Not part of the 7-county;

Unknown county: County FIPS code is invalid or missing

Table 5: Number of psychostimulants with abuse potential-involved overdose deaths (non-exclusive), by county of residence/metro area and year, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Aitkin	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Anoka	1	0	0	3	1	4	1	2	0	1	0	3	4	4	5	6	5	40
Becker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Beltrami	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	3	6
Benton	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	1	5
Big Stone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Blue Earth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Brown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Carlton	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	7
Carver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cass	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1	3	2	10
Chippewa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chisago	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Clay	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2	6
Clearwater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cottonwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crow Wing	0	1	1	1	0	0	0	0	0	0	0	0	3	0	0	1	7	14
Dakota	1	0	1	1	0	0	1	0	0	0	1	2	0	2	5	4	12	30
Dodge	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	3
Douglas	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	3

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Faribault	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Fillmore	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Freeborn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Goodhue	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
Grant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hennepin	1	1	3	3	1	2	3	3	8	1	7	8	14	13	13	20	31	132
Houston	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	3
Hubbard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Isanti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3
Itasca	0	0	0	0	0	1	2	0	0	0	0	0	1	1	3	1	0	9
Jackson	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Kanabec	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Kandiyohi	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
Kittson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Koochiching	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Lac Qui Parle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake Of The Woods	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Le Sueur	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
Mahnomen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	6

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Marshall	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Martin	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
McLeod	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Meeker	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
Mille Lacs	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	1	5
Morrison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Mower	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
Murray	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nicollet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nobles	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Norman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Olmsted	0	0	0	0	0	0	1	0	0	1	0	1	3	4	6	3	11	30
Otter Tail	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3
Pennington	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	5
Pipestone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polk	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	5
Pope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Ramsey	0	0	0	1	3	1	2	1	0	2	1	5	7	4	7	12	13	59
Red Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Renville	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Rice	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	1	2	7

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Rock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roseau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scott	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7
Sherburne	0	0	0	0	1	0	0	0	2	0	0	1	1	0	4	1	2	12
Sibley	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
St. Louis	1	0	0	0	0	0	0	0	0	0	0	0	3	2	5	10	7	28
Stearns	0	0	0	1	0	1	0	0	0	0	0	0	1	1	1	2	3	10
Steele	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Stevens	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
Swift	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Todd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Traverse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wabasha	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
Wadena	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waseca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington	1	0	1	0	0	2	2	0	1	0	0	1	2	3	1	2	2	18
Watonwan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilkin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Winona	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	1	6
Wright	0	1	1	0	0	1	0	0	0	0	0	0	0	1	3	2	0	9
Yellow Medicine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
7-county metro	4	1	6	8	5	9	9	6	9	4	9	19	27	26	31	44	69	286
Greater MN	3	4	4	4	4	7	4	2	4	4	7	14	20	17	38	39	71	246
Unknown county	0	0	1	0	0	2	1	0	0	0	2	0	1	0	0	0	0	7
Total	7	5	11	12	9	18	14	8	13	8	18	33	48	43	69	83	140	539

SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Underlying cause of death includes ICD-10 code indicating drug overdose (X40-X44, X60-X64, X85, or Y10-Y14); contributing cause of death includes ICD-10 code indicating psychostimulants with abuse potential use (T43.6). Psychostimulants with abuse potential drug overdose deaths are not exclusive of other drug categories.

7-county metro: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties; Greater Minnesota: Not part of the 7-county;

Unknown county: County FIPS code is invalid or missing

Table 6: Number of other and unspecified narcotic drug deaths (non-exclusive), by county of residence/metro area and year, 2000 – 2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Aitkin	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Anoka	2	2	2	0	0	2	0	2	6	1	3	3	3	0	0	3	0	29
Becker	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	5
Beltrami	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
Benton	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	0	4
Big Stone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue Earth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Brown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carlton	0	0	0	0	0	0	0	0	0	2	0	0	1	0	2	0	0	5
Carver	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Cass	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	4
Chippewa	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Chisago	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	3
Clay	0	0	0	0	0	0	0	0	0	3	1	0	0	0	1	1	1	7
Clearwater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cottonwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crow Wing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Dakota	1	1	2	0	0	0	1	1	2	3	2	0	0	1	1	2	1	18
Dodge	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Douglas	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	3

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Faribault	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fillmore	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Freeborn	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Goodhue	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
Grant	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Hennepin	23	23	24	25	21	22	22	16	34	36	26	45	53	11	3	9	4	397
Houston	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Hubbard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Isanti	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	3
Itasca	0	0	0	0	1	0	1	0	2	1	0	0	0	1	1	0	0	7
Jackson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanabec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kandiyohi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Kittson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Koochiching	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lac Qui Parle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake Of The Woods	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Le Sueur	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyon	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Mahnomen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Marshall	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Martin	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
McLeod	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	3
Meeker	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Mille Lacs	0	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	4
Morrison	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Mower	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Murray	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Nicollet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nobles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Norman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olmsted	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Otter Tail	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Pennington	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	3
Pine	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Pipestone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polk	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	4
Pope	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ramsey	2	0	3	4	7	8	1	5	1	4	2	6	3	1	3	4	1	55
Red Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
Renville	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rice	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Rock	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roseau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scott	0	1	0	2	0	1	1	2	0	2	1	0	0	0	2	0	1	13
Sherburne	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	4
Sibley	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
St. Louis	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	5
Stearns	0	0	0	0	0	0	0	0	2	1	0	1	1	0	0	2	0	7
Steele	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	4
Stevens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Swift	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Todd	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Traverse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wabasha	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Wadena	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waseca	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington	0	1	2	0	2	0	1	0	0	2	0	1	1	1	1	0	0	12
Watsonwan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilkin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Winona	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	5
Wright	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Yellow Medicine	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
7-county metro	28	28	33	31	30	33	26	27	43	48	34	55	60	14	10	18	7	525
Greater MN	3	3	1	2	7	4	5	3	12	13	7	13	9	9	12	6	9	118
Unknown county	0	0	0	0	0	1	0	1	2	2	2	0	0	0	0	0	1	9
Total	31	31	34	33	37	38	31	31	57	63	43	68	69	23	22	24	17	652

SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016

Underlying cause of death includes ICD-10 code indicating drug overdose (X40-X44, X60-X64, X85, or Y10-Y14); contributing cause of death includes ICD-10 code indicating other and unspecified narcotics (T40.6). Other and unspecified narcotics drug overdose deaths are not exclusive of other drug categories.

7-county metro: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties; Greater Minnesota: Not part of the 7-county;

Unknown county: County FIPS code is invalid or missing

Appendix 2 – 7-county metro vs. Greater Minnesota

Number of drug overdose deaths, 7-county metro vs. Greater MN, MN Residents, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Aitkin	1	0	3	1	3	2	1	2	0	1	2	2	4	5	2	3	4	36
Anoka	10	14	10	15	15	20	17	19	20	31	35	41	44	45	27	36	36	435
Becker	1	0	1	0	3	0	0	2	4	3	1	3	1	3	1	5	3	31
Beltrami	0	1	2	0	3	5	2	5	5	2	4	6	7	4	3	3	4	56
Benton	0	1	1	3	0	2	2	3	4	5	4	5	1	2	3	7	7	50
Big Stone	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	1	1	6
Blue Earth	0	0	0	1	0	4	0	3	0	2	3	5	5	1	3	3	7	37
Brown	0	0	0	2	1	0	0	1	1	0	2	2	0	0	2	1	2	14
Carlton	1	1	0	2	2	4	2	3	5	5	2	6	6	3	7	7	6	62
Carver	1	1	1	3	1	1	1	4	3	4	4	5	3	5	5	8	6	56
Cass	2	0	2	0	3	5	5	1	4	3	4	9	6	5	6	7	7	69
Chippewa	0	0	0	1	0	0	1	0	0	1	1	0	1	1	1	0	0	7
Chisago	1	0	1	3	1	0	2	2	7	1	2	8	8	5	8	6	4	59
Clay	0	4	2	4	1	3	3	10	6	6	4	10	3	9	9	14	9	97
Clearwater	2	1	0	0	0	1	0	0	1	0	0	0	1	1	1	1	3	12
Cook	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	4
Cottonwood	0	0	1	0	0	1	0	0	0	1	0	3	0	0	0	0	0	6
Crow Wing	1	3	1	4	4	2	6	4	2	9	3	5	6	9	7	8	12	86
Dakota	3	17	10	16	10	13	11	19	30	37	32	38	32	34	30	42	42	416

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Dodge	0	1	0	0	0	0	2	0	0	2	0	0	2	1	0	2	1	11
Douglas	0	0	0	1	1	1	1	2	0	0	2	7	2	0	2	1	1	21
Faribault	0	0	0	1	1	1	0	0	0	0	0	1	0	2	0	3	0	9
Fillmore	0	0	1	0	1	2	1	0	1	0	0	1	1	0	1	0	2	11
Freeborn	1	1	0	3	1	0	0	1	2	4	1	3	1	3	0	1	3	25
Goodhue	0	1	1	2	2	3	1	2	3	3	2	2	2	4	3	3	3	37
Grant	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2
Hennepin	52	61	66	63	72	80	89	97	103	96	103	128	128	149	131	156	202	1776
Houston	0	0	0	1	1	0	1	3	1	1	2	2	1	1	0	2	1	17
Hubbard	0	1	2	1	1	0	1	2	3	1	2	3	1	0	2	1	2	23
Isanti	0	0	4	2	1	0	1	2	2	4	2	1	1	0	3	4	8	35
Itasca	0	1	3	1	2	2	3	5	5	5	4	7	4	5	7	5	5	64
Jackson	1	0	0	0	1	0	0	0	0	1	1	0	1	0	0	0	2	7
Kanabec	2	0	0	0	0	0	0	0	1	2	1	1	2	0	2	1	0	12
Kandiyohi	0	0	0	2	1	1	2	1	1	0	1	4	1	0	2	8	1	25
Kittson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Koochiching	0	0	2	2	1	2	0	0	0	0	0	2	0	0	2	0	2	13
Lac Qui Parle	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	4
Lake	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	4
Lake Of The Woods	0	0	0	1	0	0	0	0	0	0	2	0	1	0	1	0	0	5
Le Sueur	0	1	0	1	2	1	3	0	1	1	0	1	0	2	2	1	2	18
Lincoln	0	0	0	0	1	0	0	1	0	1	1	0	1	0	1	0	0	6

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Lyon	1	1	0	1	0	1	0	2	0	0	0	1	1	1	2	4	1	16
Mahnomen	0	0	0	0	1	0	0	0	1	2	0	1	0	1	5	0	3	14
Marshall	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	1	6
Martin	1	0	0	1	1	2	1	0	0	0	1	0	0	2	1	1	0	11
McLeod	1	2	2	0	0	2	2	2	1	4	0	2	3	1	1	0	0	23
Meeker	0	0	0	1	3	0	0	0	3	0	4	1	2	4	2	0	2	22
Mille Lacs	0	0	0	2	1	2	1	2	4	7	1	3	3	6	4	3	6	45
Morrison	0	0	1	0	4	0	4	3	1	1	4	1	4	1	2	6	6	38
Mower	0	2	3	1	0	1	1	4	5	4	1	1	4	6	3	8	2	46
Murray	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2	0	5
Nicollet	0	0	0	0	0	0	3	1	0	3	1	4	2	2	3	2	0	21
Nobles	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	2	5
Norman	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	4
Olmsted	3	3	0	6	5	4	11	5	5	10	9	12	15	17	17	11	18	151
Otter Tail	2	0	2	2	0	0	2	2	2	2	0	4	7	3	3	5	5	41
Pennington	1	0	1	2	1	1	2	0	1	2	1	1	0	2	2	0	0	17
Pine	0	1	0	1	1	0	2	0	0	1	3	5	3	4	4	3	3	31
Pipestone	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Polk	0	1	1	4	1	2	4	3	2	3	4	3	4	6	5	5	3	51
Pope	0	0	0	1	0	0	1	0	1	0	0	1	0	1	1	1	1	8
Ramsey	14	22	38	29	39	50	45	51	61	50	47	68	68	64	59	82	89	876
Red Lake	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
Redwood	0	0	0	0	0	1	1	1	3	1	0	1	0	4	0	3	2	17

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Renville	0	0	0	1	0	1	1	0	2	0	2	3	0	0	1	3	0	14
Rice	1	2	2	1	0	1	1	3	9	3	3	4	4	2	5	2	5	48
Rock	0	0	0	0	0	1	1	0	1	0	0	0	0	3	1	0	3	10
Roseau	0	0	0	0	2	2	0	1	1	1	0	0	0	0	0	1	0	8
Scott	0	3	2	6	5	4	6	5	4	8	3	9	9	3	9	3	13	92
Sherburne	1	4	3	4	4	5	2	4	12	3	9	6	12	8	13	7	11	108
Sibley	0	2	0	0	0	0	0	2	0	0	2	1	3	0	0	3	1	14
St. Louis	14	12	0	0	0	0	0	0	0	0	0	22	22	24	33	31	38	196
Stearns	3	3	6	7	5	4	8	9	7	16	5	14	9	17	13	17	20	163
Steele	0	1	1	1	2	0	0	1	2	0	0	4	1	5	2	2	2	24
Stevens	0	0	0	1	0	0	0	2	0	2	0	0	0	0	0	0	2	7
Swift	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	4
Todd	1	0	0	0	0	1	3	0	0	3	1	1	0	1	1	1	0	13
Traverse	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	3
Wabasha	0	0	0	0	0	3	2	3	2	2	4	1	1	1	0	0	1	20
Wadena	1	0	0	1	1	0	0	1	0	2	2	0	0	0	2	0	2	12
Waseca	1	0	0	2	0	1	1	1	1	0	1	0	1	1	0	1	3	14
Washington	2	5	9	6	11	12	13	11	15	16	14	23	15	19	24	18	25	238
Watsonwan	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0	5
Wilkin	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	3
Winona	2	1	0	2	3	0	4	3	4	6	3	6	4	7	10	4	3	62
Wright	0	2	3	2	6	7	8	4	2	9	7	8	5	9	8	4	6	90

DRUG OVERDOSE DEATHS AMONG MINNESOTA RESIDENTS, 2000-2016

County of residence	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	Total
Yellow Medicine	0	0	0	0	1	0	0	1	0	0	0	1	1	0	2	1	1	8
7-county metro	82	123	136	138	153	180	182	206	236	242	238	216	299	319	285	345	413	3793
Greater MN	47	56	55	84	81	85	109	117	134	154	123	312	184	208	231	237	261	2478
Unknown county	0	0	7	22	13	15	17	17	12	27	23	0	3	0	0	1	1	158
Total	129	179	198	244	247	280	308	340	382	423	384	528	486	527	516	583	675	6429

SOURCE: Minnesota death certificates, Injury and Violence Prevention Section, Minnesota Department of Health, 2000-2016
Underlying cause of death includes ICD-10 code indicating drug overdose (X40-X44, X60-X64, X85, or Y10-Y14)
7-county metro: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties; Greater Minnesota: Not part of the 7-county;
Unknown county: County FIPS code is invalid or missing

Appendix 3:

Definitions and methodology

Data for this report come from Minnesota death certificates, with cause and manner of death information provided by a medical examiner or coroner. A drug overdose death is defined as having an underlying cause of death within the following range of ICD-codes:

- Accidental poisoning by drugs: X40-X44
- Intentional self-poisoning by drugs: X60-X64
- Assault by drug poisoning: X85
- Drug poisoning of undetermined intent: Y10-Y14

This report provides the number of drug overdose deaths within 10 non-exclusive categories of drugs that contributed to the cause of death, by county/metro area and year (i.e. an opioid-involved death may also be counted as a cocaine-involved death, if both drugs were listed on the death certificate as contributory causes). The 10 non-exclusive categories of drug overdose deaths are defined as having a contributory cause of death within the following ranges of ICD-10 codes:

- **All opioid-involved deaths:** T40.0-T40.4, T40.6
- **Prescription opioids:** T40.2, T40.3, T40.4
- **Other opioids and methadone:** T40.2, T40.3
- **Other synthetic opioids:** T40.4
- **Heroin:** T40.1
- **Cocaine:** T40.5
- **Benzodiazepines:** T42.4
- **Psychostimulants with abuse potential** (includes methamphetamine): T43.6
- **Other and unspecified narcotics:** T40.6
- **Other and unspecified drug(s):** T50.9 and deaths without a T code in the T36-T50 range

The methodology for defining drug overdose deaths and non-exclusive drug categories is based on the following sources:

Gabella BA, Proescholdbell SK, Johnson RL, Thomas KE. State Special Emphasis Report: Instructions Drug Overdose Death Data. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2014.

Injury Surveillance Workgroup 7. Consensus recommendations for national and state poisoning surveillance. Atlanta, GA: The Safe States Alliance; 2012. Available online at: http://c.ymcdn.com/sites/www.safestates.org/resource/resmgr/imported/ISW7%20Full%20Report_3.pdf.

Centers for Disease Control and Prevention. Opioid data analysis. Atlanta, GA; 2017. Available online at: <https://www.cdc.gov/drugoverdose/data/analysis.html>

Note: Data for 2016 are final. Alcohol overdose deaths are excluded from these analyses.

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