

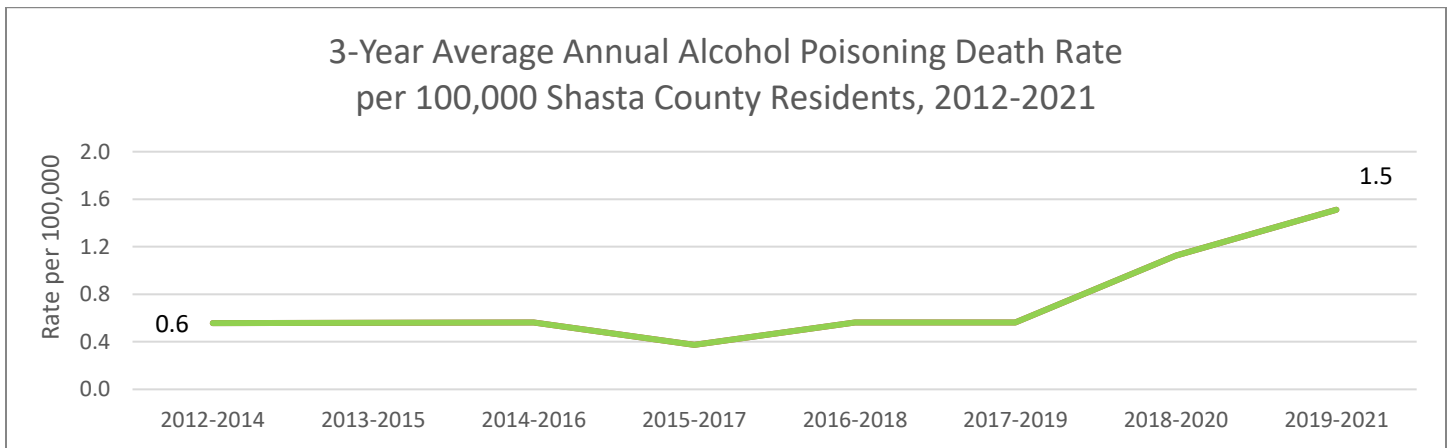
Shasta County Resident Alcohol and Other Drug Poisoning Deaths, 2012 – 2021; Emergency Department Visits and Hospitalizations, 2011 – 2020; and Substance Abuse Treatment Admissions, 2010-2019

Cause of death determination

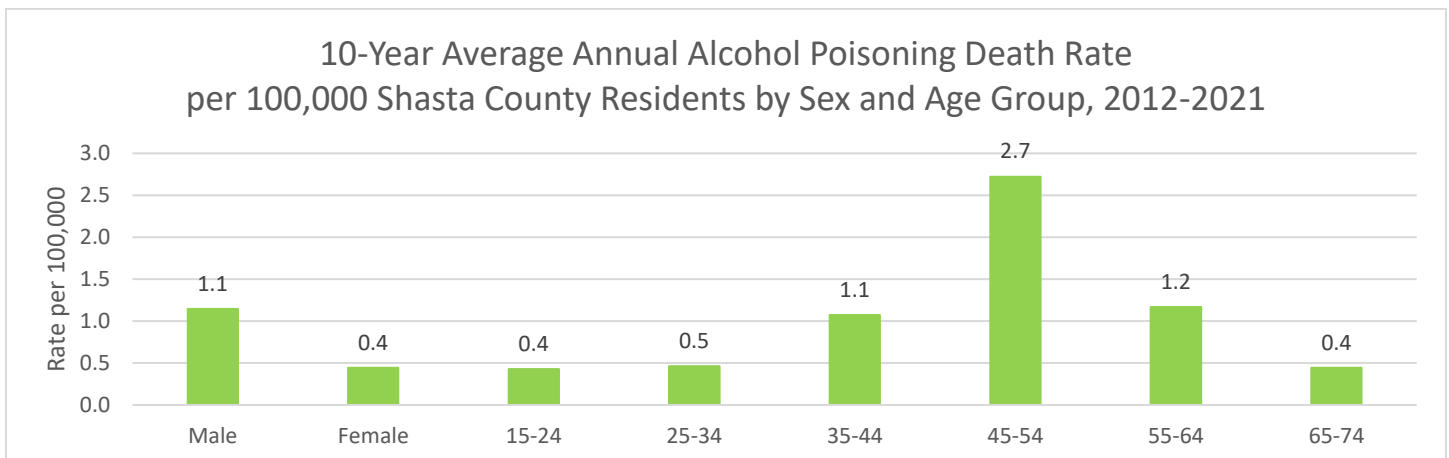
The California Department of Public Health (CDPH) EpiCenter website provides statistics on injuries, deaths, non-fatal emergency department (ED) visits, and non-fatal hospitalizations. EpiCenter has developed case definitions for poisoning and all consequence deaths, ED visits and hospitalizations with lists of ICD 9 and ICD 10 codes used in underlying and multiple cause of death and primary diagnosis and external cause of injury.

Alcohol deaths

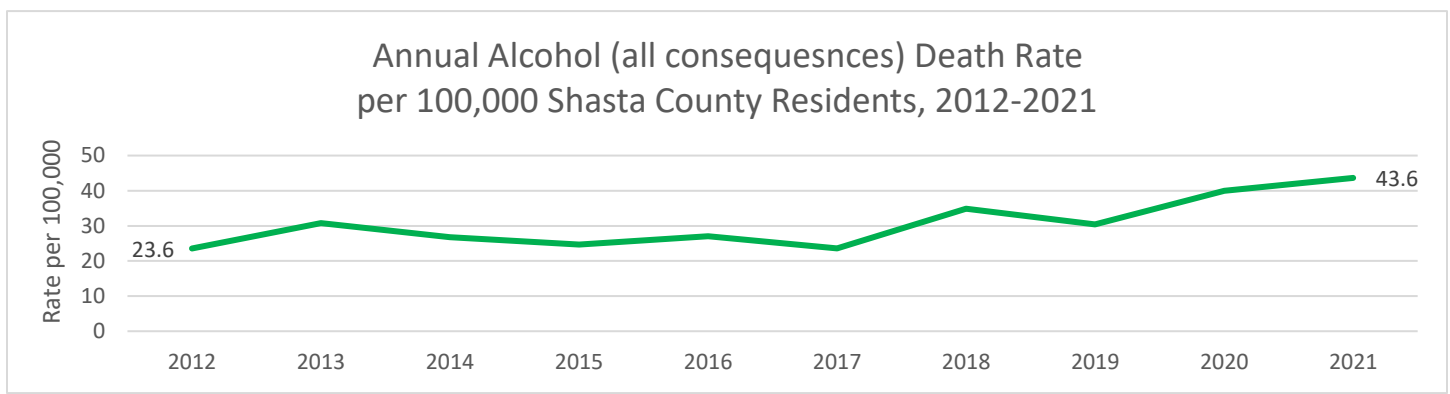
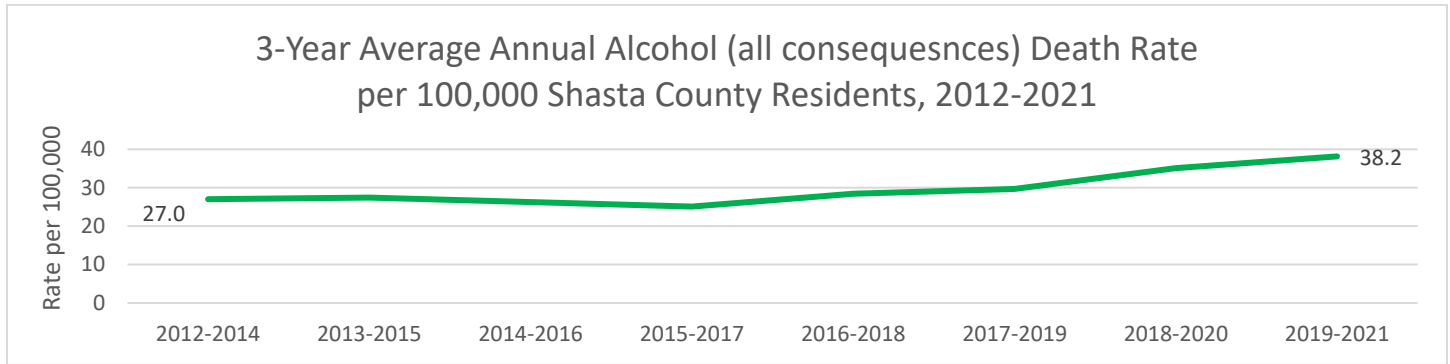
There were 14 alcohol poisoning deaths¹ to Shasta County residents during the ten-year period of 2012 to 2021, an average of less than two per year. The five-year average annual rate of alcohol poisoning deaths was 0.4 per 100,000 Shasta County residents for 2012-2016. The 2017-2021 rate was 1.1 per 100,000. There were no statistically significant differences noted during the period under study. Due to small annual numbers, counts and rates for alcohol poisoning deaths should be considered unstable².



The 10-year average rate for males was 1.1 per 100,000 and the female rate was 0.4, which means males are 2.6 times more likely than females to die of alcohol poisoning. This is not a statistically significant difference. For age groups, 15-24 was 0.4, 25-34 was 0.5, 35-44 was 1.1, 45-54 was 2.7, 55-64 was 1.2, and 65-74 was 0.4 per 100,000. Seventy-nine percent (11 deaths) were between 35 and 64 years old. The median age of alcohol poisoning deaths was 49.



For the same period, there were 543 alcohol-related deaths (all consequences)³, an average of just over 54 per year. The 2012-2016 five-year average annual rate of all consequences alcohol deaths was 26.5 per 100,000, and the rate for 2017-2021 was 34.5 per 100,000. There were no statistically significant differences noted during the period under study.



The 10-year average rate for males was 43.1 per 100,000 and the female rate was 18.4, which means males are 2.3 times more likely than females to die of alcohol all consequences deaths. This is a statistically significant difference at the 95% confidence level. For age groups, 15-24 was 0.4, 25-34 was 6.5, 35-44 was 19.3, 45-54 was 55.3, 55-64 was 82.6, 65-74 was 54.1, 75-84 was 30.0, and >84 was 12.6 per 100,000. Eighty-four percent (456 deaths) were between 45 and 74 years old. The median age of alcohol deaths (all consequences) was 59.

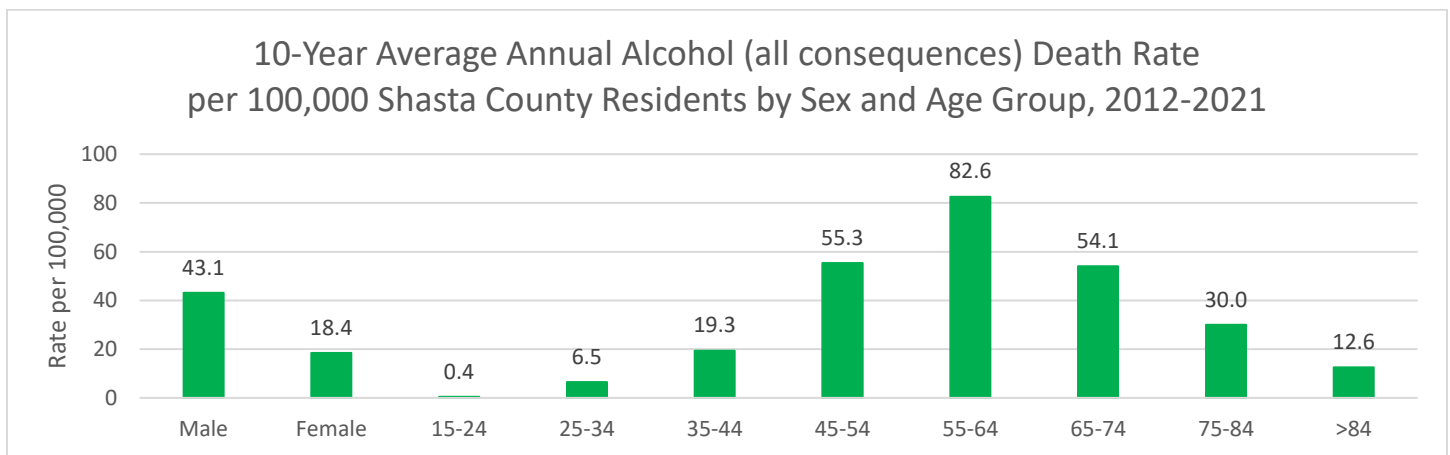


Table 1 on the next page provides the three- and five-year average annual counts and rates per 100,000 Shasta County Residents of deaths by alcohol poisoning and alcohol (all consequences), for 2012-2021.

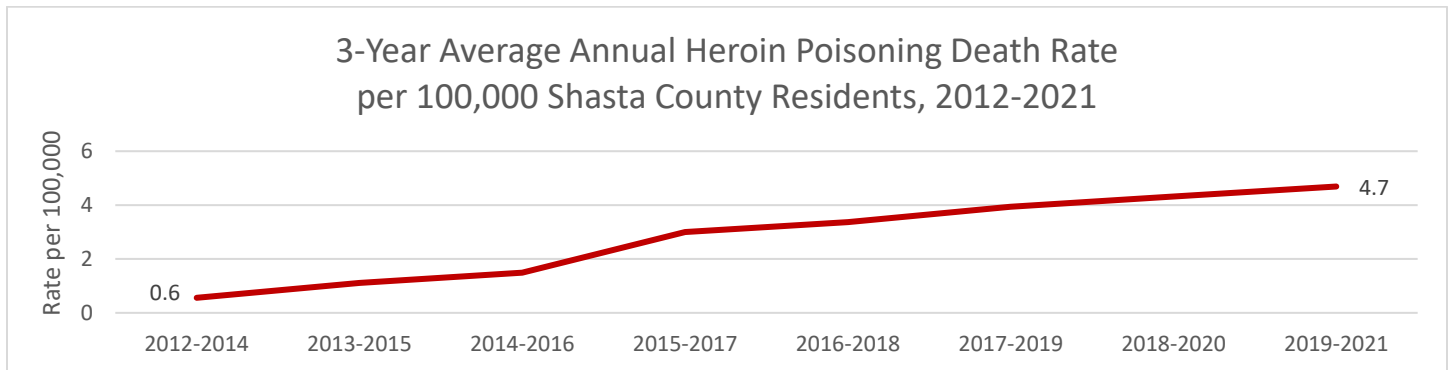
Table 1.

3- and 5-Year Average Annual Counts and Rates of Alcohol Related Deaths										
Description	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020	2019-2021	2012-2016	2017-2021
Average Annual Count of alcohol poisoning deaths	1.0	1.0	1.0	0.7	1.0	1.0	2.0	2.7	0.8	2.0
Average Annual Rate of alcohol poisoning deaths	0.6	0.6	0.6	0.4	0.6	0.6	1.1	1.5	0.4	1.1
Average Annual Count of alcohol deaths (all consequences)	48.3	49.0	46.7	44.7	50.7	52.7	62.3	67.3	47.4	61.2
Average Annual Rate of alcohol deaths (all consequences)	27.0	27.5	26.3	25.1	28.5	29.7	35.1	38.2	26.5	34.5

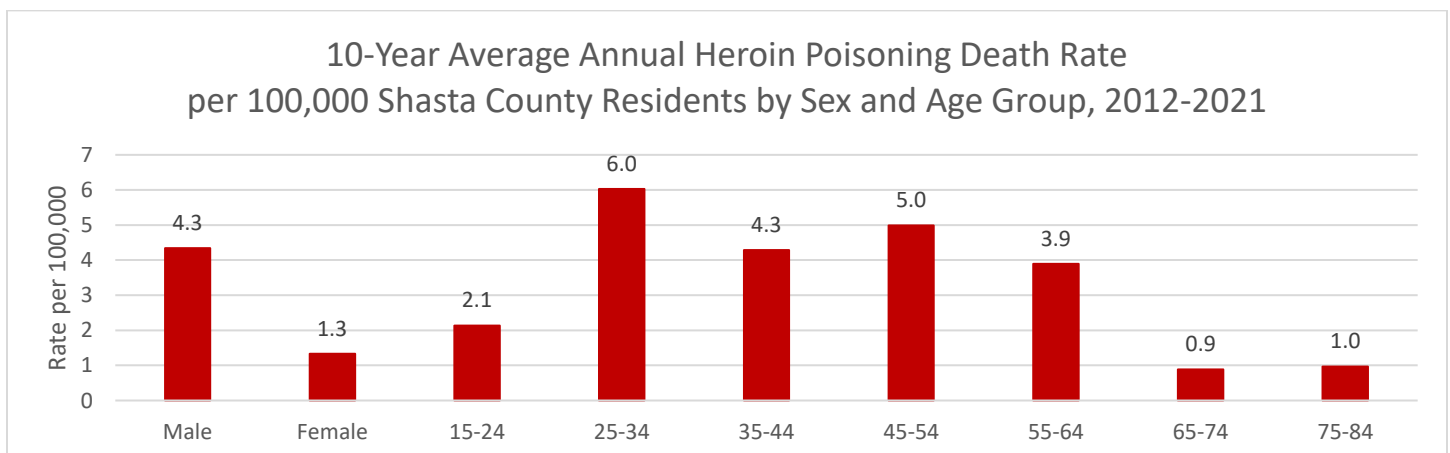
Note: The counts and rates for all consequences deaths also include poisoning deaths.

Opioid and amphetamine deaths⁴

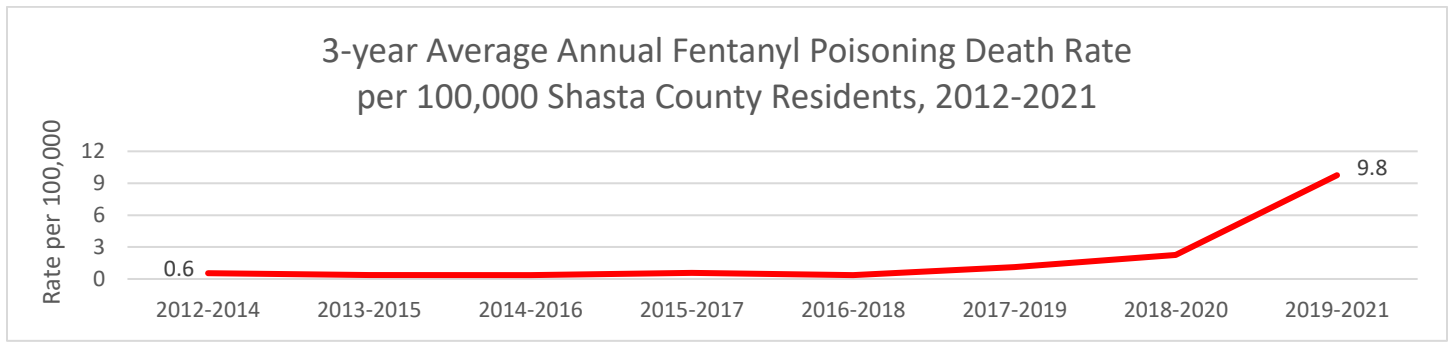
There were 50 heroin poisoning deaths⁵ to Shasta County residents during the ten-year period of 2012 to 2021, an average of five per year. The 2012-2016 five-year average annual rate of heroin poisoning deaths was 1.1 per 100,000, and the rate for 2017-2021 was 4.5 per 100,000. There were no statistically significant differences noted during the period under study. The counts and rates for heroin poisoning deaths should be considered unstable, due to the small annual numbers².



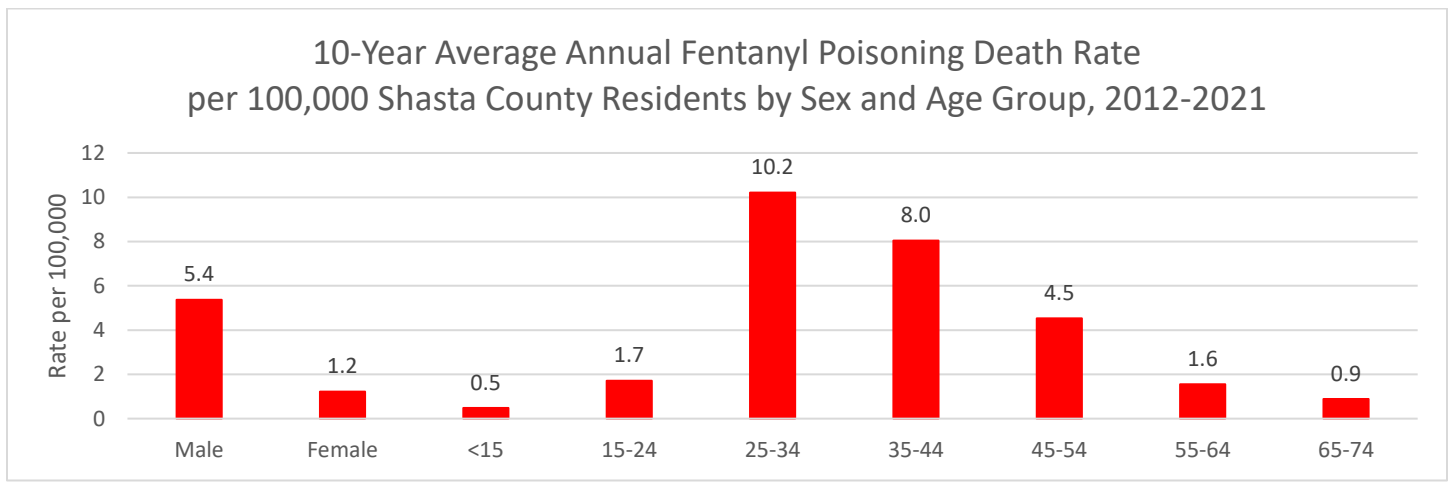
The 10-year average rate for males was 4.3 per 100,000 and the female rate was 1.3, which means **males are 3.3 times more likely than females to die of heroin overdose**. This is not a statistically significant difference. For age groups, 15-24 was 2.1, 25-34 was 6.0, 35-44 was 4.3, 45-54 was 5.0, 55-64 was 3.9, 65-74 was 0.9, and 75-84 was 1.0 per 100,000. Eighty-four percent (42 deaths) were between 25 and 64 years old. The median age of heroin poisoning deaths was 38.



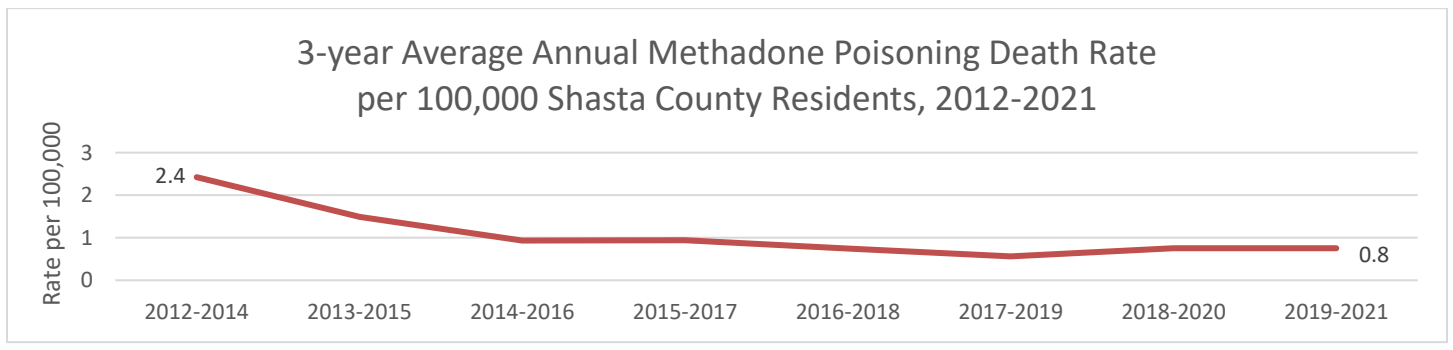
There were 18 fentanyl poisoning deaths⁶ to Shasta County residents during the nine-year period of 2012 to 2020, an average of two per year. This jumped to 40 fentanyl deaths for 2021. This represents rates of 1.1 and 22.7 per 100,000 respectively which is a statistically significant increase at the 95% confidence level. The counts and rates for fentanyl poisoning deaths should be considered unstable, due to the small annual numbers².



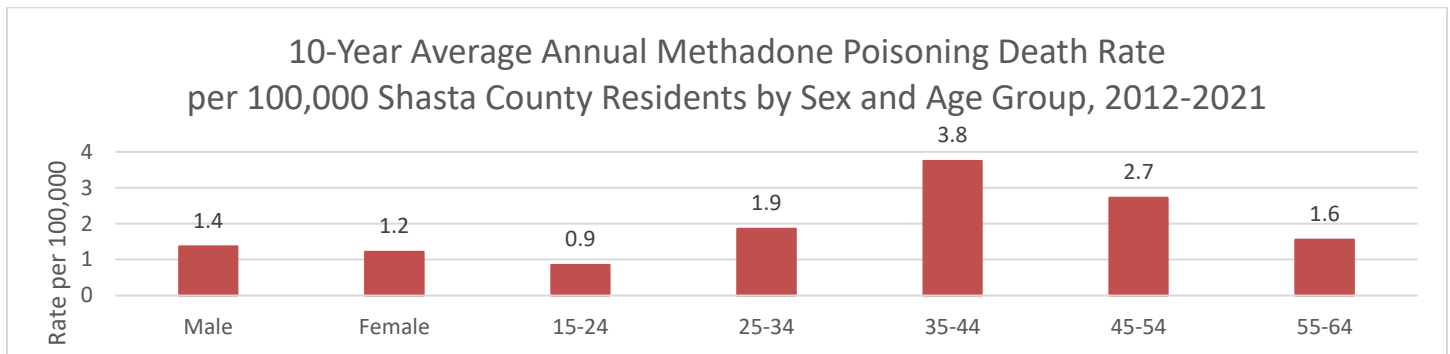
The 10-year average rate for males was 5.4 per 100,000 and the female rate was 1.2, which means males are 4.5 times more likely than females to die of fentanyl overdose. This is not a statistically significant difference. For age groups, <15 was 0.5, 15-24 was 1.7, 25-34 was 10.2, 35-44 was 8.0, 45-54 was 4.5, 55-64 was 1.6, and 65-74 was 0.9 per 100,000. Eighty-six percent (50 deaths) were between 25 and 54 years old. The median age of fentanyl poisoning deaths was 34.



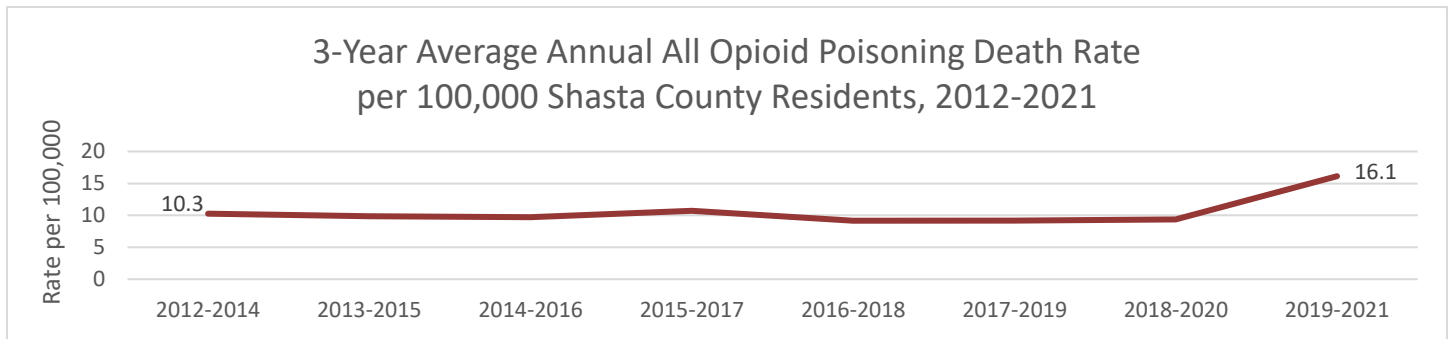
There were 23 methadone poisoning deaths⁷ during the study period, an average of just over two per year. The 2012-2016 five-year average annual rate of methadone poisoning deaths was 1.8 per 100,000. The rate for 2017-2021 was 0.8 per 100,000. There were no statistically significant differences noted during the period under study. Due to small annual numbers, counts and rates for methadone poisoning deaths should also be considered unstable².



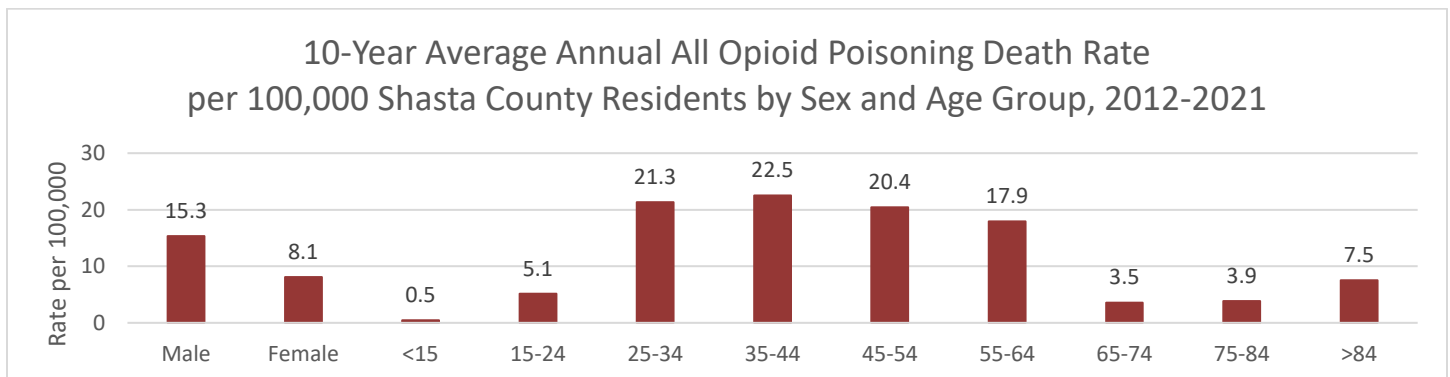
The 10-year average rate for males was 1.4 per 100,000 and the female rate was 1.2, which means males are 1.2 times more likely than females to die of methadone overdose. This is not a statistically significant difference. For age groups, 15-24 was 0.9, 25-34 was 1.9, 35-44 was 3.8, 45-54 was 2.7, and 55-64 was 1.6 per 100,000. Ninety-one percent (21 deaths) were between 25 and 64 years old. The median age of methadone poisoning deaths was 39.



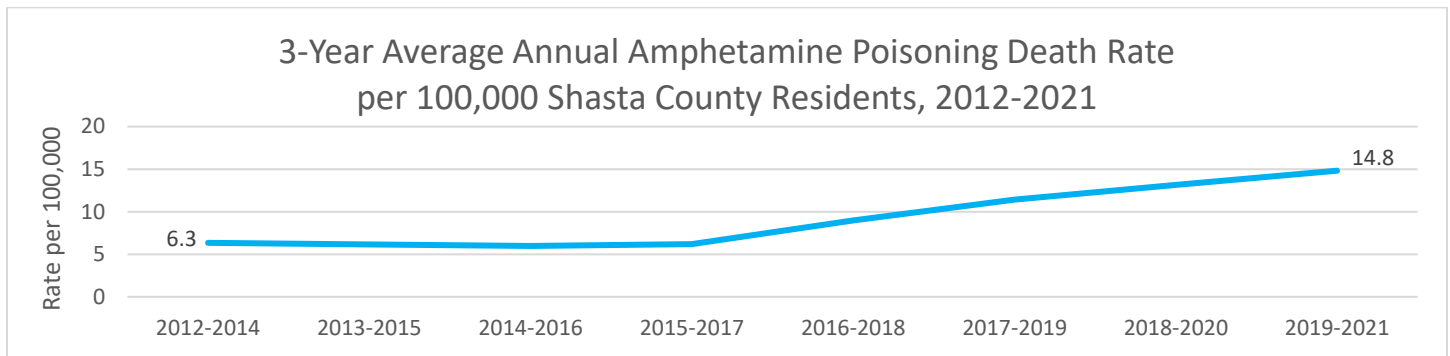
There were 208 opioid poisoning deaths (including heroin, fentanyl, and methadone)⁸ to Shasta County residents, an average of just under 21 per year. The 2012-2016 five-year average annual rate of opioid poisoning deaths was 9.9 per 100,000, and the rate for 2016-2021 was 13.3 per 100,000. The increase from 9.4 for 2018-2020 to 16.1 for 2019-2021 was statistically significant at the 95% confidence level. Due to small annual numbers, counts and rates for all opioid poisoning deaths should be considered unstable².



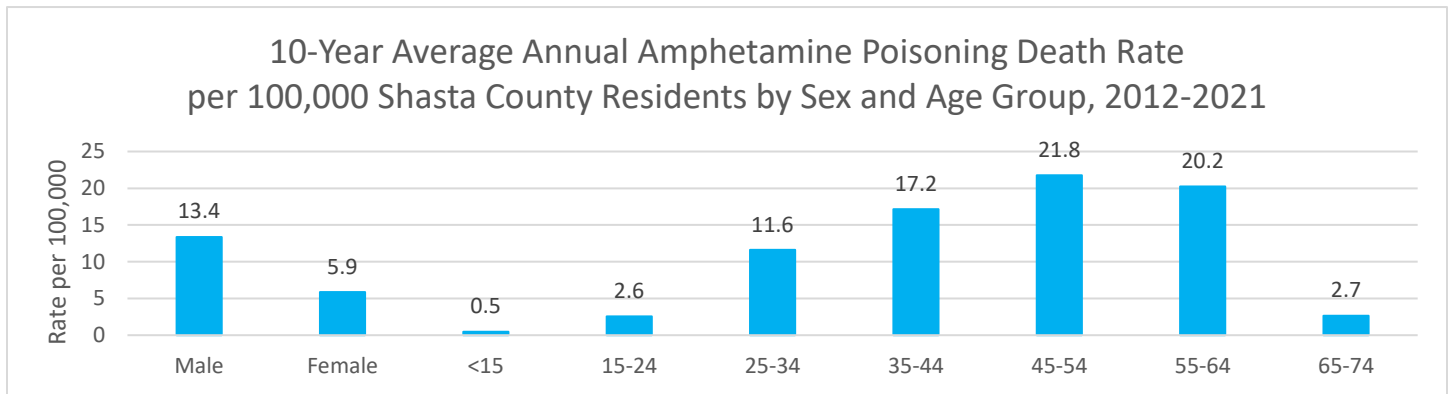
The 10-year average rate for males was 15.3 per 100,000 and the female rate was 8.1, which means males are 1.9 times more likely than females to die of all opioid overdose. This is not a statistically significant difference. For age groups, <15 was 0.5, 15-24 was 5.1, 25-34 was 21.3, 35-44 was 22.5, 45-54 was 20.4, 55-64 was 17.9, 65-74 was 3.5, 75-84 was 3.9, and >84 was 7.5 per 100,000. Eighty-seven percent (180 deaths) were between 25 and 64 years old. The median age of all opioid poisoning deaths was 44.



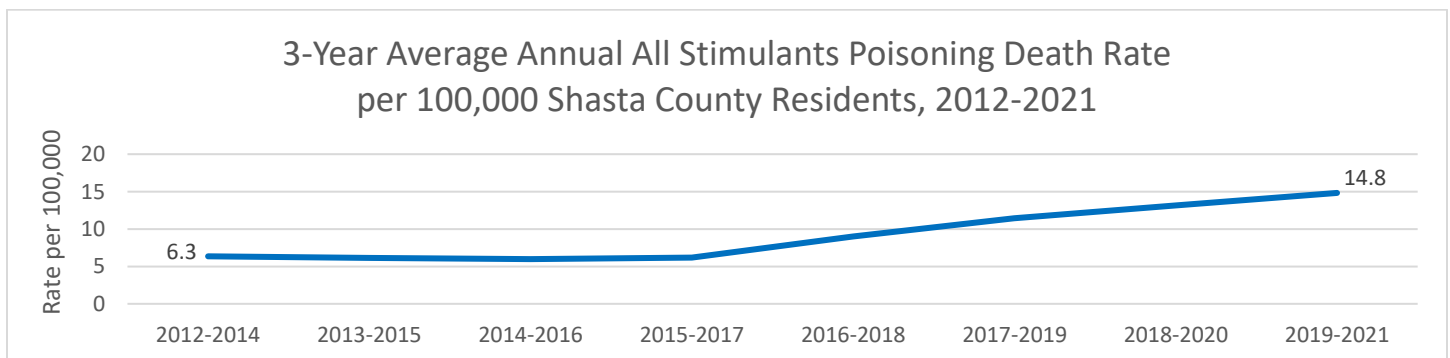
There were 169 amphetamine poisoning deaths⁹ to Shasta County residents during the ten-year period of 2012 to 2021, an average of just under 17 per year. This category also includes methamphetamines. The 2012-2016 five-year average annual rate of amphetamine poisoning deaths was 5.8 per 100,000, and the rate for 2017-2021 was 13.3 per 100,000 which is a statistically significant increase at the 95% confidence level. Due to the small annual numbers, the counts and rates for amphetamine poisoning deaths should also be considered unstable².



The 10-year average rate for males was 13.4 per 100,000 and the female rate was 5.9, which means males are 2.3 times more likely than females to die of amphetamine overdose. This is not a statistically significant difference. For age groups, <15 was 0.5, 15-24 was 2.6, 25-34 was 11.6, 35-44 was 17.2, 45-54 was 21.8, 55-64 was 20.2, and 65-74 was 2.7 per 100,000. Ninety-two percent (156 deaths) were between 25 and 64 years old. The median age of amphetamine poisoning deaths was 48.



There were 175 all stimulant poisoning deaths¹⁰ to Shasta County residents during the ten-year period of 2012 to 2021, an average of over 17 per year. The 2012-2016 five-year average annual rate of amphetamine poisoning deaths was 5.8 per 100,000, and the rate for 2017-2021 was 13.8 per 100,000 which is a statistically significant increase at the 95% confidence level. Due to the small annual numbers, the counts and rates for amphetamine poisoning deaths should also be considered unstable².



The 10-year average rate for males was 14.0 per 100,000 and the female rate was 5.9, which means males are 2.4 times more likely than females to die of all stimulant overdose. This is not a statistically significant difference. For age groups, <15 was 0.5, 15-24 was 3.0, 25-34 was 12.5, 35-44 was 18.2, 45-54 was 21.8, 55-64 was 20.2, and 65-74 was 2.7 per 100,000. Ninety-two percent (161 deaths) were between 25 and 64 years old. The median age of all stimulant poisoning deaths was 47.

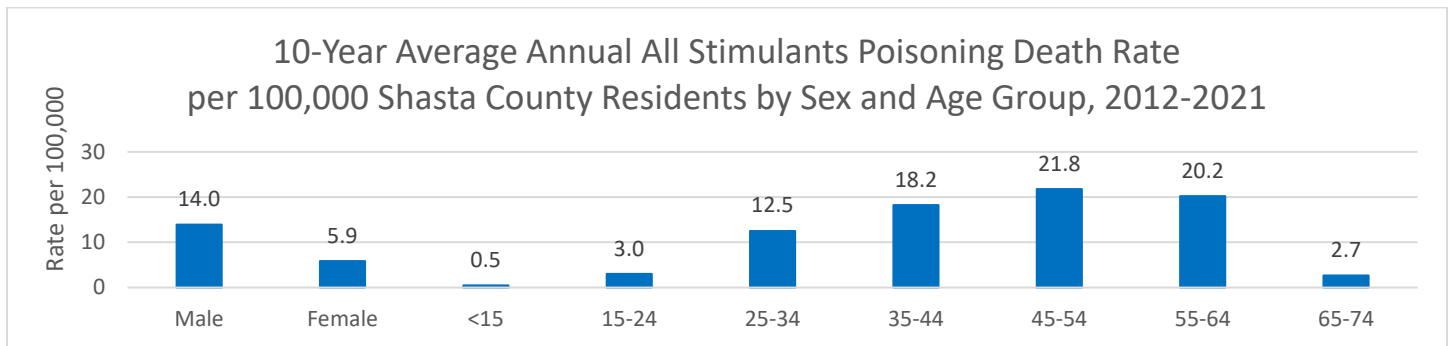


Table 2 provides the three- and five-year average annual counts and rater per 100,000 Shasta County residents of deaths by heroin poisoning, fentanyl poisoning, methadone poisoning, all opioid poisoning (including heroin and methadone), amphetamine poisoning and all stimulant poisoning for 2012-2021.

Table 2.

3- and 5 Year Average Annual Counts and Rates of Opioid and Amphetamine Deaths										
Description	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020	2019-2021	2012-2016*	2017-2021*
Average Annual Count of heroin poisoning deaths	1.0	2.0	2.7	5.3	6.0	7.0	7.7	8.3	2.0	8.0
Average Annual Rate of heroin poisoning deaths	0.6	1.1	1.5	3.0	3.4	3.9	4.3	4.7	1.1	4.5
Average Annual Count of fentanyl poisoning deaths	1.0	0.7	0.7	1.0	0.7	2.0	4.0	17.3	2.0	40.0
Average Annual Rate of fentanyl poisoning deaths	0.6	0.4	0.4	0.6	0.4	1.1	2.3	9.8	1.1	22.7
Average Annual Count of methadone poisoning deaths	4.3	2.7	1.7	1.7	1.3	1.0	1.3	1.3	3.2	1.4
Average Annual Rate of methadone poisoning deaths	2.4	1.5	0.9	0.9	0.7	0.6	0.8	0.8	1.8	0.8
Average Annual Count of all opioid poisoning deaths	18.3	17.7	17.3	19.0	16.3	16.3	16.7	29.0	17.8	23.8
Average Annual Rate of all opioid poisoning deaths	10.3	9.9	9.7	10.7	9.2	9.2	9.4	16.3	9.9	13.4
Average Annual Count of amphetamine poisoning deaths	11.3	11.0	10.7	11.0	16.0	20.3	23.3	26.3	10.4	23.6
Average Annual Rate of amphetamine poisoning deaths	6.3	6.1	6.0	6.2	9.0	11.4	13.1	14.8	5.8	13.3
Average Annual Count of all stimulant poisoning deaths	11.3	11.0	10.7	11.0	16.0	21.0	24.7	28.0	10.4	24.6
Average Annual Rate of all stimulant poisoning deaths	6.3	6.1	6.0	6.2	9.0	11.8	13.9	15.8	5.8	13.8

* Fentanyl counts and rates are for 2012-2020 and 2021 in these columns instead of 2012-2016 and 2017-2021.

Note: Counts and rates for all opioid poisoning deaths also include heroin, fentanyl, and methadone poisonings. Because some cases include more than one opioid ICD 10 code in the multiple cause of death fields, they will not add up to the total number of poisoning deaths.

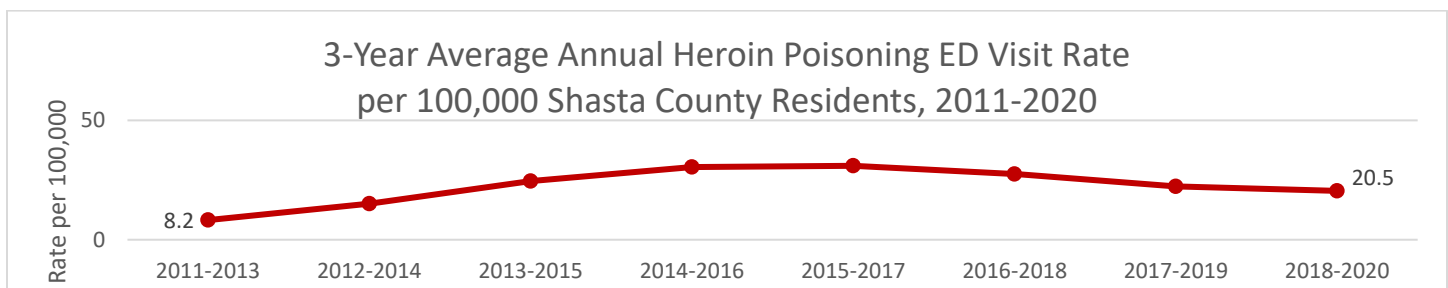
2015 shift from ICD 9 to ICD 10 diagnosis codes for ED Visits and Hospitalizations

On 10/1/2015 the California Office of Statewide Health Planning and Development (OSHPD) shifted from using ICD 9 codes to using ICD 10 codes for the diagnoses and external cause of injury in both ED visits and Hospitalizations. There is not a one-to-one correlation between the two code sets, so caution should be used in comparing pre-2015 ED visit and hospitalization counts and rates to 2015 and subsequent years.

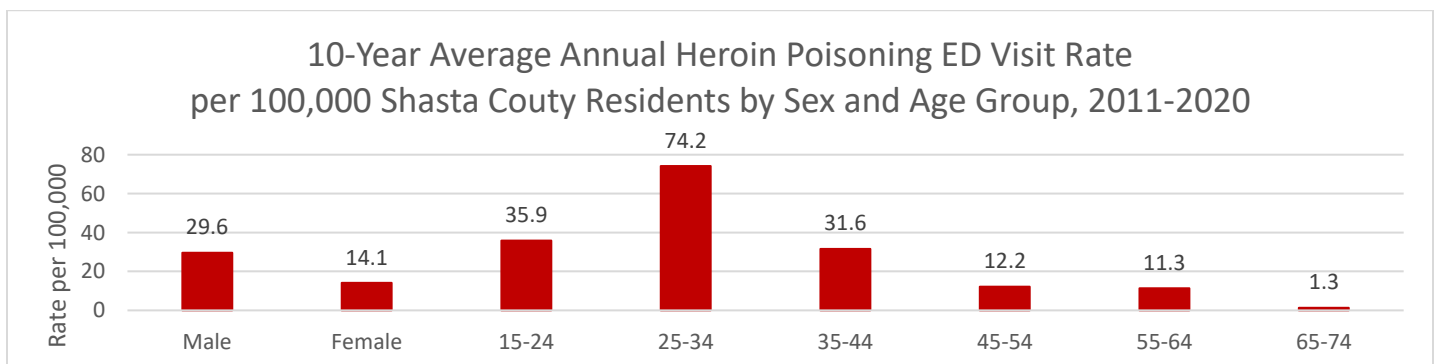
In previous versions of this report, the ED Visit counts and rates were based only on primary diagnosis and/or primary external cause of injury codes. The Council of State and Territorial Epidemiologist (CSTE) Standard is to include all cases with appropriate ICD 9 or ICD 10 codes in any diagnosis and/or external cause of injury position, which will ensure that all cases related to the drug of interest will be included. This report will include all cases with the appropriate ICD 9 or ICD 10 code in any diagnosis and/or external cause of injury position, which may cause the counts and rates to be different from previous reports.

Opioid and amphetamine ED visits

Between 2011 and 2020, there were 362 heroin poisoning ED visits¹¹, an average of just over 36 per year. Individuals may have more than one heroin poisoning ED visit per year. The 2011-2013 three-year average annual rate of heroin poisoning ED visits was 8.2 per 100,000 Shasta County Residents. The rate increased 83% to 15.1 for 2012-2014 and increased again by 63% to 24.6 per 100,000 for 2013-2015. Both increases were statistically significant at the 95% confidence level. The average annual rate peaked at 31.0 for 2015-2017 and was for 2018-2020 was 20.5 per 100,000 Shasta County residents. Due to small annual numbers, counts and rates for heroin poisoning ED visits should be considered unstable².

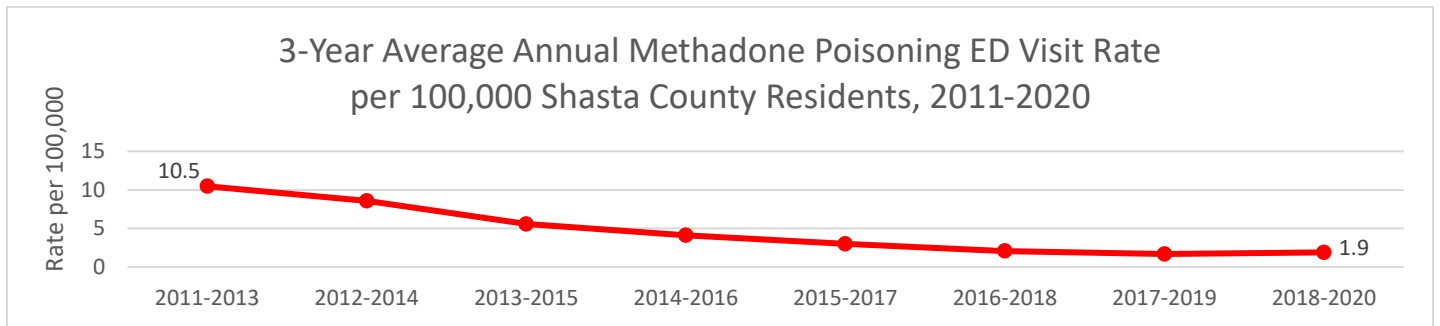


The 10-year average rate for males was 29.6 per 100,000 and the female rate was 14.1, which means males are 2.1 times more likely than females to visit the ED for heroin poisoning. This is a statistically significant difference at the 95% confidence level. For age groups, 15-24 was 35.9, 25-34 was 74.2, 35-44 was 31.6, 45-54 was 12.2, 55-64 was 11.3, and 65-74 was 1.3 per 100,000. Eighty-four percent (303 ED visits) were between 15 and 44 years old. The median age for heroin poisoning ED visits was 29.

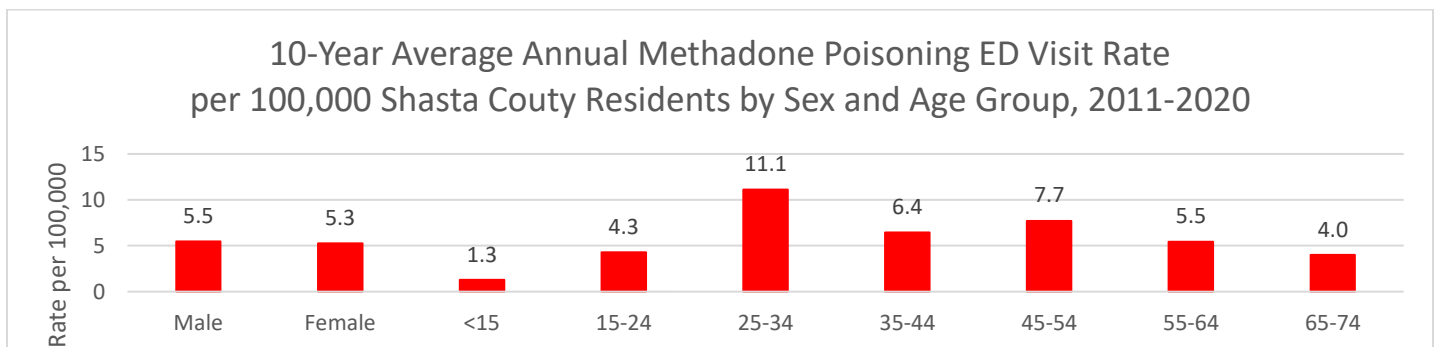


During this same time frame, there were 90 methadone poisoning ED visits¹², an average of nine per year. Individuals may have more than one methadone poisoning ED visit per year. The three-year average annual rate of

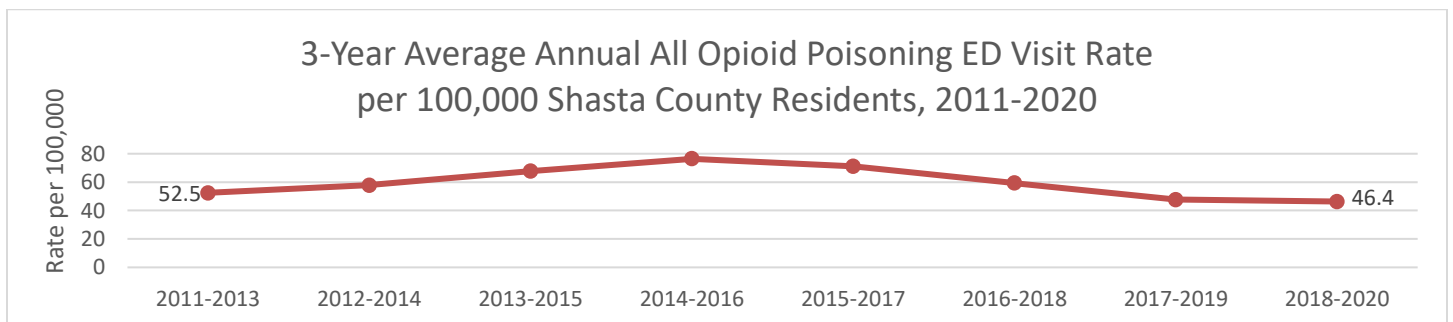
methadone poisoning ED visits was at 10.5 per 100,000 Shasta County Residents for 2011-2013. The rate has since trended down and was 1.9 per 100,000 for 2018-2020. There were no statistically significant differences noted during the period under study. Due to small annual numbers, counts and rates for methadone poisoning ED visits should be considered unstable².

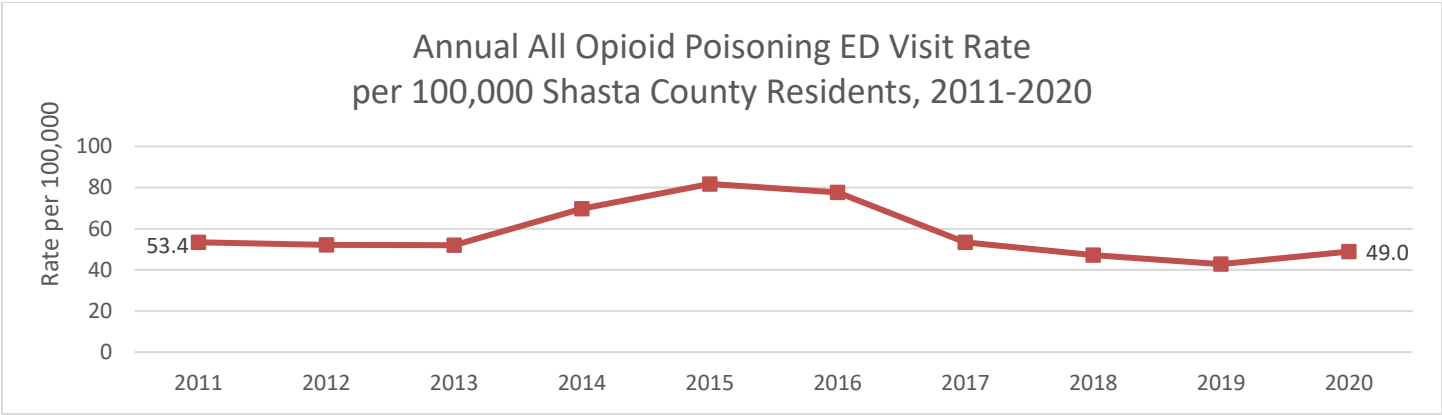


The 10-year average rate for males was 5.5 per 100,000 and the female rate was 5.3, which means males are 1.04 times more likely than females to visit the ED for methadone poisoning. This is not a statistically significant difference. For age groups, <15 was 1.3. 15-24 was 4.3, 25-34 was 11.1, 35-44 was 6.4, 45-54 was 7.7, 55-64 was 5.5, and 65-74 was 4.0 per 100,000. Seventy-four percent (67 ED visits) were between 25 and 64 years old. The median age for methadone poisoning ED visits was 40.

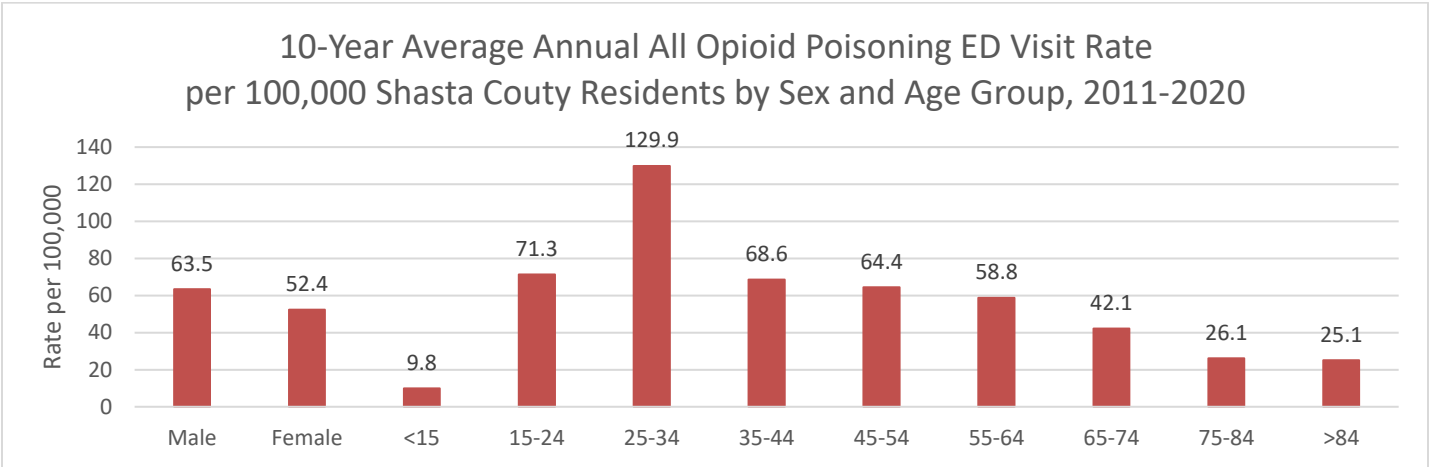


Until 2019, Heroin and methadone are the only opioids with individual ICD 9 and ICD 10 codes. In 2020 specific codes were added to track fentanyl and there were four fentanyl related ED Visits¹³ recorded in 2020. There were 1,032 total opioid poisoning ED visits¹⁴ (including heroin, methadone, and fentanyl) during the period under study, an average of more than 103 per year. Individuals may have more than one opioid poisoning ED visit per year. The three-year average annual rate of opioid poisoning ED visits per 100,000 Shasta County Residents was 52.2 for 2011-2013 and was 46.4 for 2018-2020. There were no statistically significant differences noted during the period under study.

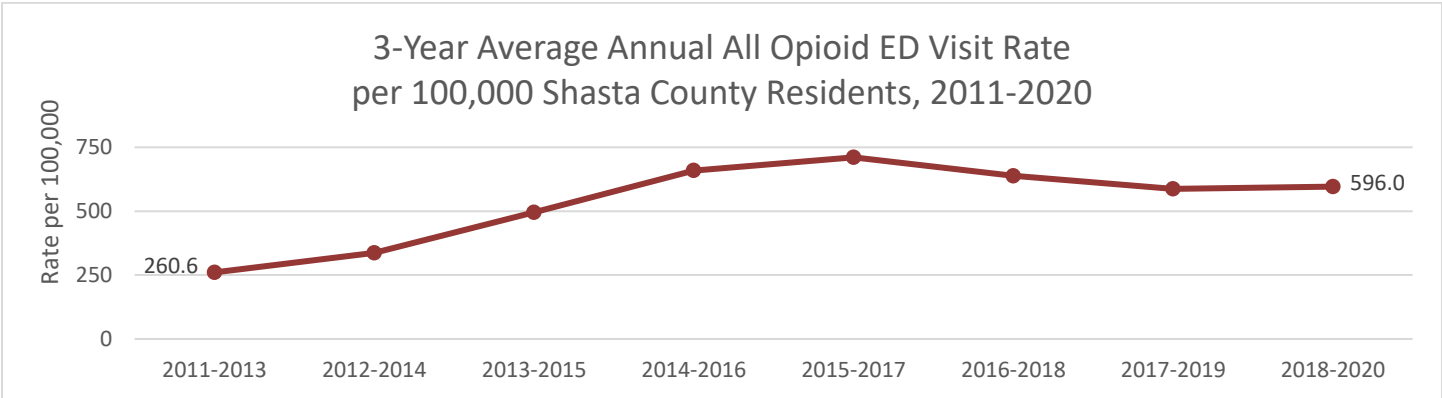


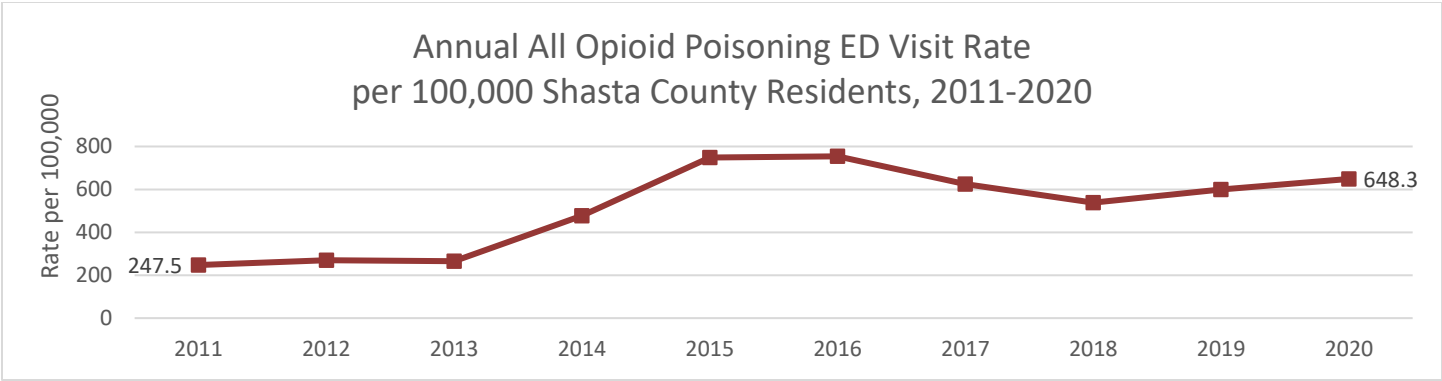


The 10-year average rate for males was 63.5 per 100,000 and the female rate was 52.4, which means males are 1.2 times more likely than females to visit the ED for all opioid poisoning. This is not a statistically significant difference. For age groups, <15 was 9.8, 15-24 was 71.3, 25-34 was 129.9, 35-44 was 68.6, 45-54 was 64.4, 55-64 was 58.8, 65-74 was 42.1, 75-84 was 26.1, and >84 was 25.1 per 100,000. Eighty-four percent (868 ED visits) were between 15 and 64 years old. The median age for all opioid poisoning ED visits was 35.

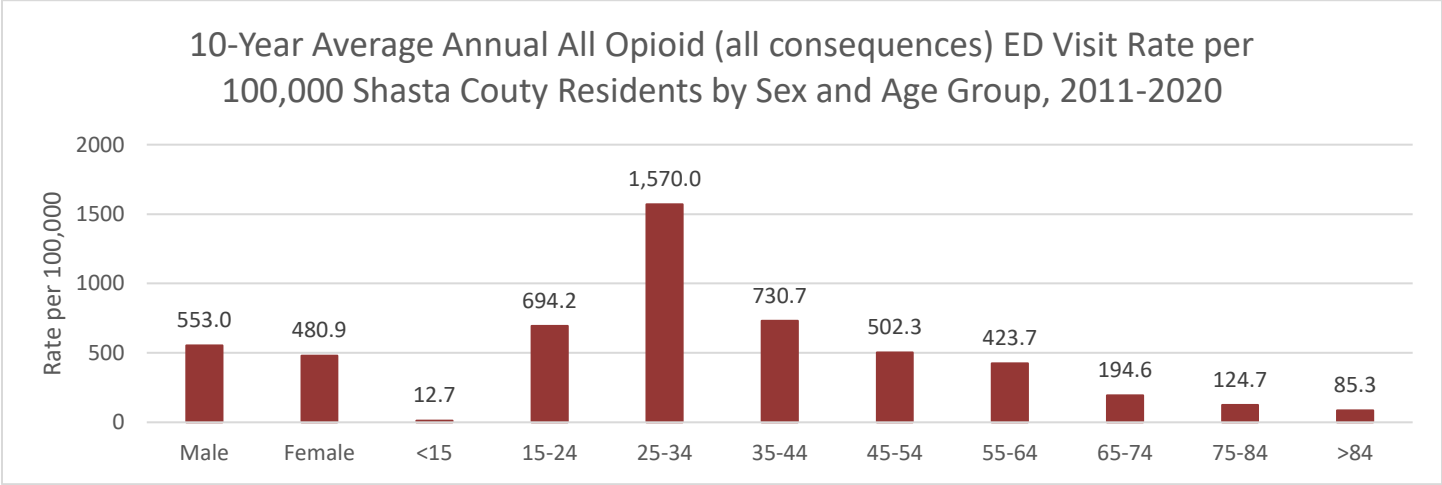


There were 9,210 opioid (all consequences) ED visits¹⁵, an average of 921 per year. Individuals may have more than one opioid (all consequences) ED visit per year. In addition to poisonings, this category includes opioid related drug mental disorders. The three-year average annual rate of opioid (all consequences) ED visits was 260.2 per 100,000 Shasta County Residents for 2011-2013. The rate increased 90% to 495.6 per 100,000 for 2013-2015. This increase was statistically significant at the 95% confidence level. The rate for 2018-2020 was 596.0 per 100,000.

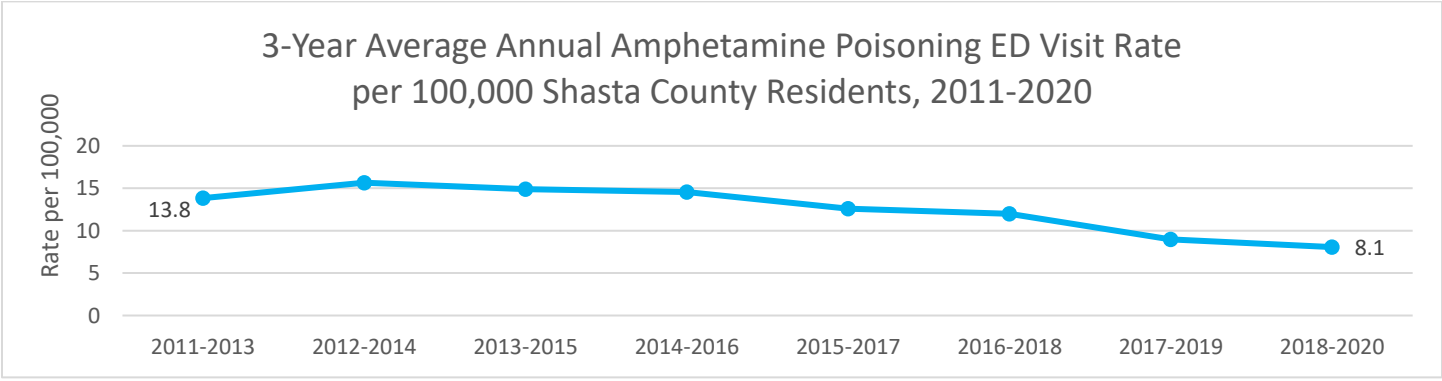




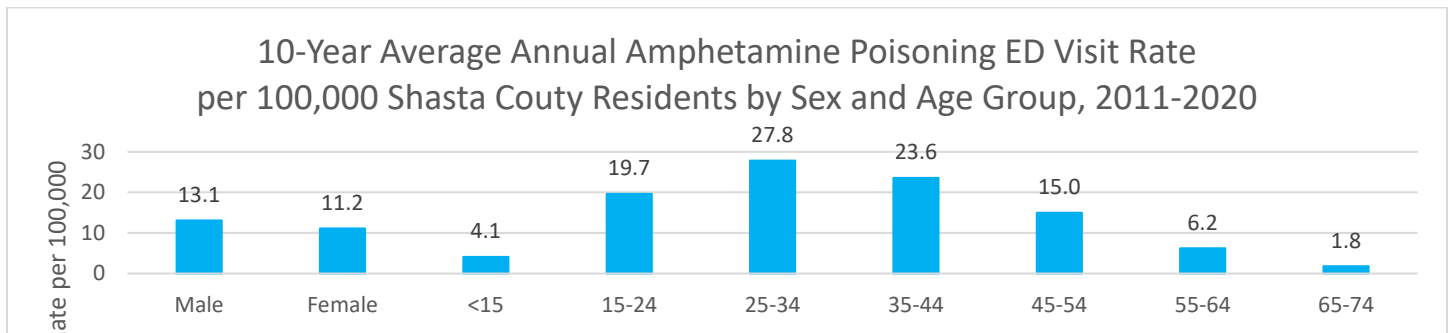
The 10-year average rate for males was 553.0 per 100,000 and the female rate was 480.9, which means males are 1.1 times more likely than females to visit the ED for all opioid (all consequences). This is not a statistically significant difference. For age groups, <15 was 12.7, 15-24 was 694.2, 25-34 was 1,570.0, 35-44 was 730.7, 45-54 was 502.3, 55-64 was 423.7, 65-74 was 194.6, 75-84 was 124.7, and >84 was 85.3 per 100,000. Eighty-one percent (7,480 ED visits) were between 15 and 54 years old. The median age for opioid (all consequences) ED visits was 32.



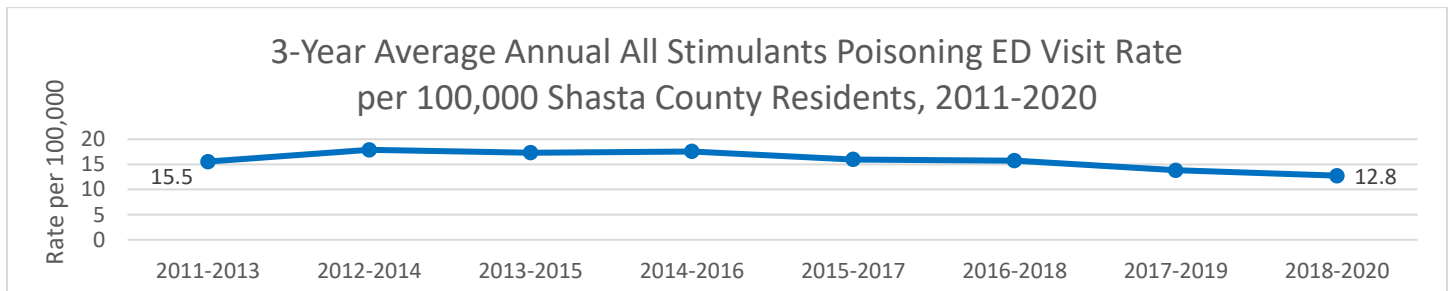
During this same time frame, there were 216 amphetamine poisoning ED visits¹⁶, an average of over 21 per year. As mentioned previously, the ICD 9 and ICD 10 code sets do not distinguish between amphetamine and methamphetamine. Individuals may have more than one amphetamine poisoning ED visit per year. The three-year average annual rate of amphetamine poisoning ED visits was 13.8 per 100,000 for 2011-2013 and 8.1 for 2018-2020. There were no statistically significant changes in amphetamine poisoning ED visits. Due to small annual numbers, counts and rates for amphetamine poisoning ED visits should also be considered unstable².



The 10-year average rate for males was 13.1 per 100,000 and the female rate was 11.2, which means males are 1.2 times more likely than females to visit the ED for amphetamine poisoning. This is not a statistically significant difference. For age groups, <15 was 4.1. 15-24 was 19.7, 25-34 was 27.8, 35-44 was 23.6, 45-54 was 15.0, 55-64 was 6.2, and 65-74 was 1.8 per 100,000. Eighty-five percent (183 ED visits) were between 15 and 54 years old. The median age for amphetamine poisoning ED visits was 32.



During this same time frame, there were 277 all stimulant poisoning ED visits¹⁷, an average of over 27 per year. In addition to amphetamine and methamphetamine, this category includes cocaine, caffeine, methylphenidate, ecstasy, and other and unspecified psychostimulants. Individuals may have more than one all stimulant poisoning ED visit per year. The three-year average annual rate of amphetamine poisoning ED visits was 15.5 per 100,000 for 2011-2013 and 12.8 for 2018-2020. There were no statistically significant changes in amphetamine poisoning ED visits. Due to small annual numbers, counts and rates for amphetamine poisoning ED visits should also be considered unstable².



The 10-year average rate for males was 16.7 per 100,000 and the female rate was 14.4, which means males are 1.2 times more likely than females to visit the ED for amphetamine poisoning. This is not a statistically significant difference. For age groups, <15 was 6.7. 15-24 was 30.3, 25-34 was 31.1, 35-44 was 26.3, 45-54 was 16.8, 55-64 was 9.7, and 65-74 was 3.1 per 100,000. Eighty-one percent (224 ED visits) were between 15 and 54 years old. The median age for all stimulant poisoning ED visits was 30.

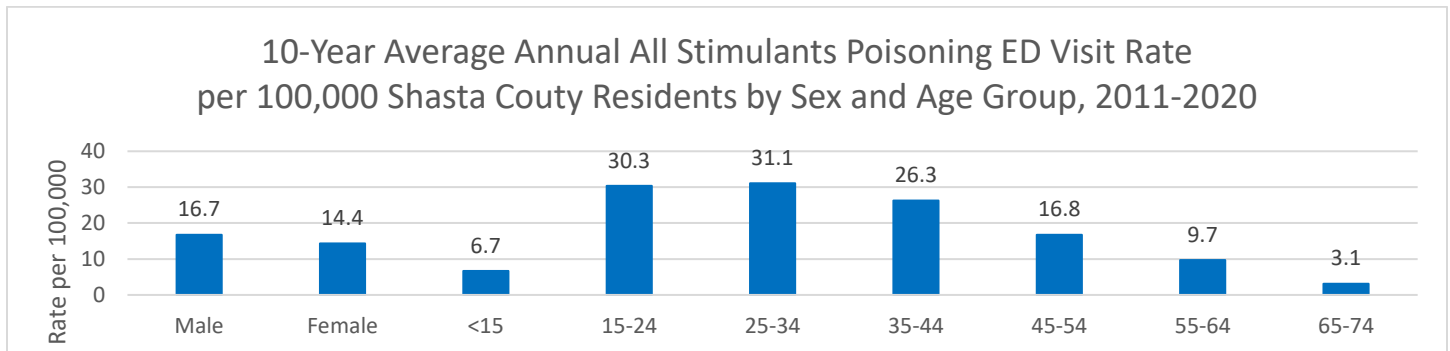


Table 3 provides the three-year average annual count and rate per 100,000 Shasta County Residents of ED visits for heroin poisoning, methadone poisoning, all opioid poisoning, opioid (all consequences), amphetamine poisoning, and all stimulant poisoning by year.

Table 3.

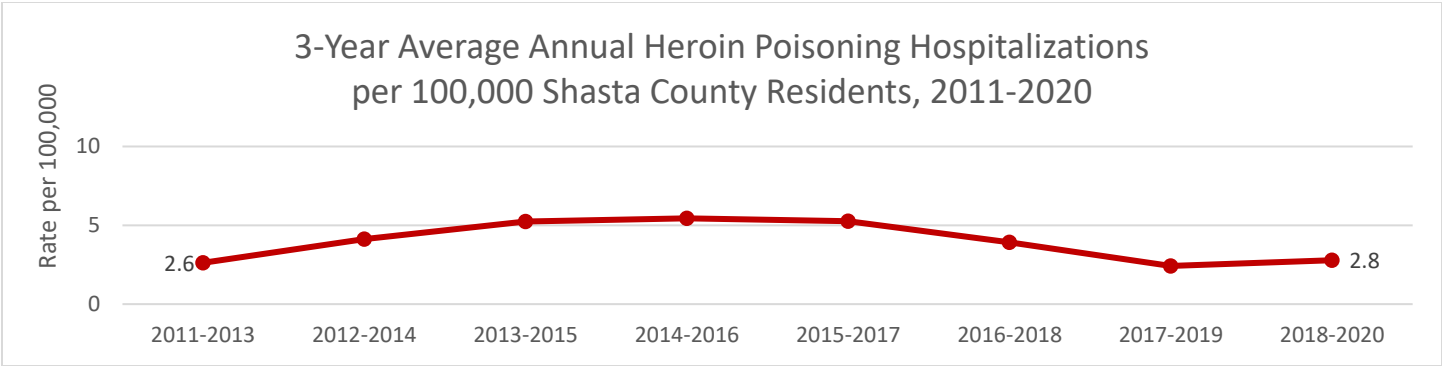
Description	2011-2013	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020
Annual Average Count of Heroin Poisoning ED Visits	14.7	27.0	44.0	54.3	55.0	49.0	39.7	36.3
Annual Average Rate of Heroin Poisoning ED Visits	8.2	15.1	24.6	30.4	31.0	27.5	22.3	20.5
Annual Average Count of Methadone Poisoning ED Visits	18.7	15.3	10.0	7.3	5.3	3.7	3.0	3.3
Annual Average Rate of Methadone Poisoning ED Visits	10.5	8.6	5.6	4.1	3.0	2.1	1.7	1.9
Annual Average Count of All Opioid Poisoning ED Visits	93.7	103.7	121.3	136.3	126.3	105.7	85.0	82.3
Annual Average Rate of All Opioid Poisoning ED Visits	52.5	58.0	67.7	76.4	71.1	59.4	47.8	46.4
Annual Average Count of All Opioid (all consequence) ED Visits	464.7	602.7	887.7	1,176.0	1,262.0	1,136.7	1,045.3	1,058.7
Annual Average Rate of All Opioid (all consequence) ED Visits	260.6	337.0	495.6	658.8	710.7	638.6	587.3	596.0
Annual Average Count of Amphetamine Poisoning ED Visits	24.7	28.0	26.7	26.0	22.3	21.3	16.0	14.3
Annual Average Rate of Amphetamine Poisoning ED Visits	13.8	15.7	14.9	14.6	12.6	12.0	9.0	8.1
Annual Average Count of All Stimulants Poisoning ED Visits	27.7	32.0	31.0	31.3	28.3	28.0	24.7	22.7
Annual Average Rate of Average Count of All Stimulants Poisoning ED Visits	15.5	17.9	17.3	17.6	16.0	15.7	13.9	12.8

Note: the counts and rates for all opioid poisoning ED visits also include heroin and methadone poisonings, the count and rate for opioid (all consequences) ED visits also include opioid poisonings, and the counts and rates for all stimulant poisoning ED visits includes amphetamines.

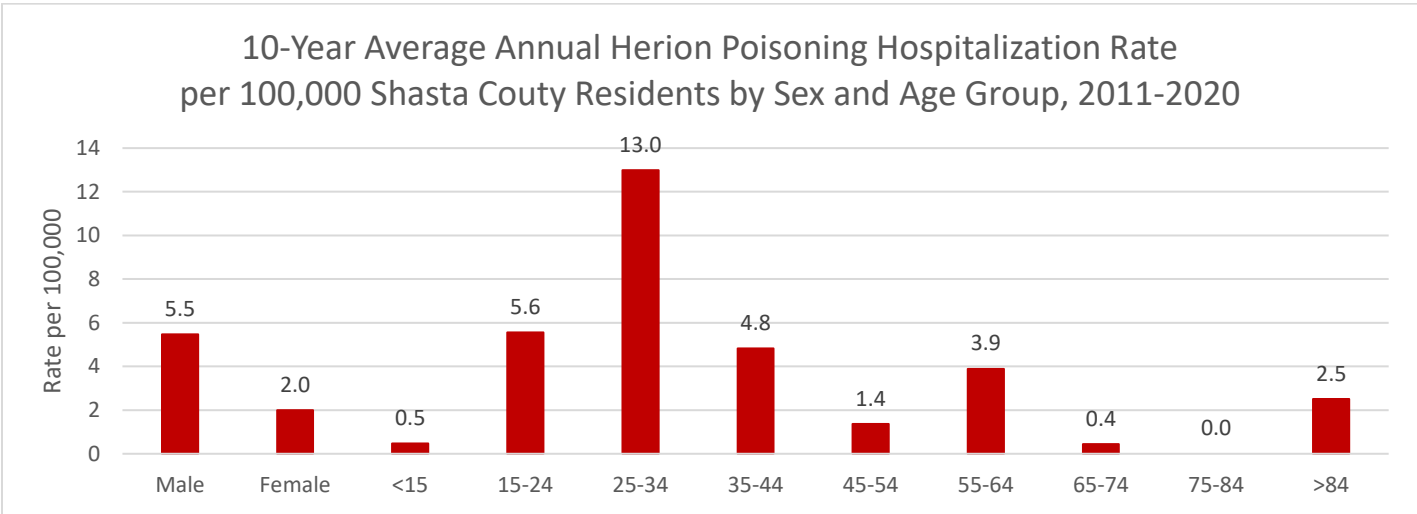
Opioid and amphetamine hospitalizations¹⁸

In previous versions of this report, the hospitalization counts and rates were based only on primary diagnosis and/or primary external cause of injury codes. As with ED visits this report will include all cases with the appropriate ICD 9 or ICD 10 code in any diagnosis and/or external cause of injury position, which may cause the counts and rates to be different from previous reports.

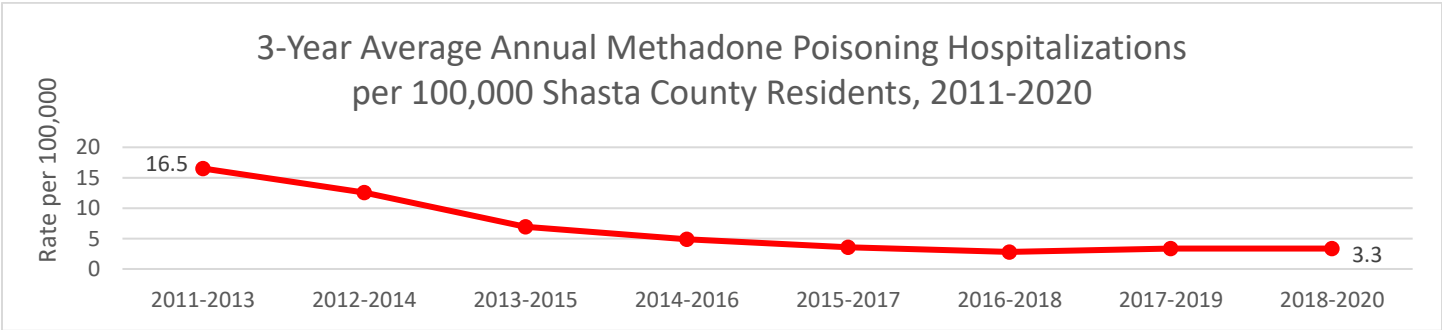
Between 2011 and 2020, there were 66 heroin poisoning hospitalizations, an average of over six per year. Individuals may have more than one heroin poisoning hospitalization per year. The 2011-2013 three-year average annual rate of heroin poisoning hospitalizations was 2.6 per 100,000 Shasta County Residents, 5.4 for 2014-2016, and 2.8 for 2018-2020. There were no statistically significant changes in heroin poisoning hospitalizations. Due to small annual numbers, counts and rates for heroin poisoning hospitalizations should also be considered unstable.



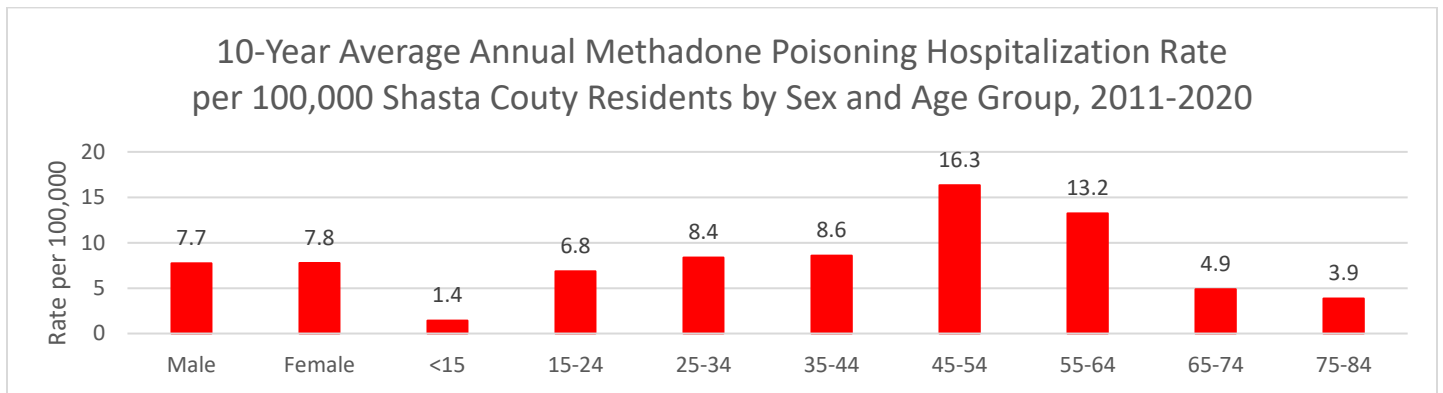
The 10-year average rate for males was 5.5 per 100,000 and the female rate was 2.0, which means females are 3.1 times more likely than males to be hospitalized for heroin poisoning. This is not a statistically significant difference. For age groups, <15 was 0.5, 15-24 was 5.6, 25-34 was 13.0, 35-44 was 4.8, 45-54 was 1.4, 55-64 was 3.9, 65-74 was 0.4, 75-84 was 0.0, and >84 was 2.5 per 100,000. Seventy-six percent (50 hospitalizations) were between 15 and 44 years old. The median age for heroin poisoning hospitalizations was 30.



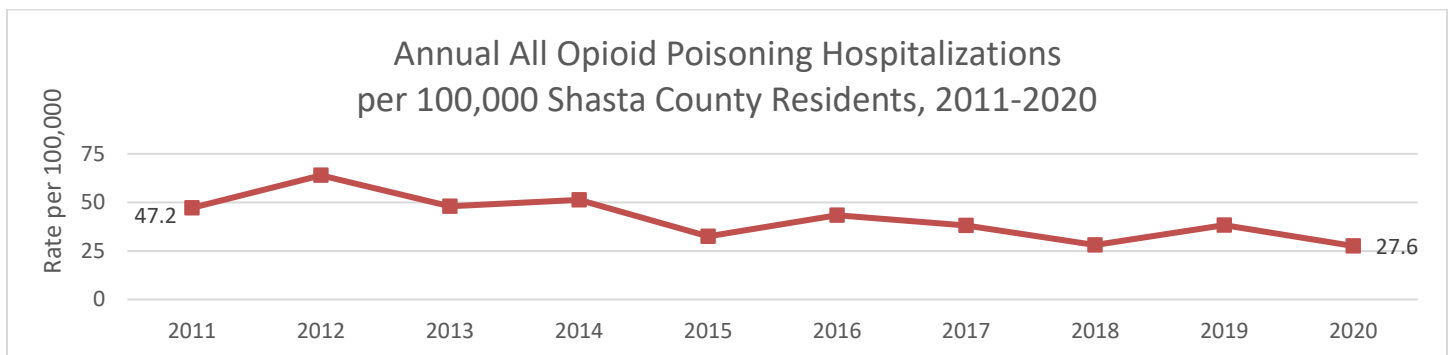
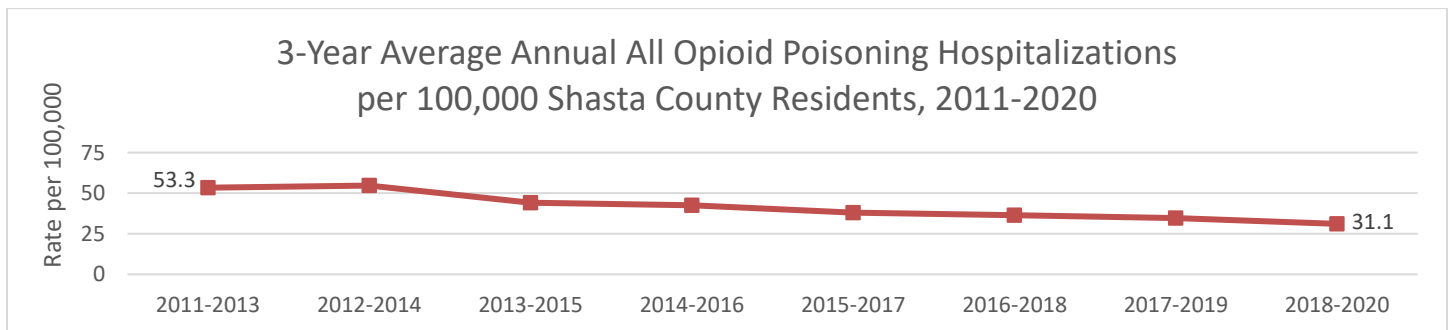
During this same time frame, there were 138 methadone poisoning hospitalizations, an average of just under 14 per year. Individuals may have more than one methadone poisoning hospitalization per year. The three-year average annual rate of methadone poisoning hospitalizations was 16.5 per 100,000 Shasta County Residents for 2011-2013. The rate then decreased to 6.9 for 2013-2015, a statistically significant decrease at the 95% confidence level. The 2018-2020 three-year average annual methadone hospitalization rate was 3.3 per 100,000. Due to small annual numbers, counts and rates for methadone hospitalizations should be considered unstable².



The 10-year average rate for males was 7.7 per 100,000 and the female rate was 7.8, which means females are 1.01 times more likely than males to be hospitalized for methadone poisoning. This is not a statistically significant difference. For age groups, <15 was 1.4, 15-24 was 6.8, 25-34 was 8.4, 35-44 was 8.6, 45-54 was 16.3, 55-64 was 13.2, 65-74 was 4.9, and 75-84 was 3.9 per 100,000. Eighty-seven percent (120 hospitalizations) were between 15 and 64 years old. The median age for methadone poisoning hospitalizations was 48.

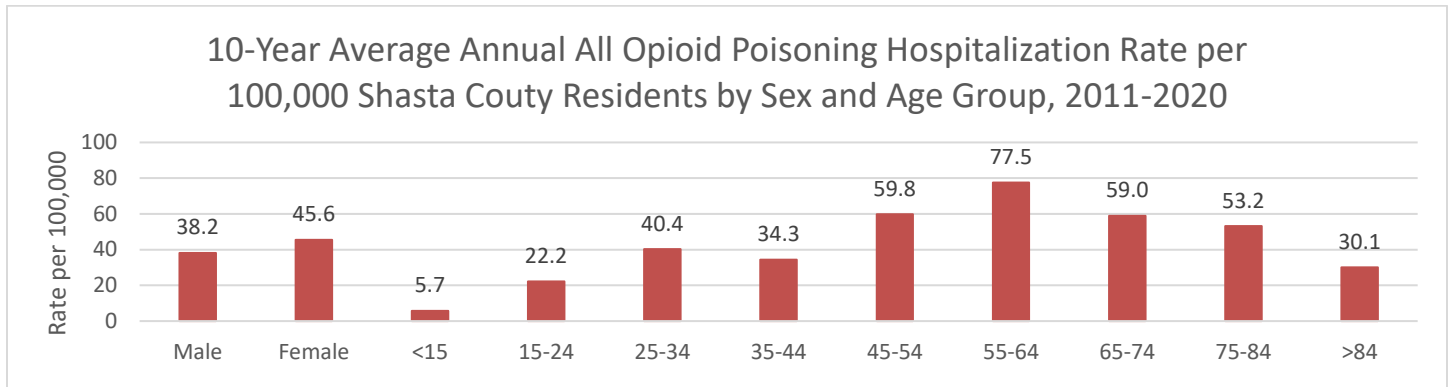


As with ED visits, Heroin and methadone were the only opioids separately listed for hospitalizations through 2019. In 2020 specific codes were added to track fentanyl but there were no fentanyl related hospitalizations recorded that year. There were 746 total opioid poisoning hospitalizations during the period under study, an average of just over 52 per year. Individuals may have more than one opioid poisoning hospitalization per year. The three-year average annual rate of opioid poisoning hospitalizations was 53.3 per 100,000 Shasta County Residents for 2011-2013 and was 31.1 for 2018-2020. There were no statistically significant changes in opioid poisoning hospitalizations.

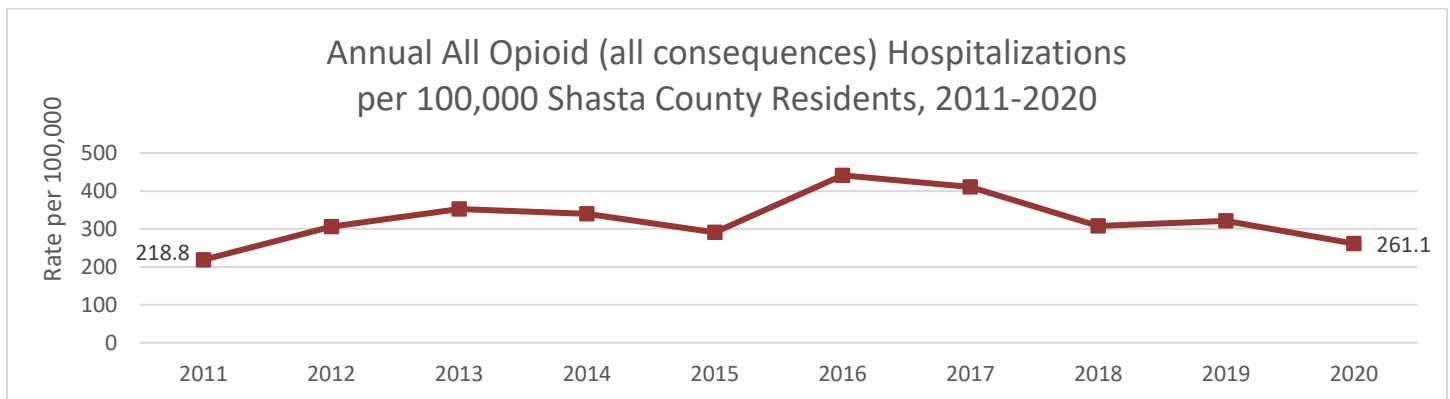
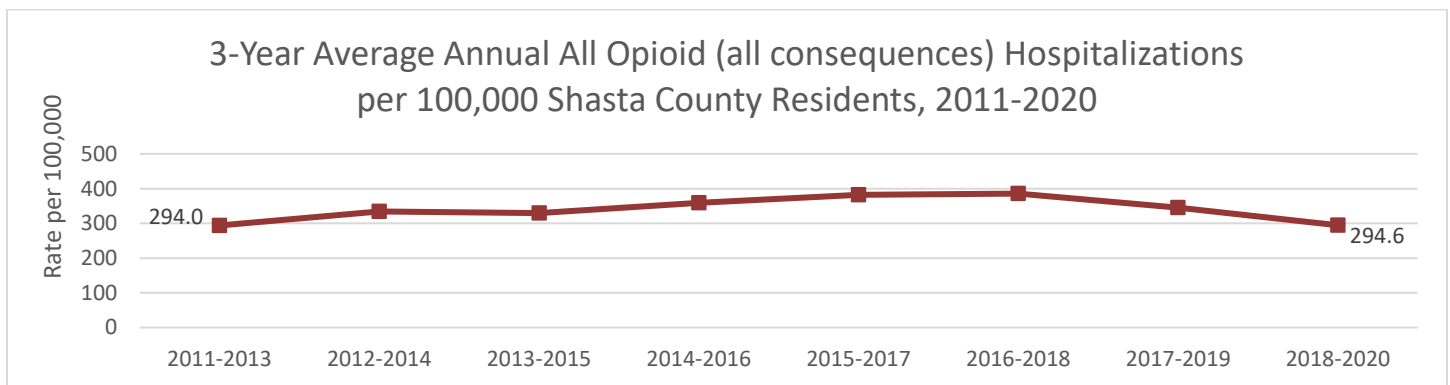


The 10-year average rate for males was 38.2 per 100,000 and the female rate was 45.6, which means females are 1.2 times more likely than males to be hospitalized for any opioid poisoning. This is not a statistically significant difference. For age groups, <15 was 5.7, 15-24 was 22.2, 25-34 was 40.4, 35-44 was 34.3, 45-54 was 59.8, 55-64 was 77.5, 65-74 was 59.0, 75-84 was 53.2, and >84 was 30.1 per 100,000. Eighty-two percent (615

hospitalizations) were between 25 and 74 years old. The median age for all opioid poisoning hospitalizations was 55.

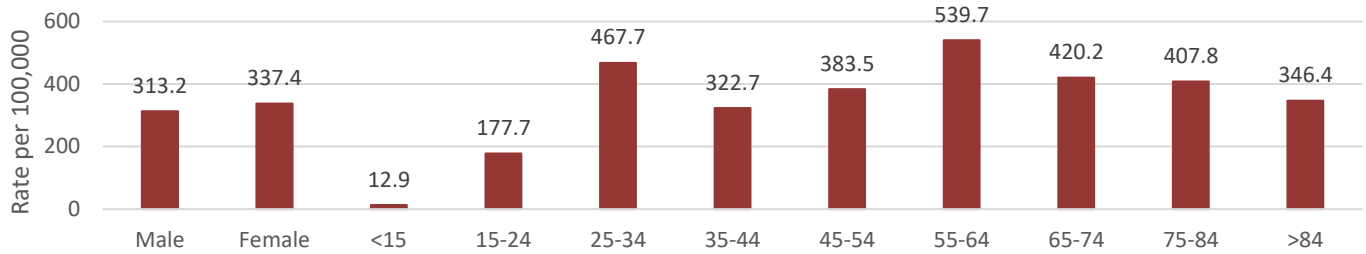


There were 5,793 opioid (all consequences) hospitalizations during the period under study, an average of just over 57 per year. Individuals may have more than one opioid (all consequences) hospitalization per year. The three-year average annual rate of opioid (all consequences) hospitalizations was 294.0 per 100,000 Shasta County residents for 2011-2013 and 294.6 for 2018-2020. There were no statistically significant changes in opioid (all consequences) poisoning hospitalizations.



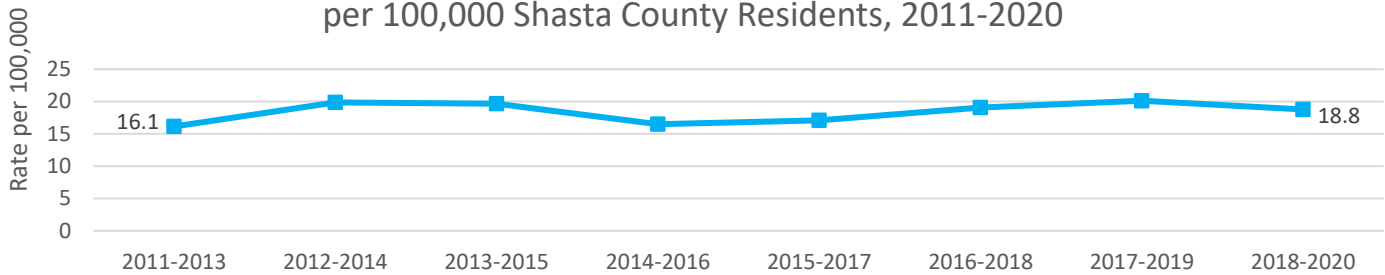
The 10-year average rate for males was 313.2 per 100,000 and the female rate was 337.4, which means females are 1.08 times more likely than males to be hospitalized for all opioids (all consequences). This is not a statistically significant difference. For age groups, <15 was 12.9, 15-24 was 177.7, 25-34 was 467.7, 35-44 was 322.7, 45-54 was 383.5, 55-64 was 539.7, 65-74 was 420.2, 75-84 was 407.8, and >84 was 346.4 per 100,000. Eighty-three percent (4,790 hospitalizations) were between 25 and 74 years old. The median age for all opioid (all consequences) hospitalizations was 53.

10-Year Average Annual All Opioid (all consequences) Hospitalization Rate per 100,000 Shasta County Residents by Sex and Age Group, 2011-2020



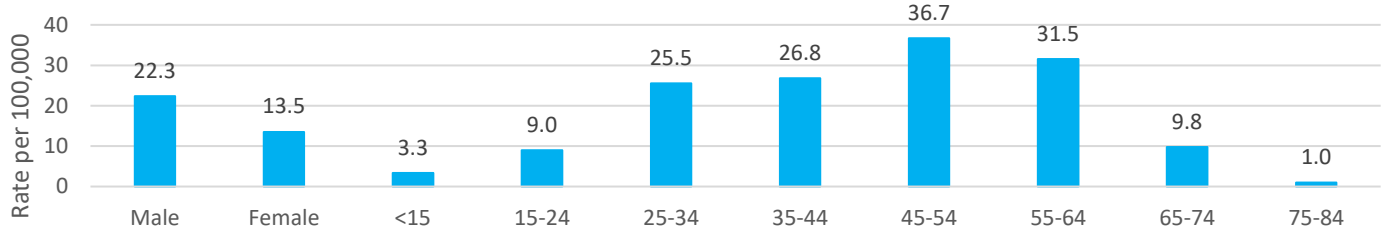
During this same time frame, there were 318 amphetamine poisoning hospitalizations, an average of just under 32 per year. As previously mentioned, the ICD 9 and ICD 10 code sets do not distinguish between amphetamine and methamphetamine. Individuals may have more than one amphetamine poisoning hospitalizations per year. The three-year average annual amphetamine poisoning rate was 16.1 per 100,000 Shasta County residents for 2011-2013 and was 18.8 for 2018-2020. There were no statistically significant changes noted in amphetamine poisoning hospitalizations. Due to small annual numbers, counts and rates for amphetamine poisoning hospitalizations should also be considered unstable².

3-Year Average Annual Amphetamine Poisoning Hospitalizations per 100,000 Shasta County Residents, 2011-2020



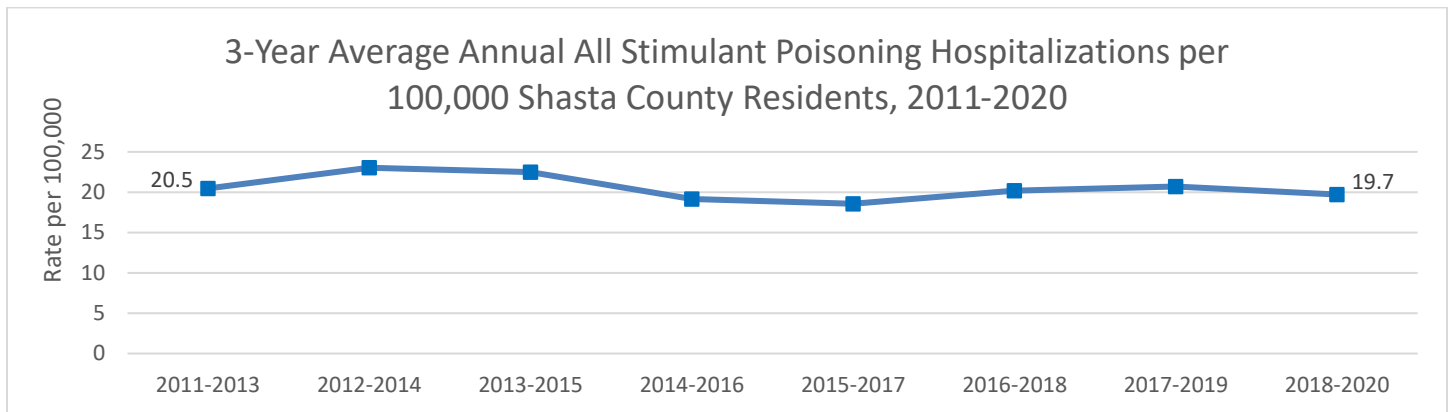
The 10-year average rate for males was 22.3 per 100,000 and the female rate was 13.5, which means males are 1.7 times more likely than females to be hospitalized for amphetamine poisoning. This is not a statistically significant difference. For age groups, <15 was 3.3, 15-24 was 9.0, 25-34 was 25.5, 35-44 was 26.8, 45-54 was 36.7, 55-64 was 31.5, 65-74 was 9.8, and 75-84 was 1.0 per 100,000. Eighty-four percent (267 hospitalizations) were between 25 and 74 years old. The median age for amphetamine poisoning hospitalizations was 47.

10-Year Average Annual Amphetamine Poisoning Hospitalization Rate per 100,000 Shasta County Residents by Sex and Age Group, 2011-2020



During this same time frame, there were 360 amphetamine poisoning hospitalizations, an average of just under 19 per year. As previously mentioned, the ICD 9 and ICD 10 code sets do not distinguish between amphetamine and

methamphetamine. Individuals may have more than one amphetamine poisoning hospitalizations per year. The three-year average annual amphetamine poisoning rate was 20.5 per 100,000 Shasta County residents for 2011-2013 and was 19.7 for 2018-2020. There were no statistically significant changes noted in amphetamine poisoning hospitalizations. Due to small annual numbers, counts and rates for amphetamine poisoning hospitalizations should also be considered unstable².



The 10-year average rate for males was 24.4 per 100,000 and the female rate was 16.2, which means males are 1.5 times more likely than females to be hospitalized for amphetamine poisoning. This is not a statistically significant difference. For age groups, <15 was 5.7, 15-24 was 11.1, 25-34 was 29.7, 35-44 was 30.6, 45-54 was 42.2, 55-64 was 31.9, 65-74 was 11.1, and 75-84 was 1.0 per 100,000. Eighty-two percent (296 hospitalizations) were between 25 and 64 years old. The median age for all stimulant poisoning hospitalizations was 46.

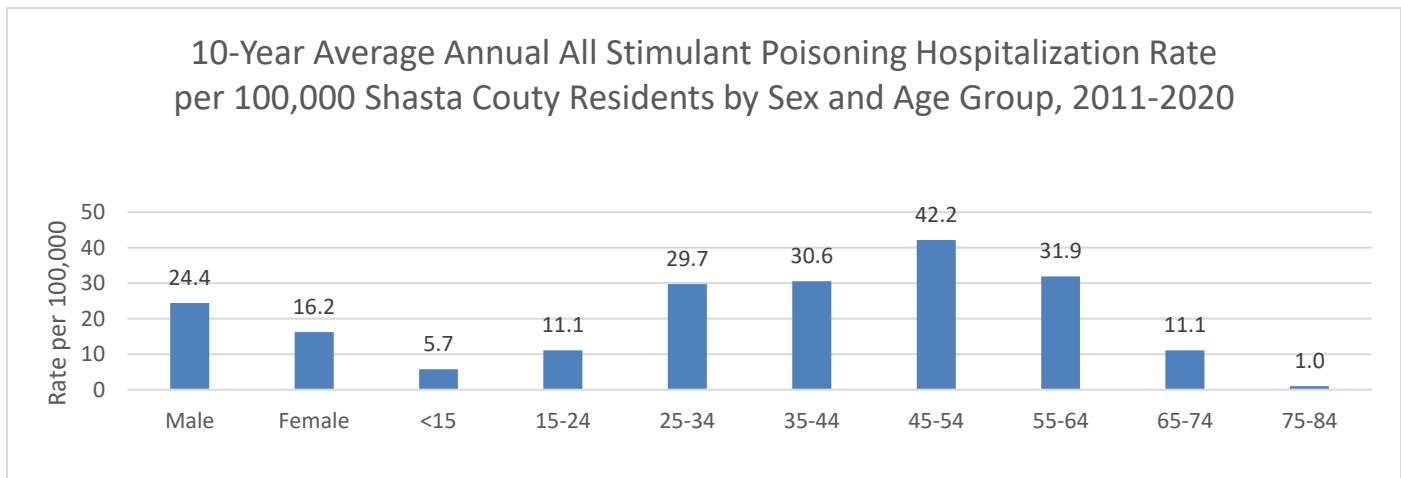


Table 4 on the next page provides the three-year average annual count and rate per 100,000 Shasta County Residents of hospitalizations for heroin poisoning, methadone poisoning, all opioid poisoning, opioid (all consequences), amphetamine poisoning, and all stimulant poisoning, by year.

Table 4.

Description	2011-2013	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020
Annual Average Count of Heroin Poisoning Hospitalizations	4.7	7.3	9.3	9.7	9.3	7.0	4.3	5.0
Annual Average Rate of Heroin Poisoning Hospitalizations	2.6	4.1	5.2	5.4	5.3	3.9	2.4	2.8
Annual Average Count of Methadone Poisoning Hospitalizations	29.3	22.3	12.3	8.7	6.3	5.0	6.0	6.0
Annual Average Rate of Methadone Poisoning Hospitalizations	16.5	12.5	6.9	4.9	3.6	2.8	3.4	3.3
Annual Average Count of All Opioid Poisoning Hospitalizations	94.7	97.3	78.7	75.7	67.7	65.0	62.0	55.7
Annual Average Rate of All Opioid Poisoning Hospitalizations	53.3	54.7	44.2	42.6	38.1	36.5	34.7	31.1
Annual Average Count of All Opioid (all consequence) Hospitalizations	522.0	595.3	586.7	637.7	678.3	687.7	616.7	527.7
Annual Average Rate of All Opioid (all consequence) Hospitalizations	294.0	334.5	329.6	359.0	381.7	385.6	344.8	294.6
Annual Average Count of Amphetamine Poisoning Hospitalizations	28.7	35.3	35.0	29.3	30.3	34.0	36.0	33.7
Annual Average Rate of Amphetamine Poisoning Hospitalizations	16.1	19.9	19.7	16.5	17.1	19.1	20.1	18.8
Annual Average Count of Average Count of All Stimulants Poisoning Hospitalizations	36.3	41.0	40.0	34.0	33.0	36.0	37.0	35.3
Annual Average Rate of Average Count of All Stimulants Poisoning Hospitalizations	20.5	23.0	22.5	19.1	18.6	20.2	20.7	19.7

* Diagnostic codes switched from ICD 9 to ICD 10 codes on 10/1/2015.

Note: the counts and rates for all opioid hospitalizations also include heroin and methadone, the count and rate for opioid (all consequences) hospitalizations also include opioid poisonings, and the counts and rates for all stimulant poisonings include amphetamine poisonings.

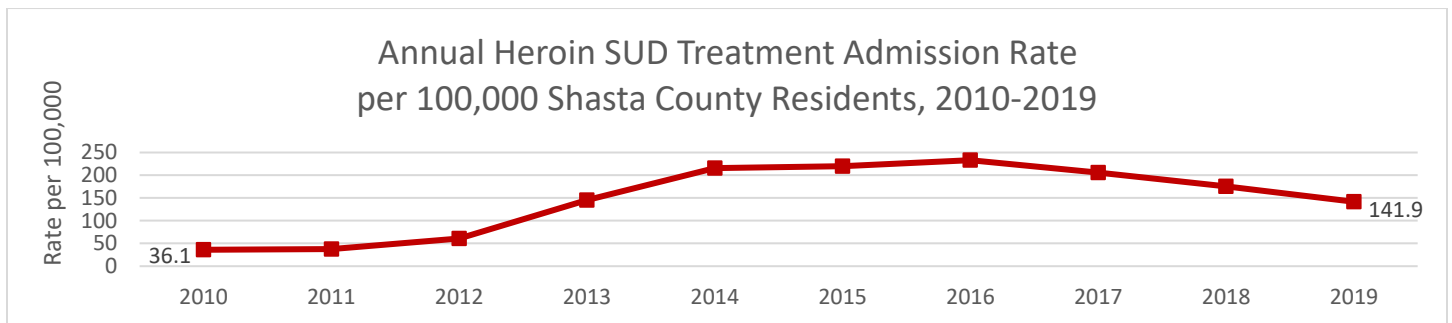
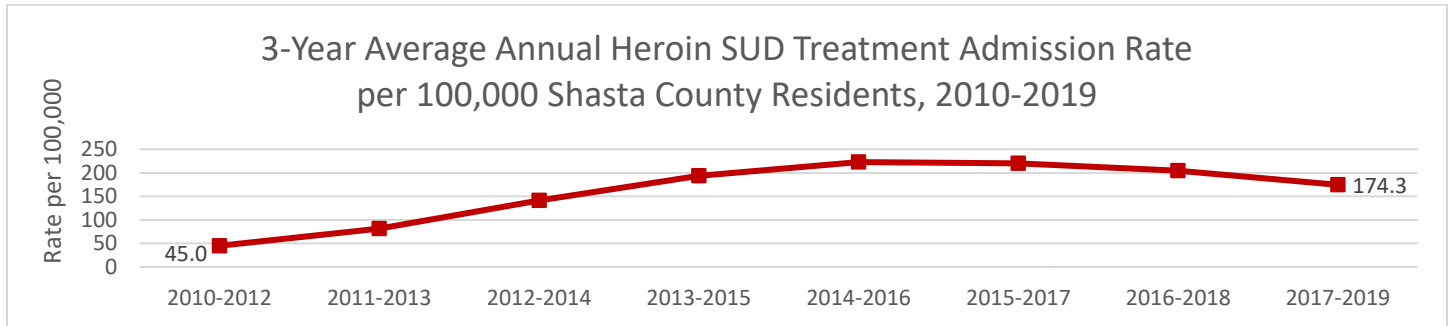
Opioid and methamphetamine related Substance Use Disorder (SUD) treatment program admissions

California Outcomes Measurement Service (CalOMS) data is collected for all SUD treatment program admissions to Shasta County facilities that receive public funding, whether the specific clients are funded by public funds or not. Individuals are counted as Shasta County residence if the recorded ZIP Code is a Shasta County ZIP Code. The opioid categories recorded are heroin, non-prescription methadone, oxycodone/oxycotin, and other opiates or synthetics. There are separate categories for methamphetamine and other amphetamine admissions, but as methamphetamine accounts for 99.8% of the combined total, this paper will only report on methamphetamine related admissions. Other than non-prescription methadone, data is not collected as to whether the drug was prescription.

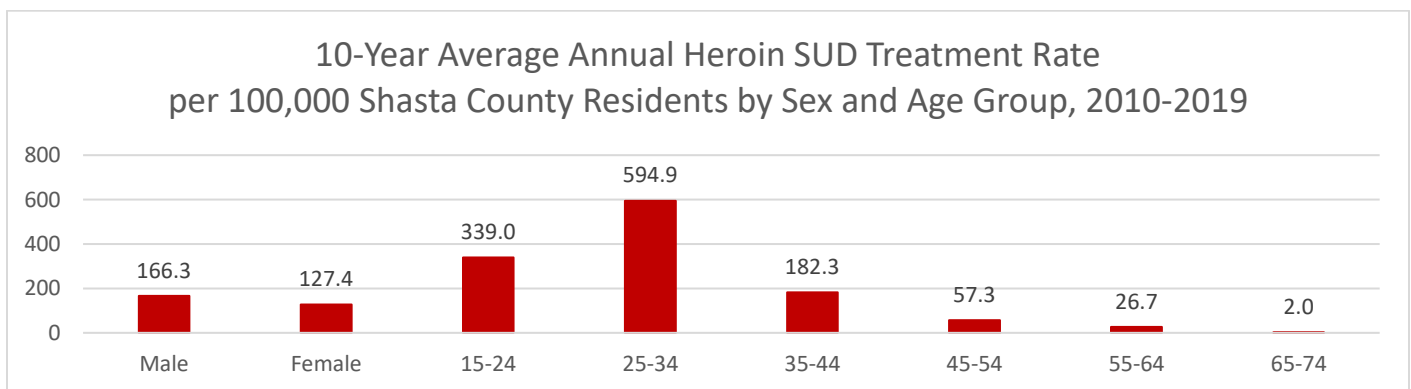
In a previous version of this report, only the primary drug of choice was used to determine the counts and rates for the various categories of SUD treatment admissions. This report uses both the primary and secondary drug of choice, which may cause the counts and rates to be different from previous reports.

Between 2010 and 2019, there were 2,191 SUD treatment program admissions to people with a Shasta County zip code in which the primary drug problem was identified as heroin, an average of just over 219 per year. An Additional 430 admissions identified heroin as the secondary drug problem (Overall, there were 489 admissions that listed an opioid as both the primary and secondary drug. These admissions will be counted in both categories, but only once in the total). Individuals may have more than one heroin related SUD treatment program admission per year.

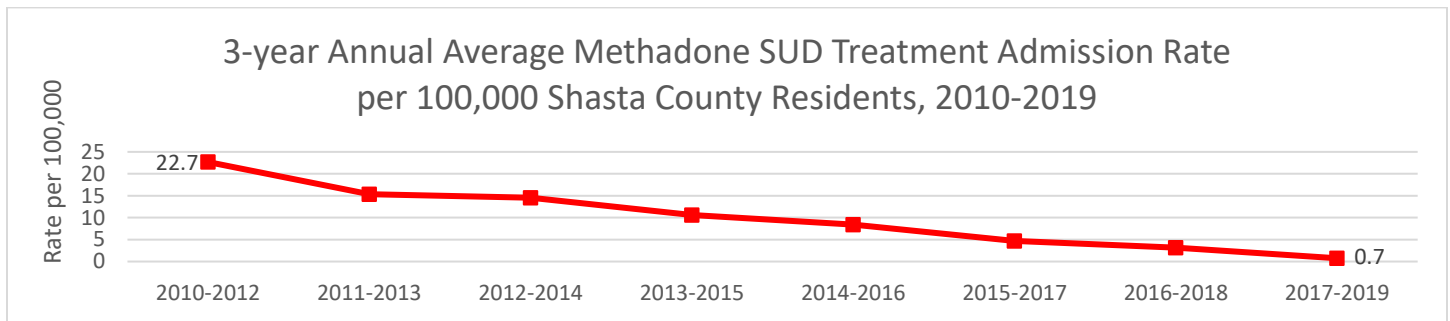
The three-year average rate of heroin related (primary and secondary combined) SUD treatment program admissions increased from 45.0 per 100,000 Shasta County residents for 2010-2012 to peak at 222.8 for 2014-2016. This represents a 395% increase and is statistically significant at the 95% confidence level. The three-year average rate for 2017-2019 fell to 174.3 per 100,000 which is a statistically significant decrease.



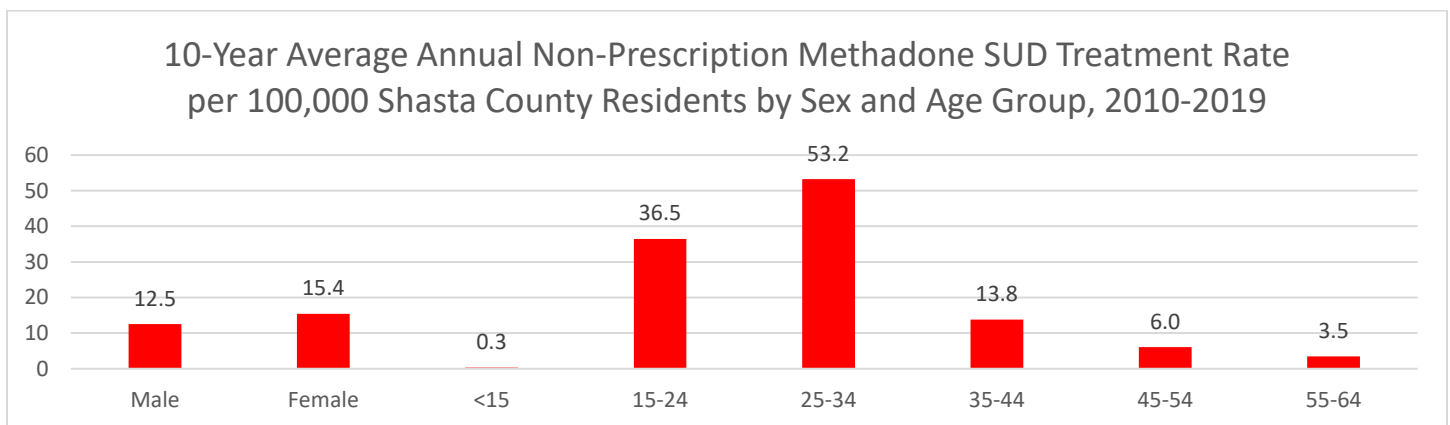
The 10-year average rate for males was 166.3 per 100,000 and the female rate was 127.4, which means males are 1.3 times more likely than females to be admitted to a SUD treatment program for heroin. This is not a statistically significant difference. For age groups, 15-24 was 339.0, 25-34 was 594.9, 35-44 was 182.3, 45-54 was 57.3, 55-64 was 26.7, and 65-74 was 2.0 per 100,000. Seventy-nine percent (2,072 admissions) were between 15 and 34 years old. The median age for heroin related SUD treatment admissions was 27.



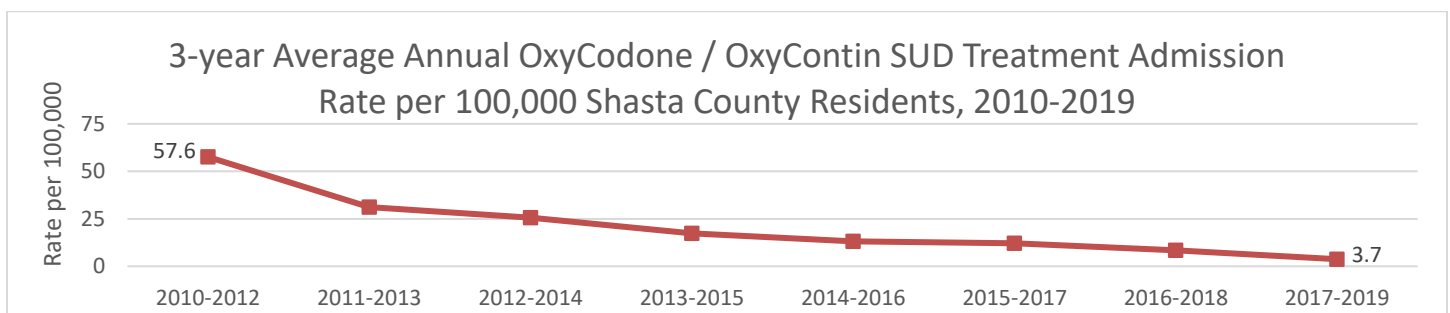
During this same time frame, there were 250 non-prescription methadone related admissions (primary and secondary combined), an average of 25 per year. Individuals may have more than one non-prescription methadone SUD related treatment program admission per year. The three-year average rate for non-prescription methadone related admissions was 22.7 per 100,000 Shasta County Residents for 2010-2012 and has dropped to 0.7 for 2017-2019. This represents a 95% decrease and was statistically significant at the 95% confidence level.



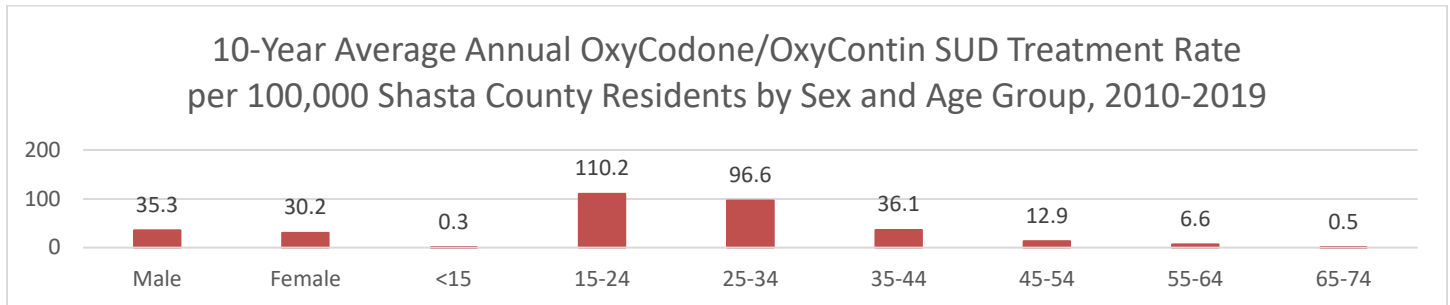
The 10-year average rate for males was 12.5 per 100,000 and the female rate was 15.4, which means females are 1.2 times more likely than males to be admitted to a SUD treatment program for methadone. This is not a statistically significant difference. For age groups, <15 was 0.3, 15-24 was 36.5, 25-34 was 53.2, 35-44 was 13.8, 45-54 was 6.0, and 55-64 was 3.5 per 100,000. Eighty percent (200 admissions) were between 15 and 34 years old. The median age for methadone related SUD treatment admissions was 27. Due to small annual numbers, counts and rates for methadone SUD treatment admissions should also be considered unstable.



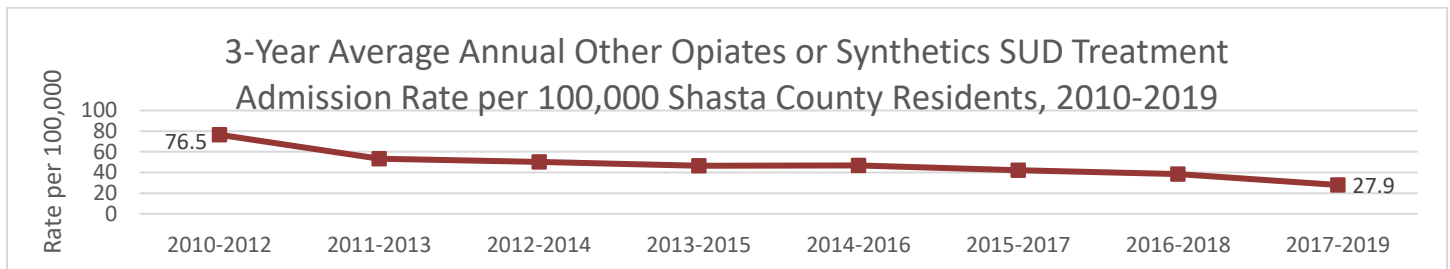
There were 586 oxycodone/oxycontin related admissions (primary and secondary combined) during the study period, an average of over 58 per year. Individuals may have more than one oxycodone/oxycontin related SUD treatment program admission per year. The three-year average rate for oxycodone/oxycontin related admissions was 57.6 per 100,000 in 2010-2012 and has since declined 94% to 3.7 per 100,000 for 2017-2019. This change was also statistically significant at the 95% confidence level.



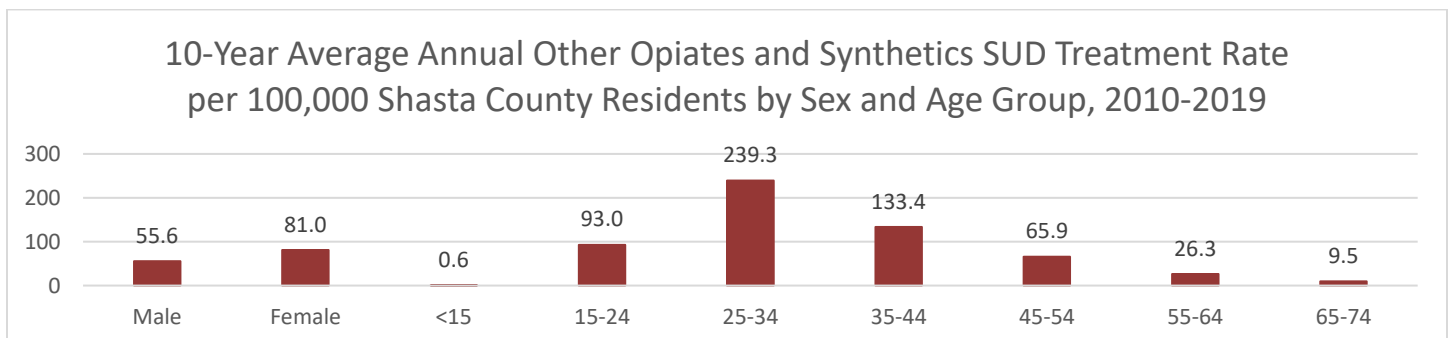
The 10-year average rate for males was 35.3 per 100,000 and the female rate was 30.2, which means males are 1.2 times more likely than females to be admitted to a SUD treatment program for oxycodone/oxycontin. This is not a statistically significant difference. For age groups, <15 was 0.3, 15-24 was 110.2, 25-34 was 96.6, 35-44 was 36.1, 45-54 was 12.9, 55-64 was 6.6, and 65-74 was 0.5 per 100,000. Eighty percent (468 admissions) were between 15 and 34 years old. The median age for oxycodone/oxycontin related SUD treatment admissions was 25. Due to small annual numbers, counts and rates for oxycodone/oxycontin SUD treatment admissions should also be considered unstable.



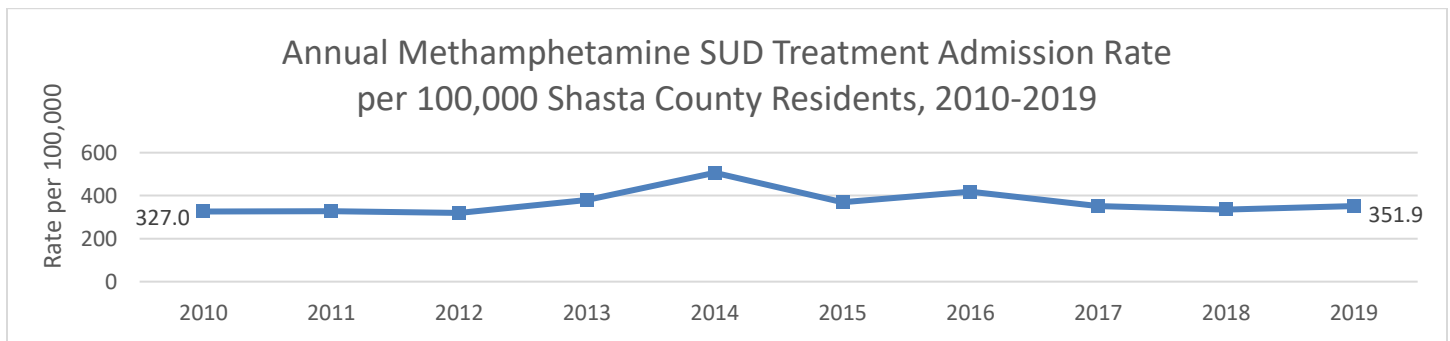
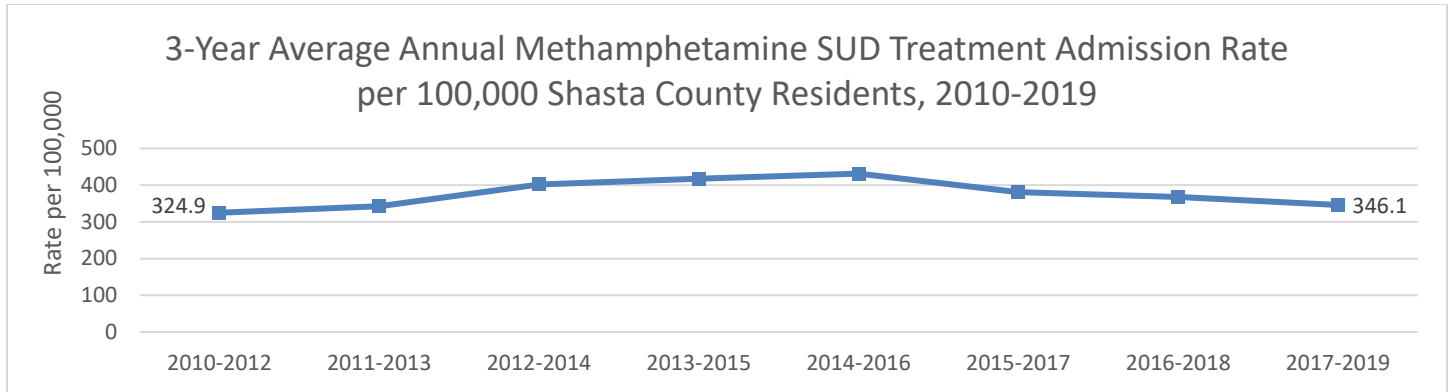
During this same time frame, there were 1,227 admissions (primary and secondary combined) for other opiates or synthetics, an average of just under 123 per year. Individuals may have more than one other opiates or synthetics related SUD treatment program admission per year. The three-year average rate was 76.5 per 100,000 Shasta County Residents for 2010-2012 and was 27.9 for 2017-2019. This is a statistically significant decrease at the 95% confidence level. The top five specific opioids recorded in this category, accounting for 94% of admissions were: Norco, methadone, Vicodin, Percocet, and Dilaudid.



The 10-year average rate for males was 55.6 per 100,000 and the female rate was 81.0, which means females are 1.5 times more likely than males to be admitted to a SUD treatment program for other opiates or synthetics. This is not a statistically significant difference. For age groups, <15 was 0.6, 15-24 was 93.0, 25-34 was 239.3, 35-44 was 133.4, 45-54 was 65.9, 55-64 was 26.3, and 65-74 was 9.5 per 100,000. Eighty percent (981 admissions) were between 15 and 44 years old. The median age for other opiates and synthetics related SUD treatment admissions was 31. Due to small annual numbers, counts and rates for other opiates and synthetics SUD treatment admissions should also be considered unstable.



There were 6,569 methamphetamine related admissions (primary and secondary combined) during the study period, an average of just under 660 per year. Individuals may have more than one methamphetamine related SUD treatment program admission per year. The three-year average rate for methamphetamine related admissions went from 324.9 per 100,000 for 2010-2012 to 431.4 for 2014-2016, a statistically significant increase at the 95% confidence level. The then rate dropped to 346.1 for 2017-2019, which represents a statistically significant decrease.



The 10-year average rate for males was 354.3 per 100,000 and the female rate was 378.4, which means females are 1.1 times more likely than males to be admitted to a SUD treatment program for methamphetamines. This is not a statistically significant difference. For age groups, <15 was 2.8, 15-24 was 479.0, 25-34 was 1,304.3, 35-44 was 856.3, 45-54 was 348.0, 55-64 was 79.3, and 65-74 was 4.5 per 100,000. Eighty-four percent (5,523 admissions) were between 15 and 44 years old. The median age for other methamphetamine related SUD treatment admissions was 31.

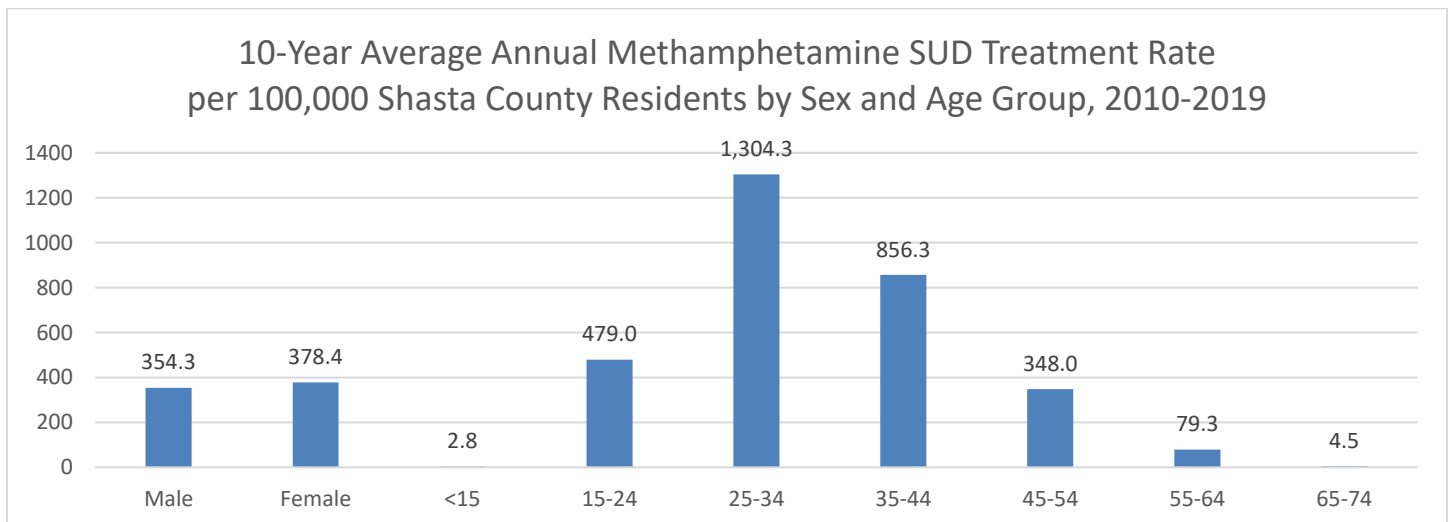


Table 5 provides a three-year average annual count and rate per 100,000 Shasta County Residents of SUD treatment program admissions for heroin, non-prescription methadone, oxycodone/oxycontin, other opiates or synthetics, all opioids, and methamphetamine, by year.

Table 5.

Description	2010-2012	2011-2013	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019
Count of Heroin Related SUD Treatment Program Admissions	80.0	145.3	252.0	346.3	397.7	391.0	364.3	310.3
Rate per 100,000 Residents of Heroin Related SUD Treatment Program Admissions	45.0	81.5	140.9	193.3	222.8	220.2	204.7	174.3
Count of Non-Prescription Methadone SUD Treatment Program Admissions	40.3	40.0	41.3	32.3	28.7	16.3	10.7	2.0
Rate per 100,000 Residents of Non-Prescription Methadone SUD Treatment Program Admissions	22.7	15.3	14.5	10.6	8.4	4.7	3.2	0.7
Count of OxyCodone/OxyContin Related SUD Treatment Program Admissions	102.3	92.3	83.0	66.0	49.0	40.0	26.0	11.7
Rate per 100,000 Residents of OxyCodone/OxyContin Related SUD Treatment Program Admissions	57.6	31.2	25.5	17.3	13.1	12.2	8.4	3.7
Count of All Other Opiates or Synthetics SUD Treatment Program Admissions	136.0	150.3	155.7	150.3	151.0	126.3	108.3	73.0
Rate per 100,000 Residents of Other Opiates or Synthetics SUD Treatment Program Admissions	76.5	53.5	50.1	46.5	46.9	42.0	38.6	27.9
Count of Methamphetamine Related SUD Treatment Program Admissions	577.7	610.3	718.3	748.3	770.0	676.7	655.3	616.0
Rate per 100,000 Residents of Methamphetamine Related SUD Treatment Program Admissions	324.9	342.3	401.7	417.8	431.4	381.0	368.2	346.1

Methodology

1. The case definition for alcohol poisoning deaths requires that the case contain one of the following ICD 10 codes in the underlying cause of death field: F10.0, Mental and behavioral disorders due to use of alcohol: acute intoxication; X45, Accidental poisoning by and exposure to alcohol; X65, intentional self-poisoning by and exposure to alcohol; or Y15, Poisoning by and exposure to alcohol, undetermined intent.

2. The stability of a rate is dependent on the number of events that contribute to that rate. Therefore, rates in small populations are often unstable due to the relatively small number of events that occur each year. For small counts, minor random changes can have a much greater impact than with larger counts. Rates derived from average counts of 20 or fewer events are considered unstable.

3. The case definition for alcohol deaths (all consequences) includes the poisoning deaths identified above as well as alcohol deaths due to physical diseases and mental disorders. The underlying cause of death field must contain one of the poisoning ICD 10 codes previously mentioned or one of the following codes: E24.4, Alcohol-induced pseudo-Cushing syndrome; F10.1, Mental and behavioral disorders due to use of alcohol: harmful use; F10.2, Mental and behavioral disorders due to use of alcohol: dependence syndrome; F10.3, Mental and behavioral disorders due to use of alcohol: withdrawal state; F10.4, Mental and behavioral disorders due to use of alcohol: withdrawal state with delirium; F10.5, Mental and behavioral disorders due to use of alcohol: psychotic disorder; F10.6, Mental and behavioral disorders due to use of alcohol: amnesic syndrome; F10.7, Mental and behavioral disorders due to use of alcohol: residual and late-onset psychotic disorder; F10.8, Mental and behavioral disorders due to use of alcohol: other mental and behavioral disorders; F10.9, Mental and behavioral disorders due to use of

alcohol: unspecified mental and behavioral disorder; G32.1, Degeneration of nervous system due to alcohol; G62.1, Alcoholic polyneuropathy; G72.1 Alcoholic myopathy; I42.6, Alcoholic cardiomyopathy; K29.2, Alcoholic gastritis; K70.0, Alcoholic fatty liver; K70.1, Alcoholic hepatitis; K70.2, Alcoholic fibrosis and sclerosis of liver; K70.3, Alcoholic cirrhosis of liver; K70.4, Alcoholic hepatic failure; K70.9, Alcoholic liver disease, unspecified; K85.2, Alcohol-induced acute pancreatitis; K86.0, Alcohol-induced chronic pancreatitis; O35.4, Maternal care for (suspected) damage to fetus from alcohol; P04.3, Fetus and newborn affected by maternal use of alcohol; or Q86.0, Congenital malformation syndromes due to known exogenous causes, not elsewhere classified.

4. The case definition for a drug poisoning death requires that the case contain one of the following ICD 10 codes in the underlying cause of death field: X40, Accidental poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics; X41, Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified; X42, Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified; X43, Accidental poisoning by and exposure to other drugs acting on the autonomic nervous system; X44, Accidental poisoning by and exposure to other and unspecified drugs, medicaments and biological substances; X60, Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics; X61, Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified; X62, Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified; X63, Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system; X64, Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances; X85, Assault by drugs, medicaments and biological substances; Y10, Poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics, undetermined intent; Y11, Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent; Y12, Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent; Y13, Poisoning by and exposure to other drugs acting on the autonomic nervous system, undetermined intent; or Y14, Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent.

5. To be classified as a heroin poisoning death, the criteria for drug poisoning must be met. Additionally, one of the multiple cause of death fields must contain the ICD 10 code T40.1, Poisoning by heroin.

6. To be classified as a fentanyl poisoning death, the criteria for drug poisoning must be met. Additionally, one of the multiple cause of death fields must contain the ICD 10 code T40.4, Poisoning by other synthetic narcotics and the word 'fentanyl' must be included in one of the following death certificate fields: 107A, Immediate Cause of Death; 107B, A as Due to or a Consequence of B; 107C, B as Due to or a Consequence of C; 107D, C as Due to or a Consequence of D; or 124, Describe How Injury Occurred.

7. To be classified as a methadone poisoning death, in addition to the criteria for drug poisoning noted above, one of the multiple cause of death fields must contain the ICD 10 code T40.3, Poisoning by methadone.

8. To be classified as a opioid poisoning death, In addition to the heroin, fentanyl, and methadone poisoning cases listed above, deaths are included in this category that meet the criteria for drug poisoning and contain one or more of the following ICD 10 codes in one of the multiple causes of death fields: T40.0, Poisoning by opium; T40.2, Poisoning by natural and semi-synthetic opioids; T40.4, Poisoning by synthetic opioids, other than methadone; or T40.6, Poisoning by other and unspecified narcotics. Because some cases include more than one opioid ICD 10 code in the multiple cause of death fields, they will not add up to the total.

9. To be classified as an amphetamine poisoning death, the criteria for drug poisoning must be met. Additionally, one of the multiple cause of death fields must contain the ICD 10 code T43.6, Poisoning by psychostimulants with abuse potential and the word 'amphetamine' must be included in one of the following death certificate fields: 107A, Immediate Cause of Death; 107B, A as Due to or a Consequence of B; 107C, B as Due to or a Consequence of C; 107D, C as Due to or a Consequence of D; or 124, Describe How Injury Occurred.

10. To be classified as an all stimulant poisoning death, the criteria for drug poisoning must be met. Additionally, one of the multiple cause of death fields must contain the ICD 10 code T43.6, Poisoning by psychostimulants with abuse potential or T40.5, Poisoning by Cocaine.

11. Prior to 10/1/2015, heroin poisoning cases must have had a primary or secondary diagnosis ICD 9 code of 965.01, Poisoning by heroin; and/or a primary or secondary external cause of injury ICD 9 code of E850.0, Accidental poisoning by heroin. Beginning on 10/1/2015, cases must have a primary or secondary diagnosis ICD 10 code of T40.1, Poisoning by heroin.

12. Prior to 10/1/2015, the methadone poisoning case definition required a primary or secondary diagnosis ICD 9 code of 965.02, Poisoning by methadone; and/or a primary or secondary external cause of injury ICD 9 code of E850.1, Accidental poisoning by methadone. Beginning on 10/1/2015, cases must have a primary or secondary diagnosis ICD 10 code of T40.3, Poisoning by methadone.

13. Beginning in 2020, the case definition for fentanyl includes ED visits with a primary or secondary diagnosis ICD 10 code of T40.411A, Poisoning by fentanyl or fentanyl analogs, accidental (unintentional); or T40.412A, Poisoning by fentanyl or fentanyl analogs, intentional self-harm.

14. Prior to 10/1/2015, in addition to the heroin, methadone, and fentanyl poisoning cases above, the opioid poisoning case definition includes ED visits with a primary or secondary diagnosis ICD 9 code of 965.00, Poisoning by opium (alkaloids), unspecified; or 965.09, Poisoning by other opiates and related narcotics; and/or the primary or secondary external cause of injury ICD 9 code was E850.2, Accidental poisoning by other opiates and related narcotics. Beginning on 10/1/2015, in addition to the heroin and methadone poisoning cases above, cases must have a primary or secondary diagnosis ICD 10 code of F11.0, Mental and behavioral disorders due to use of opioids, T40.0, Poisoning by opium; T40.2, Poisoning by other opioids; T40.4, Poisoning by other synthetic narcotics; or T40.6, Poisoning by other and unspecified narcotics.

15. In addition to the poisoning codes listed above for ED visits, prior to 10/1/2015, cases for opioid (all consequences) are included if the primary or secondary diagnosis ICD 9 code was 304.0, Opioid dependence; 304.7, Combinations of opioid type drug with any other drug dependence; or 305.5, Nondependent opioid abuse. Beginning on 10/1/2015, in addition to the poisoning codes, cases are included if they have a primary or secondary diagnosis ICD 10 code of F11.1, Mental and behavioral disorders due to use of opioids: harmful use, F11.2, Mental and behavioral disorders due to use of opioids: dependence syndrome; F11.3, Mental and behavioral disorders due to use of opioids withdrawal state; F11.4, Mental and behavioral disorders due to use of opioids withdrawal state with delirium; F11.5, Mental and behavioral disorders due to use of opioids: psychotic disorder; F11.6, Mental and behavioral disorders due to use of opioids: amnesic syndrome; F11.7, Mental and behavioral disorders due to use of opioids: residual and late-onset psychotic disorder; F11.8, Mental and behavioral disorders due to use of opioids: other mental and behavioral disorders; F11.9, Mental and behavioral disorders due to use of opioids: unspecified mental and behavioral disorders.

16. Prior to 10/1/2015, the case definition for amphetamine poisoning required a primary or secondary diagnosis ICD 9 code of 305.7, Nondependent amphetamine or related acting sympathomimetic abuse; 969.72, Poisoning by amphetamine; and/or a primary or secondary external cause of injury ICD 9 code of E854.2, Accidental poisoning

by psychostimulants (excluding caffeine). Beginning on 10/1/2015, cases must have a primary or secondary diagnosis ICD 10 code of T43.62, Poisoning by amphetamine. Case definition exclusions are the same as previously mentioned.

17. Prior to 10/1/2015, the case definition for all stimulants poisoning required a primary or secondary diagnosis ICD 9 code of 305.6, Nondependent cocaine abuse; 305.7, Nondependent amphetamine or related acting sympathomimetic abuse; 760.75, Cocaine affecting fetus or newborn via placenta or breast milk; 969.7, Poison Poisoning by psychostimulants; 970.81, Poisoning by cocaine; and/or a primary or secondary external cause of injury ICD 9 code of E854.2, Accidental poisoning by psychostimulants (excluding caffeine). Beginning on 10/1/2015, cases must have a primary or secondary diagnosis ICD 10 code of T40.5, Poisoning by cocaine; T43.60, Poisoning by unspecified psychostimulants; T43.61 Poisoning by caffeine; T43.62, Poisoning by amphetamine; T43.63, Poisoning by methylphenidate, T43.64, Poisoning by ecstasy; or T43.69, Poisoning by other psychostimulants. Case definition exclusions are the same as previously mentioned.

18. The ICD 9 and ICD 10 codes and exclusions used in the case definitions for hospitalizations are the same as those used for ED visits.

Sources:

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