

Key Points from the Opioid-Related Fatalities Brief, 2019 Preliminary Data Publication

- The preliminary 2019 opioid-related accidental and undetermined fatality data show a decrease in opioid-related fatalities – the first since 2014. At this time, the data show a 15% decrease from 130 deaths in 2018 to 111 in 2019.
- Fentanyl continues to be the primary driver of opioid-related deaths in Vermont. Although there were fewer deaths involving fentanyl in 2019 (95) compared to 2018 (100), fentanyl accounts for 86% of deaths in 2019 compared to 77% in 2018.
- The percentage of opioid-related fatalities involving cocaine continues to increase. Cocaine was present in 43% of opioid-related fatalities in 2019, up from 36% in 2018. The number of cocaine-involved deaths surpassed the number involving heroin for the first time since 2010.
- After increasing from 42 deaths in 2017 to 69 deaths in 2018, deaths involving heroin decreased by nearly half in 2019 (37 deaths).
- This brief includes twenty additional Vermont resident deaths in 2018 than were reported in the Annual Brief released in February 2019. Eighteen of these deaths occurred out of state. Because out-of-state deaths can take longer to finalize than in-state deaths, data should be considered preliminary until Vermont has received all out of state deaths. Due to these time lags, the Department of Health expects to revise the 2019 opioid-related death numbers in the future. At the date of this analysis, the Vermont Office of the Chief Medical Examiner (OCME) has 5 pending death investigations: 2 individuals who died in Vermont and 3 who died out-of- state.

OPIOID-RELATED FATALITY DATA DISCLAIMER

Vermont opioid-related fatalities data come from the Vermont Department of Health Vital Statistics System. The data in this report primarily describe deaths of Vermonters occurring in-state and out-of-state. Data for out-of-state residents who died in Vermont are included only where explicitly stated.

The drug-related fatalities reported here include accidents and fatalities with undetermined intent unless otherwise stated. All deaths involved at least one legal or illicit opioid including heroin or prescription drugs.

This report does not include deaths due to chronic substance use (such as HIV, liver disease, or infection); death due to injury related to substance use (i.e., car accident or falls); or deaths due to medical professional error.

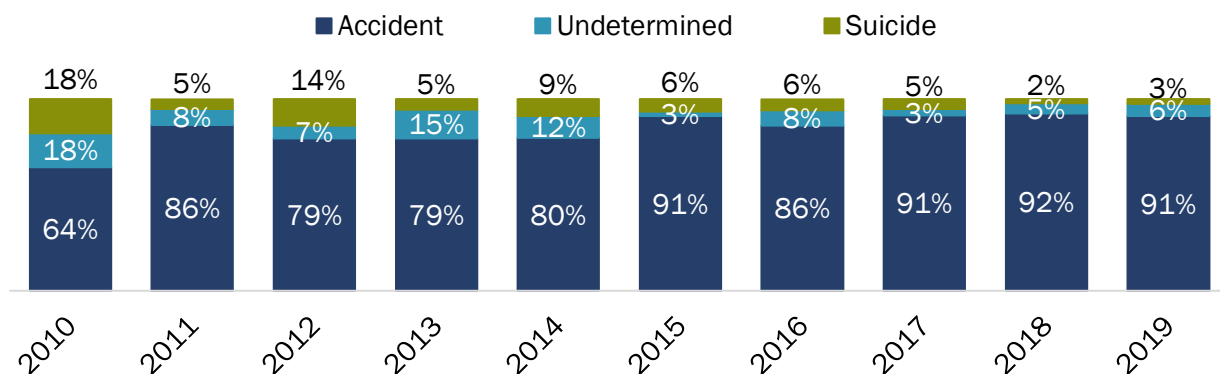
It is important to note that most drug-related fatalities are due to combinations of substances (e.g., a prescription opioid and cocaine), not a single drug. Additionally, the circumstances under which each of these fatalities occurred are unique and cannot all be attributed to substance use disorders.

2018 and 2019 data are considered preliminary.

Opioid-Related Fatality Overview

Of the 114 Vermont residents who died of an opioid overdose in 2019, nearly all cases were classified as being of accidental or undetermined intent (111). Three deaths were determined to be suicides. (Note: one opioid-related fatality was ruled a homicide in 2019. This case has been excluded from the analyses presented in this data brief.) Since 2010, fewer opioid-related deaths are classified as undetermined manner of death. The percentage of suicides among all opioid-related fatalities have also decreased. At the date of this analysis, the Vermont Office of the Chief Medical Examiner (OCME) has 5 pending death investigations: 2 individuals who died in Vermont and 3 who died out-of-state.

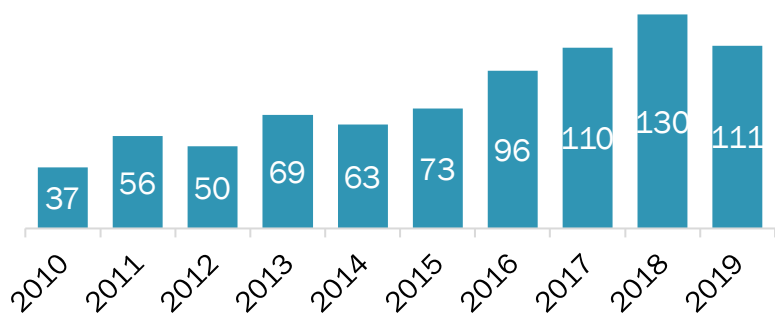
Figure 1: Manner of Death in Opioid-Related Fatalities Among Vermont Residents



Accidental and Undetermined Opioid-Related Fatalities Among Vermonters

Public attention has been focused on opioid misuse and opioid use disorder. All data that follows describe accidental and undetermined cause fatalities that involved an opioid. Deaths due to suicide were removed to show deaths more likely associated with misuse and opioid use disorder – the type of death some consider an “overdose.” Preliminary data show 111 accidental and undetermined cause deaths among Vermont residents in 2019.

Figure 2: Number of Accidental and Undetermined Opioid-Related Fatalities Among Vermont Residents



At this time, the 111 deaths in 2019 represent a 15% decrease from 130 deaths in 2018. The rate of death in 2019 is 17.7 fatalities per 100,000 Vermonters – a rate that is not statistically different from the 2018 rate (20.8 per 100,000). Although 2019 marks the first single-year decrease in opioid-related fatalities since 2014, opioid-related fatalities have tripled since 2010, when 37 of these deaths were recorded (5.9 per 100,000).

VT Opioid-Related Fatalities

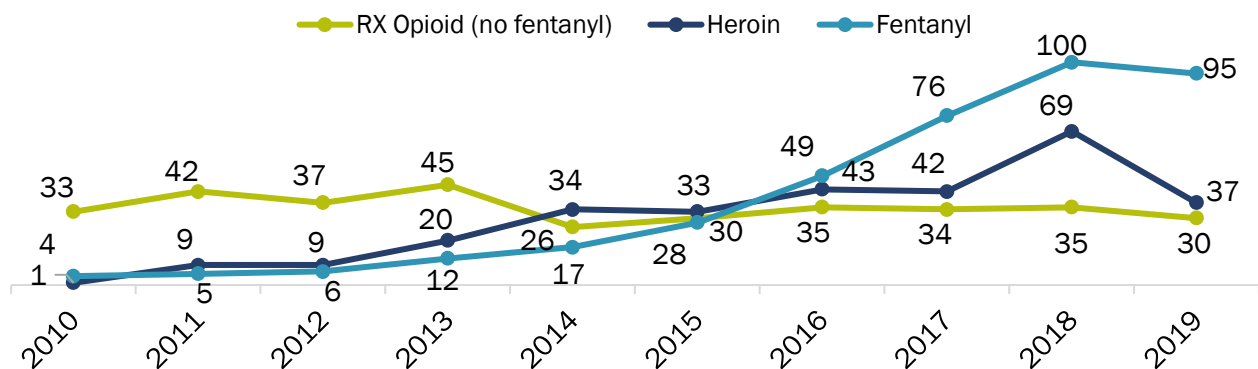
Males comprise 68% of 2019 accidental and undetermined opioid-related fatalities among Vermont residents. Women comprise 32% of these deaths. The average age of death is 40 years (median 38), with over half of these deaths occurring among persons between 30 and 50 years of age (57%). Nearly all accidental and undetermined opioid-related fatalities are among white, non-Hispanic Vermont residents (94%).

Fentanyl is involved in most opioid-related fatalities.

Fentanyl is currently the most prevalent substance involved in opioid-related deaths. In 2019, it was found in 86% of opioid-related fatalities and has increased each year since 2011 (9%). Of note, deaths involving fentanyl can include prescription and/or illicit fentanyl and fentanyl analogues.

From 2016 to 2017, the percentage of opioid-related fatalities involving heroin decreased from 45% to 38% before increasing to 53% in 2018. Heroin involvement is now the lowest it has been since 2015. The percentage of opioid-related fatalities involving prescription opioids did not change between 2018 and 2019 (27%), but this percentage has decreased since 2010 when nearly all (89%) opioid-related fatalities involved prescription opioids. Prescription opioids were overtaken by heroin as the leading contributor to opioid-related fatalities in 2014 but were then surpassed by fentanyl in 2016. Of note, these drugs are not mutually exclusive and will not sum to the total.

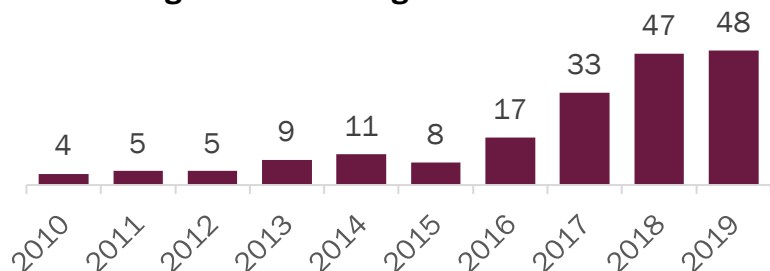
Figure 3: Number of Accidental and Undetermined Opioid-Related Fatalities Among Vermont Residents by Type of Opioid Involved



Cocaine was involved in nearly half of all opioid-related fatalities among Vermonters.

Cocaine (43%) was involved in more 2019 opioid-related fatalities than heroin (33%) for the first time since 2010. Cocaine has been increasing as a proportion of opioid-related fatalities since 2015 (11%). Additional trend information of other substances involved in opioid-related fatalities is included in Appendix 1.

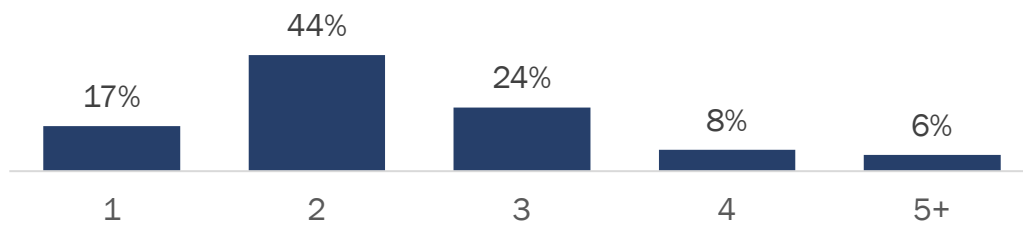
Figure 4: Number Accidental and Undetermined Opioid-Related Fatalities Involving Cocaine Among Vermont Residents



Most opioid-related fatalities include a combination of substances.

The majority of opioid-related deaths involve multiple substances. In 2019, 83% of opioid-related fatalities involved 2 or more drugs, with 14% involving 4 or more drugs.

Figure 3: Number of Drugs Listed on the Death Certificate in Vermont-Resident Opioid-Related Fatalities (2019)



The most common combination of substances among individuals who died in 2019 was fentanyl and cocaine, which accounted for 39% of all opioid-related fatalities. This was followed by fentanyl and heroin (32%) and fentanyl and prescription opioids (15%).

In 2010, when prescription opioids were involved in 89% of opioid-related fatalities, the top three drug combinations all involved prescription opioids. Because fentanyl is now involved in more deaths than any other drug, the most common combinations now all involve fentanyl.

Figure 4: Top Three Drug Combinations Listed on the Death Certificate in Vermont-Resident Opioid-Related Fatalities (2010 vs 2019 Comparison)



Sources:

All data are from the Vermont Vital Statistics System and only include deaths that occurred among Vermont residents unless otherwise stated. Data from 2018 and 2019 are preliminary. This brief is a product of the Vermont Department of Health, Division of Health Surveillance Analysts

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Appendix 1: Data Tables

Table 1: Number and Percentage of Accidental and Undetermined Opioid-Related Fatalities Among Vermont Residents – Individual Substances Involved

Substance*	2010		2011		2012		2013		2014	
	#	%	#	%	#	%	#	%	#	%
Alcohol	4	11%	8	14%	10	20%	14	20%	10	16%
Benzodiazepines	9	24%	4	7%	9	18%	12	17%	5	8%
Buprenorphine	0	0%	5	9%	1	2%	4	6%	3	5%
Cocaine	4	11%	5	9%	5	10%	9	13%	11	17%
Fentanyl	4	11%	5	9%	6	12%	12	17%	17	27%
Heroin	1	3%	9	16%	9	18%	20	29%	34	54%
Methadone	9	24%	12	21%	18	36%	14	20%	5	8%
Methamphetamine	0	0%	0	0%	0	0%	0	0%	0	0%
RX opioid (no fentanyl)	33	89%	42	75%	37	74%	45	65%	26	41%
RX stimulants	0	0%	1	2%	2	4%	2	3%	4	6%
Tramadol	1	3%	3	5%	2	4%	2	3%	1	2%

Table 1 (Continued): Number and Percentage of Accidental and Undetermined Opioid-Related Fatalities Among Vermont Residents – Individual Substances Involved

Substance*	2015		2016		2017		2018		2019	
	#	%	#	%	#	%	#	%	#	%
Alcohol	9	12%	16	17%	14	13%	21	16%	12	11%
Benzodiazepines	6	8%	10	10%	6	5%	8	6%	6	5%
Buprenorphine	2	3%	1	1%	0	0%	6	5%	2	2%
Cocaine	8	11%	17	18%	33	30%	47	36%	48	43%
Fentanyl	28	38%	49	51%	76	69%	100	77%	95	86%
Heroin	33	45%	43	45%	42	38%	69	53%	37	33%
Methadone	7	10%	14	15%	12	11%	11	8%	9	8%
Methamphetamine	0	0%	0	0%	3	3%	5	4%	2	2%
RX opioid (no fentanyl)	30	41%	35	36%	34	31%	35	27%	30	27%
RX stimulants	0	0%	0	0%	5	5%	10	8%	4	4%
Tramadol	3	4%	2	2%	1	1%	5	4%	0	0%

VT Opioid-Related Fatalities

Substance*	2010		2011		2012		2013		2014	
	#	%	#	%	#	%	#	%	#	%
Cocaine and Heroin	1	3%	2	4%	1	2%	1	1%	8	13%
Cocaine and RX Opioids	3	8%	3	5%	4	8%	6	9%	2	3%
Fentanyl and Cocaine	1	3%	0	0%	0	0%	3	4%	4	6%
Fentanyl and Alcohol	0	0%	1	2%	2	4%	1	1%	0	0%
Fentanyl and Heroin	0	0%	0	0%	0	0%	0	0%	6	10%
Fentanyl and RX Opioids (no fentanyl)	2	5%	0	0%	1	2%	6	9%	5	8%
Fentanyl and RX Stimulants	0	0%	1	2%	0	0%	2	3%	1	2%
Heroin and RX Stimulants	0	0%	0	0%	0	0%	0	0%	0	0%
Heroin, Cocaine, and Fentanyl	0	0%	0	0%	0	0%	0	0%	2	3%

Substance*	2015		2016		2017		2018		2019	
	#	%	#	%	#	%	#	%	#	%
Cocaine and Heroin	5	7%	13	14%	14	13%	27	21%	15	14%
Cocaine and RX Opioids	1	1%	5	5%	9	8%	10	8%	11	10%
Fentanyl and Cocaine	3	4%	6	6%	25	23%	42	32%	43	39%
Fentanyl and Alcohol	3	4%	4	4%	9	8%	15	12%	10	9%
Fentanyl and Heroin	10	14%	21	22%	32	29%	59	45%	35	32%
Fentanyl and RX Opioids (no fentanyl)	6	8%	6	6%	12	11%	16	12%	17	15%
Fentanyl and RX Stimulants	0	0%	0	0%	3	3%	8	6%	3	3%
Heroin and RX Stimulants	0	0%	0	0%	0	0%	6	5%	0	0%
Heroin, Cocaine, and Fentanyl	1	1%	3	3%	10	9%	23	18%	14	13%

*Combinations are not mutually exclusive. For example, a death involving cocaine, fentanyl, and heroin would be counted three separate categories in the table above (cocaine and fentanyl; cocaine and heroin; fentanyl and heroin).

VT Opioid-Related Fatalities

Table 3: Opioid-Related Fatalities Occurring Among Vermont Residents		2010			2011			2012			2013			2014		
		% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents			% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents			% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents			% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents			% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents		
				Rate Per 100K of Sub Group			Rate Per 100K of Sub Group			Rate Per 100K of Sub Group			Rate Per 100K of Sub Group			Rate Per 100K of Sub Group
Total VERMONT Residents Accidental and Undetermined OPIOID-Related Fatalities		37	--	5.9	56	--	8.9	50	--	8.0	69	--	11.0	63	--	10.1
By Gender	Male	21	57%	6.8	29	52%	9.4	33	66%	10.7	44	64%	14.2	41	65%	13.3
	Female	16	43%	5.0	27	48%	8.5	17	34%	5.4	25	36%	7.9	22	35%	6.9
By Age	< 30	3	8%	1.3	13	23%	5.7	11	22%	4.9	12	17%	5.3	16	25%	7.1
	30 - 39	8	22%	11.3	12	21%	17.3	10	20%	14.4	15	22%	21.4	22	35%	31.3
	40 - 49	9	24%	9.8	15	27%	16.9	17	34%	19.7	17	25%	20.6	9	14%	11.3
	50 +	17	46%	7.3	16	29%	6.7	12	24%	4.9	25	36%	10.1	16	25%	6.3
Average Age		47			41			41			43			39		
By Race/ Ethnicity	White, Non-Hispanic	37	100%	NA	55	98%	NA	48	96%	8.2	65	94%	11.1	62	98%	10.6
	Racial or Ethnic Minority	0	0%	NA	1	2%	NA	2	4%	5.4	4	6%	10.4	1	2%	2.5

VT Opioid-Related Fatalities

Table 3 (Continued): Opioid-Related Fatalities Occurring Among Vermont Residents		2015			2016			2017			2018			2019		
		<u>% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents</u>			<u>% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents</u>			<u>% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents</u>			<u>% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents</u>			<u>% of Accidental and Undetermined Manner Opioid-Related Fatalities Occurring Among Vermont Residents</u>		
				<u>Rate Per 100K of Sub Group</u>			<u>Rate Per 100K of Sub Group</u>			<u>Rate Per 100K of Sub Group</u>			<u>Rate Per 100K of Sub Group</u>			<u>Rate Per 100K of Sub Group</u>
Total VERMONT Residents Accidental and Undetermined OPIOID-Related Fatalities		73	--	11.7	96	--	15.4	110	--	17.6	130	--	20.8	111	--	17.7
By Gender	Male	51	70%	16.5	63	66%	20.4	78	71%	25.3	77	59%	24.9	75	68%	24.3
	Female	22	30%	6.9	33	34%	10.4	32	29%	10.1	53	41%	16.7	36	32%	11.4
By Age	< 30	15	21%	6.7	20	21%	9.0	30	27%	13.6	30	23%	13.6	22	20%	10.0
	30 - 39	29	40%	40.9	32	33%	44.8	38	35%	52.6	45	35%	61.5	38	34%	51.9
	40 - 49	11	15%	14.3	25	26%	33.5	16	15%	21.9	23	18%	31.7	25	23%	34.5
	50 +	18	25%	7.1	19	20%	7.4	26	24%	10.1	32	25%	12.3	26	23%	10.0
Average Age		39			40			39			40			40		
By Race/ Ethnicity	White, Non-Hispanic	69	95%	11.8	95	99%	16.3	106	96%	18.2	127	98%	21.9	104	94%	17.9
	Racial or Ethnic Minority	4	5%	9.5	1	1%	2.3	4	4%	9.2	3	2%	6.9	7	6%	16.1

VT Opioid-Related Fatalities

Table 4: Opioid-Related Fatalities by County of Residence and County of Death (Vermont and Non-Vermont Residents)	2010			2011			2012			2013			2014		
	# and % of All Accidental and Undetermined Opioid-Related Fatalities		Rate per 100k in County	# and % of All Accidental and Undetermined Opioid-Related Fatalities		Rate per 100k in County	# and % of All Accidental and Undetermined Opioid-Related Fatalities		Rate per 100k in County	# and % of All Accidental and Undetermined Opioid-Related Fatalities		Rate per 100k in County	# and % of All Accidental and Undetermined Opioid-Related Fatalities		Rate per 100k in County
	#	%		#	%		#	%		#	%		#	%	
By County of Residence*															
Addison	3	7%	8.1	2	3%	5.4	1	2%	2.7	5	7%	13.6	3	5%	8.1
Bennington	2	5%	5.4	1	2%	2.7	3	6%	8.2	4	6%	10.9	5	8%	13.7
Caledonia	2	5%	6.4	0	0%	0.0	0	0%	0.0	1	1%	3.2	5	8%	16.1
Chittenden	11	26%	7.0	15	25%	9.5	15	29%	9.5	17	24%	10.7	13	20%	8.1
Essex	0	0%	0.0	1	2%	15.9	2	4%	32.1	1	1%	16.1	1	2%	16.3
Franklin	2	5%	4.2	4	7%	8.3	3	6%	6.2	7	10%	14.5	6	9%	12.3
Grand Isle	0	0%	0.0	0	0%	0.0	1	2%	14.3	0	0%	0.0	1	2%	14.3
Lamoille	0	0%	0.0	3	5%	12.1	2	4%	8.0	3	4%	12.0	3	5%	12.0
Orange	2	5%	6.9	3	5%	10.3	1	2%	3.5	4	6%	13.8	1	2%	3.5
Orleans	0	0%	0.0	1	2%	3.7	5	10%	18.4	4	6%	14.7	3	5%	11.1
Rutland	4	10%	6.5	9	15%	14.7	2	4%	3.3	11	15%	18.1	7	11%	11.6
Washington	2	5%	3.4	5	8%	8.4	6	12%	10.1	7	10%	11.8	1	2%	1.7
Windham	4	10%	9.0	7	12%	15.8	4	8%	9.1	2	3%	4.6	8	12%	18.3
Windsor	5	12%	8.8	5	8%	8.8	5	10%	8.9	3	4%	5.4	6	9%	10.7
Non-VT Residents who Died in VT (Rate Per 100K Vermonters)	5	12%	0.8	3	5%	0.5	1	2%	0.2	2	3%	0.3	2	3%	0.3
By County of Death															
Addison	3	7%	8.1	1	2%	2.7	0	0%	0.0	4	6%	10.9	2	3%	5.4
Bennington	2	5%	5.4	4	7%	10.8	3	6%	8.2	4	6%	10.9	4	6%	11.0
Caledonia	1	2%	3.2	0	0%	0.0	0	0%	0.0	1	1%	3.2	5	8%	16.1
Chittenden	13	31%	8.3	16	27%	10.2	16	31%	10.1	18	25%	11.3	19	29%	11.8
Essex	0	0%	0.0	1	2%	15.9	2	4%	32.1	1	1%	16.1	0	0%	0.0
Franklin	2	5%	4.2	3	5%	6.2	4	8%	8.3	7	10%	14.5	5	8%	10.3
Grand Isle	0	0%	0.0	0	0%	0.0	0	0%	0.0	0	0%	0.0	0	0%	0.0
Lamoille	1	2%	4.1	3	5%	12.1	2	4%	8.0	3	4%	12.0	2	3%	8.0
Orange	1	2%	3.5	5	8%	17.2	1	2%	3.5	3	4%	10.4	1	2%	3.5
Orleans	0	0%	0.0	1	2%	3.7	4	8%	14.8	4	6%	14.7	2	3%	7.4
Rutland	6	14%	9.7	9	15%	14.7	2	4%	3.3	11	15%	18.1	7	11%	11.6
Washington	2	5%	3.4	5	8%	8.4	6	12%	10.1	7	10%	11.8	1	2%	1.7
Windham	3	7%	6.7	6	10%	13.6	4	8%	9.1	3	4%	6.8	7	11%	16.0
Windsor	5	12%	8.8	5	8%	8.8	5	10%	8.9	3	4%	5.4	6	9%	10.7
Out of State (Rate Per 100k Vermonters)	3	7%	0.5	0	0%	0.0	2	4%	0.3	2	3%	0.3	4	6%	0.6

VT Opioid-Related Fatalities

Table 4 (Continued): Opioid-Related Fatalities by County of Residence and County of Death (Vermont and Non-Vermont Residents)	2015			2016			2017			2018			2019		
	# and % of All Accidental and Undetermined Opioid-Related Fatalities	Rate per 100k in County		# and % of All Accidental and Undetermined Opioid-Related Fatalities	Rate per 100k in County		# and % of All Accidental and Undetermined Opioid-Related Fatalities	Rate per 100k in County		# and % of All Accidental and Undetermined Opioid-Related Fatalities	Rate per 100k in County		# and % of All Accidental and Undetermined Opioid-Related Fatalities	Rate per 100k in County	
By County of Residence*															
Addison	1	1%	2.7	4	4%	10.8	2	2%	5.4	2	1%	5.4	2	2%	5.4
Bennington	2	3%	5.5	6	6%	16.6	4	3%	11.2	13	10%	36.5	11	10%	30.9
Caledonia	1	1%	3.2	4	4%	13.2	5	4%	16.6	7	5%	23.1	10	9%	33.0
Chittenden	17	22%	10.5	21	19%	13.0	29	25%	17.9	14	10%	8.5	17	15%	10.3
Essex	3	4%	48.7	0	0%	0.0	0	0%	0.0	0	0%	0.0	2	2%	32.0
Franklin	10	13%	20.5	7	6%	14.3	9	8%	18.4	12	9%	24.3	5	4%	10.1
Grand Isle	2	3%	29.2	2	2%	28.9	1	1%	14.3	0	0%	0.0	0	0%	0.0
Lamoille	0	0%	0.0	3	3%	11.8	3	3%	11.8	4	3%	15.8	4	3%	15.8
Orange	3	4%	10.4	4	4%	13.8	5	4%	17.3	3	2%	10.3	0	0%	0.0
Orleans	6	8%	22.1	6	6%	22.3	4	3%	14.9	3	2%	11.1	5	4%	18.6
Rutland	10	13%	16.7	13	12%	21.9	11	9%	18.6	19	14%	32.4	11	10%	18.7
Washington	4	5%	6.8	8	7%	13.7	13	11%	22.3	12	9%	20.6	11	10%	18.9
Windham	2	3%	4.6	3	3%	7.0	13	11%	30.3	25	18%	58.5	17	15%	39.8
Windsor	12	15%	21.5	14	13%	25.2	11	9%	20.0	16	12%	28.9	13	11%	23.5
Non-VT Residents who Died in VT (Rate Per 100K Vermonters)	6	8%	1.0	13	12%	2.1	6	5%	1.0	6	4%	1.0	4	3%	0.6
By County of Death															
Addison	0	0%	0.0	6	6%	16.2	1	1%	2.7	1	1%	2.7	2	2%	5.4
Bennington	1	1%	2.8	6	6%	16.6	3	3%	8.4	10	7%	28.1	12	10%	33.7
Caledonia	2	3%	6.5	5	5%	16.5	5	4%	16.6	4	3%	13.2	9	8%	29.7
Chittenden	20	25%	12.4	24	22%	14.9	35	30%	21.6	18	13%	10.9	19	17%	11.5
Essex	1	1%	16.2	1	1%	16.2	0	0%	0.0	0	0%	0.0	1	1%	16.0
Franklin	7	9%	14.3	7	6%	14.3	7	6%	14.3	7	5%	14.2	3	3%	6.1
Grand Isle	1	1%	14.6	1	1%	14.5	1	1%	14.3	0	0%	0.0	1	1%	14.1
Lamoille	1	1%	4.0	3	3%	11.8	3	3%	11.8	2	1%	7.9	5	4%	19.8
Orange	3	4%	10.4	4	4%	13.8	4	3%	13.8	2	1%	6.9	0	0%	0.0
Orleans	6	8%	22.1	6	6%	22.3	2	2%	7.5	2	1%	7.4	5	4%	18.6
Rutland	14	18%	23.4	11	10%	18.5	10	9%	16.9	16	12%	27.3	13	11%	22.2
Washington	4	5%	6.8	8	7%	13.7	10	9%	17.2	13	10%	22.4	9	8%	15.5
Windham	2	3%	4.6	6	6%	13.9	14	12%	32.7	24	18%	56.1	15	13%	35.1
Windsor	12	15%	21.5	18	17%	32.4	12	10%	21.8	18	13%	32.6	8	7%	14.5
Out of State (Rate Per 100k Vermonters)	5	6%	0.8	3	3%	0.5	9	8%	1.4	19	14%	3.0	13	11%	2.1

VT Opioid-Related Fatalities

Annual Opioid-Related Deaths Among Vermonters by County of Residence

The following tables list the number of opioid-related fatalities by county of residence. Please note that these numbers are very small and variable. Regional data should be interpreted with caution.

Table 5: Number of Prescription Opioid-Related Accidental or Undetermined Fatalities (Excluding Fentanyl) by Year and County of Residence*

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Addison County	2	1	1	3	1	0	1	1	0	0
Bennington County	2	1	3	1	2	0	4	2	2	2
Caledonia County	1	0	0	1	4	1	3	3	1	2
Chittenden County	10	11	10	13	5	4	3	8	7	5
Essex County	0	1	1	1	0	0	0	0	0	1
Franklin County	2	4	3	5	2	6	5	3	4	2
Grand Isle County	0	0	1	0	0	0	0	1	0	0
Lamoille County	0	2	2	3	1	0	1	1	3	0
Orange County	2	2	0	2	1	2	0	2	0	0
Orleans County	0	1	5	4	1	2	3	0	1	3
Rutland County	4	4	0	4	4	4	3	3	6	2
Washington County	2	5	6	4	1	3	4	7	2	4
Windham County	3	6	2	1	2	0	0	2	4	5
Windsor County	5	4	3	3	2	8	8	1	5	4
VERMONT Total	33	42	37	45	26	30	35	34	35	30
Total Non-Vermont Residents in Vermont	4	3	0	2	1	0	4	3	1	1

Table 6: Number of Heroin-Related Accidental or Undetermined Fatalities by Year and County of Residence*

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Addison County	0	1	0	1	0	0	1	0	0	0
Bennington County	0	0	0	2	2	2	1	2	7	6
Caledonia County	0	0	0	0	2	0	2	1	1	2
Chittenden County	0	4	2	5	8	10	12	10	7	4
Essex County	0	0	0	0	1	1	0	0	0	0
Franklin County	0	0	0	2	3	2	2	3	5	1
Grand Isle County	0	0	1	0	1	2	1	0	0	0
Lamoille County	0	0	0	0	1	0	1	1	1	1
Orange County	0	1	1	2	1	1	3	3	3	0
Orleans County	0	0	0	0	1	3	1	2	2	1
Rutland County	0	3	2	6	5	7	6	7	12	4
Washington County	0	0	0	1	0	0	4	2	7	4
Windham County	1	0	2	1	4	1	1	6	14	7
Windsor County	0	0	1	0	5	4	7	5	10	5
Missing County of Residence	0	0	0	0	0	0	1	0	0	2
VERMONT Total	1	9	9	20	34	33	43	42	69	37
Total Non-Vermont Residents in Vermont	0	0	1	0	2	3	8	2	2	1

VT Opioid-Related Fatalities

Table 7: Number of Fentanyl-Related Accidental or Undetermined Fatalities by Year and County of Residence										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Addison County	1	0	0	2	3	1	3	1	2	2
Bennington County	0	0	0	1	1	0	3	3	11	11
Caledonia County	0	0	0	0	0	0	0	3	7	8
Chittenden County	1	0	3	1	5	8	13	20	6	14
Essex County	0	0	1	0	0	2	0	0	0	2
Franklin County	0	0	0	2	2	5	3	5	10	4
Grand Isle County	0	0	0	0	0	0	2	1	0	0
Lamoille County	0	1	0	1	1	0	1	2	0	4
Orange County	1	0	0	0	0	2	3	4	2	0
Orleans County	0	0	1	0	0	3	3	3	3	3
Rutland County	1	2	0	2	2	1	6	9	16	9
Washington County	0	0	0	3	0	2	3	8	9	10
Windham County	0	1	0	0	2	0	3	9	21	15
Windsor County	0	1	1	0	1	4	5	8	13	10
Missing County of Residence	0	0	0	0	0	0	1	0	0	3
VERMONT Total	4	5	6	12	17	28	49	76	100	95
Total Non-Vermont Residents in Vermont	1	0	0	0	1	3	4	3	5	2

2019 Preliminary Data Updates

The following tables include monthly opioid-related fatality data. As these data are preliminary, previously published data may change. All data should be considered preliminary until final data are published. The following tables include fatalities of Vermont residents, regardless of place of death (i.e. in Vermont vs. out-of-state).

Table 8: 2019 Month of Death	Total Number of Opioid-Related Accidental and Undetermined Manner Fatalities			
	Total*	RX opioid (no fentanyl)	Heroin	Fentanyl
January	10	3	6	8
February	16	5	6	13
March	4	0	2	4
April	8	3	4	6
May	3	2	0	3
June	7	2	2	5
July	12	3	4	10
August	14	4	1	14
September	8	2	2	6
October	10	1	3	10
November	7	2	2	7
December	12	3	5	9
Total Vermont Residents	111	30	37	95
Vermonters in Vermont	98	29	33	84
Vermonters Out of State	13	1	4	11
Non-Vermont Residents	4	1	1	2

*NOTE: Prescription opioid, fentanyl, and heroin deaths are not mutually exclusive.

*NOTE: Prescription opioid, fentanyl, and heroin deaths are not mutually exclusive.

VT Opioid-Related Fatalities

County of Residence	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Addison County	0	0	0	0	0	0	1	0	0	0	0	1	2
Bennington County	0	1	0	1	0	0	2	3	0	1	2	1	11
Caledonia County	1	0	2	0	0	0	0	2	3	1	0	1	10
Chittenden County	3	2	0	0	1	1	2	2	1	2	1	2	17
Essex County	0	0	0	0	0	1	0	0	0	1	0	0	2
Franklin County	0	0	0	0	1	1	0	1	1	0	0	1	5
Grand Isle County	0	0	0	0	0	0	0	0	0	0	0	0	0
Lamoille County	0	1	1	0	0	0	0	0	0	1	1	0	4
Orange County	0	0	0	0	0	0	0	0	0	0	0	0	0
Orleans County	0	2	0	1	0	0	0	0	0	0	0	2	5
Rutland County	0	6	0	3	0	1	0	0	0	1	0	0	11
Washington County	2	0	0	1	1	1	0	1	1	1	2	1	11
Windham County	2	4	1	0	0	1	4	3	0	1	1	0	17
Windsor County	1	0	0	2	0	0	3	2	1	1	0	3	13
Missing County of Residence	1	0	0	0	0	1	0	0	1	0	0	0	3
VERMONT Total	10	16	4	8	3	7	12	14	8	10	7	12	111
Non-Vermont Residents	0	0	1	1	0	0	0	1	0	0	0	1	4
Pending Cases	0	0	0	0	0	0	0	0	1	0	1	3	5

The number of pending cases represents the total number of cases for each month which have not yet been assigned a cause of death in the Vermont Vital Statistics System. Cases still pending six to eight weeks after the end of the month of death are not necessarily drug-related.

Vermont Methodology for Calculating Drug-Related Fatalities

The Vermont Department of Health utilizes a unique methodology for calculating a drug-related fatality. The VDH method differs from the CDC methodology, as described in MMWR: Increases in Drug and Opioid-Involved Overdose Deaths – United States, 2010–2015:

“The National Vital Statistics System multiple cause-of-death mortality files were used to record drug overdose deaths. Drug overdose deaths were identified using the International Classification of Disease, Tenth Revision (ICD-10), based on the ICD-10 underlying cause-of-death codes X40–44 (unintentional), X60–64 (suicide), X85 (homicide), or Y10–Y14 (undetermined intent). Among deaths with drug overdose as the underlying cause, the type of opioid is indicated by the following ICD-10 multiple cause-of-death codes: opioids (T40.0, T40.1, T40.2, T40.3, T40.4, or T40.6); natural/semisynthetic opioids (T40.2); methadone (T40.3); synthetic opioids other than methadone (T40.4); and heroin (T40.1). Some deaths involved more than one type of opioid; these deaths were included in the rates for each subcategory. Therefore, categories of deaths presented are not mutually exclusive.”

<https://www.cdc.gov/mmwr/volumes/65/wr/mm655051e1.htm>

Determining a drug-related fatality is a multi-step process. Any death certificate with a pending investigation or natural death classification is removed before analyses. All causes of death, including any contributing conditions, are scanned to recognize any ICD code that represents a drug poisoning (including alcohol). Next, all literal text fields, including the injury description text are also examined to identify any listed alcohol or drugs. Fatalities related to chronic alcohol use, medical complications of medication administration, end of life care, intrauterine or gestational exposure, helium, or exposure/injury in the context of intoxication are excluded as they do not represent a likely “overdose”.

There are two main differences between the methodologies used by VDH and the CDC. First, VDH considers all causes of death, contributing conditions, and injury descriptions as opposed to underlying cause of death only. Second, VDH examines a broader list of ICD-10 codes than those used by the CDC. Beyond the list of ICD-10 codes used by the CDC, VDH examines the following additional ICD-10 codes to identify its initial list of drug-related fatalities:

ICD Codes Used in Drug-Related Fatalities Analysis (beyond those used by CDC)			
X45	F10.0	F14.0	F17.0
X65	F10.1	F14.1	F17.1
Y15	F11.0	F15.0	F18.0
T36-T50	F11.1	F15.1	F18.1
T51.0	F13.0	F16.0	F19.0
	F13.1	F16.1	F19.1

VT Opioid-Related Fatalities

While the CDC does examine multiple cause-of-death codes for those described in the MMWR excerpt above (T40.0, T40.1, T40.2, T40.3, T40.4, or T40.6), they do so only for individuals who have an underlying cause-of-death code equal to X40-44, X60-64, X85, or Y10-Y14.

In an example of how the VDH and CDC methodologies differ based on use of ICD codes and literal text analysis, an underlying cause of death may be listed as cardiovascular disease and identified in the death record with the ICD-10 code I25.0 (CVD). This individual would not be included as a drug-related fatality using the CDC methodology. However, upon closer inspection of literal text and additional cause of death fields, the injury description lists “substance abuse” with a contributing condition of “acute cocaine intoxication” and ICD codes indicating poisoning by narcotics (T45.0). Based on this additional information, VDH would classify this as a drug-related fatality.

As a result of its broader inclusion criteria, the Vermont Department of Health’s method of fatality identification reveals an average 5% more fatalities (range -1% to 14%) compared to the CDC’s findings for Vermont.

	Number of Drug-Related Fatalities*	
	CDC Methodology	Vermont Methodology
2013	93	99
2014	83	96
2015	99	103
2016	125	127
2017	134	137
2018	153	159

*2019 CDC data are not yet available.