



Suspected Opioid Overdose in Emergency Medical Services (EMS) Data, 2023 Q1-Q4

Background

This report describes suspected opioid overdoses documented by EMS providers during calendar year 2023. The data comes from the Montana EMS incident dataset. (PLEASE NOTE: This report includes both NEMSIS 3.4 and NEMSIS 3.5 records. Montana began transitioning to NEMSIS 3.5 in Sept 2023. When interpreting this data, please keep in mind that there may be some data quality issues due to the transition.)¹ Montana statute requires that licensed ground and air transporting EMS agencies submit a patient care report (PCR) to the dataset for each patient they encounter. Non-transporting agencies may also submit data. Therefore, the dataset may contain multiple records (EMS activations) that pertain to the same patient or incident.

In order to zero-in on a single record per overdose event, this report is restricted to 911 responses by ground transporting agencies (N=157 records excluded). It includes records with an incident date between January 1, 2023, and December 31, 2023, and scene location in Montana. EMS activations are considered opioid-related if they meet the [Montana opioid overdose syndrome criteria](#).²

Data Limitations

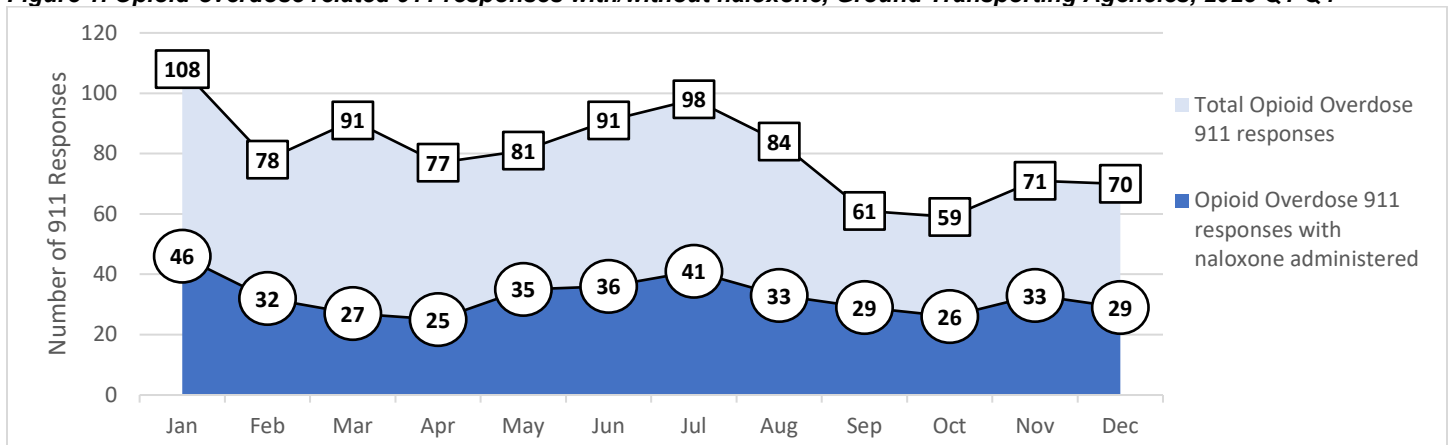
- Numbers in this report are provisional and subject to change due to latent record submissions or updates
- Data quality issues
- Does not capture overdoses where EMS did not make patient contact
- Does not capture most naloxone administrations by law enforcement or the public

Visit our [Opioid Data FAQ](#) for more information.

Results

There were **969** opioid overdose-related 911 responses by ground transporting EMS agencies in 2023 – an average of 81 per month (the 2022 monthly average was 87, and 76 in 2021). January had the highest number of opioid overdose-related 911 responses (Figure 1). Naloxone, a medication used for the emergency treatment of a known or suspected overdose, was documented in **392** of 969 cases (**40.5%**)³. *There were an additional 281 cases where naloxone was mentioned in the patient care narrative but not documented in the medication fields.*

Figure 1. Opioid-overdose related 911 responses with/without naloxone, Ground Transporting Agencies, 2023 Q1-Q4



¹ This report includes both [NEMSIS v3.4.0](#) and [NEMSIS v3.5](#) records

² Version 10.14.2022

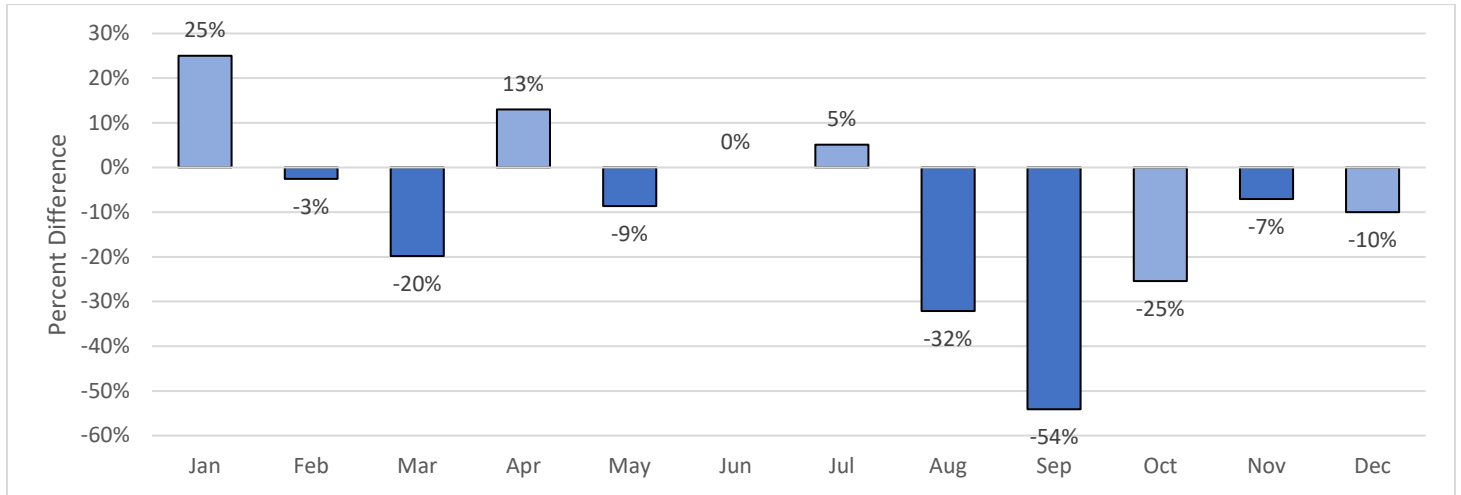
³ To learn more about accessing free naloxone, e-mail naloxone@mt.gov





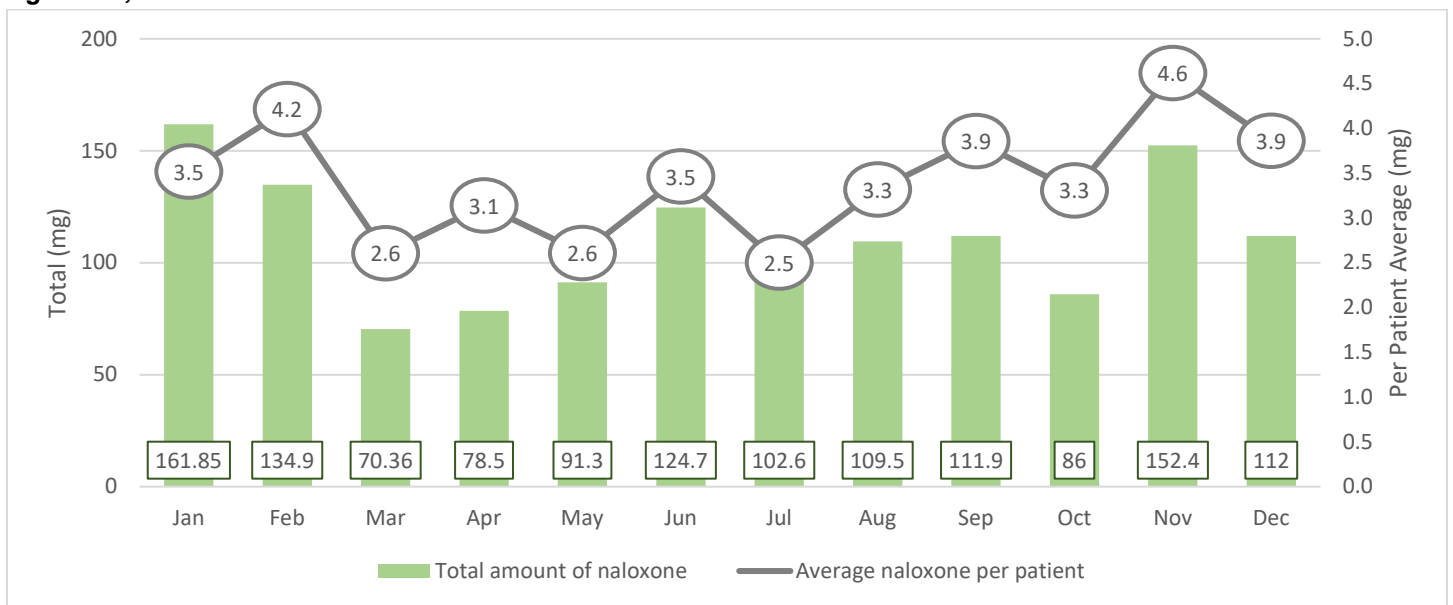
The total number of opioid overdose-related 911 responses in 2023 (N=969) was less than 2022 (N=1,041), possibly due to the NEMSIS 3.5 transition which started in September 2023. Figure 2 shows which months in 2023 had more responses than the same month in 2022. The negative bar in September 2023 is most likely due to data quality issues related to the transition.

Figure 2. Percent difference in monthly number of opioid-related 911 responses, Ground Transporting Agencies, 2023 vs 2022



Among the 392 opioid-related cases where naloxone administration was documented correctly, there were 545 naloxone doses documented with a total amount of **1,336 milligrams (mg)**—however, this total does not include data from records missing dosage information. The monthly average was **111 mg** (in 2022 the average was 111 mg per month). In January 2023, almost 162 mg of naloxone was used (Figure 3). An average of **3.4 mg** of naloxone was given per opioid overdose patient, higher than the average of 3.0 during 2022. Individuals overdosing from stronger opioids may require a higher dose of naloxone to reverse their overdose.

Figure 3. Monthly total mg naloxone administered and average mg per patient, 911 responses, Ground Transporting Agencies, 2023





Opioid overdose-related 911 responses, Ground Transporting Agencies, Montana, 2023 Q1-Q4

	Q1	Q2	Q3	Q4	YTD	All %
Naloxone Administration						
No documentation of naloxone administration	172	153	140	112	577	60%
Naloxone administered, Response=Improved	83	78	83	76	320	33%
Naloxone administered, Response=Unchanged	17	16	15	11	59	6%
Naloxone administered, Response=No answer	5	†	†	†	12	1%
Patient Disposition						
Patient Evaluated and Care Provided- with Transport	237	212	220	174	843	87%
Patient Evaluated and Care Provided- without Transport	20	26	12	10	68	7%
Patient Refusal, No Transport	16	8	7	13	44	5%
Patient Dead at Scene, No Transport	†	†	†	†	†	0%
Other/Missing	†	†	†	†	11	1%
Incident County NCHS Urban-Rural Classification						
Small Metro	103	116	100	77	396	41%
Micropolitan	78	50	65	63	256	26%
Non-core (Rural)	72	72	61	50	255	26%
Not Reported	24	11	17	10	62	6%
Patient Sex						
Female	127	116	105	72	420	43%
Male	148	132	133	128	541	56%
Not Reported	†	†	5	0	8	1%
Patient Age						
0-17 Years	†	†	†	†	14	1%
18-24 Years	35	27	34	31	127	13%
25-44 Years	154	133	128	79	494	51%
45-64 Years	59	58	52	53	222	23%
65+ Years	24	25	24	30	103	11%
Not Reported	†	†	†	†	9	1%
Patient Race*						
American Indian or Alaska Native	6	68	55	49	232	24%
Asian	†	†	†	†	†	0%
Black or African American	†	†	5	†	11	1%
Hispanic or Latinx	7	5	12	7	31	3%
Native Hawaiian or Other Pacific Islander	†	†	†	†	†	0%
White	153	118	125	115	511	53%
Other Race	6	15	10	11	42	4%
Race Not Listed	47	44	36	18	145	15%
Total	277	249	243	200	969	100%

*Race is a multi-select field, therefore the sum of all race categories may exceed the total.

†= Suppressed according to departmental policy if cell count is <5

For further information, please visit our website: [Injury Prevention Program](#)

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Repeat patients experiencing an opioid overdose-related GTA 911 response, Montana, 2023 Q1-Q4

Number of opioid overdose-related GTA 911 responses	1	2	3	4	5	Patient name missing	Total
Number of Patients	790	59	7	6	1	11	863

During 2023, there were 59 patients with two opioid overdose-related GTA 911 responses, and 14 with three or more.

Opioid overdose-related GTA 911 responses with naloxone documentation, Montana, 2023 Q1-Q4

Incident County	Opioid Overdose related GTA 911 Responses	Naloxone administration documented correctly*	Naloxone term mentioned in narrative only	% with naloxone documented correctly (B/A*100)	% with any mention of naloxone [(B+C)/A]*100
	A	B	C		
BEAVERHEAD	4	2	0	50%	50%
BIG HORN	15	5	1	33%	40%
BLAINE	9	2	3	22%	56%
BROADWATER	1	0	0	0%	0%
CARBON	4	0	1	0%	25%
CASCADE	152	59	53	39%	74%
CHOUTEAU	1	1	0	100%	100%
CUSTER	13	3	4	23%	54%
FALLON	1	1	0	100%	100%
FERGUS	3	0	2	0%	67%
FLATHEAD	114	42	34	37%	67%
GALLATIN	56	24	23	43%	84%
GLACIER	24	10	6	42%	67%
HILL	15	8	2	53%	67%
JEFFERSON	3	1	0	33%	33%
LAKE	56	26	15	46%	73%
LEWIS & CLARK	48	23	15	48%	79%
LINCOLN	10	5	2	50%	70%
MADISON	1	0	0	0%	0%
MINERAL	6	1	2	17%	50%
MISSOULA	104	26	39	25%	63%
MUSSELSHELL	4	3	0	75%	75%
PARK	8	3	3	38%	75%
PONDERA	3	1	0	33%	33%
POWDER RIVER	1	1	0	100%	100%
POWELL	7	6	1	86%	100%
RAVALLI	17	7	4	41%	65%
ROOSEVELT	20	7	7	35%	70%
ROSEBUD	4	2	1	50%	75%
SANDERS	12	7	2	58%	75%
SHERIDAN	4	1	1	25%	50%
SILVER BOW	35	15	11	43%	74%
STILLWATER	5	2	1	40%	60%
SWEET GRASS	3	1	0	33%	33%
TETON	1	1	0	100%	100%
TOOLE	6	3	1	50%	67%
VALLEY	1	0	0	0%	0%
YELLOWSTONE	136	70	27	51%	71%
~NOT STATED	62	23	20	37%	69%
All	969	392	281	40%	69%

*Must be documented in eMedications fields, please visit [NEMSIS 3.5 data dictionary](#) or EMSTS documentation guidelines ([video](#)/[PDF](#)) on overdose-related EMS incidents

