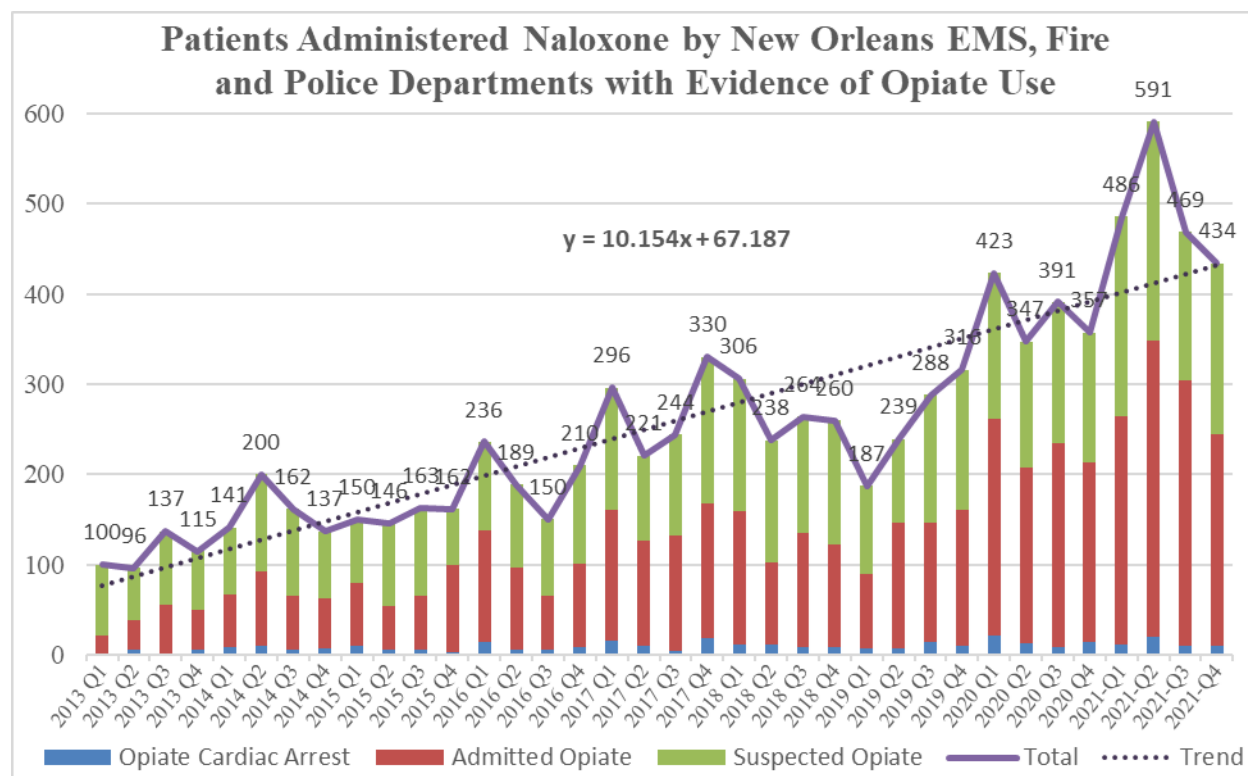


Naloxone Administrations by New Orleans Emergency Medical Service (EMS), Fire and Police Departments: long-term and recent trends

In Calendar 2021, New Orleans Emergency Medical Services (EMS) and the Fire and Police Departments administered naloxone to 2032 patients on service calls. Post administration assessment indicated that **there were 1980 naloxone administrations with evidence of opiate use**, including 52 cases of opiate cardiac arrest, 1109 cases of admitted opiate use and 819 of suspected opiate use.¹ Compared to the previous year, **total naloxone administrations with evidence of opiate use increased 30%** from 1518 in 2020 to 1980 cases in 2021.

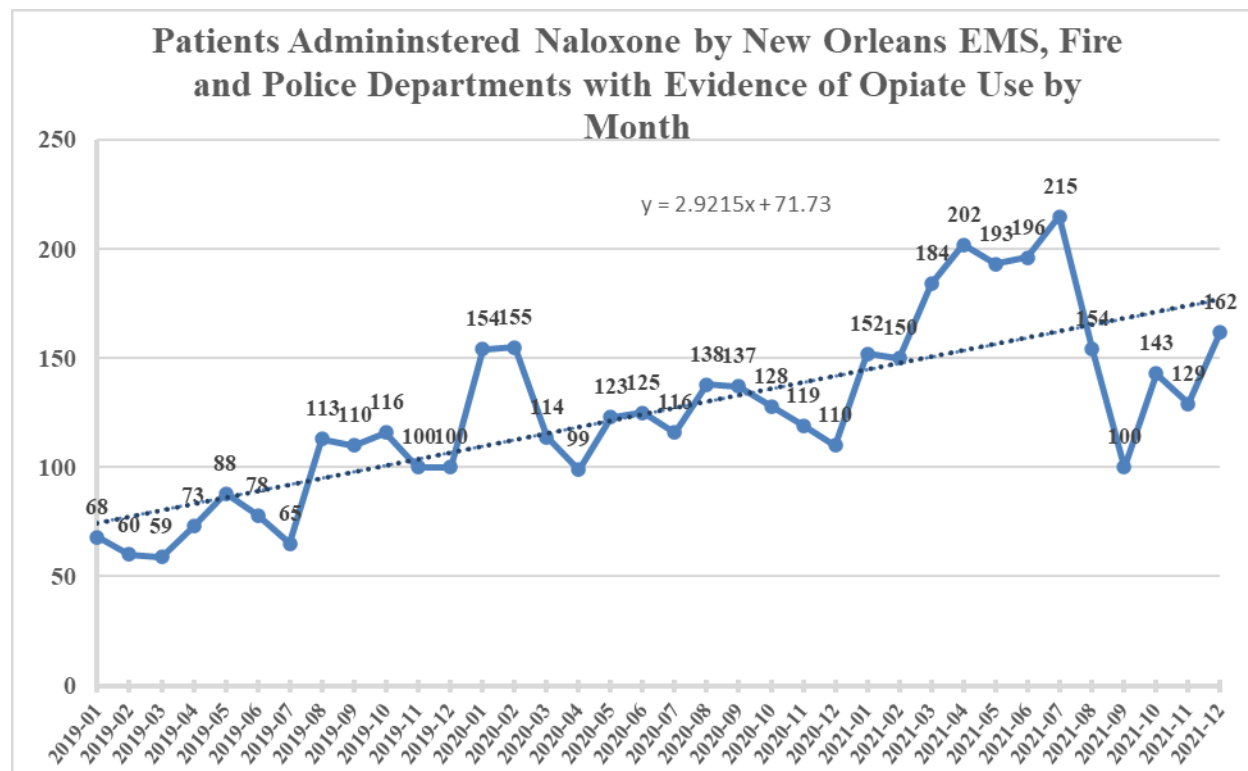


- Long-term Trend** – Over the 9-year period from 1st quarter of 2013 through the 4th quarter 2021, the number of EMS naloxone administration calls with evidence of opiate use **increased at an average annual rate of 16%.²** However, the increase has been especially dramatic since the 1st quarter 2019 even though it moderated somewhat in the early of the Covid epidemic (2nd through 4th quarters 2020).

¹ Naloxone is typically administered when there is a possibility of opiate overdose, rather than certainty, because there is very little risk of harm in administering naloxone when opiates are not present. Opiate use is “suspected” when the patient presents with a decreased GCS, Pinpoint Pupils, and GCS improves with administration of Naloxone.

² Based on linear trend analysis. Take the regression coefficient (10.1535) for the trend line and multiply by 4 (quarters per year) to obtain an average annual number increase/ decrease. Divide the average annual number increase/ decrease (40.614) by the average (mean) quarterly number of naloxone administrations (with evidence of opiate use) for the 36-quarter period (255.0278) to estimate the average annual percentage increase.

- Recent Trend** – In the past three years, January 2019 through December 2021 (36 months), the number of EMS naloxone administration calls with evidence of opiate use *increased substantially at an average annual rate of 28%.*³ Further review of the data points indicates that **naloxone administrations with evidence of opiate use increased dramatically in 2019 through July 2021**, although it moderated somewhat during the early stage of the Covid epidemic. Then the number of **naloxone administrations declined dramatically in August and September 2021 as a result of hurricane damage to Greater New Orleans' electrical power infrastructure.** The upward trend appears to have resumed in the last quarter of 2021.



Definitions

Opiate Related Cardiac Arrest – The patient presented in full arrest, and there was either admission of heroin usage or paraphernalia indicating such at the scene.
Admitted Heroin Usage – Patient was found unresponsive or with a decreased mental status. The patient received Narcan and admitted to using heroin
Suspected Opiate Usage – Patients presented with a decreased GCS, Pinpoint Pupils, and improved their GCS with administration of Narcan.
No Evidence of Opiates – Patient presented with a decreased GCS, normal pupils, and did not improve their GCS with administration of Narcan. These patients were noted to be under the influence mostly of ETOH or Benzodiazepines
Medical Related Cardiac Arrest or Other – Cardiac arrest without evidence of opiate involvement.

³ Based on linear trend analysis. Take the regression coefficient (2.9215) for the trend line and multiply by 12 (months per year) to obtain an average annual number increase/ decrease (35.0580). Divide the average annual number increase/ decrease by the average (mean) monthly number of naloxone administrations (with evidence of opiate use) for the 36-month period (125.7778) to estimate the average annual percentage increase or decrease.

Quarterly Data Points

Patients Administered Naloxone by New Orleans Emergency Medical Services by Evidence of Opiate Use							
Calendar Quarter	Opiate Related Cardiac Arrest	Admitted Opiate Usage	Suspected Opiate Usage	Total with Evidence of Opiates	Medical Related Cardiac Arrest or Other	No Evidence of Opiates	Total Patients Receiving Naloxone
2013 Q1	1	20	79	100	14	16	130
2013 Q2	6	33	57	96	27	12	135
2013 Q3	2	53	82	137	19	14	170
2013 Q4	5	45	65	115	33	72	220
2014 Q1	9	58	74	141	45	64	250
2014 Q2	10	83	107	200	92	0	292
2014 Q3	6	59	97	162	35	0	197
2014 Q4	7	56	74	137	44	0	181
2015 Q1	10	70	70	150	47	74	271
2015 Q2	5	49	92	146	37	37	220
2015 Q3	6	59	98	163	34	61	258
2015 Q4	3	97	62	162	26	43	231
2016 Q1	14	124	98	236	22	16	274
2016 Q2	5	91	93	189	15	16	220
2016 Q3	5	60	85	150	11	15	176
2016 Q4	8	93	109	210	13	19	242
2017 Q1	16	145	135	296	16	11	323
2017 Q2	10	117	94	221	7	28	256
2017 Q3	4	128	112	244	13	29	286
2017 Q4	19	148	163	330	15	14	359
2018 Q1	11	148	147	306	6	30	342
2018 Q2	11	92	135	238	5	37	280
2018 Q3	8	127	129	264	9	25	298
2018 Q4	8	114	138	260	11	16	287
2019 Q1	7	82	98	187	4	19	210
2019 Q2	7	140	92	239	7	32	278
2019 Q3	14	133	141	288	3	9	300
2019 Q4	10	151	155	316	10	19	345
2020 Q1	21	241	161	423	4	0	427
2020 Q2	13	194	140	347	4	1	352
2020 Q3	9	226	156	391	9	0	400
2020 Q4	14	199	144	357	8	1	366
2021Q1	12	253	221	486	12	0	498
2021Q2	20	328	243	591	7	0	598
2021Q3	10	294	165	469	20	0	489
2021-Q4	10	234	190	434	13	0	447

Monthly Data Points

Calendar Quarter	Opiate Related Cardiac Arrest	Admitted Opiate Usage	Suspected Opiate Usage	Total with Evidence of Opiates	Medical Related Cardiac Arrest or Other	No Evidence of Opiates	Total Patients Receiving Naloxone
2017-01	3	64	48	115	8	5	128
2017-02	7	29	44	80	4	3	87
2017-03	6	52	43	101	4	3	108
2017-04	5	31	32	68	1	9	78
2017-05	2	34	38	74	4	7	85
2017-06	3	52	24	79	2	12	93
2017-07	1	46	30	77	4	12	93
2017-08	2	45	40	87	5	5	97
2017-09	1	37	42	80	4	12	96
2017-10	8	37	44	89	9	5	103
2017-11	2	63	69	134	4	5	143
2017-12	9	48	50	107	2	4	113
2018-01	6	34	49	89	3	8	100
2018-02	2	46	50	98	1	10	109
2018-03	3	68	48	119	2	12	133
2018-04	5	37	35	77	1	13	91
2018-05	2	30	63	95	2	17	114
2018-06	4	25	37	66	2	7	75
2018-07	2	35	34	71	5	4	80
2018-08	3	49	42	94	3	9	106
2018-09	3	43	53	99	1	12	112
2018-10	3	37	49	89	2	2	93
2018-11	3	43	41	87	3	7	97
2018-12	2	34	48	84	6	7	97
2019-01	4	24	40	68	1	5	74
2019-02	1	25	34	60	2	6	68
2019-03	2	33	24	59	1	8	68
2019-04	1	39	33	73	3	12	88
2019-05	4	51	33	88	2	6	96
2019-06	2	50	26	78	2	14	94
2019-07	1	40	24	65	2	4	71
2019-08	7	42	64	113	0	4	117
2019-09	6	51	53	110	1	1	112
2019-10	1	56	59	116	3	6	125
2019-11	3	39	58	100	3	3	106
2019-12	6	56	38	100	4	10	114
2020-01	9	71	74	154	3	0	157
2020-02	8	97	50	155	0	0	155
2020-03	4	73	37	114	1	0	115
2020-04	5	62	32	99	1	0	100
2020-05	1	72	50	123	1	1	125
2020-06	7	60	58	125	2	0	127
2020-07	5	69	42	116	1	0	117
2020-08	0	71	67	138	4	0	142
2020-09	4	86	47	137	4	0	141
2020-10	3	77	48	128	2	0	130
2020-11	6	66	47	119	1	1	121
2020-12	5	56	49	110	5	0	115
2021-01	5	87	60	152	4	0	156
2021-02	1	72	77	150	5	0	155
2021-03	6	94	84	184	3	0	187
2021-04	9	113	80	202	1	0	203
2021-05	7	98	88	193	2	0	195
2021-06	4	117	75	196	4	0	200
2021-07	6	127	82	215	9	0	224
2021-08	2	97	55	154	8	0	162
2021-09	2	70	28	100	3	0	103
2021-10	5	73	65	143	4	0	147
2021-11	1	74	54	129	7	0	136
2021-12	4	87	71	162	2	0	164