

Naloxone Administrations by New Orleans Emergency Medical Service (EMS), Fire and Police Departments

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Naloxone Administration in the Past 12 Months

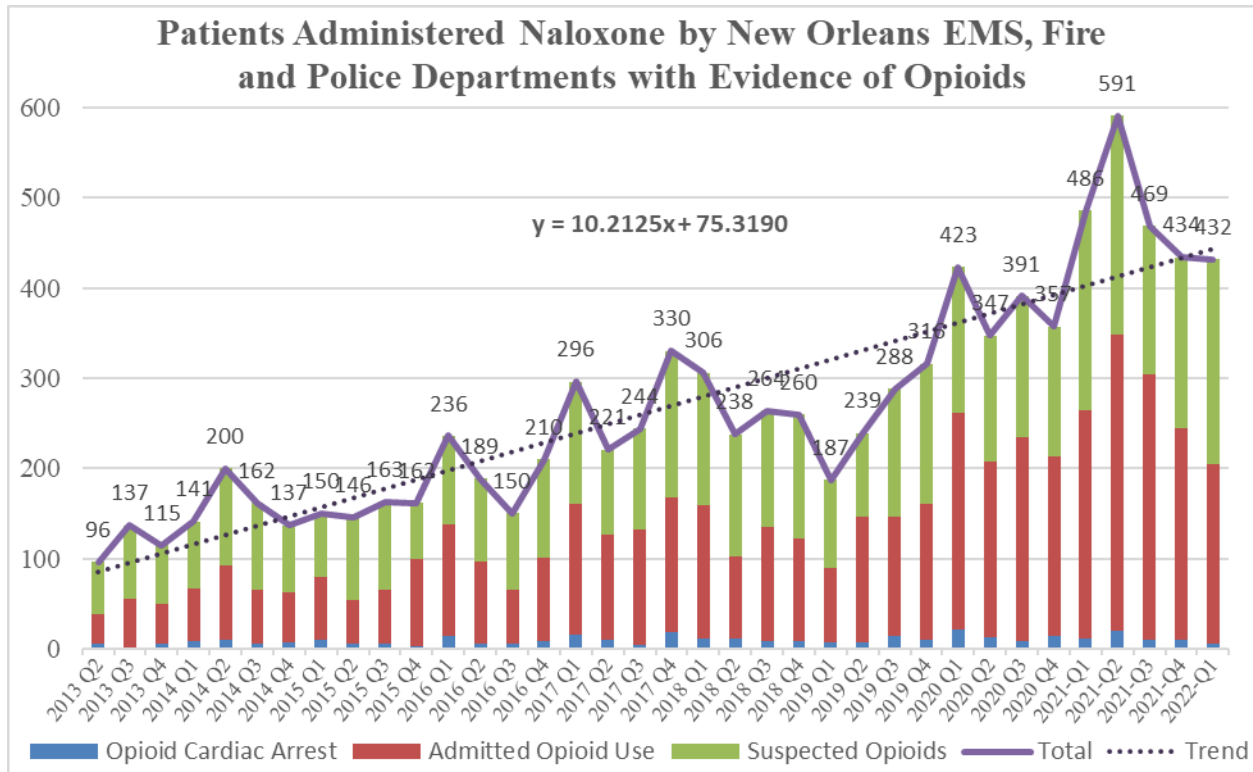
In the year ending March 2022, New Orleans Emergency Medical Services (EMS) and the Fire and Police Departments administered naloxone to **1973** patients on service calls.¹ Post administration assessment indicated that **there were 1926 naloxone administrations with evidence of opioid use**, including 46 cases of opioid cardiac arrest, 1055 cases of admitted opioid use and 825 of suspected opioid use.²

Annual naloxone administrations with evidence of opioid use increased 22% with New Orleans Emergency Medical Services (EMS) recording 1925 naloxone administrations from April 2021 through March 2022 compared to 1581 in the previous 12 months.

¹ The data presented here represent those naloxone administrations involving calls for New Orleans Emergency Medical Services (NO-EMS); they do not include other naloxone administrations by private citizens or in other venues. Questions regarding this data should be directed to New Orleans Emergency Medical Services. This analysis is supported in part by a CDC Drug Free Communities grant awarded to the Greater New Orleans Drug Demand Reduction Coalition.

² Naloxone is typically administered when there is a possibility of opioid overdose, rather than certainty, because there is very little risk of harm in administering naloxone when opioids are not present. “Opioid cardiac arrest” means the patient presented in full arrest, and there was either admission of heroin usage or paraphernalia indicating such at the scene. “Admitted opioid use” means the patient was found unresponsive or with a decreased mental status, and admitted to using opioids. Opioid use is “suspected” when the patient was found unresponsive or with a decreased mental status, and mental status improved with administration of naloxone, but did not admit to opioid use.

Long-term Trend



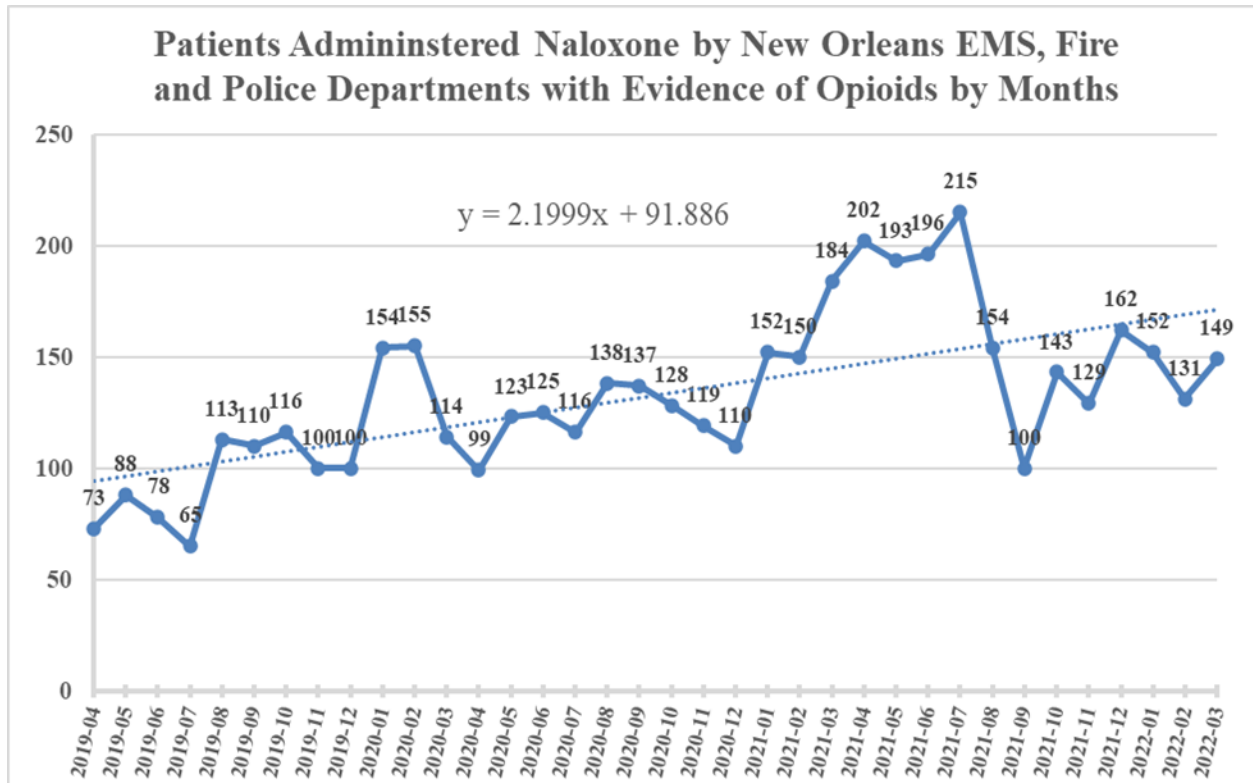
Over the 9-year period from 2nd quarter of 2013 through the 1st quarter 2022, the number of EMS naloxone administration calls with evidence of opioid use *increased* at an average annual rate of 15%.³

The number of naloxone administrations declined in 2018, but increased dramatically after the 1st quarter 2019, even though it moderated somewhat in the early of the Covid epidemic in the 2nd through 4th quarters of 2020.

The decline in naloxone administrations in the 3rd and 4th quarter of 2021 is due largely to severe infrastructure damage resulting from Hurricane Ida in late August.

³ Based on linear trend analysis. Take the regression coefficient (10.2125) 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 (40.850) by the average (mean) quarterly number of naloxone administrations (with evidence of opioid use) for the 36-quarter period (264.2500) to estimate the average annual percentage increase.

Recent Trend



In the past three years, April 2019 through March 2022 (36 months), **the number of EMS naloxone administration calls with evidence of opioid use *increased substantially* at an average annual rate of 20%.⁴** Further review of the data points indicates that **naloxone administrations with evidence of opioid use increased dramatically in 2019 through July 2021**, although it moderated somewhat during the early stage of the Covid epidemic.

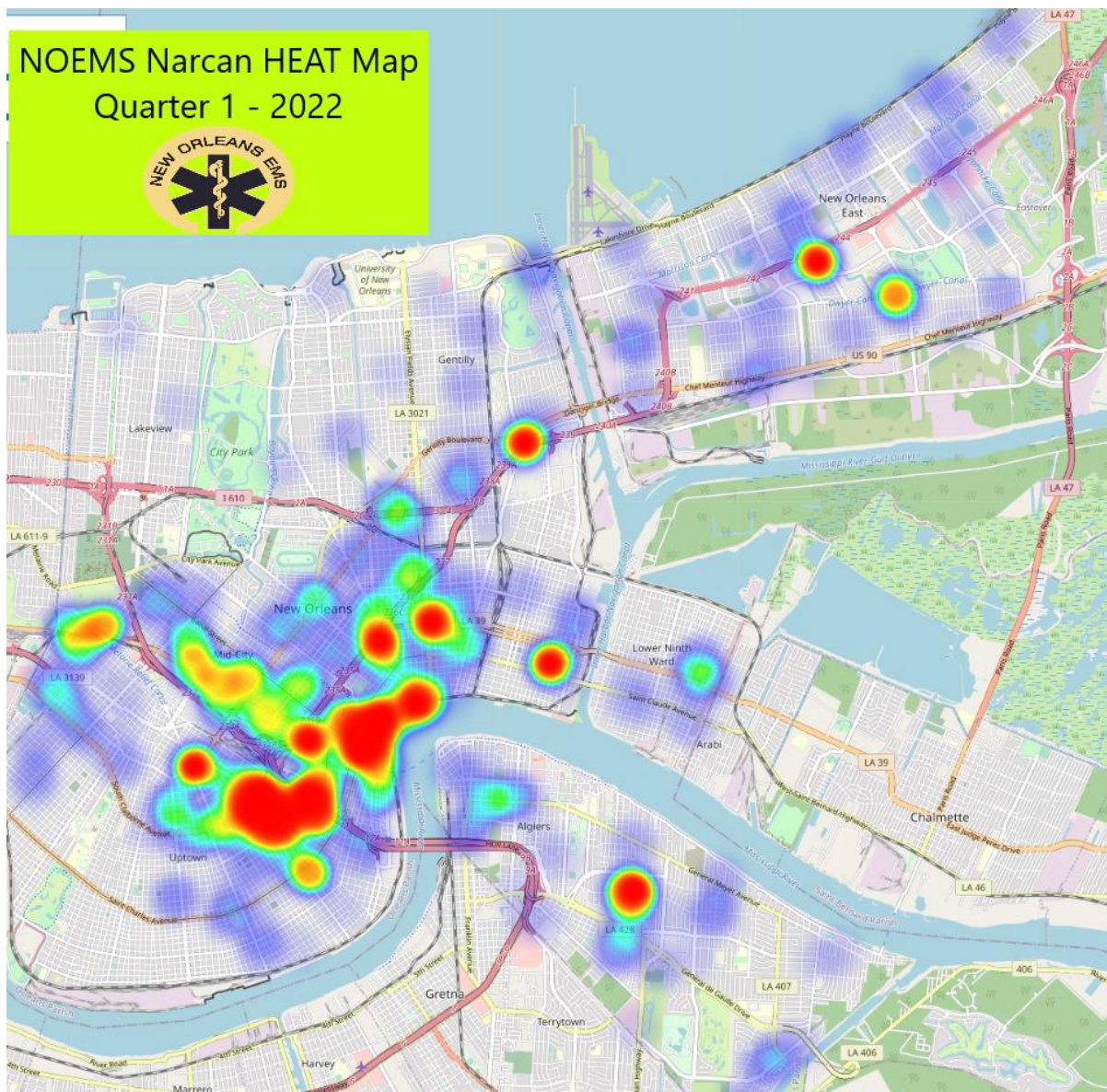
Then the number of **naloxone administrations declined dramatically in August and September 2021 as a result of severe hurricane damage to Greater New Orleans' electrical power infrastructure**. Since September 2021, the upward trend appears to have resumed but has not reached pre-hurricane levels.

⁴ Based on linear trend analysis. Take the regression coefficient (2.1999) for the trend line and multiply by 12 (months per year) to obtain an average annual number increase/ decrease (26.3988). Divide the average annual number increase/ decrease by the average (mean) monthly number of naloxone administrations (with evidence of opioid use) for the 36-month period (132.5833) to estimate the average annual percentage increase or decrease.

Neighborhood Heat Map, 1st Quarter 2022

Heat maps can represent the geographical concentration of events, in this case, emergency medical service responses in which naloxone was administered. They do not necessarily represent the location of residence for EMS patients. On the other hand, areas of higher residential concentration are more likely to have greater numbers of EMS service calls, other things being equal.

This map shows the greatest geographical concentration of EMS naloxone administrations in the downtown New Orleans (including the French Quarter) and Central City and the adjacent area in the vicinity of Calliope Street (under the US 90 overpass).

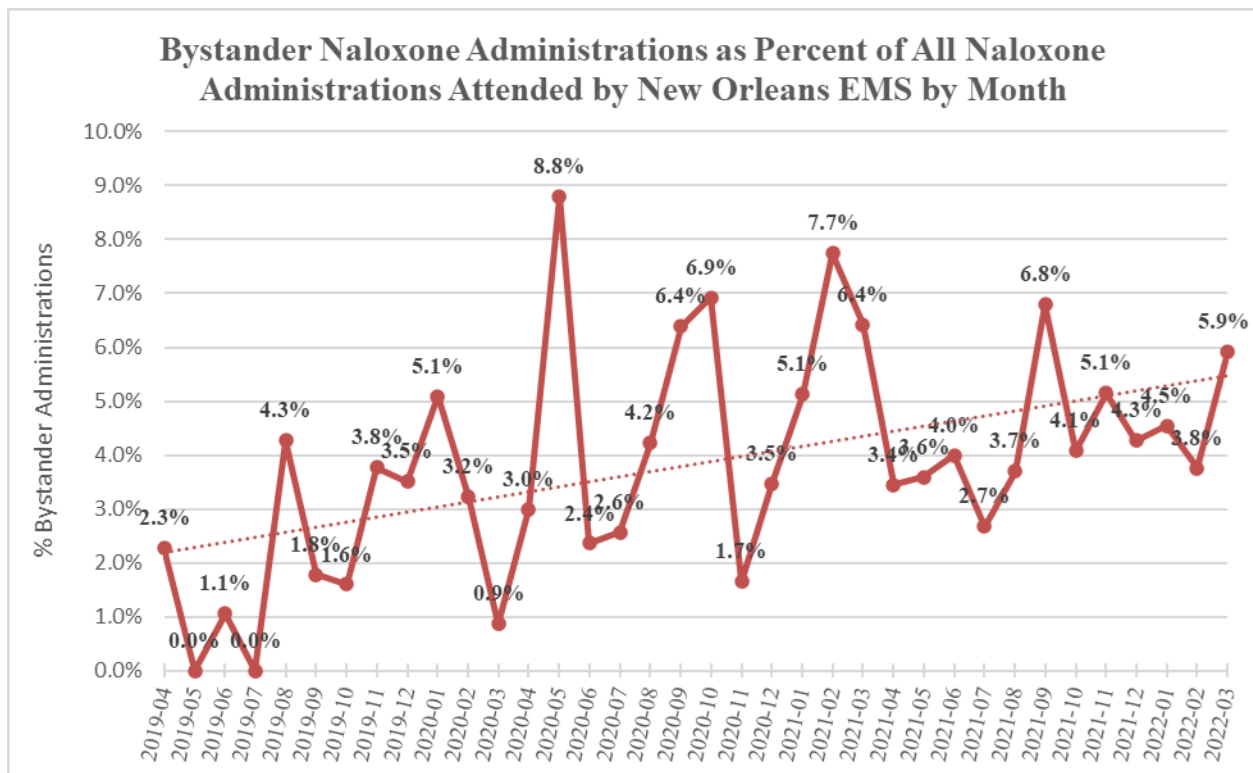


Bystander Naloxone Administrations

New Orleans Fire Department and Police Department responders are trained in administration of naloxone via nasal spray and are often first on the scene administering naloxone before NO-EMS takes over care. In addition, naloxone kits are increasing available in the community, especially among opioid users and their significant others. Community members who administer naloxone prior to EMS arriving on the scene are referred to as “bystanders.” Bystander administrations have been tracked since January 2019.

Bystander administration of naloxone on NO-EMS calls increased dramatically from 22 in 2019 to 93 in 2021. In the 1st quarter of 2022, bystander administration of naloxone had already occurred on 5% of NO-EMS calls involving naloxone administration.

Year	Naloxone Administra-tions with Evidence of Opiates	Total Naloxone Administra-tions	Naloxone First Administered by				
			NO-EMS	NOPD	NOFD	Bystander	% Bystander of Total
2019	1,030	1,133	787	47	277	22	1.9%
2020	1,518	1,545	1,108	52	321	64	4.1%
2021	1,980	2,032	1,371	44	524	93	4.6%
2022 YTD	432	439	294	17	107	21	4.8%

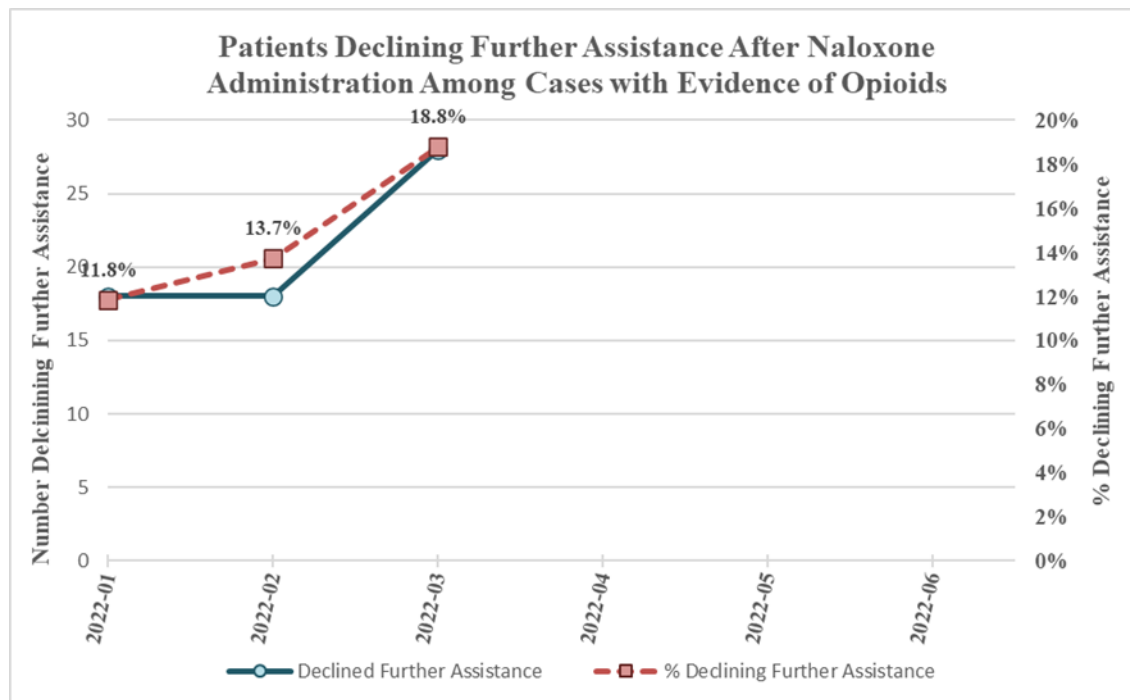


Patients Declining Further Assistance

After naloxone administration, if respiration and mental status improve, the patient may decline further assistance for a number of reasons including fear of criminal justice involvement, job loss or hospital bills. In such case, EMS staff warn the patient that they may quickly relapse into a life-threatening overdose state if the effects of the opioid last longer than the effects of naloxone (as may especially be the case with fentanyl-type synthetics). EMS staff offer a naloxone kit and an information sheet of treatment and other resources available, including medication-assisted treatment (MAT). Beginning in January 2022, NO-EMS is tracking the number of patients declining further assistance (AMA).

In the 1st quarter 2022, about 15% of patients administered naloxone declined further assistance.

Patients Declining Further Assistance After Naloxone Administration Among Cases with Evidence of Opioids			
Calendar Month	Naloxone Administrations with Evidence of Opiates	Declined Further Assistance	% Declining Further Assistance
2022-01	152	18	11.8%
2022-02	131	18	13.7%
2022-03	149	28	18.8%
2022 YTD	432	64	14.8%



Appendix: Data Tables

Quarterly Data Points

Patients Administered Naloxone by New Orleans Emergency Medical Services by Evidence of Opioid Use							
Calendar Quarter	Opioid Related Cardiac Arrest	Admitted Opioid Usage	Suspected Opioid Usage	Total with Evidence of Opioids	Medical Related Cardiac Arrest or Other	No Evidence of Opioids	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
2022-Q1	6	199	227	432	5	2	439

Monthly Data Points

Year-Month	Opioid Related Cardiac Arrest	Admitted Opioid Usage	Suspected Opioid Usage	Total with Evidence of Opioids	Medical Related Cardiac Arrest	No Evidence of Opioids	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
2022-01	4	62	86	152	2	0	154
2022-02	1	63	67	131	2	0	133
2022-03	1	74	74	149	1	2	152

First Agent Administering Naloxone on EMS Calls							
Year-Month	Naloxone Administrations with Evidence of Opiates	Total Naloxone Administrations	Naloxone First Administered by				
			NO-EMS	NOPD	NOFD	Bystander	% Bystander of Total
2019-01	68	74	47	6	20	1	1.4%
2019-02	60	68	53	0	14	1	1.5%
2019-03	59	68	54	2	12	0	0.0%
2019-04	73	88	59	1	26	2	2.3%
2019-05	88	96	68	1	27	0	0.0%
2019-06	78	94	71	4	18	1	1.1%
2019-07	65	71	50	4	17	0	0.0%
2019-08	113	117	86	3	23	5	4.3%
2019-09	110	112	74	7	29	2	1.8%
2019-10	116	125	84	9	30	2	1.6%
2019-11	100	106	68	3	31	4	3.8%
2019-12	100	114	73	7	30	4	3.5%
2020-01	154	157	101	9	39	8	5.1%
2020-02	155	155	106	15	29	5	3.2%
2020-03	114	115	65	6	43	1	0.9%
2020-04	99	100	84	3	10	3	3.0%
2020-05	123	125	91	0	23	11	8.8%
2020-06	125	127	99	3	22	3	2.4%
2020-07	116	117	79	5	30	3	2.6%
2020-08	138	142	109	2	25	6	4.2%
2020-09	137	141	104	3	25	9	6.4%
2020-10	128	130	88	2	31	9	6.9%
2020-11	119	121	93	1	25	2	1.7%
2020-12	110	115	89	3	19	4	3.5%
2021-01	152	156	112	3	33	8	5.1%
2021-02	150	155	96	4	43	12	7.7%
2021-03	184	187	118	5	52	12	6.4%
2021-04	202	203	126	5	65	7	3.4%
2021-05	193	195	135	7	46	7	3.6%
2021-06	196	200	139	5	48	8	4.0%
2021-07	215	224	155	2	61	6	2.7%
2021-08	154	162	113	4	39	6	3.7%
2021-09	100	103	78	0	18	7	6.8%
2021-10	143	147	102	4	35	6	4.1%
2021-11	129	136	83	3	43	7	5.1%
2021-12	162	164	114	2	41	7	4.3%
2022-01	152	154	103	5	39	7	4.5%
2022-02	131	133	94	7	27	5	3.8%
2022-03	149	152	97	5	41	9	5.9%