

Nebraska Emergency Medical Services (EMS) Suspected Nonfatal Opioid-Involved Overdose Five- Year Surveillance Report, 2019–2023

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Nebraska Overdose Data to Action Grant

Table of Contents

Table of Contents	2
Executive Summary	3
Definitions	5
Key Elements of Methods	6
Findings	7
Table 1. Number of suspected nonfatal opioid-involved overdose (NFOO) related metrics in Nebraska, 2019–2023	7
Table 2. Patients Characteristics in suspected nonfatal opioid-involved overdose, impression of opioid overdose, symptom of opioid overdose, narrative of opioid overdose, naloxone given, and improved naloxone response events, Nebraska, 2019–2023	8
Figure 1. Number of suspected nonfatal opioid-involved overdose (NFOO) related metrics in Nebraska, 2019–2023 (n=7,827)	10
Figure 2. Suspected nonfatal opioid-involved overdose (NFOO) rates by sex, Nebraska, 2019–2023 (n=7,827).....	11
Figure 3. Suspected nonfatal opioid-involved overdose (NFOO) rates by race, Nebraska, 2019–2023 (n=7,827).....	12
Figure 4. Suspected nonfatal opioid-involved overdose (NFOO) rates by age group, Nebraska, 2019–2023 (n=7,827).....	13
Figure 5. Suspected nonfatal opioid-involved overdose (NFOO) rates by age group for females (A) and males (B), Nebraska, 2019–2023 (n=7,827).....	14
Figure 6. Average annual suspected nonfatal opioid-involved overdose (NFOO) rates by age group and sex, Nebraska, 2019–2023 (n=7,827).....	15
Figure 7. Suspected nonfatal opioid-involved overdose (NFOO) rates by residence and occurrence address, Nebraska, 2019–2023 (n=7,827).....	16
Figure 8. Suspected nonfatal opioid-involved overdose (NFOO) rates by local health department, Nebraska, 2019–2023 (n=7,827).....	17
Map 1. Average annual suspected nonfatal opioid-involved overdose (NFOO) rates by local health department, Nebraska, 2019–2023 (n=7,827).....	18
Map 2. Suspected nonfatal opioid-involved overdose (NFOO) rates by local health department (LHD), Nebraska, from 2019 to 2023	19
Key Takeaways	20
References	22


Executive Summary

Nonfatal opioid overdoses (NFOOs) have become a growing public health concern nationwide as the entire US fights a decades-long opioid epidemic. It is essential to use timely data to monitor the trend, identify people at risk, and detect hotspots. The EMS data can address these needs as a surrogate data source for supplementally tracking suspected NFOOs in near real-time. We aimed to use the Nebraska EMS data to monitor and characterize trends of suspected NFOOs and assist in overdose prevention and response activities.

Suspected NFOOs were identified through querying EMS incident reports from 2019 to 2023 based on the Council of State and Territorial Epidemiologists (CSTE) EMS NFOOs standard guidance¹. The guidance defined NFOOs using a combination of fields including opioid impressions, opioid symptoms, medications administered and responses to medications, and patient care report narratives. Trends of suspected NFOOs were analyzed by patient demographics, residence, and incidence location. Maps were prepared to show spatiotemporal patterns.

From 2019 to 2023, there was a notable increase in suspected NFOOs, rising by 28.3% from 1,260 cases in 2019 to 1,617 cases in 2023, with a peak of 1,888 cases in 2021. Over the same period, the total number of EMS incidents fluctuated, declining from 227,831 in 2019 to 177,560 in 2023. Despite this decline in overall EMS runs, the rate of NFOOs per 1,000 EMS incidents consistently increased, climbing from 5.5 in 2019 to 9.1 in 2023. This trend indicates an escalating burden on EMS services caused by suspected opioid overdoses, even as total EMS runs decreased. Increases were noted across all its four components: opioid overdose impression, symptoms, narrative, and naloxone response, each peaking in 2021. A small number of NFOOs were identified based on opioid symptoms. The patient care report narratives identified more NFOOs than the other three components. From 2019 to 2023, overdose rates increased across all genders, age groups, and races, except for Asians. In this timeframe, the highest rates were among those aged 75 and older (206.1 per 100,000 persons), and the lowest in the age group 0-14 (5.7 per 100,000 persons). The rates among males were higher than the rates among females except in the age group 45-54. The gender disparity in these rates reached its peak in 2021, followed by a subsequent decline. The most substantial rise in the rate of suspected NFOOs among males was observed in the 45-54 age group, with an increase of 92.3% from 52 in 2019 to 100 in 2023. In contrast, the rates among females in the same age group declined by 5.6% from 90 in 2019 to 85 in 2023. The most significant increase among females was observed in the age group 75-84, with an increase of 81.4% from 59 in 2019 to 107 in 2023. The increases in rates were more pronounced among Black (71.4%) compared to among American Indian/Alaska Native (48.0%) and White (25.5%). The rates of suspected NFOOs were higher in micropolitan and small-town areas compared to metropolitan and rural regions. There was a geographic variation in these rates, being higher in the eastern and western regions than in the central regions of Nebraska. A significant increase in the rates of suspected NFOOs was noted across the majority of local health departments, with particularly notable increases in the central and south-eastern regions of Nebraska.

This study demonstrated that EMS data are valuable for NFOO surveillance, which provided critical information for monitoring trends and patterns of suspected NFOOs. The 'Patient Care Report Narrative' was proven to be a highly effective component. Thus, it should not be



overlooked when tracking suspected NFOO cases through EMS data. Our findings indicate that the suspected NFOOs had an upward trend and variations in ages, genders, races, and areas in Nebraska from 2019 to 2023, a five-year period. Our report highlights the need for tailoring public health efforts to ensure the implementation of equitable prevention and response services.

Definitions

Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS), covering the period from 2019 to 2023 in Nebraska.

EMS Incidents, also referred to as EMS Runs or EMS Transports, were included in this report if *Type of Service Requested* (eResponse.05 from the Nebraska EMS Data Dictionary, National Highway Traffic Safety Administration version 3.4.0²) indicates an emergency response (including 911 response, intercept, and mutual aid). EMS incidents should be excluded from this report if a) *Type of Service Requested* (eResponse.05) is a non-emergency response (e.g., interfacility transfer, medical transport, standby, public assistance/other not listed, etc.), OR b) *Initial Patient Acuity* (eSituation.13) indicates “Dead Without Resuscitation Efforts (Black)”.

Opioid Impression is defined as any EMS incident that meets the above criteria, where *Provider's Primary Impression* (eSituation.11) or *Provider's Secondary Impression* (eSituation.12) was opioid overdose related, which can be identified by any of the following ICD10 codes: F11, T40.0-T40.4, and T40.6.

Opioid Symptom is defined as any eligible EMS incident where *Primary Symptom* (eSituation.09) or *Other Associated Symptoms* (eSituation.10) is opioid overdose related, which can be identified by any of the following ICD10 codes: F11, T40.0-T40.4, and T40.6.

Opioid Narrative is defined as any eligible EMS incident where *Patient Care Report Narrative* (eNarrative.01) contains **at least ONE opioid-related keyword** (including buprenorphine, carfentanyl, codeine, codiene, codene, dilaudid, dilaud, dope, evzio, fentanyl, fent, heroin, herion, heroine, hod, spheroin, hydrocodone, hydrocod, hydromorphone, hydromor, methadone, morphine, morphin, narcan, naloxone, naloxd, opiate[s], opate[s], opioid[s], opiod[s], opoid[s], opium, opium, opum, oxymorphone, oxymor, oxycodone [oxyco, oxy, oxyi], percocet, percoc, speed ball, speedball, suboxin, suboxone, tramadol, tramad, vicodin, vicodine, and vicod) **AND at least TWO overdose-related keywords** (including agonal, altered mental status [ams], apnea, constricted pupil, decreased resp, decreased rr, decreasing resp, depressed resp, dyspnea, ingestion [ingest, inject], intoxication [intoxic], loss of conscious [syncopy, syncope], miosis [miotic], nodding off, overdose [overdosed, overdosing, overdose, overdoes, averdose, averdoes, over does, over dose], pinpoint [pin point, pin-point], poisoning [poison], pupil*constricted, resp*decreased, resp*depression, snort, snorted, unresponsive [unresponsiv]) (1).

Naloxone Given is defined as any eligible EMS incident where *Medication Given* (eMedications.03) is naloxone or Narcan. Naloxone is a medication capable of quickly reversing opioid overdose effects, commonly utilized in emergency situations.

Improved Naloxone Response is defined as any eligible EMS incident where *Medication Given* (eMedications.03) is naloxone or Narcan and *Response to Medication* (eMedications.07) is recorded as “Improved”.

Nonfatal Opioid-involved Overdoses (NFOOs) or Suspected Opioid Overdose is defined as “Opioid Impression”, “Opioid Symptom”, “Improved Naloxone Response”, or “Opioid Narrative” presented in a single patient record, which reflects the unduplicated combination of these four terms.

Key Elements of Methods

- 1) This report describes suspected nonfatal opioid-involved overdoses (NFOO) events identified from Emergency Medical Services (EMS) incidents, which refer to the case definition from the Council of State and Territorial Epidemiologists (CSTE) EMS NFOO standard guidance¹. This report reflects only those records submitted to the Electronic Nebraska Ambulance Rescue Service Information System (eNARSIS) from 2019 to 2023.
- 2) One patient in an EMS incident could receive more than one naloxone administration. Multiple naloxone administrations or improved responses were only counted once in one patient record.
- 3) This report focuses on the analyses of suspected NFOO events among Nebraska residents within the territory of Nebraska. It encompasses incidents involving Nebraska residents or EMS occurrences within the state, and their residents' information was missing. As a result, individuals who are not Nebraska residents and EMS incidents located outside of the Nebraska boundaries were excluded from the analysis.
- 4) This report describes yearly trends in the number of EMS incidents that met the case definitions of suspected NFOO. The report also presents the numbers of these indicators by patient characteristics (i.e., age, sex, race, residence, and incidence location) during the same period.
- 5) This report also describes yearly trends in rates of EMS incidents for suspected NFOO per 100,000 people by patient residence (if the residence address is missing, the location of the incident was used as the patient's residence address) at the local health departments (LHDs) level and other patient characteristics including age, sex, and race, in Nebraska from 2019 to 2023.
- 6) After aggregating the patients' addresses at the county level into LHDs, using the incident location's county as a substitute for the patient's missing residence county, maps were prepared to display the spatial and temporal trends in rates (per 100,000 population) of opioid overdose across the 19 LHDs in Nebraska. Additionally, 19 line graphs were presented for each LHD to illustrate the temporal trends of suspected NFOO rates (per 100,000 population).

Findings

Table 1. Number of suspected nonfatal opioid-involved overdose (NFOO) related metrics in Nebraska, 2019–2023

Year	EMS Incidents	Suspected Opioid Overdoses*	Rate of NFOO per 1,000 EMS Incidents	Opioid Impression	Opioid Symptom	Opioid Narrative	Naloxone Given [†]	Improved Response [§]	Percentage of Improvement
2019	227,831	1,260	5.5	233	0	973	702	326	46.4
2020	224,741	1,416	6.3	314	13	1,080	852	421	49.4
2021	240,923	1,888	7.8	460	29	1,362	1,147	676	58.9
2022	196,188	1,646	8.4	406	26	1,190	1,034	490	47.4
2023	177,560	1,617	9.1	281	23	1,255	899	435	48.4
Total	1,067,243	7,827	7.3	1,694	91	5,860	4,634	2,348	50.7

Note: * A suspected nonfatal opioid-involved overdose (NFOO) event is identified as a unique combination of "Opioid Impression," "Opioid Symptom," "Improved Naloxone Response," or "Opioid Narrative." Naloxone Given alone is insufficient to identify a NFOO event. However, the combination of naloxone administration and an observed improvement in response is sufficient for identification.

†For an EMS incident, one unique patient could be given more than one naloxone; multiple naloxone administrations or improved responses were only counted once in one unique patient's record.

§Multiple improved naloxone responses were only counted once in one unique patient's record.

Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Table 2. Patients Characteristics in suspected nonfatal opioid-involved overdose, impression of opioid overdose, symptom of opioid overdose, narrative of opioid overdose, naloxone given, and improved naloxone response events, Nebraska, 2019–2023

Characteristic	Suspected Opioid Overdoses (n=7,827)	Opioid Impression (n=1,694)	Opioid Symptom (n=91)	Opioid Narrative (n=5,860)	Naloxone Given (n=4,634)	Improved Response (n=2,348)	Population** (n=1,937,552)
Sex							
Female	3,396 (43.4)	703 (41.5)	30 (33.0)	2,573 (43.9)	1,882 (40.6)	897 (38.2)	969,739 (50.0)
Male	4,341 (55.5)	987 (58.3)	61 (67.0)	3,205 (54.7)	2,730 (58.9)	1,437 (61.2)	967,813 (50.0)
Unknown	90 (1.2)	--	0 (0.0)	82 (1.4)	22 (0.5)	14 (0.6)	0 (0.0)
Ethnic Group							
Hispanic or Latino	604 (7.7)	184 (10.9)	15 (16.5)	422 (7.2)	397 (8.6)	200 (8.5)	225,592 (11.6)
Not Hispanic or Latino	7,087 (90.6)	1,501 (88.6)	76 (83.5)	5,313 (90.7)	4,209 (90.8)	2,130 (90.7)	1,711,960 (88.4)
Unknown	136 (1.7)	9 (0.5)	0 (0.0)	125 (2.1)	28 (0.6)	18 (0.8)	0 (0.0)
Race							
White	5,996 (76.6)	1,239 (73.1)	69 (75.8)	4,613 (78.7)	3,146 (67.9)	1,594 (67.9)	1,725,392 (89.1)
Black	878 (11.2)	211 (12.5)	--	538 (9.2)	941 (20.3)	489 (20.8)	118,129 (6.1)
American Indian or Alaska Native	139 (1.8)	43 (2.5)	--	103 (1.8)	64 (1.4)	29 (1.2)	33,889 (1.7)
Asian or Pacific Islander	46 (0.6)	6 (0.4)	0 (0.0)	33 (0.6)	48 (1.0)	15 (0.6)	60,142 (3.1)
Unknown	768 (9.8)	195 (11.5)	15 (16.5)	573 (9.8)	435 (9.4)	221 (9.4)	0 (0.0)
Age Group (Years)							
0-14	112 (1.4)	15 (0.9)	0 (0.0)	97 (1.7)	51 (1.1)	15 (0.6)	395,421 (20.4)
15-24	887 (11.3)	256 (15.1)	16 (17.6)	643 (11.0)	560 (12.1)	323 (13.8)	268,225 (13.8)
25-34	1,509 (19.3)	491 (29.0)	40 (44.0)	997 (17.0)	1,018 (22.0)	651 (27.7)	254,707 (13.1)
35-44	1,031 (13.2)	276 (16.3)	13 (14.3)	707 (12.1)	748 (16.1)	368 (15.7)	246,298 (12.7)
45-54	902 (11.5)	208 (12.3)	--	678 (11.6)	653 (14.1)	285 (12.1)	213,797 (11.0)
55-64	969 (12.4)	204 (12.0)	9 (9.9)	717 (12.2)	607 (13.1)	264 (11.2)	239,667 (12.4)
65-74	985 (12.6)	145 (8.6)	7 (7.7)	764 (13.0)	495 (10.7)	239 (10.2)	185,015 (9.5)
75-84	760 (9.7)	61 (3.6)	--	654 (11.2)	302 (6.5)	116 (4.9)	91,792 (4.7)
85+	625 (8.0)	33 (2.0)	0 (0.0)	562 (9.6)	193 (4.2)	85 (3.6)	42,630 (2.2)
Unknown	47 (0.6)	--	0 (0.0)	41 (0.7)	7 (0.2)	--	0 (0.0)
Residence*							
Metropolitan	2,894 (37.0)	328 (19.4)	8 (8.8)	1,958 (33.4)	2,882 (62.2)	1,382 (58.9)	1,135,340 (59.0)
Micropolitan	1,655 (21.1)	348 (20.5)	52 (57.1)	1,343 (22.9)	649 (14.0)	344 (14.7)	357,881 (18.6)
Small town	863 (11.0)	172 (10.2)	13 (14.3)	733 (12.5)	234 (5.1)	127 (5.4)	180,344 (9.4)
Rural	637 (8.1)	150 (8.9)	--	503 (8.6)	185 (4.0)	84 (3.6)	250,806 (13.0)
Unknown	1,778 (22.7)	696 (41.1)	13 (14.3)	1,323 (22.6)	684 (14.8)	411 (17.5)	0 (0.0)
Incident Location*							
Metropolitan	4,526 (57.8)	985 (58.2)	8 (8.8)	3,160 (53.9)	3,542 (76.4)	1,777 (75.7)	1,135,340 (59.0)
Micropolitan	1,766 (22.6)	372 (22.0)	64 (70.3)	1,435 (24.5)	673 (14.5)	364 (15.5)	357,881 (18.6)
Small town	884 (11.3)	178 (10.5)	15 (16.5)	754 (12.9)	239 (5.2)	129 (5.5)	180,344 (9.4)

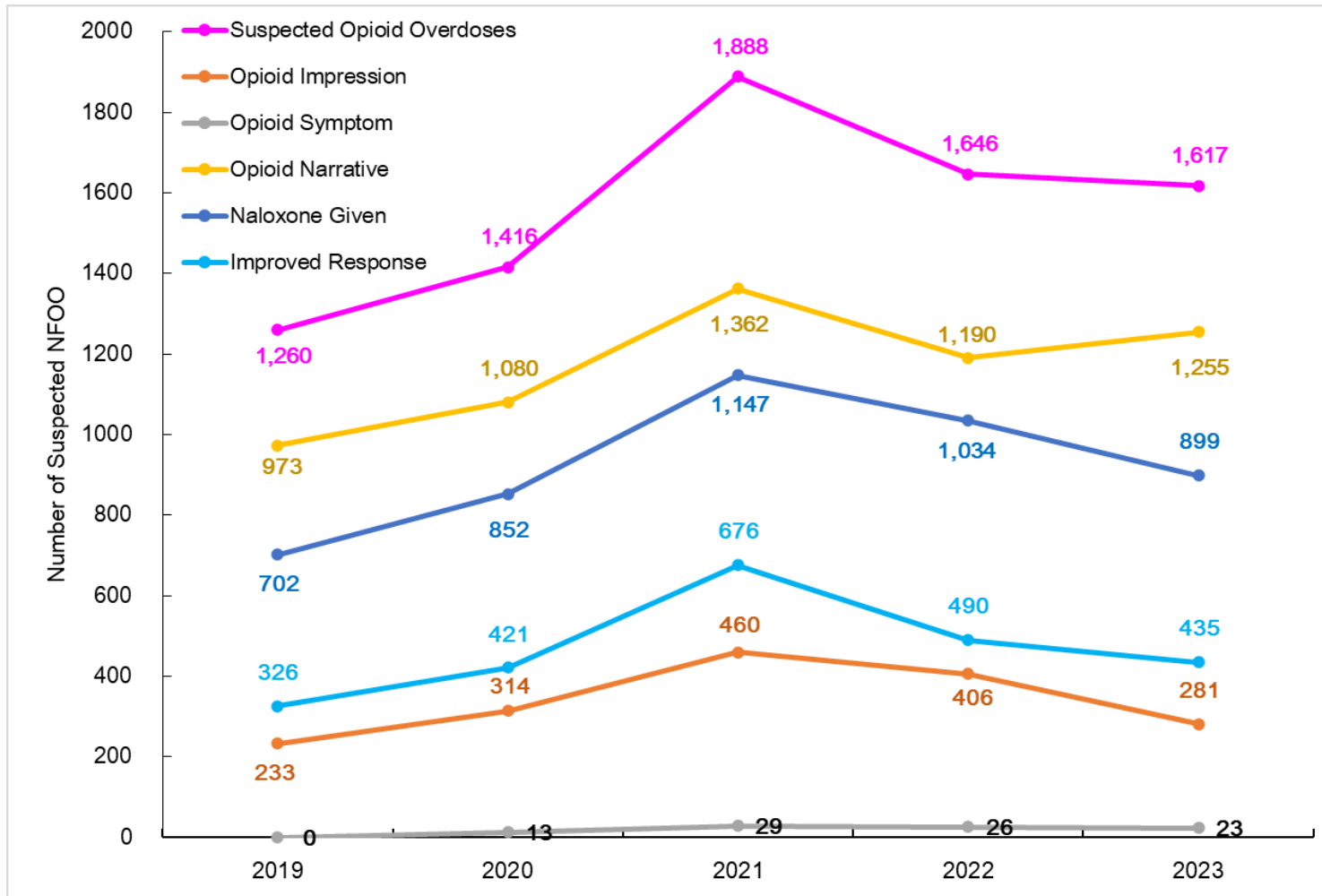
Rural	588 (7.5)	144 (8.5)	--	460 (7.9)	162 (3.5)	72 (3.1)	250,806 (13.0)
Unknown	63 (0.8)	15 (0.9)	--	51 (0.9)	18 (0.4)	6 (0.3)	0 (0.0)

Note: --Suppress all counts between 1 to 5.

*The Zip code of patients' home address and EMS incident location was transferred into Rural-Urban Commuting Area (RUCA) Codes. The RUCA codes were then categorized as: Metropolitan: 1.0, 1.1, 2.0, 2.1, 3.0, 4.1, 5.1, 7.1, 8.1, and 10.1; Micropolitan: 4.0, 4.2, 5.0, 5.2, 6.0, and 6.1; Small town: 7.0, 7.2, 7.3, 7.4, 8.0, 8.2, 8.3, 8.4, 9.0, 9.1, 9.2; Rural: 10.0, 10.2, 10.3, 10.4, 10.5, and 10.6.

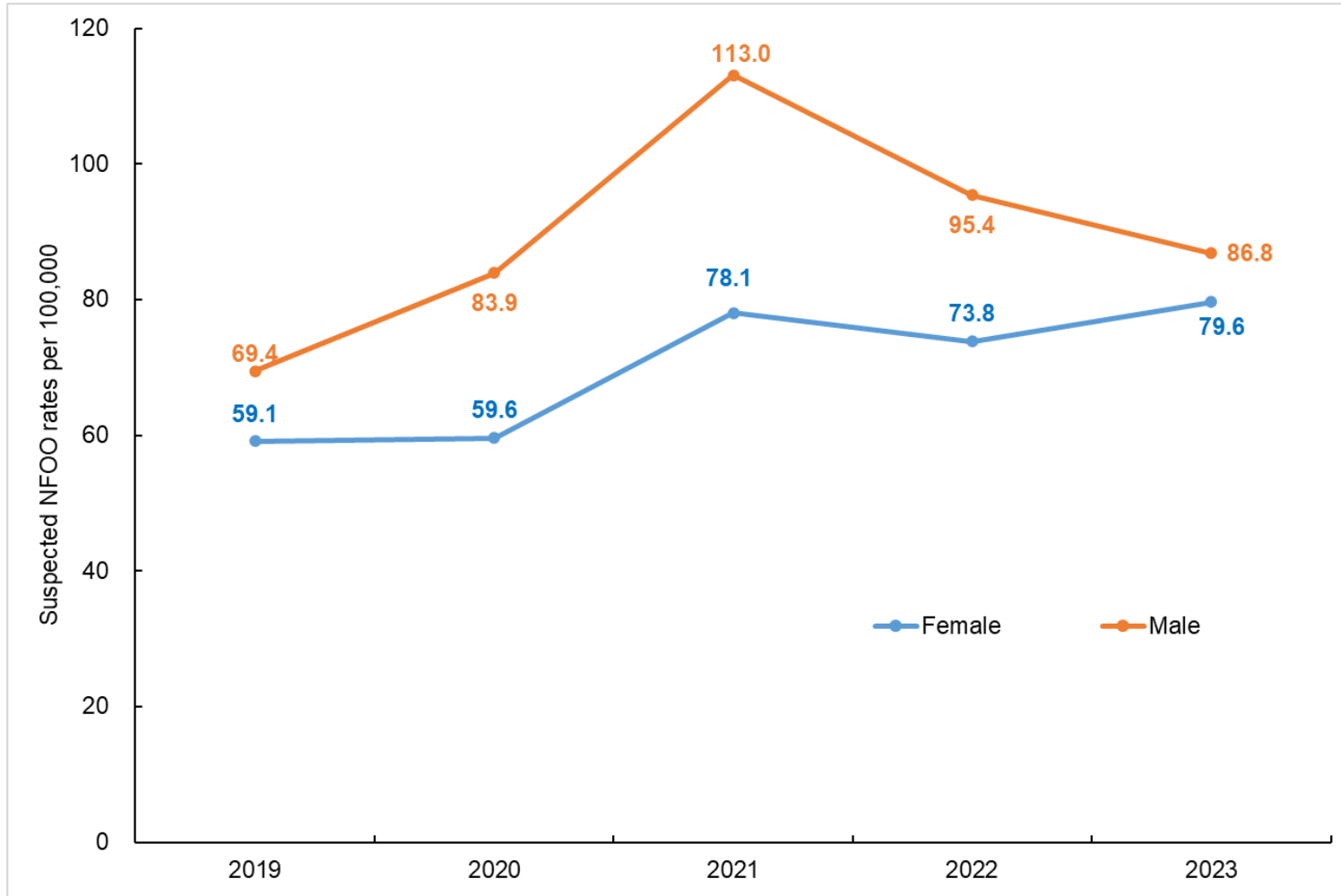
**The population data, with the exception of Residence and Incident Location, was derived from the Vintage 2020 bridged-race postcensal population estimates. And the population data for Residence and Incident Location were extracted from the 2020 American Community Survey, the U.S. Census Bureau's zip code tabulation area. Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Figure 1. Number of suspected nonfatal opioid-involved overdose (NFOO) related metrics in Nebraska, 2019–2023 (n=7,827)



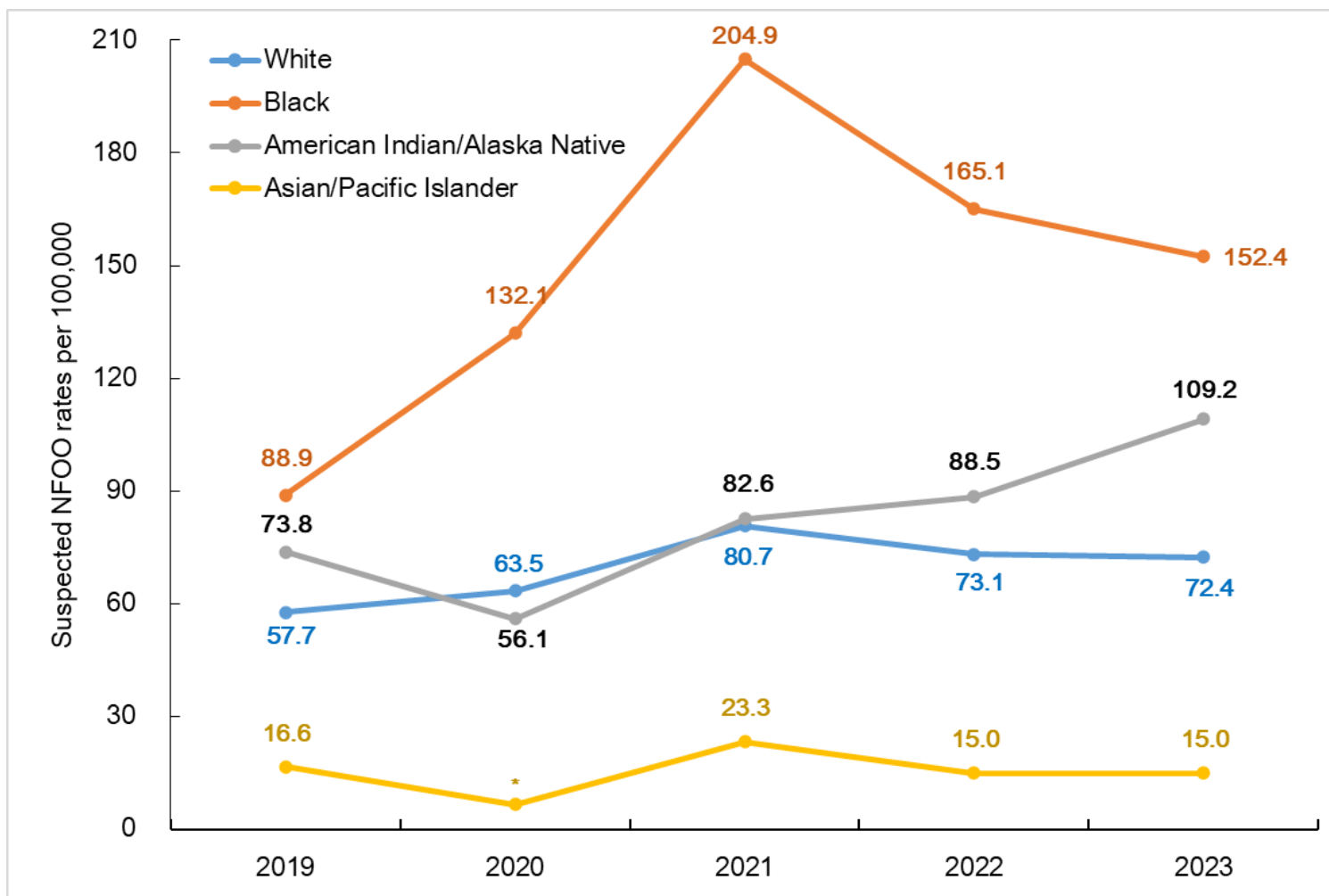
Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Figure 2. Suspected nonfatal opioid-involved overdose (NFOO) rates by sex, Nebraska, 2019–2023 (n=7,827)



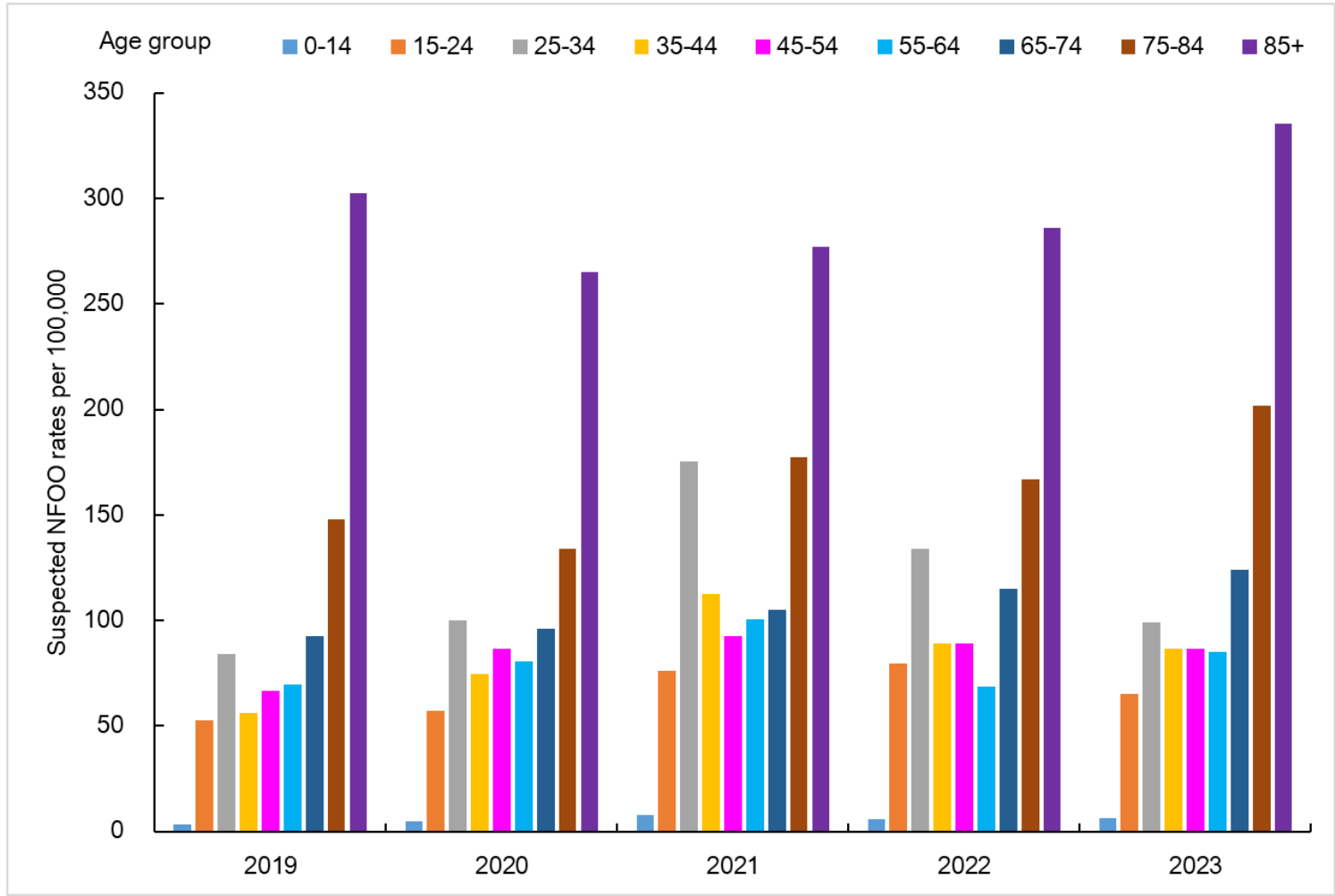
Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Figure 3. Suspected nonfatal opioid-involved overdose (NFOO) rates by race, Nebraska, 2019–2023 (n=7,827)



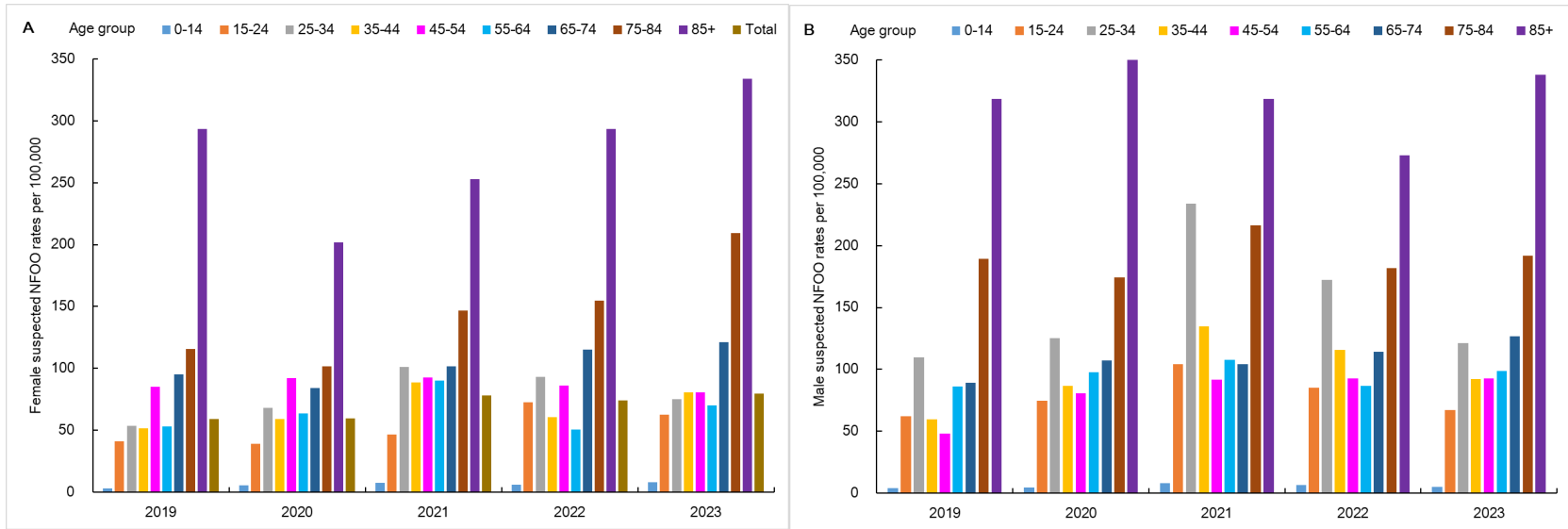
* The data has been suppressed if the number of cases ranges from 1 to 5.
Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Figure 4. Suspected nonfatal opioid-involved overdose (NFOO) rates by age group, Nebraska, 2019–2023 (n=7,827)



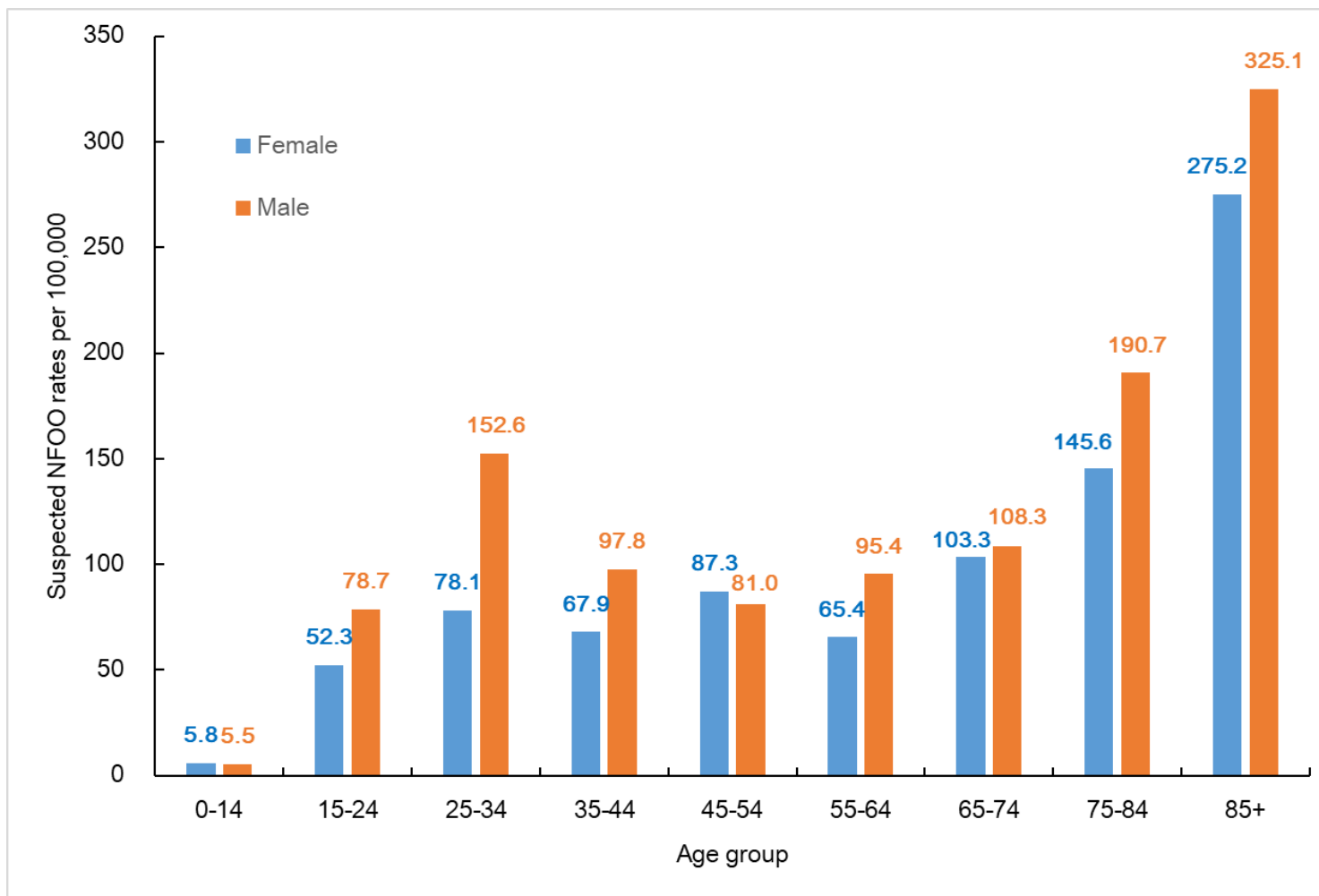
Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Figure 5. Suspected nonfatal opioid-involved overdose (NFOO) rates by age group for females (A) and males (B), Nebraska, 2019–2023 (n=7,827)



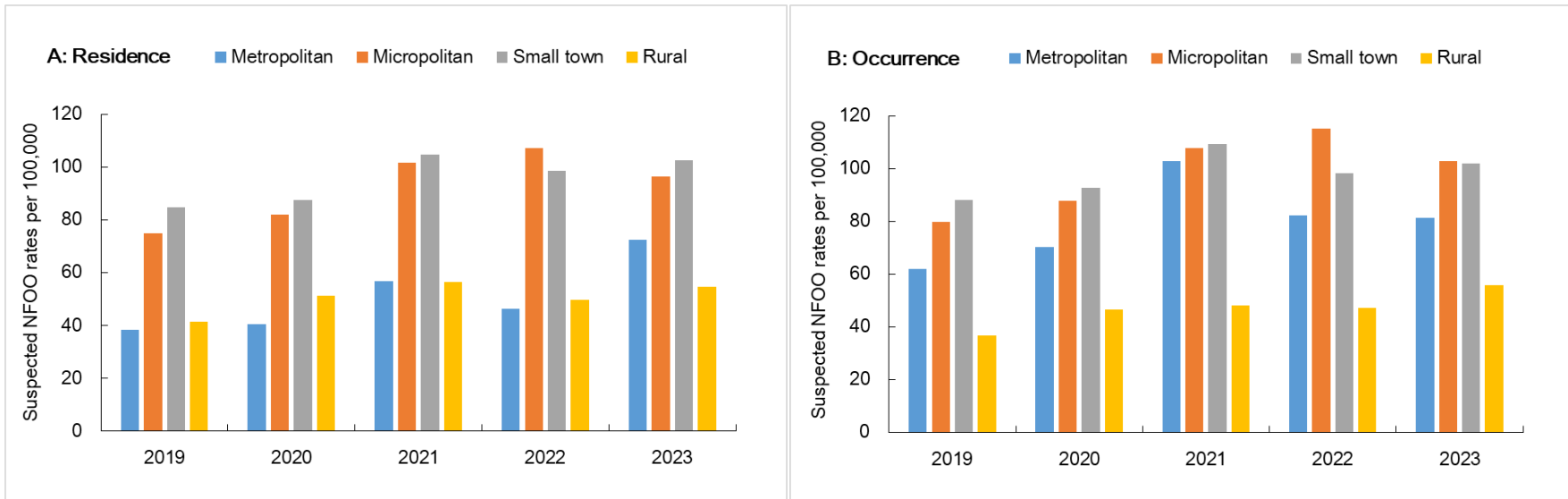
Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Figure 6. Average annual suspected nonfatal opioid-involved overdose (NFOO) rates by age group and sex, Nebraska, 2019–2023 (n=7,827)



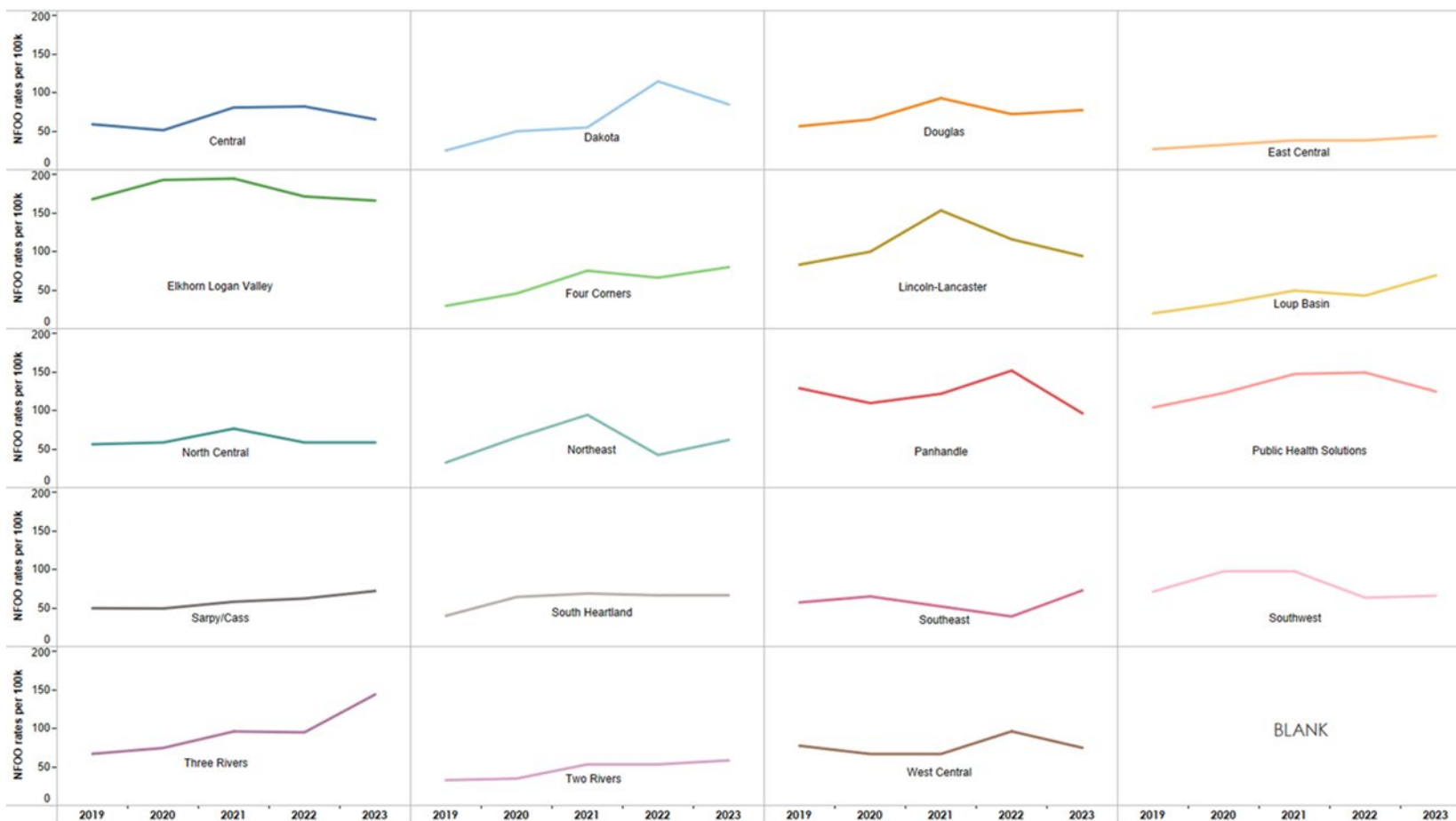
Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Figure 7. Suspected nonfatal opioid-involved overdose (NFOO) rates by residence and occurrence address, Nebraska, 2019–2023 (n=7,827)



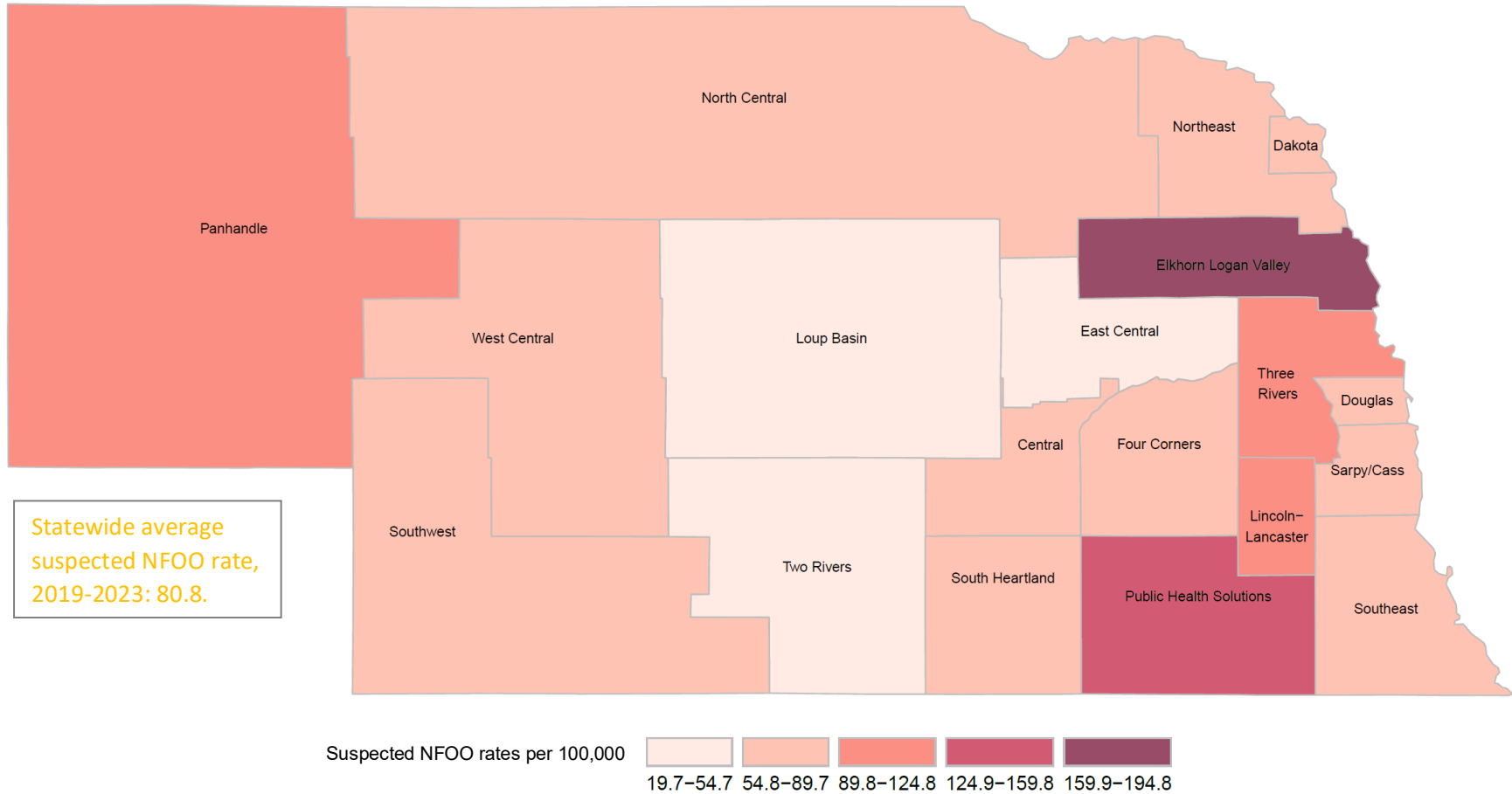
To calculate suspected NFOO rates by resident's or scene location, records lacking address information are excluded. Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Figure 8. Suspected nonfatal opioid-involved overdose (NFOO) rates by local health department, Nebraska, 2019–2023 (n=7,827)



Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

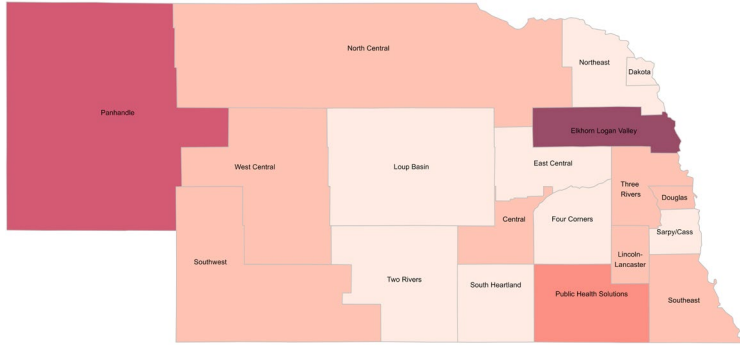
Map 1. Average annual suspected nonfatal opioid-involved overdose (NFOO) rates by local health department, Nebraska, 2019–2023 (n=7,827)



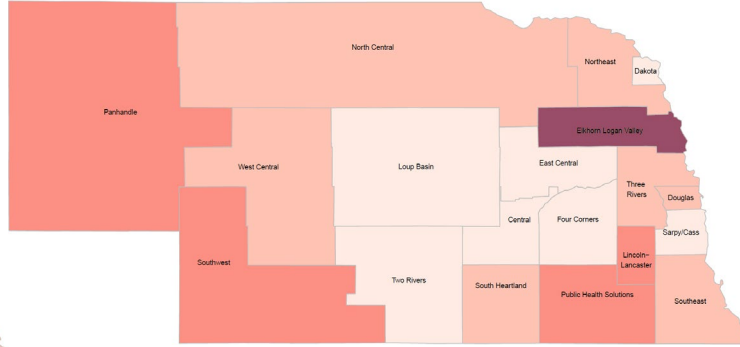
Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Map 2. Suspected nonfatal opioid-involved overdose (NFOO) rates by local health department (LHD), Nebraska, from 2019 to 2023

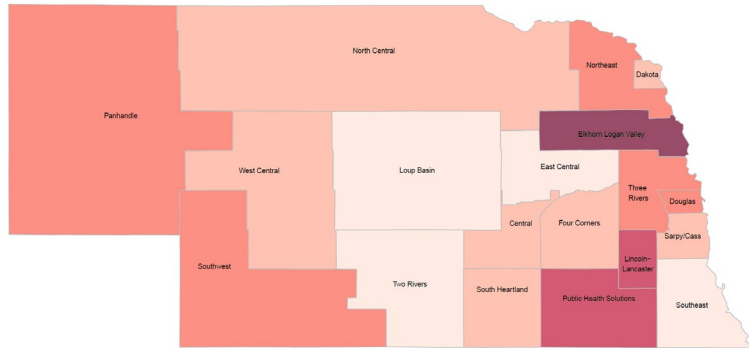
A: Suspected NFOO rates by LHD, Nebraska, 2019 (n=1,260)



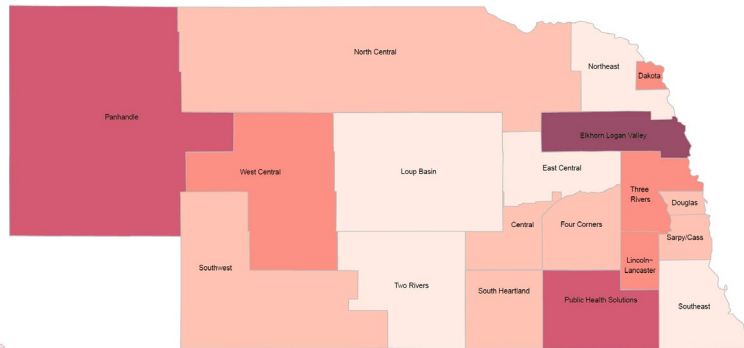
B: Suspected NFOO rates by LHD, Nebraska, 2020 (n=1,260)



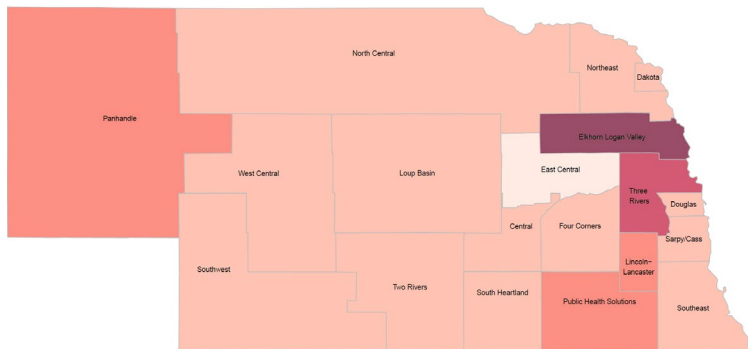
C: Suspected NFOO rates by LHD, Nebraska, 2021 (n=1,888)



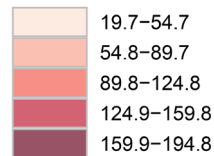
D: Suspected NFOO rates by LHD, Nebraska, 2022 (n=1,646)



E: Suspected NFOO rates by LHD, Nebraska, 2023 (n=1,617)



Suspected NFOO rates per 100,000



Statewide average suspected NFOO rates

- 2019: 65.0
- 2020: 73.1
- 2021: 97.4
- 2022: 85.0
- 2023: 83.5

Data are sourced from the electronic Nebraska Ambulance Rescue Service Information System (eNARSIS).

Key Takeaways

- The EMS data are a complementary data source for Emergency Department (ED) syndromic data in suspected nonfatal opioid-involved overdoses (NFOO) surveillance and is a timely source for overdose analysis³. Our findings illustrate that the EMS data are helpful in monitoring trends and patterns of suspected NFOO incidents.
- The analysis from 2019 to 2023 highlights a significant increase in suspected NFOOs, rising by 28.3% from 1,260 cases in 2019 to 1,617 cases in 2023, with a peak of 1,888 cases recorded in 2021. While the total number of EMS incidents fluctuated and ultimately declined from 227,831 in 2019 to 177,560 in 2023, the rate of NFOOs per 1,000 EMS incidents steadily rose throughout the period. This rate increased from 5.53 in 2019 to 9.11 in 2023, underscoring the growing burden that suspected opioid overdoses have placed on EMS services, even as overall EMS incidents declined (Table 1). The upward trend of NFOOs is consistently mirrored across four component indicators: impressions of opioid overdose, symptoms of opioid overdose, narratives of opioid overdose, and improved naloxone response, all of which reached their peak in 2021 (Figure 1 & Table 1). Specifically, reported impressions of opioid-involved overdoses escalated by 20.6%, from 233 in 2019 to 281 in 2023. Narratives concerning opioid-involved overdoses rose by 29.0%, from 973 in 2019 to 1,255 in 2023. The administration of naloxone increased by 28.1%, from 702 in 2019 to 899 in 2023, within which the improved naloxone response surged by 33.4%, from 326 in 2019 to 435 in 2023. Notably, the percentage of improvements in naloxone response remained relatively stable, comparing 48.4% in 2023 to 46.4% in 2019. These findings underscore a concerning escalation in opioid-involved overdoses in Nebraska over the past five years, peaking in 2021 with a subsequent modest decline in 2022.
- Despite the rise in the number of opioid-involved overdose symptoms, from zero cases in 2019 to 23 cases in 2023, the cases identified through "Opioid Symptom" remained low amount (Figure 1 & Table 1). This outcome may be attributed to inadequate documentation in EMS data. It is imperative for EMS providers to enhance their efforts in improving the quality of EMS documentation.
- The 'Patient Care Report Narrative' component identified a higher number of suspected opioid overdoses compared to the other three components, as illustrated in Figure 1 and Table 1. Neglecting this component in the monitoring of NFOOs can lead to a significant underestimation of the total NFOOs. Consequently, narratives should be regarded as essential and integrated into the methodology for tracking NFOOs using EMS data.
- From 2019 to 2023, the prevalence of suspected NFOOs, along with its four component indicators—impressions, symptoms, and narratives of opioid-involved overdose, as well as improved responses involving naloxone administration—

showed variations across age, sex, ethnicity, race, residence, and incident location (Table 2 & Figure 7). Specifically, patients lived in micropolitan and small-town areas experienced higher NFOO rates compared to those in metropolitan or rural areas. In terms of incident location, NFOO rates were significantly higher in micropolitan and small-town areas than in rural areas, and marginally higher than in metropolitan areas (Figure 7).

- From 2019 to 2023, suspected NFOO rates in Nebraska exhibited significant spatial and temporal disparities (Figure 8 & Maps 1-2). The rates were predominantly higher in the western and eastern regions of the state, in contrast to the central areas (Maps 1-2). Although a slight decline was noted in the Panhandle and Southwest Nebraska in the past five year, a noticeable increase in overdose rates was observed across the majority of local health departments, with a pronounced escalation in central and south-eastern Nebraska. These variations highlight the necessity for tailoring public health response and efforts to ensure implementation of equitable prevention and response services.
- From 2019 to 2023, suspected NFOO rates were highest in those aged 75+ (especially 85+) and lowest in the 0-14 age group (Figures 2, 4-6). The most significant increase occurred in the 35-44 age group, rising 54.3% from 56.0 to 86.5 per 100,000 individuals. Among females, the largest surge was in the 75-84 age group (81.4% increase from 115.5 to 209.4 per 100,000 individuals), while for males, it was in the 45-54 age group (92.3% increase from 48.1 to 92.4 per 100,000 individuals). Notably, female rates in the 45-54 age group fell by 5.6% from 85.2 to 80.5 per 100,000 individuals. Overall, NFOO rates for both genders increased from 2019 to 2023, with a peak in 2021, and males consistently had higher rates than females, except for the 45-54 age group.
- From 2019 to 2023, suspected NFOO rates exhibited a significant increase across all racial groups, except Asian/Pacific Islander people (Figure 3). All racial groups, apart from American Indian/Alaska Native (AI/AN), reached their peak rates in 2021 followed by a subsequent slight decline. The rise in NFOO rates was more pronounced among Black individuals (71.4%) compared to AI/AN (48.0%) and White (25.5%) populations. However, the reliability of data for Asian populations may be compromised due to the small annual NFOO numbers, which were less than 20.
- The analyses of NFOO trends underscores the need to enhance services related to drug overdose, including primary prevention, harm reduction, evidence-based treatment, naloxone distribution and implementation, and recovery support across all populations. It also highlights the importance of identifying characteristics of populations who are at high-risk of opioid overdose to help direct public health efforts to establish equitable overdose prevention and response services.

References

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