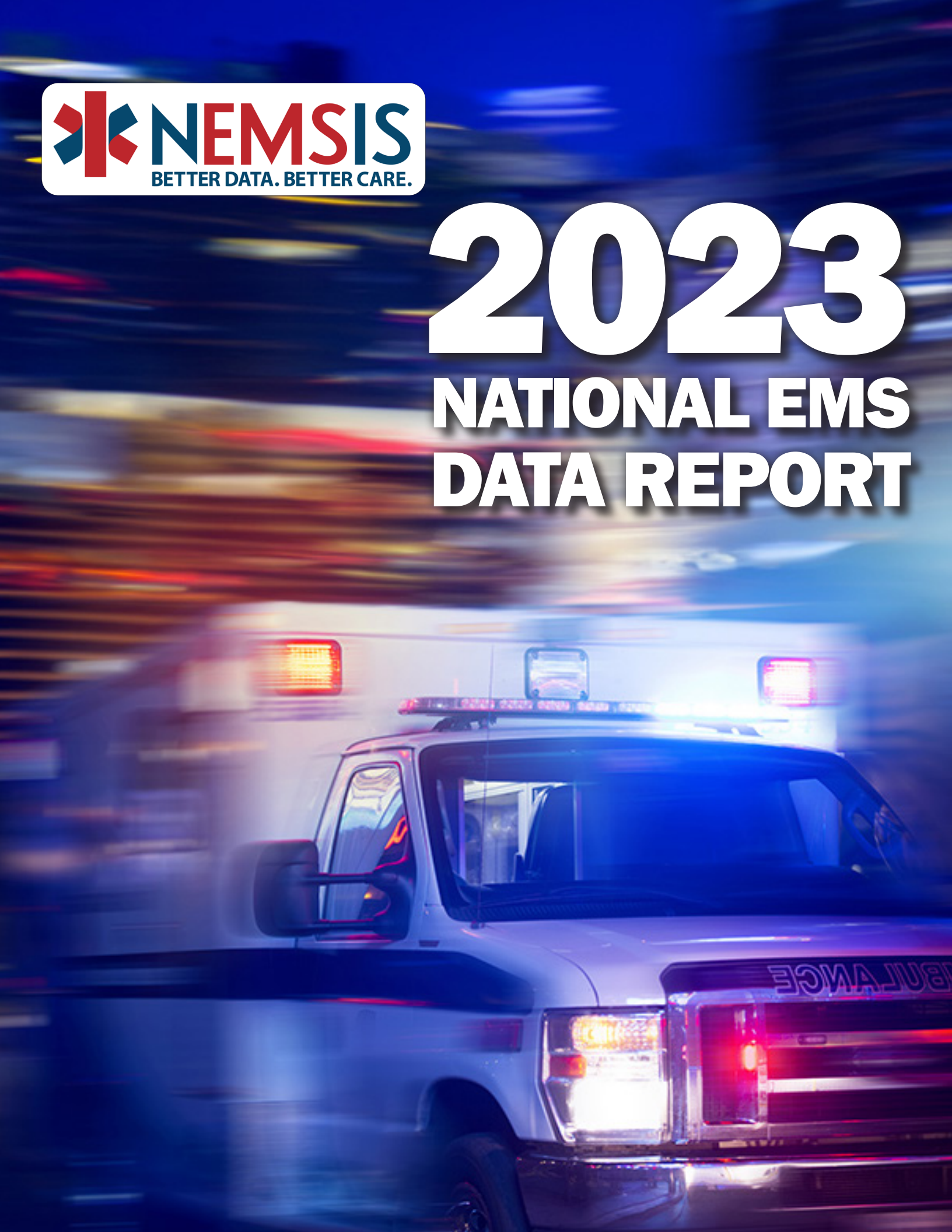
NEMSIS
BETTER DATA. BETTER CARE.

2023 NATIONAL EMS DATA REPORT



NEMSIS DATA REPORT 2023

EMS, HIGHWAY SAFETY & POST-CRASH CARE

For more than 50 years, the National Highway Traffic Safety Administration (NHTSA) Office of EMS (OEMS) has supported EMS system improvements because the effort to reduce serious injuries and deaths on our country's streets, roads and highways requires effective EMS and 911 systems.

A primary focus in 2023 has been outreach to federal, state, tribal, territorial, local and private stakeholders focused on educating transportation partners on the benefits of and opportunities for collaboration with EMS and 911 communities.

WHAT IS NEMSIS?

NEMSIS is the National Emergency Medical Services Information System supported by the National Highway Traffic Safety Administration (NHTSA), Office of Emergency Medical Services (OEMS).

States and territories across the nation voluntarily submit EMS data to the NEMSIS Technical Assistance Center (TAC). The TAC receives the data and stores it in the National EMS Database.

NATIONAL EMS DATABASE

It is the largest publicly available database of prehospital medical care in the United States.

NEMSIS is an EMS activation registry. One patient may require multiple EMS encounters or transports, and not every EMS response has a patient encounter. While very robust and extensive, the database is not a full census of EMS activations because there are a few counties that do not contribute data.

PUBLIC DATA

The public dataset is comprised of data elements and values that are made available to the public. States and territories submit some data that are not open to public use without explicit authorization from that state/territory. The restricted data include geographical identifiers such as incident State, County, ZIP Codes and State EMS Agency Number.

No personal health information (PHI) is reflected in the data provided by states.

NATIONAL DATA STANDARD

NEMSIS is responsible for establishing and maintaining a National EMS Data Standard through extensive collaboration with industry stakeholders. State/territory EMS data managers, EMS software vendors, clinicians, billers, researchers and national partners all contribute to the development of and updates to the data standard.

Data elements represented in the standard are identified as National, State, Optional, and Custom. Only National data elements are submitted to the NEMSIS TAC for inclusion in the National EMS Database.

NEMSIS v3.5 DATA STANDARD

The 2023 EMS data reflected in this report are primarily submitted in the NEMSIS v3.5 standard. Some states/territories submitted their data in a previous version of the standard.

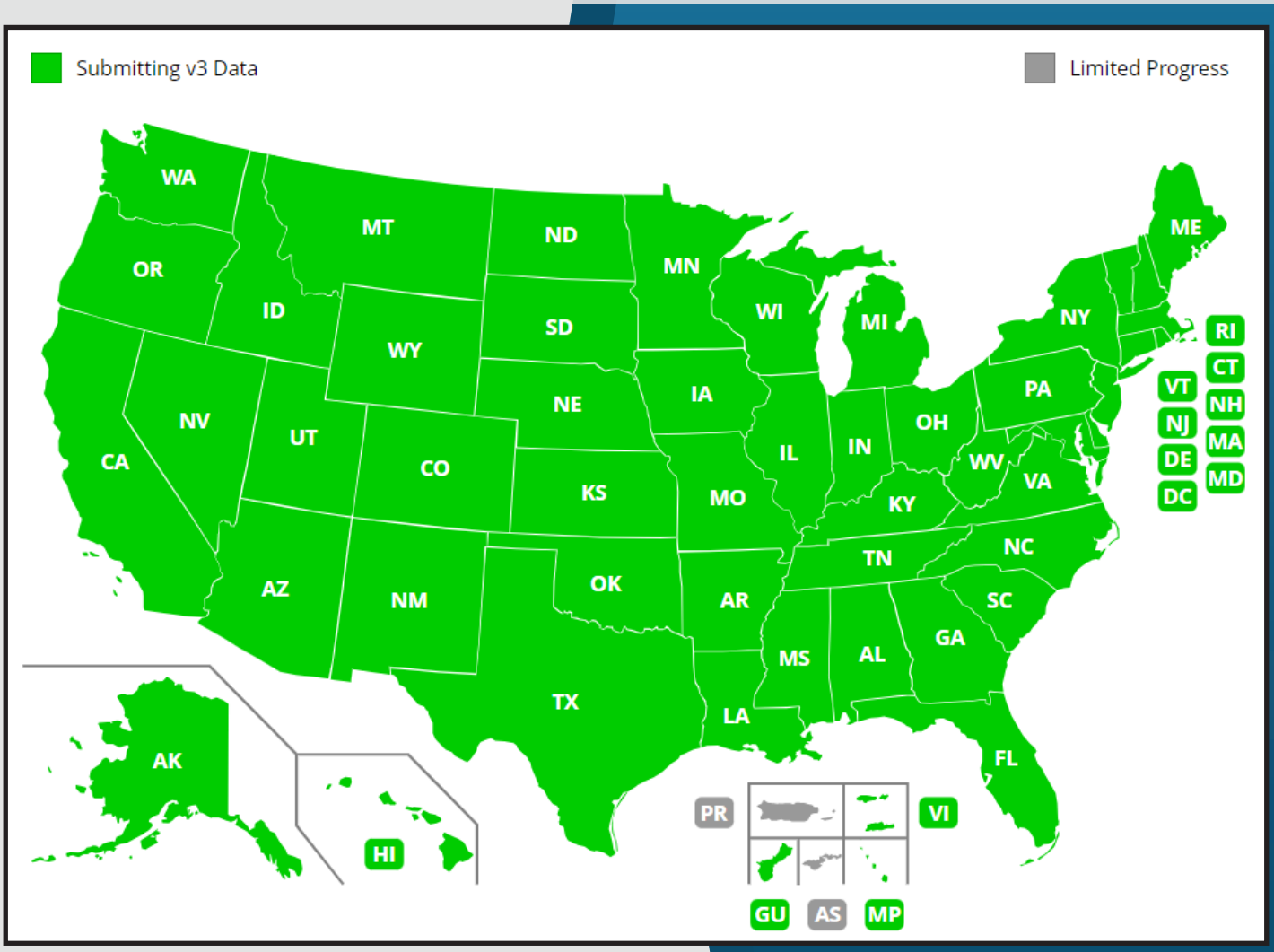
Of the 585 data elements present in the v3.5 standard, 165 are national and collected by the NEMSIS TAC. Each state/territory determines which additional elements they will require, and EMS agencies may also implement the collection of elements specific to their service.

DATA QUALITY

Much care is taken to ensure that national NEMSIS data are as clean as possible. All data collected by EMS clinicians are exposed to several hundred error checking rules at the time of data entry, and again when data are submitted to the state and national repositories.

Any data errors that remain when data are submitted to the national repository are reported back to states and agencies on a weekly basis. Corrected data can be resubmitted to state and national repositories and will automatically update existing records.

All States, DC, Guam, Mariana Islands and the Virgin Islands submitted EMS activations to the National EMS Database in 2023.



OVERVIEW

Total Number of Activations

54,190,579

Participating States/Territories

54

Number of Agencies

14,369

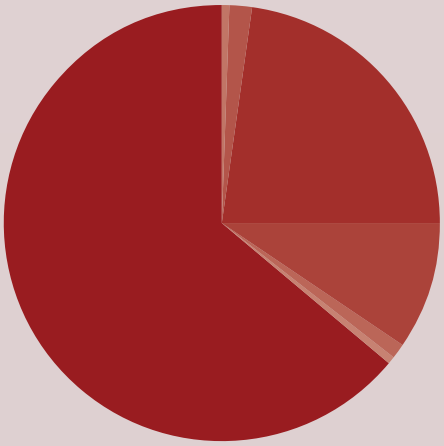
Treated and Transported 911 Response

36,367,261

An EMS activation is an occurrence which initiates an EMS response with the potential of patient contact. This is also referred to as an EMS "call" or "run". An activation can include: 911 calls, critical care transports, interfacility transports, standby events, or scheduled medical transports. The data are reflected as the number of activations instead of the number of patients because there can be more than one activation per patient per call.

RACE/ETHNICITY

ePatient.14 - Patients can indicate more than one race.
The patient's race as defined by the OMB (US Office of Management and Budget).
OMB requirements are provided at: https://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-089.html

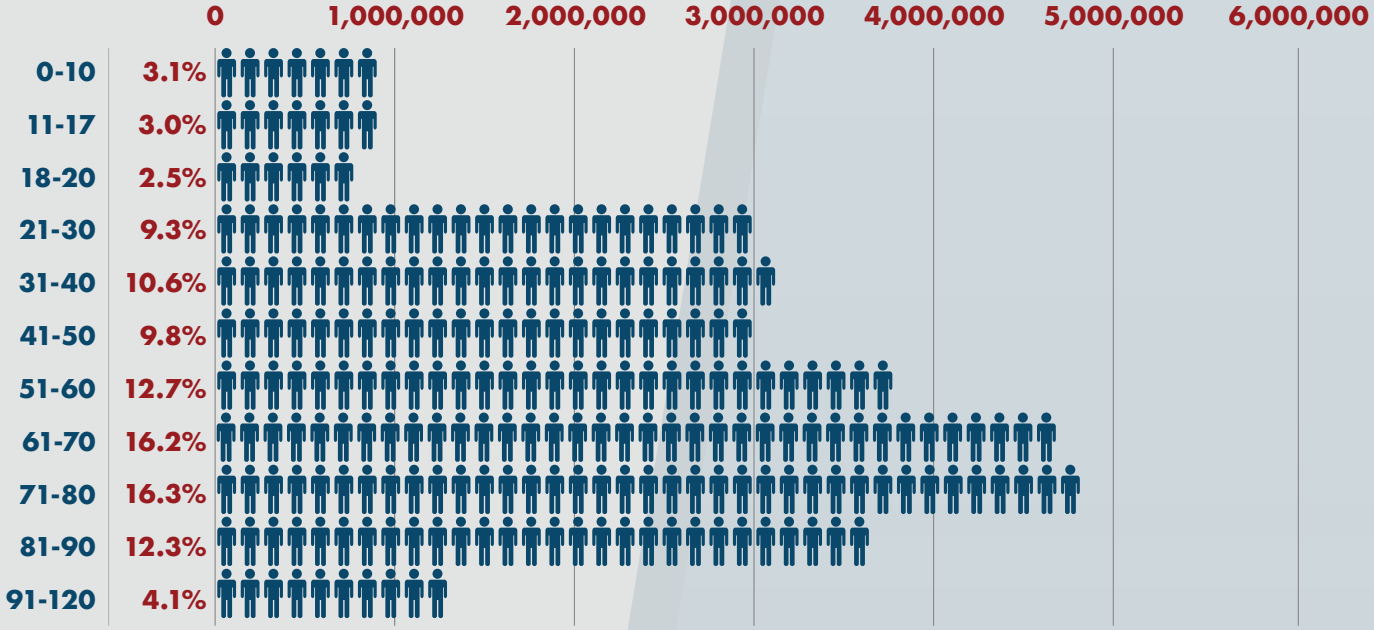


63.9%	White	16,040,922
22.7%	Black or African American	5,692,905
9.5%	Hispanic or Latino	2,392,179
1.7%	Asian	429,194
1.2%	Multi Race/Ethnicity	293,397
0.7%	American Indian or Alaska Native	184,439
0.4%	Native Hawaiian or Other Pacific Islander	89,123

Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

PATIENT AGE

ePatient.15 - The patient's age (either calculated from date of birth or best approximation).



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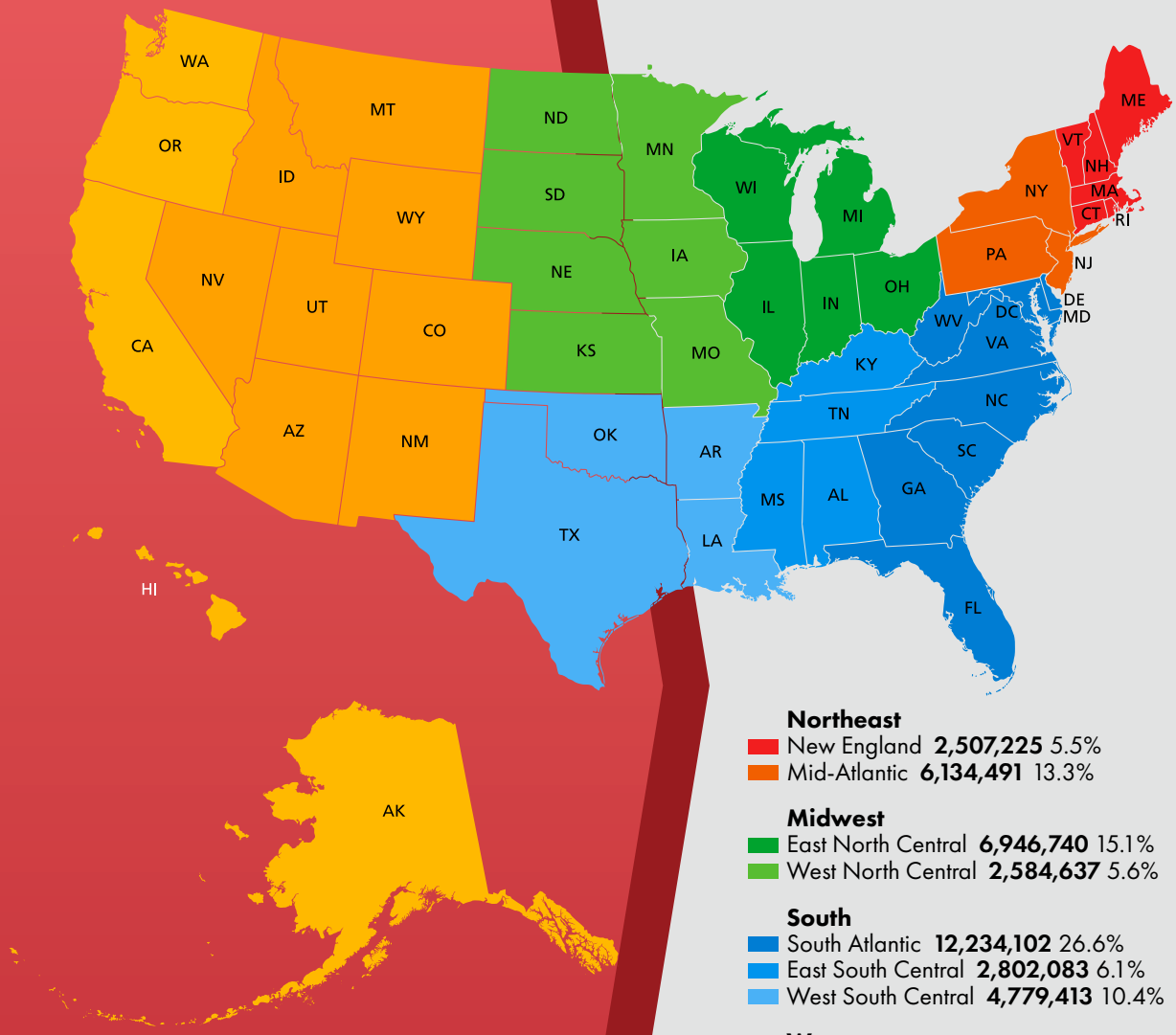
US CENSUS DIVISION OF EMS ACTIVATIONS

eScene.23 - The census tract in which the incident occurred.



Northeast
New England **2,507,225** 5.5%
Mid-Atlantic **6,134,491** 13.3%

Midwest
East North Central **6,946,740** 15.1%
West North Central **2,584,637** 5.6%

South
South Atlantic **12,234,102** 26.6%
East South Central **2,802,083** 6.1%
West South Central **4,779,413** 10.4%

West
Mountain **2,309,842** 5.0%
Pacific **5,708,545** 12.4%

URBANICITY OF EMS INCIDENT LOCATION

Urbanicity is calculated using the 2013 USDA Urban Influence Codes to best classify geographic areas. Read more here: https://www.ers.usda.gov/data-products/urban-influence-codes/documentation.aspx

Urbanicity	Count of Events	Percent of Total
Urban	**31,122,010**	87.5%
Rural	**2,114,642**	5.9%
Suburban	**1,879,996**	5.3%
Wilderness	**471,713**	1.3%
TOTAL	**35,588,361**	

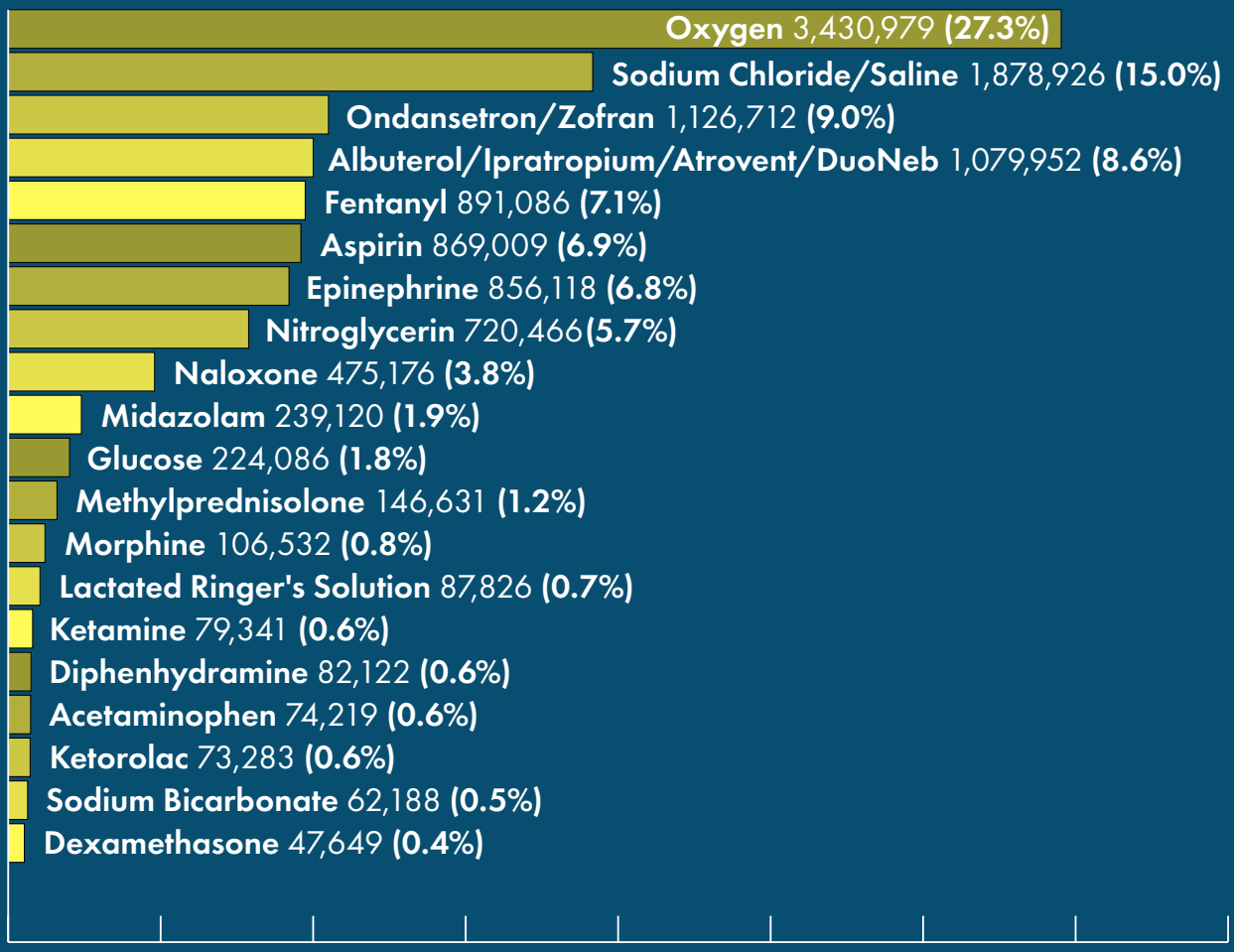
EMS AGENCY ORGANIZATIONAL STATUS

dAgency.12 - The primary organizational status of the agency. The definition of Volunteer or Non-Volunteer is based on state or local definitions.

Organizational Status	Count of Events	Percent of Total
Non-Volunteer	**37,187,460**	80.8%
Mixed	**8,066,288**	17.5%
Volunteer	**787,125**	1.7%
TOTAL	**46,040,873**	

TOP 20 MEDICATIONS GIVEN

eMedication.03 - Medication given. List of medications based on RxNorm (RXCUI) codes.



Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

TOP 20 CAUSES OF INJURY

eSituation.11 - The reported/suspected external cause of the injury. Based on ICD-10 codes.

	Cause of Injury ICD-10 Name	Count of Events	Percent of Total
	Falls (including Tripping, Slipping, Fall from Furniture/Stairs, Ice/Snow)	**2,625,518**	51.8%
	Motor Vehicle Crash (including Car Accident, Collision, Motorcycle, Occupant Injured)	**1,410,893**	27.8%
	Assault (including by Bodily Force, by Blunt Object, by Stabbing, by Other Means)	**379,944**	7.5%
	Other Specified Events, Undetermined Intent	**105,587**	2.1%
	Contact with Knife, Sword, Dagger, or Unspecified Sharp Object	**91,685**	1.8%
	Injury, Unspecified	**81,078**	1.6%
	Intentional Self-Harm (including Suicide Attempt)	**60,289**	1.2%
	Homicide (Attempted)	**51,268**	1.0%
	Accidental Hit, Strike, Kick, Twist, Bite, Bump, or Scratch by Another Person	**43,501**	0.9%
	Striking Against or Struck by Thrown, Projected, Falling, or Other Objects	**43,381**	0.9%
	Contact with or Bitten by Dog	**31,578**	0.6%
	Contact with Blunt Object, Undetermined Intent	**29,453**	0.6%
	Slipping, Tripping and Stumbling without Falling	**27,220**	0.5%
	Activities, Other Specified	**25,222**	0.5%
	Fracture	**18,069**	0.4%
	Caught, Crushed, Jammed or Pinched in or Between Objects	**14,857**	0.3%
	Contact with Machinery	**9,285**	0.2%
	Unspecified Firearm Discharge	**8,625**	0.2%
	Walking and Running	**8,324**	0.2%
	Contact with Saliva, Feces or Urine of Mammal	**7,371**	0.1%
	TOTAL	**5,073,148**	

Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

PROVIDER'S PRIMARY IMPRESSION

eSituation.11 - The EMS personnel's impression of the patient's primary problem or most significant condition which led to the management given to the patient (treatments, medications, or procedures). Based on ICD-10 codes.

Primary Impression ICD-10 Name	Count of Events	Percent of Total
Weakness	**1,890,189**	14.0%
Injury, Unspecified	**1,268,926**	9.4%
Change in Mental Status	**970,630**	7.2%
Generalized Abdominal Pain	**897,913**	6.6%
Acute Pain, not Elsewhere Classified	**891,631**	6.6%
Syncope and Collapse	**779,305**	5.8%
Chest Pain, Unspecified	**736,595**	5.5%
Encounter for General Examination Without Complaint, Suspected or Reported Diagnosis	**628,241**	4.6%
Respiratory Distress	**576,082**	4.3%
Encounter for Adult Health Check-Up	**547,803**	4.1%
Other Malaise	**544,271**	4.0%
Mental Illness	**477,002**	3.5%
Back Pain	**467,694**	3.5%
Shortness of Breath	**438,667**	3.2%
Light-Headedness	**437,248**	3.2%
Unspecified Injury of Head	**409,704**	3.0%
Anxiety	**403,247**	3.0%
Generalized Pain	**393,378**	2.9%
Other Chest Pain	**378,794**	2.8%
Epileptic Fits	**373,452**	2.8%
TOTAL	**13,510,772**	

Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

PATIENT/CREW DISPOSITION

eDisposition.12 - Type of disposition and/or transport of the patient by this EMS Unit. For additional information, click on the following link to see the Extended Data Definitions.

Incident/Patient Disposition Name	Count of Events	Percent of Total
Patient Treated, Transported by EMS	21,065,219	57.9%
Canceled (Prior to Arrival At Scene)	2,332,290	6.4%
Patient Treated, Transferred Care to Another EMS Professional	2,329,724	6.4%
Patient Refused Evaluation/Care (Without Transport)	2,111,613	5.8%
Patient Treated, Released (AMA)	1,824,722	5.0%
Canceled on Scene (No Patient Contact)	1,496,872	4.1%
Canceled on Scene (No Patient Found)	1,147,272	3.2%
Patient Evaluated, No Treatment/Transport Required	863,636	2.4%
Patient Treated, Released (per protocol)	779,707	2.1%
Assist, Unit	693,021	1.9%
Assist, Public	418,211	1.2%
Assist, Agency	407,062	1.1%
Standby-Public Safety, Fire, or EMS Operational Support Provided	294,953	0.8%
Patient Dead at Scene-No Resuscitation Attempted (Without Transport)	260,615	0.7%
Standby-No Services or Support Provided	116,676	0.3%
Patient Dead at Scene-Resuscitation Attempted (Without Transport)	106,006	0.3%
Patient Treated, Transported by Private Vehicle	46,770	0.1%
Patient Treated, Transported by Law Enforcement	41,522	0.1%
Patient Refused Evaluation/Care (With Transport)	19,101	0.1%
Patient Dead at Scene-No Resuscitation Attempted (With Transport)	6,267	<0.01%
Patient Dead at Scene-Resuscitation Attempted (With Transport)	3,304	<0.01%
Transport Non-Patient, Organs, etc.	2,698	<0.01%
TOTAL	**36,367,261**	

Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

TYPE OF SERVICE REQUESTED

eResponse.05 - The type of service or category of service initiated of the EMS Agency responding for this specific EMS event.

Type of Service	Count of Events	Percent of Total
911 Response (Scene)	**36,367,261**	79.0%
Medical Transport	**4,765,743**	10.4%
Interfacility Transport	**4,179,580**	9.1%
Public Assistance/Other Not Listed	**243,225**	0.5%
Mutual Aid	**195,544**	0.4%
Intercept	**151,884**	0.3%
Standby	**137,636**	0.3%
TOTAL	**46,040,873**	

Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

TYPE OF DESTINATION

eDisposition.21 - The type of destination to which the patient was transported or transferred.

Type of Destination	Count of Events	Percent of Total
Hospital-Emergency Department	**20,914,310**	90.5%
Hospital-Non-Emergency Department Bed	**1,502,001**	6.5%
Other EMS Responder (ground)	**194,664**	0.8%
Other	**189,280**	0.8%
Freestanding Emergency Department	**117,984**	0.5%
Home	**52,980**	0.2%
Nursing Home/Assisted Living Facility	**44,553**	0.2%
Other EMS Responder (air)	**39,053**	0.2%
Medical Office/Clinic	**25,436**	0.1%
Morgue/Mortuary	**15,775**	0.1%
Urgent Care	**4,581**	0.02%
Police/Jail	**3,772**	0.02%
TOTAL	**23,104,389**	

Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

PATIENT'S PRIMARY SYMPTOM

eSituation.09 - The primary sign and symptom present in the patient or observed by EMS personnel. Based on ICD-10 codes.

Primary Symptom ICD-10 Name	Count of Events	Percent of Total
Weakness	**2,017,328**	13.0%
Shortness of Breath	**1,479,611**	9.5%
Chest Pain	**1,306,563**	8.4%
Change in Mental Status	**1,277,147**	8.2%
Generalized Pain	**1,183,401**	7.6%
Nausea and Vomiting	**937,643**	6.0%
Other General Symptoms and Signs	**901,678**	5.8%
Encounter for Adult Health Check-Up	**708,686**	4.6%
Encounter for General Examination without Complaint, Suspected or Reported Diagnosis	**702,838**	4.5%
Anxiety and Worries	**623,935**	4.0%
Back Pain	**578,797**	3.7%
Syncope and Collapse	**542,821**	3.5%
Light-Headedness	**515,629**	3.3%
Hemorrhage	**495,402**	3.2%
Headache	**484,795**	3.1%
Other Malaise	**459,763**	3.0%
Generalized Abdominal Pain	**405,917**	2.6%
Pain in Limb, Hand, Foot, Fingers and Toes	**348,594**	2.2%
Convulsions	**296,219**	1.9%
Strange and Inexplicable Behavior	**265,807**	1.7%
TOTAL	**15,532,574**	

Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

TRANSPORT MODE FROM SCENE

eResponse.23 - The indication whether the response was emergent or non-emergent. An emergent response is an immediate response as determined by local or state protocols.

Transport Mode from Scene	Count of Events	Percent of Total
Non-Emergent	**15,203,669**	69.9%
Emergent (Immediate Response)	**6,217,885**	28.6%
Emergent Downgraded to Non-Emergent	**259,039**	1.2%
Non-Emergent Upgraded to Emergent	**76,794**	0.4%
TOTAL	**21,757,387**	

EMS PROVIDER LEVEL OF CARE

eResponse.15 - The level of care (BLS or ALS) the unit is able to provide based on the units' treatment capabilities for this EMS response.

Level of Care	Count of Events	Percent of Total
ALS-Paramedic	**27,313,865**	75.1%
BLS-Basic /EMT	**6,583,623**	18.1%
ALS-AEMT	**783,803**	2.2%
Specialty Critical Care	**601,230**	1.7%
BLS-First Responder/EMR	**396,088**	1.1%
ALS-Intermediate	**300,059**	0.8%
BLS-AEMT	**286,693**	0.8%
BLS-Intermediate	**45,398**	0.1%
ALS-Community Paramedicine	**25,543**	0.1%
ALS-Nurse	**22,174**	0.1%
ALS-Physician	**5,410**	<0.1%
BLS-Community Paramedicine	**3,698**	<0.1%
TOTAL	**36,367,261**	

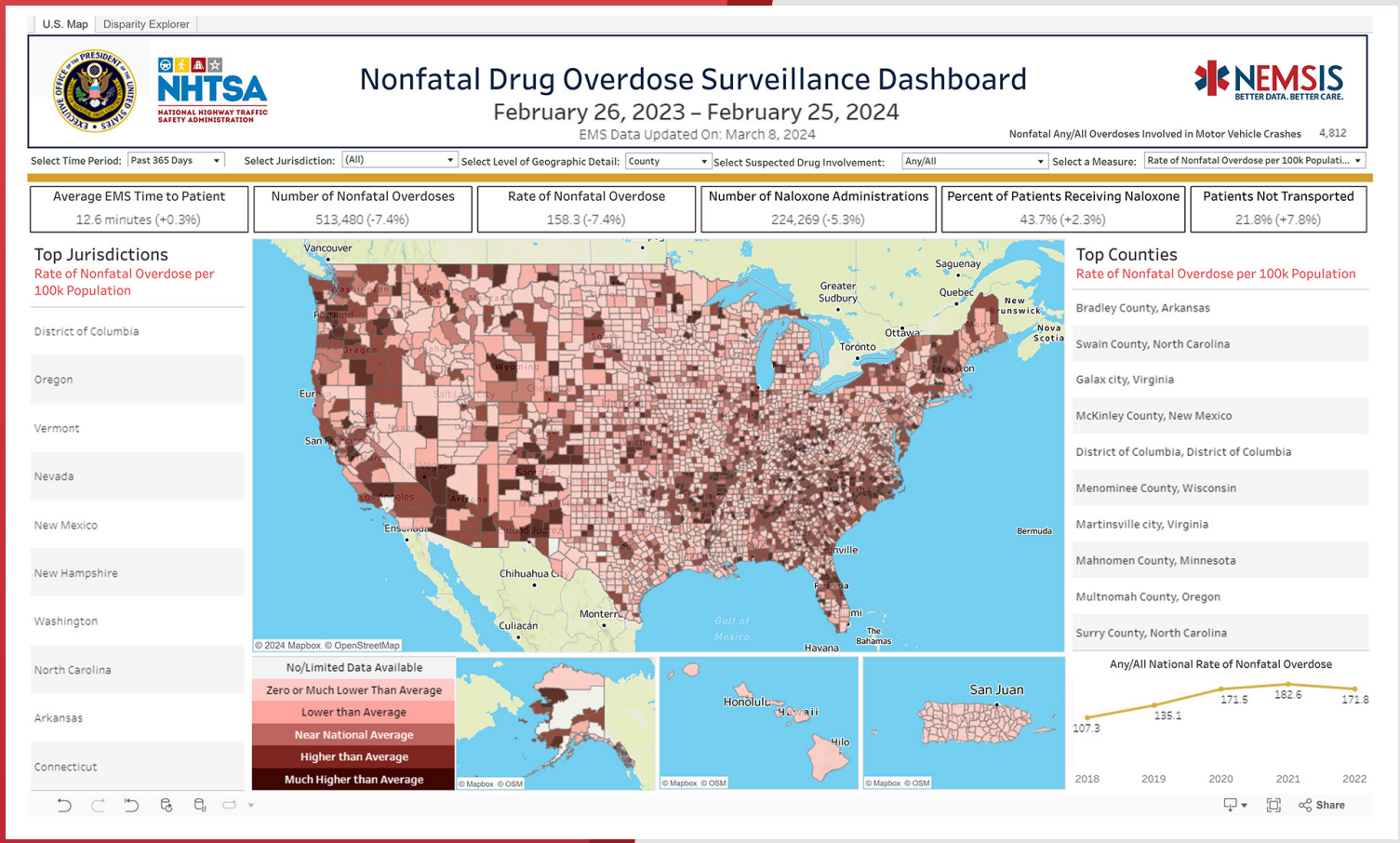
NONFATAL DRUG OVERDOSE SURVEILLANCE DASHBOARD

The ONDCP Nonfatal Drug Overdose Surveillance Dashboard is informed by a derivation of clinical and patient characteristics within the National EMS Information System (NEMSIS) maintained by NHTSA. The NEMSIS data consist of electronic patient care records completed by nearly 95 percent of all EMS agencies nationwide. On average, the data submitted to the national NEMSIS database are 93 percent complete within two weeks.

The Dashboard allows for comparisons of jurisdiction and county level data to national averages in four categories: population rate of nonfatal opioid overdose in a community, average number of naloxone administrations per patient, average EMS time in transit to reach an overdose patient, and the percent of nonfatal opioid overdose patients who are not transported to a medical facility for further treatment. The Dashboard also features the jurisdictions and counties with highest rates of nonfatal overdoses in the prior rolling 12-month and 28-day periods.

The data are updated every Monday morning with a two-week lag. This Dashboard does not currently include other possible sources of naloxone administration such as from community bystanders and therefore is an underestimate of all naloxone administration in the nation.

Visit the dashboard here: https://nemsis.org/nonfatal-drug-overdose-surveillance-dashboard/



NEMSIS DATA REPORT 2023

ACKNOWLEDGMENTS

No publication using NEMSIS data would be possible without the dedication and professionalism of EMS clinicians across the country. Likewise, the support and technical guidance provided by state/territory offices of EMS, EMS software vendors, and national partners create the foundation through which EMS data can inform policies, procedures, and protocols to improve EMS evidence-based medical care.

ASSUMPTIONS OF EMS DATA

Hundreds of thousands of EMS clinicians from every walk of life and demographic, document their patient encounters. There is no single right way to complete a patient care report (PCR) and documentation training is varied.

As such, EMS data are rarely collected in calm, sterile, predictable environments. States, territories, and agencies all impact the methods, requirements and codes used to document EMS response activities. This is why there are many descriptions (or codes) used to describe similar injury or illness characteristics. (See Cause of Injury graphic on page seven for an example of the many methods and requirements used to document a "fall".)

RESEARCHERS

A Public-Release Research Dataset is available to researchers. These very large files (SAS, STATA, ASCII) contain all the public data for one year. Researchers can create and run their own queries and as a static dataset, their results may be validated by other researchers. The Public-Release Research Datasets are used frequently in peer-reviewed scholarly publications.

The Public-Release Research Dataset does not contain information that identifies patients, EMS agencies, receiving hospitals, or reporting states. EMS Events submitted by states/territories to NEMSIS does not necessarily represent all EMS activations occurring within a state. In addition, states may vary in criteria used to determine the types of EMS activations submitted to the NEMSIS dataset.

Request a copy of the NEMSIS Public-Release Dataset here: https://nemsis.org/using-ems-data/request-research-data/

CITATION

To cite findings presented in this document, please reference:

National EMS Information System (NEMSIS), (2024) NHTSA Office of EMS, Department of Transportation, 2023 Data Report.

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FOR MORE INFORMATION

Please visit https://www.NEMSIS.org for additional details or email NEMSIS@hsc.utah.edu with any questions.