



2024 NATIONAL EMS DATA REPORT

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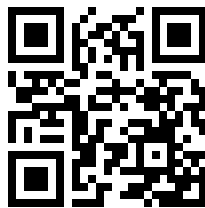
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BY THE NUMBERS

Total Number of Activations

60,298,684

Participating States/Territories

54

Number of Agencies

14,756

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.

NEMSIS DATA REPORT 2024

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 2024 has been outreach to federal, state, tribal, territorial, local and private stakeholders focused on educating transportation safety 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 activations, and not every EMS activation results in a patient encounter. While the database represents a near complete census of EMS activations and includes records from incidents occurring in 99% of U.S. counties in 2024, it is not entirely comprehensive because a small number of remote counties 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 2024 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 640 data elements present in the v3.5 standard, 180 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

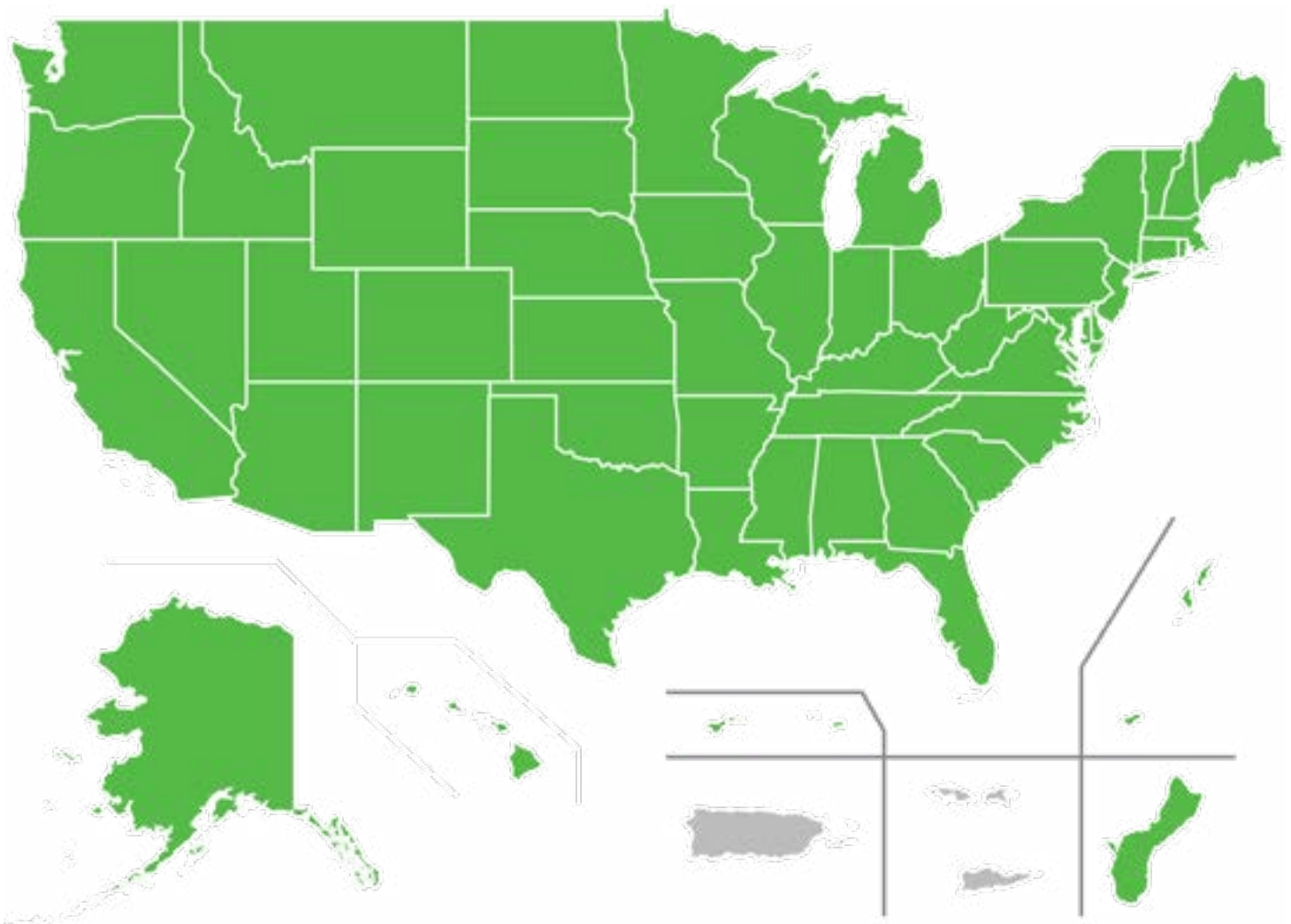
Much care is taken to ensure that national NEMSIS data are as clean as possible. All data collected by EMS clinicians are exposed to several hundred

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.

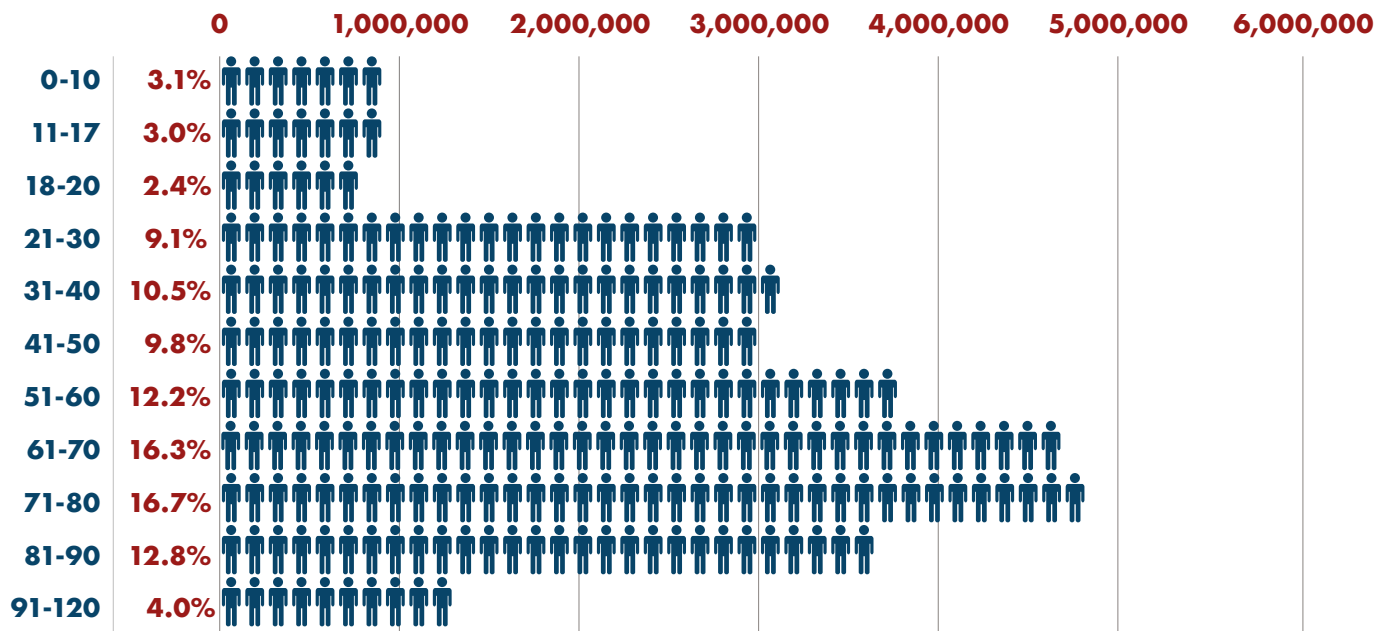


All States, DC, Guam, Mariana Islands and the Virgin Islands submitted EMS activations to the National EMS Database in 2024.



PATIENT AGE

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



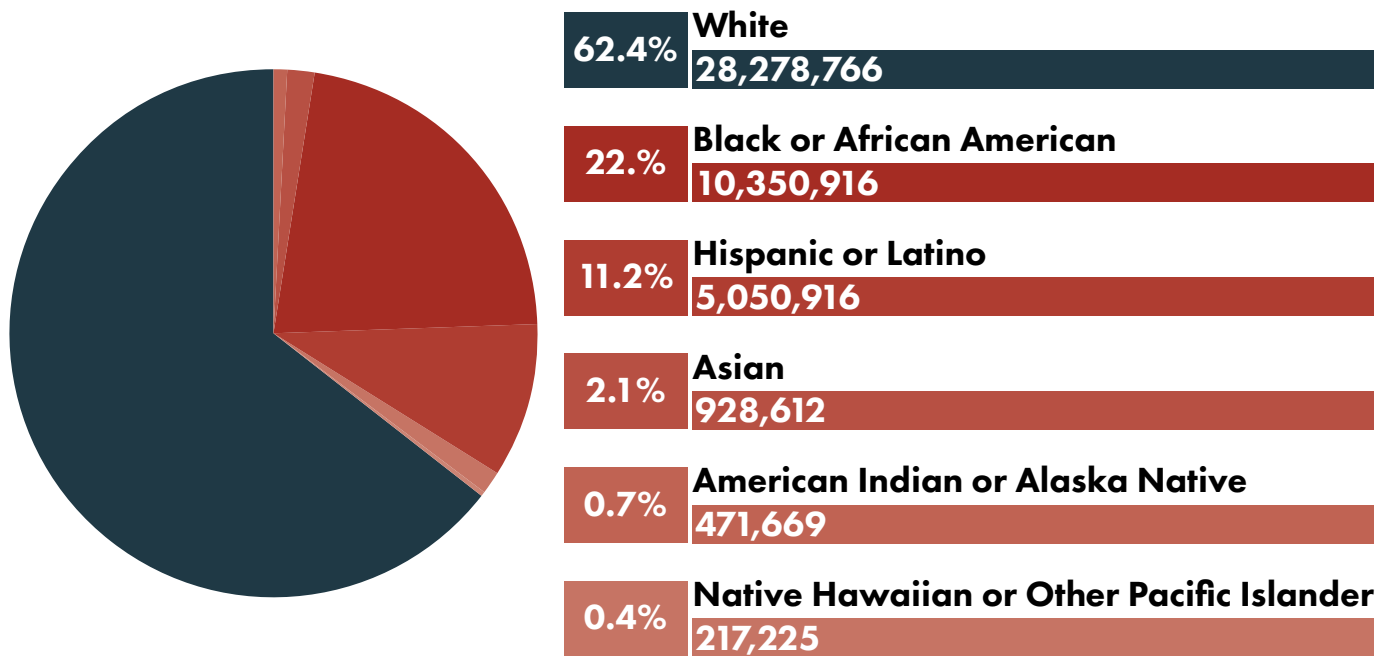
Inclusion criteria: 911 initiated and patient contact was made. Values that were marked Not Applicable or Not Recorded are removed.

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).

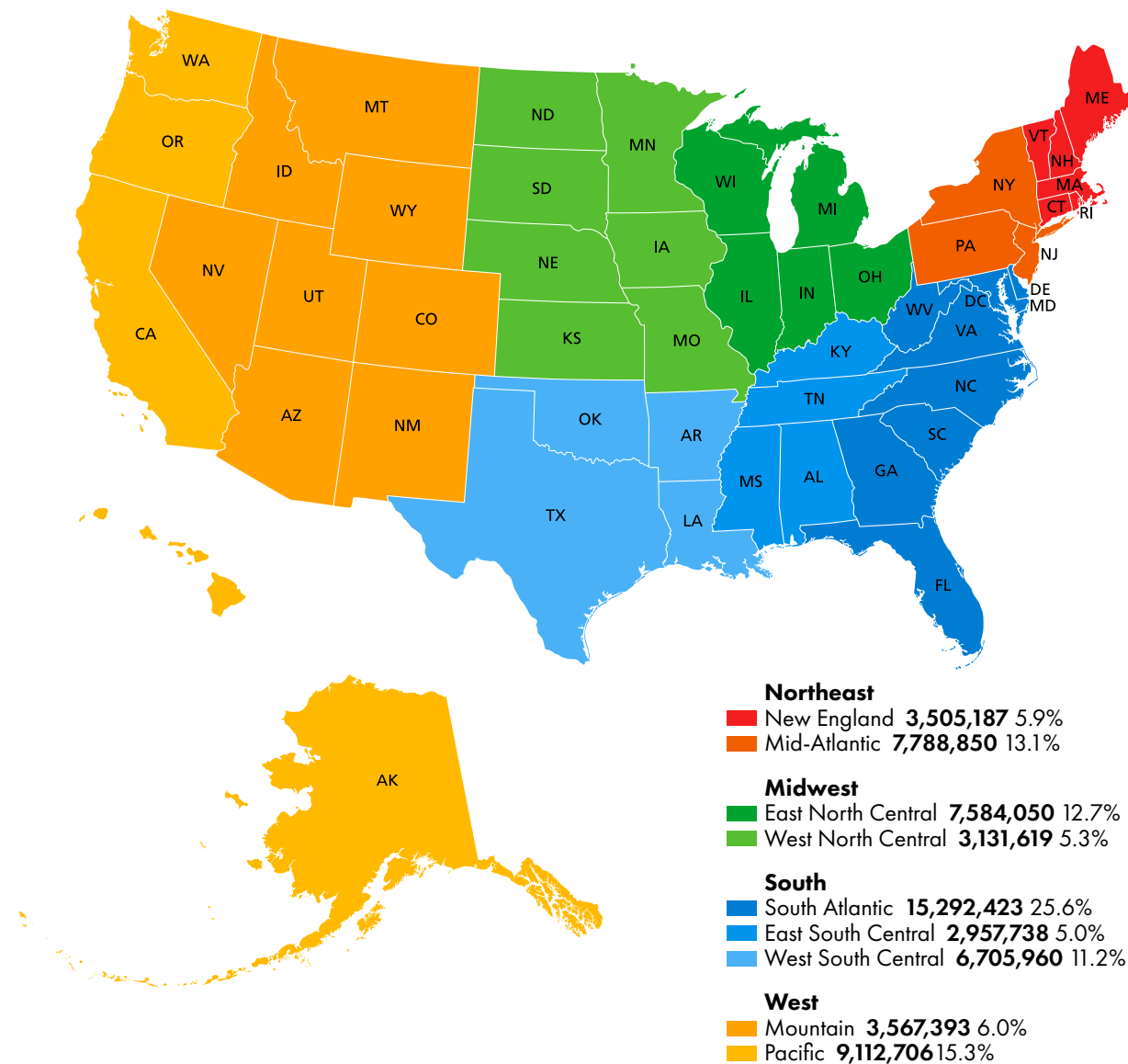
OMB requirements are provided at: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-089.html>



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

■ US CENSUS DIVISION OF EMS ACTIVATIONS

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



■ 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	18,620,902	65.7%
Emergent (Immediate Response)	9,350,263	33.0%
Emergent Downgraded to Non-Emergent	277,726	1.0%
Non-Emergent Upgraded to Emergent	114,898	0.4%
TOTAL	28,363,789	



■ EMS PROVIDER LEVEL OF CARE

[eDisposition.32](#) - 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	18,629,333	59.6%
BLS - All Levels	9,576,930	30.6%
No Care Provided	1,573,714	5.0%
ALS - AEMT/Intermediate	1,167,286	3.7%
Critical Care	210,837	0.7%
Integrated Health Care	79,658	0.3%
EMS and Other Health-Care Staff	34,019	0.1%
TOTAL	31,271,777	



■ 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	48,959,571	83.0%
Mixed	8,923,803	15.1%
Volunteer	1,119,552	1.9%
TOTAL	59,002,926	

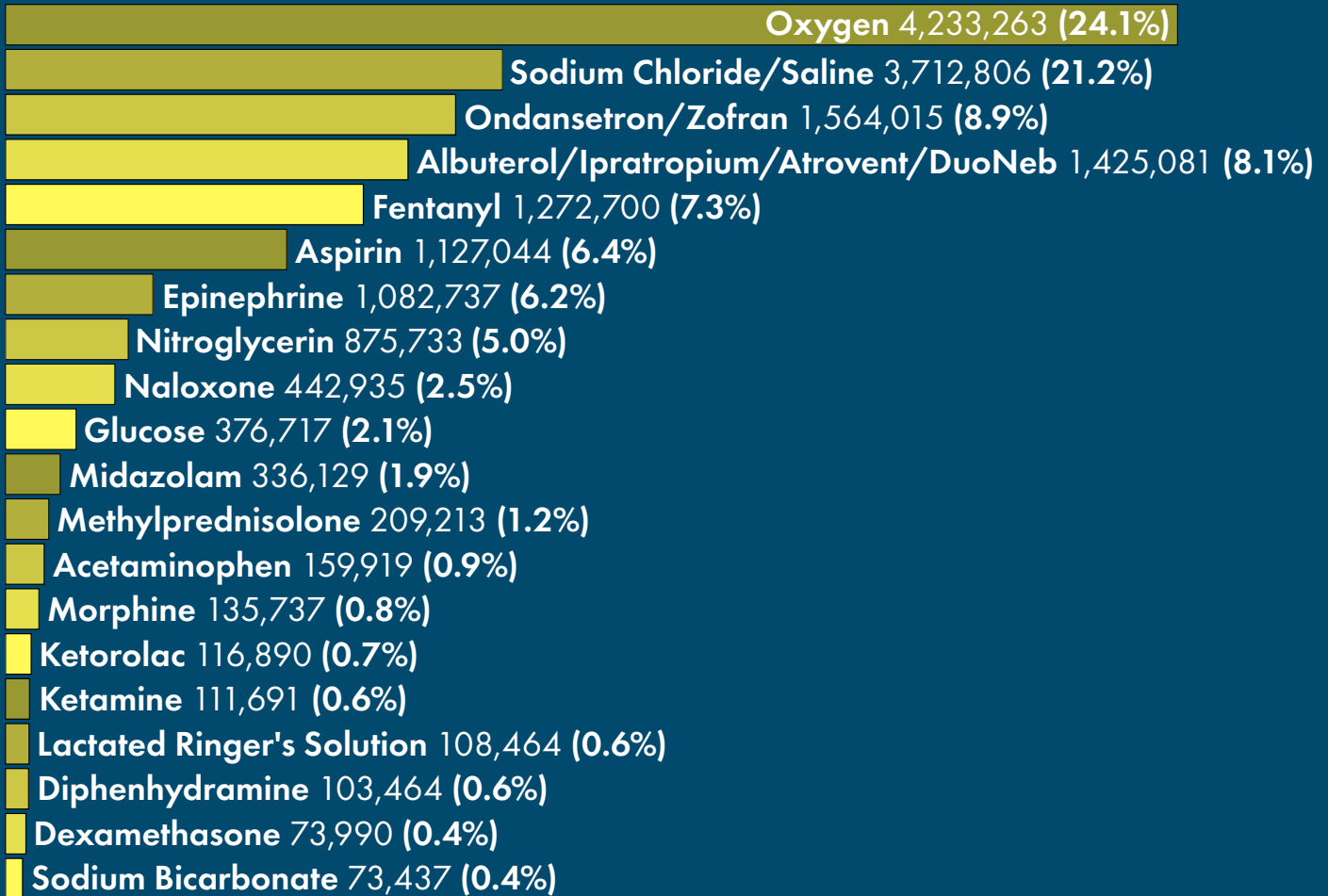
■ URBANICITY OF EMS INCIDENT LOCATION

Urbanicity is calculated using the 2023 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	39,579,519	87.5%
Rural	2,652,293	5.9%
Suburban	2,526,946	5.6%
Frontier	452,100	1.0%
TOTAL	45,210,858	

■ 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

eInjury.01 - 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)	3,566,186	52.9%
	Motor Vehicle Crash (including Car Accident, Collision, Motorcycle, Occupant Injured)	1,803,260	26.7%
	Assault (including by Bodily Force, by Blunt Object, by Stabbing, by Other Means)	544,905	8.1%
	Other Specified Events, Undetermined Intent	174,166	2.6%
	Injury, Unspecified	112,179	1.7%
	Contact with Knife, Sword, Dagger, or Unspecified Sharp Object	106,800	1.6%
	Intentional Self-Harm (including Suicide Attempt)	84,297	1.3%
	Striking Against or Struck by Thrown, Projected, Falling, or Other Objects	58,161	0.9%
	Accidental Hit, Strike, Kick, Twist, Bite, Bump, or Scratch by Another Person	50,829	0.8%
	Contact with or Bitten by Dog	42,440	0.6%
	Contact with Blunt Object, Undetermined Intent	38,757	0.6%
	Slipping, Tripping and Stumbling without Falling	36,108	0.5%
	Activities, Other Specified	24,363	0.4%
	Caught, Crushed, Jammed or Pinched in or Between Objects	19,859	0.4%
	Other Injury of Unspecified Body Region	18,776	0.3%
	Accident on Other Pedestrian Conveyance	12,955	0.2%
	Contact with Other Mammals	12,812	0.2%
	Foreign Body or Object Entering Through Skin	12,720	0.2%
	Contact with Unspecified Machinery	11,148	0.2%
	Unspecified Firearm Discharge, Undetermined Intent	10,765	0.2%
TOTAL		6,741,486	

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	2,489,275	12.8%
	Chest Pain, Unspecified	1,790,001	9.2%
	Generalized Abdominal Pain	1,687,997	8.7%
	Injury, Unspecified	1,561,174	8.0%
	Shortness of Breath	1,296,684	6.7%
	Acute Pain, not Elsewhere Classified	1,243,755	6.4%
	Altered Mental Status, Unspecified	1,228,040	6.3%
	Syncope and Collapse	1,027,691	5.3%
	Encounter for General Adult Medical Examination with Complaint	901,340	4.6%
	Encounter for General Examination without Complaint	807,123	4.2%
	Mental Disorder	637,942	3.3%
	Dizziness and Giddiness	618,710	3.2%
	Other Malaise	609,137	3.1%
	Unspecified Injury of Head	568,067	2.9%
	Anxiety	564,655	2.9%
	Back Pain	560,660	2.9%
	Generalized Pain	497,659	2.6%
	Encounter for Examination and Observation	474,450	2.4%
	Epileptic Fits	463,823	2.4%
	Headache	396,359	2.0%
TOTAL		19,424,542	

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



■ PATIENT/CREW DISPOSITION

[eDisposition.29](#) - The crew disposition for this EMS event identifying which crew provided primary patient care or whether support services were required.

Incident/Patient Disposition Name	Count of Events	Percent of Total
Initiated and Continued Primary Care	41,022,794	71.2%
Back in Service, No Care/Support Services Required	6,332,133	11.0%
Back in Service, Care/Support Services Refused	3,642,046	6.3%
Initiated Primary Care and Transferred to Another EMS Crew	3,009,427	5.2%
Assumed Primary Care from Another EMS Crew	1,497,208	2.6%
Provided Care Supporting Primary EMS Crew	1,189,892	2.1%
Incident Support Services Provided (Including Standby)	917,110	1.6%
TOTAL	57,610,610	

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	27,706,728	92.0%
Hospital-Non-Emergency Department Bed	1,738,980	5.8%
Other EMS Responder (ground)	188,683	0.6%
Freestanding Emergency Department	156,346	0.5%
Home	73,293	0.2%
Other	69,367	0.2%
Nursing Home/Assisted Living Facility	66,934	0.2%
Morgue/Mortuary	48,756	0.2%
Other EMS Responder (air)	40,502	0.1%
Medical Office/Clinic	24,752	0.1%
Urgent Care	6,993	< 0.1%
Police/Jail	1,940	< 0.1%
TOTAL	30,123,274	

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

History of NEMSIS

2001

NEMSIS Inception

The National Association of State EMS Directors, in conjunction with its federal partners at NHTSA and the Trauma/EMS Systems program of the Health Resources and Services Administration's (HRSA) Maternal Child Health Bureau, works to develop a national EMS database — known as NEMSIS.

■ 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
	Emergency Response (Primary Response Area)	46,733,668	77.5%
	Hospital-to-Hospital Transfer	5,510,664	9.1%
	Other Routine Medical Transport	4,467,204	7.4%
	Hospital to Non-Hospital Facility Transfer	1,418,924	2.4%
	Public Assistance	630,530	1.0%
	Non-Hospital Facility to Non-Hospital Facility Transfer	335,432	0.6%
	Emergency Response (Mutual Aid)	310,027	0.5%
	Non-Hospital Facility to Hospital Transfer	247,636	0.4%
	Emergency Response (Intercept)	243,105	0.4%
	Standby	240,680	0.4%
	Support Services	58,179	0.1%
	Crew Transport Only	53,257	0.1%
	Mobile Integrated Health Care Encounter	26,441	< 0.1%
	Evaluation for Special Referral/Intake Programs	10,885	< 0.1%
	Administrative Operations	5,022	< 0.1%
	Transport of Organs or Body Parts	2,879	< 0.1%
	Non-Patient Care Rescue/Extrication	2,201	< 0.1%
	Mortuary Services	1,950	< 0.1%
	TOTAL	60,298,684	

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

History of NEMSIS

2003

Creation of a National Data Dictionary (dataset)

After 18 months, a 400-page detailed and complex data dictionary is completed. Information about each of the data elements, the variables, and the definitions associated with that data element, as well as how to deploy the element in a database, are described.



■ 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	2,709,159	13.3%
	Shortness of Breath	2,166,394	10.6%
	Chest Pain	1,787,675	8.8%
	Change in Mental Status	1,753,025	8.6%
	Generalized Pain	1,451,662	7.1%
	Nausea and Vomiting	1,263,476	6.2%
	Encounter for General Examination without Complaint	1,019,955	5.0%
	Syncope and Collapse	829,007	4.1%
	Dizziness and Giddiness	813,350	4.0%
	Encounter for General Examination with Complaint	783,340	3.8%
	Back Pain	770,063	3.8%
	Headache	706,329	3.5%
	Hemorrhage	696,343	3.4%
	Other Malaise	687,552	3.4%
	Generalized Abdominal Pain	639,267	3.1%
	Other General Symptoms and Signs	625,180	3.1%
	Pain in Limb, Hand, Foot, Fingers and Toes	506,553	2.5%
	Unspecified Injury of Head	415,032	2.0%
	Anxiety	397,591	1.9%
	Unspecified Convulsions	379,525	1.9%
TOTAL		20,400,478	

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



■ PREHOSPITAL BLOOD ADMINISTRATION

This section is informed by patient care documentation within the National EMS Information System (NEMSIS), maintained by NHTSA. On average, the data submitted to the national NEMSIS database are 93 percent complete within two weeks. Data represents 911-initiated events with documented patient contact and exclude records marked Not Applicable or Not Recorded. In 2024, EMS clinicians documented 26,008 instances of blood product administration, most commonly whole blood and packed red blood cells. These transfusions were most frequently associated with ALS-equipped ground and helicopter air transport units. The data support increased adoption of blood product use in the out-of-hospital setting, particularly in time-critical emergencies such as motor vehicle crashes resulting in serious injury.

■ UNIT TRANSPORT AND EQUIPMENT CAPABILITY

(PREHOSPITAL BLOOD ADMINISTRATION: UNIT TRANSPORTATION AND EQUIPMENT CAPABILITY)

[eResponse.07](#) - The transport and equipment capabilities of the EMS Unit which responded to this specific EMS event.

Unit Transport and Equipment Capability	Count of Events	Percent of Total
Air Transport-Helicopter	11,572	44.5%
Ground Transport (ALS Equipped)	8,404	32.3%
Ground Transport (Critical Care Equipped)	3,340	12.8%
Air Transport-Fixed Wing	1,063	4.1%
Ground Transport (BLS Equipped)	1,024	3.9%
Non-Transport-Medical Treatment (ALS Equipped)	380	1.5%
Non-Transport-Medical Treatment (BLS Equipped)	225	0.9%
TOTAL	26,008	

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

■ ORGANIZATIONAL TYPE

(PREHOSPITAL BLOOD ADMINISTRATION: UNIT TRANSPORTATION AND EQUIPMENT CAPABILITY)

[dAgency.13](#) - The organizational structure from which EMS services are delivered (fire, hospital, county, etc).

Organizational Type	Count of Events	Count of Agencies
Private, Nonhospital	14,007	885
Governmental, Non-Fire	3,546	369
Other Routine Medical Transport	6,677	369
Hospital to Non-Hospital Facility Transfer	211	1,560
Public Assistance	7	13
TOTAL	25,803	

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

■ TYPE OF SERVICE REQUESTED

(PREHOSPITAL BLOOD ADMINISTRATION: UNIT TRANSPORTATION AND EQUIPMENT CAPABILITY)

[eResponse.05](#) - The type of service or category of service requested of the EMS Agency responding for this specific EMS event.

	Type of Service	Count of Events	Percent of Total
	Hospital-to-Hospital Transfer	16,394	63.0%
	Emergency Response (Primary Response Area)	8,724	33.5%
	Other Routine Medical Transport	353	1.4%
	Emergency Response (Intercept)	307	1.2%
	Hospital to Non-Hospital Facility Transfer	87	0.3%
	Emergency Response (Mutual Aid)	62	0.2%
	Non-Hospital Facility to Hospital Transfer	48	0.2%
	Public Assistance	17	0.1%
	Crew Transport Only	6	< 0.1%
	Standby	3	< 0.1%
	Non-Hospital Facility to Non-Hospital Facility Transfer	2	< 0.1%
	Support Services	2	< 0.1%
	Transport of Organs or Body Parts	1	< 0.1%
	Mobile Integrated Health Care Encounter	1	< 0.1%
	Evaluation for Special Referral/Intake Programs	1	< 0.1%
TOTAL		26,008	

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

■ BLOOD ADMINISTERED

(PREHOSPITAL BLOOD ADMINISTRATION: UNIT TRANSPORTATION AND EQUIPMENT CAPABILITY)

[eMedications.03](#) - Medication Administered destination to which the patient was transported or transferred.

	Blood Administered	Count of Events	Percent of Total
	Transfusion of Whole Blood	4,803	36.7%
	Transfusion of Packed Red Blood Cells	4,324	33.0%
	Administration of Blood Product	2,502	19.1%
	Administration of Albumin	653	5.0%
	Transfusion of Fresh Frozen Plasma	515	3.9%
	Intravenous Blood Transfusion of Platelets	289	2.2%
	Transfusion of Cryoprecipitate	19	0.1%
TOTAL		13,105	

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

PROCEDURES PERFORMED

(PREHOSPITAL BLOOD ADMINISTRATION: UNIT TRANSPORTATION AND EQUIPMENT CAPABILITY)

[eProcedures.03](#) - The procedure performed on the patient.

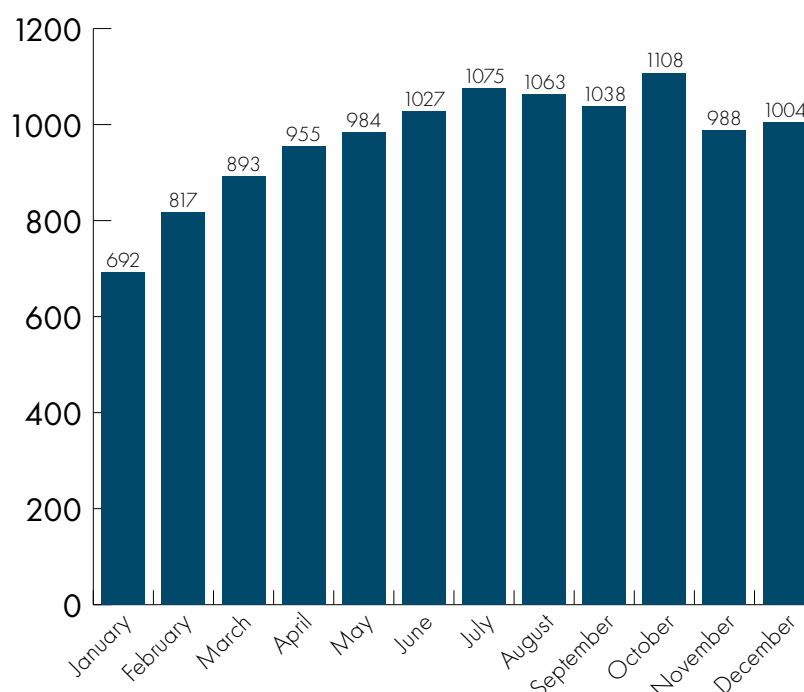
	Procedures Performed	Count of Events	Percent of Total
	Administration of Blood Product	13,461	58.5%
	Transfusion of Blood Product	7,212	31.3%
	Transfusion of Packed Red Blood Cells	781	3.4%
	Transfusion of Whole Blood	743	3.2%
	Transfusion of Cryoprecipitate	419	1.8%
	Transfusion of Fresh Frozen Plasma	228	1.0%
	Intravenous Blood Transfusion	72	0.3%
	Intravenous Blood Transfusion of Platelets	46	0.2%
	Administration of Albumin	20	0.1%
	Intravenous Blood Transfusion of Packed Cells	15	0.1%
	Packed Blood Cell Transfusion	6	< 0.1%
	Transfusion of Red Blood Cells	5	< 0.1%
	Transfusion of Blood Component	4	< 0.1%
	Massive Blood Transfusion	3	< 0.1%
	Transfusion of Plasma	2	< 0.1%
TOTAL		23,017	

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

COUNTIES WITH BLOOD PRODUCT ADMINISTERED BY MONTH

(PREHOSPITAL BLOOD ADMINISTRATION: UNIT TRANSPORTATION AND EQUIPMENT CAPABILITY)

[eScene.21](#) - The county or parish where the patient was found or to which the unit responded (or best approximation).



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

NEMSIS DATA REPORT 2024

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 nine 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

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FOR MORE INFORMATION

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