



2024 WARDS Annual Report

The 2024 Wisconsin Ambulance Run Data System (WARDS) Annual Report provides an overview of the key data within our Emergency Medical Services (EMS) system. EMS professionals across the state provide critical emergency care 24/7 and document their care in a patient care run report (PCR). Per Wis. Admin Code § DHS 110.34(8) *"If the emergency medical service provider is an ambulance service provider or non-transporting emergency medical service provider, submit patient care report data electronically to the department through Wisconsin Ambulance Run Data System (WARDS) using direct web-based input to WARDS or uploading patient care report data to WARDS within 7 days of the patient transport. If the emergency medical service provider is an emergency medical responder service provider, submit a patient care report to WARDS only if advanced skills are used in caring for the patient."* Each encounter offers a comprehensive record of EMS activity and patient care. Data from the state repository are shared with the National Emergency Medical Services Information System (NEMSIS).

The data in this report are collected in WARDS in accordance with the NEMSIS v3.5 data standard. WARDS is the state repository for patient care records (PCRs). This report represents the first full year of reporting on the v3.5 standard. The transition from NEMSIS v3.4 to v3.5 introduced several important updates designed to improve data quality. New data elements were introduced to capture more detailed information, enhancing the dataset's ability to support analytics. Information on the changes is available [online](#). The data elements are based on the [NEMSIS NHTSA v3.5.0 data dictionary](#). Select elements have expanded definitions which can be found [online](#). There were 962,538 records submitted to WARDS in 2024. Due to missing or unreported values, data in some tables and graphs may not add up to the total number of records.

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Record volume

Record volume refers to the total number of EMS records submitted to the state and available in WARDS for 2024. This serves as a key indicator of system demand and community need. This section presents run volume data broken down by county, region, and EMS agency license level.

The following table presents the counts by county, listed in descending order from highest to lowest record count.

eScene.21—Scene Incident County Name

| Scene Incident County Name | Record Count |
|----------------------------|--------------|
| Milwaukee | 319,999 |
| Dane | 70,441 |
| Waukesha | 53,920 |
| Racine | 37,218 |
| Kenosha | 28,332 |
| Outagamie | 26,335 |
| Brown | 24,981 |
| Rock | 24,754 |
| Winnebago | 19,809 |
| La Crosse | 17,788 |
| Washington | 15,150 |
| Marathon | 14,912 |
| Sheboygan | 14,771 |
| Eau Claire | 14,623 |
| Walworth | 14,533 |
| Ozaukee | 13,602 |
| Fond Du Lac | 12,920 |
| Dodge | 11,076 |
| Wood | 11,058 |
| Manitowoc | 9,617 |
| Marinette | 8,940 |
| Sauk | 8,929 |
| Douglas | 8,580 |
| Jefferson | 8,405 |
| Columbia | 7,983 |
| Chippewa | 7,939 |
| Barron | 7,066 |
| Oneida | 6,690 |
| Monroe | 6,687 |
| Portage | 6,662 |
| Polk | 6,023 |
| Waupaca | 5,771 |
| Grant | 5,366 |
| Shawano | 5,333 |

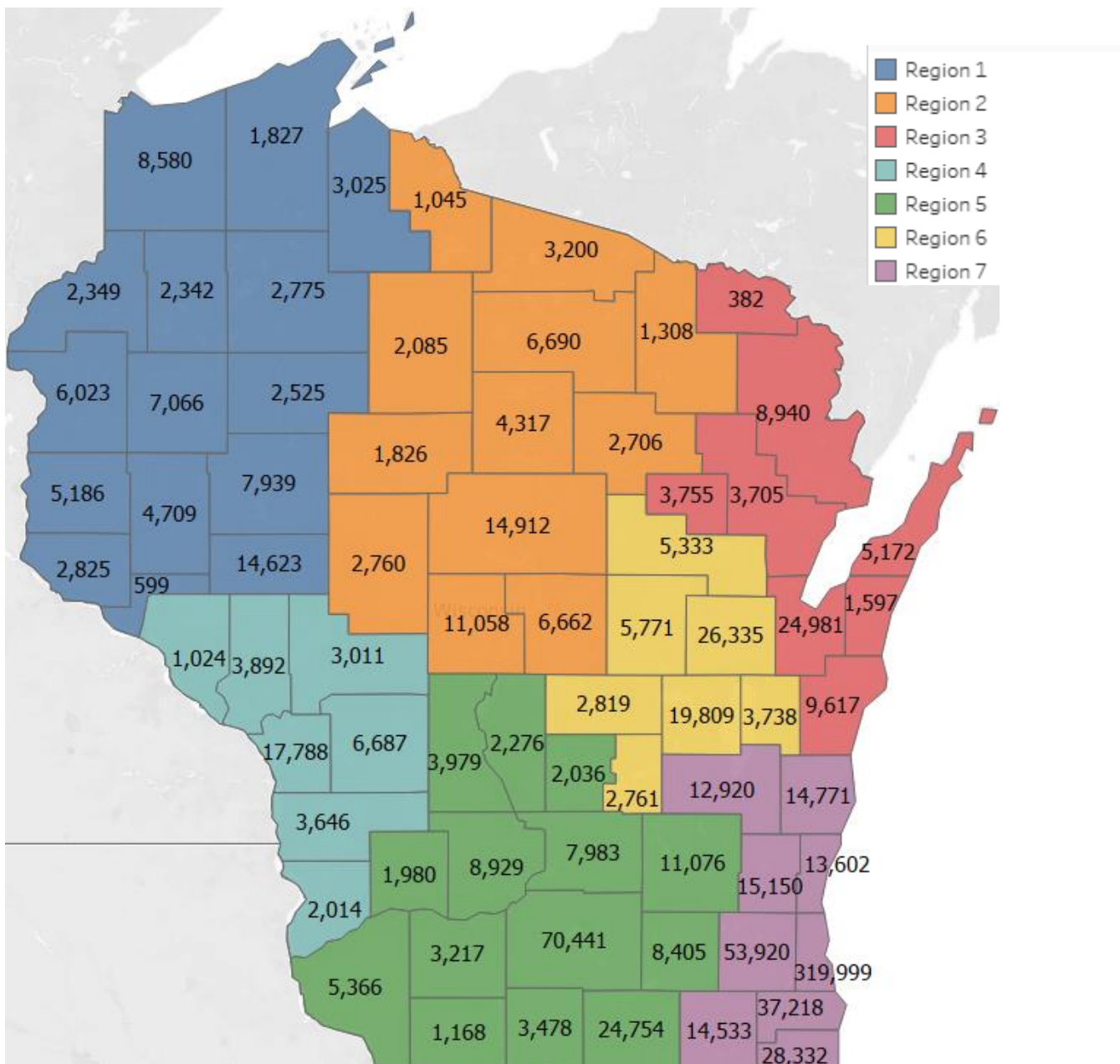
| Scene Incident County Name | Record Count |
|-----------------------------------|---------------------|
| St. Croix | 5,186 |
| Door | 5,172 |
| Dunn | 4,709 |
| Lincoln | 4,317 |
| Juneau | 3,979 |
| Trempealeau | 3,892 |
| Menominee | 3,755 |
| Calumet | 3,738 |
| Oconto | 3,705 |
| Vernon | 3,646 |
| Green | 3,478 |
| Iowa | 3,217 |
| Vilas | 3,200 |
| Ashland | 3,025 |
| Jackson | 3,011 |
| Pierce | 2,825 |
| Waushara | 2,819 |
| Sawyer | 2,775 |
| Green Lake | 2,761 |
| Clark | 2,760 |
| Langlade | 2,706 |
| Rusk | 2,525 |
| Burnett | 2,349 |
| Washburn | 2,342 |
| Adams | 2,276 |
| Price | 2,085 |
| Marquette | 2,036 |
| Crawford | 2,014 |
| Richland | 1,980 |
| Bayfield | 1,827 |
| Taylor | 1,826 |
| Kewaunee | 1,597 |
| Forest | 1,308 |
| Lafayette | 1,168 |
| Iron | 1,045 |
| Buffalo | 1,024 |
| Pepin | 599 |
| Florence | 382 |

Recorded responses in this data element are reflected in the table. Null values and out of state addresses are omitted.

Region

A Regional Trauma Advisory Council (RTAC) is an organized group of health care entities and others who are interested in organizing and improving trauma care in a specified region of Wisconsin. The purpose of an RTAC is to develop, implement, and monitor a regional trauma system plan to facilitate trauma system networking within a region. RTAC membership may include, but is not limited to, hospitals, physicians, nurses, Emergency Medical Service (EMS) providers and their medical directors, rehabilitation facilities, communications centers, injury prevention organizations, and community groups. RTACs collaborate with the State Trauma Advisory Council (STAC), the Department of Health Services Injury Prevention Program, and all other entities involved with, and affected by, injury.

The following map shows the EMS record count for each county. The RTAC regions are represented by a distinct color.



The following table shows the aggregate count of EMS runs per RTAC region.

| RTAC region | Count of EMS Records |
|-------------|----------------------|
| 1 | 72,393 (8%) |
| 2 | 58,569 (6%) |
| 3 | 58,149 (6%) |
| 4 | 38,062 (4%) |
| 5 | 155,088 (16%) |
| 6 | 66,566 (7%) |
| 7 | 510,445 (53%) |

**Percentages are rounded. Denominator is based on record count from eScene.21—Scene Incident County Name. Null values and out of state addresses are omitted.*

Records submitted by agency license level

The following table presents the number of EMS records submitted to WARDS per **service license level**.

dAgency.11—Agency Licensure Level

| Agency Licensure Level | Total Reports Submitted to WARDS |
|---------------------------------------|----------------------------------|
| Emergency medical responder | 18,676 (2%) |
| Emergency medical technician | 42,435 (4%) |
| Advanced emergency medical technician | 40,688 (4%) |
| Intermediate | 3,521 (<1%) |
| Paramedic | 857,218 (89%) |

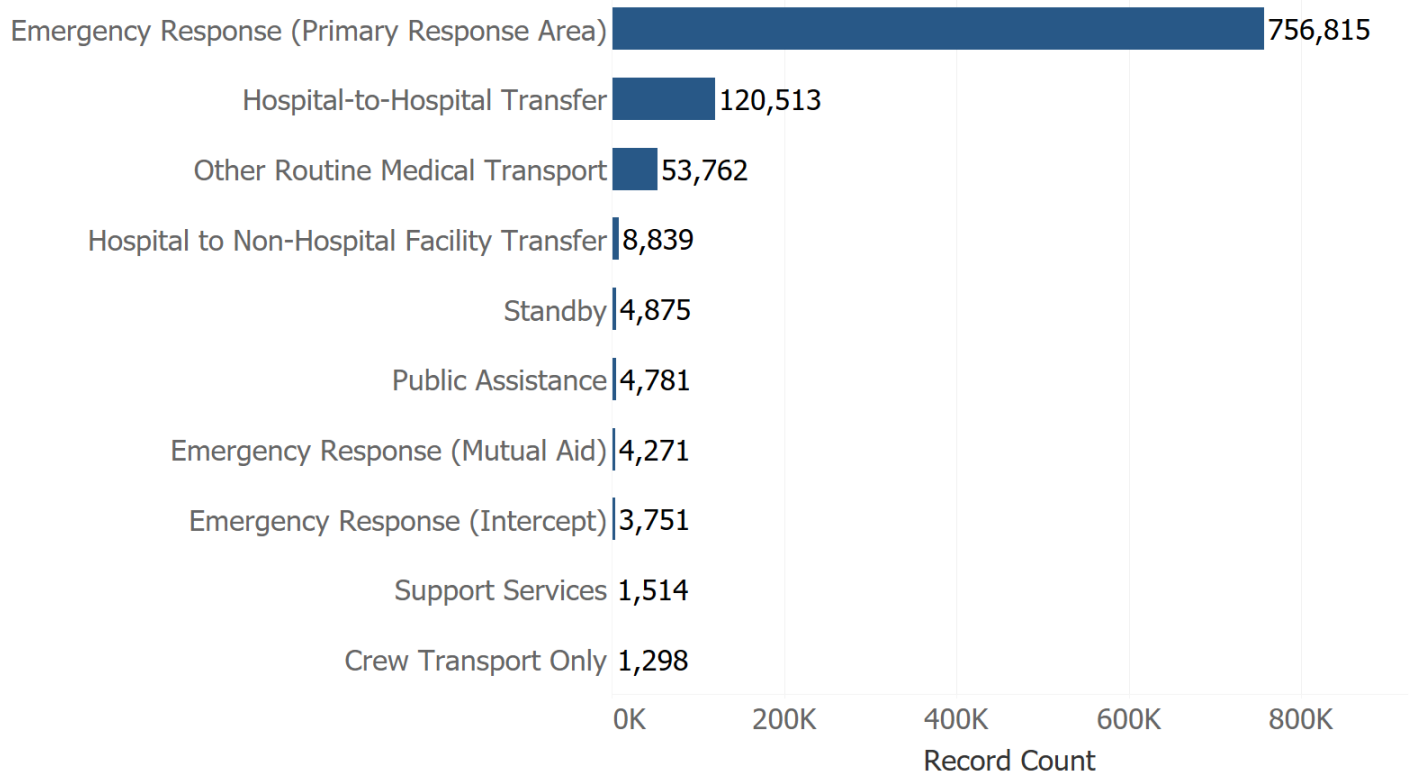
**Percentages are rounded.*

For more information regarding EMS service licensing, please see [Wisconsin EMS Services Data](#) report or the [EMS Service Map](#).

EMS response characteristics

eResponse.05—Type of Service Requested

The type of service or category of service requested of the EMS Agency responding for this specific EMS event. Extended data definitions can be found [online](#).



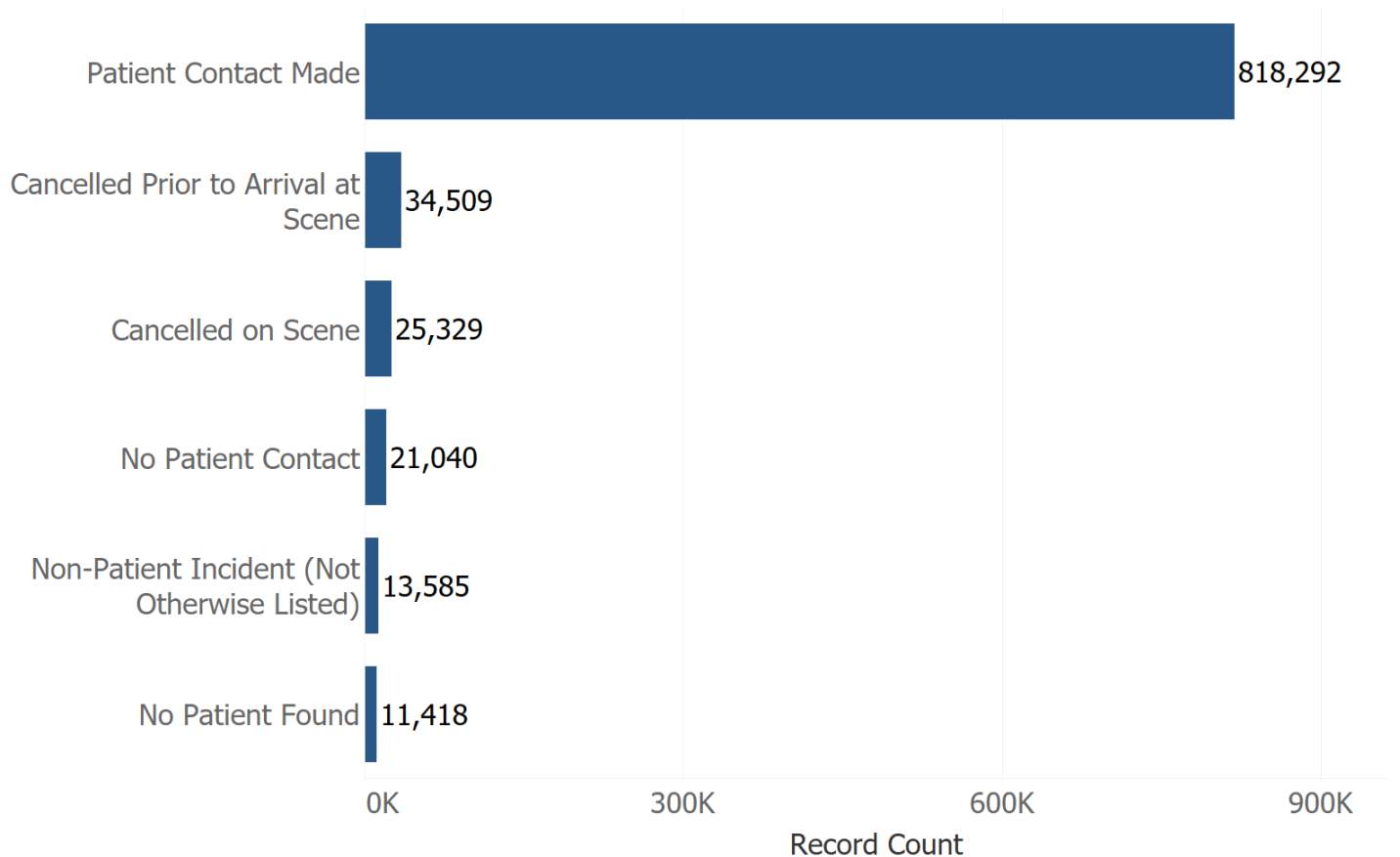
Top 10 recorded responses for eResponse.05 are reflected in the graph.

eDisposition

The eDisposition section in NEMSIS v3.5 captures key information regarding the outcome of each EMS incident. These fields document whether patient contact was made, whether evaluation was completed (and by whom), transport decisions, and refusal information. Accurate and consistent reporting in eDisposition is essential for understanding patient outcomes, resource utilization, and system performance across local, state, and national levels. Extended data definitions can be found [online](#).

eDisposition.27—Unit Disposition

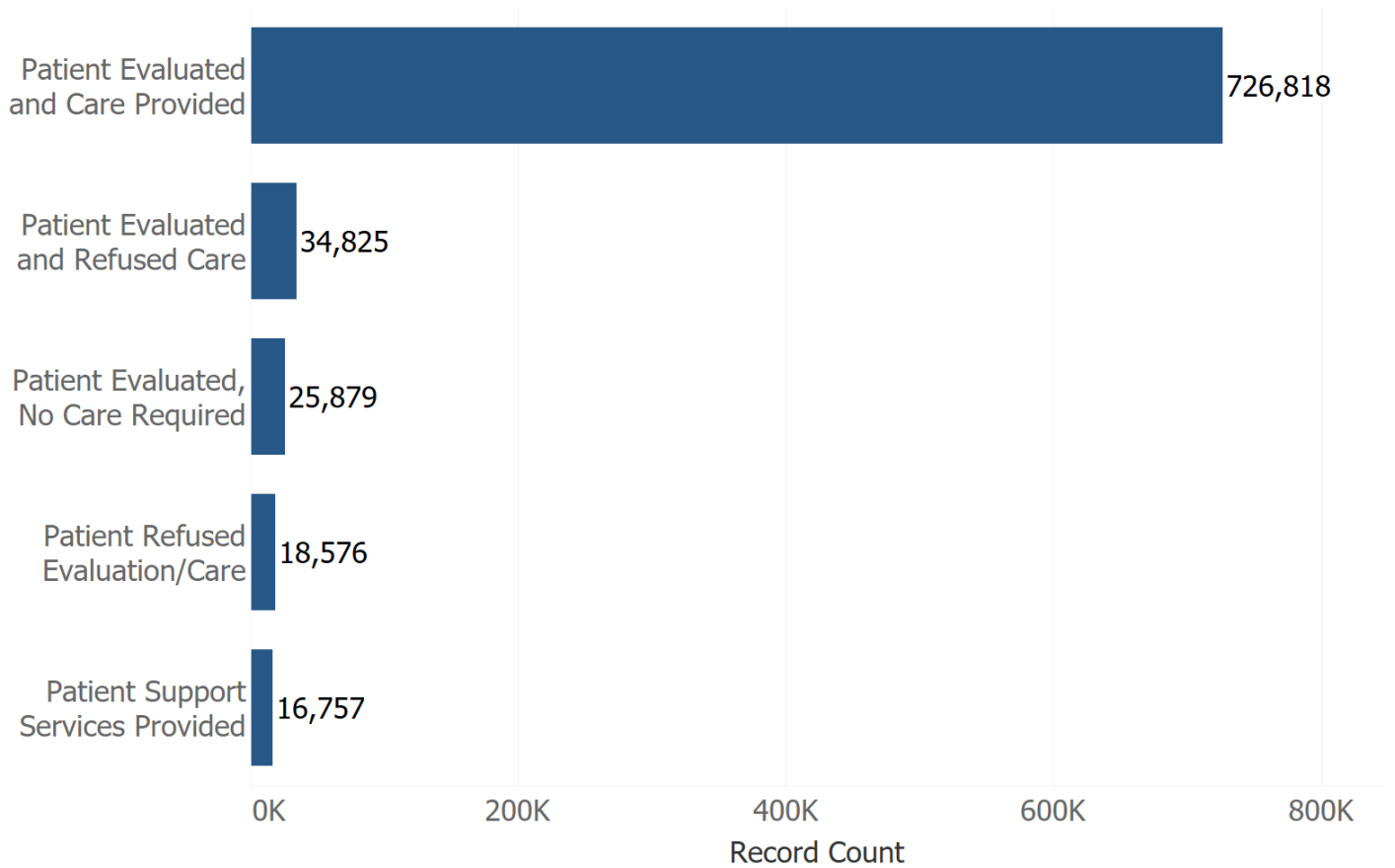
The unit disposition for an EMS event identifying whether patient contact was made by this EMS unit or crew.



Recorded responses in this data element are reflected in the graph. Null values are omitted.

eDisposition.28—Patient Evaluation/Care

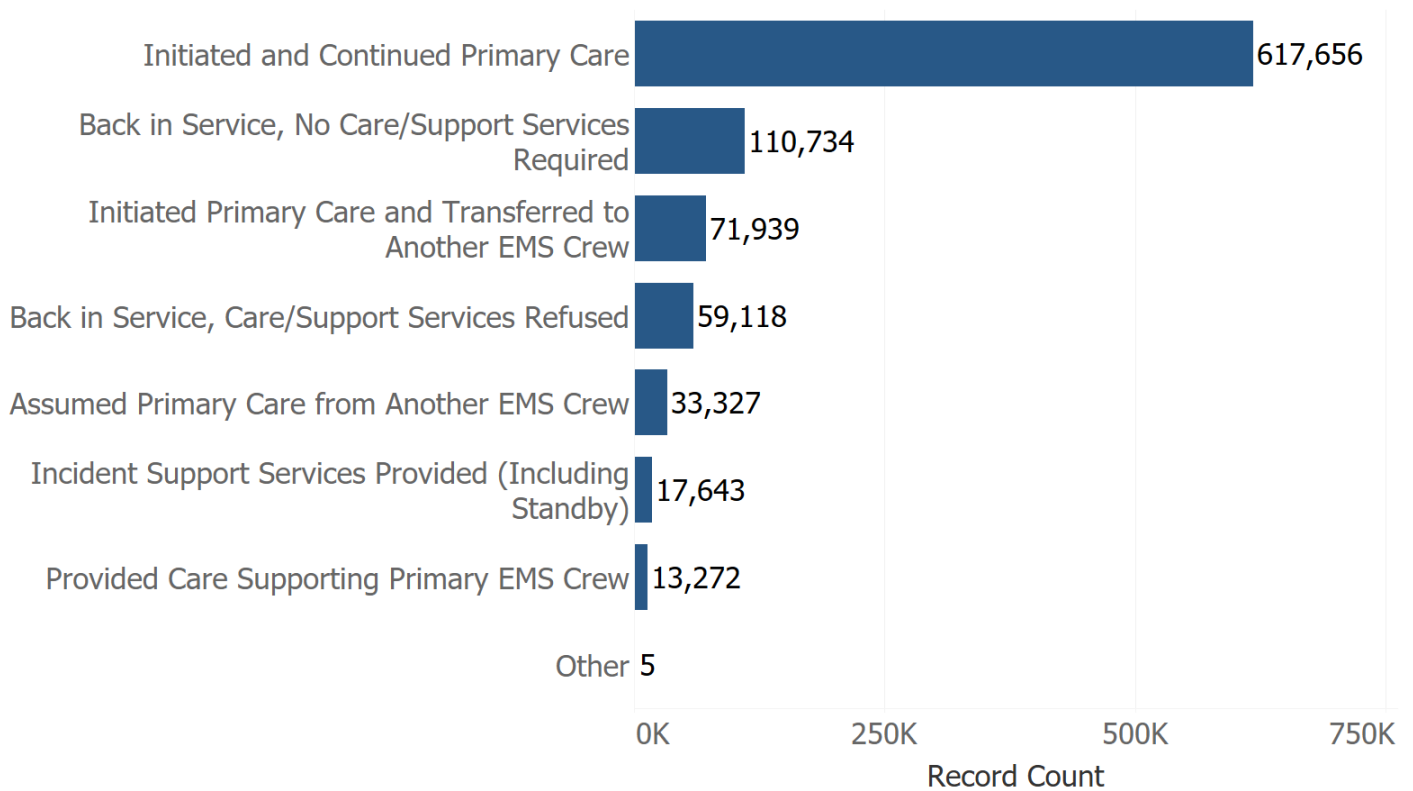
The patient disposition for an EMS event identifying whether a patient was evaluated, and care or services were provided.



Recorded responses in this data element are reflected in the graph. Null values are omitted.

eDisposition.29—Crew Disposition

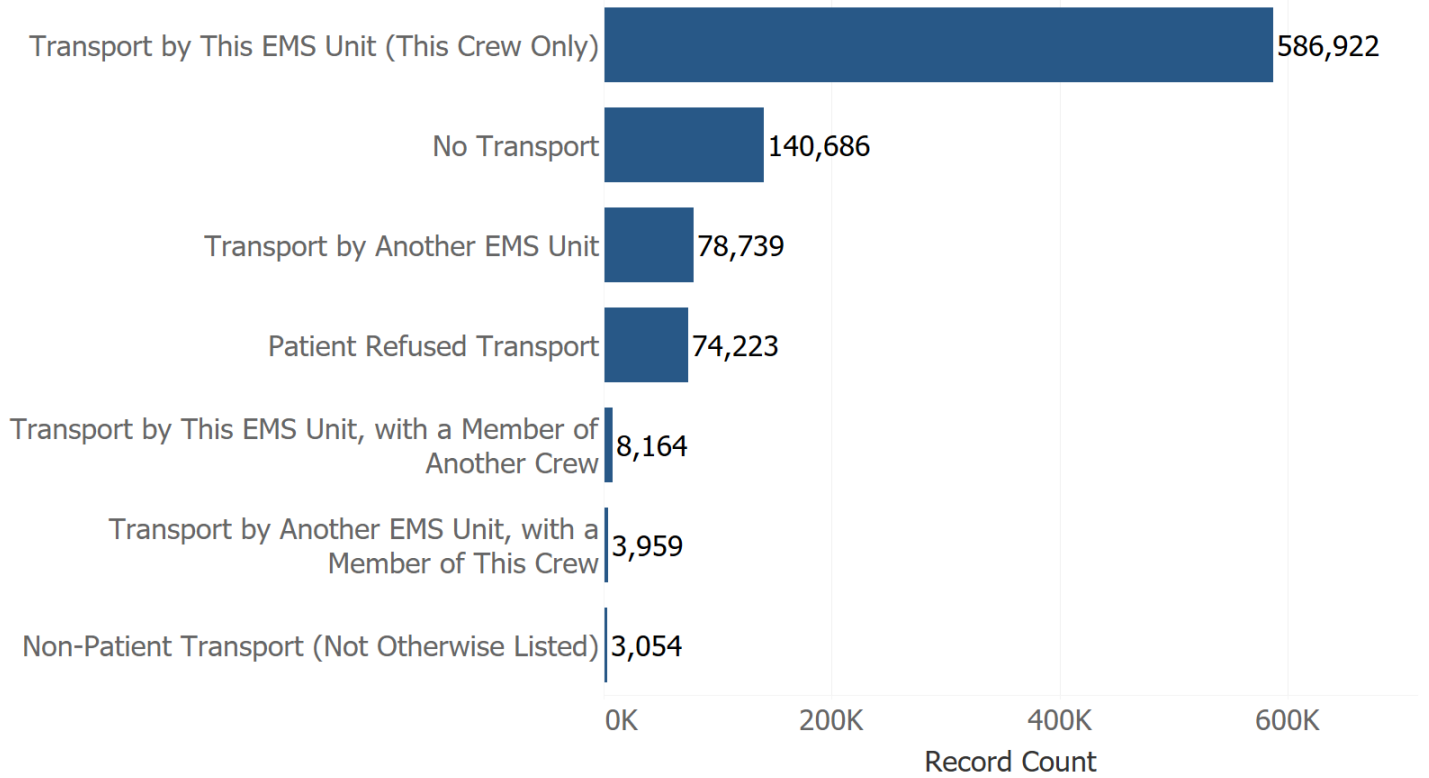
The crew disposition for this EMS event identifying which crew provided primary patient care or whether support services were required.



Recorded responses in this data element are reflected in the graph. Null values are omitted.

eDisposition.30—Transport Disposition

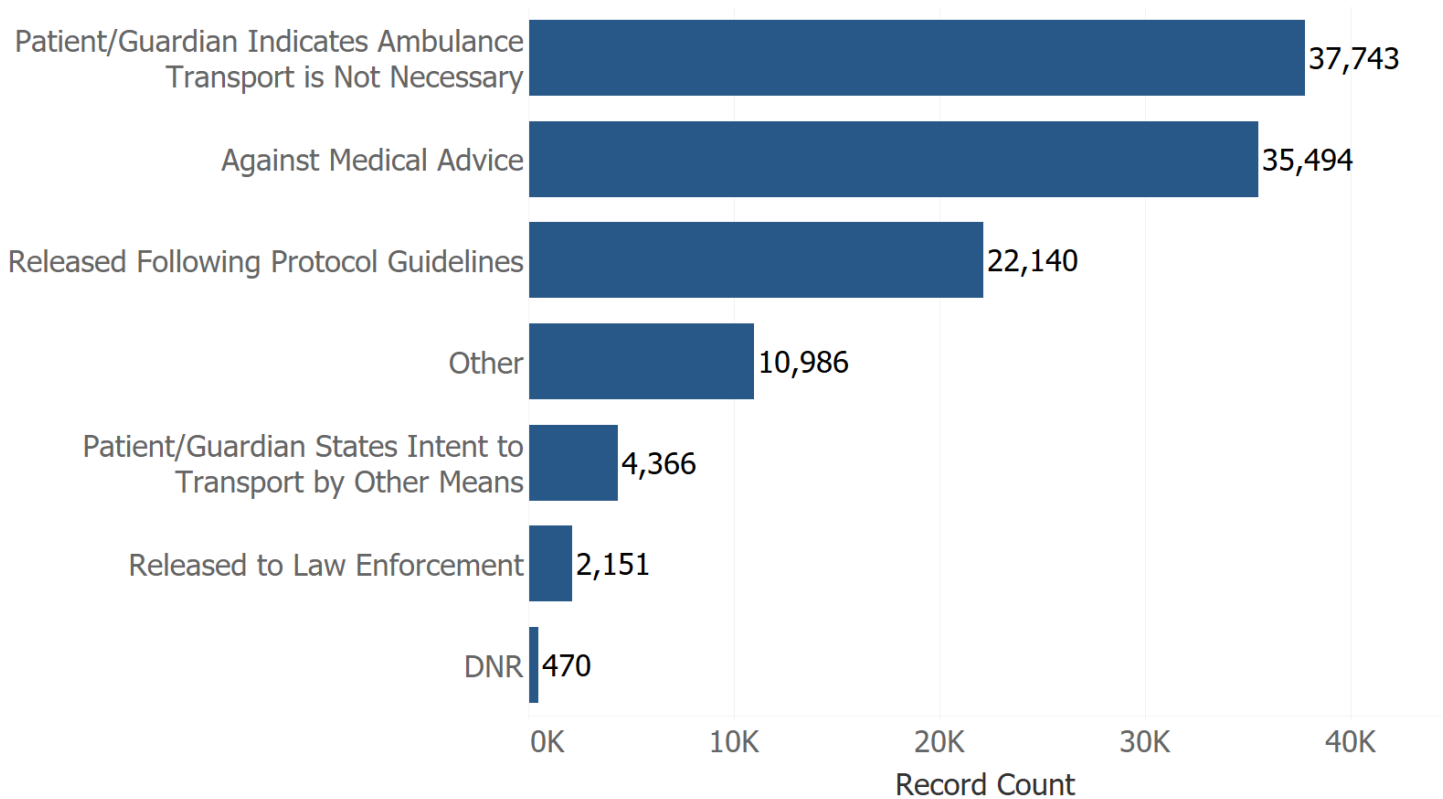
The transport disposition for an EMS event identifying whether a transport occurred and by which unit.



Recorded responses in this data element are reflected in the graph. Null values are omitted.

eDisposition.31—Reason for Refusal/Release

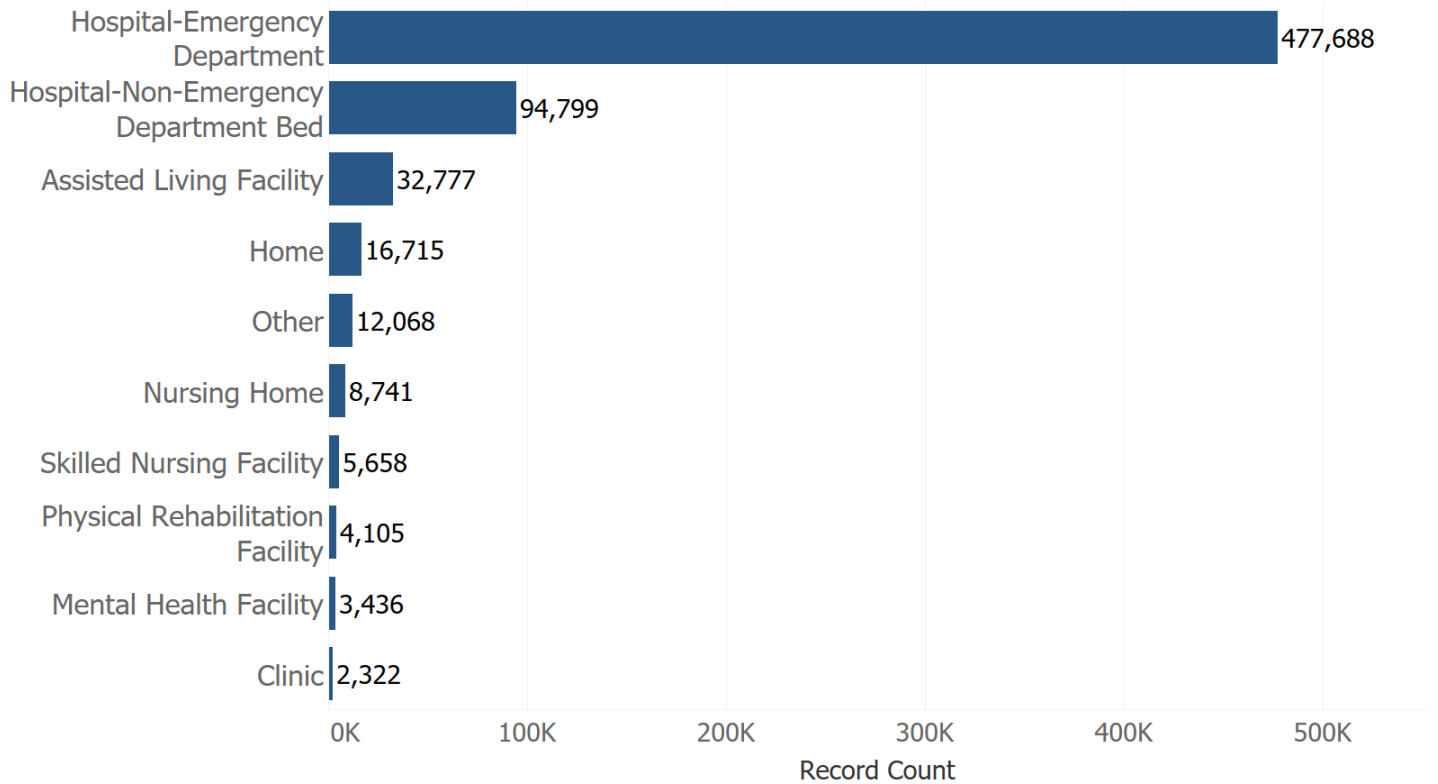
Describes reason or reasons for the patient's refusal of care or transport or the EMS clinician's decision to release the patient.



Recorded responses in this data element are reflected in the graph. Null values are omitted.

eDisposition.21—Type of Destination

The type of destination the patient was delivered or transferred to.

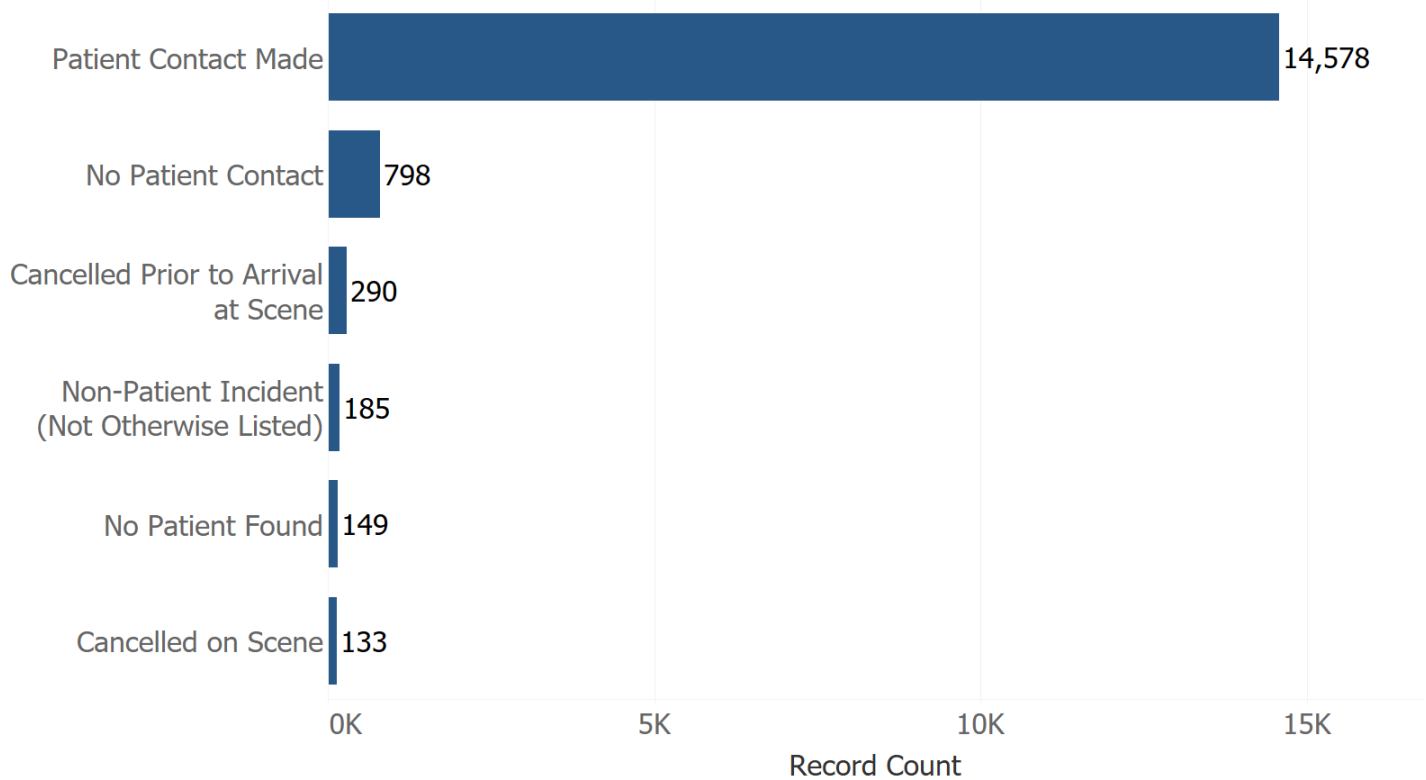


Top 10 recorded responses for eDisposition.21 are reflected in the graph.

EMR-specific report information

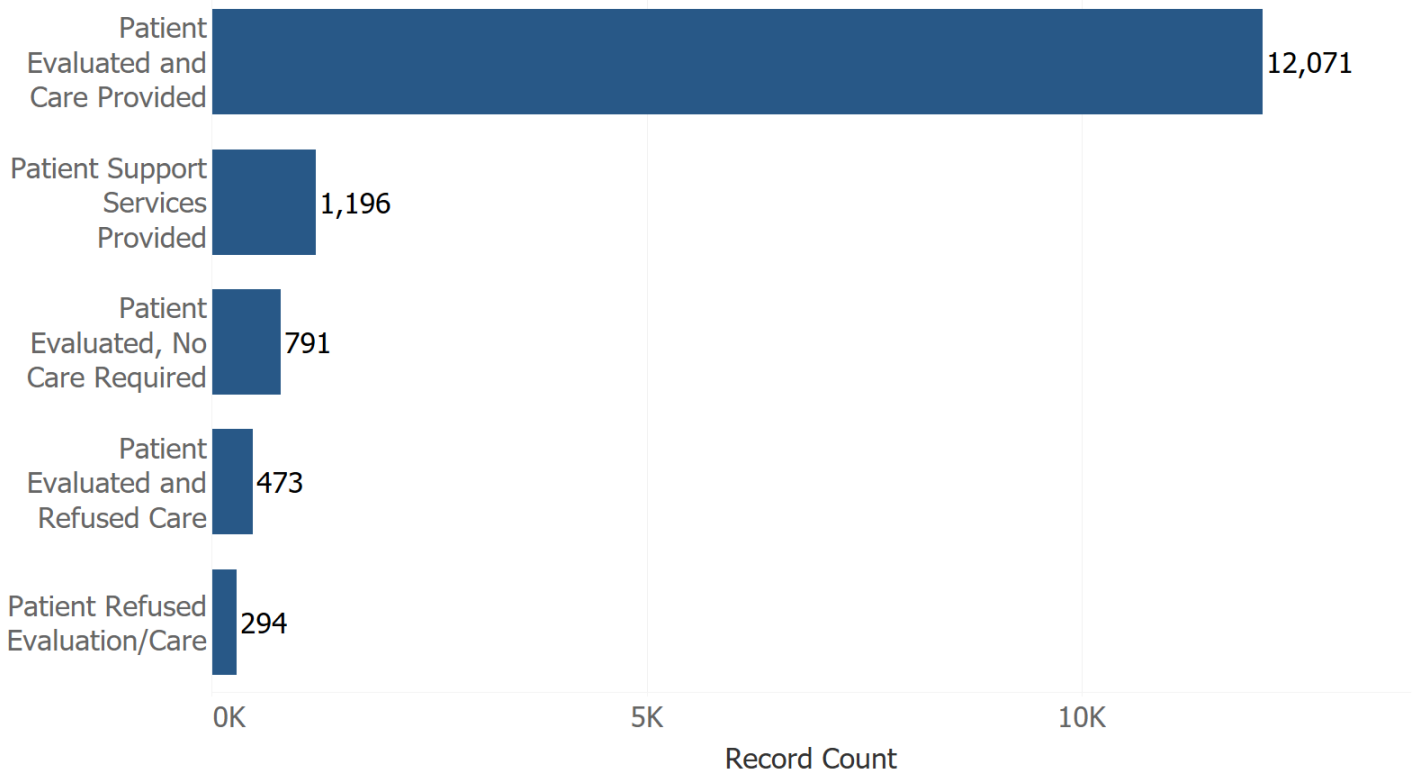
Per Wis. Admin. Code § DHS 110.34(8), Emergency Medical Responders (EMRs) are required to submit a patient care report to WARDS only if advanced (optional) skills are used in caring for the patient. In 2024, there were 18,676 reports submitted to WARDS by EMRs. Although the requirement is to submit a patient care report if advanced (optional) skills are used, EMRs are welcome to submit all reports to WARDS. The number of reports submitted reflects calls with both advanced (optional) skills as well as required skills. The following is a brief breakdown of the records that were submitted.

eDisposition.27—Unit Disposition



Recorded responses in this data element are reflected in the graph. Null values are omitted.

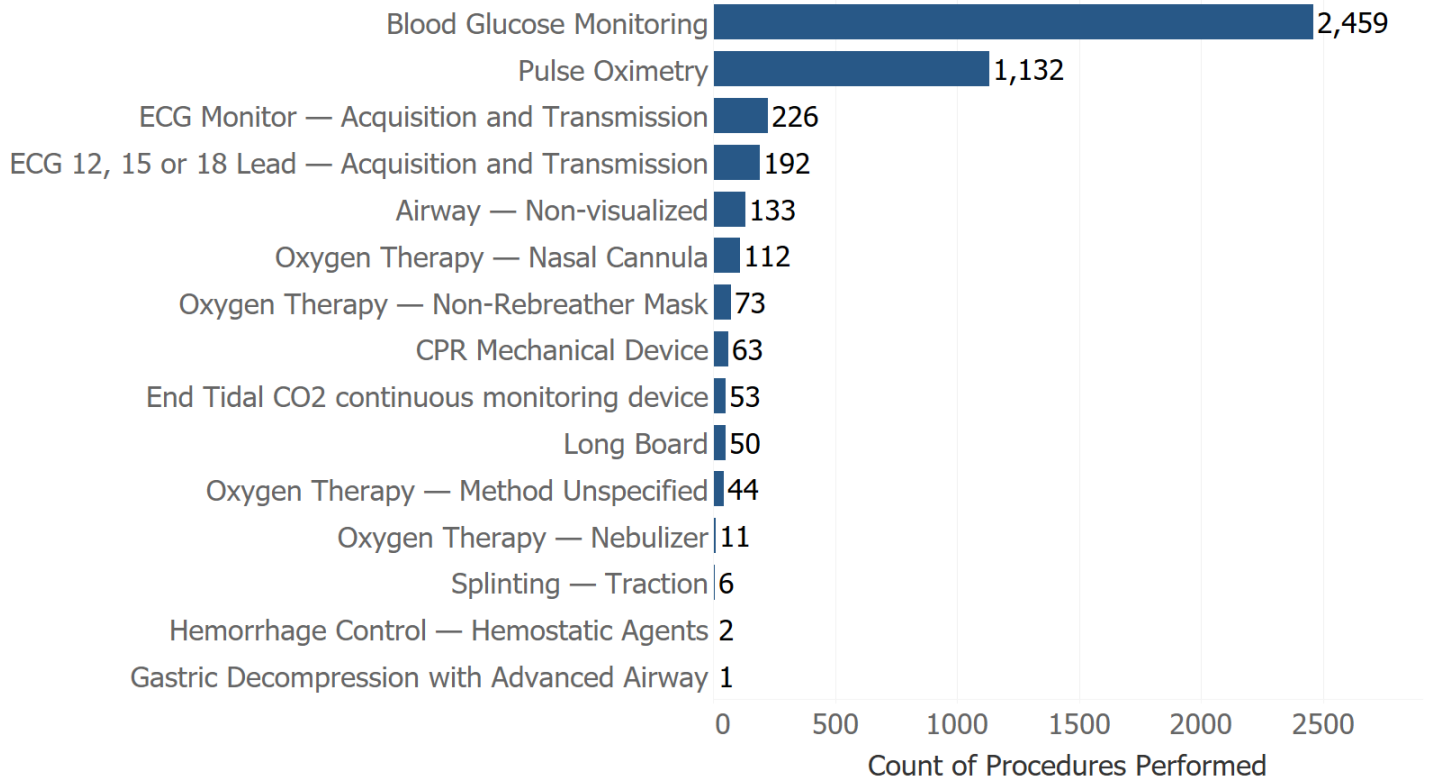
eDisposition.28—Patient Evaluation/Care



Recorded responses in this data element are reflected in the graph. Null values are omitted.

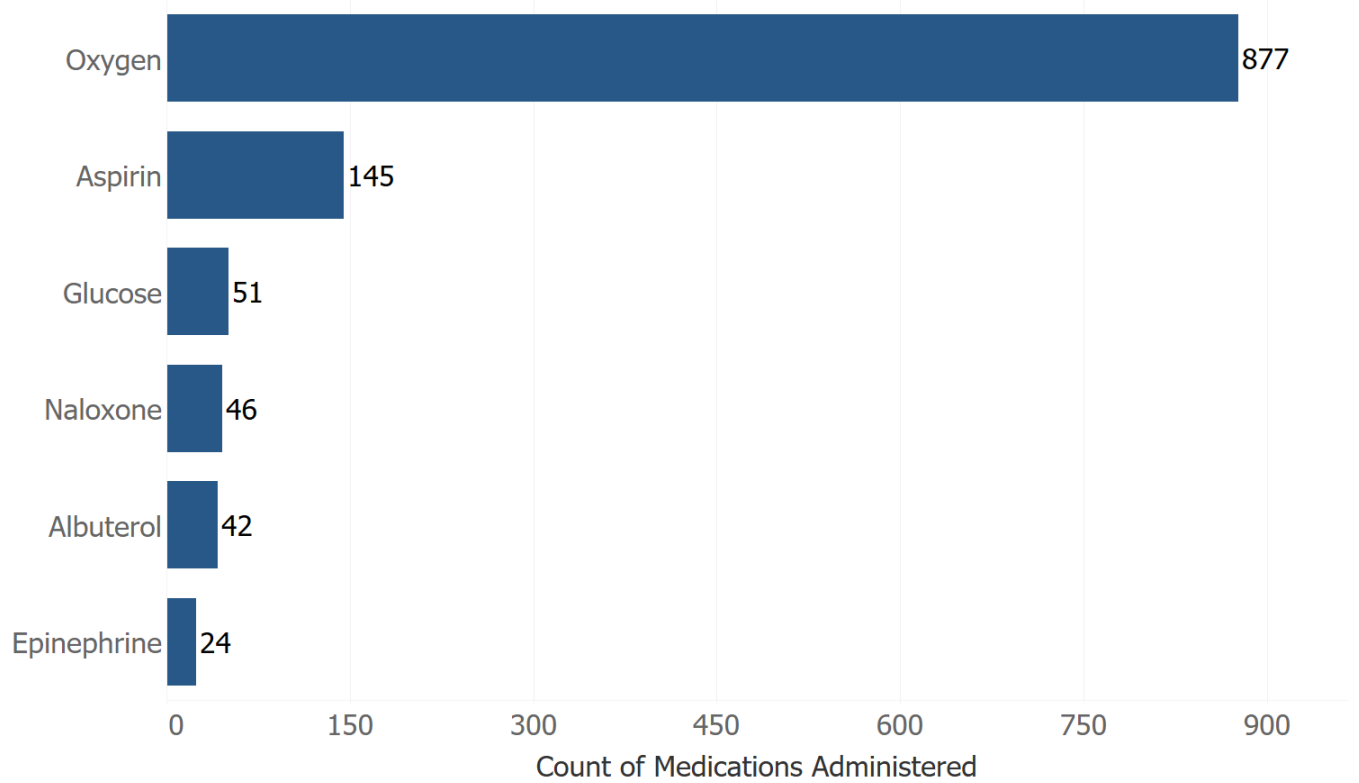
The following are graphs that represent the advanced (optional) skills that were documented by EMRs in 2024. Advanced (optional) skills can be found in the [Wisconsin Scope of Practice](#). The first table includes procedures, while the second table presents medications administered by an EMR.

Frequency of advanced (optional) procedures by EMRs



Emergency Medical Responders are identified via eProcedures.10 (Role/Type of Person Performing the Procedure). Advanced (optional) skills are based on the 2024 Wisconsin Scope of Practice.

Frequency of advanced (optional) EMR medications



Emergency Medical Responders are identified via eMedications.10 (Role of person administering medication). Advanced (optional) skills are based on the 2024 Wisconsin Scope of Practice.

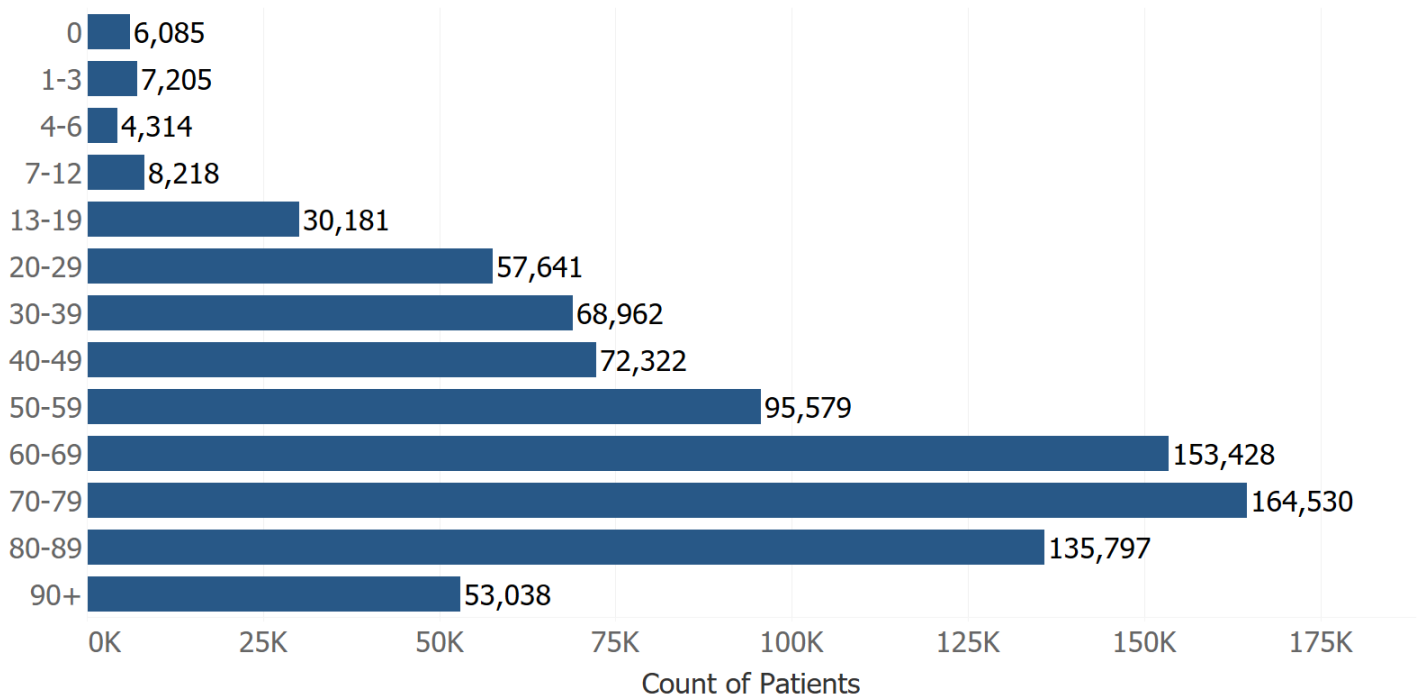
Clinical Data

Patient demographic data

Demographic data provides essential context about the characteristics of the populations served by EMS. This information includes age, gender, race, ethnicity, and other relevant identifiers that help agencies understand community needs and support data-driven planning and policy decisions. Accurate demographic reporting is vital for improving health outcomes across diverse populations.

ePatient.15—Age Distribution of Patients

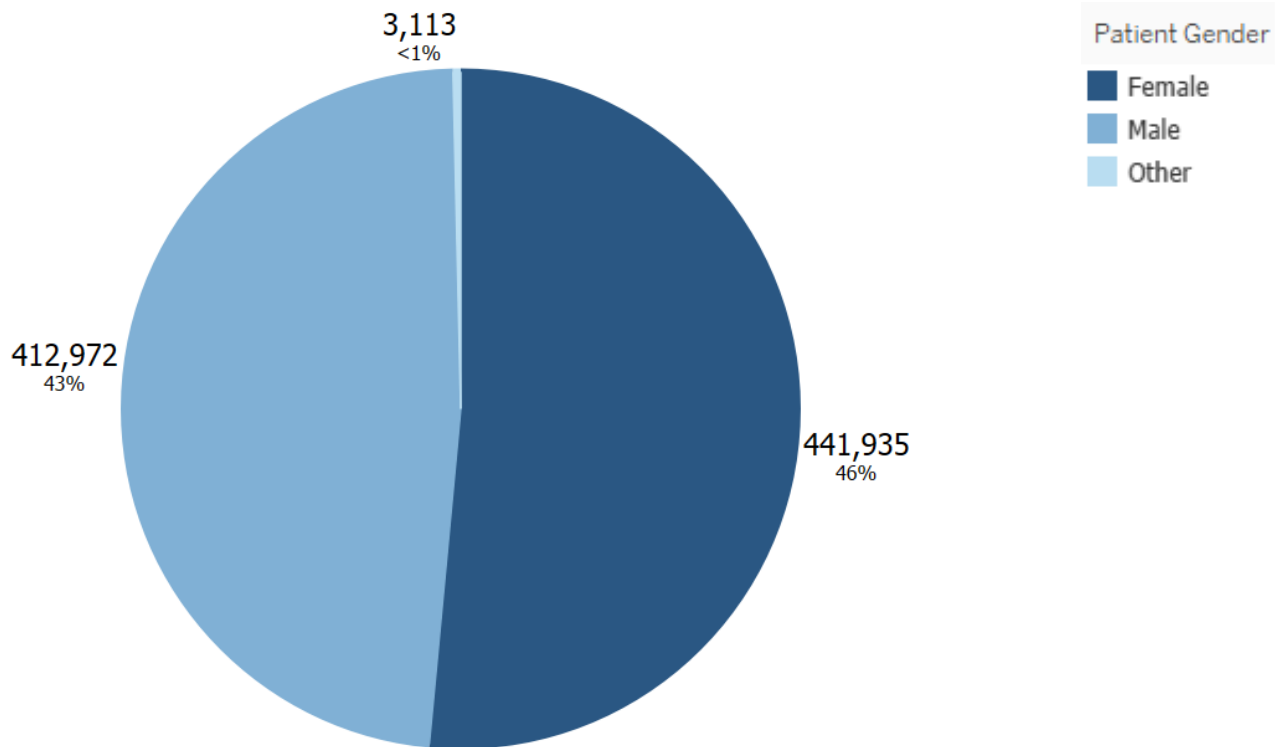
The patient's age (either calculated from date of birth or best approximation) at the time of the incident.



Recorded responses in this data element are reflected in the graph. Null values are omitted.

ePatient.13—Gender

The patient's gender. This field has been deprecated and replaced with ePatient.25 – sex in 2025.



Recorded responses in this data element are reflected in the graph. Null values are omitted.

ePatient.14—Race

The race categories are defined by the US Office of Management and Budget (OMB). The information collected below does not include the 2024 OMB update to race which is reflected in the v3.5.1 data dictionary. This data element allows for multiple selections. Each selection was treated as a discrete count. There were 2,247 reports with more than one category selected for ePatient.14.

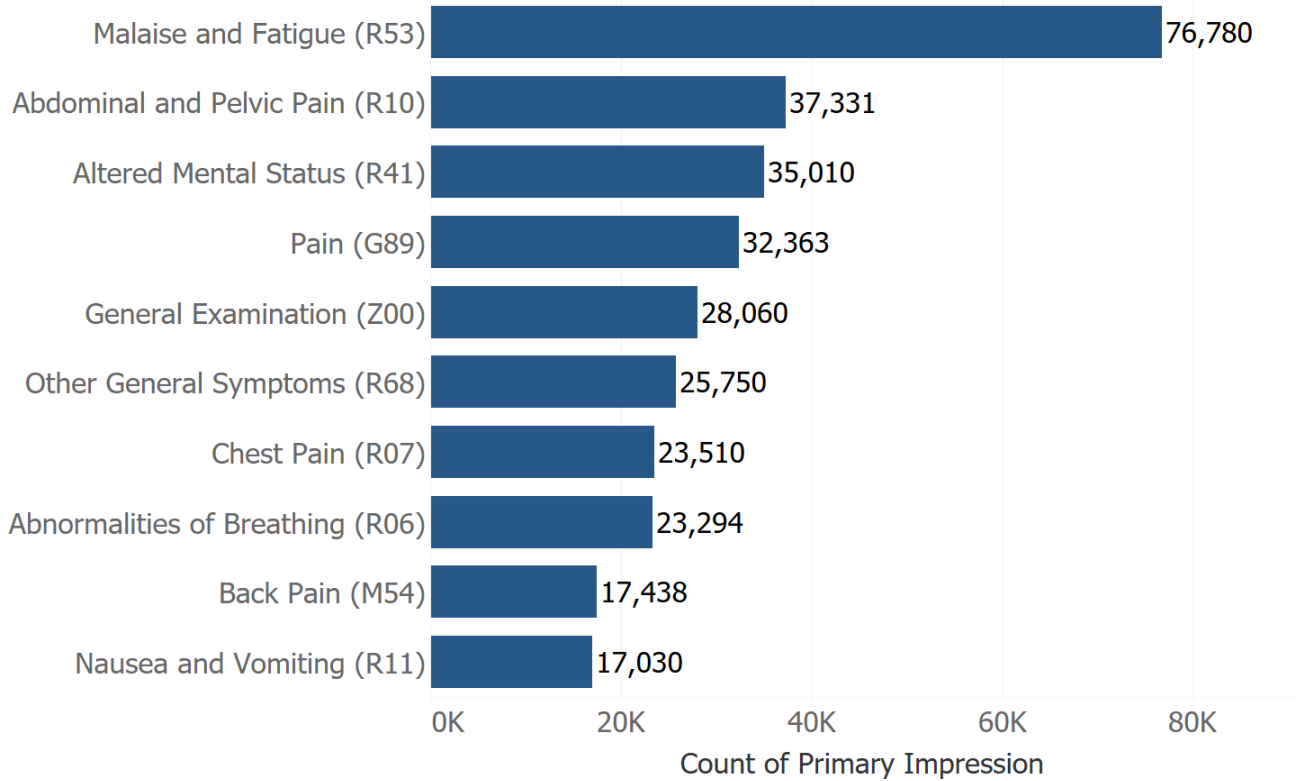
| Category Description | Count |
|---|---------|
| American Indian or Alaskan Native | 8,158 |
| Asian | 7,877 |
| Black or African American | 153,111 |
| Hispanic or Latino | 32,681 |
| Native Hawaiian or Other Pacific Islander | 1,480 |
| White | 595,349 |

Recorded responses in this data element are reflected in the graph. Null values are omitted.

Patient Care

eSituation.11 — Provider's Primary Impression

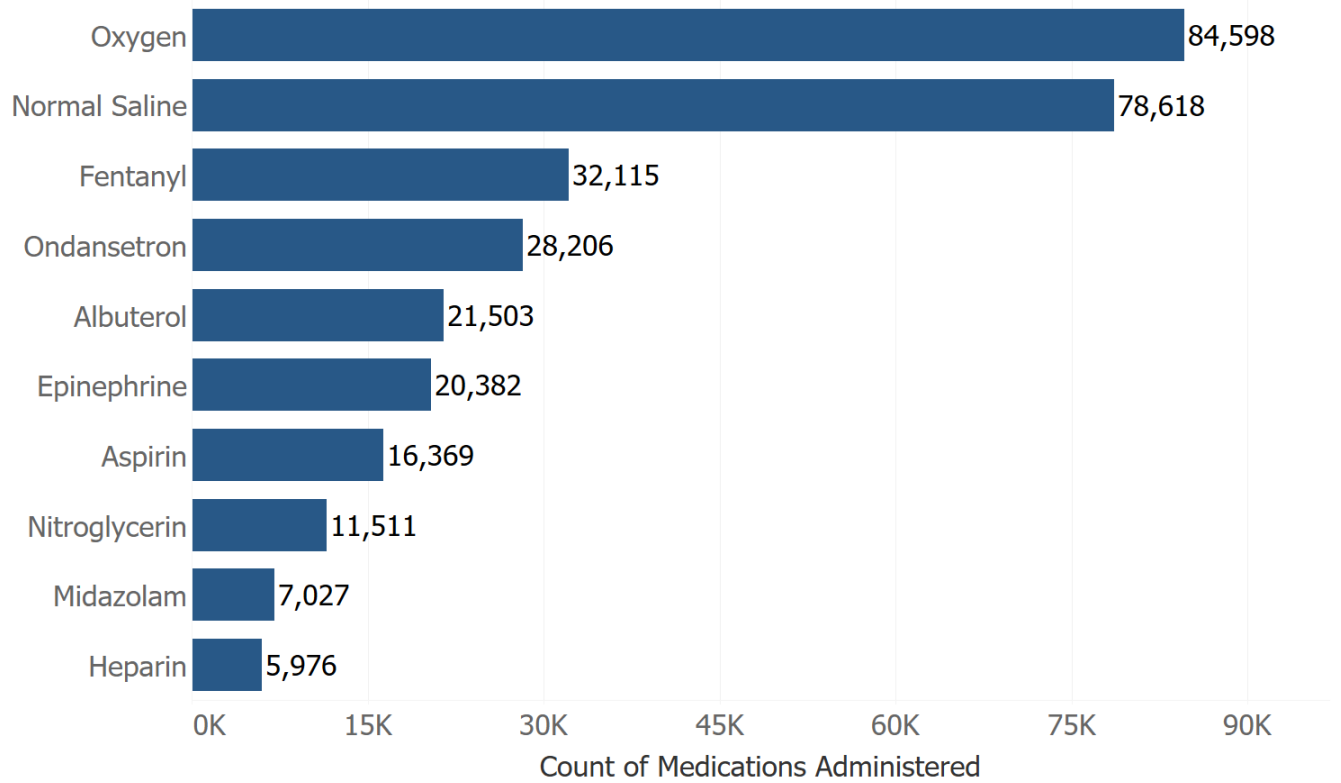
The EMS personnel's impression of the patient's primary problem or most significant condition which led to the management given to the patient (treatments, medications, or procedures). Responses are based on ICD-10 Codes.



The top 10 recorded responses from eSituation.11 are reflected in the graph. Responses are grouped into ICD-10 categories. EMS providers do not make definitive diagnoses. Chest Pain (R07) includes chest pain that is suspected cardiac in nature as well as non-cardiac in nature. There are 826,600 recorded responses in eSituation.11.

eMedications.03—Medications Administered

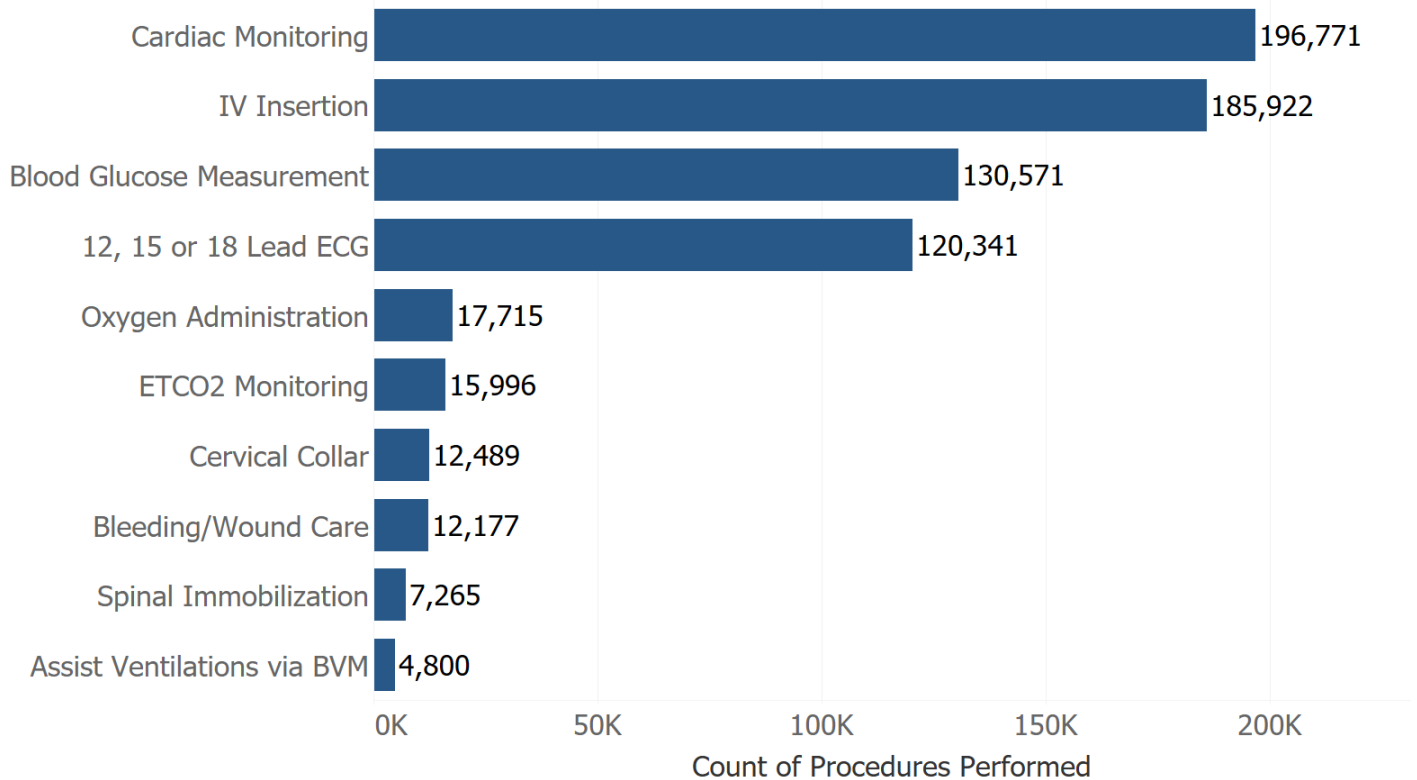
The medication administered to the patient.



The top 10 recorded responses from eMedications.03 are reflected in the graph. There are 377,838 recorded responses in eMedications.03.

eProcedures.03—Procedure

The procedure performed on the patient.



The top 10 recorded responses from eProcedures.03 are reflected in the graph. Common assessment procedures such as blood pressure, body temperature reading, pulse oximeter and IV monitoring are omitted from this table. There are 956,626 recorded responses in eProcedures.03.

Limitations of the Data

The findings in this report are derived from EMS data submitted to WARDS and are subject to inherent limitations including variability in documentation practices, data completeness, and reporting timeliness. The missing or incomplete data fields may limit the ability to fully assess the reported trends. As such, results should be interpreted within the context of these limitations.