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**Virginia Department of Health**

**Office of Emergency Medical Services (OEMS)**

**Quarterly Report on Trauma Incidents**

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**Q4 2021\***

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*This report is based on the deliberations of the System Improvement Committee and analyses performed by Office of EMS Epidemiology staff.*

\*Important Note: The Office of Emergency Medical Services is currently in the process of transitioning to a new data management system for all pre-hospital and trauma registry data. System performance issues identified and corrected during the transition may limit the accuracy of the data contained within this report. As such, this report is considered preliminary and subject to change. Thank you for your understanding and patience during this transition.

## Introduction

Section B 3. of the Code of Virginia (§32.1-111.3) requires the monitoring of the quality of the Commonwealth's emergency medical services (EMS) and trauma services using data from the EMS patient care information system. The EMS Advisory Board reviews and analyzes such data quarterly and reports its findings to the Commissioner. The Advisory Board has delegated this function to the System Improvement Committee (formerly the Trauma Performance Improvement Committee).

This quarterly report focuses on four key areas:

1. Completeness of prehospital vital sign documentation (blood pressure, respiratory rate, and Glasgow Coma Score) as required in Step 1 of the Virginia Field Trauma Triage Decision Scheme.
2. The number of trauma patients treated and transported by EMS agencies.
3. The number of trauma patients who met Step 1 (vitals), Step 2 (anatomy of injury), and Step 3 (mechanism of injury/impact) Virginia Field Trauma Triage Criteria.
4. The number of patients meeting trauma triage criteria transported to hospitals not designated as trauma centers.

The results reported here represent a high-level summary of the findings. This report describes how each EMS Council Region is performing. The report will be provided to the appropriate Regional EMS Council Director for each region. The Directors will be given an opportunity to provide feedback, which may explain special circumstances for which an exception occurred. The findings of this report and any feedback from the Directors will be used to drive education and improve the Trauma Triage Plan.

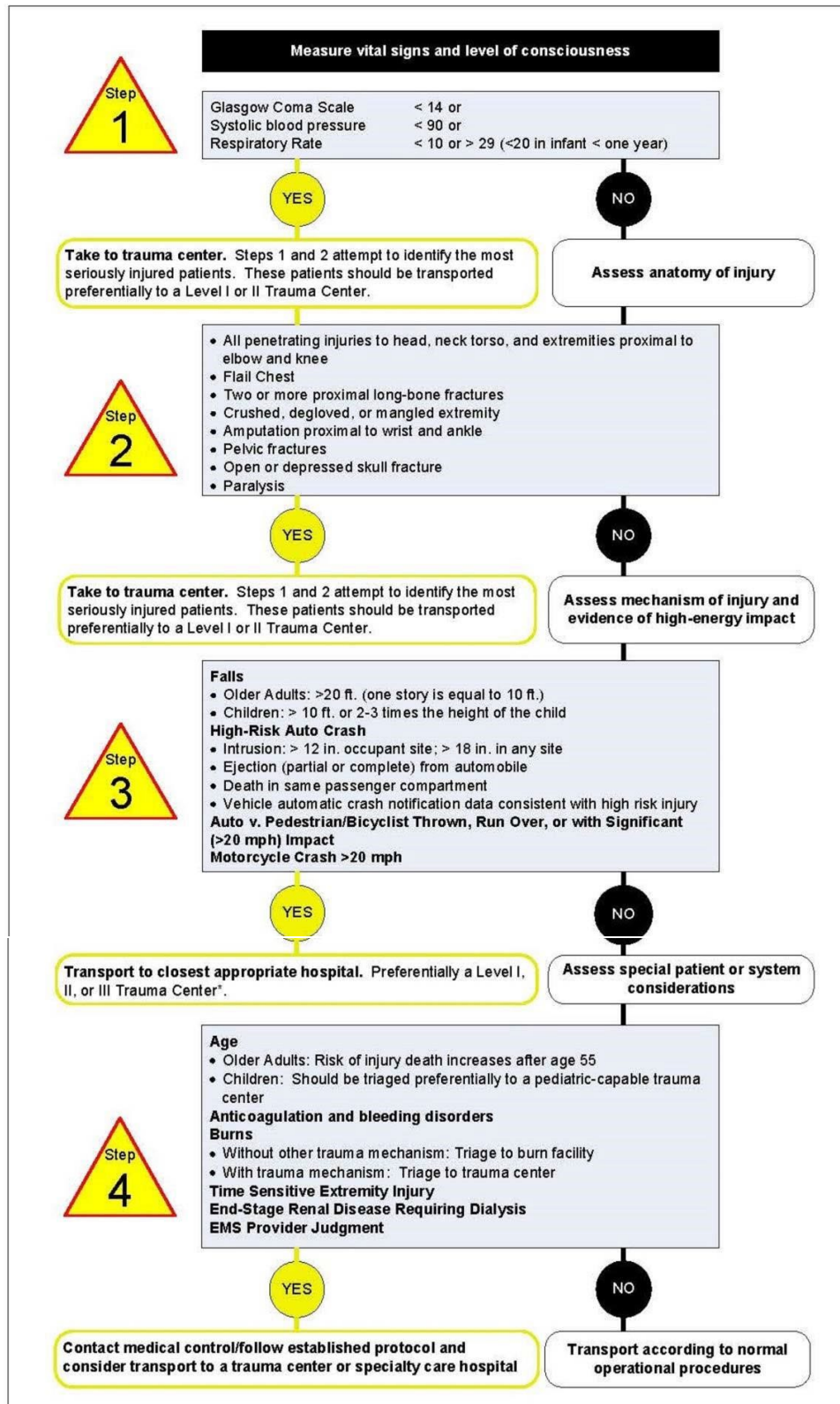
EMS patient data is extracted from patient medical records submitted by EMS agencies to the Virginia Pre-Hospital Information Bridge (VPHIB) program (Elite v3) maintained within the Virginia Department of Health's (VDH) Office of Emergency Medical Services (OEMS). Data summarized in this report represent EMS responses that occurred during the fourth quarter of 2021 (October through December) and were entered into ESO as of 8/1/2022. VPHIB v3 data are based on the National EMS Information System (NEMSIS) standards.

This report includes all EMS responses categorized as trauma incidents using the following guidelines (Table 1).

Table 1. Definition of Trauma Patients within VPHIB version 3

Type of Service Requested	
911 Response (Scene)	
<b>Incident/Patient Disposition</b>	
Patient Treated, Transported by this EMS unit	
<b>Situation Provider Primary Impression (ICD-10-CM)</b>	
<ul style="list-style-type: none"> <li>• S00-S09 (Injuries to the head)</li> <li>• S10-S19 (Injuries to the neck)</li> <li>• S20-S29 (Injuries to the thorax)</li> <li>• S30-S39 (Injuries to the abdomen, lower back, lumbar spine, pelvis, and external genitals)</li> <li>• S40-S49 (Injuries to the shoulder and upper arm)</li> <li>• S50-S59 (Injuries to the elbow and forearm)</li> <li>• S60-S69 (Injuries to the wrist, hand, and fingers)</li> <li>• S70-S79 (Injuries to the hip and thigh)</li> <li>• S80-S89 (Injuries to the knee and lower leg)</li> <li>• S90-S99 (Injuries to the ankle and foot)</li> <li>• T07 (Injuries involving multiple body regions)</li> <li>• T14 (Injury of unspecified body region)</li> <li>• T20-T25 (Burns and corrosions of external body surfaces, specified by site)</li> <li>• T26-T28 (Burns and corrosions confined to eye and internal organs)</li> <li>• T30-T32 (Burns and corrosions of multiple and unspecified body regions)</li> <li>• T75.0 (Effects of lightning)</li> <li>• T75.4 (Electrocution) (With 7th digit character modifier of A, B, or C; D through S are excluded)</li> </ul>	<p><i>Excluding:</i></p> <ul style="list-style-type: none"> <li>• <i>S00 (Superficial injuries of the head)</i></li> <li>• <i>S10 (Superficial injuries of the neck)</i></li> <li>• <i>S20 (Superficial injuries of the thorax)</i></li> <li>• <i>S30 (Superficial injuries of the abdomen, pelvis, lower back and external genitals)</i></li> <li>• <i>S40 (Superficial injuries of shoulder and upper arm)</i></li> <li>• <i>S50 (Superficial injuries of elbow and forearm)</i></li> <li>• <i>S60 (Superficial injuries of wrist, hand, and fingers)</i></li> <li>• <i>S70 (Superficial injuries of hip and thigh)</i></li> <li>• <i>S80 (Superficial injuries of knee and lower leg)</i></li> <li>• <i>S90 (Superficial injuries of ankle, foot, and toes)</i></li> </ul>

Figure 1. Virginia Field Trauma Triage Decision Scheme



## Virginia Trauma Summary, Fourth Quarter, 2021

EMS agencies in Virginia responded to a total of 370,827 EMS calls; of that total, 235,590 (63.5%) patients had a disposition of treated and transported by the unit, 46,312 (12.5%) had a disposition of canceled, 28,876 (7.8%) patients had a disposition of EMS assist, 5,328 (1.4%) patients had a disposition of treated and transferred care to another unit, 4,049 (1.1%) patients were documented as dead at the scene, and 50,672 (13.7%) patients had some other incident disposition (e.g., patient treated and released AMA, patient treated and transported by private vehicle, etc.). Out of the total EMS calls, **20,835 (5.6%)** incidents were classified as trauma incidents. The Northern Virginia EMS Council had the highest number of trauma calls (5,008; 24.0%), followed by the Old Dominion EMS Alliance (3,702; 17.8%). Trauma incident numbers for the quarter, broken down by month and Regional EMS Council, are shown in Figure 2. Tables 2-4 summarize the body regions most frequently affected by trauma, the top 10 hospitals receiving trauma transports, and vital signs data quality for trauma incidents.

Figure 2. Monthly Trauma Incidents by Regional EMS Council, Fourth Quarter 2021, Virginia

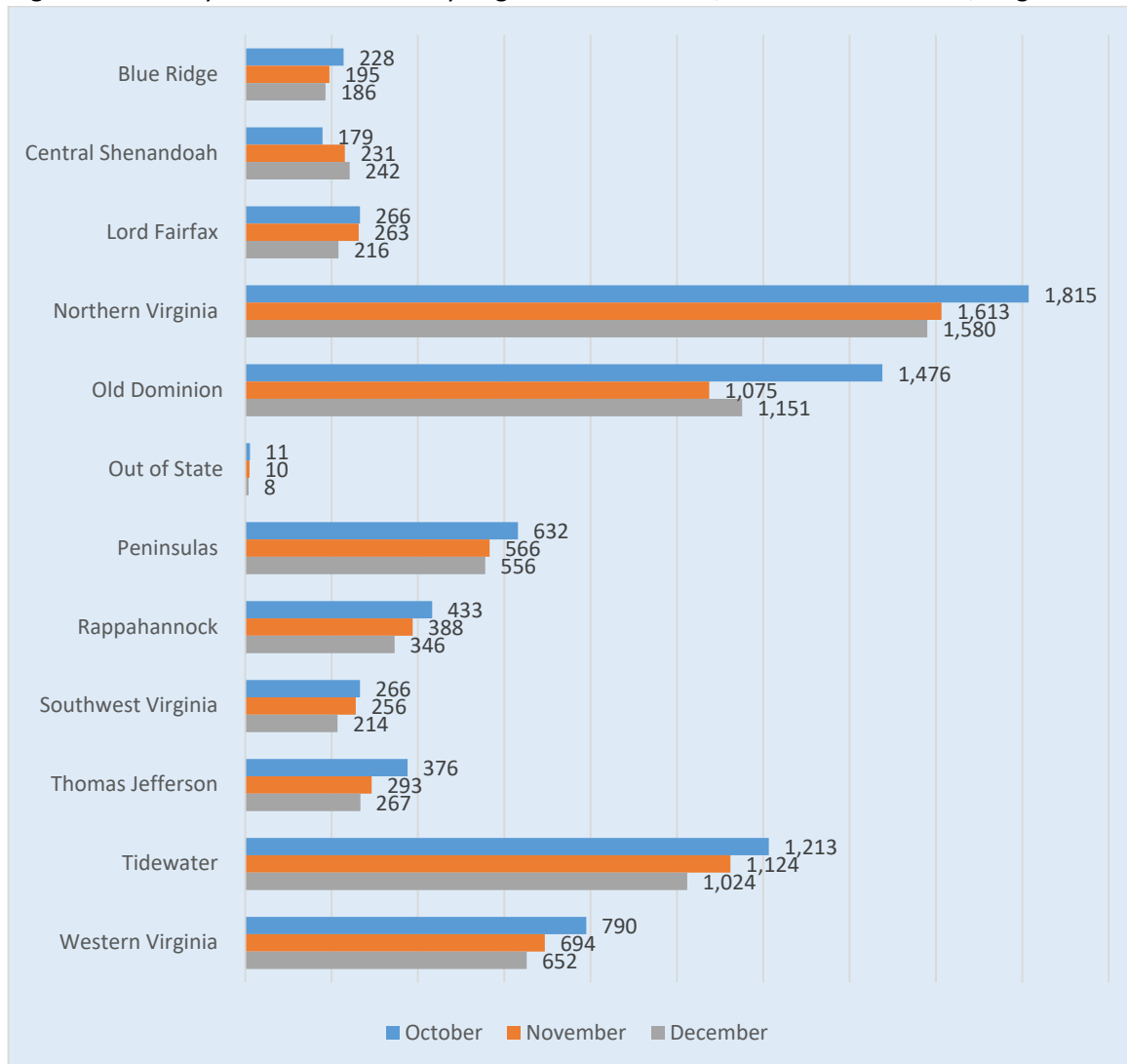


Table 2. Trauma Incidents by Abbreviated Injury Scale (AIS) Body Region, Fourth Quarter 2021, Virginia

Body Region	Counts of Incidents
Head	4,095 (19.7%)
Face	1,498 (7.2%)
Neck	872 (4.2%)
Thorax	499 (2.4%)
Abdomen	405 (1.9%)
Spine	1,225 (5.9%)
Upper Extremity	2,763 (13.3%)
Lower Extremity	4,770 (22.9%)
Unspecified	4,626 (22.2%)
Multiple Injuries	82 (0.4%)

Table 3: Top Ten Hospital Destinations for Trauma Incidents, Fourth Quarter 2021, Virginia

Destination Hospital For Trauma Incidents	Counts of Incidents
Inova Fairfax Hospital	1,250 (6.0%)
Sentara Norfolk General Hospital	943 (4.5%)
Carilion Roanoke Memorial Hospital	869 (4.2%)
Riverside Regional Medical Center	822 (3.9%)
UVA Health System	652 (3.1%)
MWHC Mary Washington Hospital	640 (3.1%)
Sentara Northern Virginia Medical Center	594 (2.9%)
Virginia Hospital Center	572 (2.7%)
VCU Health Systems	565 (2.7%)
HCA Reston Hospital Center	541 (2.6%)

Table 4. Vital Signs Data Quality for Trauma Incidents, Fourth Quarter 2021, Virginia

Vital Signs Data Quality	Counts of Incidents
Total Number of Trauma Incidents	20,835
Patients with All 3 Vital Signs Reported	20,302 (97.4%)
Patients with Incomplete* Vital Signs	533 (2.6%)
Patients with Systolic Blood Pressure Reported	20,773 (99.7%)
Patients with Respiratory Rate Reported	20,658 (99.2%)
Patients with Glasgow Coma Score Reported	20,495 (98.4%)

\*Incomplete vital signs are missing one or more of the vital signs required in Step 1 of the Trauma Triage algorithm (e.g., Systolic Blood Pressure, Respiratory Rate, or Glasgow Coma Score).

### Trauma Incidents Meeting Virginia Trauma Triage Criteria

- Of the 20,835 trauma incidents reported by EMS during the fourth quarter of 2021, 1,564 (7.5%) met Trauma Triage Step 1 criteria, 454 (2.2%) met Step 2 criteria, and 374 (1.8%) met Step 3 criteria. Incidents can meet criteria for more than one step; those incidents were classified into the highest severity level met. For example, if an incident met both Step 1 and Step 2 criteria, it was counted as a Step 1 incident.
- Among the incidents meeting Step 1 criteria, 1,322 (84.5%) were classified as meeting Step 1 based on reported vital signs (see Appendix 1). The remaining 242 (15.5%) incidents were classified as meeting Step 1 based on the provider’s impression, as reported in the “Trauma Center Criteria” field in the patient care report.
- Incidents meeting Step 2 and Step 3 were based solely on the “Trauma Center Criteria” and “Vehicular, Pedestrian, or Other Injury Risk Factor” fields.

### Pediatric Patients (Age < 15)

Trauma patients <15 years old are considered pediatric patients per trauma triage criteria. Of the 20,835 trauma incidents reported by EMS during the fourth quarter of 2021, 1,052 (5.0%) occurred among pediatric patients. Of the 1,564 Virginia trauma incidents meeting Step 1 trauma criteria, 147 (9.4%) occurred among pediatric patients (further details are shown below).

Table 5. Hospital Destination Type for Pediatric Patients Meeting Step 1 Criteria by Regional EMS Council, Fourth Quarter 2021, Virginia

Regional EMS Council	Met Step 1	Trauma Hospital				Non-Trauma Hospital
		Level I	Level II	Level III	Pediatric Trauma Center	
Blue Ridge	5	0	5	0	0	0
Central Shenandoah	4	0	0	0	0	4
Lord Fairfax	7	0	5	0	0	2
Northern	31	10	4	9	2	6
Old Dominion	22	5	1	2	6	8
Peninsulas	12	0	5	0	2	5
Rappahannock	16	1	8	0	0	7
Southwest	5	1	0	0	0	4
Thomas Jefferson	8	8	0	0	0	0
Tidewater	22	0	0	0	16	6
Western	15	0	0	2	9	4
Out of State	0	0	0	0	0	0
<b>Grand Total</b>	<b>147</b>	<b>25 (17.0%)</b>	<b>28 (19.0%)</b>	<b>13 (8.8%)</b>	<b>35 (23.8%)</b>	<b>46 (31.3%)</b>

- There were 59 incidents involving pediatric patients that met Step 1 trauma criteria that were taken to a Level III trauma center or lower designation.
- Among the 454 incidents meeting Step 2 criteria during the fourth quarter of 2021, 15 (3.3%) occurred among pediatric patients. Four (26.7%) were taken to a pediatric trauma center, 4 (26.7%) were taken to a Level I trauma center, 2 (13.3%) were taken to a Level II trauma center, and 5 (33.3%) was taken to non-trauma designated hospitals.
- Of the 374 incidents that met Step 3 criteria during the fourth quarter of 2021, 23 (6.1%) occurred among pediatric patients. Eight (34.8%) were taken to a pediatric trauma center, 6 (26.1%) were taken to a Level I trauma center, 7 (30.4%) were taken to a Level II trauma center, and 2 (8.7%) were taken to non-trauma designated hospitals.
- There were 116 pediatric patients who received a medication other than oxygen. Of those, 78 (67.2%) patients had a weight recorded.

### Geriatric Patients (Age ≥ 65)

There were 9,022 (43.3% of total trauma incidents) reports of trauma among geriatric patients during the fourth quarter of 2021. Of the 1,564 Virginia trauma incidents meeting Step 1 trauma criteria, 624 (40.0%) occurred among geriatric patients (further details are shown below).

Table 6. Hospital Destination Type for Geriatric Patients Meeting Step 1 Criteria by Regional EMS Council, Fourth Quarter 2021, Virginia

Regional EMS Council	Met Step 1	Trauma Hospital			Non-Trauma Hospital
		Level I	Level II	Level III	
Blue Ridge	21	4	16	0	1
Central Shenandoah	10	0	0	0	10
Lord Fairfax	24	1	12	0	11
Northern	129	49	34	18	28
Old Dominion	133	26	28	21	58
Peninsulas	53	1	24	0	28
Rappahannock	42	1	23	0	18
Southwest	22	1	2	0	19
Thomas Jefferson	27	16	1	0	10
Tidewater	85	19	2	29	35
Western	76	29	0	9	38
Out of State	2	2	0	0	0
<b>Grand Total</b>	<b>624</b>	<b>149 (23.9%)</b>	<b>142 (22.8%)</b>	<b>77 (12.3%)</b>	<b>256 (41.0%)</b>

- There were 333 incidents involving geriatric patients who met Step 1 trauma criteria who were taken to a Level III trauma center or lower designation.
- Of the 256 geriatric patients who met Step 1 criteria and were taken to non-trauma designated hospitals, 31 (12.1%) had an EMS provider primary impression of an isolated hip injury.



- Among the 454 incidents meeting Step 2 criteria during the fourth quarter of 2021, 99 (21.8%) occurred among geriatric patients. Of those, 39 (39.4%) patients were taken to a Level I trauma center, 26 (26.3%) were taken to a Level II trauma center, 7 (7.1%) were taken to a Level III trauma center, and 27 (27.3%) were taken to non-trauma designated hospitals.
- Of the 374 incidents that met Step 3 criteria during the fourth quarter of 2021, 64 (17.1%) occurred among geriatric patients. Nineteen (29.7%) patients were taken to a Level I trauma center, 9 (14.1%) were taken to a Level II trauma center, 9 (14.1%) were taken to a Level III trauma center, and 27 (42.2%) were taken to non-trauma designated hospitals.

**Adult Patients (15 ≥ Age < 65)**

The majority of the 20,835 trauma cases that occurred during the fourth quarter of 2021 were among adult patients (n=10,753, 51.6% of all trauma incidents). Of the 1,564 Virginia trauma incidents meeting Step 1 trauma criteria, 790 (50.5%) occurred among adult patients. The hospital destination type for adult trauma incidents meeting Step 1 criteria is shown below by Regional EMS Council (Table 7).

Table 7. Hospital Destination Type for Adult Patients Meeting Step 1 Criteria by Regional EMS Council, Fourth Quarter 2021, Virginia

Regional EMS Council	Met Step 1	Trauma Hospital			Non-Trauma Hospital
		Level I	Level II	Level III	
Blue Ridge	23	7	15	0	1
Central Shenandoah	8	1	0	0	7
Lord Fairfax	17	0	14	0	3
Northern	196	97	52	25	22
Old Dominion	160	79	12	28	41
Peninsulas	61	3	38	0	20
Rappahannock	36	3	22	0	11
Southwest	29	2	3	0	24
Thomas Jefferson	33	31	1	0	1
Tidewater	147	73	2	37	35
Western	78	42	0	8	28
Out of State	2	2	0	0	0
<b>Grand Total</b>	<b>790</b>	<b>340 (43.0%)</b>	<b>159 (20.1%)</b>	<b>98 (12.4%)</b>	<b>193 (24.4%)</b>

- There were 291 incidents involving adult patients who met Step 1 trauma criteria who were taken to a Level III trauma center or lower designation.
- Among the 454 incidents meeting Step 2 criteria during the fourth quarter of 2021, 339 (74.7%) occurred among adult patients. Of those, 206 (60.8%) patients were taken to a Level I trauma center, 60 (17.7%) patients were taken to a Level II trauma center, 35 (10.3%) were taken to a Level III trauma center, and 38 (11.2%) patients were taken to non-trauma designated hospitals.

- Among the 374 incidents meeting Step 3 criteria during the fourth quarter of 2021, 287 (76.7%) occurred among adult patients. Of those, 131 (45.6%) were taken to a Level I trauma center, 70 (24.4%) patients were taken to a Level II trauma center, 40 (13.9%) were taken to a Level III trauma center, and 46 (16.0%) patients were taken to non-trauma designated hospitals.

### Air-Medical EMS Transport

There were 293 trauma patient transports by an air-medical ambulance during the fourth quarter of 2021. Of those:

- Fifteen (5.1%) were pediatric transports, of which:
  - Eight (53.3%) were taken to a pediatric trauma center, 6 (40.0%) were taken to a Level I trauma center, and 1 (6.7%) was taken to a non-trauma center.
- Seventy-one (24.2%) were geriatric transports, of which:
  - Fifty-eight (81.7%) were taken to a Level I trauma center, 8 (11.3%) were taken to a Level II trauma center, 1 (1.4%) was taken to a Level III trauma center, and 4 (5.6%) were taken to a non-trauma designated hospital.
- Two-hundred and five (70.0%) were adult transports, of which:
  - One hundred and seventy-seven (86.3%) were taken to a Level I trauma center, 14 (6.8%) were taken to a Level II trauma center, 3 (1.5%) were taken to a Level III trauma center, and 11 (5.4%) were taken to a non-trauma designated hospital.
- Two trauma patients (0.7%) transported by air medical were of unknown age; both were taken to a Level I trauma center.

### Causes of Injury

Trauma patient records were analyzed to identify the causes of injuries in the Commonwealth of Virginia. Fall injuries occurred most commonly, followed by motor vehicle collision injuries. Causes of injury for the fourth quarter of 2021 are shown in Table 8.

Table 8. Frequencies and Percentages of Causes of Injury, Fourth Quarter 2021, Virginia

Causes of Injury	Frequency	Percentage of the Total
Falls, slips/trips	8,681	41.7%
MVC-related	4,588	22.0%
Blunt force trauma	979	4.7%
Penetrating trauma	480	2.3%
Firearm	283	1.4%
Non-motorized transport	217	1.0%
Machine-related	181	0.9%
Animal-related	126	0.6%
Burn, smoke inhalation, electrocution, explosion	84	0.4%
Self-harm	52	0.2%
Recreational	30	0.1%
Abuse	20	0.1%

Table 8. Frequencies and Percentages of Causes of Injury, Fourth Quarter 2021, Virginia (continued)

Causes of Injury	Frequency	Percentage of the Total
Asphyxiation	13	0.1%
Poisoning	13	0.1%
Overexertion/strain	11	0.1%
Environment/weather related	5	<0.1%
Human bite	3	<0.1%
Aircraft	2	<0.1%
Drowning	1	<0.1%
Unspecified	5,066	24.3%
<b>Grand Total</b>	<b>20,835</b>	<b>100.0%</b>

### Under-Triage of Trauma Incidents

A trauma incident is considered to be under-triaged if the incident met Step 1 or Step 2 trauma triage criteria and the patient was taken to either a Level III trauma center or a non-trauma designated hospital, or if the incident met Step 3 trauma triage criteria and the patient was taken to a non-trauma designated hospital. Injuries to the head, arms, or legs occurred most often among the under-triaged incidents (Table 9).

Table 9. Frequencies and Percentages of Under-Triaged Trauma Patients by AIS Body Region of Injury, Fourth Quarter 2021, Virginia

AIS Region	Frequency	Percentage among Under-Triaged Patients
Unspecified	255	29.3%
Head	227	26.1%
Lower Extremities	162	18.6%
Upper Extremities	88	10.1%
Face	56	6.4%
Spine	22	2.5%
Abdomen	21	2.4%
Neck	16	1.8%
Thorax	15	1.7%
Multiple	8	0.9%
<b>Grand Total</b>	<b>870</b>	<b>100%</b>



- **Atypical Vital Signs:** Atypical vital signs are vitals with extreme values. The cutoff values for vitals to be considered atypical are chosen arbitrarily only for quality check and validation purposes. For this report, systolic blood pressures with values of less than 40 or greater than 250 and respiratory rates of less than 3 or greater than 100 were deemed extreme values. There were 26 instances of extreme systolic blood pressures and 27 instances of extreme respiratory rates, totaling 53 instances of extreme values. Thirty percent of the incidents were randomly selected for further review.
  - Among reviewed incidents with extreme values, 37.5% of the values were supported by the narrative and are therefore considered to be valid. Data from 10 (62.5%) incidents suggested data entry errors of the atypical vital sign occurred.
- **Blank Trauma Triage Criteria:** There were 18,305 trauma incidents where the “Trauma Center Criteria” field and the “Vehicular, Pedestrian, or Other Injury Risk Factor” fields were both blank. It is understandable that not all trauma incidents meet trauma triage criteria; however, some of these records are incorrectly classified or do not report important information.
  - Of those incidents, 853 (4.7%) had recorded vitals meeting Step 1 trauma triage criteria.
  - Step 2 and Step 3 trauma incidents may also be missing trauma triage criteria and therefore may also be incorrectly classified. However, Steps 2 and 3 trauma triage criteria are not based on vital signs, so the exact amount of misclassification cannot be identified.
- **Blank Age**
  - There were three trauma incident records where age was left blank and an additional five incidents where quality assurance of the patient record revealed the age was unknown. Of those eight incidents, three met Step 1 trauma triage criteria and one met Step 2 trauma triage criteria. All four patients were taken to a Level I Trauma Center.
    - Of the remaining four incidents where patient age was unknown, the reported respiratory rate for three patients was between 10 and 20. Patients less than 1 year of age with a respiratory rate between 10 and 20 meet Step 1 criteria. However, these patients could not be classified as Step 1 because their age was unknown.

## Conclusions

Many factors influence the decision regarding where a patient is transported. As noted above, trauma centers are not equally distributed across Virginia. In some areas (Southwest Virginia and Northern Virginia), out of state trauma center resources are available. Despite having a total of 12 Level I and Level II trauma centers (combined) in Virginia, as well as access to several other similar facilities in surrounding states, large areas of Virginia remain underserved. The variability of resources across Virginia is often compounded by geographic and (especially in the case of Helicopter or Medevac EMS) weather factors. Although a solution to this problem is beyond the scope of this report, this variability needs to be considered when comparing the outcomes of pre-hospital trauma patients in Virginia.

Missing vital signs data in EMS records continues to be an area of focus for performance improvement efforts. Currently, about one out of every 39 patients (2.6%) have incomplete vital signs data. During the fourth quarter of 2021, 31.6% of patients who met Step 1 trauma triage criteria and

15.4% of patients who met Step 2 criteria were taken to non-trauma centers. Acknowledging these data, there may be a need to re-examine how trauma triage criteria are being applied in the field, with an eye towards the existing barriers to trauma center access, including the absence of trauma centers in broad swaths of Virginia. Whether the addition of trauma center resources would allow for improved access and care requires further study.

OEMS staff performed quality assurance on trauma triage data from the fourth quarter of 2021. Specifically, the data values that were reviewed included the vital signs used in Step 1 trauma triage criteria designation, atypical vital sign values, and trauma triage criteria fields listed as not applicable, not recorded, or blank. OEMS will continue to perform these data quality checks and will summarize findings for inclusion in future trauma triage reports.

Appendix 1: Elite v3 Data Dictionary Elements for Trauma Triage Vital Signs and Trauma Triage Criteria

**eVitals.06 - SBP (Systolic Blood Pressure)**

Definition

The patient's systolic blood pressure.

National Element	Yes	Pertinent Negatives (PN)	Yes
State Element	Yes	NOT Values	Yes
Version 2 Element	E14_04	Is Nillable	Yes
Usage	Required	Recurrence	1 : 1

Associated Performance Measure Initiatives

Airway    Cardiac Arrest    Pediatric    STEMI    Stroke    Trauma

Attributes

**NOT Values (NV)**

7701001 - Not Applicable                      7701003 - Not Recorded

**Pertinent Negatives (PN)**

8801005 - Exam Finding Not Present    8801019 - Refused                      8801023 - Unable to Complete

Constraints

Data Type	minInclusive	maxInclusive
integer	0	500

Data Element Comment

Required for ACS-Field Triage and other patient scoring systems.

**eVitals.14 - Respiratory Rate**

Definition

The patient's respiratory rate expressed as a number per minute.

National Element	Yes	Pertinent Negatives (PN)	Yes
State Element	Yes	NOT Values	Yes
Version 2 Element	E14_11	Is Nillable	Yes
Usage	Required	Recurrence	1 : 1

Associated Performance Measure Initiatives

Airway    Cardiac Arrest    Pediatric    STEMI    Stroke    Trauma

Attributes

**NOT Values (NV)**

7701001 - Not Applicable                      7701003 - Not Recorded

**Pertinent Negatives (PN)**

8801005 - Exam Finding Not Present    8801019 - Refused                      8801023 - Unable to Complete

Constraints

Data Type	minInclusive	maxInclusive
integer	0	300

Data Element Comment



## eVitals.23 - Total Glasgow Coma Score

### Definition

The patient's total Glasgow Coma Score.

National Element	No	Pertinent Negatives (PN)	Yes
State Element	Yes	NOT Values	Yes
Version 2 Element	E14_19	Is Nillable	Yes
Usage	Required	Recurrence	1 : 1

### Associated Performance Measure Initiatives

Airway    Cardiac Arrest    Pediatric    STEMI    Stroke    Trauma

### Attributes

#### NOT Values (NV)

7701001 - Not Applicable

7701003 - Not Recorded

7701005 - Not Reporting

#### Pertinent Negatives (PN)

8801019 - Refused

8801023 - Unable to Complete

### Constraints

Data Type	minInclusive	maxInclusive
integer	3	15

### Data Element Comment

Can be documented or calculated from EVitals.19 (GCS-Eye), EVitals.20 (GCS-Verbal), and EVitals.21 (GCS-Motor).



## eInjury.03 - Trauma Center Criteria

### Definition

Physiologic and Anatomic Field Trauma Triage Criteria (steps 1 and 2) as defined by the Centers for Disease Control.

National Element	Yes	Pertinent Negatives (PN)	No
State Element	Yes	NOT Values	Yes
Version 2 Element		Is Nillable	Yes
Usage	Required	Recurrence	1 : M

### Associated Performance Measure Initiatives

Trauma

### Attributes

#### NOT Values (NV)

7701001 - Not Applicable                      7701003 - Not Recorded

#### CorrelationID

**Data Type:** string                      **minLength:** 0                      **maxLength:** 255

### Code List

Code	Description
2903001	Amputation proximal to wrist or ankle
2903003	Crushed, degloved, mangled, or pulseless extremity
2903005	Chest wall instability or deformity (e.g., flail chest)
2903007	Glasgow Coma Score <= 13
2903009	Open or depressed skull fracture
2903011	Paralysis
2903013	Pelvic fractures
2903015	All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
2903017	Respiratory Rate <10 or >29 breaths per minute (<20 in infants aged <1 year) or need for ventilatory support
2903019	Systolic Blood Pressure <90 mmHg
2903021	Two or more proximal long-bone fractures

### Data Element Comment

2011 Guidelines for the Field Triage of Injured Patients - value choices for Steps 1 and 2. For falls, one story is equal to 10 feet.

Code 7701001 - Not Applicable should be used when none of the values listed in the code list for element eInjury.03 apply.

### Version 3 Changes Implemented

Added to better evaluate the CDC-ACS 2011 Guidelines for the Field Triage of Injured Patients.

Website: <http://www.cdc.gov/FieldTriage/>