
Virginia Department of Health

Office of Emergency Medical Services (OEMS)

Quarterly Report on EMS Incidents

Q3 2024

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This report is based on analyses requested by the Medical Direction Committee and performed by Office of EMS Epidemiology staff. The accuracy of the data within this report is limited by system performance and the accuracy of data submissions from EMS agencies.

Quarter 3 2024 data for this report was collected from the ESO Pre-hospital Data System (NEMSIS version 3.4 and 3.5) on December 2 and 17, 2024. Importantly, many records submitted by Virginia EMS agencies for incidents occurring during the third quarter of 2024 failed to pass established validation rules and are not counted in the dataset used for this report (see Table 1).

Table 1. Counts of Failed Records by Month, Third Quarter, 2024, Virginia

| Month | Total Failed Records |
|-----------|----------------------|
| July | 7,254 |
| August | 3,960 |
| September | 3,511 |

Virginia EMS Call Summary, Third Quarter, 2024

EMS agencies in Virginia responded to a total of 447,096 EMS calls during the third quarter of 2024 (see Tables 2—5 and Figure 1).

Table 2. Number of EMS Incidents by Type of Service Requested and Disposition, Third Quarter, 2024, Virginia

| Incident/ Patient Disposition | Type of Service Requested | | | | | | | | Total |
|--|---------------------------|-----------------------|-------------------------|-------------------|--------------|-------------------------------|--------------|----------|----------------|
| | 911 Response (Scene) | Intercept/ Rendezvous | Interfacility Transport | Medical Transport | Mutual Aid | Public Assistance/ Not Listed | Standby | Blank | |
| Assist (Agency, Public, or Unit) | 8,148 | 22 | 43 | 14 | 54 | 875 | 220 | 0 | 9,376 |
| Canceled (Prior to Arrival at Scene or On Scene) | 60,108 | 176 | 1,301 | 1,026 | 553 | 2,104 | 789 | 1 | 66,058 |
| Patient Dead at Scene (with and without resuscitation; with and without transport) | 2,139 | 9 | 37 | 23 | 9 | 60 | 0 | 0 | 2,277 |
| Patient Evaluated, No Treatment/Transport Required | 5,309 | 11 | 12 | 18 | 15 | 268 | 7 | 0 | 5,640 |
| Patient Refused Evaluation/Care (with or without transport) | 26,275 | 76 | 65 | 106 | 81 | 729 | 79 | 0 | 27,411 |
| Patient Treated, Released (AMA or per protocol) | 17,760 | 37 | 74 | 304 | 44 | 744 | 72 | 1 | 19,036 |
| Patient Treated, Transferred Care to Another EMS Unit | 14,414 | 54 | 139 | 145 | 66 | 379 | 34 | 1 | 15,232 |
| Patient Treated, Transported by Law Enforcement | 210 | 3 | 0 | 4 | 0 | 12 | 0 | 0 | 229 |
| Patient Treated, Transported by Private Vehicle | 563 | 6 | 1 | 0 | 0 | 45 | 1 | 0 | 616 |
| Patient Treated, Transported by this Unit | 190,678 | 579 | 46,176 | 50,368 | 526 | 3,722 | 134 | 0 | 292,183 |
| Standby (no services/support provided or public safety, fire, or EMS operational support provided) | 6,745 | 17 | 43 | 20 | 85 | 1,161 | 841 | 0 | 8,912 |
| Transport Non-Patient, Organs, etc. | 3 | 0 | 21 | 10 | 0 | 27 | 8 | 0 | 69 |
| Blank | 46 | 0 | 1 | 2 | 2 | 2 | 0 | 4 | 57 |
| Total | 332,398 | 990 | 47,913 | 52,040 | 1,435 | 10,128 | 2,185 | 7 | 447,096 |

Table 3. Number of EMS Incidents by Type of Service Requested and Age Group, Third Quarter, 2024, Virginia

| Type of Service Requested | Age Group | | | | | | | Total |
|-------------------------------------|--------------|--------------|--------------|---------------|----------------|----------------|---------------|----------------|
| | 0-4 years | 5-12 years | 13-17 years | 18-24 years | 25-64 years | 65 and older | Unknown | |
| 911 Response (Scene) | 4,892 | 4,305 | 5,652 | 15,756 | 112,574 | 116,699 | 72,520 | 332,398 |
| Intercept/ Rendezvous | 16 | 17 | 10 | 48 | 338 | 338 | 223 | 990 |
| Interfacility Transport | 1,272 | 978 | 1,098 | 1,534 | 17,834 | 24,706 | 491 | 47,913 |
| Medical Transport | 248 | 224 | 315 | 326 | 12,609 | 38,084 | 234 | 52,040 |
| Mutual Aid | 15 | 17 | 20 | 46 | 336 | 336 | 665 | 1,435 |
| Public Assistance/ Other Not Listed | 123 | 94 | 125 | 303 | 2,485 | 3,688 | 3,310 | 10,128 |
| Standby | 12 | 20 | 44 | 27 | 171 | 86 | 1,825 | 2,815 |
| Blank | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 7 |
| Total | 6,578 | 5,655 | 7,264 | 18,041 | 146,347 | 183,937 | 79,274 | 447,096 |

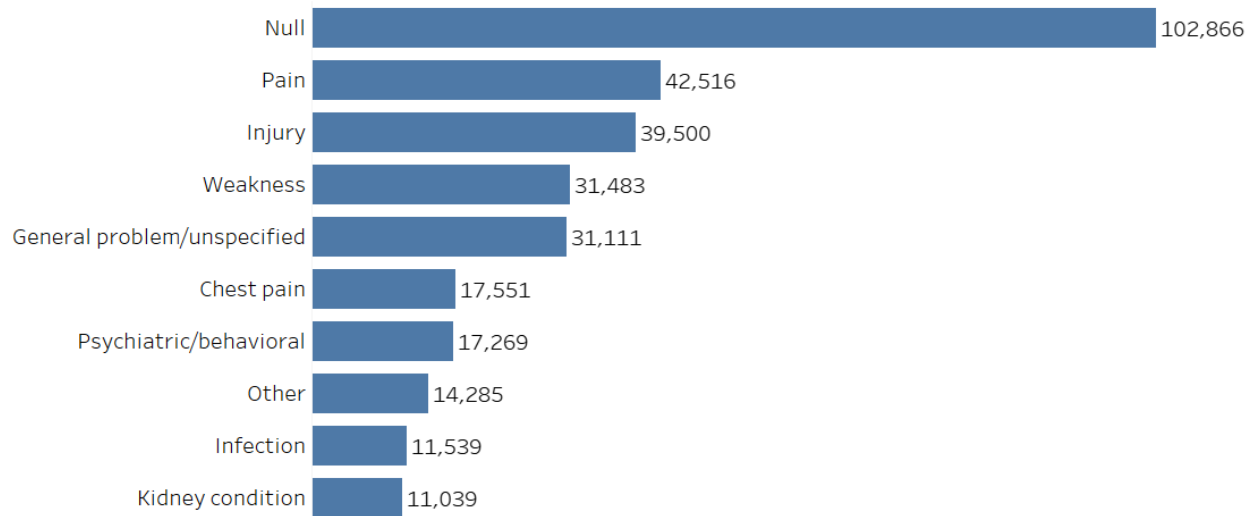
Table 4. Number of EMS Incidents by Patient Disposition and Age Group, Third Quarter, 2024, Virginia

| Incident/ Patient Disposition | Age Group | | | | | | | Total |
|--|-----------|------------|-------------|-------------|-------------|--------------|---------|--------|
| | 0-4 years | 5-12 years | 13-17 years | 18-24 years | 25-64 years | 65 and older | Unknown | |
| Assist (Agency, Public, or Unit) | 64 | 34 | 40 | 63 | 466 | 918 | 7,791 | 9,376 |
| Canceled (Prior to Arrival at Scene or On Scene) | 291 | 186 | 180 | 252 | 1,663 | 2,342 | 61,144 | 66,058 |
| Patient Dead at Scene (with and without resuscitation; with and without transport) | 18 | 6 | 13 | 39 | 863 | 1,324 | 14 | 2,277 |
| Patient Evaluated, No Treatment/ Transport Required | 257 | 170 | 195 | 432 | 2,249 | 2,311 | 26 | 5,640 |

Table 4 (continued). Number of EMS Incidents by Patient Disposition and Age Group, Third Quarter, 2024, Virginia

| Incident/ Patient Disposition | Age Group | | | | | | | Total |
|--|--------------|--------------|--------------|---------------|----------------|----------------|---------------|----------------|
| | 0-4 years | 5-12 years | 13-17 years | 18-24 years | 25-64 years | 65 and older | Unknown | |
| Patient Refused Evaluation/Care (with or without transport) | 782 | 793 | 1,013 | 2,673 | 12,622 | 9,127 | 401 | 27,411 |
| Patient Treated, Released (AMA or per protocol) | 495 | 466 | 570 | 1,406 | 8,018 | 7,614 | 467 | 19,036 |
| Patient Treated, Transferred Care to Another EMS Unit | 269 | 215 | 299 | 847 | 6,359 | 5,994 | 1,249 | 15,232 |
| Patient Treated, Transported by Law Enforcement | 0 | 3 | 11 | 30 | 156 | 27 | 2 | 229 |
| Patient Treated, Transported by Private Vehicle | 50 | 53 | 40 | 68 | 238 | 166 | 1 | 616 |
| Patient Treated, Transported by this EMS Unit | 4,311 | 3,706 | 4,880 | 12,193 | 113,442 | 153,549 | 102 | 292,183 |
| Standby (no services/support provided or public safety, fire, or EMS operational support provided) | 35 | 23 | 21 | 35 | 231 | 524 | 8,043 | 8,912 |
| Transport Non-Patient, Organs, etc. | 5 | 0 | 2 | 2 | 29 | 30 | 1 | 69 |
| Blank | 1 | 0 | 0 | 1 | 11 | 11 | 33 | 57 |
| Total | 6,578 | 5,655 | 7,264 | 18,041 | 146,347 | 183,937 | 79,274 | 447,096 |

Figure 1. All EMS Incidents by Top 10 Primary Impression Categories, Third Quarter, 2024, Virginia



Of the 447,096 total EMS calls that occurred during the third quarter of 2024, a total of 190,678 (42.6%) represented emergency response incidents (i.e., incidents with a Type of Service Requested equal to “911 Response (Scene)” and a Patient Disposition of “Patient Treated, Transported by this EMS Unit”).

Figure 2. Emergency Responses by Top 10 Primary Impression Categories, Third Quarter, 2024, Virginia

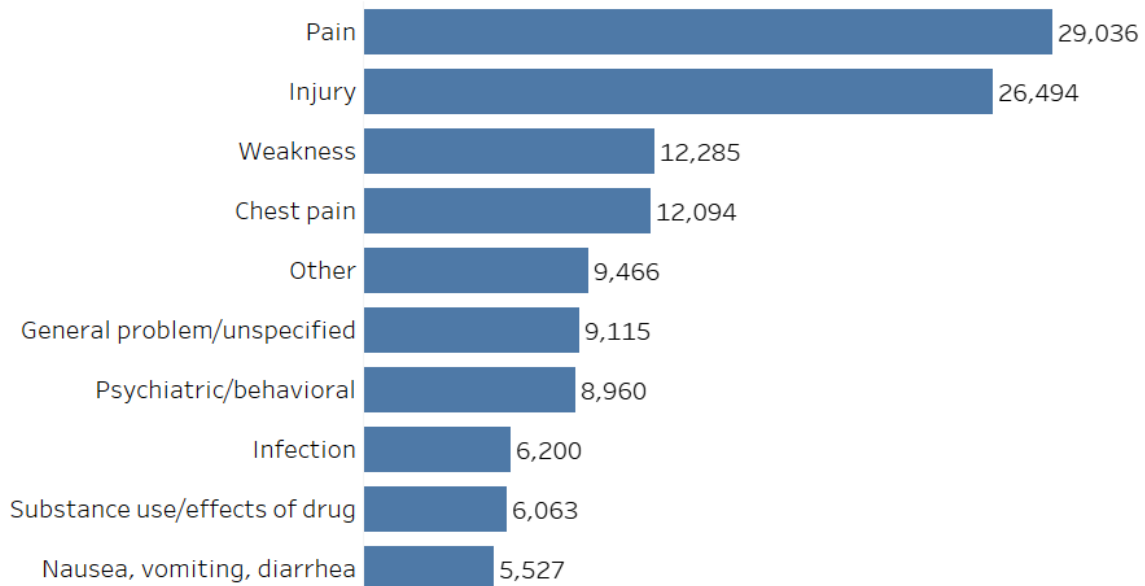


Table 5. Top 10 Primary Impressions for Emergency Responses by Patient Age Group, Third Quarter, 2024, Virginia

| Provider Primary Impression | Age Group | | | | | | |
|-----------------------------------|------------------------------------|---------------------------------|--|------------------------------------|------------------------------------|------------------------------------|---|
| | 0-4 years | 5-12 years | 13-17 years | 18-24 years | 25-64 years | 65 and older | Unknown |
| 1 | Seizure/ convulsions | Injury | Injury | Injury | Pain | Pain | Injury |
| 2 | Injury | Seizure/ convulsions | Psychiatric/ behavioral | Pain | Injury | Injury | Substance use/ effects of drug |
| 3 | General problem/ unspecified | Pain | Pain | Psychiatric/ behavioral | Chest pain | Weakness | General problem/ unspecified* |
| 4 | Fever | Allergic reaction | Seizure/ convulsions | Substance use/ effects of drug | Psychiatric/ behavioral | Other | Brain injury/death* |
| 5 | Fluid in/around the lungs | General problem/ unspecified | Syncope/near syncope | Seizure/ convulsions | Substance use/ effects of drug | Chest pain | Psychiatric/ behavioral |
| 6 | Infection | Fluid in/around the lungs | Substance use/ effects of drug | Chest pain | General problem/ unspecified | General problem/ unspecified | Cardiac arrest* |
| 7 | Allergic reaction | Asthma | Allergic reaction | General problem/ unspecified | Weakness | Infection | Awareness/ consciousness problem* |
| 8 | Other | Breathing abnormalities | General problem/ unspecified* Brain injury/ death* | Nausea, vomiting, diarrhea | Other | Breathing abnormalities | Seizures/ convulsions* |
| 9 | Breathing abnormalities | Psychiatric/ behavioral | | Syncope/near syncope | Seizures/ convulsions | Nausea, vomiting, diarrhea | Other* |
| 10 | Nausea, vomiting, diarrhea | Infection | Other | Obstetric condition | Nausea, vomiting, diarrhea | Fluid in/around the lungs | Weakness* Pain* |

*Multiple Provider Primary Impressions were tied for the rankings denoted by an asterisk.

Chest Pain Emergency Responses

Importantly, a provider impression of “chest pain” can include multiple causes of chest pain, not specific or limited to chest pain of cardiac causes.

Non-Traumatic Chest Pain

Non-traumatic chest pain incidents are defined as those with a primary impression that includes the words “chest pain,” “myocardial infarction,” or “angina”. Incidents with a response of “yes” in the possible injury (esituation.02) field and/or that have a primary impression that includes the words “injury,” “trauma,” or “burn” are excluded. Twelve-lead acquisition is defined as ECG type (evitals.04) or Procedure (eprocedures.03) = 12 lead-left sided (normal), 12 lead-right sided, 15 lead, or 18 lead. Of the 190,678 emergency response incidents reported by EMS during the third quarter of 2024, 10,790 (5.7%) non-traumatic chest pain incidents were identified in patients 35 years of age and older. Of these, a total of 9,110 (84.4%) patients had 12-lead acquisition and 5,920 (54.9%) had aspirin administration documented in the record, either taken daily or administered by EMS.

Table 6. Emergency Responses Among Non-Traumatic Chest Pain Patients ≥ 35 Years of Age with 12-lead Acquisition by EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Number Patients | Number of Patients with 12-Lead Acquisition | Percent With 12-Lead Acquisition Documented | Percent Without 12-Lead Acquisition Documented |
|----------------------|-----------------|---|---|--|
| Blue Ridge | 414 | 349 | 84.3 | 15.7 |
| Central Shenandoah | 486 | 442 | 90.9 | 9.1 |
| Lord Fairfax | 376 | 354 | 94.1 | 5.9 |
| Northern Virginia | 1,618 | 1,234 | 76.3 | 23.7 |
| Old Dominion | 2,181 | 1,557 | 71.4 | 28.6 |
| Peninsulas | 925 | 869 | 93.9 | 6.1 |
| Rappahannock | 645 | 615 | 95.3 | 4.7 |
| Southwest Virginia | 576 | 437 | 75.9 | 24.1 |
| Thomas Jefferson | 412 | 386 | 93.7 | 6.3 |
| Tidewater | 1,952 | 1,807 | 92.6 | 7.4 |
| Western Virginia | 1,198 | 1,055 | 88.1 | 11.9 |
| Out of State | 7 | 5 | 71.4 | 28.6 |
| Total | 10,790 | 9,110 | 84.4 | 15.6 |

Table 7. Emergency Responses Among Non-Traumatic Chest Pain Patients ≥ 35 Years of Age with Aspirin Administration* by EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Number Patients | Number of Patients with Aspirin Administration | Percent With Aspirin Administration Documented | Percent Without Aspirin Administration Documented |
|----------------------|-----------------|--|--|---|
| Blue Ridge | 414 | 263 | 63.5 | 36.5 |
| Central Shenandoah | 486 | 275 | 56.6 | 43.4 |
| Lord Fairfax | 376 | 187 | 49.7 | 50.3 |
| Northern Virginia | 1,618 | 749 | 46.3 | 53.7 |
| Old Dominion | 2,181 | 1,254 | 57.5 | 42.5 |
| Peninsulas | 925 | 505 | 54.6 | 45.4 |
| Rappahannock | 645 | 398 | 61.7 | 38.3 |
| Southwest Virginia | 576 | 324 | 56.3 | 43.8 |
| Thomas Jefferson | 412 | 263 | 63.8 | 36.2 |
| Tidewater | 1,952 | 1,102 | 56.5 | 43.5 |
| Western Virginia | 1,198 | 598 | 49.9 | 50.1 |
| Out of State | 7 | 2 | 28.6 | 71.4 |
| Total | 10,790 | 5,920 | 54.9 | 45.1 |

*Includes documentation of medication administration or relevant pertinent negative.

Narrative Review

Of the 4,870 non-traumatic chest pain incidents occurring in patients ≥ 35 years of age without aspirin administration or a pertinent negative documented, 25 incidents were randomly selected for narrative review. For three (12.0%) patients, aspirin was administered prior to the arrival of EMS. The remaining 22 (88.0%) records did not have aspirin administration or a pertinent negative documented in the narrative.

STEMI Patients

STEMI incidents are defined as those with a documented:

- impression or symptom of myocardial infarction, or
- impression or symptom of unstable angina or angina pectoris and a cardiac rhythm of left bundle branch block, or
- cardiac rhythm of STEMI, or
- STEMI protocol used, or
- STEMI pre-arrival activation.

Time to receive an EKG is defined as the difference between the date/time the EMS clinician arrived at the patient and the date/time an EKG was performed. Of the 190,678 emergency response incidents reported by EMS during the third quarter of 2024, 963 (0.5%) STEMI incidents were identified. Of these, 729 (75.7%) patients had 12-lead acquisition, with 889 (92.3%) records containing information on the time between arrival at patient and when an EKG was performed. Of these 889 records, time to receive an EKG ranged from 0 minutes to 1 hour and 7 minutes. It took a median of 6 minutes and 20 seconds and an average of 8 minutes and 8 seconds for the 889 STEMI patients to receive an EKG.

Stroke Emergency Responses

Stroke incidents are defined as those with a documented primary/secondary impression/symptom of stroke, a positive stroke scale score, a destination activation for stroke, or a stroke/TIA protocol used by an EMS clinician. Of the 190,678 emergency response incidents reported by EMS during the third quarter of 2024, 4,846 (2.5%) stroke incidents were identified. Of the stroke incidents, 3,941 (81.3%) documented the performance of a stroke scale or a pertinent negative, 4,362 (90.0%) had a blood glucose or pertinent negative recorded, and 4,819 (99.4%) had the date/time the patient was last known well or the date/time of the patient's symptom onset recorded. For 1,216 (25.1%) patients, the interval between symptom onset and EMS clinician arrival at the patient was greater than 4.5 hours and less than 24 hours.

Table 8. Emergency Responses Among Stroke Patients by Destination Hospital Stroke Certification Level and EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Number Stroke Patients | Number (%) Across) of Patients Transported to Out of State Facilities | Number (%) Across) of Patients Not Transported to a Certified Facility | Number (%) Across) of Patients Transported to Acute Stroke Ready Facilities | Number (%) Across) of Patients Transported to Primary Stroke Centers | Number (%) Across) of Patients Transported to Thrombectomy Capable Hospitals | Number (%) Across) of Patients Transported to Comprehensive Stroke Centers |
|----------------------|------------------------|---|--|---|--|--|--|
| Blue Ridge | 234 | 0 (0.0) | 9 (3.8) | 0 (0.0) | 1 (0.4) | 223 (95.3) | 1 (0.4) |
| Central Shenandoah | 144 | 0 (0.0) | 22 (15.3) | 0 (0.0) | 118 (81.9) | 1 (0.7) | 3 (2.1) |
| Lord Fairfax | 97 | 0 (0.0) | 18 (18.6) | 0 (0.0) | 79 (81.4) | 0 (0.0) | 0 (0.0) |
| Northern Virginia | 818 | 5 (0.6) | 46 (5.6) | 28 (3.4) | 334 (40.8) | 96 (11.7) | 309 (37.8) |
| Old Dominion | 1,071 | 0 (0.0) | 90 (8.4) | 6 (0.6) | 424 (39.6) | 7 (0.7) | 544 (50.8) |
| Peninsulas | 332 | 0 (0.0) | 9 (2.7) | 0 (0.0) | 113 (34.0) | 0 (0.0) | 210 (63.3) |
| Rappahannock | 305 | 0 (0.0) | 45 (14.8) | 0 (0.0) | 232 (76.1) | 0 (0.0) | 28 (9.2) |
| Southwest Virginia | 213 | 49 (23.0) | 123 (57.7) | 0 (0.0) | 39 (18.3) | 2 (0.9) | 0 (0.0) |
| Thomas Jefferson | 208 | 0 (0.0) | 4 (1.9) | 0 (0.0) | 7 (3.4) | 1 (0.5) | 196 (94.2) |
| Tidewater | 912 | 10 (1.1) | 28 (3.1) | 36 (3.9) | 534 (58.6) | 0 (0.0) | 304 (33.3) |
| Western Virginia | 496 | 5 (1.0) | 107 (21.6) | 36 (7.3) | 162 (32.7) | 186 (37.5) | 0 (0.0) |
| Out of State | 16 | 11 (68.8) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 5 (31.3) | 0 (0.0) |
| Total | 4,846 | 80 (1.7) | 501 (10.3) | 106 (2.2) | 2,043 (42.2) | 521 (10.8) | 1,595 (32.9) |

Table 9. Emergency Responses Among Stroke Patients with Symptom Onset Between 4.5 and 24 Hours Prior to EMS Arrival by Destination Hospital Stroke Certification Level and EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Number Stroke Patients | Number (% Across) of Patients Transported to Out of State Facilities | Number (% Across) of Patients Not Transported to a Certified Facility | Number (% Across) of Patients Transported to Acute Stroke Ready Facilities | Number (% Across) of Patients Transported to Primary Stroke Centers | Number (% Across) of Patients Transported to Thrombectomy Capable Hospitals | Number (% Across) of Patients Transported to Comprehensive Stroke Centers |
|----------------------|------------------------|--|---|--|---|---|---|
| Blue Ridge | 60 | 0 (0.0) | 1 (1.7) | 0 (0.0) | 0 (0.0) | 59 (98.3) | 0 (0.0) |
| Central Shenandoah | 49 | 0 (0.0) | 6 (12.2) | 0 (0.0) | 43 (87.8) | 0 (0.0) | 0 (0.0) |
| Lord Fairfax | 27 | 0 (0.0) | 4 (14.8) | 0 (0.0) | 23 (85.2) | 0 (0.0) | 0 (0.0) |
| Northern Virginia | 209 | 1 (0.5) | 12 (5.7) | 2 (1.0) | 82 (39.2) | 26 (12.4) | 86 (41.1) |
| Old Dominion | 242 | 0 (0.0) | 16 (6.6) | 3 (1.2) | 93 (38.4) | 3 (1.2) | 127 (52.5) |
| Peninsulas | 85 | 0 (0.0) | 4 (4.7) | 0 (0.0) | 25 (29.4) | 0 (0.0) | 56 (65.9) |
| Rappahannock | 72 | 0 (0.0) | 10 (13.9) | 0 (0.0) | 52 (72.2) | 0 (0.0) | 10 (13.9) |
| Southwest Virginia | 48 | 8 (16.7) | 28 (58.3) | 0 (0.0) | 11 (22.9) | 1 (2.1) | 0 (0.0) |
| Thomas Jefferson | 40 | 0 (0.0) | 1 (2.5) | 0 (0.0) | 2 (5.0) | 0 (0.0) | 37 (92.5) |
| Tidewater | 268 | 4 (1.5) | 7 (2.6) | 6 (2.2) | 150 (56.0) | 0 (0.0) | 101 (37.7) |
| Western Virginia | 116 | 2 (1.7) | 23 (19.8) | 11 (9.5) | 37 (31.9) | 43 (37.1) | 0 (0.0) |
| Out of State | 0 | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| Total | 1,216 | 15 (1.2) | 112 (9.2) | 22 (1.8) | 518 (42.6) | 132 (10.9) | 417 (34.3) |

Trauma Emergency Responses

Trauma incidents are defined as those meeting the criteria outlined in the VDH Office of EMS quarterly report on trauma incidents. Step 1, 2, and 3 trauma incidents are defined as those meeting the Virginia Field Trauma Triage Decision Scheme. Of the 190,678 emergency response incidents reported by EMS during the third quarter of 2024, 27,891 (14.6%) trauma incidents were identified; 22 (0.1%) of the trauma patients were noted to be in cardiac arrest. In addition, a total of 87 (0.3%) of the 27,891 trauma patients were noted to be part of a mass casualty incident (MCI). Of the 27,782 patients not in cardiac arrest or part of an MCI, a total of 1,957 (7.0%) Step 1 patients, 323 (1.2%) Step 2 patients, 475 (1.7%) Step 3 patients, and 25,027 (90.1%) patients not meeting step criteria were noted. Details on the transport of Step 1, 2, and 3 trauma patients who were not in cardiac arrest and not part of an MCI can be found in Tables 10—12.

Table 10. Emergency Responses Among non-MCI Step 1 Trauma Patients Not in Cardiac Arrest Transported to a Level 1/Pediatric or Level 2 Trauma Center by EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Number Trauma Patients | Number (% Across) of Patients Transported to Level 1 Trauma Center | Number (% Across) of Patients Transported to Level 2 Trauma Center |
|----------------------|------------------------|--|--|
| Blue Ridge | 55 | 8 (14.5) | 42 (76.4) |
| Central Shenandoah | 60 | 5 (8.3) | 0 (0.0) |
| Lord Fairfax | 58 | 1 (1.7) | 32 (55.2) |
| Northern Virginia | 406 | 168 (41.4) | 73 (18.0) |
| Old Dominion | 459 | 229 (49.9) | 56 (12.2) |
| Peninsulas | 120 | 2 (1.7) | 75 (62.5) |
| Rappahannock | 87 | 4 (4.6) | 58 (66.7) |
| Southwest Virginia | 93 | 10 (10.8) | 1 (1.1) |
| Thomas Jefferson | 63 | 55 (87.3) | 2 (3.2) |
| Tidewater | 372 | 134 (36.0) | 18 (4.8) |
| Western Virginia | 182 | 62 (34.1) | 20 (11.0) |
| Out of State | 2 | 1 (50.0) | 0 (0.0) |
| Total | 1,957 | 679 (34.7) | 377 (19.3) |

Table 11. Emergency Responses Among non-MCI Step 2 Trauma Patients Not in Cardiac Arrest Transported to a Level 1/Pediatric or Level 2 Trauma Center by EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Number Trauma Patients | Number (% Across) of Patients Transported to Level 1 Trauma Center | Number (% Across) of Patients Transported to Level 2 Trauma Center |
|----------------------|------------------------|--|--|
| Blue Ridge | 6 | 2 (33.3) | 4 (66.7) |
| Central Shenandoah | 9 | 2 (22.2) | 0 (0.0) |
| Lord Fairfax | 1 | 0 (0.0) | 1 (100.0) |
| Northern Virginia | 67 | 35 (52.2) | 9 (13.4) |
| Old Dominion | 83 | 65 (78.3) | 5 (6.0) |
| Peninsulas | 14 | 1 (7.1) | 13 (92.9) |
| Rappahannock | 19 | 1 (5.3) | 17 (89.5) |
| Southwest Virginia | 24 | 7 (29.2) | 2 (8.3) |
| Thomas Jefferson | 6 | 6 (100.0) | 0 (0.0) |
| Tidewater | 68 | 36 (52.9) | 9 (13.2) |
| Western Virginia | 26 | 13 (50.0) | 1 (3.8) |
| Out of State | 0 | 0 (0.0) | 0 (0.0) |
| Total | 323 | 168 (52.0) | 61 (18.9) |

Table 12. Emergency Responses Among non-MCI Step 3 Trauma Patients Not in Cardiac Arrest Transported to a Level 1/Pediatric, Level 2, or Level 3 Trauma Center by EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Number Trauma Patients | Number (% Across) of Patients Transported to Level 1 Trauma Center | Number (% Across) of Patients Transported to Level 2 Trauma Center | Number (% Across) of Patients Transported to Level 3 Trauma Center |
|----------------------|------------------------|--|--|--|
| Blue Ridge | 17 | 3 (17.6) | 13 (76.5) | 0 (0.0) |
| Central Shenandoah | 7 | 1 (14.3) | 0 (0.0) | 0 (0.0) |
| Lord Fairfax | 4 | 0 (0.0) | 1 (25.0) | 0 (0.0) |
| Northern Virginia | 76 | 24 (31.6) | 17 (22.4) | 27 (35.5) |
| Old Dominion | 93 | 56 (60.2) | 14 (15.1) | 13 (14.0) |
| Peninsulas | 29 | 2 (6.9) | 24 (82.8) | 0 (0.0) |
| Rappahannock | 30 | 0 (0.0) | 27 (90.0) | 1 (3.3) |
| Southwest Virginia | 34 | 6 (17.6) | 0 (0.0) | 7 (20.6) |
| Thomas Jefferson | 11 | 7 (63.6) | 1 (9.1) | 0 (0.0) |
| Tidewater | 135 | 63 (46.7) | 6 (4.4) | 61 (45.2) |
| Western Virginia | 39 | 10 (25.6) | 3 (7.7) | 15 (38.5) |
| Out of State | 0 | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| Total | 475 | 172 (36.2) | 106 (22.3) | 124 (26.1) |

Pain Emergency Responses

Pain incidents are defined as those with documented pain scale scores between 4 and 10. Patients with a primary impression of chest pain are excluded.

Pain Scale Score 4—6

Of the 190,678 emergency response incidents reported by EMS during the third quarter of 2024, 21,442 (11.2%) incidents occurred among patients with a pain score of 4—6. For 17,736 (82.7%) of the incidents, an ALS-level crew member was involved in the response, while 3,706 (17.3%) incidents involved only BLS-level crew members. Among ALS-level incidents, 2,154 (12.1%) involved administration of an analgesic, while 27 (0.7%) BLS-level incidents documented analgesic administration, for a total of 2,181 patients who received an analgesic (additional details provided in Tables 13—15). By age group, 104 (0.5%) incidents occurred among patients younger than 5 years of age, 306 (1.4%) incidents occurred among patients 5—12 years of age, 499 (2.3%) incidents occurred among patients 13—17 years of age, 1,540 (7.2%) incidents occurred among patients 18—24 years of age, 9,921 (46.3%) incidents occurred among patients 25—64 years of age, 9,066 (42.3%) incidents occurred among patients 65 years of age and older, and 6 (<0.1%) incidents occurred in patients whose age was not documented.

Crew Member Level Data Quality (Pain Scale Score 4—6)

The NEMSIS v3.5 data fields Crew Member Level (eCrew.02) and Level of Care Provided per Protocol (eDisposition.32) both capture information on the level of care provided to a patient by the responding unit. Crew Member Level reflects the functioning levels of the crew members during the EMS patient encounter and Level of Care Provided per Protocol reflects the general level of care provided to a patient as defined per provider level in local EMS protocols or clinical guidelines. In defining the methodology to analyze ALS and BLS incidents in this and subsequent sections, it is worthwhile to evaluate the alignment of these two fields.

According to Crew Member Level (eCrew.02), there were 17,736 (82.7%) incidents with at least one ALS-level crew member and 3,706 (17.3%) incidents with only BLS-level crew members involved in the response. In contrast, according to Level of Care Provided per Protocol (eDisposition.32), 12,143 (56.6%) incidents involved an ALS-level protocol, 8,692 (40.5%) incidents involved a BLS-level protocol, and 607 (2.8%) records reported some other protocol documentation (i.e., No Care Provided, EMS and Other Health-Care Staff, Critical Care, blank).

Of the 17,736 incidents with an ALS-level crew member (eCrew.02), 11,949 (67.4%) documented ALS-level protocols (eDisposition.32) whereas 5,272 (29.7%) documented only BLS-level protocols. The remaining 515 (2.9%) incidents with an ALS-level crew member reported some other protocol documentation. Among the 11,942 incidents with alignment between the ALS-level crew member and ALS-level protocols, 1,937 (16.2%) documented analgesic administration. In contrast, among the 5,272 incidents with an ALS-level crew member and only BLS-protocols, only 74 (1.4%) documented analgesic administration. These discrepancies suggest data quality concerns may exist between the two fields. However, there may be specific reasons for misalignment between the level of care able to be provided by crew members present on scene and the level of care provided per protocol, such as available resources, drive times, or other factors impacting patient care. This should be taken into consideration when evaluating the subsequent analyses, which utilize Crew Member Level (eCrew.02) to define ALS and BLS incidents.

Narrative Review (Pain Scale Score 4—6)

Of the 15,582 incidents involving ALS-level crew members that occurred among patients with a pain score of 4—6 without analgesic administration or a pertinent negative documented, 25 incidents were randomly selected for narrative review. For one (4.0%) record, the narrative noted an analgesic was administered prior to arrival of EMS. For one (4.0%) additional record, a contraindication for one analgesic was documented. None of the remaining 23 (92.0%) records had analgesic administration or a pertinent negative documented in the narrative.

Table 13. Emergency Responses Among Patients with a Pain Score of 4—6 and Analgesic Administration* by Age Group and Crew Member Level, Third Quarter 2024, Virginia

| Age Group | Incidents Involving an ALS-Level Crew Member | | Incidents Involving Only BLS-Level Crew Members | |
|--------------|--|---|---|---|
| | Number of Pain Patients | Number (Percent) of Patients Receiving an Analgesic | Number of Pain Patients | Number (Percent) of Patients Receiving an Analgesic |
| 0-4 years | 81 | 4 (4.9) | 23 | 0 (0.0) |
| 5-12 years | 243 | 37 (15.2) | 63 | 0 (0.0) |
| 13-17 years | 400 | 78 (19.5) | 99 | 1 (1.0) |
| 18-24 years | 1,262 | 204 (16.2) | 278 | 1 (0.4) |
| 25-64 years | 8,323 | 1,066 (12.8) | 1,598 | 10 (0.6) |
| 65+ years | 7,422 | 765 (10.3) | 1,644 | 15 (0.9) |
| Unknown | 5 | 0 (0.0) | 1 | 0 (0.0) |
| Total | 17,736 | 2,154 (12.1) | 3,706 | 27 (0.7) |

*Includes documentation of medication administration or relevant pertinent negative.

Table 14. Emergency Responses Among Patients with Pain Score of 4—6 and Analgesic Administration* by EMS Regional Council and Crew Member Level, Third Quarter 2024, Virginia

| EMS Regional Council | Incidents Involving an ALS-Level Crew Member | | Incidents Involving Only BLS-Level Crew Members | |
|----------------------|--|---|---|---|
| | Number Pain Patients | Number (Percent) of Patients Receiving an Analgesic | Number of Pain Patients | Number (Percent) of Patients Receiving an Analgesic |
| Blue Ridge | 1,097 | 147 (13.4) | 30 | 0 (0.0) |
| Central Shenandoah | 717 | 103 (14.4) | 149 | 5 (3.4) |
| Lord Fairfax | 428 | 27 (6.3) | 107 | 1 (0.9) |
| Northern Virginia | 2,942 | 334 (11.4) | 1,043 | 7 (0.7) |
| Old Dominion | 3,241 | 264 (8.1) | 935 | 3 (0.3) |
| Peninsulas | 1,649 | 133 (8.1) | 60 | 2 (3.3) |
| Rappahannock | 1,223 | 288 (23.5) | 266 | 0 (0.0) |
| Southwest Virginia | 1,154 | 149 (12.9) | 283 | 4 (1.4) |
| Thomas Jefferson | 589 | 133 (22.6) | 63 | 0 (0.0) |
| Tidewater | 2,839 | 320 (11.3) | 248 | 1 (0.4) |
| Western Virginia | 1,835 | 246 (13.4) | 522 | 4 (0.8) |
| Out of State | 22 | 10 (45.5) | 0 | 0 (0.0) |
| Total | 17,736 | 2,154 (12.1) | 3,706 | 27 (0.7) |

*Includes documentation of medication administration or relevant pertinent negative.

Table 15. Analgesics Administered to Patients with Pain Score of 4—6, Third Quarter 2024, Virginia

| Analgesic Administered | Number Analgesic Administrations† | Percent of Analgesics Administered |
|------------------------|-----------------------------------|------------------------------------|
| Acetaminophen/Tylenol | 51 | 2.3 |
| Dilaudid/Hydromorphone | 1 | <0.1 |
| Fentanyl | 1,686 | 74.8 |
| Ibuprofen/Motrin | 12 | 0.5 |
| Ketamine | 82 | 3.6 |
| Ketorolac/Toradol | 197 | 8.7 |
| Morphine | 226 | 10.0 |
| Total | 2,255 | 100.0 |

†The number of analgesic administrations is higher than the number of patients receiving an analgesic, as patients may receive more than one medication during an incident.

Pain scale score 7—10

During the third quarter of 2024, 28,999 (15.2% of 190,678) incidents occurred among patients with a pain score between 7 and 10. For 22,380 (77.2%) of the incidents, an ALS-level crew member was involved in the response, while 6,619 (22.8%) incidents involved only BLS-level crew members. Among ALS-level incidents, 4,435 (19.8%) involved administration of an analgesic, while 58 (0.9%) BLS-level incidents documented analgesic administration, for a total of 4,493 patients who received an analgesic (additional details provided in Tables 16—18). By age group, 58 (0.2%) incidents occurred among patients younger than 5 years of age, 288 (1.0%) incidents occurred among patients 5—12 years of age, 547 (1.9%) incidents occurred among patients 13—17 years of age, 1,843 (6.4%) incidents occurred among patients 18—24 years of age, 15,759 (54.3%) incidents occurred among patients 25—64 years of age, 10,495 (36.2%) incidents occurred among patients 65 years of age and older, and 9 (<0.1%) incidents occurred in patients whose age was not documented.

Crew Member Level Data Quality (Pain Scale Score 7—10)

The NEMSIS v3.5 data fields Crew Member Level (eCrew.02) and Level of Care Provided per Protocol (eDisposition.32) both capture information on the level of care provided to a patient by the responding unit. Crew Member Level reflects the functioning levels of the crew members during the EMS patient encounter and Level of Care Provided per Protocol reflects the general level of care provided to a patient as defined per provider level in local EMS protocols or clinical guidelines. In defining the methodology to analyze ALS and BLS incidents in this and subsequent sections, it is worthwhile to evaluate the alignment of these two fields.

According to Crew Member Level (eCrew.02), there were 22,380 (77.2%) incidents with at least one ALS-level crew member and 6,619 (22.8%) incidents with only BLS-level crew members involved in the response. In contrast, according to Level of Care Provided per Protocol (eDisposition.32), 15,050 (51.9%) incidents involved an ALS-level protocol, 13,414 (46.3%) incidents involved a BLS-level protocol, and 535 (1.8%) records reported some other protocol documentation (i.e., No Care Provided, EMS and Other Health-Care Staff, Integrated Health Care, Critical Care, blank).

Of the 22,380 incidents with an ALS-level crew member (eCrew.02), 14,722 (65.8%) documented ALS-level protocols (eDisposition.32) whereas 7,223 (32.3%) documented only BLS-level protocols. The remaining 435 (1.9%) incidents with an ALS-level crew member reported some other protocol documentation. Among the 14,722 incidents with alignment between the ALS-level crew member and ALS-level protocols, 4,121 (28.0%) documented analgesic administration. In contrast, among the 7,223 incidents with an ALS-level crew member and only BLS-protocols, only 142 (2.0%) documented analgesic administration. These discrepancies suggest data quality concerns may exist between the two fields. However, there may be specific reasons for misalignment between the level of care able to be provided by crew members present on scene and the level of care provided per protocol, such as available resources, drive times, or other factors impacting patient care. This should be taken into consideration when evaluating the subsequent analyses, which utilize Crew Member Level (eCrew.02) to define ALS and BLS incidents.

Narrative Review (Pain Scale Score 7—10)

Of the 17,945 incidents involving ALS-level crew members that occurred among patients with a pain score of 7—10 without analgesic administration or a pertinent negative documented, 25 incidents were randomly selected for narrative review. For one (4.0%) of the records, an analgesic was noted in the patient's current medication list, without indication of whether the patient had taken the medication that day. None of the 24 (96.0%) other records had analgesic administration or a pertinent negative documented in the narrative.

Table 16. Emergency Responses Among Patients with Pain Score of 7—10 and Analgesic Administration* by Age Group and Crew Member Level, Third Quarter 2024, Virginia

| Age Group | Incidents Involving an ALS-Level Crew Member | | Incidents Involving Only BLS-Level Crew Members | |
|--------------------|--|---|---|---|
| | Number Pain Patients | Number (Percent) of Patients Receiving an Analgesic | Number of Pain Patients | Number (Percent) of Patients Receiving an Analgesic |
| 0—4 years | 45 | 12 (26.7) | 13 | 0 (0.0) |
| 5—12 years | 216 | 72 (33.3) | 72 | 4 (5.6) |
| 13—17 years | 419 | 131 (31.3) | 128 | 3 (2.3) |
| 18—24 years | 1,440 | 340 (23.6) | 403 | 2 (0.5) |
| 25—64 years | 12,344 | 2,381 (19.3) | 3,415 | 28 (0.8) |
| 65 years and older | 7,907 | 1,497 (18.9) | 2,588 | 21 (0.8) |
| Unknown | 9 | 2 (22.2) | 0 | 0 (0.0) |
| Total | 22,380 | 4,435 (19.8) | 6,619 | 58 (0.9) |

*Includes documentation of medication administration or relevant pertinent negative.

Table 17. Emergency Responses Among Patients with Pain Score of 7—10 and Analgesic Administration* by EMS Regional Council and Crew Member Level, Third Quarter 2024, Virginia

| EMS Regional Council | Incidents Involving an ALS-Level Crew Member | | Incidents Involving Only BLS-Level Crew Members | |
|----------------------|--|---|---|---|
| | Number Pain Patients | Number (Percent) of Patients Receiving an Analgesic | Number of Pain Patients | Number (Percent) of Patients Receiving an Analgesic |
| Blue Ridge | 981 | 271 (27.6) | 50 | 0 (0.0) |
| Central Shenandoah | 883 | 217 (24.6) | 329 | 7 (2.1) |
| Lord Fairfax | 756 | 91 (12.0) | 233 | 1 (0.4) |
| Northern Virginia | 2,880 | 745 (25.9) | 1,632 | 25 (1.5) |
| Old Dominion | 5,221 | 615 (11.8) | 2,128 | 4 (0.2) |
| Peninsulas | 2,362 | 318 (13.5) | 60 | 3 (5.0) |
| Rappahannock | 1,253 | 505 (40.3) | 309 | 5 (1.6) |
| Southwest Virginia | 1,141 | 238 (20.9) | 371 | 4 (1.1) |
| Thomas Jefferson | 839 | 247 (29.4) | 158 | 0 (0.0) |
| Tidewater | 3,870 | 728 (18.8) | 507 | 1 (0.2) |
| Western Virginia | 2,177 | 447 (20.5) | 842 | 8 (1.0) |
| Out of State | 17 | 13 (76.5) | 0 | 0 (0.0) |
| Total | 22,380 | 4,435 (19.8) | 6,619 | 58 (0.9) |

*Includes documentation of medication administration or relevant pertinent negative.

Table 18. Analgesics Administered to Patients with Pain Score of 7—10, Third Quarter 2024, Virginia

| Analgesic Administered | Number Analgesic Administrations [†] | Percent of Analgesics Administered |
|------------------------|---|------------------------------------|
| Acetaminophen/Tylenol | 67 | 1.4 |
| Dilaudid/Hydromorphone | 1 | <0.1 |
| Fentanyl | 3,597 | 76.4 |
| Ibuprofen/Motrin | 9 | 0.2 |
| Ketamine | 226 | 4.8 |
| Ketorolac/Toradol | 371 | 7.9 |
| Morphine | 435 | 9.2 |
| Total | 4,706 | 100.0 |

[†]The number of analgesic administrations is higher than the number of patients receiving an analgesic, as patients may receive more than one medication during an incident.

Pediatric (<15 Years) Pain Emergency Responses

During the third quarter of 2024, 986 incidents with a recorded pain score between 4 and 10 were identified among patients younger than 15 years of age. For 758 (76.9%) of the incidents, an ALS-level crew member was involved in the response, while 228 (23.1%) incidents involved only BLS-level crew members. Among ALS-level incidents, 146 (19.3%) involved administration of an analgesic, while 6 (2.6%) BLS-level incidents documented analgesic administration, for a total of 152 patients who received an analgesic (additional details provided in Tables 19—20).

Table 19. Emergency Responses Among Pediatric Patients with Pain Score of 4—10 and Analgesic Administration* by EMS Regional Council and Crew Member Level, Third Quarter 2024, Virginia

| EMS Regional Council | Incidents Involving an ALS-Level Crew Member | | Incidents Involving Only BLS-Level Crew Members | |
|----------------------|--|---|---|---|
| | Number Pediatric Pain Patients | Number (Percent) of Patients Receiving an Analgesic | Number Pediatric Pain Patients | Number (Percent) of Patients Receiving an Analgesic |
| Blue Ridge | 42 | 13 (31.0) | 0 | 0 (0.0) |
| Central Shenandoah | 26 | 9 (34.6) | 8 | 0 (0.0) |
| Lord Fairfax | 20 | 0 (0.0) | 6 | 0 (0.0) |
| Northern Virginia | 163 | 40 (24.5) | 85 | 5 (5.9) |
| Old Dominion | 152 | 17 (11.2) | 72 | 0 (0.0) |
| Peninsulas | 71 | 7 (9.9) | 3 | 0 (0.0) |
| Rappahannock | 44 | 8 (18.2) | 19 | 1 (5.3) |
| Southwest Virginia | 31 | 6 (19.4) | 4 | 0 (0.0) |
| Thomas Jefferson | 21 | 2 (9.5) | 0 | 0 (0.0) |
| Tidewater | 112 | 28 (25.0) | 12 | 0 (0.0) |
| Western Virginia | 74 | 15 (20.3) | 19 | 0 (0.0) |
| Out of State | 2 | 1 (50.0) | 0 | 0 (0.0) |
| Total | 758 | 146 (19.3) | 228 | 6 (2.6) |

*Includes documentation of medication administration or relevant pertinent negative.

Table 20. Analgesics Administered to Pediatric Patients with Pain Score of 4—10, Third Quarter 2024, Virginia

| Analgesic Administered | Number Analgesic Administrations† | Percent of Analgesics Administered |
|------------------------|-----------------------------------|------------------------------------|
| Acetaminophen/Tylenol | 3 | 1.9 |
| Dilaudid/Hydromorphone | 0 | 0.0 |
| Fentanyl | 125 | 78.6 |
| Ibuprofen/Motrin | 1 | 0.6 |
| Ketamine | 8 | 5.0 |
| Ketorolac/Toradol | 7 | 4.4 |
| Morphine | 15 | 9.4 |
| Total | 159 | 100.0 |

†The number of analgesic administrations is higher than the number of patients receiving an analgesic, as patients may receive more than one medication during an incident.

Asthma Emergency Responses

Asthma incidents are defined as those with a primary impression that includes the words “asthma” or “reactive airway” or with a protocol that includes the word “asthma”. Patients with a primary impression of chronic obstructive pulmonary disease are excluded. Of the 190,678 emergency response incidents reported by EMS during the third quarter of 2024, 1,841 (1.0%) asthma incidents were identified. For 1,710 (92.9%) of the incidents, an ALS-level crew member was involved in the response, while 131 (7.1%) incidents involved only BLS-level crew members. By age group, 22 (1.2%) incidents occurred among patients younger than two years of age, 170 (9.2%) incidents occurred among patients 2 – 17 years of age, and 1,649 (89.6%) incidents occurred among patients older than 18 years of age. A total of 747 (40.6%) incidents had no steroid, magnesium, or Albuterol/ipratropium administration documented, while 1,094 (59.4%) incidents reported administration of at least one of the three medications or had a pertinent negative documented (additional details provided in Tables 21 – 26). Among ALS-level incidents, 664 had no steroid, magnesium, or Albuterol/ipratropium administration documented, while 83 BLS-level incidents had no steroid, magnesium, or Albuterol/ipratropium administration documented (additional details provided in Tables 23—26).

Narrative Review

Of the 664 asthma incidents involving ALS-level crew members that occurred among patients without steroid, magnesium, or Albuterol/ipratropium administration or a pertinent negative documented, 25 incidents were randomly selected for narrative review. Medication administration or a pertinent negative was documented in the narrative for 9 (36.0%) incidents. Of these 9:

- In one instance, use of a breathing treatment by EMS was noted in the narrative, with no detail provided on what medication was administered.
- In one instance, a contraindication for a steroid was noted in the narrative.
- In seven instances, Albuterol and/or DuoNeb was administered prior to arrival of EMS. For one of these patients, a steroid was also administered prior to EMS arrival. For another one of these patients, Albuterol, Atrovent, and DuoNeb were also administered by EMS.

The remaining 16 (64.0%) records did not have medication administration or a pertinent negative documented in the narrative.

Table 21. Emergency Responses Among Asthma Patients with Albuterol/Ipratropium Administration* by Age Group, Third Quarter 2024, Virginia

| Age Group | Number Asthma Patients | Number of Patients Receiving Albuterol/Ipratropium | Percent With Albuterol/Ipratropium Administration Documented | Percent Without Albuterol/Ipratropium Administration Documented |
|--------------|------------------------|--|--|---|
| < 2 years | 22 | 6 | 27.3 | 72.7 |
| 2 – 17 years | 170 | 116 | 68.2 | 31.8 |
| 18 and older | 1,649 | 955 | 57.9 | 42.1 |
| Total | 1,841 | 1,077 | 58.5 | 41.5 |

*Includes documentation of medication administration or relevant pertinent negative.

Table 22. Emergency Responses Among Asthma Patients with Albuterol/Ipratropium Administration* by EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Number Asthma Patients | Number of Patients Receiving Albuterol/Ipratropium | Percent With Albuterol/Ipratropium Administration Documented | Percent Without Albuterol/Ipratropium Administration Documented |
|----------------------|------------------------|--|--|---|
| Blue Ridge | 44 | 31 | 70.5 | 29.5 |
| Central Shenandoah | 41 | 21 | 51.2 | 48.8 |
| Lord Fairfax | 30 | 21 | 70.0 | 30.0 |
| Northern Virginia | 165 | 102 | 61.8 | 38.2 |
| Old Dominion | 279 | 177 | 63.4 | 36.6 |
| Peninsulas | 171 | 124 | 72.5 | 27.5 |
| Rappahannock | 183 | 84 | 45.9 | 54.1 |
| Southwest Virginia | 190 | 88 | 46.3 | 53.7 |
| Thomas Jefferson | 61 | 41 | 67.2 | 32.8 |
| Tidewater | 438 | 266 | 60.7 | 39.3 |
| Western Virginia | 236 | 122 | 51.7 | 48.3 |
| Out of State | 3 | 0 | 0.0 | 100.0 |
| Total | 1,841 | 1,077 | 58.5 | 41.5 |

*Includes documentation of medication administration or relevant pertinent negative.

Table 23. Emergency Responses Among Asthma Patients with Steroid Administration* by Age Group and Crew Member Level, Third Quarter 2024, Virginia

| Age Group | <i>Incidents Involving an ALS-Level Crew Member</i> | | <i>Incidents Involving Only BLS-Level Crew Members</i> | |
|--------------|---|---|--|---|
| | Number Asthma Patients | Number (Percent) Patients Receiving a Steroid | Number Asthma Patients | Number (Percent) Patients Receiving a Steroid |
| < 2 years | 21 | 0 (0.0) | 1 | 0 (0.0) |
| 2 – 17 years | 158 | 23 (14.6) | 12 | 1 (8.3) |
| 18 and older | 1,531 | 352 (23.0) | 118 | 0 (0.0) |
| Total | 1,710 | 375 (21.9) | 131 | 1 (0.8) |

*Includes documentation of medication administration or relevant pertinent negative.

Table 24. Emergency Responses Among Asthma Patients with Steroid Administration* by EMS Regional Council and Crew Member Level, Third Quarter 2024, Virginia

| EMS Regional Council | Incidents Involving an ALS-Level Crew Member | | Incidents Involving Only BLS-Level Crew Members | |
|----------------------|--|---|---|---|
| | Number Asthma Patients | Number (Percent) Patients Receiving a Steroid | Number Asthma Patients | Number (Percent) Patients Receiving a Steroid |
| Blue Ridge | 42 | 21 (50.0) | 2 | 1 (50.0) |
| Central Shenandoah | 31 | 9 (29.0) | 10 | 0 (0.0) |
| Lord Fairfax | 29 | 14 (48.3) | 1 | 0 (0.0) |
| Northern Virginia | 159 | 38 (23.9) | 6 | 0 (0.0) |
| Old Dominion | 243 | 65 (26.7) | 36 | 0 (0.0) |
| Peninsulas | 171 | 62 (36.3) | 0 | 0 (0.0) |
| Rappahannock | 164 | 31 (18.9) | 19 | 0 (0.0) |
| Southwest Virginia | 172 | 26 (15.1) | 18 | 0 (0.0) |
| Thomas Jefferson | 56 | 10 (17.9) | 5 | 0 (0.0) |
| Tidewater | 430 | 54 (12.6) | 8 | 0 (0.0) |
| Western Virginia | 210 | 45 (21.4) | 26 | 0 (0.0) |
| Out of State | 3 | 0 (0.0) | 0 | 0 (0.0) |
| Total | 1,710 | 375 (21.9) | 131 | 1 (0.8) |

*Includes documentation of medication administration or relevant pertinent negative.

Table 25. Emergency Responses Among Asthma Patients with Magnesium Administration* by Age Group and Crew Member Level, Third Quarter 2024, Virginia

| Age Group | Incidents Involving an ALS-Level Crew Member | | Incidents Involving Only BLS-Level Crew Members | |
|--------------|--|---|---|---|
| | Number Asthma Patients | Number (Percent) Patients Receiving Magnesium | Number Asthma Patients | Number (Percent) Patients Receiving Magnesium |
| < 2 years | 21 | 0 (0.0) | 1 | 0 (0.0) |
| 2 – 17 years | 158 | 5 (3.2) | 12 | 0 (0.0) |
| 18 and older | 1,531 | 84 (5.5) | 118 | 0 (0.0) |
| Total | 1,710 | 89 (5.2) | 131 | 0 (0.0) |

*Includes documentation of medication administration or relevant pertinent negative.

Table 26. Emergency Responses Among Asthma Patients with Magnesium Administration* by EMS Regional Council, Third Quarter 2024, Virginia

| EMS Regional Council | Incidents Involving an ALS-Level Crew Member | | Incidents Involving Only BLS-Level Crew Members | |
|----------------------|--|---|---|---|
| | Number Asthma Patients | Number (Percent) Patients Receiving Magnesium | Number Asthma Patients | Number (Percent) Patients Receiving Magnesium |
| Blue Ridge | 42 | 8 (19.0) | 2 | 0 (0.0) |
| Central Shenandoah | 31 | 0 (0.0) | 10 | 0 (0.0) |
| Lord Fairfax | 29 | 1 (3.4) | 1 | 0 (0.0) |
| Northern Virginia | 159 | 7 (4.4) | 6 | 0 (0.0) |
| Old Dominion | 243 | 8 (3.3) | 36 | 0 (0.0) |
| Peninsulas | 171 | 9 (5.3) | 0 | 0 (0.0) |
| Rappahannock | 164 | 10 (6.1) | 19 | 0 (0.0) |
| Southwest Virginia | 172 | 0 (0.0) | 18 | 0 (0.0) |
| Thomas Jefferson | 56 | 1 (1.8) | 5 | 0 (0.0) |
| Tidewater | 430 | 40 (9.3) | 8 | 0 (0.0) |
| Western Virginia | 210 | 5 (2.4) | 26 | 0 (0.0) |
| Out of State | 3 | 0 (0.0) | 0 | 0 (0.0) |
| Total | 1,710 | 89 (5.2) | 131 | 0 (0.0) |

*Includes documentation of medication administration or relevant pertinent negative.