Peninsulas Emergency Medical Services Council, Inc.
Performance Improvement Committee
Regular Session

AGENDA

Thursday, September 12th, 2019

PEMS – Dunston Room

**Teleconference at* https://global.gotomeeting.com/join/549829429

Audio: (872) 240-3412 Access Code: 549-829-429

1. Call to Order

2. Introductions

3. Approval of Minutes
   - 06-13-19

4. Membership Changes

5. Staff Report
   - Contract Deliverables

6. Old Business

7. New Business

   - Review of VDH Q2 Trauma Triage Summary

8. Good of the Order
   - Membership Roundtable
     - EMS Education Initiatives 4th Quarter 2019 (April-June)
   - Next Meeting: **Thursday, December 12th, 2019 @ 3:00 p.m.**

   - Important Dates:
     - VA OEMS Symposium November 5th-10th, 2019
   - Verify Attendance

9. Adjournment to Executive Session
   - MIR Reviews – Paul Hoyle
     - 19-010
     - 19-014
     - 19-008
     - 19-013
     - 19-009
     - 10-016
     - 19-019
     - 19-058

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Peninsulas Emergency Medical Services Council, Inc.
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Gloucester, VA 23061
Office (804) 693-6234 - Fax (804) 693-6277

PEMS PIC Meeting Minutes

A Subcommittee of the Medical Advisors Committee

Meeting Date:9-12-19 **Meeting Location: PEMS Office** **Chaired By: L. Miller**

Begin Time: 3:05 p.m. **End Time: 3:52 p.m.** **Minutes Submitted By: S. Craig** **Draft ☐ Approved Date: 12-12-19**

Members Present:	Members Absent:	Staff:	Others:
Beam, Shanon	Balog, Tony	Bendit, Jeff	
Doak, Melissa	Baylous, Denise	Craig, Seth	
Erwin, Eleanor (TC)	Beck, Craig		
Messina, Lorie	Brann, Jimmy		
Miller, Lou Ann (Chair)	Coy, Damien		
Samuels, Gary	Davis, Linda		
Shahan, Phil (TC)	Klink, Shannon		
Thimons, Erica (TC)	McClain, Scott		
	Packett, Jamie		
	Parker, Sarah		
	Prata, Tony		
	Smith, Thamera		
	Stevens, Ashlee		

Item	Discussion	Action Required	By Whom/When
Call to Order	By L. Miller at 3:05 p.m.		
Introductions	Members introduced as listed above.		
Approval of Minutes	G. Samuels made a motion to approve the June 13th, 2019 Minutes as written. Motion was seconded by L. Messina and approved unanimously.		
Membership Changes	Member attendance from 9/27/18-03/14/19 were reviewed. G. Samuels will reach out to L. Davis, A. Stevens to determine if they will become involved in PIC or be removed from roster. L. Miller will follow up with C. Beck. P. Shahan made a motion to remove Jamie Packett from roster because he expressed not wantint to attend, and has not attended in at least a year. G. Samuels seconded the motion and it was approved unanimously.	Remove Jamie Packett from roster	P Hoyle/12/12/19

Item	Discussion	Action Required	By Whom/When
Staff Reports	S. Craig reported that PIC is on target to meet Contract Deliverables. Thanks to everyone for their efforts in improvimg EMS in the PEMS Region.		
Old Business	J. Bendit and Trauma committee reviewed VDH OEMS Quarterly report on Trauma Incidents. Several cases that were flagged by OEMS as "undertriaged" were due to provider selecting "GCS <14" in Trauma Criteria, when in actuality reported GCS were 14 or 15. This information will be passed to MAC and EMS Ops Committees.		
New Business	L. Miller reported that the review of VDH Q2 Trauma Triage Survey should similar trends from Q1. The Trauma Triage Committee is review data and looking for trends.		
Good of the Order	Membership Roundtable • LifeEvac completed Airway Training in King & Queen County. Discussion about offering it in Middlesex County will be followed up by S. Beam (LifeEvac) and Training Officers of Middlesex. • Riverside is planning to do a Trio (Stroke, STEMI, Trauma) at Isle of Wright, Hampton, York County, and possibly Newport News. Next Meeting: **September 12th, 2019 @ 3:00 p.m.** **Important Dates:** • PEMS Closed July 4th- 5th, 2019 for Independence Day.		
Adjourn	Adjourned to Executive Closed Session for MIR reviews.		
Closed Session	MIR Review was postponed until 10-10-19 S. Beam made a motion to adjurn. Motion was seconded by L. Messina. Meeting was adjurned at 3: 52 pm.		

Peninsulas EMS Council, Inc.

Performance Improvement Committee

FY2020

Please initial attendance under today's meeting date.

Member	Email	Organization	Position	09-12-19	12-12-19	03-12-20	06-11-20
Balog, Tony 804-694-9164	tony.balog@gvfrs.org	Gloucester Volunteer Fire and Rescue	At-Large				
Baylous, Denise 757-575-7495	dxbaylou@sentara.com	Nightingale	Helicopter EMS				
Beam, Shanon 704-578-3109	shanon.beam@vcuhealth.org	LifeEvac 3	Helicopter EMS				
Beck, Craig 757-585-2254	craig.beck@rivhs.com	Riverside Doctors' Hospital	At-Large				
Brann, Jimmy 804-443-4059	jbrann@essex-virginia.org	Essex County Emergency Medical Services	Career EMS				
Coy, Damien 757-603-1276	damien.coy@jamescitycountyva.org	James City County Fire Department	At-Large				
Craig, Seth 804-832-6337	scraig@vaems.org	Peninsulas EMS Council	Facilitator	SCC			
Davis, Linda	linda_davis@bshsi.org	Bon Secours Rappahannock General	At-Large				
Doak, Melissa 757-256-8154	melissa.doak@yorkcounty.gov	York County FLS	Fire-Based EMS				
Erwin MD, Eleanor (VC) 757-435-3854	eaerwin@gmail.com	~~James City County Fire Department~~, Eastern State	Operational Medical Director	TC			
Klink, Shannon 804-815-9793	shannon.klink@rivhs.com	Riverside Walter Reed Hospital	At-Large				
McClain, Scott 757-318-8958	srmcclai@sentara.com	Nightingale (Alternate)	Helicopter EMS				
Messina, Lorie 804-776-6875	lorie@va.metrocast.net	Middlesex County Volunteer Rescue Squad	Volunteer EMS				
Miller, Lou Ann (C) 757-594-2692	louann.miller@rivhs.com	Riverside Regional Medical Center	At-Large				
Packett, Jamie	james.packett@vafb.com	Mid County Volunteer Rescue Squad	Volunteer EMS				
Parker, Sarah 804435-8544	sarah_barrack@bshsi.org	Bon Secours Rappahannock General	At-Large				
Prata,Jr., Anthony 757-544-7335	prataa@yorkcounty.gov	York County FLS	Fire-Based EMS				
Samuels, Gary 804-305-0025	gary.samuels@hcahealthcare.com	Bon Secours Healthcare	At-Large				
Shahan, Phil 804-761-8635	pnshahan@gmail.com	Mid County Volunteer Rescue Squad	Volunteer EMS	TC			
Smith, Thamera 757-736-1040	tksmith@sentara.com	Sentara Careplex Hospital	At-Large				
Stevens, Ashlee 757-592-1387	ashlee_stevens@bshsi.org	Bon Secours Mary Immaculate Hospital	At-Large				
Thimons, Erica 757-984-8011	elthimon@sentara.com	Sentara Williamsburg Regional Medical Center	At-Large	TC			

FY2020

Please initial attendance under today's meeting date.

Member	Email	Organization	Position	09-12-19	12-12-19	03-12-20	06-11-20
Guest							
Jeff Bendit	jbendit@vacms.org	PEMS	Staff	JWB			

C - Chair
VC - Vice Chair
NV - Non-Voting
TC - Attendance by Teleconference
VC - Vice Chair
X - Present
No Longer Serving

Virginia Department of Health

Office of Emergency Medical Services (OEMS)

Quarterly Report on Trauma Incidents

Q2 2019

Division of Trauma and Critical Care
1041 Technology Park Drive
Glen Allen, Virginia 23059
Phone: (804) 888-9100

This report is based on the deliberations of the Trauma Performance Improvement Committee and analyses performed by OEMS staff.

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 on a quarterly basis and reports its findings to the Commissioner. The Advisory Board has delegated this function to the System Improvement Committee.

This quarterly report focuses on four key areas:

1. Completeness of prehospital vital sign documentation (BP, RR, and GCS) 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 (MOI/Impact) of Virginia Field Trauma Triage Criteria.
4. The number of Trauma Triage patients transported to non-trauma designated hospitals.

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 EMS director for each EMS 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 directors will be used to drive education and improve the Trauma Triage Plan.

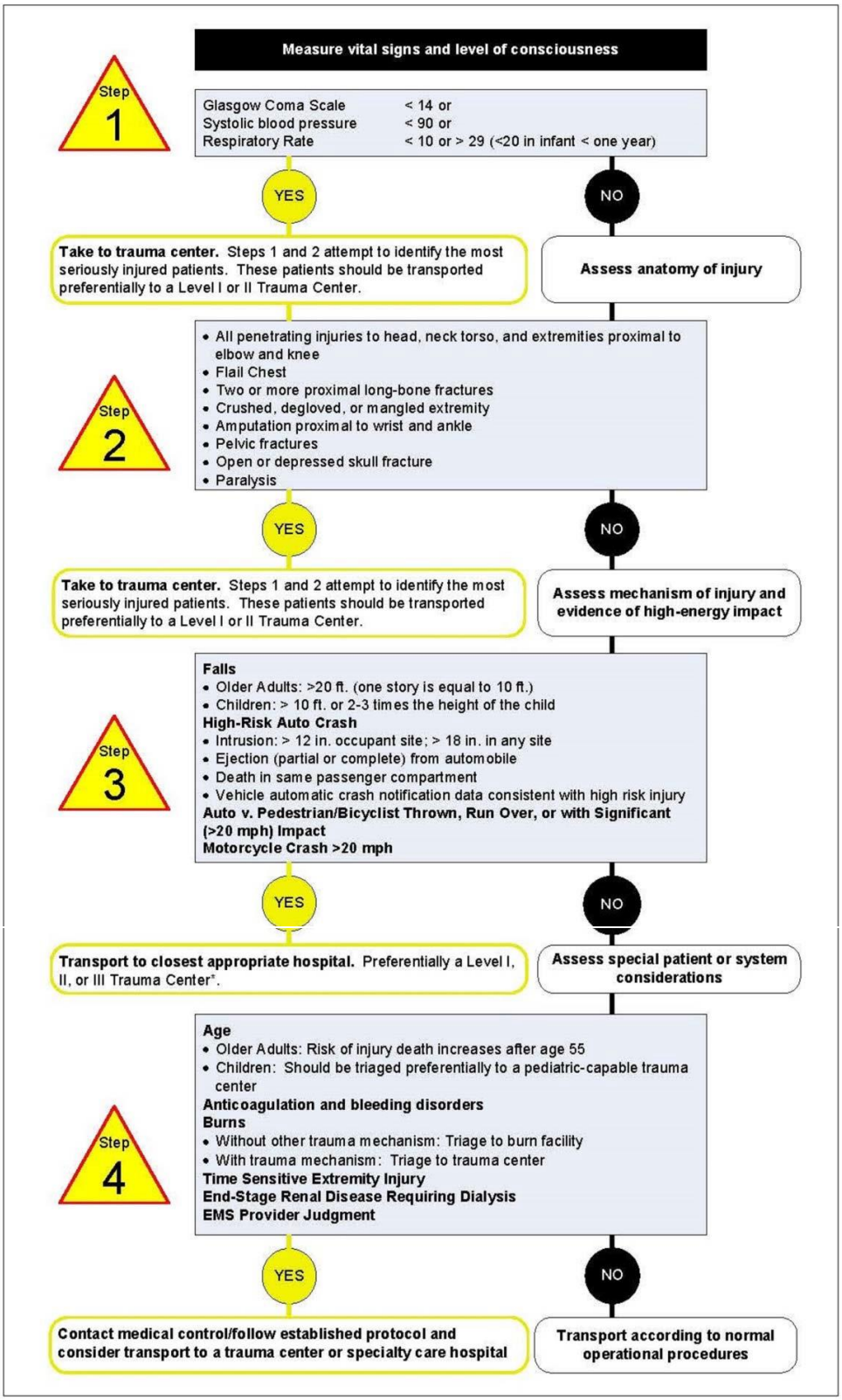
EMS patient data is compiled from patient medical records submitted to the Virginia Pre-Hospital Information Bridge (VPHIB) program (Elite v3) within VDH's Office of Emergency Medical Services (OEMS) Division of Trauma/Critical Care. Data summarized in this report represent EMS responses that occurred during the second quarter of 2019 (April through June) and were entered into VPHIB v3 as of 7/15/2019. VPHIB v3 data are based on 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)	
Incident/Patient Disposition	
Patient Treated, Transported by this EMS unit	
Situation Provider Primary Impression (ICD-10-CM)	
• S00-S09 (Injuries to the head) • S10-S19 (Injuries to the neck) • S20-S29 (Injuries to the thorax) • S30-S39 (Injuries to the abdomen, lower back, lumbar spine, pelvis, and external genitals) • S40-S49 (Injuries to the shoulder and upper arm) • S50-S59 (Injuries to the elbow and forearm) • S60-S69 (Injuries to the wrist, hand and fingers) • S70-S79 (Injuries to the hip and thigh • S80-S89 (Injuries to the knee and lower leg) • S90-S99 (Injuries to the ankle and foot) • T07 (Injuries involving multiple body regions) • T14 (Injury of unspecified body region) • T20-T25 (Burns and corrosions of external body surface, specified by site) • T26-T28 (Burns and corrosions confined to eye and internal organs) • T30-T32 (Burns and corrosions of multiple and unspecified body regions) • T75.0 (Effects of lightning) • T75.4 (Electrocution) (With 7th digit character modifier of A, B, or C; D through S are excluded)	*Excluding:* • *S00 (Superficial injuries of the head)* • *S10 (Superficial injuries of the neck)* • *S20 (Superficial injuries of the thorax)* • *S30 (Superficial injuries of the abdomen, pelvis, lower back and external genitals)* • *S40 (Superficial injuries of shoulder and upper arm)* • *S50 (Superficial injuries of elbow and forearm)* • *S60 (Superficial injuries of wrist, hand and fingers)* • *S70 (Superficial injuries of hip and thigh)* • *S80 (Superficial injuries of knee and lower leg)* • *S90 (Superficial injuries of ankle, foot and toes)*

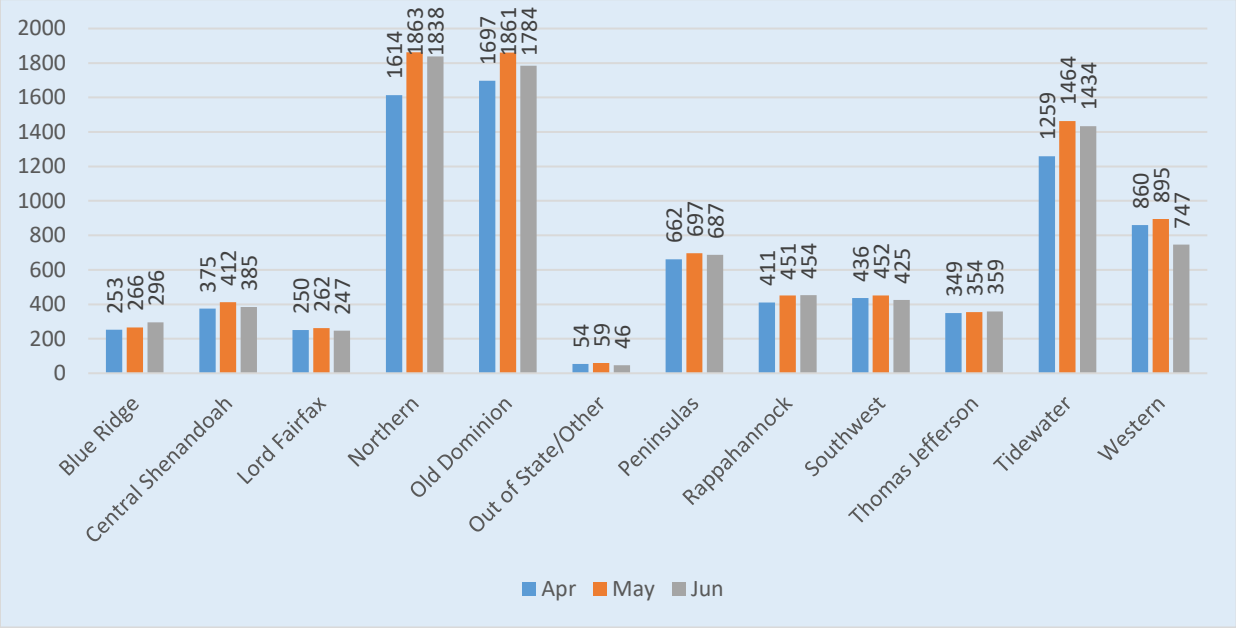
Figure 1. Virginia Field Trauma Triage Decision Scheme



Virginia Trauma Summary, Second Quarter, 2019

- EMS agencies in Virginia reported 25,958 trauma incidents to VPHIB for the second quarter of 2019. The Old Dominion EMS Alliance had the highest number of trauma calls (5,342), followed by the Northern Virginia EMS Council, with 5,315. Numbers of trauma incidents for the quarter, broken down by month and Regional EMS Councils, are shown below (Figure 2).

Figure 2. Monthly Trauma Incidents by Regional EMS Council, Second Quarter 2019, VA



- Table 2 summarizes trauma incidents, vital signs data quality, and trauma cases meeting Virginia Trauma Triage Criteria.

Table 2. Trauma Triage Quarterly Summary, Second Quarter 2019, VA

Quarterly Summary	Q2 2019
Total Number of Trauma Incidents	25,958
Patients with All 3 Vital Signs Reported	24,835 (95.7%)
Patients with Incomplete* Vital Signs	1,123 (4.3%)
Patients with Systolic Blood Pressure Reported	25,599 (98.6%)
Patients with Respiratory Rate Reported	25,566 (98.5%)
Patients with Glasgow Coma Score Reported	25,471 (98.1%)
Patients Meeting Step 1 Trauma Triage Criteria	1,926 (7.4%)
Patients Meeting Step 2 Trauma Triage Criteria	521 (2.0%)
Patients Meeting Step 3 Trauma Triage Criteria	130 (0.5%)

- 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).

- Vital signs data quality for each Regional EMS Council is shown below (Table 3).

Table 3. Vital Signs Data Quality for Trauma Patients by Regional EMS Council, Second Quarter 2019, VA

Regional EMS Council	Patients with All 3 Vital Signs Recorded	Patients with Incomplete Vital Signs	Total EMS Runs	Percent with all 3 Vital Signs Reported
Blue Ridge	808	7	815	99.1%
Central Shenandoah	1,125	47	1,172	96.0%
Lord Fairfax	703	56	759	92.6%
Northern	4,984	331	5,315	93.8%
Old Dominion	5,126	216	5,342	96.0%
Peninsulas	2,001	45	2,046	97.8%
Rappahannock	1,250	66	1,316	95.0%
Southwest	1,226	87	1,313	93.4%
Thomas Jefferson	1,013	49	1,062	95.4%
Tidewater	4,021	136	4,157	96.7%
Western	2,422	80	2,502	96.8%
Out of State	156	3	159	98.1%
Grand Total	**24,835**	**1,123**	**25,958**	**95.7%**

Trauma Incidents Meeting Virginia Trauma Triage Criteria

- Of the 25,958 trauma incidents reported by EMS during the second quarter of 2019, 1,826 met Trauma Triage Step 1 criteria, 521 met Step 2 criteria, and 130 met Step 3 criteria. It is possible that incidents meet criteria for more than one step; those incidents are classified into the highest severity level met. For example, if an incident meets both step 1 and step 2 criteria, it is counted as a step 1 incident.
- Among the incidents meeting Step 1 criteria, 1,600 were classified as meeting Step 1 based on reported vital signs. The remaining 326 incidents were classified as meeting Step 1 based on the provider's impression, as reported in the "Trauma Triage Criteria" field in the patient care report.
- Incidents meeting Step 2 and Step 3 were based solely on the "Trauma Triage Criteria" field.

Incidents Meeting Step 1 Criteria

- Among the 1,926 patients who met step 1 criteria, 665 patients were taken to a Level I trauma center, 280 patients were taken to a Level II trauma center, and 175 were taken to a Level III trauma center. The remaining 806 (41.8%) patients meeting step 1 criteria were taken to non-trauma hospitals.

- The hospital destination type for incidents meeting step 1 criteria is shown below by Regional EMS Council (Table 4).

Table 4. Hospital Destination Type for Trauma Incidents Meeting Step 1 Criteria by Regional EMS Council, Second Quarter 2019, VA

Regional EMS Council	Met Step 1	Trauma Hospital			Non-Trauma Hospital
		Level I	Level II	Level III	
Blue Ridge	83	6	54	0	23
Central Shenandoah	61	2	0	0	59
Lord Fairfax	46	2	24	0	20
Northern	325	105	33	18	169
Old Dominion	440	225	39	43	133
Peninsulas	151	4	59	0	88
Rappahannock	93	2	55	0	36
Southwest	105	3	1	27	74
Thomas Jefferson	85	62	4	0	19
Tidewater	285	114	7	68	96
Western	232	127	0	18	87
Out of State	20	13	4	1	2
Grand Total	**1,926**	**665**	**280**	**175**	**806**

Incidents Meeting Step 2 Criteria

- Among the 521 patients who met step 2 criteria, 258 patients were taken to a Level I trauma center, 71 patients were taken to a Level II trauma center, and 63 were taken to a Level III trauma center. The remaining 129 (24.8%) patients meeting step 2 criteria were taken to non-trauma hospitals.

- The hospital destination type for incidents meeting step 2 criteria is shown below by Regional EMS Council (Table 5).

Table 5. Hospital Destination Type for Trauma Incidents Meeting Step 2 Criteria by Regional EMS Council, Second Quarter 2019, VA

Regional EMS Council	Met Step 2	Trauma Hospital			Non-Trauma Hospital
		Level I	Level II	Level III	
Blue Ridge	13	1	10	0	2
Central Shenandoah	16	3	0	0	13
Lord Fairfax	6	1	4	0	1
Northern	74	34	17	2	21
Old Dominion	138	102	4	18	14
Peninsulas	26	3	19	0	4
Rappahannock	17	4	12	0	1
Southwest	46	3	0	18	25
Thomas Jefferson	12	7	2	0	3
Tidewater	99	63	2	16	18
Western	71	35	0	9	27
Out of State	3	2	1	0	0
Grand Total	**521**	**258**	**71**	**63**	**129**

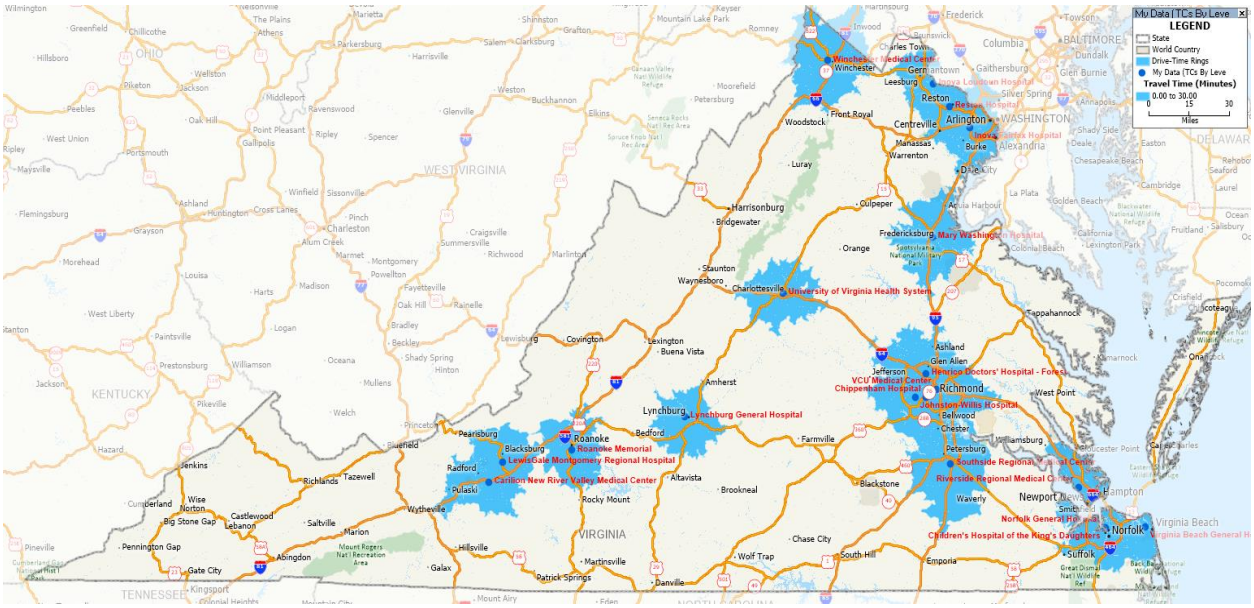
Incident Met Step 3 Criteria

- A total of 130 incidents met Step 3 trauma triage criteria during the second quarter of 2019.
- The Old Dominion EMS Alliance reported 25 patients meeting Step 3 trauma triage criteria. Of those, 21 patients were taken to a Level I trauma center and 4 were taken to a Level II trauma center.
- The Tidewater EMS Council reported 105 patients meeting Step 3 trauma triage criteria. Of those, 63 were taken to a Level I trauma center and 37 were taken to a Level III trauma center.
- The remaining Regional EMS Councils did not report patients meeting Step 3 trauma triage criteria.

Distribution of Trauma Facilities across Virginia

- Trauma centers across Virginia are not uniformly distributed. The upper part of the Northern Virginia EMS Council and parts of Central Virginia (e.g., the Greater Richmond Area) have greater access to trauma centers, as multiple trauma centers are located within close proximity. Most parts of the Old Dominion EMS Alliance, Central Shenandoah EMS Council, and Western Virginia EMS Council have very limited access to trauma centers (not within 30 minute drive time from their homes). The Central Shenandoah EMS Council and Southwest Virginia EMS Council have no trauma centers within their EMS regions, but are reasonably close to Level II trauma centers in other EMS regions or states. The distribution of trauma centers across Virginia, surrounded by rings showing the geographical areas within a 30 minute drive of each trauma center, is shown below (Figure 3). This map displays which parts of Virginia have limited access to a trauma center.

Figure 3. Trauma Centers across Virginia, Surrounded by 30 Minute Drive Time Rings



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.

The high prevalence of missing vital signs data in EMS records continues to be an area of focus for performance improvement efforts. It is difficult to imagine an adequate justification for the finding that about 1 out of every 23 patients (4.3%) had incomplete vital signs data. During the second quarter of 2019, 41.8% of trauma patients who met Step 1 trauma triage criteria and 24.8% of trauma 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.

In July 2019, OEMS staff performed quality assurance on trauma triage data from the second quarter of 2019. Specifically, the data values that were reviewed included the vital signs used in Step 1 trauma triage criteria designation, non-realistic 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.