Virginia Department of Health

Office of Emergency Medical Services

Quarterly Report to the

State EMS Advisory Board

Wednesday, November 7, 2012

Executive Management, Administration & Finance

Office of Emergency Medical Services
Report to The
State EMS Advisory Board
November 7, 2012

MISSION STATEMENT:

To reduce death and disability resulting from sudden or serious injury and illness in the Commonwealth through planning and development of a comprehensive, coordinated statewide emergency medical services (EMS) system; and provision of other technical assistance and support to enable the EMS community to provide the highest quality emergency medical care possible to those in need.

I. Executive Management, Administration & Finance

a) Action Items before the State EMS Advisory for May 18, 2012

There are no identified Action Items in the OEMS Quarterly Report to the State EMS Advisory Board for November 7, 2012, however the Board will be electing officers for the 2012-2013 term.

b) OEMS Employees Elected to Serve on National EMS Councils and the National Association of State EMS Officials (NASEMSO) Board of Directors

The Office of EMS recently attended the National Association of State EMS Officials Annual Meeting hosted in Boise, Idaho. During this event Paul Sharpe, manager of the division of trauma/critical care, was selected as president-elect of the Data Managers Council.

David Edwards, EMS for Children coordinator**,** assumed the chairmanship of the Pediatric Emergency Care Council (PECC). The vision of the PECC is to improve health outcomes for children by promoting an emergency medical care system that addresses the unique needs of children. It is comprised of each state and U.S. territory's Emergency Medical Services for Children coordinator.

Both of these national councils submit recommendations to the NASEMSO Executive Committee, and positions are taken by the association to represent the consensus of all state and territorial EMS offices nationwide.

In addition Gary R. Brown was elected to the NASEMSO Board of Directors as the East Region alternate. However, during the recent NASEMSO Board of Directors meeting on October 11, Gary Brown of Virginia was named Treasurer to fill the vacancy created when Paul Patrick of

Utah was elected as President-elect in Boise at the Annual Meeting. As such Mr. Brown will continue to serve of the NASEMSO Board of Directors.

c) NASEMSO Awarded Three Nationally Significant Grants/Cooperative Agreements

Just as the NASEMSO Annual Meeting was concluding, the ink was drying on three nationally significant grant and cooperative agreements. The new projects are:

Model EMS Guidelines.

Funded by NHTSA, this two-year project will be completed by the Medical Directors Council. The purpose of this project is to develop national model EMS guidelines, intended to help state EMS systems ensure a more standardized approach to the practice of patient care, and to encompass evidence-based guidelines as they are developed. For more information on this project, contact Mary Hedges.

***Statewide Implementation of a Prehosptial Care Guideline*.**

Funded by NHTSA, this is a three-year project with co-Principal Investigators Matt Sholl (Maine EMS Medical Director) and Peter Taillac (Utah EMS Medical Director). The objective of this grant is to support the use and further refinement of the National Evidence-Based Guideline Model Process, developed under the auspices of the Federal Interagency Committee on EMS and the National EMS Advisory Council. For more information on this project, contact Rachael Alter.

***Model Interstate Compact for EMS Personnel Licensure for State Adoption*.**

This project will initiate a 20-month process to develop a model interstate compact for states' legislative use to solve the problem associated with day-to-day emergency deployment of EMS personnel across state boundaries. For more information on this project, contact Dia Gainor.

d) 2012 NASESMO Resolutions Passed at the Annual Meeting

During the NASEMSO Annual Meeting in Boise, Idaho, September 26-27, three Resolutions were passed:

Science and Technology EMS Research Support – Department of Homeland Security

Endorses and asks that the Department of Homeland Security, Under Secretary of Science and Technology, continues to support technology innovations and safety device research for EMS workers on the front lines of homeland security.

Resolution of Esteem and Respect, William E. Brown

With the impending retirement of Bill Brown as Executive Director of the National Registry of EMTs (NREMT), NASEMSO also presented the *Resolution of Esteem and Respect, William E. Brown:* whose contributions to the EMS profession have been numerous including establishing requirement for graduation of paramedics from accredited programs, as well as the high level of integrity of the certification examination process which ensures a safe and competent work force. NASEMSO resolved that Bill will be always in our hearts and recollections with sincere gratitude and many fond memories.

MCI MUCC Implementation

Requests that the MUCC implementation plan being developed by the Federal Interagency Committee on EMS (FICEMS) includes provisions that its member federal agencies will provide sufficient grants, coordination, and other support to states and local jurisdictions so as to minimize the complexity of the transition and the fiscal impact on states and local jurisdictions; and that FICEMS and its member agencies support further scientific studies on various approaches to mass casualty triage and on the effectiveness of the MUCC. The issue of MUCC debated before the State EMS Advisory earlier this year, as such the resolution unanimously passed by NASEMSO is included as follows:

Resolution 2012-01

MCI MUCC Implementation

Whereas, the Federal Interagency Committee on Emergency Medical Services (FICEMS) is currently developing a plan to implement the Model Uniform Core Criteria (MUCC) for mass casualty triage in the United States;

Whereas, the vast majority of states and local jurisdictions currently utilize the Simple Triage and Rapid Treatment (START)© approach to mass casualty triage;

Whereas, there is a need for interoperability during a response to a mass casualty incident;

Whereas, the MUCC were developed using the best available science by a panel of subject matter experts under a grant by the Center for the Disease and Control and are currently endorsed by a number of national organizations;

Whereas, there remain many gaps in the scientific evidence regarding the effectiveness of various approaches to mass casualty triage;

Whereas, state and local budgets remain severely constrained by the recent recession;

Whereas, implementing the MUCC in the United States will be a complex and costly undertaking that will require a great deal of education, equipment, supplies, and coordination by state and local emergency medical services agencies.

Now, therefore be it resolved that the National Association of State EMS Officials (NASEMSO) hereby requests that the MUCC implementation plan being developed by FICEMS includes provisions that its member federal agencies will provide sufficient grants, coordination, and other support to states and local jurisdictions so as to minimize the complexity of the transition and the fiscal impact on states and local jurisdictions;

Be it further resolved that NASEMSO requests that FICEMS and its member agencies support further scientific studies on various approaches to mass casualty triage and on the effectiveness of the MUCC.

Submitted by Robert Bass (MD), Joe Schmider (PA), Chris Bell (VT), and Gary Brown (VA).

Signed this 27th day of September, 2012

Randy Kuykendall,
NASEMSO 2011-12 President

Dennis Blair,
NASEMSO 2011-12 Secretary

Intended Distribution:
US Department of Homeland Security

National Association of State Emergency Medical Services Officials
201 Park Washington Court ■ Falls Church, VA 22046 ■ Phone 703-538-1799 ■ Fax 702-241-5603 ■ www.nasemso.org

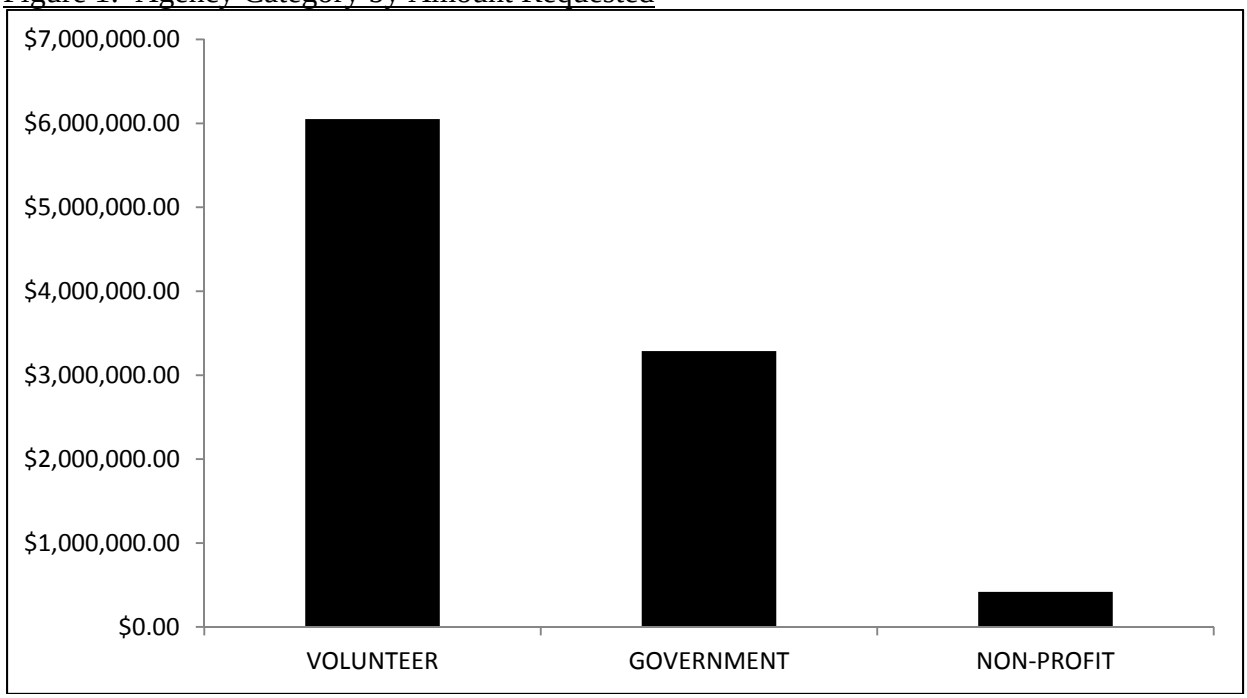
The finalized resolutions are posted on the NASEMSO website.

e) Financial Assistance for Emergency Medical Services (FAEMS) Grant Program, known as the Rescue Squad Assistance Fund (RSAF)

The RSAF grant deadline for the Fall 2012 cycle was September 17, 2012, OEMS received 130 grant applications requesting $9,755,331.00 in funding. Funding amounts are being requested in the following agency categories:

- 76 Volunteer Agencies requesting $6,050,168.00
- 43 Government Agencies requesting $3,286,072.00
- 11 Non-Profit Agencies requesting $419,090.00

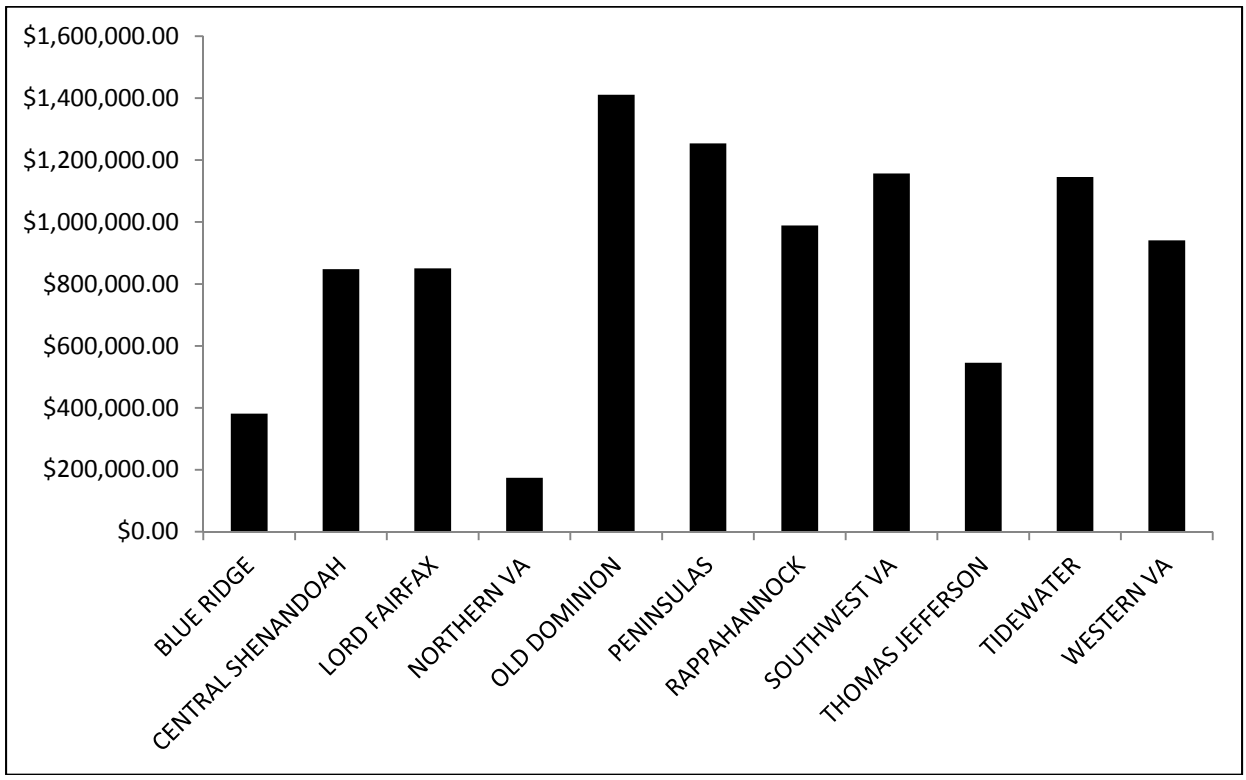
Figure 1: Agency Category by Amount Requested



Funding amounts are being requested in the following regional areas:

- Blue Ridge – 4 agencies requesting funding of $381,395.00
- Central Shenandoah – 14 agencies requesting funding of $847,874.00
- Lord Fairfax – 6 agencies requesting funding of $850,478.00
- Northern Virginia – 2 agencies requesting funding of $174,383.00
- Old Dominion – 24 agencies requesting funding of $1,411,158.00
- Peninsulas – 15 agencies requesting funding of $1,253,844.00
- Rappahannock – 13 agencies requesting funding of $988,877.00
- Southwestern Virginia – 16 agencies requesting funding of $1,156,760.00
- Thomas Jefferson – 6 agencies requesting funding of $545,766.00
- Tidewater – 12 agencies requesting funding of $1,145,250.00
- Western Virginia – 16 agencies requesting funding of $940,752.00
- Non-Affiliated Agencies – 2 agencies requesting funding of $58,794.00

Figure 2: Regional Area by Amount Requested



Funding amounts are being requested for the following items:

- Audio Visual and Computers - $ 252,872.00
  - Includes projectors, computer hardware/software, toughbooks, and other audio visual equipment.

- Communications - $ 681,118.00
  - Includes items for mobile/portable radios, pagers, towers, repeaters and other communications system technology.

- Emergency Operations - $ 358,030.00
  - Includes items such as extrication equipment, rescue diving, generators and equipment for mass casualty incidents (MCI). The Emergency Operations category also includes any other equipment or items needed in order to rapidly mobilize and dispatch help in emergency situations.

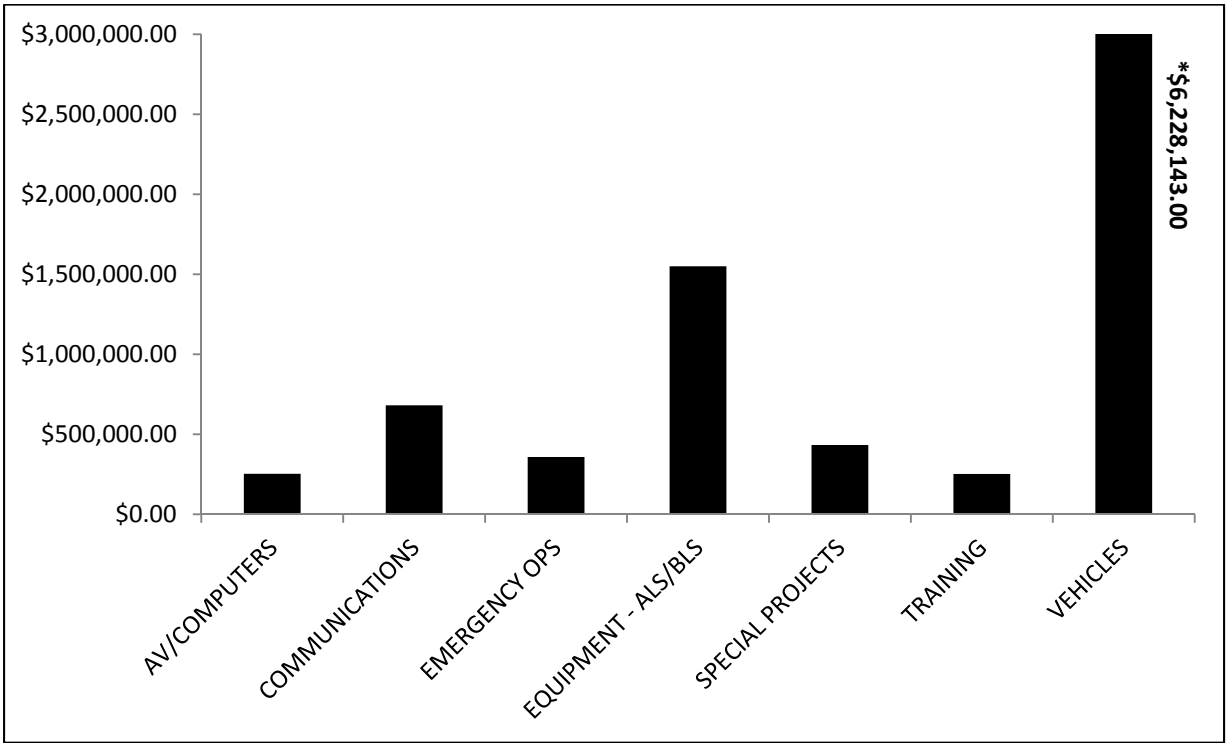
- Equipment - Basic and Advanced Life Support Equipment - $ 1,550,405.00
  - Includes any medical care equipment for sustaining life, including defibrillation, airway management, and supplies.

- Special Projects - $ 432,662.00
    - Includes projects such as Recruitment and Retention, Special Events Material, Emergency Medical Dispatch (EMD), equipment needed to migrate to NEMSIS 3.0 version and other innovative programs.

- Training - $ 252,101.00
    - This category includes all training courses and training equipment such as manikins, simulators, skill-trainers and any other equipment or courses needed to teach EMS practices.

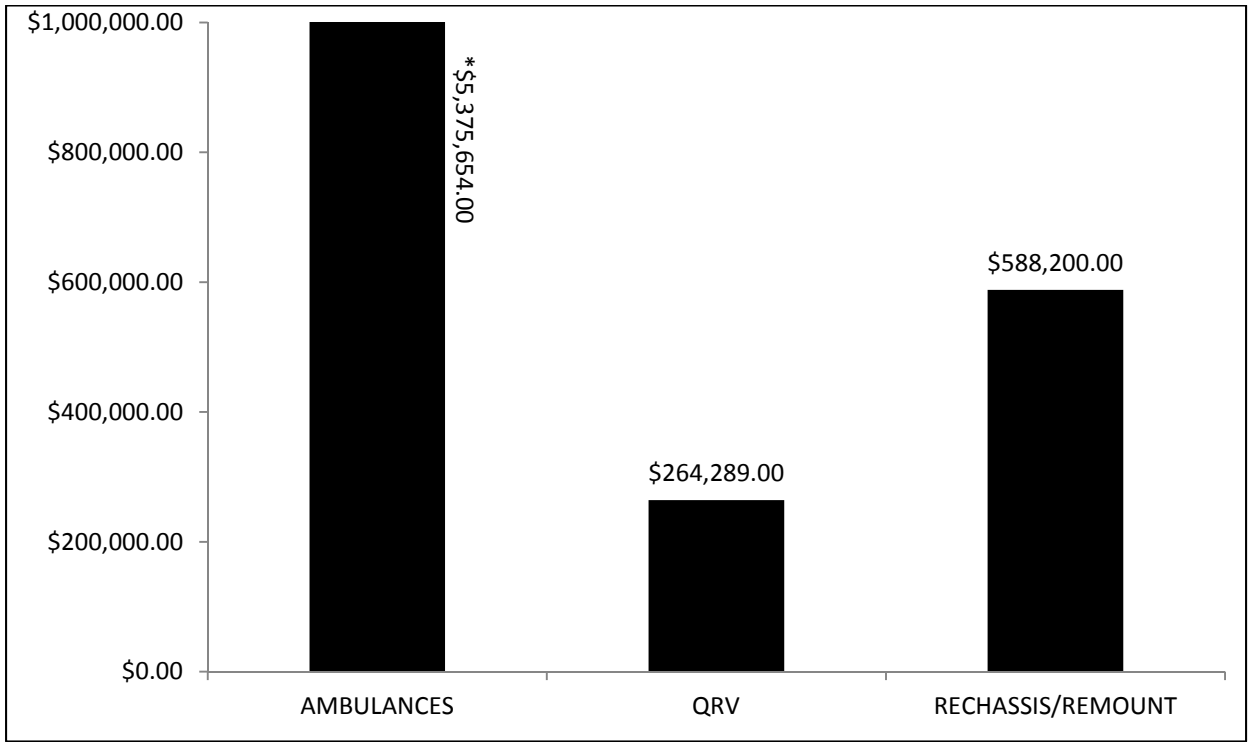
- Vehicles - $ 6,228,143.00
    - Includes ambulances, 1st Response/Quick Response Vehicles (QRV) and rechassis/remount of ambulances.

Figure 3: Item Requested by Amount Requested



*NOTE: The VEHICLES category request amount was $6,228,143.00, the graph only represents items requested up to $3,000,000.00 to visually display other items requested. A specific category list of vehicles is documented in Figure 4.

Figure 4: Vehicle Category by Amount Requested



*NOTE: The AMBULANCES category request amount was $5,375,654.00, the graph only represents items requested up to $1,000,000.00 to visually display other items requested.

The Fall 2012 grant cycle will be awarded on January 1, 2013. The next RSAF Grant cycle will open February 1, 2013 and close March 15, 2013.

f) EMS Needs Assessment Survey

A small ad hoc workgroup of the Legislative and Planning Committee was tasked with the responsibility to develop an initial set of survey questions to identify and assess the greatest needs of EMS agencies in Virginia. This initial survey will provide statistical information to the OEMS, regional EMS Councils; state EMS Advisory Board and the Legislative and Planning Committee regarding the overall needs of Virginia's EMS agencies. Information from this needs assessment will be used to make informed decisions about EMS funding issues and to protect existing EMS funding levels.

The plan is to revise, update and repeat this survey in subsequent years to gather important information to identify needed resources, equipment, training and system priorities. This information will be used to plan and manage programs and services administered by the Virginia Office of EMS and the eleven (11) designated regional EMS Councils as well as assure current EMS funding is continued and possibly increased to assist EMS agencies and localities throughout Virginia. . All survey data will be compiled and the results will be reported in the spring of 2013 as the inaugural Virginia EMS Needs Assessment.

Questions on the EMS Needs Assessment are grouped into seven (7) categories:

- General EMS Agency Information
- EMS Education and Training
- EMS Agency Personnel and Staffing (recruitment, retention, overtime, hiring practices, etc.)
- Facilities and Vehicles
- Operating Budget and Funding, Ability to fund matching grant requirements
- EMS Radio Communications Equipment/Capabilities
- EMS Agency Top Needs

Each EMS agency in Virginia will be requested to complete this on-line survey. Multiple responses from a single EMS agency will not be accepted. Responses to the survey should be submitted by the Chief Executive Officer (CEO) or his designee. If multiple responses from the same agency are received, only the first submission will be accepted.

The estimated time needed to complete the entire survey is approximately 25 minutes. The time period covered by this survey is calendar year (CY) 2011 which includes January 1, 2011 to December 31, 2011.

The initial EMS Needs Survey will be sent by Email to EMS agency contacts within the next several weeks and respondents will be requested to submit their results prior to the end of this year.

g) Customer Service Survey

In May 2011, the Office randomly sent out 10,000 Email messages to individuals certified as EMS personnel in Virginia. There were 1,687 respondents and 78 bounced Email messages. Of those that responded:

a. 40% indicated that they had contact with OEMS in the past six (6) months
b. The majority of respondents indicated that they contacted OEMS by either telephone or e-mail.
c. 75% of the respondents indicated they contacted OEMS for assistance related to education, training and certification programs. The next largest group indicated they contacted OEMS for assistance related to inspections, licensing, permitting and compliance matters.
d. 72% indicated their question or problem was resolved with one contact to the office

A vast majority of the respondents indicated that they were overall satisfied with the customer service provided by the Office of EMS. In fact, 86% of the respondents indicated some level of satisfaction: Satisfied (29%) very satisfied (30%) or extremely satisfied (27%).
Some key observations and comments from the customer service survey included (in no particular order):

a. Once a telephone call is initially received by OEMS, it is frustrating to the caller for their call to be transferred to another receptionist or go directly into voice mail,
b. Respondents indicated they wanted more direct, easy access to OEMS administrative staff,
c. Respondents indicated they wanted more timely response to e-mail messages and voicemail,
d. OEMS needs to provide more information to initial certified EMS personnel to help them understand the recertification process,
e. A number of respondents expressed frustration related to TRAINVirginia ; does not always operate properly; program times out, course results are not recorded, etc.

In response to the results from the customer service survey, the Office of EMS has been working hard to identify solutions that will lead to improved customer service. The following steps have been taken to address some of the comments and observations:

a. OEMS Management has reviewed receptionist staff needs for additional assistance and existing resources within the office have been reallocated during peak demands for service..
b. Policies related to the use of voicemail by OEMS have been reviewed, updated and distributed to OEMS staff.
c. OEMS continues to educate EMS agencies, providers and partner organizations about available resources for assistance (OEMS general e-mail address, e-mail list servs and our social media sites) to help EMS providers get news and up-to-date information.
d. Redesigned VDH, OEMS website to promote improved customer service.
e. Expanded features and functions on EMS Provider Portal to assist EMS providers, EMS educators, EMS agency personnel, and medical directors.

In addition, within the next several weeks, a customer service survey will be permanently posted on the OEMS Web site for use by anyone who conducts business with the Office. The survey will provide the respondent an opportunity to recognize and commend exceptional service as well as suggest how services could be improved.
If you have questions or concerns related to customer service issues with the Office of EMS please contact Marian Hunter, OEMS Public Relations Coordinator at 1-800-523-6019, or by Email at marian.hunter@vdh.virginia.gov or Scott Winston, Assistant Director at scott.winston@vdh.virginia.gov.

EMS on the National Scene

II. EMS On the National Scene

a) A New Health Monitoring and Surveillance Tool for First Responders

Emergency responders have been called to duty over the past decade by an increasing number of natural and man-made disasters. As each large-scale disaster occurred, the importance of how best to ensure the safety and health of professional and volunteer emergency responders before, during and after a disaster has grown. While some guidance had been developed about how best to prepare response workers both before and during deployment, less attention had been placed on assessing responders' health after they complete their deployment. With this in mind, in 2008 NIOSH convened an multidisciplinary public health workgroup to address these concerns. The Emergency Responder Health Monitoring and Surveillance (ERHMS) system was developed in 2011 by this workgroup. It includes both written guidance and epidemiology/surveillance tools as examples of current best practices for protecting response, remediation, and recovery workers and volunteers. Go to:
http://www.cdc.gov/niosh/enews/enewsV10N4.html#director.

b) New Online Educational Program for EMS Medical Directors Announced

The U.S. Fire Administration, in partnership with the DHS Office of Health Affairs and the International Association of Fire Chiefs, announces the availability of a new online educational program for physician medical directors of local fire departments and agencies involved in emergency medical services (EMS) response. This web-based program for current and prospective EMS medical directors provides information in a conveniently accessible format to support key roles in the provision of EMS to communities. Go to:
http://www.usfa.fema.gov/media/press/2012releases/080212.shtm.

c) Teen Seat Belt Use Is Significantly Higher In States With Stronger Laws

While most teens do buckle up when driving, new research shows that novice teen drivers who live in states with so-called "secondary enforcement" seat belt laws are less likely to use the life-saving devices than those in "primary enforcement" states. The research, conducted by The Children's Hospital of Philadelphia (CHOP) and State Farm®, is published in the *American Journal of Public Health.* The research found seat belt use rates differed as teens moved through the probationary licensing process known as Graduated Driver Licensing (GDL). Go to:
http://www.teendriversource.org/news/article/42.

d) Trauma Patients at Higher Risk of Dying of Hypothermia

Researchers say paramedics can help trauma patients by controlling IV temperature and heating ambulances. People who suffer a traumatic injury are at greater risk of dying from hypothermia, according to a new French study. Hypothermia was defined as a body temperature below 95 degrees Fahrenheit. Risk of death from low body temperature is higher among those with more severe injuries, the researchers found. They cautioned that patients receiving emergency medical services should remain clothed when possible and temperatures of IV fluids and ambulances

should be controlled. Go to: http://health.usnews.com/health-news/news/articles/2012/08/03/trauma-patients-at-higher-risk-of-dying-of-hypothermia-study.

e) USFA and OHA Release Operational Templates and Guidance for EMS Mass Care Incident Deployment

The Department of Homeland Security's (DHS) U.S. Fire Administration (USFA), supported by the DHS Office of Health Affairs (OHA) and the National Emergency Medical Services Management Association (NEMSMA), announces the release of a new guide for Emergency Medical Services (EMS) providers: Operational Templates and Guidance for EMS Mass Care Incident Deployment. The guide is intended to provide information to local-level EMS and fire departments on the development and enhancement of the organization and preparedness for mass care incidents, including natural and man-made disasters, large gathering and pandemic events, and other emergencies potentially resulting in large numbers of patients. Go to: http://www.usfa.fema.gov/media/press/2012releases/071212.shtm.

f) National Trauma Triage Protocol Predicts which Patients Will Benefit from Helicopter Transport

The Journal of Trauma and Acute Care Surgery published a study aimed to assess the role of the National Trauma Triage Protocol (NTTP) in selecting patients that would benefit from helicopter transport (HT). Subjects (n=258,387) transported by HT or ground transport from the scene of injury in 2007 were identified using the National Trauma Databank version 8. Subgroups of patients who met specific triage criteria were evaluated using logistic regression to determine if transport modality was an independent predictor of survival after controlling for demographics, injury severity, prehospital time, and presence of other NTTP triage criteria. Approximately 16% of the subjects were transported by helicopter and 84% were transported by ground. Results indicated HT subjects were more severely injured. Patients who meet certain triage criteria in the field seem to have an independent survival benefit if transported to a trauma center by helicopter. Furthermore, these criteria are highly specific and more reliably predict trauma center need in the HT group. Go to: http://www.ncbi.nlm.nih.gov/pubmed/22846934.

g) Webcast Recording Available: Ambulance Crashes: Is Your Safety Program Doing Enough to Prevent Them

Ambulance crashes account for 74% of the fatalities in EMS. The injury rate in these crashes is seven times the national average, making ambulances a very dangerous environment to work in. In a case study of two very serious ambulance crashes, you will be able to recognize the events that led to these crashes. A case study will also focus on how an EMS service recovered from a fatal crash by adding Road Safety to its fleet. But in order to fully benefit from this technology, a high performing safety program must be deployed. In this presentation you will learn what key aspects of a driver safety program must be in place to successfully reduce your crash rate. You will learn how to do a self audit of your driver safety program, developing a program, key metrics to measure, training, culture shifts, crash investigation and staff rewards/recognition. View the Webcast at:
https://zolldata.webex.com/ec0605lc/eventcenter/recording/recordAction.do;jsessionid=jFHSQ5

9JqX4lmbcJNkLv2hxPKvyLKxCh6DTpJN5br2kz7xLlVSVQ!430716524?theAction=poprecord&utm_medium=email&actname=%2Feventcenter%2Fframe%2Fg.do&utm_campaign=road-safety&renewticket=0&renewticket=0&actappname=ec0605lc&apiname=lsr.php&utm_content=2930298&entappname=url0107lc&needFilter=false&&isurlact=true&entactname=%2FnbrRecordingURL.do&rID=67468612&rKey=c9b1ee11727e3307&recordID=67468612&rnd=5295480179&siteurl=zolldata&SP=EC&_hse=alter%40nasemso.org&_hsh=a133b7837badb7cc113ac357d7cd6ba7&AT=pb&utm_source=hubspot_email_marketing&_hsmi=2930298&format=short.

h) The Memorial Ultimate Challenge: A Call to Action

The National EMS Memorial Service and Air Medical Memorial Boards have joined forces to raise funds for the building of their respective memorials. The challenge: Each EMS agency in the country is challenged to raise $1,000 and each air medical program is challenged to raise $3,000 by Dec/ 31, 2012. If this challenge is successful, both memorials could be built in the coming year. For complete information on the Ultimate Challenge, download the press release and an article by Krista Haugen, Air Medical Memorial PIO and Jana Williams, National EMS Memorial Service PIO, in support of this effort. For more information on the challenge and the memorials, please visit: www.ultimate-challenge.org and www.airmedicalmemorial.com; www.nemsms.org.

i) House Approves $2.2B FEMA Reauthorization

On September 19, 2012 the House approved a $2.2 billion, 2-year reauthorization of the Federal Emergency Management Agency. The bill (H.R. 2903) would authorize in total for fiscal years 2013 and 2014 about $2.1 billion for salaries and expenses--including $37 million to modernize the Integrated Public Alert and Warning System--$71 million for the Urban Search and Rescue Response System, $32 million for dam safety activities and $4 million for emergency management assistance compact grants**.**

j) House Passes Veterans EMT Legislation

The House has passed H.R. 4124, the Veteran Emergency Medical Technician Support Act of 2012, which would help veterans trained as EMTs in the military to transfer into similar civilian jobs. Go to http://thomas.loc.gov/cgi-bin/bdquery/z?d112:h.r.4124 for more information on H.R. 4124, to include bill text and summary.

k) Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances Released

"Working Group Recommendations for the Safe Transportation of Children in Emergency Ground Ambulances" has been posted on the NHTSA website. The intent of the recommendations presented in this report is to improve the safe transport of children in emergency ground ambulances. Although recent crash data in the United States do not indicate that children are being killed or injured in ambulance crashes as patients or passengers, a review of local and national media coverage of ambulance crashes suggests that children of all ages may not be properly restrained while riding in ambulances and can potentially be injured if involved

in a crash. Meanwhile, accepted national protocols for EMS and child passenger safety professionals in the United States for how best to safely transport children in ground ambulances from the scenes of traffic crashes or medical emergencies to hospitals or other facilities are very limited. The goal of this project is to provide consistent national recommendations that will be embraced by local, State, and national emergency medical services organizations, enabling them to reduce the frequency of emergency transports of ill, injured or uninjured children in an unsafe or inappropriate manner. It is hoped that the recommendations provided in this report will address the lack of consistent standards or protocols among EMS and child passenger safety professionals in the United States regarding how to most safely transport children in ground ambulances from the scene of a traffic crash or medical emergency to a hospital or other facility.

l) GAO Releases Report on Ambulance Provider Costs and Medicare Margins

The Government Accountability Office (GAO) has released its report on ambulance provider costs and Medicare margins, as required by the Middle Class Tax Relief and Job Creation Act of 2012. This report updates the GAO's 2007 report, and examines three themes: (1) 2010 ground ambulance providers' costs for furnishing transports; (2) the relationship between 2010 Medicare payments and ground ambulance providers' costs; and (3) Medicare beneficiaries' use of ground ambulance transports in 2010. http://www.gao.gov/products/GAO-13-6.

m) Correlation of ACS-Verified Trauma Centers with CDC Statewide Pediatric Mortality Rates

The Journal of Trauma and Acute Care Injury published a study that investigated the relationship between pediatric trauma centers, verified by the American College of Surgeons (ACS), and pediatric injury mortality rates. Investigators used 2008 data from the Centers for Disease Control and Prevention's (CDC) National Center for Injury Prevention and Control to determine the number of ACS-verified adult trauma centers (vATC), ACS-verified pediatric trauma centers (vPTC), and mortality rates. Go to: http://www.ncbi.nlm.nih.gov/pubmed/22929485.

n) Release of the NEMSIS 2011 Public-Release Research Dataset

The NEMSIS TAC has released the 2011 Public-Release Research Dataset. This dataset contains over 14 million EMS activations reported by 35 states and territories. Research based on 2010 data set was published in journals such as Resuscitation, Pre-Hospital Emergency Care and Academic Emergency Medicine; covering topics such as pre-hospital airway management and stroke care. The NEMSIS TAC is available to help researchers with database development and analysis strategies. The 2011 Public-Release Research Dataset is available free of charge and can be accessed at: http://www.nemsis.org/reportingTools/requestNEMSISData.html.

o) Report Released on the Impact of the National Drug Shortage on Emergency Care

The Emergency Care Coordination Center (ECCC), Office of the Assistant Secretary for Preparedness and Response has issued a report titled "The Impact of the National Drug Shortage on Emergency Care." Over the last six years, drug shortages of medications have nearly

quadrupled from a peak of approximately 70 drugs in shortage during 2006 to a peak of 267 today. It is estimated that nearly 40% of drugs in shortage impact the delivery of emergency care (EC) by virtue of the shortage's strong effect on the availability of sterile injectables widely used in the EC setting. Outside of EC, cardiovascular, oncology, anesthetic, analgesic, and anti-infective medications are routinely in short supply. The national drug shortage is so acute that at times the only way health care administrators have known a drug is in shortage is when it was missing from a manufacturer's shipment. A meeting of stakeholders held in April 2012 and hosted by the ECCC gathered input from private medical and pharmaceutical organizations on what they considered to be the factors and effects of the national drug shortage, and the coping strategies they have employed. To view the report go to: http://www.nasemso.org/documents/ImpactOfTheNationalDrugShortageOnEmergencyCareApril2012.pdf.

p) ABEM Board Eligibility Requirements for EMS Subspecialty Now Available

The American Board of Emergency Medicine (ABEM) announced that the subspecialty of Emergency Medical Services (EMS) was approved by the American Board of Medical Specialties (ABMS) at the General Assembly of its members on September 23, 2010. EMS is a medical subspecialty that involves prehospital emergency patient care, including initial patient stabilization, treatment, and transport in specially equipped ambulances or helicopters to hospitals. ABEM has assembled an EMS Examination Task Force composed of 12 EMS physicians that is working on the development of the EMS subspecialty examination and maintenance of certification program. It is anticipated that the first examination will be given in the fall of 2013. Board Eligibility Requirements can be viewed at: https://www.abem.org/PUBLIC/_Rainbow/Documents/EMS%20Elig%20Criteria%20FINAL%20April%202011.pdf.

q) NASEMSO Provides New Education Agenda Resources for States

The National Association of State EMS Officials has released three new informational flyers that support the implementation of the EMS Education Agenda for the Future: A Systems Approach by answering questions about requirements related to the December 31, 2012 deadline for National EMS Program Accreditation.

- Are You Ready? is intended to help state EMS offices determine if the state/territory is ready for the December 31, 2012 deadline for implementation of National EMS Program Accreditation.

- Is Your Program CAAHEP Accredited? is intended for paramedic students enrolling in paramedic programs whose program of instruction begins after January 1, 2013.

- What You Need to Know is intended for individuals considering a career as a paramedic and evaluating programs for enrollment.

Questions about the flyers can be submitted to NASEMSO Program Manager, Kathy Robinson.

Educational Development

III. Educational Development

Committees

A. **The Training and Certification Committee** (TCC): The scheduled quarterly committee meeting on October 3, 2012 was not held because there were no agenda or action items.

1. Copies of past minutes are available on the Office of EMS Web page here: http://www.vdh.virginia.gov/OEMS/Training/Committees-PDC.htm

B. **The Medical Direction Committee (MDC)** The Medical Direction Committee meeting was held at the Office of EMS, 1041 Technology Park Dr, Glen Allen, Virginia on October 11, 2012. There are no action items to consider.

Copies of past minutes are available from the Office of EMS web page at: http://www.vdh.virginia.gov/OEMS/Training/Committees.asp

National Registry of EMTs Certification Test

The Office has continued to fine tune the transition to the National Registry testing. We are developing reports to review the progress and fine tune the electronic exchange process. All EMS providers receiving initial certification from Virginia approved programs continue receiving their Virginia EMS certification through a paperless reciprocity process.

Advanced Life Support Program

A. The ALS Coordinator meeting will be held on Thursday, November 8, 2012 during the VA EMS Symposium. At this meeting the ALS-Coordinator group will be discussing the purpose of the committee and the transition to the EMS Education Coordinator. The Division of Educational Development attends as a guest of the committee to address questions about EMS education in Virginia.

B. There are currently 49 applications pending for ALS Coordinator endorsement. These individuals will be invited to attend future Instructor Institutes as space allows.

Basic Life Support Program

A. Instructor Institutes

1. The Office held an EMT Instructor Institute on September 15-19, 2012. 8 EMT-Instructor Candidates and 7 bridging ALS-Coordinators, 11 Fire Instructors and 2 Reentry Instructors attended. All received certification/endorsement.
2. The next EMT Instructor Practical is scheduled for December 8, 2012, in the Richmond area.
3. The next Instructor Institute will be held in the Richmond area, in Jan/Feb, 2013.
4. EMS Providers interested in becoming an EMS Education Coordinator should contact Mr. Greg Neiman, BLS Training Specialist by e-mail at Gregory.Neiman@vdh.virginia.gov

B. Virginia EMS Education Standards (VEMSES) Exam

1. There have been 430 Initial test attempts and the pass rate is 54.65%. There have been 124 second attempts on the exam and the pass rate is 60.48%. Twenty seven (27) providers have attempted the exam a third time, and the pass rate is 40.74%. Seven (7) providers have attempted the exam a fourth time and the pass rate is 85.71%.
2. Although there has been vocal opposition to the administration of this exam to evaluate the continued competence of our Instructors to be able to teach the minimum required material, the results reinforce the need to continue to require this before an Instructor/Coordinator can implement the new Education Standards in their programs. It is important to note that the first time pass rate is not a solid number as many Instructors/Coordinators have stated they did not study prior to taking the exam, but rather wanted to take it 'cold' to see what was being asked. What is concerning is the low second time pass rate.
3. Current EMT-Instructors/ALS-Coordinators may schedule to take the exam at Regional Consolidated Test Sites (CTS) or at specified locations with the Training Staff. The Exam is being offered during symposium on Friday, November 9, 2012 at 6:30 pm in the Marriott.

C. EMS Educator Updates:

1. The Division of Educational Development continues to hold both online and in-person Educator Updates.
2. The Office conducted an in person Update at the end of September in conjunction with the VAVRS convention and an online update October 11, 2012.
3. The schedule of future updates can be found on the Web at:

http://www.vdh.virginia.gov/OEMS/Training/EMS_InstructorSchedule.htm

EMS Training Funds

FY12

	Commit $	*Payment $*	*Balance $*
BLS Initial Course Funding	$835,395.00	$360,260.41	$475,134.59
BLS CE Course Funding	$122,640.00	$43,303.75	$79,336.25
ALS CE Course Funding	$273,840.00	$79,546.25	$194,293.75
BLS Auxiliary Program	$94,000.00	$13,120.00	$80,880.00
ALS Auxiliary Program	$332,000.00	$153,550.00	$178,450.00
ALS Initial Course Funding	$1,342,350.00	$544,162.58	$798,187.42
Totals	**$3,000,225.00**	**$1,193,942.99**	**$1,806,282.01**

FY13

	Commit $	*Payment $*	*Balance $*
Emergency Ops Funding	$520.00	$0.00	$520.00
BLS Initial Course Funding	$408,816.00	$87,312.00	$321,504.00
BLS CE Course Funding	$77,280.00	$7,157.46	$70,122.54
ALS CE Course Funding	$220,080.00	$7,070.00	$213,010.00
BLS Auxiliary Program	$42,000.00	$1,440.00	$40,560.00
ALS Auxiliary Program	$226,000.00	$10,840.00	$215,160.00
ALS Initial Course Funding	$761,940.00	$214,200.00	$547,740.00
Totals	**$1,736,636.00**	**$328,019.46**	**$1,408,616.54**

EMS Education Program Accreditation

A. EMT accreditation program.
    1. Emergency Medical Technician (EMT)
        a) No applications on file.
    2. Advanced Emergency Medical Technician (AEMT)
        a) No applications on file.
    3. Intermediate – Reaccreditation
        a) No applications on file.
    4. Intermediate – Initial
        a) No applications on file.
    5. Paramedic – Initial
        a) No applications on file.

B. For more detailed information, please view the Accredited Site Directory found on the OEMS web site at:
    1. http://www.vdh.state.va.us/OEMS/Training/Accreditation.htm

C. Beginning January 1, 2013, paramedic students who are candidates for certification testing through the National Registry of EMT's (NREMT – www.nremt.org) are required to be enrolled in a nationally accredited paramedic program—national

accreditation is offered through the *Committee on Accreditation of Educational Programs for the EMS Professions* (CoAEMSP – www.coaemsp.org).

1. Virginia is well positioned to ensure that students completing paramedic training programs in the Commonwealth will be eligible to test NREMT beginning January 1, 2013.
2. Of 16 accredited paramedic training programs, there are only a handful of programs which still need to obtain national accreditation through CoAEMSP/CAAHEP.
    a) Lord Fairfax Community College
        (1) Has submitted their CoAEMSP Institutional Self-study Report (ISSR).
    b) Patrick Henry Community College
        (1) Status unknown.
    c) Rappahannock EMS Council Paramedic Program
        (1) Working toward completing their CoAEMSP Institutional Self-study Report (ISSR).
    d) Prince William County Paramedic Program
        (1) Has submitted their CoAEMSP Institutional Self-study Report (ISSR).
    e) Center for EMS Traning, Inc.
        (1) Submitted their self-study to CoAEMSP.
        (2) Awaiting initial accreditation site visit scheduled for December 20/21, 2012.

On Line EMS Continuing Education

Distributive Continuing Education

To date, the Office has approved (five) 5 third party vendors: 24-7 EMS, CentreLearn, HealthStreams, Medic-CE and TargetSafety.

There are more than 475 OEMS approved online CE courses currently offered through these vendors. A vigorous screening process assures the programs are of quality and allows for the electronic submission of continuing education to the OEMS technician database.

For more information, visit the OEMS Web page at:
http://www.vdh.virginia.gov/OEMS/Training/WebBasedCE.htm

EMSAT

A. A new Learning Management System (LMS) to house EMSAT programs for online continuing education 24/7 (similar to TRAIN Virginia) should be functioning by January 2, 2013. Fifty or more EMSAT programs will be available free for continuing education to Virginia EMS providers.

There are also about seventy Designated EMSAT Sites in the Commonwealth where viewers can get one hour of category one or two CE credit on the third Wednesday night of each month. More information is available from the Division of Educational Development.

B. EMSAT programs for the next three months include:

1. Nov. 21 Effective Cross Cultural Communication
   Cat. 1 ALS, Area 92, Cat. 1 BLS, Area 02
2. Jan. 16 The Best of On Scene Challenge
   Cat. 1 ALS, Area 90, Cat. 1 BLS, Area 05
3. Feb. 20 The Virginia Certification Testing Experience
   Cat. 2 ALS, Cat. 2 BLS

The EMS Portal

The Office of EMS Portal initiated the Agency component on December 5, 2011. This component allows an agency and designated officers the ability to update agency profile data, manage affiliation, and the ability to produce specific reports in various formats. The system allows for 'real-time' access to records and increases the security surrounding access to provider and agency data.

It is most important for all agencies to activate their portal. All affiliations are now managed over the web via the Agency component of the EMS Portal. Through the Portal, anyone with an EMS number can request to be affiliated with an EMS Agency. Once the request is submitted, the agency representative must either accept or deny the request. All activity initiates emails between the agency and applicant indicating the status of the request. An agency can also submit a request to a provider, who also must either accept or deny the request. AGENCY AFFILIATION IS NO LONGER CONDUCTED USING THE BLUE EMS CERTIFICATION TEST FORM. To activate your Agency component of the EMS Portal, the CEO of your organization must contact your OEMS Program Representative who can explain the process and assist in initiating your agency. Once activated, please contact anyone in Training or Regulation for assistance in navigating the component and extending access to other officers in your agency.

As of October 24, 2012, Agency participation has grown to 79% and provider participation has grown to 71%.

As a reminder, the EMS Portal is an all encompassing electronic dossier which provides unrivaled, 24/7/365 access to Virginia EMS personnel. Some of the features of the EMS Provider Portal include access to:

- EMS Agency affiliation data
- Continuing Education (CE) reports
- Enrolled course data

- Certification Test Eligibility letters
- Certification Test Results
- E-mail notifications of certification expiration
- Access to update/change address, phone number and e-mail address
- E-mail opt-in/opt-out functionality allowing for updates from various Divisions within the Office of EMS.

CTS

Same-Day retesting has been offered at some of the test sites across the state since July and has had overall positive impact on the testing process. As of October 16, 2012, there were 24 same-day retest attempts with only one failure.

The Consolidated Test Site Manual and the Practical Exam Users Guide (PUG) are in the process of being updated. The Psychomotor Examination Guide (PEG) is an updated compilation of these two publications and the National Registry Psychomotor Examination Manual. It is anticipated this Guide will be released by the end of the year.

Consolidated Test Site Examiner Supervisor Tom Nevetral resigned in October. We will be starting the process to fill his position soon.

There have been 42 tests since your last meeting on July 12th.

Other Activities

- Greg Neiman continues to participate with the Autism Public Safety Workgroup coordinated by the Commonwealth Autism Service.
- Warren Short participated with the AEMS council training coordinators on October 23 through 26.
- Debbie Akers has been selected by the National Association of EMS Educators to serve as the Local Program Chairman of the 2013 NAEMSE Conference to be held in Washington, DC from August 5 through 10, 2013. Additionally, she was selected to serve as the co-chairman of the Recognition Committee for NAEMSE.

Emergency Operations

IV. Emergency Operations

Operations

- **Virginia 1 DMAT**

The HMERT Coordinator attended the October monthly meeting of VA-1 DMAT. Discussion has centered on the ongoing changes that are occurring within the federal system. These changes have a direct effect on the application process, selection process, training process and others.

- **HMERT Operations**

During this quarter, Frank Cheatham, HMERT Coordinator began the process of meeting with agencies interested in single resource membership to the Health and Medical Emergency Response Team System.

- **Assistance to Office of Chief Medical Examiner**

The Emergency Operations Manager, Emergency Operations Assistant Manager, and HMERT Coordinator worked with the Office of the Chief Medical Examiner to work an interagency transfer of goods, including the Ford Truck and Command Trailer. The resources will be utilized by the OCME office to assist in deployments involving mass fatalities. As a part of the transfer, Frank Cheatham, HMERT Coordinator, took the truck and trailer to a drill at Roanoke Regional Airport on September 29, 2012. During the drill Frank was able to provide feedback on use of the truck and trailer, as well as other considerations for response.

Planning and Preparedness

- **Family Assistance Center Planning**

VDEM FAC Committee met August 27, 2012 and OEMS Emergency Operations Planner participated in meeting along with other members of VDH that focused on training issues.

- **OEMS COOP**

COOP draft is completed except business analyses on primary business functions which are to be done by the divisions. Planner is assisting as necessary with these documents.

- **EM Committee COOP Checklist Project**

Winnie Pennington, Emergency Planner, has been working with VCU Douglas L Wilder School of Business graduate students to assist in development of continuity of business checklist suitable for use by agencies to enhance preparedness for agency emergencies.

- **Regional MCI Planning**

Winnie Pennington, Emergency Planner, continues work with regional councils to review nad modify their MCI plans, as requested.

Committees/Meetings

- **Hurricane Evacuation**

The HMERT Coordinator continues to attend Lane Reversal Committee Meetings. Discussions have focused on a restructure of the committee.

- **EMS Communications Committee**

The EMS Communications Committee held its quarterly meeting on August 10, 2012. There were not enough members present for a quorum so no official business could be conducted. Discussion in the group included the EMD White Paper being completed and going before the Advisory Board for their approval

- **EMS Emergency Management Committee**

The EMS Emergency Management Committee met on October 25, 2012. The meeting provided an opportunity to discuss the support work being accomplished by the graduate students as it relates to the development of a COOP template.

- **NASEMSO Highway Incident Traffic Safety (HITS) Committee**

Frank Cheatham, HMERT Coordinator has been appointed to the NASEMSO HITS Committee.

- **Traffic Incident Management (TIM)**

The HMERT Coordinator has been appointed to serve on a TIM Training group at the state level.

- **OEMS Continuity of Operations Plan (COOP)**

The Emergency Planner facilitated a meeting on September 13, 2012 to review some final wording for the 2012 plan update.

- **Health and Safety Committee**

The OEMS Health and Safety Committee met on August 9, 2012. A presentation was given at the meeting about the mental health of providers and the best way to work towards recognizing mental health issues.

Training

- **EMS Safety Course**

On October 19, 2012 the Emergency Operations Assistant Manager and HMERT Coordinator attended a training class at the Henrico Fire Training Center. The class focused on the NFPA 1584 Rehab standard.

- **E550 Continuity Planning T-t-T Course**

Winnie Pennington, Emergency Planner attended a continuity planning course at EMI in Emmitsburg, MD on September 17-21. This course is designed as a train-the-trainer program for continuity planning and training.

- **Great Southeast Shakeout**

Winnie Pennington, Emergency Planner, assisted in organizing the Office of EMS participation in the Great Southeast Shakeout held October 18, 2012. An AAR/IP was developed for the exercise**.**

Communications

- **OEMS Public Safety Answering Point (PSAP) & 911 Center Accreditation**

Orange County 9-1-1, Brunswick County 9-1-1, Stafford County 9-1-1 and City Of Roanoke 9-1-1 all received approval by the EMS Communications Committee and State EMS Advisory Board. Mr. Crumpler did formal presentations at Boards of Supervisors meeting for Orange, Brunswick and Stafford counties.

- **EMD White Paper**

The EMD White Paper completed by the Communications Committee of the Virginia EMS Advisory Board was published and posted on the OEMS website on September 19, 2012. This paper has also received support from the Virginia Chapters of NENA and APCO and the Va. Fire Service Board

- **The Association of Public Safety Communications Officers (APCO) and National Emergency Number Association (NENA)**

OEMS is supporting the upcoming Fall APCO/NENA conference in October by providing conference call service to the planning committees. Mr. Crumpler plans to attend this conference to represent OEMS.

- **STARS/UARC**

OEMS Communications Coordinator Ken Crumpler attended the scheduled meeting is August 27, 2012.

- **OEMS Public Safety Answering Point (PSAP) & 911 Center accreditation**

Site visit and reaccreditation for Chesterfield Public Safety Communications occurred on October 4, 2012.

Critical Incident Stress Management (CISM)

- **CISM Regional Council Reports**

In the month of August Regional CISM teams reported 1 intervention. In the month of September Regional CISM teams reported 3 interventions.

Planning and Regional Coordination

V. Planning and Regional Coordination

Regional EMS Councils

Regional EMS Councils

The Regional EMS Councils submitted First Quarter contract reports throughout the month of October. Submitted deliverable items are under review by OEMS.

Applications for Regional EMS Council designation/re-designation are due to OEMS on November 1, 2012. Designation site visits and evaluations will take place in early 2013. The next designation period begins on July 1, 2013.

The EMS Systems Planner attended meetings of the Central Shenandoah and Northern Virginia EMS Councils in the quarter.

Medevac Program

The Medevac Committee is scheduled to meet on November 7, 2012. The minutes of the August 9 meeting are available on the OEMS website.

At a prior meeting, Dr. Remley has tasked the State Medevac committee to examine the future shape of air medical medicine in Virginia. Dr. Remley's directive also tasked the committee to partner with other stakeholders to propose a comprehensive voluntary statewide network committed to safety, access and quality. Over the past several months, a draft of a presentation related to this directive was created to educate and familiarize hospital staff with the Virginia Medevac System, including when to activate air medical services. This presentation is included in this report, as **Appendix A**.

The Medevac WeatherSafe application continues to grow in the amount of data submitted. In terms of weather turndowns, there were 465 entries into the WeatherSafe system in the third quarter of 2012. Two thirds of those entries were for interfacility transports, which is a continuing trend. This is a decrease from 519 entries in the third quarter of 2011…this data shows continued dedication to the program itself, but also to maintaining safety of medevac personnel and equipment.

The EMS Systems Planner has begun making site visits to the medevac services in Virginia, to get a better understanding of how those services function, and to meet and interact with the flight crews. Site visits have been made to Nightingale and LifeEvac I this quarter.

OEMS and Medevac stakeholders continue to monitor developments regarding federal legislation and other documents related to Medevac safety and regulation, including the bills in Congress as shown below:

- S 1407 Air Ambulance Medicare Accreditation and Accountability Act
- HR 1117 Air Ambulance Patient Safety, Protection and Coordination Act
- S 2376 Air Ambulance Services Clarification Act

State EMS Plan

The Virginia Office of EMS Strategic and Operational Plan is mandated through *The Code of Virginia* to be reviewed and revised on a triennial basis. The current version of the plan was approved by the State Board of Health in March of 2011.

In September, OEMS staff participated in a strategic planning retreat, facilitated by Greg Brittingham, with the Performance Management Group at VCU. During this day and a half long retreat, staff discussed where the State EMS system has been over the past few years, where it is now, and where it should be in the next three years and beyond. Additionally, the current version of the State EMS Plan was evaluated to determine what strategic initiatives should remain, what should be removed, and what should be added to the next version of the plan.

As has been done in the past, the committees of the state EMS Advisory Board will be tasked with evaluating the current Plan, and proposing additions and/or deletions, as well as conducting a SWOT analysis, as it pertains to their particular subject area. Templates for these planning sessions will be distributed in February of 2013.

The State EMS Plan continues to be available for download via the OEMS website.

Public Information & Education

VI. Public Information and Education

Marketing & Public Relations

EMS Bulletin

The quarterly EMS Bulletin was published on the OEMS website on August 27, 2012 and was the second most downloaded item during the month of August with 30,726 downloads and during the month of September with 16,235 downloads.

Promotion via Constant Contact E-mail List-serv

- July 25, sent out an e-blast to all list-serv emails promoting the opening of symposium registration.
- On August 27, sent out an e-blast to all list-serv emails promoting the EMS Bulletin.
- On August 31, sent out an e-blast to all list-serv emails promoting symposium registration.
- On September 7, sent out an e-blast to OMD's promoting the two free OMD Courses at symposium.
- On September 11, sent out an e-blast reminder to all list-serv emails promoting symposium registration.
- On September 21, sent out the final e-blast reminder to all list-serv emails promoting symposium registration.

Promoted Events on Social Media Outlets

Continued to keep OEMS' Twitter and Facebook pages active, educational and relevant by posting daily and/or weekly updates that provide important announcements and health-related topics to increase awareness and promote the mission of OEMS and VDH. Some of the features that were posted from July through September are as follows:

- **July** – Food and Fourth of July safety tips, derecho power outage and cooling center updates, CDC NIOSH workplace safety tips, National Registry testing transition, Symposium course catalog and registration.

- **August** - RSAF Grant cycle open, regional awards, Richmond International Raceway EMS provider discount offer, simbulance program, West Nile Virus (WNV) case info and prevention tips, Virginia Beach rescue story, EMS Bulletin and Hurricane Isaac disaster assistance reminder.

- **September** - Symposium registration, FDA formula warning, the Governor's EMS Awards banquet and September 11 commemoration. Discovered the largest spike in reach on Facebook during the time that the PR coordinator was posting EMS-related photos and stories pertaining to 9/11. From 9/5/12-9/11/12 the reach was 3,999 total users and 2,967 viral users. (see related graph below)

Website Statistics

Figure 1: This table represents the top five downloaded items on the OEMS website from July – September, 2012.

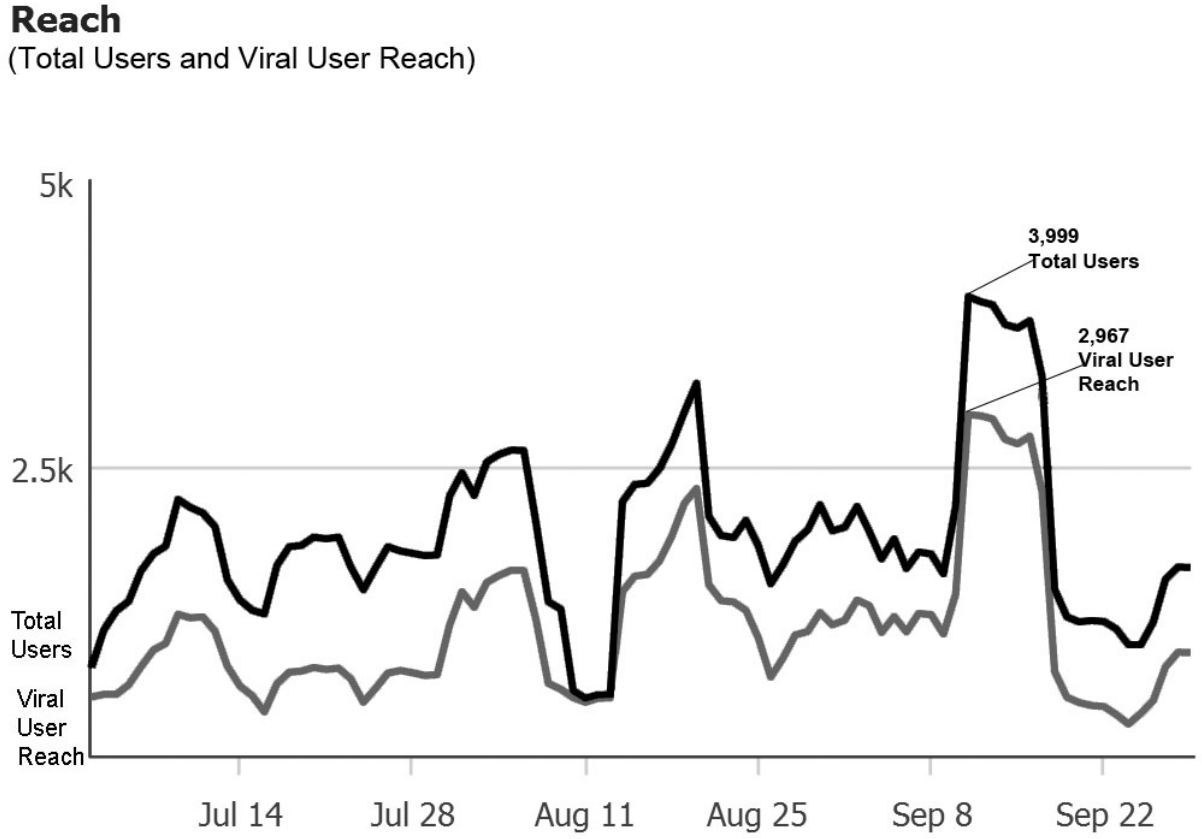
July	1. 2012 Symposium Catalog (65,393 Downloads) 2. Symposium 2010 Presentations – LMGT-732 (11,579 Downloads) 3. Training Catalog (8,851 Downloads) 4. NREMT Presentation Handouts – Full Slides (8,217 Downloads) 5. Training Program Administration Manual –TPAM (5,582 Downloads)
August	1. 2012 Symposium Catalog (53,173 Downloads) 2. EMS Summer Bulletin (30,726 Downloads) 3. Symposium 2010 Presentations – LMGT-732 (14,969 Downloads) 4. Training Catalog (10,790 Downloads) 5. Symposium 2009 Presentations – PREP-920 (9,762 Downloads)
September	1. 2012 Symposium Catalog (39,048 Downloads) 2. EMS Summer Bulletin (16,235 Downloads) 3. Symposium 2010 Presentations – LMGT-732 (10,409 Downloads) 4. Training Catalog (8,814 Downloads) 5. Symposium 2010 Presentations – CAR-205 (6,123 Downloads)

Figure 2: This table identifies the number of unique visitors, the average hits per day and the average visit length by minutes to the OEMS website from July - September, 2012. *Unique visitors* are defined as the number of unduplicated (counted only once) visitors to your website over the course of a specified time period, whereas the *average hits per day* include both unique visitors and repeat visitors.

	Unique Visitors	**Average Visits Per Day**	**Average Visit Length (Minutes)**
July	23,505	2,030	10:08
August	24,395	2,146	11:18
September	24,301	1,950	11:33

Figure 3: This graph shows how many unique users and viral users saw content from our Facebook page from July - September, 2012. *Viral reach* defines unique users that saw a story

about our page published by a friend. The *total number* of unique users is defined as people who saw any content associated with our page. Each point represents the unique people reached in the 7-day period ending with that day.



Symposium

Symposium Course Catalog

The course catalog continues to be the most downloaded item for three consecutive months, beginning with the month it was published; July with 65,393 downloads, August with 53,173 downloads and September with 39,048 downloads.

Symposium Registration

Symposium registration opened a week earlier than usual on July 25, 2012. Promoted Symposium registration via email blasts and social media. Symposium registration was scheduled to close on October 5, 2012, but was extended to October 9, 2012 due to an OEMS power outage and state holiday. This year, we received more than 1,800 participants that will be attending the Symposium. This is the highest number of participants we've had since the 2006 symposium.

On-site Guide

Designed and submitted for print 1900 copies of the 2012 On-site Guide, which will be available for all attendees of the Symposium.

Coordinated Flu Shot Clinic

Worked with the Norfolk Health Department to coordinate a free on-site flu shot clinic, which will be available to anyone attending the symposium. Planned to have 400 flu vaccinations available. Worked with Dan Norville with Norfolk Fire/EMS to determine the Norfolk Health Department's parking needs while on-site for this event.

Lanyards and Padfolios

Ordered 1500 lanyards and padfolios for registered symposium providers only. Due to cost and budgetary restrictions, we were only able to order enough items for registered providers.

Sponsors

Updated Symposium sponsors on the OEMS website with their website link if available.

Signage

Worked with Karen Owens, emergency operations assistant manager, and Frank Cheatham, HMERT coordinator, to organize all on-site signage for the Marriott and the Sheraton. (This includes all Symposium-related signage and special sponsorship signage.) Also created a spreadsheet to designate the location and date for each sign to be displayed.

Governor's EMS Awards Program

The Governor's Awards Nomination Committee meeting met on August 17, 2012 to determine the winners of the 2012 Governor's EMS Awards. The winners of the Governor's EMS Awards will be announced at the 33rd Annual Virginia EMS Symposium Reception on Saturday, November 10, 2012.

PR coordinator ordered pyramids and submitted requests for signed award certificates from Governor McDonnell. A decision memo was submitted on October 10, 2012 inviting Governor McDonnell to attend the awards ceremony.

An e-blast was sent to the award nominees in October 2012, to invite them to the awards ceremony and reception.

The PR coordinator worked with Tim Perkins, EMS systems planner, to put together the 2012 Governor's EMS Awards power point presentation.

Media Communications

Office of EMS Media Coverage

Fielded the following media inquiries regarding the following topics:

- Aug. 30 - Laura Geller with Ch. 12, called with a FOIA request for the following information: any payments made to, grants awarded to or funds transferred from any Office of EMS accounts, Rescue Squad Assistance Funds, or EMS Training Funds to the Alliance for Emergency Medical Education and Research from 2006 until 2011.

- Sep. 4 - Lawrence Hammack, with the Roanoke Times inquired about whether or not Saltville Rescue Squad's revenue was in the range of normal at $532,541 compared to other EMS agencies.

- Sep 18 - Ken Crumpler, OEMS emergency operations communications coordinator and Rider Alert liaison, was interviewed by Bill Bevins with WTVR-6 while attending the Teen Safe Driving Program presented by AAA Mid-Atlantic (a Rider Alert partner agency.)

VDH Media Coverage

Fielded the following media inquiries pertaining to other VDH programs during the months of August - September:

- Aug. 7 - John Crane with the Danville Register & Bee requested information about the COPN criteria and application process.

- Aug. 10 - Phil Galewitz with Kaiser Health News requested information regarding any new Virginia trauma centers over the past three years.

- Aug. 15 - Ashley Kelly with the Daily Press requested information regarding malpractice suits against Mary Immaculate Hospital and its doctors over the past five years.

- Aug. 27 - Molly Arnold with WRIC Ch. 8 requested information about reports that a Chesterfield man tested positive for WNV per a chesterfield county neighborhood newsletter’s report.

- Aug. 28 - Molly Arnold with WRIC Ch. 8 News requested more information about the WNV update she saw on the VDH website that morning, which stated there were now four cases of WNV across the state. She wanted clarification on which health districts (or cities/counties) reported these cases.

- Aug. 29 - Mitch Smith with the Chicago Tribune, Requested information regarding and Virginia cases linked to the Chicago hotel Legionnaires' cases.

- Aug. 30 - Sergio Hernandez with The Daily in New York, requested information about the HIV criminalization statutes pertaining to Virginia code. Aug. 30, Rachel Baye from the Washington Examiner called wanting confirmation on the number of WNV cases in Virginia.

- Sept. 10 - Tammie Smith, Richmond Times Dispatch, Requested information regarding the surge in psych bed COPN requests. Sept. 10 - Darryl Fears, Washington Post, Inquired about state data pertaining to an uptick in skin-related allergies like hay fever.

- Sept. 27 - Brian Hughes with the Washington Examiner requested data on state healthcare costs associated with inpatient complications.

Commissioner's Weekly E-mail

The PR coordinator submitted the following OEMS stories to the Commissioner's weekly email. Submissions that were recognized appear as follows:

- **July 29 - Director of the Office of Emergency Medical Services Elected to Board**

  On June 24 the National Emergency Medical Services (EMS) Memorial Service Board of Directors elected Gary R. Brown, director of the Office of Emergency Medical Services, to serve a three year term on their Board. The Board chose Gary from a pool of applicants from throughout the country and noted that "the number and quality of applicants this year was very competitive." The mission of the National EMS Memorial Service is to honor and remember the men and women of America's Emergency Medical Services who have given their lives in the line of duty, and to recognize the sacrifice they have made in service to their communities.

- **August 5 - OEMS Supports RAM Health Clinic**

  As a member of the Virginia Office of Emergency Medical Services' Health and Medical Emergency Response Teams, EMS Task Force Thomas Jefferson 2 participated in the Remote Area Medical (RAM) health clinic held at the Wise County Fairgrounds, July 19-22. The Advanced Life Support crew, including Michael D. Berg, Regulations and Compliance manager, OEMS and NREMT-P, Charlottesville-Albemarle Rescue Squad, brought with them two ambulances, two trucks, two all-terrain vehicles and two trailers, one of which was used as an urgent care treatment area. During the event, provided emergency care to dozens, transported 10 patients and pitched in wherever needed, including pulling cars out of the mud from the heavy rains.

- **October 14 - OEMS Division of Educational Development Hosts Instructor Update**

  The Office of Emergency Medical Services (OEMS) Division of Educational Development provided an EMS Instructor Update in conjunction with the 79th Annual Virginia Association of Volunteer Rescue Squads (VAVRS) Convention in Virginia

Beach. Training Manager Warren Short, BLS Training Specialist Greg Neiman, ALS Training Specialist Debbie Akers and Training and Development Specialist Chad Blosser discussed the changes that recently went into effect after Virginia adopted the new National EMS Education Standards for all EMS levels and moved away from the National Standard Curriculum, which had been in place since 1994. Additionally, the following information pertaining to the new Virginia EMS Regulations that went into effect the week of October 10, 2012, the transition to move all EMT instructors and ALS coordinators to the new EMS education coordinator certification and an update on the move to the National Registry Testing process was presented.

VDH Communications

PR coordinator was the primary ORCE public relations back-up for the month of August, covered VDH in the News for the month of September and collected, edited and submitted stories from all divisions of VDH for the Commissioner's weekly email for the month of October.

Regulation & Compliance

VII. Regulation and Compliance

Compliance

The EMS Program Representatives continue to complete ongoing investigations pertaining to EMS agencies and providers. These investigations relate to issues concerning failure to submit prehospital patient care data (VPHIB), violation of EMS vehicle equipment and supply requirements, failure to secure drugs and drug kits, failure to staff the ambulance with minimum personnel and individuals with criminal convictions. The following is a summary of the Division's activities for the second quarter of 2012:

Enforcement

Citations Issued:	11
Providers:	5
EMS Agencies:	6

Compliance Cases

New Cases:	14
Cases closed:	16
Suspensions:	1
Temporary Suspension:	2
Revocations:	1
Consent Order:	0

EMS Agency Inspections

Licensed EMS agencies:	684 Active
Permitted EMS Vehicles:	4,410 (Active, Reserve, Temporary)
Recertification:	
Agencies:	68
Vehicles:	600
New EMS agencies:	3
Spot Inspections:	144

Hearings (Formal, IFFC)

July 11, 2012: Hawkins, Tomer, Fort Lewis
July 25, 2012: Cearsley, Dry Fork
August 21, 2012: Fairfax County

Variances

Approved: 9
Disapproved: 5

OMD/PCD Endorsements

As of October 23, 2012: 216 Endorsed

EMS Regulations

On August 9, 2012, the Governor's Office approved and signed off on the final draft of the Virginia Emergency Medical Services Regulations 12VAC5-31.. The Registrar of Regulations published the final draft of the proposed EMS Regulations on September 10, 2102 with an effective date of October 10, 2012. A total of 345 comments were submitted for review. A majority of these comments related to the ability to possess a gun on an ambulance. The 2012 EMS Regulations are now effective. Staff is working diligently to assure all forms and applications are updated to reflect the new regulations. Efforts are ongoing to seek approval to print copies of the new regulations for agencies to have; interested parties may download the document from the LIS web site, http://leg1.state.va.us/cgi-bin/legp504.exe?000+men+SRR.

Notable Information

The vacant EMS Program Rep position formerly held by Mr. Andy Daniel has been filled. Ms. Nancy Burrows has joined the Office of EMS as the newest EMS Program Representative. Along with her experience as an EMS provider, firefighter, ALS Coordinator, and EMT-instructor, she also has a background in investigations as well as completing law school. We look forward to her tenure as a member of the Office team!

Division Work Activity

1. Regulation and Compliance staff represented the Office of EMS in Fire/EMS studies conducted by the Virginia Fire Service Board. Staff participated in the Fire/EMS studies for Henry County (September 23-25) and Tazewell County (October 3-5). These reports are still being developed.

2. Staff continues to offer technical assistance and educational opportunities to EMS agencies, entities and local governments as requested. The following is a listing of locations and dates this third quarter:

   July 12, Medical Direction Committee

   July 16, Middlesex County Court, criminal charges against person impersonating an EMS provider

   July 30-31, Successful IT refresh for entire Division conducted by VITA

August 2, visit to Tangier Island to become a licensed EMS agency

August 15-18, Virginia State Fire Fighters Conference, Hampton

August 22, Lord Fairfax EMS Council, BOD meeting

September 5, Meeting with VSP representatives regarding NCIC program

September 12-13, OEMS Retreat, State EMS Plan

September 27-28, VAVRS Convention, Virginia Beach

3. Field staff continues to assist the Grants Manager and the RSAF program by offering reviews for submitted grant requests as well as ongoing verification of RSAF grants awarded each cycle.

   The quarterly staff meeting was held in Roanoke on October 17-19, 2012. The meeting included discussion about the new EMS Regulations and administrative changes needed to implement the new regulations.

Technical Assistance

VIII. Technical Assistance

EMS Workforce Development Committee

The Workforce Development Committee last met on August 9, 2012.

In reviewing the Standards of Excellence the members suggested that the sub-committee add an Area of Excellence for Operational Readiness. The committee discussed the importance of the Standards of Excellence program. The committee supports the idea of contacting and informing local governments about this EMS agency self-evaluation process.

The committee will meet on Wednesday November 7, 2012, during Symposium.

WDC Sub-Committee Reports:

(a) Standards of Excellence

The sub-committee last met on October 5, 2012 and completed the draft material for all 7 Standards of Excellence Self-Assessment Surveys, for the following SoE Core Areas:

- **Leadership/Management***
- **Recruitment & Retention***
- **EMS Operational Readiness***
- **Life Safety**
- **Medical Direction**
- **Clinical Care Measures/Standards**
- **Community Involvement**

*Draft copies of these Standards of Excellence Surveys are attached. See **Appendix B**.

(b) EMS Officer Standards

The EMS Officer sub-committee last met on October 5, 2012. Work is continuing to progress on the Virginia EMS Officer I program. A draft copy of the Virginia EMS Officer Task Book I is attached. See **Appendix C.**

(c) EMS Career Fair

The third annual EMS Career Fair is scheduled for November 8, 2012 at Symposium. Currently there are 12 EMS agency vendor applicants and 1 regional EMS Council that will have career booths.

The Virginia Recruitment and Retention Network

The Recruitment Retention Network met on Friday October 19, 2012 at the Culpeper Volunteer Rescue Squad. Dave Tesh opened the meeting, announcing that several Network members have been honored for their achievements recently:

Cris Leonard was recognized for his service to his EMS peers in Hanover County and his work in recruitment and retention. Cris has also been instrumental in the forming of the Recruitment and Retention Network.

Fran Phillips was awarded VAVRS Senior Life Membership, for her work in recruitment and retention. Fran is also a VAVRS Auxiliary Life Member (awarded in 1985). Fran is the only person to hold both a Senior and the Auxiliary Life Membership status.

Lisa Braun, a Loudoun County provider, has been recognized as a "person to watch" in the 30, Under 30.

Dave announced that the topic for discussion for the meeting was - – Best Practices of Recruitment and Retention. He requested that members provide an update on their recruitment and retention programs.

Dean French, Spotsylvania County Fire and Rescue Recruitment and Retention Coordinator told the group that his office was responsible to designing, printing ads and banners, completing 5 different recruitment and retention radio clips, a web page and a recruitment video in **5 weeks!** Dean indicates that the entire campaign costs $ 32,000

The slogan of the recruitment campaign is:

Spotsylvania County's Volunteer Fire and Rescue – We Stand Together –
Stand Beside Us – Volunteer Today!

You can find the recruitment video at - http://standbesideus.org/

Dean told the group that the key to the campaign is the recruitment open houses that are being held monthly. During the open houses the community can learn more about fire and rescue, see the equipment, and talk with current members. The next 3 open houses will be held on November 7, 2012, December 5, 2012 and January 2, 2013 at Fire Rescue Station 1 – near the Spotsylvania courthouse.

Dean indicated that one of the most important parts of having successful recruitment campaign is to make sure that you have EMS training planned with-in 2-3 months of the campaign beginning.

It is important that those community members who express an interest in joining either the fire department or the rescue squad be contacted, followed-up with frequently and enrolled in class early... The campaign started on June 30 –the EMT class started on 9/1/12 and the fire class on 10/1/2012.

A discussion followed regarding the number of volunteer rescue squads that are in trouble and closing their doors. Just this month Frog Level Volunteer Rescue Squad (Caroline County) closed.

Several other squads are closing because of lack of members to the run the calls. Getting and keeping volunteers is a hard job! One network members spoke of a friend who has a home on the Eastern Shore. Their friend contacted the local squad three (3) separate times trying to get involved – no one called him back. It is important that each agency has a recruitment coordinator that will follow-up on all calls and requests for membership information.

Some other agencies have a group of members who have been involved for a long time, but are no longer able or willing to actively participate. However, these individuals still want to have control and critique new members and are critical new ideas.

Dean French commented by saying that the agency's first responsibility is to get out on the call! We are there to answer the calls! "If volunteers don't pull together – then they will not exist!" When an EMS or fire department gets bogged down in individuals posturing for power and agency infighting – the community (and patient) lose!

The discussion continued regarding the plight of volunteer EMS agencies closing. Fran told the group about the Volunteer Agency Support Conference that was sponsored by HCA Healthcare during the summer. One hour classes were held on EMS recruitment and retention, management and leadership, EMS agency management – by-laws, and parliamentary procedures and EMS grants. The workshops were well received and attended by 47 individuals . Fran went on to say that Danville Life Saving Crew has volunteered o host another mini-conference.

Carol Morrow suggested that it would be great to hold a series of day long workshops around the state every other month. Dean volunteer Spotsylvania County to host one as did Robbie Blackburn from Waynesboro.

Watch the OEMS web for more 1 day class offerings around the state!

The next Recruitment and Retention Network meeting will be on December 7 in Hanover County. The topic of discussion for the December 2012 meeting will be using social media for recruitment and retention.

Volunteer Agency Support Conference

Two OEMS staff members along with representatives of VAVRS participated in a HCA Healthcare System sponsored Volunteer Agency Support Conference on August 18, 2012at Henrico Doctor's Hospital. HCA staff member Valeta Daniels, made all of the arrangements for the conference.

There were attendees at the conference from the following Virginia EMS agencies:

Waynesboro, Brookneal, Kilmarnock, Upper Lancaster, Ettrick, East Hanover, West Hanover, Lakeside, Manchester, Alberta, Brunswick, Greater Manassas, Forest View, Nansemond-Suffolk, Fluvanna, Providence Forge, Roseland, Cumberland, Wintergreen, Holly Grove Volunteer Rescue Squad, Goochland County Volunteer Fire and Rescue, Bensley-Bermuda VRS, Tuckahoe Volunteer Rescue Squad.

The information provided in these classes was invaluable - which resulted in discussions to hold this type of event every 2 months – around the Commonwealth. The classes provided on EMS agency by-laws and meeting protocols; EMS leadership and recruitment and retention were particularly timely.

Trauma and Critical Care

VIII. Trauma and Critical Care

This section includes:

- National Association of State EMS Officials Update
- EMS for Children
  - Emergency Department Approved for Pediatrics (EDAP) Designation Program.
  - National Pediatric Readiness Project
  - Small and rural hospital site visit
  - EMSC State Partnership Grant
  - Facilitating Pediatric Education
- Poison Control Services
  - Legislative report on poison funding completed
- Virginia Pre-Hospital Information Bridge (VPHIB)
  - VPHIB Data Quality Compliance Update
  - VPHIB Version 3 (VAv3) Migration
  - Quarterly Update – What was done…
  - Quarterly Update – What will be done…
  - NEMSIS Submission
  - On the Technical Side
- Virginia Statewide Trauma Registry (VSTR)
  - VSTR Upgrade Update and Timeline
  - VSTR Submission Compliance
  - EMS Data Output
- Trauma System
  - *Virginia Statewide Trauma and Burn Center Designation Manual* – Approved.
  - TSO&MC meeting
  - Trauma Performance Improvement Committee
  - Trauma Center Fund
- Durable Do Not Resuscitate

National Association of State EMS Officials (NASEMSO) Annual Meeting

TCC staffs Paul Sharpe and David Edwards attended the NASEMSO Annual Meeting in Boise, Idaho. Within NASEMSO there exists three councils that TCC staffs are associated with; the Pediatric Emergency Care (PEC) Council, the State Trauma Managers Council, and the Data Managers Council (DMC).

The PEC Council is comprised of each states EMS for Children coordinator. OEMS' David Edwards assumed the Chairmanship of the PEC Council during the Boise meeting. The PEC Council focuses on collaboration with meeting the national EMS for Children performance measures.

The DMC membership is comprised of each state's EMS data manager. 31 different states were represented at the Boise DMC meetings. The overall theme to this meeting was collaborating on current EMS data collection efforts and education. OEMS' Paul Sharpe was elected as the Chair-elect for the DMC. NASEMSO chair-elects serve in a vice-chair role for two years and then assume the council chairman position for the second two year term. The main items from the Boise meeting include:

- Linkage of EMS data to other systems,
- Updates from federal partners including NHTSA, NEMSAC, FICEMS, etc,
- State plans for moving to NEMSIS version 3 dataset,
- Several work sessions on data quality (business and clinical rules),
- NEMSIS provided an introduction to their enhanced data cube for public and state access.
- Future DMC plans and goals include:
    - All states working collaboratively during the move to NEMSIS v3,
    - Continue weakly teleconferences to work collaboratively on NEMSIS v3,
    - Continue ongoing communication with the EMS software vendor community,
    - Develop a repository of resource materials from all states,
    - Expose DMC members to new technology being used by EMS,
    - Assure the DMC works on data output projects despite the drain on resources caused by v3.
- Eastern states entered into a verbal agreement with one another and NEMSIS to grant bordering states with access to each others' NEMSIS data via the NEMSIS cube. Formal data use agreements will be entered into.

The State Trauma Managers Council is made up of each states trauma manager. This year's meeting was well attended and included a presentation by TCC staff on improving data quality by state data registries. Other items from the Trauma Managers Council included:

- Joint Operation Committee Update (NASEMSO & the ACS)
- 5 trauma data related presentations
- Partnering with other state agencies

- Roles and realities working with rural hospitals
- Other joint/collaborative meetings.

Emergency Medical Services for Children (EMSC)

Emergency Department Approved for Pediatrics (EDAP) Designation Program (PM 74)

A special meeting of the EDAP Designation Work Group, formerly known as the PED (Pediatric Emergency Department) Work Group, was held October 15, 2012 at OEMS offices in Glen Allen. The meeting was for work group members to hear suggestions and concerns related to the Virginia EMSC program's proposed voluntary facility recognition program from a number of hospital representatives, representatives from the Virginia Hospital and Healthcare Association (VHHA), representatives from the VA chapter of the American College of Emergency Physicians (VACEP), medical school physicians, and other EMSC stakeholders.

Both VACEP and VHHA had requested a delay in finalizing the voluntary program until specific draft criteria of the program could be further discussed and revisions made to assure adequate stakeholder input into the process. Nearly 30 persons gathered and took part in the discussions, and the EDAP Work Group agreed to include input received during the meeting into an additional revised draft version of the program. The revision will be shared with stakeholders in coming months and opportunities for further discussion will be provided.

"National Pediatric Readiness Project" Set for January Launch

The "National Pediatric Readiness Project" will commence at the beginning of 2013. This ongoing quality improvement initiative, endorsed by a large cadre of national organizations, will begin with an assessment of 5,000 U.S. hospitals.

Virginia hospitals are scheduled to be assessed in the second of five cohorts, and will have a February 1, 2013 through April 30, 2013 window in which to complete the assessment. The Virginia EMSC program will be assisting the national project in making contact with appropriate personnel at hospitals to participate in the assessment, and performing follow-up contact with hospitals with the goal of achieving an 80% national response rate.

Pediatric ED Assessments Continue (PM 74)

The Virginia EMSC program continues to visit small and rural Virginia hospitals on an on-going basis to assess their pediatric needs and capabilities in relation to the "*Guidelines for Care of Children in the Emergency Department*" document (published in October of 2009).

Riverside-Tappahannock Hospital had a very successful assessment in July; five more hospitals have requested the free assessment, and these will be scheduled for early 2013.

EMSC State Partnership Grant

The Virginia EMSC program recently completed and submitted a "competing continuation" grant application for the Health Resources & Services Administration (HRSA) which, if successful, would provide federal EMSC State Partnership Gant funding over the next four years (beginning March 1, 2013) for a total of $520,000 ($130,000 per grant year). This funding, of course, is always subject to congressional action, which could include approval, elimination, reduction, etc. The program may also be subject, as many federal programs will be, to "sequestration"— essentially automatic budget cuts caused by the inability of Congress to enact cuts on its own.

A four year budget was submitted with the application for EMSC State Partnership Grant, but any member of the EMS Advisory Board or the EMSC community who has specific ideas or requests related to EMSC funding of program activities, equipment, or supplies is invited to submit those to David Edwards (david.edwards@vdh.virginia.gov). There is a certain amount of flexibility with the funding, and if an idea fits within a category which has already been funded, it might translate into an application of funds toward that end.

The National Highway Transportation Safety Administration officially released its "Safe Transportation of Children in Emergency Ground Ambulances" document. Funding for a DVD for Virginia EMS providers based upon these recommendations is available, but had been in escrow awaiting the official release of this report (PM 80).

EMSC funding will be purchasing some child restraint/immobilization devices for volunteer EMS agencies to be distributed on an as needed basis, and a survey regarding this will be distributed soon; the devices being considered are the Pedi-Air-Align, Pedi-Mate, and LSP. Also to be purchased and distributed are the new version of the Broselow™ Pediatric tape.

Trauma Center Pediatric Criteria Being Revised (PM 75)

Trauma Center Designation criteria are in the process of revision and specific pediatric criteria are being considered. If adopted, this effort would directly enhance Virginia's ability to show progress toward achieving national Performance Measure #80.

Correlation of ACS-Verified Trauma Centers with CDC Statewide Pediatric Mortality Rates: *The Journal of Trauma and Acute Care Injury* recently published a study that investigated the relationship between pediatric trauma centers, verified by the American College of Surgeons (ACS), and pediatric injury mortality rates. Investigators used 2008 data from the Centers for Disease Control and Prevention's (CDC) National Center for Injury Prevention and Control to determine the number of ACS-verified adult trauma centers (vATC), ACS-verified pediatric trauma centers (vPTC), and mortality rates.

Facilitating Access to Pediatric Education (PM78, 80)

The Virginia EMSC program's federal funding is helping to support an EPC (*Emergency Pediatric Care*) course to be held at Riverside-Tappahannock Hospital and conducted as outreach by Virginia Commonwealth University Health System' (VCUHS) Pediatric Emergency

Department in December. Support of other pediatric education and training offerings in diverse areas of the state will be pursued as an on-going program initiative if pending federal funding is approved.

An *Emergency Nursing Pediatric Course* (ENPC) two day course is being held at the 2012 EMS Symposium in November (Nov. 7-8), and is being sponsored completely by EMSC program federal funding. There will be no additional cost for the 24 students being accepted into the course, other than their original Symposium registration.

A commitment to support training for up to 80 additional ENPC students during the 2013-2014 grant year was included in the EMSC budget request which was part of the competing continuation grant application. Funding is also being pursued to send physician, nurses, and EMS instructors to small and rural hospital emergency departments to provide continuing education training in pediatric resuscitation for ED staffs and/or EMS.

Customized Access to "Crash Facts Data"

The Virginia Highway Safety Office reports that "crash facts data" is available right from your personal computer. Through its Traffic Records Electronic Data System (TREDS), you are able to create your own reports using jurisdiction, time frame and report type. There is also an option to review pre-formatted reports and explore the interactive crash mapping feature. This data can be found by visiting http://www.dmv.virginia.gov/webdoc/safety/crash_data/index.asp.

As of September 28, 2012, fatalities and serious injures for ages 0 to 18 are down; fatalities are down 20%, and serious injuries are down 21%.

Poison Control Services

Legislative report on poison funding

OEMS' Division of Trauma/Critical Care serves as the contract administrator for the three poison centers that make up the Virginia Poison Control Network (VPCN). Item 297 of the 2012 – 2014 Appropriations Acts states "The Commissioner of Health shall report to the Senate Finance and House Appropriations Committees by November 1, 2012 on the level of funding needed to support the operations and services of the two Poison Control Centers." For those unfamiliar with the VPCN, there has traditionally been three poison centers that serve Virginia.

As a result of this language OEMS contracted with PHBV partners to perform the analysis of the funding needed to support the VPCN. The analysis is limited to the minimum funding needed to meet the deliverables listed in the scope of work section of the most recent contract between the Commonwealth and the VPCN by two poison centers. This scope of work reflects the minimum requirements for American Association of Poison Control Centers (AAPCC) certification.

The final report titled "Cost Analysis of the Virginia Poison Control Network August 2012" is attached as **Appendix D.**

Patient Care Information System

Virginia Pre-Hospital Information Bridge (VPHIB) submission compliance remains high

Agency compliance with submitting to VPHIB is at approximately 95 percent. The rate is likely to improve even further based on the efforts of some agencies to correct issues.

VPHIB quality compliance

Yes, data quality is a compliance related matter. However, OEMS continues at this point to address poor data by providing an awareness of data quality issues and providing information to agencies that can help them make improvements when needed. As we reported in our previous quarterly report, it will likely require a few months before the Data Quality Dashboard report will demonstrate an agency's improvements. We now can see that this is true as shown in Figure 1 below.

Figure 1: Average Statewide Data Quality Scores

As we have shared through the VPHIB list service; the next round of quality/validation rules that will be added to the VPHIB system will primarily focus on EMS provider demographic information (certification levels, numbers, primary roles etc.). We have been asked by stakeholders to demonstrate why changes are needed within VPHIB. Figure 2 below shows the number of EMS providers in the VPHIB system that have an invalid EMS provider certification level.

There are 6,903 instances of incorrect provider levels. As shown, the valid EMT levels are shown in plain text and the incorrect levels are shown as 645, 640, 0, 446000, and 635. Most of these are codes from other elements within VPHIB. To help understand the magnitude of this issue, each time a response is documented, a procedure performed, or medication administered by one of these 6,903 instances it creates a poor data entry. This results in multiple errors for

each response performed by these providers. Since these users represent 14 percent of all users, this issue requires a significant intervention.

This issue is caused by a combination of issues including a weakness in the version 2 dataset, software programming, and incorrect data entry. This issue was discussed with NEMSIS, EMS software companies, and state offices. Based on this discussion, the approach OEMS is going to use to correct this issue in Virginia will also be the approach taken nationally with the NEMSIS version 3 dataset.

Figure 2: Number of Providers by Certification Level

StateCertLevel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	EMT - Basic	22076	44.7	50.0	50.0
	EMT - Paramedic	5487	11.1	12.4	62.4
	EMT - Intermediate	4421	9.0	10.0	72.4
	645	3284	6.7	7.4	79.8
	Driver	2021	4.1	4.6	84.4
	EMT - Enhanced	1478	3.0	3.3	87.8
	640	1103	2.2	2.5	90.2
	First Responder	1043	2.1	2.4	92.6
	0	981	2.0	2.2	94.8
	446000	888	1.8	2.0	96.8
	635	647	1.3	1.5	98.3
	-25	310	.6	.7	99.0
	Nurse	222	.4	.5	99.5
	Physician	105	.2	.2	99.7
	-5	84	.2	.2	99.9
	-15	15	.0	.0	100.0
	-20	8	.0	.0	100.0
	-10	4	.0	.0	100.0
	445001	1	.0	.0	100.0
	Total	44178	89.5	100.0	
Missing	System	5203	10.5		
Total		49381	100.0		

To briefly summarize this quality issue below is a brief summary of each incorrect level:

Code 645 – Has 3,284 users assigned this certification level:

- 287 Agencies affected
- 645 is the NEMSIS code for “Other non-healthcare professional” in another element.
- OEMS will add a new certification level to the system called “Other non-healthcare professional” and then perform a SQL repair script that moves these users if the user does not have a valid certification number connected to their account.

640 - Has 1,103 users assigned this certification level:

- 160 Agencies affected
- 640 is the NEMSIS code for “Other healthcare professional” in another element
- These users appear to be mostly thirds, drivers, etc.
- OEMS will also attempt to repair these at the server if possible.

Code 0 – Has 981 users assigned this certification level:

- This is incorrect code is limited to a couple of agencies.
- This issue is limited to the Sansio software program users only.
- These will need to be corrected by the vendor Sansio or managed through its agencies.

Code 446000 – Has 888 users assigned this certification level:

- ~254 Agencies Affected.
- 446000 is ImageTrend's Code for EMT Basic – IV.
- The certification number of these users is varied meaning they are EMT basics, enhanced, intermediates etc.
- This will have to be fixed manually due to the wide variation of user certification levels.
- Many of the 254 have only 1 -3 errors and may be best fixed at OEMS.
- Large scale issue will need to be addressed at the vendor or agency level.

Code 635 - Has 647 users assigned this certification level:

- 115 Agencies affected
- 635 is the NEMSIS code for a "student" in a different data element.
- The majority of these users appear to be students, but some are new staffs or certified providers.
- The majority of these users are from agencies with their own ImageTrend Service Bridges.
- OEMS will add "student" to the list of certifications and then;
- ImageTrend or the agencies will need to correct these users.

OEMS will work to correct as much of these users as we can internally. Once complete, agencies and/or vendors will be asked to correct the remaining errors and quality rules will be put in place to prevent these issues in the future.

Migration to Virginia's version 3 EMS dataset (VAv3)

VAv3 was officially adopted on 8/21/2012. OEMS is in the process of posting the final VAv3 list of mandatory data elements, a list of elements and fields, and full detailed data dictionary. Each EMS software vendor currently in use in Virginia will be notified; the updated documents will be officially posted to NEMSIS, and placed within the VPHIB program, VPHIB Support Suite, and OEMS Website.

It is our intention to resume sending out VAv3 notifications and information beginning in January 2013. We are also planning to host a monthly webinar to provide vendors and agency administrators with a forum to receive information and ask questions. The VAv3 Forum will be held on the second Wednesday of the month beginning at 3:00 p.m. The topic for January will be "choosing your agency's v3 dataset", and the February topic will be "how to correctly add

additional fields and elements within the NEMSIS structure." Topics raised during the Forums will drive future topics.

The implementation date for Virginia to move to the VPHIB version 3 EMS minimum dataset has now been locked down as July 1, 2013 thru December 31, 2013. As of January 1, 2014 VPHIB will no longer accept EMS data in the current version 2 format.

To close the loop on OEMS' plan to draft the new version 3 mandatory minimum dataset, provide the ability for the EMS system to provide input, and properly promulgate the new data set the following timeline was followed.

- ~~February 1, 2012 – OEMS makes the Virginia Version 3.0 Data Dictionary (VAv3) available to the public by posting it on the VPHIB Support Suite Knowledgebase, VPHIB Knowledgebase, and the OEMS website.~~
- ~~February 1 – February 14 - OEMS will open a Wiki page to collect public comment. Details and instructions about how to use the VPHIB-VAv3 Wiki will be made available. Note: State, regional and local committees, EMS software vendors, EMS agencies, organizations, associations, providers, and all interested parties are highly encouraged to comment via the VAv3 Wiki.~~
- ~~February 1 – April 30 – If needed, "Town Hall" meetings will be scheduled using a webinar format to respond to concerns and questions.~~
- ~~April 30, 2012 – VAv3.0 comment period closed.~~
- ~~May 18, 2012 - VAv3.1 exposure draft included in quarterly report to EMS Advisory Board~~
- ~~June 1, 2012 - VAv3.1 posted for additional comment for final 30 days.~~
- ~~June 30, 2012 – Vav3.1 Second comment period closed, minimum dataset locked down.~~
- ~~August 10, 2012 – EMS Advisory Board asked to endorse VAv3/EMS minimum data set. (final document)~~
- ~~September 14, 2012 – OEMS has requested that the VAv3/EMS minimum data set be on the State Board of Health agenda for approval.~~
- ~~September 15, 2012 – Final VAv3/EMS minimum data set be made available publicly if applicable.~~
- July 1, 2013 – OEMS opens collection of VAv3 data set to agencies.
- December 31, 2013 – OEMS closes collection of version 2 and all submission after this date will need to be submitted using VAv3 standards.

Quarterly Update – What was done

During the last quarter the bulk of TCC staff time was dedicated to assessing the provider demographic information and finalizing the VPHIB Version 3 Data Dictionary (VAv3).

The Informatics Coordinator began building annual CY datasets for 2007 though 2011 in anticipation of revising the Trends in Trauma and Emergency Medicine annual reports. These datasets will also be helpful in performing 5 year trend analyses and comparisons with VSTR data from the same time periods.

TCC staffs have been in discussions with the VDH Office of Information Management's (OIM) Data Warehouse DW (DW) Program. The VDH DW project provides a central location that a variety of VDH programs contribute data to. The DW also provides a means to automate data cleanup and provides access to the data using a data cube. Data cubes provide a means for less experienced persons to develop data reports.

As a result of these discussions TCC has notified OIM that it wishes to proceed with contributing VPHIB data to the VDH DW. The benefits of our contributing EMS data to the DW includes providing other VDH programs with access to EMS data, allows TCC staffs to automate some data cleaning work efforts, and provide a means of linkage of EMS data to hospital admission data. Combining the VSTR and VPHIB and linking EMS data to hospital data are big steps in moving to having outcome data for EMS patients.

Quarterly Update – What will be done

In the upcoming quarter TCC will begin to clean the provider information and develop and implement additional validation rules to prevent further issues. We will also be working with VITA/NG to continue server environment improvements as noted below in the "on the technical side" section. Additionally, preparation work for the VAv3 implementation will occur.

As time allows, OEMS will continue revising the ePCR/Run Forms. ImageTrend offers a "Dynamic Run Form (DRF)." The DRF works as a single run form and is designed so that as a provider documents their EMS response, only those questions needed to be answered will be visible based on the providers responses to questions. It is our intention to offer the DRF as an additional form that can be used by agencies if desired. The DRF will become the only run form available with VAv3.

NEMSIS submission

OEMS is now caught up with submitting Virginia's data to NEMSIS. Data is submitted to NEMSIS each month when the Data Quality Dashboard and Compliance Report are developed. Data not submitted on time does not get submitted to the national EMS database. Virginia has now contributed 1,460,777 records. Figure 3 shows the steady incline in the number of records being accepted by NEMSIS. The increasing number of records being accepted is directly related to our improving data quality.

Figure 3: Number of Virginia EMS Records in the NEMSIS System

Warehouse Summary for Your Sites						
2011				2012		
Q1	Q2	Q3	Q4	Q1	Q2	Q3
3	19	56,222	3	1	1	18,981
176,788	185,711	215,940	228,467	240,750	248,483	164,435

The bottom row shows the records accepted by NEMSIS. The top row is only a testing site.

As a reminder, NEMSIS maintains a public data "cube" that anyone can access to compare their own information to. Go to www.NEMSIS.org and click on the "Reporting Tools" tab.

On the technical side

Multiple server changes have been made during this quarter to improve VPHIB's performance. An additional 102 GB of database space was added to accommodate data storage. Two new drives were also added (drives "F" and "G"). Drives "F" and "G" are both additional temporary drives (aka RAM). Drive "F" (68 GB) will manage TempDB log files and drive "G" (136 GB) will manage TempDB Data Files. This additional 204 GB of space will expand the current single drive/RAM from having to perform all exchanges (i.e. uploads and downloads) and instead share this workload between three drives.

OEMS has also requested that all VPHIB servers be upgrade to MS SQL Server 2008 Enterprise (the most current available from NG.) Utilizing the enterprise version should allow some repairs and maintenance to occur without the system going off-line. The plan to upgrade the servers OS was due to OEMS on 9/1/12. This upgrade is needed to install the new trauma registry program and in order to receive the next ImageTrend upgrade for VPHIB (v5.5).

Virginia Statewide Trauma Registry (VSTR) Upgrade

OEMS' contract with ImageTrend was modified to include the ImageTrend Patient Registry module. The Patient Registry product will be used to replace the current program that serves as the Virginia Statewide Trauma Registry (VSTR). The current VSTR began development in 1999 and was launched in May 2005. With such a long production period this product from a business standpoint, was outdated when implemented. This will be the third software program used to collect trauma data. Being the third VSTR program the replacement project is noted as VSTR v3. The VSTR program will now be housed in the same server cluster as VPHIB.

OEMS will be recruiting a small workgroup from the trauma community and other hospital stakeholders to update the VSTR minimum dataset utilizing the 2013 National Trauma Dataset and technical format. The timeline for migrating from Virginia's version 2 trauma registry collected using the "EMS Trauma Registry" application to the new version 3 trauma registry minimum dataset to be collected by the ImageTrend Patient Registry application is as follows:

- September 2012 – Notice of minimum data set development announced.
- September 2012 – additional resource information gathering performed.
- October 2012 – VSTR v3 project and resource materials posted to OEMS website and Support Suite.
- October 2012 – OEMS begins working with stakeholders to collect input into the developing VSTR v3 data set.
- December 2012 – TSO&MC committee updated on the progress of VSTR v3.
- March 2013 – Draft VSTR v3 minimum data set presented to the TSO&MC for approval.
- May 2013 – Draft VSTR v3 data set presented to EMS Advisory Board for approval.

- June 2013 – (Alternate September 2013) Draft VSTR v3 minimum data set presented to State Board of Health for Approval.
- July 2013 – All hospital notified of the revised VSTR requirements and implementation timeline.
- July 2013 – Pilot hospitals identified for pilot implementation.
- September 2013 – Pilot phase open for participating hospitals.
- October 2013 – Legacy data conversion for those records collected up to December 31, 2012 loaded into the new system.
- December 2013 – Pilot phase ends
- January 2014 – Implementation of VSTR v3 open. Manual data entry moved to new registry. Electronic submission begins to move to new VSTR.
- March 2014 – Current VSTR application closes.
- June 2014 – Second and final batch of legacy data, January 1, 2013 thru March 31, 2014, moved to new VSTR.

VSTR submission compliance

The second quarter 2012 official VSTR submission audit disclosed 99% compliance. One facility was granted an extension due to staffing issues.

Our pre-audit for the third quarter disclosed 16 facilities that did not submit data and six had under-reported. For several years now we have been conducting pre-audits approximately one month prior to the official audit. The pre-audits typically disclose that approximately 25 percent of hospitals submit data just before our audits are performed. In most cases the reason is due to staffing issues and changes in personnel. During this thirty day period, we send out reminder notices and work closely with those hospitals identified as not having submitted data. Our efforts at doing this have been successful and compliance has consistency been above 90%.

There has been continued work with the VDH's Office of Information Management (OIM) and VCUHS's trauma registrar to resolve several long standing data upload problems into the VSTR (primarily location where the injury occurred and blood alcohol values.) VCUHS resolved all of its issues and replaced all of its datasets (CY 2003 onward) in late May. OIM began implementing the fixes on May 15th; the process was completed on August 6th.

Date Requests During the Quarter Included

All external requests were entered into a tracking system for data requests and received Director approval before the information was disseminated.

- Matthew Smith of Virginia Department of Fire Programs made a request for data from Fluvanna County at the year and agency level (approved by Scott Winston as Gary was on vacation):
    - Table 1. EMS Call Types by Agency and Year
    - Table 2. EMS Call Descriptions by Agency and Year

- Table 3. EMS Level of Care by Agency and Year

- Jeff Doucette of Bon Secours Hampton Roads Health System asked for the number of EMS calls that resulted in hospital transports for the TEMS and PEMS regions by locale for FY 11 and FY 12. This request was not completed because the requestor did not respond to request for additional information.

- Jim Cady of Craig County Emergency Services asked for the state average (%) for patient refusals for Jan1, 2012 to date (January through August)
  - Provided data for Craig County Emergency Services (CCES), and by Cities/Counties within the Western Virginia EMS (WVEMS) Council, by WVEMS as a whole, and statewide.
  - Reported the number of agencies, number of refusals, number of calls, and percentage of refusals for all levels of data. With the exception of CCES, noted the minimum, 25th percentile, median, 75th percentile, and maximum value for Agency refusal rates.

Trauma System

Trauma Center Designation Manual Revised

On August 29, 2012 the most recent version of the Trauma Center Designation Manual was approved. Effective on January 1, 2013 the revised manual is now the *Virginia Statewide Trauma and Burn Center Designation Manual* – Please see **Appendix E**. The major items in this revision include burn center designation for the first time and updated nursing requirements. Hospital applying for trauma center verification or designation in CY2013 will be required to meet the new criteria.

TSO&MC March 1, 2012 meeting

The TSO&MC last met on September 6, 2012 and the draft minutes to this meeting can be found posted on the Virginia Town Hall Website as required. The key items for this meeting included presenting the trauma triage/trauma mortality presentation that was given at the August 2012 EMS Advisory Board to the members of the TSO&MC. Other items included trauma criteria, trauma PI, trauma registry upgrade, and EMS regulations update as noted throughout this quarterly report were discussed.

TSO&M Performance Improvement Committee (TPIC)

- TCC finished updating the VSTR data files with 2011 data in time for the 3rd Quarter CY 2012 meeting.
  - The meeting was cancelled because of reorganization issues.
  - Analyses were performed for the August 10th meeting of the EMS Advisory Board, and included:

Explanation of the use of the Virginia Field Trauma Triage (TT) Step 1 criteria as a marker for mortality
  - Description of the rationale for and results of the PI analyses done to date
  - Prepared Excel column charts for
    - Figure 1: Initial Destination by TT Type
    - Figure 2a: Mortality by TT Value Regardless of Initial Destination Type
    - Figure 2b: Mortality of TT=0 Patients by Initial Destination Type
    - Figure 2c: Mortality of TT=1 Patients by Initial Destination Type
    - Figure 2d: Mortality of TT>1 Patients by Initial Destination Type
  - Provided GIS maps for
    - Number of Step 1 Trauma Triage Patients (TT > 0) by EMS Regional Council for Injury
    - Number of Step 1 Trauma Triage Patients (TT > 0) by FIPS Code for Injury
- EMS Council Trauma Performance Improvement Project
  - Developed first quarterly report comparing EMS Regions on several measures.
    - Disseminated individual reports via email to each EMS Council executive director (ED) and asked that they share the information with their PI Committee. EMS Council EDs were told that they could request the full report; to date, only PEMS has asked for a copy.
    - Full report was sent to Paul Sharpe, Tim Perkins, and Gary Brown.
    - Report included:
    - A brief introduction to the data and rationales used in the report
    - Maps (for all EMS Regions)
      - Number of TT>0 trauma cases in each EMS Region
      - Percentage of TT>0 trauma cases in each EMS Region
    - "Dashboard" summaries for several measures for the state as a whole and for the individual EMS Region
      - Figure 1: 5 year summary of the number and percentage of trauma cases by the number of Step 1 Trauma Triage (TT) criteria met.
      - Figure 2: Mortality rates for TT=0, TT=1, and TT>1 (TT=2 + TT=3) patients during the 5 most recent calendar years.
      - Figure 3: Summary of three measures using TT scores.
      - Figure 4: Impact of transfer status on patients with TT>0.
      - Table: Values for several selected performance measures as well as overall regional descriptive statistics comparison values.
      - Figure 5: Radar plot for the rankings of four measures (EMS Region data only)

Most Recent Trauma Center Fund Disbursement:

Trauma Center & Level	Percent Distribution	Previous Quarterly Distribution	August 2012	Total Funds Received Since FY06
I				
Roanoke Memorial Hospital	17.48%	$655,326.00	$423,799.78	$7,174,337.17
Inova Fairfax Hospital	15.41%	$606,029.83	$373,612.96	$11,706,345.72
Norfolk General Hospital	11.28%	$430,363.34	$273,481.78	$7,147,862.22
UVA Health System	13.99%	$537,954.18	$339,185.29	$7,623,727.20
VCU Health Systems	24.31%	$943,278.20	$589,392.02	$12,894,459.77
II				$0.00
Lynchburg General Hospital	1.83%	$77,856.64	$44,368.05	$1,415,468.08
Mary Washington Hospital	3.71%	$157,669.48	$89,948.35	$795,447.87
Riverside Regional Medical Ctr.	3.94%	$124,805.37	$95,524.66	$1,475,327.34
Winchester Medical Ctr.	3.63%	$188,186.15	$88,008.76	$2,044,249.72
III				$0.00
New River Valley Medical Ctr.	0.26%	$14,475.86	$6,303.66	$148,798.86
CJW Medical Ctr.	1.08%	$27,386.76	$26,184.43	$539,591.91
Montgomery Regional Hospital	0.31%	$12,128.42	$7,515.90	$169,573.11
Southside Regional Medical Ctr.	0.43%	$17,605.77	$10,425.28	$284,995.63
Virginia Beach Gen'l Hospital	2.34%	$119,328.02	$56,732.92	$1,940,787.04
Total		$3,912,394.02	$2,424,483.84	$55,360,971.64

* These figures contain the funds collected from the DMV & DCJS.

More information on the trauma fund can be found in the full trauma fund document, the "*Virginia Office of Emergency Medical Services Trauma Fund Grant Information and Disbursement Policy"*. This document and other trauma related documents can be found at: http://www.vdh.virginia.gov/OEMS/Trauma/index.htm

Durable Do Not Resuscitate (DDNR)

Downloadable DDNR Form well accepted

OEMS has still received over 95% positive feedback about the new multi-part DDNR Order available for download on the Internet. Due to the number of requests for a Spanish version of the DDNR Order, OEMS has been in contact with the Office of Minority Health and Public Health Policy in regards to getting the form translated to Spanish.

OEMS has been advised that VDH has a new vendor contracted for interpretation and translation services, World Wide Interpreters, Inc. (WWI) located in South Houston, TX. No timeframe has been provided as to when they will complete the translations, have them reviewed, and approved by the appropriate authority.

Reminder of new regulations

The DDNR regulations were approved by the Governor and went into effect in July 2011. The OEMS Web site has been updated with a new multi-page DDNR Order form available for download and printing. The regulations also now allow for legible photocopies of DNR orders to be accepted by health care personnel. The new form can be seen on-line at http://www.vdh.virginia.gov/oems/ddnr/ddnr.asp.

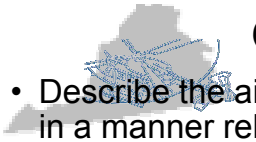
Respectfully Submitted

OEMS Staff

Appendix

A

Physician's Guide To Helicopter EMS Use in Virginia



Objectives

- Describe the air medical system (Medevac) in a manner relevant for physicians.
- Elucidate Virginia specific data concerning Medevac utilization in the Commonwealth.
- Define utilization guidelines for Medevac services.
- Identify the coverage of Medevac services in the Commonwealth of Virginia.
- Explain access to Medevac services for all patients.
- Define Medevac response in the event of a Mass Casualty Incident (MCI).

Medevac Defined

In Virginia, we commonly use the term "Medevac" when referring to our air medical evacuation system and/or licensed EMS agencies that provide air medical services. The terms air medical services (AMS), helicopter emergency medical services (HEMS), and other terms are commonly used by other states and national organizations to describe their systems or agencies.

Medevac Defined

In the majority of cases, Medevac refers to EMS agencies operating helicopters, or "rotor-wing" aircraft, performing patient transports from the field to hospitals or directly from hospital to hospital.

Traditional airplanes, "fixed-wing" aircraft, may also be used for longer distance patient transports and are obviously restricted to operations between airfields or airports.

Medevac Programs

- Medevac programs can be generally divided into three categories:
  - Hospital based
  - Commercial
  - Public service

Medevac Programs

- Hospital based programs
  - Historically, helicopter EMS services began as hospital based services, generally based at large, tertiary care hospitals or health care systems
  - Hospital based services are generally staffed by medical crews from the sponsoring hospital, while the flight services are provided by a contracted operator
  - Hospital based Medevac services frequently function as a component of a comprehensive patient transport program that might include ground transport and specialty (e.g. neonatal) transport services

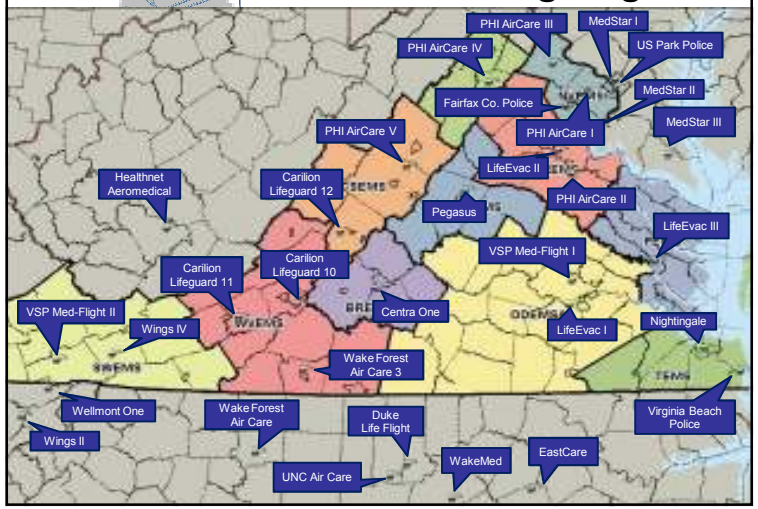
Medevac Programs

- Commercial
  - Over the past decade, many commercial programs have been established that provide Medevac services without being based at or affiliated with a specific hospital or health care system
  - Commercial programs are generally staffed, both medical and flight crew, and operated by a parent company that may operate Medevac programs at many sites
  - Commercial programs are frequently based at airports or other non-hospital bases

Medevac Programs

- Public service
  - Public service programs are generally operated by agencies of local, state, or federal government and frequently fulfill multiple roles such as EMS, law enforcement, and search and rescue
  - Medical staff may be provided by the operating agency, or provided cooperatively by local EMS agencies
  - Generally public service agencies participate in pre-hospital responses and less frequently in inter-facility transports

Medevac Resources Serving Virginia



Utilization of Medevac Services

- Whether considering field-to-hospital or hospital-to-hospital transfers, the first step in effective utilization of Medevac services is to have a working relationship with the Medevac agencies providing services in a specific area
- All Medevac services have outreach programs and can provide specific in-service training to EMS agencies, EMS providers, hospital staff, and physicians regarding the scope of their services and safe and effective interactions with aircraft and crews

Utilization of Medevac Services

- Areas for coordination with Medevac services include:
  - Communication requirements including requests for transports and in-flight communications
  - Landing zone and safety requirements
  - Scope of practice and resources of the Medevac service
  - Specific patient care issues such as medication protocols, IV pumps, monitors, and ventilators

Utilization of Medevac Services

- Physicians and hospital staff should be familiar with the availability of local ground transport services, their scope of care and resources

Utilization of Medevac Services

- When considering the use of Medevac services, physicians should consider several factors in making their decision:
  - Is there a critical need for the timeliness of transfer that a helicopter might offer?
    - It is important to remember that the time required to effect a Medevac transfer can be significantly longer than the flight time alone between the transferring and receiving facilities

Utilization of Medevac Services

  - Does the Medevac crew provide a level of care that cannot be provided by other local resources?
    - Medevac services typically offer a flight crew experienced in the management of critically ill and injured patients during transports from the scene of illness or injury as well as between hospitals
    - Medevac services may also offer technology not available to other local transport services, such as intra-aortic balloon pumps

Utilization of Medevac Services

- The decision regarding the transport of a patient should be an informed decision considering a number of factors
- Physicians utilizing Medevac services should be aware that there is an increased risk of mishap during transport, and a significant increase in cost of a Medevac transport compared to a ground transport

Utilization of Medevac Services

- Hospital-to-hospital transfers
  - Physicians should be familiar with the hospitals and services that they most frequently refer to; again, those services can provide information that can help make transfers as smooth as possible

Utilization of Medevac Services

- Hospital-to-hospital transfers
  - Although most hospital to hospital transports occur to and from the emergency department, many are from inpatient units (e.g. intensive care units, newborn nurseries, cardiac catheterization labs), requiring familiarity with the process involved of all physicians who might initiate Medevac transfers
  - In some hospitals, requests for Medevac services are coordinated though a specific group of staff familiar with the procedure, such as the emergency department

Utilization of Medevac Services

- Hospital-to-hospital transfers
  - It is important for the transferring physician to remember that activation of a Medevac resource is independent from the physician-to-physician communication and receiving physician acceptance of a transferred patient dictated both by accepted patient care practices and regulations (e.g. EMTALA)
  - Although the initial request for activation of a program may be, and frequently is, delegated by the physician to hospital staff, the transferring physician must participate in transfer arrangements
  - Transporting Medevac units can not complete the transfer until they are notified that a specific physician has accepted the patient and that there is an accepting unit for the patient to be transferred to, unless a prior agreement or process has been established with the receiving facility

Utilization of Medevac Services

- EMS physicians should work with their EMS agencies, dispatch centers, and providers to develop guidelines for the request of Medevac services
  - Requests should take into account the need for an increased level of care or a specific skill set offered by the Medevac crew, as well as potential time benefits offered by Medevac transport in time-critical illness or injury

Utilization of Medevac Services

- Ideally, a protocol would be developed for pre-hospital providers to request Medevac services through their dispatch center that would ensure an organized and streamlined approach to requesting services from the closest available Medevac service

Non-hospital Medevac Activation Algorithm

1. First providers notify local EMS (via 911), EMS responds.
2. EMS Dispatch notifies HEMS Dispatch
3. Closest appropriate Helicopter is launched
4. Helicopter contacts Ground EMS (Obtains Landing Zone [LZ] brief)
5. Safe landing
6. Patient contact/assessment/treatment
7. Transport to closest appropriate hospital

Hospital Medevac Activation Algorithm

1. Hospital notifies HEMS Dispatch
2. HEMS Dispatch notifies appropriate Helicopter
3. Helicopter contacts Hospital
   (Obtains LZ brief)
4. Safe landing
5. Patient contact/assessment/treatment
6. Transport to receiving hospital

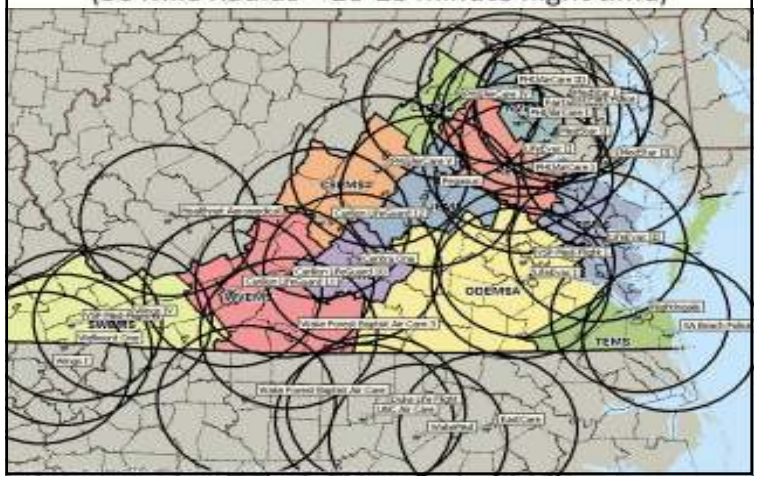
Hospital Landing Pad Rendezvous

- In some cases, Medevac programs have used hospital landing pads to effect transfer of a patient from a ground EMS unit to a Medevac aircraft
  - The federal government has rendered an opinion that if the landing pad is being used solely to effect transfer of the patient between the EMS unit and the aircraft, then the presence of the EMS unit and patient on hospital grounds does not incur an EMTALA obligation for a screening examination and stabilization

Virginia Commonwealth Medevac Coverage

Virginia Medevac Service Map

(50 Mile Radius – 20-25 minute flight time)



Access to Medevac Service

- HEMS agencies will transport patients regardless of:
  - State of residency
  - Insurance status (patient may be responsible for all or part of bill depending upon insurance coverage)
  - Citizenship

Medevac Response to Mass Casualty Incidents (MCI)

MedEvac Disaster Response Planning

- Listed in EMS surge planning template & toolbox for mass casualty incidents (MCI) in Virginia.
- All regional MCI plans include medevac response (revised and updated yearly).

Disaster Coordination

- Virginia "Helicopter EMS"
  - Web-based module within WebEOC (https://www.vhha-mci.org/index.cfm) in the Virginia VHHA Emergency Website.
  - Provides Regional Hospital Coordinating Centers, VDH, and other Emergency Management Officials with an instant update of current available Medevac resources.

"Helicopter Shopping"

- Refers to the practice of calling, in sequence, various HEMS operators until an operator agrees to accept a flight assignment, without sharing with subsequent operators the reason(s) the flight was declined by the previously called operator(s).[1]
- This practice can lead to an unsafe condition in which an HEMS operator initiates a flight.

1 – FAA Letter on Helicopter Shopping

Acknowledgements

This presentation was developed with the cooperation of the Virginia Department of Health's Office of EMS, and the Medevac Agencies in Virginia.

Questions?

Virginia Office of EMS Contacts:

George Lindbeck, MD
State EMS Medical Director
George.Lindbeck@vdh.virginia.gov
804.888.9112
Timothy J. Perkins, BS, EMT-P
EMS Systems Planner
tim.perkins@vdh.virginia.gov
804.888.9100/800.523.6219 (Toll-free)
www.vdh.virginia.gov/OEMS/Medevac/Index.htm

Resources/Reference Material

Pre-designated Landing Zone (LZ)

- Pre-designated LZ – A location that has been approved by local EMS and HEMS as a safe location for helicopter landings.
  - These locations are reviewed periodically by designating agencies.
  - Identified Hazards and Coordinates are preset in dispatch information.
  - For medevac, hospital helipads are the most common form of pre-designated landing zones.
  - Other LZs may include areas large enough to accommodate a safe landing, ie. parking lots, ball fields, secure roads.

Helicopter Dispatch Centers

- **LifeEvac** **1-877-902-7779**
  - **VCU Health System/LifeEvac 1 (Dinwiddie)**
  - **LifeEvac 2 (Fredericksburg)**
  - **LifeEvac 3 (West Point)**
- **VSP Med Flight 1 (Richmond)** **1-800-468-8892**
- **VSP Med Flight 2 (Abingdon)** **1-800-433-1028**
- **Sentara Nightingale (Norfolk)** **1-800-572-4354**
- **UVA-Pegasus (Charlottesville)** **1-800-552-1826**
- **PHI AirCare** **1-800-258-8181**
  - **PHI AirCare 1 (Manassas)**
  - **PHI AirCare 2 (Fredericksburg)**
  - **PHI AirCare 3 (Leesburg)**
  - **PHI AirCare 4 (Winchester)**
  - **PHI AirCare 5 (Weyers Cave)**
- **Carilion Clinic** **1-888-377-7628**
  - **Life-Guard 10 (Roanoke)**
  - **Life-Guard 11 (Radford)**
- **Fairfax Police (Fairfax)** **1-703-691-2131**
- **Virginia Beach Police** **1-757-385-5000**
- **Centra One (Lynchburg)** **1-800-258-8181**
- **Wings Air Rescue (Marion)** **1-800-WINGS-01**

Helicopter Dispatch Centers

- **MedSTAR (Washington D.C)** **1-800-824-6814**
- **U.S. Park Police (Washington, DC)** **1-202-690-0808**
- **Maryland State Police (Maryland)** **1-410-783-7525**
- **Health Net 5 – (Beckley, WV)** **1-800-346-4206**
- **Health Net 8 – (Martinsburg, WV)** **1-800-255-2146**
- **East Care (Pitt County, NC)** **1-252-847-5285**
- **Duke (Durham, Burlington, NC)** **1-800-362-5433**
- **WellmontOne (Bristol, TN)** **1-866-884-3117**
- **Wake Forest Air Care (Elkin, NC)** **1-800-336-6224**

Utilization Guidelines/Launch Criteria

- **Several national organizations have developed position papers to further address the allocation and utilization of air medial services:**
  - **www.ampa.org**
  - **www.aams.org**
  - **www.naemsp.org**
- **Virginia Office of Emergency Medical Services (OEMS)**
  - Statewide Trauma Triage Plan
    - http://www.vdh.virginia.gov/OEMS/Files_page/trauma/StatewideTraumaTriagePlan.pdf
  - No specific state guidelines for medical scene responses

Appendix

B

YOUR LOGO HERE

DRAFT Standards of Excellence Survey

EMS LEADERSHIP AND MANAGEMENT

EMS Agency Name:

EMS Agency Number:

EMS Agency Address:

Person Completing Survey:

E-mail address:

Contact Telephone #:

Name & position of local government official agency has the most contact with:

Date Survey Completed:

Signature of agency leader:_____

EMS Leadership and Management			
Agency Governance			
OEMS Rules and Regulations	**Yes**	**No**	**Comments**
Does your agency have a standard procedure for preparing for a state EMS inspection? Provide copy	☐	☐	
Policy and Procedures			
Does your agency have a set of Standard Operating Procedures/Guidelines (SOP) documented? Provide SOP Contents Page	☐	☐	
Is a copy of the SOP document (employee handbook) given to every new member?	☐	☐	
Does your agency have documented and approved By-Laws?	☐	☐	
When was the last time your agency's By-Laws were reviewed and revised?			
Human Resources (HR Policies, Employee Relations, Performance Improvement and Coaching)			
	Yes	**No**	**Comments**
Does your agency have Human Resources (HR) policies? Provide copy	☐	☐	

When was the last time your HR policies were reviewed and revised?			
Does your agency have a dedicated position that maintains & secures HR records?	☐	☐	
Does your agency have a training program/material that relates to handling HR functions?	☐	☐	
Is there a? Performance Improvement Program for employees/members who do not meet acceptable standards?	☐	☐	
Does your agency have a formal, written disciplinary review process that must be followed prior to dismissing a member from your organization?	☐	☐	
Employee Development			
Training	**Yes**	**No**	
Is there an established training officer position in your agency?	☐	☐	
Is there a regular training program established to maintain provider skills and competencies? Provide copy	☐	☐	
Clinical development – does your agency have a clinical preceptor program? Provide copy	☐	☐	
Does your agency have a Personal Development Plan for the Executive Officer position? Provide copy	☐	☐	
Does your agency have a Personal Development Plan for Front Line Supervisors? Provide copy	☐	☐	
Are agency officers given the opportunity and encouraged to attend leadership and management classes to improve their skills?	☐	☐	
Does your agency have a **succession** planning process to ensure continuity of leadership?	☐	☐	
Record Keeping			
	Yes	**No**	
What agency position maintains Training Records for your members?			
What agency position maintains the	☐	☐	

Infection Control Records (exposure records) for your members?			
What agency position maintains the Medical Treatment Protocols?	☐	☐	
Are the medical records for agency personnel kept separate from the agency personnel files?	☐	☐	
What agency position is responsible for maintaining these records?			
Are checks and balances in place to ensure these files are current and accurate	☐	☐	
Are all records maintained by your agency stored in a manner to ensure reasonable safety from water and fire damage and from unauthorized disclosure? In compliance with HIPPA?	☐	☐	
Asset Management (vehicles, equipment and financials)			
Vehicles and Equipment	**Yes**	**No**	
Does your agency have a vehicle and equipment maintenance program? Provide copy	☐	☐	
Does your agency have a vehicle replacement program ? Provide copy	☐	☐	
Is your communication equipment compliant with the FCC narrow banding mandate and P25 compliant?	☐	☐	
Financial Management	**Yes**	**No**	
Does your agency develop and approve an annual budget?	☐	☐	
Is your agency a 501c3 (IRS designation)?	☐	☐	
Does you agency file an IRS 990 with the State Corporation Commission every year?	☐	☐	
What agency position is responsible for maintenance of financial records?			
Are checks and balances in place to ensure all financial and tax records are current and correct?	☐	☐	
Are the financial records of your agency audited on a regular basis?	☐	☐	
How often are the financial records of your agency audited?			
Is your agency aware of the Rescue Squad	☐	☐	

Assistance Grant program?			
Mission, Vision, Values			
	Yes	**No**	**Comments**
Does your agency have a mission statement?	☐	☐	
When was the last time the mission statement for your agency was reviewed?			
Are the activities your agency is engaged in and the services provided consistent with the mission of your organization?	☐	☐	
Are your values documented and made available to your members?	☐	☐	
Does your agency have a formal, long-term strategic plan?	☐	☐	

YOUR LOGO HERE

Standards of Excellence Survey
OPERATIONAL READINESS

EMS Agency Name:

EMS Agency Number:

EMS Agency Address:

Person Completing Survey:

E-mail address:

Contact Telephone #

Name of local government official you deal with:

Date Survey Completed:

Signature of agency leader:_____

OPERATIONAL READINESS			
EMS Agency Demographics			
Who Are You (EMS Agency)?	**Yes**	**No**	**Comments**
System is EMS Only	☐	☐	
System is Fire based EMS	☐	☐	
System is Non-Transport	☐	☐	
System is Hospital Based EMS	☐	☐	
EMS Provided By Private (for profit) Ambulance	☐	☐	
System is OTHER	☐	☐	
How Do You Provide EMS?	☐	☐	
System is First Response only	☐	☐	
System is single tiered - BLS only	☐	☐	
System is single tiered - ALS only			
System is Tiered response – ALS/BLS	☐	☐	
System is Tiered response – BLS/ QRV ALS	☐	☐	

System is Tiered response –	☐	☐	
Does your agency use fire or police first responders?	☐	☐	
System is Other (specify)	☐	☐	
Where Do You Provide EMS?			
System is Rural	☐	☐	
System is Urban	☐	☐	
System is suburban	☐	☐	
Response Time Standard (EMS Regulations # 12VAC5-31-610.A2)			
Does your agency have a Response Time Standard?	☐	☐	
If yes – does your agency meet the standard?	☐	☐	
If no – why don't have a response time standard (as required by EMS regulations	☐	☐	
What is your agency's average transport time (to closest facility)?			
Does your agency utilize strategic unit placement based on call volume and/or location?	☐	☐	
If the answer to above is yes – has this improved your agency's response time?	☐	☐	
Do you have a fixed station location or	☐	☐	
Use a mobile response model.	☐	☐	
Vehicle and Equipment Maintenance			
Does your agency have regular vehicle maintenance/repair plan?	☐	☐	
Does your agency have a regular maintenance/repair plan for durable equipment (ie defibrillators, pulse ox)?	☐	☐	
Medical Facilities			
	Yes	**No**	**Comments**
What type of support does your agency get from the local medical facilities?			
Free use of facilities for training	☐	☐	
Linens, medication	☐	☐	
Provide EMS training opportunities			
STEMI	☐	☐	

Trauma Triage	☐	☐	
Stroke Triage	☐	☐	
Other - describe	☐	☐	
Do the local medical facilities ever divert patients to other facilities?	☐	☐	
Agency Risk Analysis			
	Yes	**No**	**Comments**
Does your agency review the risks in your area for increased call numbers or severity? See specific risks below:	☐	☐	
Lakes, Ocean, Rivers (Water Rescue)	☐	☐	
Seasonal Increase in Population	☐	☐	
Nuclear Power Plant Hazards	☐	☐	
Weather (hurricane, tornado)	☐	☐	
Railroads	☐	☐	
Airports	☐	☐	
Industrial/Manufacturing Plants	☐	☐	
Large Public Events	☐	☐	
Formula Based Staffing Plan			
	Yes	**No**	
Has your agency adopted minimum staffing goals? (see EMS Workforce Retention Tool Kit Book 4)	☐	☐	
What is your agency's minimum staffing on a BLS Ambulance?			
What is your agency's minimum staffing on an ALS ambulance?			
What is your agency's minimum staffing on QRV?			
What is your agency's minimum staffing on a rescue vehicle?			
What is your agency's minimum staffing on Other (specify) type of vehicle?			

DRAFT Standards of Excellence Survey
RECRUITMENT AND RETENTION

EMS Agency Name:

EMS Agency Number:

EMS Agency Address:

Person Completing Survey:

E-mail address:

Contact Telephone #

Name and position of local government official your agency has the most contact with:

Date of Survey:

Signature of agency leader:_____

Recruitment and Retention			
Recruitment			
Selection Process	**Yes**	**No**	**Comments**
How does your agency recruit new members?			
Does your agency have a recruitment officer?	☐	☐	
Does your agency conduct recruitment campaigns to attract new members?	☐	☐	
If yes - How often does your agency do recruitment campaigns – annually, every 6 months, quarterly?			
Is your agency membership reflective (diverse) of the community that you serve?	☐	☐	
Does your recruitment process appeal to interested parties of various backgrounds, skill sets and experience – that could result in a diverse agency?	☐	☐	
Expectations			

Does your agency have written job descriptions for each position within your organization?	☐	☐	
Does your agency document and clearly communicate Member Expectations (what member is required to do ie: training, minimum of hours/week etc) to new members? Attach copy	☐	☐	
Does your agency document and clearly communicate Agency Expectations (what agency will provide is: uniforms, equipment, etc to new members?	☐	☐	
Orientation			
Does your agency have a new member orientation program?	☐	☐	
What are the key components of the orientation program – equipment operation, safety, driving (EVOC) attach copy			
Does your orientation program for new members have a formal evaluation process (after the class)?	☐	☐	
Does your agency have a probationary membership period?	☐	☐	
Retention	**Yes**	**No**	**Comments**
Does your agency have a documented plan to retain members?	☐	☐	
Does your agency provide retention incentives (pay for training, uniforms, recognition)?	☐	☐	
Does your agency have a program that recognizes members for their years of service?	☐	☐	
Does your agency have a series of planned events for members – summer picnic, Christmas party, etc?	☐	☐	
Does your local government provide incentives to retain members of your agency (lower property tax, county tags)?	☐	☐	
Does your agency encourage member participation in the decision making process?	☐	☐	
What does your agency do to help members reach their potential and achieve goals important to them? (provide examples)			
Do you have a mechanism for members to make suggestions for improvement?	☐	☐	

Have your agency's officers taken the Keeping the Best – EMS Workforce Retention Program class?	☐	☐	
Does your agency offer opportunities for formal training related to recruitment and retention for officers of your organization?	☐	☐	
Does any member of your agency attend meetings of the Virginia Recruitment and Retention Network (meets 6 times a year)?	☐	☐	
Does your agency conduct an exit interview when a member voluntarily leaves your organization?	☐	☐	
Does your agency track why members leave your agency – family, moved, infractions?	☐	☐	

Appendix

C

Task Book

Virginia Office of Emergency Medical Services

EMS OFFICER Level I

assigned to

_____

Name

EVALUATOR

DO NOT COMPLETE THIS UNLESS YOU ARE RECOMMENDING THE TRAINEE FOR CERTIFICATION

VERIFICATON/CERTIFICATION OF COMPLETED TASK BOOK for
Virginia EMS Officer Level I

FINAL EVALUATOR'S VERIFICATION

I verify that all tasks have been performed and are documented with appropriate initials.

I also verify that _____ has performed as a trainee and should therefore be considered for certification in this position.

Final Evaluator's Signature: _____ Date: _____

Final Evaluator's Printed Name: _____

Agency Assignment/Duty Station: _____ Phone Number:_____

AGENCY CERTIFICATION

I certify that _____ has met all requirements for qualification in this position and that such qualification has been issued.

Certifying Official's Signature: _____ Date: _____

Certifying Official's Printed Name: _____ Title: _____

Agency Assignment/Duty Station: _____ Phone Number:_____

TRAINEE TASK BOOK

The EMS Officer Level I Task Book lists every requirement that will be evaluated. Each trainee's performance will be observed and recorded by the evaluating Officer.

The final evaluation will determine if the trainee has successfully met the performance standards and should be recommended for EMS Officer Level I.

RESPONSIBILITIES

(A) The EMS Officer Level I Trainee is responsible for:

(1) Reviewing and understanding material in the orientation training guide and the position task book.

(2) Satisfactorily completing all tasks for the assigned position before they are qualified to EMS Officer Level I.

(3) Ensuring their EMS Officer Level I Task Book is accurately recorded and maintained.

(4) Filing and keeping their EMS Officer Level I Task Book with their other personal or career records and providing a copy to the Virginia Office of EMS.

(B) The Evaluating Officer is responsible for:

(1) Being qualified and proficient.

(2) Explaining to the trainee the purpose of and process for completing the EMS Officer Level I Task Book.

(3) Explaining to the trainee their responsibilities.

(4) Accurately evaluating and recording demonstrated performance. Dating and initialing completion of the task will document satisfactory performance. Unsatisfactory performance will be documented in the evaluation record.

(C) Evaluation Codes:

(1) O - Task can be completed in any situation (classroom, simulation, daily job, training burn, etc.).

(2) I - Task must be performed on an incident.

(3) R - Rare event – the evaluation assignment may not provide opportunities to demonstrate performance. The evaluator may be able to determine skills/knowledge through interview and simulation

EVALUATING OFFICER # 1

TRAINEE

Name: _____

Department: _____

Phone: _____

The above named trainee performed the tasks initialed and dated by me under my supervision. As a result, I propose that the EMS Officer Level I trainee:

☐ - Successfully performed all tasks and should be considered for certification.

☐ - Was not able to complete certain tasks (see comments below) and additional guidance is required.

Date: _____ Evaluator's Signature: _____

Print Legibly - Evaluator's Name: _____

Comments:

EVALUATING OFFICER # 2

TRAINEE

Name: _____

Department: _____

Phone: _____

The above named trainee performed the tasks initialed and dated by me under my supervision. As a result, I propose that the EMS

☐ - Successfully performed all tasks and should be considered for certification.

☐ - Was not able to complete certain tasks (see comments below) and additional guidance is required.

Date: _____ Evaluator's Signature: _____

Print Legibly - Evaluator's Name: _____

Comments:

EVALUATING OFFICER # 3

TRAINEE

Name: _____

Department: _____

Phone: _____

The above named trainee performed the tasks initialed and dated by me under my supervision. As a result, I propose that the EMS

☐ - Successfully performed all tasks and should be considered for certification.

☐ - Was not able to complete certain tasks (see comments below) and additional guidance is required.

Date: _____ Evaluator's Signature: _____

Print Legibly - Evaluator's Name: _____

Comments:

EVALUATING OFFICER # 4

TRAINEE

Name: _____

Department: _____

Phone: _____

The above named trainee performed the tasks initialed and dated by me under my supervision. As a result, I propose that the EMS

☐ - Successfully performed all tasks and should be considered for certification.

☐ - Was not able to complete certain tasks (see comments below) and additional guidance is required.

Date: _____ Evaluator's Signature: _____

Print Legibly - Evaluator's Name: _____

Comments:

QUALIFICATION RECORD

POSITION: **EMS OFFICER LEVEL I** **OEMS Candidate #: _____**

Note:
• Prerequisites must be completed prior to individual starting the task book.
• All items must be completed prior to being certified as an EMS Officer Level I.

Evaluation Codes:
(1) O - Task can be completed in any situation (classroom, simulation, daily job, training burn, etc.).
(2) I - Task must be performed on an incident.
(3) R - Rare event – the evaluation assignment may not provide opportunities to demonstrate performance. The evaluator may be able to determine skills/knowledge through interview and simulation

TASK MODULE 1.1: Prerequisites	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
The organizational structure of the agency; geographical configuration and characteristics of response areas; agency operating procedures for administration, emergency operations,			
1. Valid Drivers License (Class C)			
2. Current Virginia OEMS Certification			
3.Minimum of 2 years field experience			*Cleared as an AIC on unit; no QA/QI issues; meets agency's expectations; member in good standing*
4. Knowledge of EMS agency structure, policies & procedures			*explanation of criteria evaluation - county/city/regional/state EMS system, etc; internal chain of command; organization chart*
5. Ability & or experience as an instructor			*examples: CPR instructor, etc*
6. Basic computer skills			
7. Ability to communicate effectiveley; basic oral communication skills, etc.			
8. Basic math skills			
9. Business communications (writing)			
10. Understand Incident Management System (ICS 100; ICS 200; ICS 700; ICS 800; MCI-I; MCI-II)			

TASK MODULE 1.2:Human Resources Management	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
These duties involve coordination of personnel in emergent and non-emergent situations, coordination of training,			
1. Basic understanding of Human Resources Management			*clarify for better understanding of process*
2. Communications – make concise assignments.			
3. Understanding of social groups			
4. Principles of supervision			
5. Coaching, counseling and mentoring			
6. Evaluates performance			
7. Discipline with due process			
8. Social Media Issue			*Facebook; Twitter; etc.*
9. Ethical Issues (sexual harassment; medical ethics; etc.)			*online classes: EMSAT; VDFP, etc.*

TASK MODULE 1.3: Community and Government Relations	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
These duties involve dealing with the community and demonstrating the role of the agency to the public while delivering safety, injury prevention, and first aid education programs and information. This is shown through the following objectives.			
1. Perform a community awareness needs			
2. Ability to handle and address concerns expressed by system stakeholders			
3. Ability to handle and address concerns expressed by the community			
4. Perform a public education event			
5. Ability to identify local public safety agencies and officials			
6. Ability to identify local government			

Evaluation Codes:

(1) O - Task can be completed in any situation (classroom, simulation, daily job, training burn, etc.).

(2) I - Task must be performed on an incident.

(3) R - Rare event – the evaluation assignment may not provide opportunities to demonstrate performance. The evaluator may be able to determine skills/knowledge through interview and simulation

TASK MODULE 1.4: Administrative Duties	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
Duties involved in general administrative functions, and the implementation and execution of agency policies and procedures at the unit level. This is demonstrated with the following objectives:			
1. Ability to plan a unit activity (training/response plan/etc.)			
2. Ability to handle routine administrative tasks and assignments			
3. Documentation of agency reports (restocking; staffing; maintenance; training, etc.)			
4. Understand personnel processes			
5. Understand HIPPA regulations			

TASK MODULE 1.5: Emergency Medical Services Delivery	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
This duty involves supervising emergency operations, and deploying assigned resources in accordance with local emergency plans and according to the following job performance requirements:			
1. Ability to institute Incident Command System			
2. Demonstrate ability to Coach/Mentor a member			
3. Understand radio system and proper utilization			
4. Knowledge of hospital system, level of care capabilities and EMS integration			
5. Understand local/regional MCI Plan and patient care protocols			

TASK MODULE 1.6: Health and Safety	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
This duty involves integrating safety plans, policies, and procedures into the daily activities as well as the emergency scene, including the donning and doffing of appropriate levels			
1. Knowledge of appropriate safety regulations, practices,procedures and ability to complete appropriate documentation as required			
2.Advocate for accident prevention and infection control			
3. Basic principles of health and wellness			
4. Ability to assess personnel for critical incident stress.			
5. Ability to initiate the initial process, on the unit level, for an accident, injury or exposure event, given incident and investigation forms, to ensure that the incident is properly documented.			

Evaluation Codes:

(1) O - Task can be completed in any situation (classroom, simulation, daily job, training burn, etc.).

(2) I - Task must be performed on an incident.

(3) R - Rare event – the evaluation assignment may not provide opportunities to demonstrate performance. The evaluator may be able to determine skills/knowledge through interview and simulation

TASK MODULE 1.7: Quality Management	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
need explanation of Module			
1. Perform a complete chart review			
2. Provide feedback on quality management			
3. Know agency policies and procedures			

TASK MODULE 1.8: Skills Orientation and Proficiencies	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
need explanation of Module			
1. Cardiac Monitor and 12 Lead Placement			
2. Oxygen System			
◆ Agency Cascade System			
◆ Agency Oxygen filling standards			
3. IV Bag and Tubing Set-up			
4. START Method of Triage			
5. Safe Needle Uses while assisting the ALS Provider			
6. Nasal Intubation Set-Up			
7. Oral Intubation Set-UP			
8. Needle Thoracotomy Set-Up			
9. Needle Cric Set-Up			
10. Broslow Tape			
11. Physical Assessment			
12. BLS Radio Format			
13. Early Trauma Notification			
14. General Medical Report			
15. AMA Format			
16. Physician Order			
17. Out of Area Hospital Report			
18. Use of department owned cell phones			
19. Hosptial Report Format:			
◆ BLS General Medical Report			
◆ Detailed Trauma Team Report			
◆ Triage			

TASK MODULE 1.9: Skills Assessment	CODE	EVALUATION RECORD #	EVALUATOR: Initial & date at completion of task
need explanation of Module			
1. ABD Pain			
2. Acute Coronary Syndrome			
◆ Anginal Equivalents			
◆ Muscular Skeletal			
◆ Aortic Aneurysms			
3. Chest Pin			
4. Full Arrest			
5. Geriatrics			
6. Pediatrics			
7. Pneumonia			
8. Pulmonary Edema			
9. Shortness of Breath			
10. Type 1 Diabetic			
11. Type 2 Diabetic			
12. Trauma			
14. General Medical Report			

Appendix

D

VIRGINIA DEPARTMENT OF HEALTH
OFFICE OF EMERGENCY MEDICAL SERVICES

Cost Analysis of the Virginia Poison Control Network
August 2012

Table of Contents

Virginia Department of Health
Office of Emergency Medical Services
Glen Allen, VA

At the request of the Virginia Department of Health's (VDH) Office of Emergency Medical Services (OEMS), we have completed an analysis of the level of funding needed to support the operations and services of the poison control centers. In order to conduct this analysis, we interviewed poison center directors and obtained relevant financial data. We also obtained copies of annual reports from the VDH, and also researched and reviewed information available from outside sources. Data was obtained and reviewed for the state fiscal years ending (FYE) June 30, 2009, June 30, 2010 and June 30, 2011. Unless otherwise noted in this report, the analysis will focus on FYE June 30, 2011. This report specifically analyzes the level of funding needed to support the operations and services of the poison control centers, and the level of funding necessary to provide statewide coverage of poison control services by two centers.

Background Information – Virginia Poison Control Network

The Virginia Poison Control Network (VPCN) historically consisted of three poison centers that provided complete coverage of the Commonwealth of Virginia. The three centers that made up the VPCN are the Blue Ridge Poison Center (BRPC), the Virginia Poison Center (VPC), and the National Capital Poison Center (NCPC). All three centers performed the operations required by their contracts with the Commonwealth of Virginia, which included maintaining a poison control call center and educating medical professionals about poison information. Each center has medical directors who provide supervision to the poison control center and are also involved in research and education for medical professionals.

BRPC serves the Central and Southwest regions of Virginia and is associated with the University of Virginia Health System and the School of Medicine. The poison center is a primary part of the Medical Toxicology Department, which is a segment of the Emergency Department. The Medical Toxicology Department includes clinical and research segments. BRPC has a recorded phone system, and all the call information is manually entered into the poison center's database by the BRPC staff.

VPC serves the Central and Tidewater regions in Virginia and is a part of the Toxicology Department within the Emergency Medicine Department of the Virginia Commonwealth University Health System (VCUHS). The physicians that provide supervision to the call center are considered part of the VCU School of Medicine, while the staff and equipment fall under the Hospital. The VPC has a recorded phone system, and all the call information is manually entered into the poison center's database by the VPC staff.

NCPC, now a subcontractor of the VCUHS, serves the NOVA/DC metro area (DC, Montgomery and Prince George, MD, and the Northern Virginia region). NCPC is a free standing 501c3 charitable organization and is not associated with a hospital. NCPC has an advanced phone system that automatically tracks the location of the calls and records that information in the Center's database/records. Because the NCPC serves portions of Virginia and Maryland, and all of the District of Columbia, the NCPC allocates costs and revenues to each service area based on yearly call volume. For the years in question, the percentage of the call volume related to Virginia remained fairly consistent, with an average of 49.89% over the three year period. For the analysis that follows, unless otherwise noted, the NCPC amounts are only the Virginia portion of expenses, revenues and calls.

Poison Control Center Calls

Poison control center performance and measurements are typically considered with regard to call volume. Therefore, we began our analysis looking at the call volume each center handles. The majority of all calls are handled by Certified Specialists in Poison Information (CSPIs). There are several types of calls the centers receive: human exposure calls, animal exposure calls, confirmed non-exposure calls, and information calls. Additionally, the call center workers make follow-up calls which are not included in these figures. Because human exposure calls is the standard used by the AAPCC (American Association of Poison Control Centers) in measuring performance, we have focused on human exposure calls as well. However, it is important to keep in mind the poison control centers do handle other calls as well.

The poison centers report call volumes in the annual reports they are required to provide to the VDH. Human exposure calls remained relatively stable over the three year period reviewed, with a slight decrease year to year noted. NCPC had the highest call volume at 40,137 human exposure calls in SFY June 30, 2011. However, only 19,820 of them related to Virginia. VPC and BRPC reported 25,779 and 22,289 respectively. The figures that VPC and BRPC report are only for calls in their service area. Their total call volume is slightly higher because of incorrect call routing (generally due to cell phone originations).

Poison Control Center Costs

Our analysis found that the most significant costs for the poison control centers are the salary expenses of the call center workers. An evaluation of the FYE June 30, 2009, June 30, 2010, and June 30, 2011 financial data was conducted to determine the cost history for each poison center. Over the three year period, the three centers incurred an average total cost per year of approximately $4.2 million. Salaries and benefits of the CSPIs make up almost half of this total cost; salaries and benefits of the supervising directors, toxicologists, and other education and administrative staff account for another 30% of the costs, leaving only about $0.7 million in non-

salary or benefit costs. The average yearly cost per human exposure call was $61.59. The NCPC has higher costs than the other two centers because of higher non-salary costs. NCPC is a stand alone facility, while BRPC and VPC are associated with universities. As part of the universities, their overhead costs are passed down to the center through allocations performed by the accounting department. These overhead costs may or may not present a full picture of the value of the services received by the poison centers from the university, but are the best approximation available. As an example, NCPC reports higher rent, accounting/ audit, and computer support expenses than the other centers. For a summary of expenses by category and poison center, see **Appendix A**.

Poison Control Center Revenues

All three poison centers receive funding from the Commonwealth of Virginia. This funding has been reduced by 67% over the three year period under review. The centers also receive annual funding from a federal agency, the Health Resources & Services Administration (HRSA). Each center has at times received grants for providing additional services beyond their normal activities. Aside from the state and federal funding, VCU has a small amount of contributions and in-kind contributions. NCPC, on the other hand, receives significant funding from donors, corporations, and other private sources. They are also funded by Maryland and DC, because of the services provided to those regions. See **Appendix A** for a summary of revenues for each poison control center.

Both VPC and BRPC benefit from their hospital and school of medicine relationships. The difference between the revenues received by these centers and their expenses are funded by the medical centers. The difference for NCPC is covered by the funding from other states and the donations and endowment.

Poison Control Center Requirements

An evaluation of the AAPCC and the VDH minimum requirements related to VPCN was performed. Based on the submitted documentation and conversations with the directors, it appears that each center is adhering to the minimal requirements set by the AAPCC and the VDH. Each center maintains an educational program for medical professionals and the public. The centers indicated that they coordinate with one another in order to provide efficient and effective educational programs. All centers' maintained operations 24 hours a day, 365 days a year. A fully operational telephone system and database was also maintained throughout the years analyzed.

Each center maintains a managing director that demonstrates a full-time commitment to poison center related activities. The managing director for BRPC and NCPC also serve as the medical directors for the center; however, they have multiple associate medical directors that provide support to the center. VPC has a separate medical director and an associate medical director that

split time at the center. The individual or individuals providing medical direction devoted at least 20 hours per week to professional toxicology activities. The AAPCC requirements indicate that, "Additional medical direction is desirable and may be necessary." The center's medical directors appear to provide the necessary oversight based on the reported call volume. 10 hours of medical direction must be provided for every 25,000 human exposure cases handled at the center. Each center employs a cumulative average of one FTE for the medical director, associate medical director, and toxicologist(s).

The VDH contractual requirements indicate that a maximum of 4,500 and no less then 2,000 exposure cases can be handled by a CPSI per one FTE. During 2011, NCPC, BRPC, and VPC SPI's handled human exposure calls in the amount 2,942.77, 2,932.76, and 3,347.92 per one FTE. The three centers met the overall maximum and minimum human exposures requirements.

Based on the FTE information provided by the centers, an average of 7.35 CSPI FTE's were employed. If CSPI's at all three centers handled the maximum 4,500 human exposure cases per year, and average of 5.03 FTE's would be required per center.

Minimum Funding Requirements to Operate Three Centers

To calculate the minimal funding requirements for CSPI salary and benefits we used the maximum amount of human exposure calls that could be handled by a CSPI (4,500) to determine the minimal CSPI FTE's required. Our calculation indicated that a minimum of 5.03 FTE's were required. We then used the FTE support submitted to determine the average salary and benefits cost per FTE. Our calculation determined an average salary and benefits costs per CSPI FTE of $95,955. A total minimal CSPI salary and benefits cost for three poison centers was calculated to be $1,566,758. It should be noted that this reduction in CSPI FTE's may not adequately provide staffing for the centers, because of the need for proper staffing and coverage at all hours.

All three centers had a cumulative average of one FTE for all medical directors, associate medical directors, and toxicologist, plus one FTE managing director. Per the AAPCC requirements, the managing director that is also a medical director must have a full-time commitment to the center and must have adequate backup. Each poison center must also provide full-time toxicological supervision and at least 20 hours of medical direction per 25,000 human poison exposures. BRPC and NCPC had less than 25,000 human poison exposures; therefore, they would only require 10 hours of supervision at each. VPC had more than 25,000 so they would require 20 human poison exposure hours. The AAPCC indicates that, "Additional medical direction is desirable and may be necessary." Therefore, we determined that BRPC and NCPC could reduce their medical director coverage to 0.25 FTE each, instead of the current one FTE, and VPC to 0.5 FTE. Please note that this analysis considers it necessary for the center to have both the managing director and the medical director positions. The AAPCC requirement does permit the medical director role to be fulfilled by the managing director. Based on conversations

with the call center directors and descriptions of their duties and those of the medical directors, they find it necessary to staff more than one full time position in order to fulfill the call center duties.

All three centers employed an education coordinator and administrative employees. VPC and BRPC did not directly include salary expense related to human resources, accounting, IT, etc. because these are overhead costs to the larger university system. NCPC was able to provide accurate costs related to the above departments, since they are a separate entity. We determined that the three centers maintain an adequate level of administrative and other staff; therefore, we determined that the current staffing level, and therefore expenses, should be maintained to meet contractual and AAPCC requirements.

The above salary and benefits cost for all three centers total to $2,570,275. When these costs are compared to the current three year average salary and benefits costs, a potential reduction of $894,218 was noted.

We reviewed the other costs incurred by the three facilities. Other costs consist of call center equipment, training materials, travel costs, licensure costs, and other miscellaneous costs. All costs appear to be necessary to maintain current operational level and to meet their contractual and AAPCC certification requirements. Indirect costs currently are lower for VPC and BRPC than for NCPC because NCPC is a standalone facility.

The minimal total costs to operate three poison centers would be around $3,287,000 or about $48.50 per human exposure call. See **Appendix B** for a summary of costs under the minimal requirements for funding three centers. In 2011, the three facilities received $500,000 (combined) from Virginia OEMS. They also received $655,698 from a HRSA grant, and $359,518 in other funding (primarily related to NCPC). This funding amounts to about $22.30 per call.

A national mean cost per human exposure was calculated in 2002 by the AAPCC. This was inflated to 2011 cost using the CPI percentage of change for medical professional services. During 2011, a poison control center's average cost per human exposure was estimated to be $58.16. See **Appendix D** for a summary of the national mean cost per human exposure for 2002, and for the inflated 2005 through 2012 amounts.

Minimum Funding Requirements of Two Centers

To calculate the minimal costs for CSPI salary and benefits we used the maximum amount of human exposure calls that could be handled by a CSPI (4,500) to determine the minimal CSPI FTE's required. If call volume stayed consistent with the historical data, the average amount of

human exposure calls for each of the two centers would be around 33,944 (total of 67,888). The current average human exposure call volume for each existing center is 22,629 (total of 67,888).

Our calculation indicated that the minimum of eight FTE's were required, per center (16 FTE's in total). We then used the FTE support submitted to determine the average salary and benefits cost per FTE. Our calculation determined an average salary and benefits costs per CSPI FTE of $95,955. A total minimal CSPI salary and benefits cost for two poison centers was calculated to be $1,519,281. In the above analysis, CSPI FTE's were decreased from an average of 22 to 16.

The methodology used to determine the amount of FTE's related to the medical directors, associate medical directors, toxicologists, and managing directors for two facilities was as follows. Based on the requirement to have 10 hours per 25,000 calls, the two centers could each employ 0.5 FTEs for medical directors / associate medical directors / toxicologist. They would also employ one FTE for managing director. Overall, there would be a reduction in the number of medical directors, toxicologists, and managing directors to 1.5 FTEs at each center. A total minimal medical director, toxicologist, and managing director salary and benefits cost for two poison centers was calculated to be $462,877.

The two centers will need to employ an education coordinator and administrative employees. VPC and BRPC did not directly include salary expense related to human resources, accounting, IT, etc. because these are overhead costs to the larger university system. NCPC was able to provide accurate costs related to the above departments, since they are a separate entity. We determined that the level of administrative and educational staff currently in place could be reduced to the level currently provided by two centers, thus cutting out the expenses of one center.

The above salary and benefits cost for two centers total to $2,242,466. When these costs are compared to the current three year average salary and benefits costs, a potential reduction of $1,222,026 was noted.

Other non-salary costs consist of call center equipment, training materials, travel costs, licensure costs, and other miscellaneous costs. Because these are mostly fixed costs (with the exception of some of the educational material and call center equipment), we would estimate that a reduction of approximately $150,000 in other non-personnel costs (workspace, equipment, insurance, etc.) would be possible because of the elimination of a call center.

The minimal total costs to operate two poison centers would be around $2,780,000 or about $41.00 per human exposure call. See **Appendix B** for a summary of costs under the minimal requirements for funding two centers.

Conclusions

Based on the above analysis, a consolidation of the poison control centers from three to two would reduce the expenses required to operate the centers. However, the funding provided by the Commonwealth and by HRSA does not cover the minimum operations of the centers, under either scenario. The shortfall at BRPC and VPC is covered by the larger medical center entity. For these two centers, some costs are fluid and not easily identifiable to the poison center. At NCPC, the shortfall is funded by donations and contributions. NCPC receives funding from Maryland and DC as well, which covers a large portion of the costs of the calls for those regions. Additionally, at all three centers, the medical directors provide services to the university community through their commitment to the university, where they have privileges and see patients. The poison control centers are required to maintain a 24 call center and to provide education to the medical community. The AAPCC standards do not identify more specific criteria for what educational opportunities should be provided. It does require that the call center be staffed to a certain level, and based on our analysis the centers could operate with fewer staff to meet the minimum requirements. Additionally, medical director costs could be reduced. However, we realize that in order to provide 24 hour coverage, staffing needs must be considered with regard to shifts, overtime, and emergencies and greater staffing may be necessary. Based on our review, funding does need to be increased to fully cover the needs of the poison control centers in Virginia. See **Appendix C** for a summary of projected profits or losses by funding level.

PHBV Partners LLP

August 31, 2012

Appendix A
Poison Center Revenues & Expenses

	Blue Ridge Poison Center			Virginia Poison Center			National Capital Poison Center			
	FYE 6/30/09	FYE 6/30/10	FYE 6/30/11	FYE 6/30/09	FYE 6/30/10	FYE 6/30/11	FYE 6/30/09	FYE 6/30/10	FYE 6/30/11	
EXPENSES										
Salaries - CSPIS	$ 479,089.55	$ 465,627.23	$ 456,612.00	$ 677,554.00	$ 729,873.00	$ 686,071.00	$ 526,944.57	$ 537,528.69	$ 580,228.71	**
Salaries - Managing / Medical Directors	243,290.83	260,654.51	277,216.00	257,780.00	272,000.00	268,800.00	194,651.12	216,027.32	193,249.56	**
Salaries - Admin / Other	107,576.15	94,654.61	99,454.00	29,220.00	30,193.00	30,864.00	126,388.72	133,157.90	178,704.69	**
Fringe Benefits	221,483.00	203,270.00	216,551.00	248,579.00	281,699.00	249,645.00	203,524.97	216,971.35	227,096.47	**
Total Salary & Benefit Costs	**$ 1,051,439.53**	**$ 1,024,206.35**	**$ 1,049,833.00**	**$ 1,213,133.00**	**$ 1,313,765.00**	**$ 1,235,380.00**	**$ 1,051,509.38**	**$ 1,103,685.26**	**$ 1,179,279.43**	
Call Center Equipment	$ 29,489.00	$ 32,608.00	$ 25,550.00	$ 45,795.00	$ 49,696.00	$ 52,179.00	$ 27,056.17	$ 29,830.35	$ 29,175.83	**
Call Center Training & Other	101,450.00	87,501.00	38,552.00	84,258.00	89,324.00	52,091.00	240,355.51	215,596.35	212,626.94	**
Admin & Overhead	106,417.74	99,471.79	80,188.42	111,062.00	55,000.00	49,904.00	143,549.34	150,278.31	176,413.98	**
Total non-salary costs	**$ 237,356.74**	**$ 219,580.79**	**$ 144,290.42**	**$ 241,115.00**	**$ 194,020.00**	**$ 154,174.00**	**$ 410,961.02**	**$ 395,705.01**	**$ 418,216.74**	
Total Expenses	**$ 1,288,796.27**	**$ 1,243,787.14**	**$ 1,194,123.42**	**$ 1,454,248.00**	**$ 1,507,785.00**	**$ 1,389,554.00**	**$ 1,462,470.40**	**$ 1,499,390.27**	**$ 1,597,496.17**	
REVENUES										
Virginia DOH	$ 548,361.46	$ 478,037.09	$ 170,000.00	$ 611,015.00	$ 519,382.00	$ 200,000.00	$ 390,314.53	$ 331,759.36	$ 130,000.00	
Other Virginia	-	-	-	56,062.00	30,116.00	-	-	-	-	
HRSA	169,565.00	191,353.00	173,957.00	218,793.00	246,907.00	259,581.00	167,702.78	186,198.56	222,160.31	**
Other Government	-	-	-	-	-	2,272.00	-	-	-	*
Donations / Contributions	-	-	-	-	142.00	41.00	41,823.53	41,779.81	48,101.75	**
Corporations	-	-	-	-	-	-	57,553.85	52,623.32	59,511.10	**
Campaigns & Foundations	-	-	-	-	-	-	86,920.05	48,006.36	28,592.91	**
In Kind Contributions	-	-	-	-	-	55,000.00	10,126.39	76,258.09	65,022.45	**
Other Revenues	-	-	-	35,000.00	44,235.00	41,240.00	47,901.90	49,362.55	59,736.85	**
Total Revenues	**$ 717,926.46**	**$ 669,390.09**	**$ 343,957.00**	**$ 920,870.00**	**$ 840,782.00**	**$ 558,134.00**	**$ 802,343.02**	**$ 785,988.05**	**$ 613,125.37**	
Human Exposure Calls - VA only	**25,039**	**23,527**	**22,289**	**26,719**	**25,693**	**25,779**	**19,887**	**20,274**	**19,820**	
Cost per Call	**$ 51.47**	**$ 52.87**	**$ 53.57**	**$ 54.43**	**$ 58.68**	**$ 53.90**	**$ 73.54**	**$ 73.96**	**$ 80.60**	
Revenue per Call	**$ 28.67**	**$ 28.45**	**$ 15.43**	**$ 34.46**	**$ 32.72**	**$ 21.65**	**$ 40.35**	**$ 38.77**	**$ 30.93**	

* NCPC receives revenues from DC, Maryland, and additional federal incentives. These are not included above as they are not designated for Virginia Poison Center funding.

** The noted NCPC expenses and revenues were multipled by the call percentage for VA (47.10%, 49.16%, and 53.40% respectively) to determine the applicable portion related to Virginia.

Appendix B
Minimum Funding Requirements

	FYE 6/30/11 Total Poison System Costs and Revenues		
	Current Operations	**Minimum - 3 Centers**	**Minimum - 2 Centers**
EXPENSES			
Salaries & Benefits - CSPIS	$ 2,153,945.81	$ 1,566,758.42	$ 1,519,280.90
Salaries & Benefits - Managing / Medical Directors	924,213.36	617,182.86	462,877.15
Salaries & Benefits - Admin / Other	386,333.28	386,333.28	260,307.99
Total Salary & Benefit Costs	**$ 3,464,492.45**	**$ 2,570,274.56**	**$ 2,242,466.04**
Total non-salary costs	**$ 716,681.16**	**$ 716,681.16**	**$ 537,348.19**
Total	**$ 4,181,173.61**	**$ 3,286,955.72**	**$ 2,779,814.23**
Human Exposure Calls	67,888	67,888	67,888
Cost Salary per Human Exposure Call	**$ 51.03**	**$ 37.86**	**$ 33.03**
Cost Other per Human Exposure Call	**$ 10.56**	**$ 10.56**	**$ 7.92**
Total Cost per Human Exposure Call	**$ 61.59**	**$ 48.42**	**$ 40.95**
REVENUES			
Funding - Virginia OEMS	$ 500,000.00	$ 2,271,739.35	$ 1,764,597.86
Funding - Other State & Federal	655,698.31	655,698.31	655,698.31
Funding - Other	359,518.06	359,518.06	359,518.06
Total	**$ 1,515,216.37**	**$ 3,286,955.72**	**$ 2,779,814.23**

Appendix C
Projected Profit / Loss by Level of Funding

	FYE 6/30/11 Total Poison System Profit (Loss)		
	Current Operations	**Minimum - 3 Centers**	**Minimum - 2 Centers**
Total Expenses:	$ 4,181,173.61	$ 3,286,955.72	$ 2,779,814.23
Total Revenue (excluding Virginia funding):	$ 1,015,216.37	$ 1,015,216.37	$ 1,015,216.37
Total Loss (excluding Virginia funding):	$ (3,165,957.24)	$ (2,271,739.35)	$ (1,764,597.86)
Funding Level - Virginia:			
$0	$ (3,165,957.24)	$ (2,271,739.35)	$ (1,764,597.86)
$500,000	$ (2,665,957.24)	$ (1,771,739.35)	$ (1,264,597.86)
$1,500,000	$ (1,665,957.24)	$ (771,739.35)	$ (264,597.86)
$2,000,000	$ (1,165,957.24)	$ (271,739.35)	$ 235,402.14
$2,200,000	$ (965,957.24)	$ (71,739.35)	$ 435,402.14
$2,800,000	$ (365,957.24)	$ 528,260.65	$ 1,035,402.14

Appendix D
National Mean Cost per Human Exposure

Source	Year	Cost Per Human Exposure	** CPI Percent
AAPCC	2002	$44.91	n/a
AAP	2005	$48.76	n/a
CPI	2006	$50.08	2.70%
CPI	2007	$52.08	4.00%
CPI	2008	$53.85	3.40%
CPI	2009	$55.30	2.70%
CPI	2010	$56.85	2.80%
CPI	2011	$58.16	2.30%
CPI	2012	$59.44	2.20%

** The above calculation used the year to year CPI percentage change related to the average costs for medical professional services to determine an average cost per human exposure. The initial cost per human exposure was based on amounts reported by the AAPCC in 2002.

Appendix

E

Virginia Office of Emergency Medical Services

Virginia Statewide Trauma and Burn Center Designation Manual

Effective Date: January 1, 2013

Virginia Department of Health
Office of Emergency Medical Services
1041 Technology Park Drive
Glen Allen, Virginia 23059
(804) 888-9100
www.vdh.virginia.gov/oems

Table of Contents

PREFACE

The purpose of the Virginia Statewide Trauma and Burn Center Resource Designation Manual is to provide information to hospital physicians, nurses, and administrators about trauma and trauma/burn center designation in Virginia. The manual contains the criteria and standards effective June 15, 2012 for the four levels of trauma and trauma/burn center designation in Virginia. The process documents explain how trauma and trauma/burn center designation is acquired and maintained.

Virginia trauma center standards are based upon national standards put forth by the American College of Surgeons (ACS) and the American College of Emergency Physicians. Burn center criteria are based upon the American Burn Association's (ABA) standards. Neither set of standards is wholly adopted. Instead, stakeholder group input is utilized to adapt the standards to best fit the Virginia Trauma System. The State Board of Health (BOH) is the final approving body for these standards.

The Trauma System Oversight and Management Committee (TSO&MC) document explains the role of the TSO&MC in oversight of trauma center designation. The TSO&MC meets quarterly to discuss trauma system issues and to prepare action items for the State Emergency Medical Services Advisory Board. Hospital representatives are welcome to attend these meetings.

The purpose of the designation process is to ensure consistent performance of trauma and trauma/burn centers in Virginia and to promote continued improvement and development of experienced centers thereby reducing morbidity and mortality of the traumatically and thermally injured patient.

Please direct questions or requests for further information or resources to the Virginia Department of Health's (VDH), Office of Emergency Medical Services (OEMS) Trauma/Critical Care Coordinator, 1041 Technology Park Drive, Glen Allen, Virginia 23059 or (804) 888-9100.

DEFINITIONS

Burn Center - A hospital that has been designated by the Commissioner as a trauma/burn center after meeting the Level I trauma center and burn center criteria contained within this document.

Burn Patient – A patient requiring treatment of burn-related injuries who should be referred to a designated trauma/burn center in the Commonwealth of Virginia for assessment and care.

Burn Program – An organized approach (within the verified trauma center) to the care of burn patients with a focus on performance improvement, education, and outreach. Burn program administrative leadership addresses burn center standards under the direction of the Burn Medical Director.

Burn Service - The medical and surgical services that direct and coordinate the care of acute burn patients.

Burn Unit - The designated geographic area within a hospital that the majority of acute burn patients receive care.

Critical Deficiency - The trauma or trauma/burn center demonstrates an absence or inadequate mechanism to address a specific essential criterion or criteria. Critical deficiencies must be corrected as directed in this document to receive an unconditional designation.

Designated Trauma Center - The process by which the Virginia Department of Health identifies hospitals that are prepared to consistently provide care to the traumatized patient.

Experienced/Mature Trauma Center – A designated trauma or trauma/burn center that has completed at least one successful three year verification cycle.

Immediately available - The physical presence of the health professional in a stated location able to provide care to the trauma patient.

Level I - Level I trauma centers have an organized trauma response and are required to provide total care for every aspect of injury, from prevention through rehabilitation. These facilities must have adequate depth of resources and personnel with the capability of providing leadership, education, research and system planning.

Level IB – Meet all the requirements for Level I trauma center designation and the additional criteria specific to being designated as a trauma/burn center. Denoted as Level IB or Level I trauma/burn center.

Level II - Level II trauma centers have an organized trauma response and are also expected to provide initial definitive care, regardless of the severity of injury. The specialty requirements may be fulfilled by on call staff members, which are promptly available to the patient. Due to some limited resources, Level II centers may have to transfer more complex injuries to a Level I center. Level II centers should also take on responsibility for education and system leadership within their region.

Level III - Level III centers, through an organized trauma response, can provide prompt assessment, resuscitation, stabilization, emergency surgery, and also arrange for the transfer of the patient to a hospital that can provide definitive trauma care. Level III centers should also take on responsibility for education and system leadership within their region.

Non-Critical Deficiency – The trauma or trauma/burn center demonstrates an absence or inadequate mechanism to address a specific essential criterion or criteria. While there is not an immediate negative impact on patient care, continuation of the present status will result in erosion of the program and development of a critical deficiency(ies.) Non-critical deficiencies seen during two consecutive site reviews will be elevated to a critical deficiency.

Trauma Center – A hospital that has been designated by the Commissioner as a trauma center as a result of complying with the criteria throughout this document.

Team Leader – A surgeon that serves as the head of a trauma center site review team. This is typically a surgeon actively involved in an active trauma program.

Trauma Patient –The identification of patients that should be referred to a designated trauma center in the Commonwealth of Virginia for assessment and care. The Statewide Trauma Triage Plan sets the minimum standard for defining a trauma patient.

Trauma Registrar - The individual(s), responsible for entering, analyzing and evaluating the data maintained in the trauma registry. Frequently this person also oversees the performance improvement efforts of the trauma program.

Trauma Service - The medical and surgical services that direct and coordinate the care of acutely injured patients.

Trauma Team - A multidisciplinary healthcare team that is predetermined to provide an organized approach to providing trauma care.

TSO&MC - Trauma System Oversight and Management Committee is a subcommittee of the EMS Advisory Board. This is the Commonwealth's trauma stakeholder committee that works to develop, maintain and improve Virginia's trauma system under the auspices of the Commonwealth of Virginia Board of Health.

Virginia Statewide Trauma Registry (VSTR) - In Virginia, all hospitals that provide emergency services and have inpatient facilities are required by the *Code of Virginia* §32.1-116.1 to report to the VSTR. The VSTR is used by Virginia's trauma system for performance improvement, research, injury prevention, resource utilization and the creation of state standards and benchmarks.

ABBREVIATIONS

ABLS – Advanced Burn Life Support
ACLS – Advanced Cardiac Life Support
ACS - American College of Surgeons
ACS/COT - American College of Surgeons Committee on Trauma
ASTNA – Air and Surface Transport Nurses Association
ATCN – Advanced Trauma Care for Nurses sponsored by STN
ATLS – Advanced Trauma Life Support course
BOH – State Board of Health
CEN – Certified Emergency Nurse
CRNA – Certified Registered Nurse Anesthesiologist
CEO – Chief Executive Officer
CATN – Course in Advanced Trauma Nursing (ENA)
COT – Committee on Trauma
CT – Computed Tomography Scanning
CEU – Continuing Education Unit
CME – Continuing Medical Education
DOA – Dead on arrival
E – Essential Criterion
ECG – Electrocardiogram
ED – Emergency Department
EMS – Emergency Medical Services
ENA – Emergency Nurses Association
ENPC – Emergency Nurses Pediatric Course
ETT – Endotracheal tube
GAB – EMS Advisory Board
ISS – Injury severity score
ICU – Intensive Care Unit
ICD9 - Ninth edition of International Classification of Disease, a standard coding system that includes injuries and diseases.
ICP – Intracranial pressure
IV - Intravenous
LPN/LVN – Licensed professional nurse/licensed vocational nurse
MRI – Magnetic resonance imaging
MD – Medical doctor
O – Optimal Criterion
OEMS – Office of Emergency Medical Services
OR – Operating room
PALS – Pediatric Advanced Life Support (course or certification)
PI – Performance improvement; used to describe quality assurance efforts (QA/QI/CQI)
PACU – Post Anesthesia Care Unit
PGY4/PGY5 - postgraduate year; classification system for residents in postgraduate training. The number indicates the year they are in during their post medical school residency program.

PHTLS – Prehospital Trauma Life Support
RN – Registered Nurse
RTTDC – Rural Trauma Team Development Course
STN – Society of Trauma Nurses
TEH - Trauma education hour(s) is the equivalent of 60 minutes of trauma education
TMD – Trauma Medical Director
TNCC – Trauma Nurse Core Curriculum sponsored by the ENA
TPD/TPM/TNC – Traditionally called the trauma nurse coordinator (TNC); this position varies by center and is typically a director or program manager.
TSO&MC – The Trauma System Oversight and Management Committee; this is the Commonwealth's
VDH – Virginia Department of Health
VDH/OEMS – Virginia Department of Health's Office of Emergency Medical Services
VSTR – Virginia Statewide Trauma Registry

TRAUMA CENTER DESIGNATION

Resource Document: Virginia Statewide Trauma and Burn Center Designation Manual, available at: www.vdh.virgina.gov/oems. Virginia trauma center criteria are based on the *Resources for Optimal Care of the Injured Patient: 2006* (American College of Surgeons Committee on Trauma, 2006).

The TSO&MC of the State Emergency Medical Services Advisory Board has been asked by the State Health Commissioner (Commissioner) to assist in the designation of trauma and trauma/burn centers in the Commonwealth of Virginia.

The process of designation is entirely voluntary on the part of the hospitals in the Commonwealth. It is meant to identify those hospitals that will make a commitment to provide a given level of care for the multiple injured and/or burned patient and who welcome public acknowledgment of that capability. Knowledge of trauma and burn care capabilities, with improved field categorization and prehospital capabilities will help all those involved in the trauma and burn care delivery system make decisions that are in the best interest of the patient.

The designation process is as follows:

1. Any hospital that desires designation as a trauma or trauma/burn center must submit a completed application to the VDH/OEMS Trauma/Critical Care Coordinator. The application can be obtained from the VDH/OEMS Trauma/Critical Care Coordinator and should include a statement of community need or justification for designation and the impact on its regional trauma system. This is not a certificate of need process.

2. Items that comprise a trauma center designation application can be found in the trauma center verification section of this document.

3. The Trauma/Critical Care Coordinator will review the application with the Chairman of the TSO&MC Committee, (and Committee member(s), if necessary), for compliance with the required standards. Additional clarifying documents or information may be requested.

4. A designation site review will only be scheduled after a hospital can demonstrate presence of essential trauma and/or burn criteria, compliance with the Virginia Statewide Trauma Registry (VSTR) data submission requirements, and participation in its regional trauma triage plan.

5. The site review will be scheduled within six months of receiving a completed application. Once the site review date and time are scheduled, the hospital will receive an agenda, and a list of documents and personnel that need to be available at the time of the visit.

6. A site review will be scheduled for the purpose of awarding provisional status as a trauma center. Upon completion of one year as a provisional trauma center, the hospital will be required to submit an interim report describing any changes since designation as a provisional center.

7. At the conclusion of the scheduled site visit, the site review team members will submit their findings and recommendations in a summary report to the Commissioner. The site review team may share the draft copy of the summary report to the candidate hospital at the conclusion of the review.

8. At the end of the one year provisional period, a modified site review team will review the hospital and if there are no critical deficiencies identified at the time of this visit, the center will be recommended for designation as a trauma and/or trauma/burn center by the Commissioner. The modified site review team will consist of a surgeon team leader, trauma/critical care registered nurse (RN), and VDH/OEMS staff. A verification visit will be required three years from the original full site review.

9. An on-site verification visit will be required every three years from the original designation. Site review teams may recommend the verification cycle be any other time period as deemed necessary instead of the standard three year cycle.

SITE REVIEW TEAM COMPOSITION

LEVEL I and IB (IB is Level I Trauma and Burn Center Designation)

- Out of state Trauma Surgeon
- In state Trauma Surgeon/Team Leader
- A Trauma/Critical Care Nurse
- Emergency Department (ED) Physician
- Hospital Administrator

LEVEL II and III

- In state Trauma Surgeon/Team Leader
- ED Physician
- A Trauma/Critical Care Nurse
- Hospital Administrator

TRAUMA CENTER VERIFICATION

Resource Document: Virginia Statewide Trauma and Burn Center Designation Manual, available at: www.vdh.virginia.gov/oems. Virginia trauma center criteria are based on the *Resources for Optimal Care of the Injured Patient: 2006* (American College of Surgeons Committee on Trauma, 2006).

The verification process is as follows:

1. A renewal notice will be sent approximately six months prior to the site review due date.

2. The hospital applying for trauma center verification must submit proposed site review dates within 30 days of receiving renewal notice.

3. The hospital will receive a confirmation date from OEMS once a team leader has been identified and has agreed to a date.

4. The hospital will submit a complete designation application no later than 60 days prior to the confirmed site review date. The completed application will include the following items:

    a. Signed Trauma Center Code of Conduct,
    b. Completed Trauma Center Capabilities Form,
    c. Current organizational chart describing the relationship of the trauma program within the hospital organizational structure,
    d. Impact statement,
    e. Level I, IB, II or III Checklist for appropriate level requested (electronic form provided),
    f. Completed Trauma Center Questionnaire,
    g. Current list of all emergency physicians and mid-level providers,
    h. Current list of all trauma surgeon's performing trauma call,
    i. Current list of nursing staff members that serve as the primary trauma team nurse in the trauma bay/room,
    j. List of trauma team nurses certifications in Trauma Nurse Core Curriculum (TNCC), Advanced Trauma Care for Nurses (ATCN), or Course in Advanced Trauma Nursing (CATN),
    k. Copies of TNCC, ATCN, and CATN certifications shall be made available to the site review team,
    l. Trauma team activation/alert criteria,
    m. Trauma team roles and responsibilities policy,
    n. Trauma alert policies,
    o. Trauma Medical Director (TMD) job description,
    p. Evidence of TMD's: Copies of board certification(s), current Advanced Trauma Life Support (ATLS) certification, continuing medical education (CME), and national conference attendance (as applicable),
    q. Trauma Program Director/Trauma Program Manager/Trauma Nurse Coordinator (TPD/TPM/TNC) job description (include an organizational chart),
    r. Evidence of TPD/TPM/TNC's trauma education hours (TEH) and national conference attendance (as applicable),

s. Trauma registrar job description and evidence of TEH requirements (as applicable),
t. Emergency Medical Director's board certification(s), CME, and current ATLS or the identified designee's current ATLS,
u. Copy of the trauma program's performance improvement (PI) plan,
v. PI process flow diagram that includes how issues get reported to its highest level,
w. PI tracking sheets,
x. Other documents as requested.

5. The site review team will be composed of a trauma surgeon/team leader, an emergency medicine representative, a trauma/critical care nurse, and a hospital administration representative. The State Trauma/Critical Care Coordinator will staff the site review and can cover any vacant position except the team leader role if needed.

6. Site Visit day will occur as follows:

   a. There will be an opening conference with the key trauma individuals of the institution and the site review team. The key individuals are: the TMD, TPD/TPM/TNC, Burn Medical Director, Emergency Medicine Medical Director, the hospital administrator that is the immediate supervisor for the trauma program, trauma nurse clinicians, nurse managers from the ED, operating room (OR), intensive care units (ICU), pediatrics and trauma nursing floors, trauma registrar, PI coordinator, orthopedic surgery, neurosurgery, anesthesia, rehabilitation medicine, radiological and lab/blood blank representatives, local EMS Chiefs, and OMDs.
   b. The site review team will tour the hospital with the hospital staff person that is in an equivalent role to the team member. Appointments for individual meetings between the administrative team member and the hospital's Chief Executive Officer (CEO), Chief Nursing Officer (CNO), and the administrator over the TPD/TPM/TNC must be arranged.
   c. The site review team will need to be provided with a work area to privately review hospital medical records. The team may also use a tracer methodology and review charts of active patients. Medical records are chosen in advance by the OEMS using the VSTR and EMS registry. Additional records may be requested during the review.
   d. There will be a review of PI documentation.
   e. An exit interview with the TMD, TPD/TPM/TNC, and the hospital administrator with direct responsibility for the trauma program, and the CEO and CNO if desired will be held.
   f. The site review team may provide a draft copy of their final report to the trauma program leadership.

7. The site review team will document their findings in the form of strengths, weaknesses, non-critical deficiencies, and critical deficiencies. The team can develop this report as a group effort or any combination of individual and group reports. The team report will include a recommendation to the Commissioner towards the designation/verification of the hospital as a designated trauma or trauma/burn center.

8. Acting upon the recommendation of the site review team, the Commissioner may verify the designation of the trauma and/or trauma/burn center for a three-year period from the date of the full site review. Designation is at the discretion of the Commissioner and variations of designation cycles may be utilized, as well as special conditions.

9. If a trauma or trauma/burn center fails to meet essential criteria/receives a critical deficiency identified during a site visit or by other compelling evidence, the hospital will receive written notification by the VDH/OEMS.

10. The hospital trauma center will submit a written plan of correction of the critical deficiency within 30 days after notification. The hospital trauma center has six months from the date of notification to correct all deficiencies and undergo a focused repeat verification visit performed by the team leader, VDH/OEMS staff and other team members as needed from the initial visit. The team leader may be replaced for extenuating circumstances. The team leader may also deem a repeat visit unnecessary with appropriate documentation that demonstrates the deficiency has been corrected.

11. If the deficiencies are not corrected within the six month period, the trauma or trauma/burn center designation will be withdrawn by the Commissioner. If the hospital desires designation as a trauma or trauma/burn center, it must wait a minimum of six months and reapply.

BURN CENTER VERIFICATION

The purpose of the burn center designation process is to ensure consistent performance of trauma/burn centers in Virginia and to promote continued improvement and development of experienced burn centers thereby reducing morbidity and mortality of the thermally injured patient.

The intent of this document is to outline the criteria for the designation and verification of trauma/burn centers in Virginia. This document defines the essential components of burn centers in Virginia and outlines administrative guidelines describing the procedures and steps required for the process and interpretive guidelines describing how burn center criteria should be evaluated during a site visit.

The objective is to provide a consistent, objective and meaningful approach to the designation and verification process.

TRAUMA CENTER CRITERIA

The items listed below as "E," are essential items (required) in order maintain the respective level (I, IB, II, or III) trauma or trauma/burn center designation. Those items listed with an "O" are items that are considered optimal and are recommended but not required. Mature centers typically achieve optimal items above the essential criteria for Level I, IB, II or III designation.

Level:	I	IB	II	III
Article I. Institutional Organization				
Section 1.01 Trauma Program:				
(a) Mission statement emphasizing continuous PI in the management of the trauma patient.	E	E	E	E
(b) A recognizable program within the hospital which has a surgeon as its director/coordinator/physician in charge.	E	E	E	E
(c) Support of the facility's Board of Directors. (The Board of Directors should be notified of applications for trauma designation, verification and approval of the Commissioner of Health after a site review).	E	E	E	E
(d) Administration must be supportive of the trauma program.	E	E	E	E
(e) Evidence of an annual budget for trauma program.	E	E	E	E
Section 1.02 Burn Program:				
(a) The program must have medical and administrative commitment to the care of patients with burns. This is demonstrated by administrative leadership and financial support for personnel to maintain the elements as outlined below.	O	E	-	-
(b) The program must formally establish and maintain an organized burn program that is responsible for coordinating the care of burn patients.	O	E	-	-
(c) The burn program must maintain an organizational chart relating personnel within the burn program and hospital.	O	E	-	-
(d) The burn program must be integrated into the trauma program at a state designated/verified Level I trauma center.	O	E	-	-
(e) All essential elements of a burn program and burn unit must be present.	O	E	-	-
(f) The burn program must admit an average of 50 or more burn patients annually with acute burn injuries averaged over three years.	O	E	-	-

Level:	I	IB	II	III
(g) The burn program must maintain a policy and procedural manual that is reviewed annually by the Burn Medical Director and Burn Program Manager/Coordinator. Policies and procedures will include the following: (i) Administration of the burn program (ii) Staffing on the burn unit (iii) Criteria for admission to the burn unit by the burn program (iv) Use of burn unit beds by other medical and surgical services (v) Use of "tanking" and dressing facilities by non-burn program physicians (vi) Pediatric and adult conscious sedation procedures (vii) Criteria for admission, discharge and follow-up care (viii) Availability of beds and transfer of burn patients to other medical surgical units within the hospital (ix) Care of patients with burns in areas of the hospital other than the burn unit	O	E	-	-
Section 1.03 The trauma/burn center must avoid diverting burn patients except for rare instances such as loss of power, etc. This includes patients arriving by EMS and from referral hospitals within the region.	-	E	-	-
Section 1.04 Program Leadership:				
(a) **Trauma Medical Director:**				
(i) The TMD must be a board certified/eligible general surgeon. An emergency medicine physician may serve as a Co-Director.	E	E	E	E
(ii) The TMD must have a minimum of three years experience with a trauma program or be trauma fellowship trained.	E	E	O	O
(iii) The TMD must participate in regional and national trauma organizations.	E	E	O	O
(iv) The TMD must be involved in trauma research, which includes the need to create a publication of results and presentations.	E	E	O	O
(v) The TMD must be actively involved in providing care to patients with life threatening or urgent injuries to discharge.	E	E	E	E
(vi) The TMD must oversee all aspects of multidisciplinary care from the time of injury to discharge.	E	E	E	E
(vii) The TMD must maintain current ATLS provider or instructor certification.	E	E	E	E
(viii) The TMD will have 30 hours of Category I trauma/critical care CMEs every three years and attend one national meeting whose focus is trauma or critical care.	E	E	E	O
(ix) The TMD will have 30 hours of Category I trauma/critical care CMEs every three years and/or attend one national meeting whose focus is trauma or critical care.	-	-	-	E
(x) The TMD may attend more than one national meeting over three year period.	O	O	O	O

Level:	I	IB	II	III
(xi) Each surgeon, emergency physician, nurse practitioner or physician's assistant participating/taking call in the program or could possibly be caring for trauma alert patients in the ED must complete 30 Category I CMEs in trauma/critical care across the three year verification period or 20 CMEs across the two year designation period. Updating ATLS may be included in these CMEs. OR The TMD will provide an annual meeting and/or a self learning packet/web based learning program. All of the following shall receive this training: • All full and part time surgeons taking trauma call • The TPD/TPM/TNC • Nurse practitioners and physicians assistants affiliated with the trauma program • All full and part time ED physicians who may be caring for trauma alert patients in the ED • All nurse practitioners and physicians assistants who may be caring for trauma alert patients in the emergency department. The TMD will provide the following updates during this meeting: • Highlights from national meetings and other continuing education to include a discussion of any changes applicable to the current guidelines and practice. • A review, including updated information from ATLS.	E	E	E	E
Section 1.05 Burn Medical Director:				
(a) The Burn Medical Director must be a licensed physician with board certification(s) by the American Board of Surgery or the American Board of Plastic Surgery.	-	E	-	-
(b) The Burn Medical Director must have completed a one-year fellowship in burn treatment or must have experience in the care of patients with acute burn injuries for two or more years during the previous five years at an ACS or VDH verified designated Level I trauma center.	-	E	-	-
(c) The Burn Medical Director must be granted the necessary authority to direct and coordinate all care for patients admitted to the burn program.	-	E	-	-
(d) The Burn Medical Director must be the physician of record or overseeing the outcomes of all surgeons within the program, 50 or more burn patients annually or one third of the burn patients admitted annually, averaged over a three year period.	-	E	-	-
(e) The Burn Medical Director must participate in CME of burn related education at a minimum of 30 hours or more averaged over a three year period and attend one national/regional meeting.	-	E	-	-
(f) Burn Medical Director must demonstrate ongoing involvement in burn related research and/or community education burn care and/or prevention.	-	O	-	-
Section 1.06 Trauma Program Director/Manager/Nurse Coordinator:				
(a) The TPD/TPM/TNC must be a dedicated full time equivalent (FTE).	E	E	E	E

Level:	I	IB	II	III
(b) The TPD/TPM/TNC must have overall management responsibilities for the trauma program.	E	E	E	E
(c) There must be a defined job description delineating the TPD/TPM/TNC role and responsibilities. The TPD/TPM/TNC must be reflected in the hospitals organizational chart.	E	E	E	E
(d) The TPD/TPM/TNC must be a RN.	E	E	E	E
(e) The TPD/TPM/TNC, in addition to being a RN, must possess experience in emergency/critical care nursing.	E	E	E	O
(f) The TPD/TPM/TNC must obtain 30 TEH per three year verification cycle of which 50% must be via an extramural source. This may be prorated by the State Trauma Coordinator for new hires or shorter periods of time due to extenuating circumstances.	E	E	E	E
(g) The TPD/TPM/TNC will attend one national or international meeting within the three year verification or designation period.	E	E	E	E
Section 1.07 Burn Manager/Coordinator:				
(a) There must be one RN with a baccalaureate or higher degree that has two more years of experience in acute burn care and serves the function of the burn program Manager/Coordinator. This manager/coordinator will work closely with the Burn Medical Director to develop policies and procedures, PI program for the program. The nurse manager may have other administrative duties within the medical center, but should commit at least 25% of his or her FTE for every 150 inpatient admissions to the burn program.	-	E	-	-
(b) The Burn Manager/Coordinator must participate in eight or more hours of burn related education annually or 24 hours averaged over a three year period.	-	E	-	-
Section 1.08 The primary burn therapist must have eight hours or more of a burn related education annually or 24 hours averaged over a three year period.	-	E	-	-
Section 1.09 Trauma Registrar:				
(a) Must be a minimum of one full FTE dedicated to the trauma registry.	E	E	E	-
(b) A minimum of a 0.5 FTE must be fully dedicated to the trauma registrar position. Note: See the "Trauma Registrar" description in the Administrative Guidelines for job description information.	-	-	-	E
(c) Trauma registrars must obtain 24 TEH per three year verification cycle, of which 50 percent must be from an extramural source.	E	E	E	E
Section 1.10 Trauma Team/Trauma Team Response:				
(a) There must be a clearly delineated trauma team response to the arrival of the patient with suspected or known major trauma in the ED 24 hours per day.	E	E	E	E
(b) **Trauma Surgeon:**				
(i) A trauma surgeon must meet the patient in the ED upon arrival. A PGY4 or PGY5 general surgery resident capable of assessing emergent situations, providing control and leadership of the care of the trauma patient may meet this requirement. In the event that this requirement is provided by a resident, the trauma surgeon must be available in a timely manner.	E	E	E	O

Level:	I	IB	II	III
(ii) The emergency physician is a designated member of the trauma team and may direct resuscitation and care of the patient until the arrival of the trauma team leader. A senior level emergency medicine resident may fulfill this function provided there is an attending emergency medicine physician present in the ED.	E	E	E	E
(iii) Trauma/general surgeons participating in the trauma program and taking active call must be dedicated to the hospital while on trauma call and show active participation in the trauma program.	E	E	E	E
(iv) Trauma/general surgeons participating in the trauma program and taking active call must have completed ATLS, successfully, at least once in the past.	E	E	E	E
(c) **Minimum Physician Coverage:**				
(i) A minimum of two attending level physicians must be present for the arrival of full trauma team alert patients. These physicians must be an anesthesiologist, ED physician, or general surgeon. A qualified general surgeon is expected to participate in major therapeutic decisions and be present in the ED for major resuscitations and at operative procedures on all seriously injured patients.	E	E	E	O
(ii) A minimum of one attending level physician must be present for the arrival of trauma team alert patients. This physician must have the capability to manage the initial care of the majority of injured patients and have the ability to transfer patients that exceed their resources to an appropriate level trauma center.	-	-	-	E
(d) **Anesthesiology:**				
(i) There must be an anesthesiologist in the hospital 24 hours a day (refer to Section 2.04).	E	E	O	O
(ii) Anesthesiology must be on call and readily available 24 hours a day (refer to Section 2.04).	-	-	E	E
(iii) Anesthesiologist must be present for all emergent operative procedures on major trauma patients (refer to Section 2.04).	E	E	E	E
(e) **Trauma Related Surgical Specialties (as listed in Section 2.05):**				
(i) Promptly available as needed.	E	E	E	E
Article II. Hospital Departments/Divisions/Sections				
Section 2.01 General Surgery:				
(a) There must be in hospital clinical capabilities in general surgery with two separate posted call schedules 24 hours per day. One for trauma, one for general surgery. In those instances where a physician may simultaneously be listed on both schedules, there must be a defined back-up surgeon listed on the schedule to allow the trauma surgeon to provide care for the trauma patient. The TMD shall specify, in writing, the specific credentials that each back-up surgeon must have. These, at a minimum, must state that the back-up surgeon has surgical privileges at the trauma center and is boarded or eligible in general surgery (with board certification in general surgery within five years of completing residency). A PGY4 or PGY5 capable of assessing emergent situations in their respective specialties may fulfill this requirement. They must be capable of providing surgical treatment	E	E	O	O

Level:	I	IB	II	III
immediately and provide control and leadership of the care of the trauma patient.				
(b) The hospital must have clinical capabilities in general surgery with two separate posted call schedules 24 hours per day. One for trauma, one for general surgery. In those instances where a physician may simultaneously be listed on both schedules, there must be a defined back-up surgeon listed on the schedule to allow the trauma surgeon to provide care for the trauma patient. The TMD shall specify, in writing, the specific credentials that each back-up surgeon must have. These, at a minimum, must state that the back-up surgeon has surgical privileges at the trauma center and is boarded or eligible in general surgery (with board certification in general surgery within five years of completing residency). Trauma surgeon or PGY4/ PGY5 capable of assessing emergent situations in their respective specialties may fulfill this requirement. They must be capable of providing surgical treatment immediately and provide control and leadership of the care of the trauma patient.	-	E	E	E
(c) When the trauma surgeon is not in house, the trauma surgeon should be present in the ED at the time of arrival of the patient. When sufficient prior notification has not been possible, an ED physician will immediately initiate the evaluation and resuscitation. Definitive surgical care must be instituted by the trauma surgeon in a timely fashion.	-	E	E	E
(d) The hospital shall establish a policy detailing the expected amount of time for the trauma surgeon to arrive from first identification of a possible trauma patient to arrival at the bedside when Section 2.01 (a) and (b) cannot be met. This time shall not exceed 30 minutes. Selection of the interval will be based on patient outcome data.	E	E	E	E
Section 2.02 Neurological Surgery:				
(a) An attending neurosurgeon must be promptly available. The in-house requirement may be fulfilled by an in-house neurosurgery resident, or a surgeon/designee who has special competence, as judged by the Chief of Neurosurgery, in the care of patients with neural trauma, and who is capable of initiating diagnostic procedures.	E	E	O	O
(b) If a neurosurgeon is responsible for more than one hospital at the same time, they must have a backup schedule.	-	-	E	O
(c) If an attending neurosurgeon is not dedicated to the Level II trauma center, the center must have a backup call list **OR** the center must demonstrate no more than 24 emergency neurosurgical procedures per year AND the center must provide a neuro-trauma diversion plan.	-	-	E	-
Section 2.03 Emergency Medicine:				
(a) The ED physician must be a recognized member of the trauma team and be represented on the facilities trauma committee.	E	E	E	E
(b) The Emergency Medical Director or their designee will have 30 hours of Category I CME every three years and attend one national meeting with some content in trauma or critical care.	E	E	E	E
(c) The Emergency Medical Director or designee will maintain a current ATLS instructor or participant certification.	E	E	E	E

Level:	I	IB	II	III
Section 2.04 Anesthesiology:				
(a) Anesthesiologist in hospital 24 hours a day. (Requirements may be filled by anesthesia residents; CRNAs capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including major vascular, neurosurgical, pediatric, orthopedic, thoracic, ENT, and other in-house surgical cases. If residents or CRNAs are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring is essential).	E	E	O	O
(b) Anesthesiology. Anesthesia personnel need not be in house 24 hours a day, but the trauma program should ensure that anesthesia personnel can be present in the emergency room at the time of arrival of the trauma alert patient. When sufficient prior notification has not been made possible, a designated member of the trauma team will immediately initiate the evaluation and resuscitation. Requirements must be filled by anesthesia personnel capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including major vascular, neurosurgical, pediatric, orthopedic, thoracic, ear, nose and throat (ENT), and other in-house surgical sub-specialties involved in trauma cases. If residents or certified registered nurse anesthetists are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring are essential.	-	-	E	O
(c) Anesthesiologist must be on-call and promptly available from in or out of the hospital. Requirements must be filled by anesthesia personnel capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including: major vascular, neurosurgical, pediatric, orthopedic, thoracic, ENT, and other in-house surgical sub-specialties involved in trauma cases. If residents or CRNAs are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring is essential.	-	-	-	E
Section 2.05 Additional Clinical Capabilities: On call and promptly available.				
(a) **Surgical:**				
(i) Cardiac surgery	E	E	O	O
(ii) Thoracic surgery	E	E	E	O
(iii) Orthopedic surgery	E	E	E	E
(iv) Pediatric surgery	E	E	O	O
(v) Hand surgery	E	E	O	O
(vi) Microvascular/replant surgery	E	E	O	-
(vii) Plastic surgery	E	E	E	O
(viii) Maxillofacial surgery	E	E	E	O
(ix) Ear, nose and throat surgery	E	E	E	O
(x) Oral surgery	E	E	O	O
(xi) Ophthalmic surgery	E	E	E	O

Level:	I	IB	II	III
(xii) Gynecological surgery/obstetrical surgery	E	E	E	O
(xiii) Urology	-	E	-	-
(b) **Non-surgical: (**On call and promptly available**)**				
(i) Cardiology	E	E	E	O
(ii) Pulmonology	E	E	O	O
(iii) Gastroenterology	E	E	O	O
(iv) Hematology	E	E	O	O
(v) Infectious Disease	E	E	O	O
(vi) Internal medicine	E	E	E	E
(vii) Nephrology	E	E	O	O
(viii) Neurology	O	E	O	O
(ix) Pathology	E	E	E	E
(x) Pediatrics	E	E	O	O
(xi) Psychiatry	0	E	O	O
(xii) Radiology	E	E	E	E
(xiii) Interventional Radiology	E	E	E	O
Section 2.06 A department of social services consultation must be available to the burn program.	-	E	-	-
Section 2.07 There must be access to rehabilitation services capable of managing burn patients.	-	E	-	-
Article III. Clinical Qualifications				
Section 3.01 General/Trauma Surgeons:				
(a) Board certified/eligible in general surgery.	E	E	E	E
(b) Must meet the educational requirements in Section 1.04 (a) (xi).	E	E	E	E
(c) Successful ATLS course completion at least once.	E	E	E	E
Section 3.02 Burn Surgeons:				
(a) There must be at least one FTE attending burn surgeon staff involved in the management of burn patients for each 200 acute inpatients admitted annually.	-	E	-	-
(b) The Burn Medical Director may appoint a qualified attending burn surgeon to participate in the care of the patients on the burn program.	-	E	-	-
(c) Attending staff burn surgeons must be board certified or eligible in general or plastic surgery.	-	E	-	-
(d) Attending staff burn surgeons must have completed a one-year fellowship in burn treatment or must have experience in the care patients with acute burn injuries for two or more years during a previous five years at a designated Level I trauma center.	-	E	-	-
(e) Attending staff burn surgeons must participate in CME of burn related education at a minimum of 30 hours or more averaged over a three year period.	-	E	-	-
(f) Attending staff burn surgeons must direct the total care of at least 20% or more of acutely burned patients annually admitted to the burn program averaged over a three year period.	-	O	-	-
(g) Privileges for physicians participating in the burn program must be determined by the medical staff credentialing process and approved by the Burn Medical Director.	-	E	-	-

Level:	I	IB	II	III
(h) The burn program must maintain an on-call schedule for residents and attending staff burn surgeons available to the burn program. Residents and staff surgeons must be primarily available 24 hour basis.	-	E	-	-
(i) If residents rotate on the burn program, the Burn Medical Director, or his or her designee, must be responsible for an orientation program for new residents.	-	E	-	-
Section 3.03 Emergency Medicine:				
(a) Board certified/eligible in emergency medicine (exceptions may be made in rare instances based upon long term practice in emergency medicine.)	E	E	E	E
(b) Must meet the educational requirements in Section 1.04(a)(xi).	E	E	E	E
(c) ED physicians must maintain current ATLS, **if not** boarded in emergency medicine.	E	E	E	E
Section 3.04 Neurosurgery:				
(a) Neurosurgeons performing trauma call must be board certified within five years of completing residency successfully.	E	E	E	O
(b) Neurosurgeons performing trauma call must have 10 hours of neuro-trauma specific CMEs.	O	O	O	O
(c) Neurosurgeons performing trauma call must have successfully completed an ATLS course once.	O	O	O	O
Section 3.05 Orthopedic Surgery:				
(a) Orthopedic surgeons performing trauma call must be board certified within five years of completing residency successfully.	E	E	E	O
(b) Orthopedic surgeons performing trauma call must have 10 hours of skeletal-trauma specific CMEs per year.	O	O	O	O
(c) Must have successfully completed an ATLS course once.	O	O	O	O
Section 3.06 Trauma Nursing:				
(a) All nursing staff members who participate in the acute care of trauma patients, including those working on units regularly providing care to trauma patients such as general surgery, orthopedics, neuroscience, progressive care, ICU, post-anesthesia care unit (PACU), OR, ED, and pediatrics shall have a minimum of four hours of trauma specific education hours (TEH) annually.	E	E	E	E
(b) All nursing staff members participating in the trauma team response must have documented trauma specific orientation.	E	E	E	E
(c) There must be a burn program orientation program that documents nursing competencies specific to the care and treatment burn patients including critical care, wound care, and rehabilitation that is age appropriate.	-	E	-	-
(d) Documentation of specific orientation and continuing education for pediatric and burn care if these patients are regularly admitted to the trauma center	E	E	E	E
(e) More than50% of all nursing staff members who directly participate as a member in the trauma team must have a current TNCC, ATCN course, or CATN certification	E	E	E	E
Section 3.07 Burn Nursing:				
(a) Burn center nursing staff members who participate in the resuscitation of the burn patient must be provided with a minimum of two burn related nursing education	-	E	-	-

Level:	I	IB	II	III
hours opportunities annually, either intramural or extramural.				
(b) Each burn unit must have a method to determine acuity levels of the patients in determining staffing needs. The system will be used to determine daily staffing needs.	-	E	-	-
(c) Qualifications for staff members who are responsible for the care of burn patients must conform to criteria documenting appropriate training, patient experience CMEs and commitment to teaching and research of care burn patients.	-	E	-	-
Article IV. Facilities/Resources/Capabilities				
Section 4.01 Emergency Department:				
(a) **Personnel:**				
(i) The ED must have a designated physician director/chairman (see clinical qualifications under Section 2.03).	E	E	E	E
(ii) There must be 24 hour per day staffing by physicians physically present in the ED that meet the standard in Section 3.03.	E	E	E	E
(iii) There must be RN's, LPN/LVN's and nursing assistants/technicians in adequate numbers in the initial resuscitation area based on acuity and trauma team composition.	E	E	E	E
(iv) A minimum of two RN's per shift functioning in the trauma resuscitation area must possess trauma nursing training.	E	E	E	E
(v) A written provision/plan for the acquisition of additional staffing on a 24 hour basis to support units with increased patient acuity, multiple emergency procedures, and admissions must exist.	E	E	E	E
(vi) Each nursing unit must have a copy of their staffing plan for review during the site visit.	E	E	E	E
(vii) There must be a written protocol for the expectations and responsibilities of the trauma nurse and other team members during trauma resuscitations.	E	E	E	E
(viii) Nursing documentation for trauma patients must be on a trauma flow sheet or electronic medical record equivalent.	E	E	E	E
(b) **Emergency Department Resuscitation Equipment:** (for all ages)				
(i) Broselow Tape	E	E	E	E
(ii) Airway control and ventilation	E	E	E	E
(iii) Suction devices	E	E	E	E
(iv) End Tidal CO2 detector(s)	E	E	E	E
(v) Bedside and central electrocardiogram (ECG), pulse oximetry, and pressure monitoring	E	E	E	E
(vi) Portable monitor with ECG, pulse oximetry, cardiac pacing, external and internal defibrillation capabilities	E	E	E	E
(vii) IV fluids and administration devices	E	E	E	E
(viii) Thermal control equipment for warming blood products and IV fluid	E	E	E	E
(ix) IV fluid and blood rapid infusion device(s)	E	E	E	E
(x) Arterial catheters	E	E	E	O

Level:	I	IB	II	III
(xi) Sterile surgical sets/trays to include: airway control/cricothyrotomy, thoracotomy, vascular access, chest tube insertion, peritoneal lavage and central line access	E	E	E	E
(xii) Thermal control equipment for cooling/warming patients	E	E	E	E
(xiii) Gastric catheters	E	E	E	E
(xiv) Skeletal traction devices	E	E	E	E
(xv) Skeletal traction device for providing cervical traction	E	E	E	E
(xvi) Radiological equipment	E	E	E	E
(xvii) Bedside ultrasound (FAST capability)	O	O	O	O
(xviii) Portable venous doppler	E	E	E	E
(xix) Two way radio communication linked with EMS transport units	E	E	E	E
Section 4.02 Burn Unit:				
(a) The burn unit must maintain an identified nursing unit where staffs specialize in burn care.	-	E	-	-
(b) There must be an identified burn unit that is a fixed physical and geographic location within the hospital for the treatment and coordination of burn care.	-	E	-	-
(c) The burn unit must have effective means of isolation that is consistent with the principles of universal precautions and barrier technique to decrease the risk of cross infection and cross-contamination.	-	E	-	-
Section 4.03 Burn Unit Treatment Area:				
(a) A specific area as designated by the Burn Medical Director for wound care assessment and treatment which would include the capability for minor wound debridement, escharotomy, wound cleansing, procedural techniques such as line placement, and overall assessment.	-	E	-	-
Section 4.04 Burn Unit Equipment: (for all ages)				
(a) Weight measuring devices	-	E	-	-
(b) Thermal control equipment for warming blood products and IV fluids	-	E	-	-
(c) Thermal control equipment for cooling/warming patients	-	E	-	-
(d) Bedside and central ECG, pulse oximetry, and pressure monitoring	-	E	-	-
(e) Portable monitor with ECG, pulse oximetry, cardiac pacing, and defibrillation capabilities	-	E	-	-
(f) Cardiac emergency carts (code carts)	-	E	-	-
(g) Electrocautery	-	E	-	-
Section 4.05 Operating Suite:				
(a) There must be OR(s) immediately available 24 hours per day.	E	E	E	O
(b) For burn cases there must be ORs immediately available 24 hours per day with the burn program having timely access for urgent/emergent cases. This is defined as "within six hours of posting".	-	E	-	-
(c) Personnel:				
(i) There must be OR personnel in house and immediately available 24 hours per day.	E	E	E	O
(ii) There must be OR personnel immediately available 24 hours per day. This requirement may be fulfilled using in-house or on-call staff.	-	-	-	E

Level:	I	IB	II	III
(iii) There must be a second OR team on-call and promptly available when the in-house team is participating in an operative case.	E	E	E	O
(d) **Operating Room Resuscitation Equipment:** (for all ages)				
(i) Cardiopulmonary bypass capability	E	E	O	-
(ii) Operating microscope	E	E	O	O
(iii) Thermal control equipment for warming blood products and IV fluid	E	E	E	E
(iv) Thermal control equipment for cooling/warming patients	E	E	E	E
(v) 24 hour per day x-ray capability, including C-Arm image intensifier	E	E	E	E
(vi) Endoscopes and bronchoscopes	E	E	E	E
(vii) Rapid infuser system	E	E	E	E
(viii) Craniotomy instruments	E	E	E	-
(ix) Capability of fixation of long bone and pelvic fractures	E	E	E	O
Section 4.06 Postanesthesia Recovery Room or Surgical Intensive Care:				
(a) Personnel:				
(i) There must be PACU nursing staff immediately available 24 hours per day. This requirement may be fulfilled using in-house or on-call staff.	E	E	E	E
(b) Thermal control equipment:				
(i) Thermal control equipment for warming blood products and IV fluid	E	E	E	E
(ii) Thermal control equipment for cooling/warming patients	E	E	E	E
(c) In the event that patients are boarded in the PACU as ICU overflow patients, then the equipment listed in Section 4.07 must be available.	E	E	E	E
Section 4.07 Intensive/Critical Care Unit:				
(a) **Personnel:**				
(i) There must be a designated surgical director or co-director.	E	E	O	O
(ii) There must be a designated medical director or co-director.	E	E	E	E
(iii) Nursing staff members must be educated in trauma care and must have a patient ratio of not more than two patients per nurse.	E	E	E	E
(iv) There must be a physician on duty in the ICU 24 hours per day or immediately available from within the hospital. This requirement cannot be fulfilled using an on-duty ED physician if this physician is the sole physician staffing the emergency department.	E	E	E	O
(v) There must be a physician on duty in the ICU 24 hours per day or immediately available from within the hospital.	-	-	-	E
(b) **Intensive/Critical Care Unit Equipment:** (for all ages)				
(i) Airway control and ventilation equipment	E	E	E	E
(ii) Cardiac emergency cart (code cart)	E	E	E	E
(iii) Temporary transvenous pacer	E	E	E	E
(iv) Bedside and central monitoring ECG, pulse oximetry, and pressure monitoring	E	E	E	E
(v) Portable cardiac monitor with ECG, cardiac pacing, and external and internal defibrillation	E	E	E	E
(vi) Mechanical ventilator	E	E	E	E
(vii) Patient weighing devices	E	E	E	E
(viii) Pulmonary function measuring device	E	E	E	E

Level:	I	IB	II	III
(ix) Temperature control devices for patients	E	E	E	E
(x) Rapid IV fluid infuser capability	E	E	E	E
(xi) Intracranial pressure monitoring device	E	E	E	O
(xii) Capability to perform blood gas measurements, hematocrit levels and chest x-ray studies.	E	E	E	E
Section 4.08 Radiological Services: (to be available 24 hours per day)				
(a) Radiology technician in-house	E	E	E	E
(b) Radiologist interpretation	E	E	E	O
(c) Angiography	E	E	E	O
(d) Sonography	E	E	E	O
(e) Computed Tomography (CT) Scanning	E	E	E	E
(f) CT technologist in-house	E		E	O
(g) CT Technologist available within 30 minutes	-	-	-	E
(h) Magnetic Resonance Imaging (MRI)	E	E	O	O
(i) Resuscitation equipment to include airway management and IV therapy	E	E	E	E
Section 4.09 Clinical Laboratory Service: (to be available 24 hours/day)	E	E	E	E
(a) Standard analysis of blood, urine, and other body fluids, including micro sampling	E	E	E	E
(b) Blood typing and cross-matching	E	E	E	E
(c) Coagulation studies	E	E	E	E
(d) Comprehensive blood bank, or access to a community central blood bank with storage facilities	E	E	E	E
(e) Blood gas and ph determination	E	E	E	E
(f) Microbiology	E	E	E	E
Section 4.10 There must be renal dialysis services available 24 hours per day.	-	E	-	-
Section 4.11 The burn program must have hospital policies and procedures for the use of allograft tissues and they must be in compliance with all federal state and Joint Commission requirements and when feasible and appropriate, with standards of the American Association of Tissue Banks.	-	E	-	-
Article V. Performance Improvement Program				
Section 5.01 Trauma/Burn Performance Improvement:				
(a) An organized PI program to examine the care of the injured patient within the hospital that looks towards improving outcomes by decreasing complications and improving efficiency. The process should clearly document the PI process, action plans, and resolution of the issue (loop closure).	E	E	E	E
(i) There must be a demonstrable relationship between PI outcomes and new or revised clinical protocols.	E	E	O	O
(ii) There should be an expansion of the PI program to include regional trauma systems.	O	O	O	O
(b) The PI program should follow state recommended audit filters at a minimum.	E	E	E	E
(i) The PI program should participate in the creation of institutional and regional based audit filters as identified by the institution or regional PI committees.	O	O	O	O
(c) The PI program must demonstrate the application outcome and benchmarking based activity.	E	E	E	E

Level:	I	IB	II	III
(d) Participation in the VSTR as mandated by the *Code of Virginia*. Data must be submitted to the VSTR within 30 days from the end of a quarter and include all patients: • With an ICD9-CM code(s) of 348.1, 800.0 – 959.9, 994.0 and 994.1, excluding 905-909 (late effect injuries), 910-924 (blisters, contusions, abrasions and insect bites), 930-939 (foreign bodies), and • Were admitted to the hospital, or • Were admitted for observation (not ER observation unless held in the ER due to no inpatient bed availability), or • Were transferred from one hospital to another for treatment of acute trauma, or • The patient dies within the hospital due to injury (includes, the ED and DOA's). Note: hospitals may over report within these ICD9 codes if desired for internal reporting.	E	E	E	E
(e) Compliance with Section 5.01.d above on a quarterly basis	E	E	E	E
(f) Utilization of VSTR/National Trauma Data Bank (NTDB):				
(i) For new trauma centers, the PI program should utilize VSTR or NTDB data for institutional, regional, or state research or benchmarking for PI or injury prevention programs. For mature trauma centers (by the second verification visit) this criterion becomes a requirement.	O	O	O	O
(ii) For mature trauma centers (by its second verification visit) the PI program must utilize VSTR or NTDB data for institutional, regional, or state research or for benchmarking for PI or injury prevention programs.	E	E	E	E
(g) There must be a forum that includes the TMD, ED Director, TPD/TPM/TNC, designee from trauma subspecialties (neurosurgery, orthopedics) as specific issues present for multidisciplinary review of care of the injured patient including policies, procedures, system issues, and outcomes. The forum may include pre-hospital, nursing, ancillary personnel, a hospital administrator, and other physicians involved in trauma care. (The forum in h, below, may be combined with this meeting.)	E	E	E	E
(i) There must be 50% attendance by committee members (or designee) at multi-disciplinary review of care meetings.	E	E	E	E
(h) The hospital will have a structured peer review committee, which must have a method of evaluating trauma care. This committee must meet at least quarterly and include physicians representing pertinent specialties that include at least, trauma surgery, neurosurgery, orthopedics, emergency medicine, anesthesiology, and may include hospital management and other subspecialties as required. The TPD/TNC/TNC or designee may be a member. Outcomes of peer review will be incorporated into the educational and policy program of the trauma program. (The forum in f may be combined with this meeting.)	E	E	E	E
Section 5.02 Trauma Research Program:				
(a) There must be a trauma research program designed to produce new knowledge applicable to the care of injured patients to include: an identifiable institutional	E	E	O	O

Level:	I	IB	II	III
review board process.				
(b) The trauma research program must be designed to produce new knowledge applicable to the care of injured patients to include; three peer review publications over a three year period that could originate in any aspect of the trauma program.	E	E	O	O
(c) There must be a nursing specific trauma research program designed to produce new knowledge applicable to the care of the injured patients to include trauma nursing research. Should have one publication in a three year period.	E	E	O	O
Section 5.03 Burn Performance Improvement:				
(a) There must be a burn patient care conference held at least weekly to review and evaluate the status of each burn patient admitted to the burn unit. The conference must include, but not be limited to, a burn physician, critical care intensivist, burn nurse, respiratory therapist, social work, burn occupational therapy or physical therapy, dietitian, and clinical psychologist.	-	E	-	-
(b) Patient care conferences must be documented in the progress notes of each patient and in the minutes of the conference kept separately.	-	E	-	-
(c) The burn program must have a multidisciplinary PI program.	-	E	-	-
(d) The burn PI program multidisciplinary committee, which oversees the PI program, must meet at least quarterly. Sufficient documentation must be maintained to verify problems, identify opportunities for improvement, and take corrective actions and resolved issues.	-	E	-	-
(e) Morbidity and mortality conferences must be held every other month and include physicians other than the immediate burn care team to ensure objective review of the presentations. Attendees at this conference must include specialists and other committee members that do not practice in the trauma/burn center.	-	E	-	-
(f) All significant complications and deaths must be discussed. There must be a candid and open discussion with high points documented, an assessment of the death or complications classified as; not preventable, potentially preventable, and preventable and actions recommend. There must also be documentation of loop closure in the potentially preventable and preventable cases. Records of this conference must be kept.	-	E	-	-
(g) The burn program must conduct audits released annually that include but are not limited to the severity of burn mortality, incidence of complications and length of hospitalization.	-	E	-	-
(h) The program must participate in the ABA's national burn repository either through ABA tracks or by providing the minimum acceptable record information in a computer exported format compatible with ABA national burn repository this data must include all patients admitted to the hospital for acute burn care treatment.	-	O	-	-
(i) The burn program must provide ongoing review and analysis of nosocomial infection data and risk factors that relate to infection prevention and control for burn patients, these data must be available to the burn team to assess infection risk factors that relate to infection prevention and control for burn patients.	-	E	-	-
Section 5.04 Burn Research Program:				
(a) The burn program should participate in basic clinical and health science research.	-	O	-	-

Level:	I	IB	II	III
(b) The Burn Medical Director should demonstrate ongoing involvement in burn related clinical research.	-	O	-	-
Article VI. Outreach Program:				
Section 6.01 Each trauma center will annually partner with the top three referring/receiving facilities to assess, plan, implement, and evaluate the physician and nursing trauma educational needs of those facilities transferring severely injured patients.	E	E	E	E
Section 6.02 Each trauma center will maintain a document that reflects the functional process for providing case specific complimentary and/or constructive feedback to the top three referring/receiving facilities for extraordinary situations.	E	E	E	E
Section 6.03 Each trauma center will collaborate with the top three regional transferring/receiving facilities to design and provide an annual hospital specific registry report by using the hospitals PI infrastructure for transmission.	E	E	E	E
Section 6.04 Each trauma center will have in place a method for showing their involvement with the EMS agencies and/or personnel in there region. The trauma centers should be involved in EMS education, PI and a method of providing complimentary and/or constructive feedback in general or case specific as needed.	E	E	E	E
Section 6.05 Each trauma center will have in place a method for showing their involvement with the community in their region. The trauma center should be involved in community awareness of trauma and the trauma system.	E	E	E	E
Section 6.06 The burn program must have an educational program for medical staff members, including emergency medicine attending physicians and residents.	-	E	-	-
Section 6.07 The burn program must offer education on current burn concepts of emergency and inpatient care treatment to pre-hospital and hospital care providers within its service area.	-	E	-	-
Section 6.08 The burn program will document burn specific participation in public awareness programs.	-	E	-	-
Section 6.09 The burn program should be actively engaged in promoting Advanced Burn Life Support (ABLS) courses in the region. It is desirable for the Burn Medical Director to be an ABLS instructor and essential that the Burn Medical Director is current and ABLS. The unit should have one or more employees who are ABLS instructors.	-	O	-	-
Article VII. Injury Prevention Program:				
Section 7.01 There must be demonstration that injury prevention activities are based upon regional needs.	E	E	E	E
(a) Participation in a statewide trauma center collaborative injury prevention effort focused on a common need throughout the Commonwealth.	O	O	O	O
(b) Perform studies in injury control while monitoring the effects of prevention programs.	O	O	O	O
Article VIII. Hospital Documents:				
Section 8.01 Evidence of American Board of Surgery certification documented in each surgeon performing trauma call in their credential files or other documentation showing active pursuit of current certification or re-certification in general surgery. Each trauma surgeon must be eligible for certification.	E	E	E	E

Level:	I	IB	II	III
Section 8.02 Evidence of a recognized board certification(s) documented in each emergency physicians credential file or other documentation showing active pursuit of current certification(s) or recertification in emergency medicine by ED physicians.	E	E	E	E
Section 8.03 There must be documentation available for ATLS and continuing education as outlined throughout this document.	E	E	E	E
Article IX. Institutional Commitment:				
Section 9.01 There must be demonstrable knowledge, familiarity, and commitment of upper level administrative personnel to trauma program.	E	E	E	E
Section 9.02 There must be upper level administrative participation in multi-disciplinary trauma conferences/committees.	E	E	E	E
Section 9.03 There must be evidence of a yearly budget for the trauma program.	E	E	E	E

ADMINISTRATIVE GUIDELINES

Purpose:

The purpose of the administrative and interpretive guidelines is to provide information pertaining to the process of designation and verification of trauma and trauma/burn centers in Virginia. It is divided into two sections: 1) administrative guidelines describing the procedures and steps required for the process, and 2) interpretive guidelines describing how trauma and burn center criteria should be evaluated during a site visit. The document is designed to be used with Virginia trauma and trauma/burn center Criteria.

The objective is to provide a consistent, objective and meaningful approach to the designation process.

Background:

In Virginia, the lead EMS agency is VDH/OEMS. VDH/OEMS coordinates the development and administration of trauma center designation throughout the state. The earliest Level I trauma centers were designated in 1983 and 1984. Burn specific designation was introduced to the designation manual in 2012.

The trauma system in Virginia is inclusive. All hospitals with 24 hour emergency departments provide some degree of trauma and burn care. The decision to become a designated trauma center or trauma/burn center is voluntary. Designation carries a cost related to the fact that the trauma and burn programs must be continuously available for patients who may or may not require their services. Triage guidelines act to direct severely injured patients to the nearest appropriate trauma or trauma/burn center.

Designation occurs at four levels. Level I, Level IB, and II trauma centers should be capable of managing severely injured patients. Level I and Level IB centers must demonstrate a higher level of commitment to research, prevention and education. Level III centers demonstrate an increased commitment to trauma care, managing moderately injured patients and rapidly resuscitating and transferring more severely injured patients. Undesignated trauma centers must recognize, resuscitate and transfer most trauma patients.

All hospitals whether designated or not should make every effort possible to participate in and to improve the trauma system. Due to the unexpected nature of injury, trauma patients and their families cannot choose their location of care. It is incumbent upon the healthcare system to provide these patients with the most optimal care possible regardless of location and circumstances. The purpose of the designation process is to assure consistent performance of entry level trauma and trauma/burn centers and to promote continued improvement and development of experienced centers.

I. Record Keeping

Overview: The trauma system in Virginia is dynamic. Centers change in response to pressure of the healthcare environment and criteria and processes for evaluation change as trauma and burn care evolves. Maintaining records consistently over a period of time achieves several purposes. It provides a series of system snapshots over time. It allows centers and VDH/OEMS to refer back to actions taken in the past. Finally, it allows a summation of trauma and trauma/burn center performance rather than a

series of unrelated and disjointed episodic views. In order to accomplish these goals, the records must be identifiable, consistent, accessible, and maintained in a predictable fashion.

a. Documents and revisions of documents will be numbered and maintained by the Office of EMS. This process is put into place to avoid confusion with regard to which version of a document is in use during the site visit. When a trauma or trauma/burn center is scheduled for a visit, the Trauma/Critical Care Coordinator will provide the title and effective date of the documents to be used during the visit. These will include the trauma and trauma/burn center criteria and the administrative and interpretive guidelines, as well as any other documents considered to be pertinent.

b. Each trauma or trauma/burn center will have a file maintained for a period of not less than ten years after the most recent trauma visit. The file will include:
   i. Records of each site visit to the institution with the following information:
      1. Designation Items:
         a. Written preliminary report and suggested remediation by site visit team,
         b. Written documentation of remediation,
         c. Closure of remediation,
         d. The final report of the site visit team, including specific findings and remediation, and
         e. Copy of written action by the Commissioner (designation).
      2. Site Review Documents:
         a. Site Review Agenda,
         b. Site Review Team Roster, and
         c. Version of (by revision date) of trauma center criteria used for site review.
      3. Written Application Including:
         a. Acknowledgement that the VDH/OEMS trauma designation file has been reviewed (signed),
         b. Trauma Center Code of Conduct,
         c. Trauma Center Capabilities,
         d. Current Organizational Chart,
         e. Impact Statement,
         f. Checklist,
         g. Questionnaire,
         h. List of physicians,
         i. Trauma team alert criteria (roles, responsibility, and policies),
         j. TMD job description,
         k. Trauma Nurse Coordinator job description (include an organization Chart),
         l. Trauma Registrar job description and evidence of CME requirements (as applicable),
         m. Performance improvement plan,
         n. Performance improvement process flow diagram,
         o. Verification renewal letter, and
         p. VSTR audit.
   ii. Any records pertaining to any voluntary or involuntary withdrawal of designation.
   iii. Any additional communication pertaining to designation status between the center and VDH/OEMS or the Commissioner.
   iv. A summary of activity related to the center (a list of dates, nature of actions and resulting status of center.)

c. A copy of the current trauma center file will be sent to the TPD/TPM/TNC and to the TMD at the time of request for verification or designation. These individuals will review the information contained for accuracy and provide written confirmation to VDH/OEMS.

d. Management of records during visit:
   i. Each member of the site review team will receive a copy of the trauma center file in its entirety at least two weeks prior to the visit, and
   ii. Team members will receive electronic or written application material at least two weeks prior to the visit.

e. Preliminary report of findings may be made available to the center prior to the time of departure of the site visit team:
   i. The center may receive a written copy of preliminary report listing issues of concern, strengths and areas for improvement; and
   ii. The team may also provide specific preliminary suggestions for remediation in writing at time of departure.

f. The team leader will provide written confirmation of preliminary findings and remediation or amended findings and remediation within one week of finishing the site visit.

g. After any conditions of remediation have been satisfied, the site review team leader will provide VDH/OEMS with written notice of closure of remediation.

II. Application for Review

a. Six months prior to the date a center is due for site review, the Trauma/Critical Care Coordinator for VDH/OEMS will notify the TPD/TPM/TNC and provide the following:

   i. Application to be completed,
   ii. Copy of trauma center file on CDROM, and
   iii. Copy and version number of Criteria and AIG to be used during review.

b. Application will include:

   i. Signed Trauma Center Code of Conduct,
   ii. Completed Trauma Center Capabilities Form,
   iii. Current Organizational Chart describing the relationship of the trauma program within the hospital organizational structure,
   iv. Impact Statement: the impact statement describes the role of the trauma center or proposed center in the system it serves. The statement acts as an argument for the existence the center and its essential contributions to the community,
   v. Level I, IB, II or III Checklist for appropriate level requested (electronic form provided),
   vi. Completed Trauma Center Questionnaire,
   vii. Current complete list of emergency physicians and mid-level providers,
   viii. Current complete list of trauma surgeon’s performing trauma call,

ix. Current complete list of nursing staff members that serve as the primary trauma team nurse in the trauma bay/room. The list of trauma team nurses should include whether the nurse possesses active TNCC, ATCN, or CATN,
x. Copies of current TNCC, ATCN, and CATN should be made available to the site review team,
xi. Trauma team activation/alert criteria for your hospital,
xii. Trauma team roles and responsibilities policy,
xiii. Trauma alert policies,
xiv. TMD job description,
xv. Burn Medical Director job description (as applicable),
xvi. Evidence of TMD's board certification(s), current ATLS, CME, and national conference attendance (as applicable),
xvii. TPD/TPM/TNC job description (include an organizational chart),
xviii. Burn manager/coordinator job description (as applicable),
xix. Evidence of TPD/TPM/TNC's TEH and national conference attendance (as applicable),
xx. Evidence of the Burn Manager/Coordinator's burn education hours (if applicable),
xxi. Trauma registrar job description and evidence of TEH requirements (as applicable),
xxii. Emergency Medical Director's board certification(s), CME and current ATLS or the identified designee's current ATLS,
xxiii. Copy of the program's PI plan,
xxiv. PI process flow diagram includes how issues get reported to its highest level,
xxv. PI tracking sheets, and
xxvi. Other documents as requested.

III. Prior to Visit

a. Prior to visit, the site review team shall have:

i. Complete copy of trauma center file,
ii. Full copy of pre-visit application,
iii. Current status of center with regard to VSTR provided by VDH/OEMS, and
iv. List of any trauma related issues requiring investigation by VDH since last visit, along with resolution.

IV. Site Review

Overview**:** Without trauma and burn patients, a trauma center cannot demonstrate the consistency and effectiveness of procedures and protocols put into place at the time of its inception. However in a well developed system with a strong trauma triage element, severely injured or burned patients will be directed toward existing designated trauma or trauma/burn centers. A paradoxical situation develops; the center should not be designated until it demonstrates effectiveness, yet cannot demonstrate effectiveness until receiving patients as a trauma center. To remedy this situation, first time institutional reviews will be to survey for a provisional status.

Although it is important for a center to demonstrate its level of performance, the public must not be put at risk for suboptimal care. Therefore, the second review following a short interval will be held for full designation. The interval will allow the center to put its documented plan for trauma care into action. In

addition, the institution will have an opportunity to correct any deficiencies identified by the original site review team. At the time of the second site visit (the first designation visit) the center will either pass or not pass. Any identified critical deficiencies will result in a mandatory period during which the institution will re-evaluate the trauma program prior to beginning the designation process over again.

a. Provisional center – one year period
   i. At the provisional visit, the center must demonstrate that all required mechanisms to meet criteria are in place. The team will confirm that there is a resource, policy or procedure that addresses the criteria and that it represents a practical and effective approach.

   ii. The team will identify the following:
      1. Critical deficiencies
      2. Non-critical deficiencies
      3. Potential areas for improvement

   iii. The presence of critical deficiencies will be cause to withhold provisional designation. The center must re-evaluate its program and if desired, begin the application process again after a period of not less than one year.

   iv. When non-critical deficiencies exist or in the absence of deficiencies, the program will receive provisional status for a period of one year. During this time, it will function at the identified level and remedy any non critical deficiencies identified at the first site visit.

b. Designation: A second site visit will occur at the end of the hospitals one year provisional status. The hospital does not have to submit a full application, but should submit an interim report describing any changes since designation as a provisional center, status of non critical deficiencies noted during the first site visit, as well as a trauma program summary from its trauma registry.

   The modified site review team will consist of a surgeon team leader and a trauma/critical care nurse reviewer. The surgeon team leader or OEMS may add additional members to this team as deemed necessary.

   Any critical deficiencies identified at this time will result in the center not receiving designation as a trauma center. The hospital will not function as a trauma center if this occurs and will re-evaluate and revise its current program for at least two years prior to beginning the application process again.

c. Verification**:** Following designation, a center will undergo verification visit every three years having become designated, an institution must continue its developmental process. A progressively sophisticated approach is expected of more experienced centers and is reflected in a number of the criteria. This is particularly apparent in the area of quality assurance. Continuous improvement means continuous change. An experienced program is expected to demonstrate ongoing evaluation of the trauma care system, presenting enhanced approaches to existing problems or efforts at solving newly identified problems. For this reason, it is unlikely that an experienced program will be successful if unable to present progress and changes over three verification cycles. Verification visits follow a successful designation visit and should document ongoing development of the center and responsiveness trauma system issues.

i. A full application will be submitted for each verification visit.
ii. In the absence of critical deficiencies or persistent non-critical deficiencies the center will be confirmed at its current level of function.
iii. If a non-critical deficiency has been identified for the first time it will be noted in the team leaders' summary. However, if a non-critical deficiency is identified in two out of three sequential visits, the center will be asked to submit a plan of correction to VDH/OEMS within three months. At the next site visit, the center will provide evidence of having implemented the plan and improvement in the area of deficiency identified.

V. Withdrawal

Overview**:** As an advocate for quality trauma and burn care, a trauma or trauma/burn center should be able to identify situations in which it no longer meets criteria required for its current level of designation. If this occurs, the center should notify VDH/OEMS requesting a temporary withdrawal, permanent withdrawal or request for re-designation (either upgrade or downgrade). Identification and self reporting of the problem is more advantageous than waiting for an adverse result of a verification visit or complaint resulting in involuntary withdrawal.

a. Temporary: A hospital may request a temporary withdrawal from the system if unforeseen and uncontrollable circumstances prevent the center from functioning at its designated level and if the period of time is expected to be longer than one day and less than three months. Requests for temporary withdrawal greater than three months will require a site review team visit.

   Examples include death, disability, resignation, retirement, etc. of key individuals on the trauma program, or an internal disaster such as a fire or flood. A representative from the hospital will notify VDH/OEMS regarding the request for temporary withdrawal by phone or e-mail as early as possible. Initial notification shall be followed by a written report outlining the circumstances, the plan to correct the circumstances, the anticipated length of temporary withdrawal and any arrangements to maintain trauma care within the system (e.g. memorandum of understandings with other hospitals, notification of VDH/OEMS) within 14 days. Once the problem has been corrected the trauma or trauma/burn center will notify VDH/OEMS. A site visit is not required for re-instatement. If the center is involved in remediation for critical deficiencies at the time of request for temporary withdrawal, the timeline for remediation is not altered and no extension is applied.

b. Permanent**:** If a hospital wishes to discontinue its role as a trauma or trauma/burn center it may request a voluntary withdrawal. The institution is not required to provide a reason for this although VDH/OEMS may request information to facilitate evaluation of the trauma system. The hospital should provide the request for voluntary withdrawal in writing. Included with the request should be a copy of the most recent impact statement and suggestions for changes in the system to allow for accommodation of gaps in trauma coverage. Following voluntary withdrawal, a center may apply for re-designation at any level desired after a period of not less than one year. The center will arrange for notification of the public and EMS agencies regarding the change in status. Only one voluntary withdrawal is permitted within a ten year period of time.

c. Re-designation (upgrade)**:** The hospital requesting an upgrade in level of trauma center designation will be required to undergo a full site review at the level of re-designation being requested. The site

review must occur prior to functioning at the requested level of re-designation. Since this is a new designation a verification visit will be required in two years.

d. Re-designation (downgrade)**:** If a hospital requests a downgrade in level of designation, a modified site visit will be performed to assure the hospital is functioning at the level of designation being requested.

e. Involuntary**:** An involuntary withdrawal occurs when a center fails to remediate critical deficiencies as outlined by the site visit team, or if a visit by a site review team or VDH/OEMS representative determines that further function as a trauma center would be a risk to patient safety or extremely detrimental to the system. If this occurs, the center has the option of an appeals process outlined below. At the time of an involuntary withdrawal, VDH/OEMS will provide notification to the public and to EMS providers in the area. Following the first involuntary withdrawal, an institution may request re-designation after a period of not less than three years. After any subsequent involuntary withdrawals the institution will not be permitted to apply for re-designation sooner than five years.

VI. Appeal

If a hospital, whether designated or attempting to be designated, has a grievance with findings relating to the enforcement of the Virginia trauma center criteria by VDH/OEMS, a site review team leader, a site review team member, the TSO&MC or any subcommittee formed from the TSO&MC has the right to file an appeal the finding(s).

The appeals process will follow the Administrative Process Act (APA) of Virginia § 2.2-4000. Notice of intent to appeal should be documented and submitted to VDH/OEMS as stipulated in § 2.2-4000. Failure to follow the APA guidelines can result in the appeal not being heard.

VII. Site Review Team Member Roles, Training and Recruitment

a. Site review team member roles (refer also to site visit checklist for more details)
   i. A surgeon team leader officiates over the site review team and provides a written summary and recommendation upon the application to the Health Commissioner. The surgeon team leader will review the surgical capabilities of the hospital and whether they meet the essential criteria for the level of designation/verification being applied for.
   ii. An emergency medicine physician will review the ED's response to trauma patients. This would include whether there is an appropriate team response to trauma patients, the care provided during that response and the availability of ancillary services during the initial phase of trauma care.
   iii. The trauma/critical care nurse reviewer will review all phases of nursing care provided by the applying center. This would include assuring there is adequate staffing and equipment available, as well as quality nursing care provided during the trauma team response, within the critical care department and inpatient areas.
   iv. Trauma nurse coordinator's role within the trauma program will also be evaluated by the trauma/critical care nurse reviewer.

v. A hospital administrator role will also be utilized to evaluate the overall commitment that the hospitals administration has to the trauma program.

b. Training - VDH/OEMS and the TSO&MC may provide a training program, suited for both classroom presentation and self learning which will assure the site reviewer's knowledge of the current criteria and their role as a site review team member.

c. Recruitment –VDH/OEMS and the TSO&MC will assure that there are an adequate numbers of site reviewers. To qualify as a site review team member, the individual will be required to observe a minimum of one site review, receive the site review training and be approved by vote of the TSO&MC.

d. VDH/OEMS will maintain records on individual site reviewer activities including dates, locations and outcomes of reviews.

e. VDH/OEMS will solicit evaluations of site team leader performance.

INTERPRETIVE GUIDELINES

Purpose: The purpose of the interpretive guidelines is to describe how the specific criteria should be interpreted by site visit teams.

Trauma and/or Trauma/burn Program:

Level:	I	IB	II	III
Article I. Institutional Organization				
Section 1.01 Trauma Program:				
(a) Mission statement emphasizing continuous PI in the management of the trauma patient.	E	E	E	E
(b) A recognizable program within the hospital which has a surgeon as its director/coordinator/physician in charge.	E	E	E	E
(c) Support of the facilities' Board of Directors. (The Board of Directors should be notified of applications for trauma designation, verification and approval of the Commissioner of Health after a site review).	E	E	E	E
(d) Administration must be supportive of the trauma program.	E	E	E	E
(e) Evidence of an annual budget for trauma program.	E	E	E	E

While all hospitals participate in trauma care, one of the cardinal differences between a designated trauma center and an undesignated hospital is the trauma program. The purpose of the program is to integrate, coordinate, develop and evaluate the components necessary for effective care of the seriously injured patient. While each of the components such as a trauma surgeon or emergency resuscitation equipment may be adequate on an isolated basis, it is the integration of the components that enhance trauma care. The program should address all levels of care from pre-hospital to post discharge. All trauma programs function within a trauma system. The function and participation of the program within the system will be evaluated during the visit.

The site review team will be evaluating the hospital for a robust and active trauma program. The mission statement and the impact statement describe the role of the program and its expected impact in regional trauma management respectively. The impact statement is an argument for the existence of the trauma center. This document should briefly identify the trauma resources available in the region and why the hospital thinks becoming a trauma center is necessary. Examples of benefits include, but are not restricted to; geographically underserved area, inadequate number of trauma beds or improvement in care of patients already received.

The purpose of the trauma/burn center designation process is to assure consistent performance of trauma/burn centers in Virginia and to promote continued improvement and development of experienced trauma/burn centers thereby reducing morbidity and mortality of the thermally injured patient.

Section 1.02 Burn Program: Level:	I	IB	II	III
(a) Must have medical and administrative commitment to the care of patients with burns. This is demonstrated by administrative leadership and financial support for personnel to maintain the elements as outlined below.	O	E	-	-

Level:	I	IB	II	III
(b) Must formally establish and maintain an organized burn program that is responsible for coordinating the care of burn patients.	O	E	-	-
(c) The burn program must maintain an organizational chart relating personnel within the burn program and hospital.	O	E	-	-
(d) Must be integrated into the trauma program at a state designated/verified Level I trauma center.	O	E	-	-
(e) Must have all essential elements of the burn program, burn unit, and burn program.	O	E	-	-
(f) The burn program must admit an average of 50 or more burn annually with acute burn injuries averaged over three years.	O	E	-	-
(g) The burn program must maintain a policy and procedural manual that is reviewed annually by the Burn Medical Director and Burn Program Manager/Coordinator. Policies and procedures will include the following: (i) Administration of the burn program (ii) Staffing on the burn unit (iii) Criteria for admission to the burn unit by the burn program (iv) Use of burn unit beds by other medical and surgical services (v) Use of "tanking" and dressing facilities by non-burn program physicians (vi) Pediatric and adult conscious sedation procedures (vii) Criteria for admission, discharge and follow-up care (viii) Availability of beds and transfer of burn patients to other medical surgical units within the hospital (ix) Care of patients with burns in areas of the hospital other than the burn unit.	O	E	-	-

Is there evidence of long term institutional commitment to the trauma or trauma/burn program?

Nursing staff, hospital administration and medical staff must be committed to maintaining the program. The presence of support from only one or two of these groups or significant resistance from any one of these groups is an area of concern and represents a non-critical deficiency. However, resistance from an isolated individual or small group of individuals must be evaluated on a case by case basis, taking the impact on the program into consideration. For example, objections to the trauma center effort by a CEO of a hospital represent a more insurmountable problem than objection by two or three sub-specialists in different clinical areas. While letters of support from key participants are not essential, these may serve to indicate institutional commitment. In addition, the administrative team member will interview administrative representatives to determine institutional commitment. At minimum, leadership in the areas of nursing, medical staff, and administration should be able to identify the presence of the program and general information regarding structure and function. The organizational chart submitted with the written application will be important in determining location of the program in the hospital structure and reporting relationships. Administrative responsibility for the program should be clearly defined and in the hands of an individual with a clear understanding of the needs of trauma patients and the process of designation as well as the authority to promote development of the program.

Are sufficient resources available to maintain the program(s)?

Institutions should have an allocated budget for the trauma or burn program(s), however; the institution can demonstrate compliance with the criteria by documenting that the expenses and revenues associated with the program are routinely evaluated. Development and maintenance of any level of trauma center requires non-clinical time, space, equipment and supplies. Allowances for these should be included in the budget. As the number of patients admitted to the service increases, it is reasonable to expect increasing demands in terms of non-clinical time and support. For example, according to ACS recommendations, a full time registrar is expected to manage information entry and retrieval on 1000 patients or less. The site review team should identify sufficient resources to support non-clinical activities. They will be aware of the fact that multiple management responsibilities may prevent functioning at full time status.

There should also be demonstrated effort to identify costs related to the trauma program. It is important for the hospital leadership to be aware of this in order to avoid sudden discoveries of expenses and equally sudden withdrawals. Additionally, it is difficult to determine if resources are adequate if program expenses are unknown. In recent years, trauma centers have also been asked to provide information on the cost of trauma care in order to assess the overall impact of this on Virginia healthcare; in this setting provision of general information on expenses and reimbursement is a means of participation in the trauma system. There is currently no standard reporting format for expenses, reimbursement and budgetary allocations. Financial information on the trauma or burn program should be collected and reported to the administration, TMD, and TPD/TPM/TNC in a manner which is meaningful and useful for planning.

Critical Deficiency:

- A critical deficiency is assigned if the site review team finds evidence of the absence of overall financial commitment to the trauma program.
- If the site review team finds evidence of insufficient resources being allocated for trauma and burn care a critical deficiency will be assigned.
- Failure to budget adequately for non-clinical activities related to maintaining the trauma or burn program will result in a critical deficiency.

Non Critical Deficiency:

- Absence of attempt to review program costs (clinical and non-clinical) is cause for the assignment of a non-critical deficiency.

Does the hospital leadership have reasonable expectations of the program(s)?

The process of becoming a center and maintaining designation is arduous. It is important to understand what the hospital administration hopes to gain from the designation. If expectations are unrealistic, a long term commitment will not be possible. This will be particularly true if the medical staff and administration have divergent goals. Interviews with the appropriate members of the hospital's leadership may be used to determine this.

Does the program(s) have a long term plan?

This version of the designation criteria continues to emphasize continuous development and improvement. Presence of a planning process for the program(s) (which may include a business or strategic plan) allows for anticipated response to changes in the trauma care environment as well as possible improvements in delivery of care. Programs are expected to show progress and capacity for change in response to environmental stresses. During the site visit opening conference the director will be asked to list strengths and weaknesses of the program.

Non Critical Deficiency:

- A non-critical deficiency may be assigned if there is an absence of a formal planning process for the trauma or burn program.
- Failure to include representatives from other pertinent departments and services within the hospital is cause for a non-critical deficiency.

Is there an identifiable trauma or trauma/burn program?

The trauma or trauma/burn program provides the clinical framework for the management of critically ill trauma and burn patients. The framework of the program varies with the institution and the number of patients admitted. It is not mandatory that patients be admitted to a single geographic unit within the hospital or to a single individual. The program should be identified in the organizational chart of the hospital. It must have a board certified surgeon as its TMD, a TPD/TPM/TNC, and a trauma registrar. Patients admitted to the program must be evaluated by a trauma surgeon and in cases of multiple system injury, single system major injury, torso or vascular trauma the patient must be admitted to the surgeon. This should be the case even if a general surgical procedure is not anticipated. There should be a trauma or burn program manual with policies and protocols pertaining to the admission and care of trauma and burn patients. The trauma or trauma/burn program manual should clearly describe which patients are admitted to the program and which, if any, will be transferred to another hospital. Special groups of patients, such as pediatrics, should be addressed.

There must be a description of the automatic trauma response and roles and responsibilities of individual trauma team members.

A two tier response allows for the in-hospital triage of injured patients. The patient thought to be less severely injured can be evaluated with less mobilization of hospital resources and medical personnel. Full mobilization must be immediately available and demonstrable if the patient is proven to be more severely injured than expected.

Criteria for the construction of tiers of response may be developed by the institution's multidisciplinary committee. The composition of the response team should ensure adequate ability to evaluate and treat the injured patient. For example, for the less severely injured patient, the trauma surgeon need not be available in the trauma treatment area when the patient arrives, but must be notified, available and see the patient in a reasonable time period after admission. Likewise, anesthesia, certain additional nursing, radiology and laboratory personnel need not be present in the trauma treatment area, but must be immediately available.

If an institution opts to use a two tier system, then a site review team will expect to see criteria for the delineation of the tiers, the composition of the response teams for each tier and a PI process that shows the system is functioning properly.

All patients admitted to the program should be entered in the trauma registry and care reviewed with the trauma or burn PI plan(s), this is in addition to the State mandated VSTR reporting requirements. In addition, cases which appear to have been under triaged and therefore not admitted to the program should be reviewed as well. Other indicators of the program include but are not restricted to case management, common clinical pathways and patient education.

Critical Deficiency:

- Absence of an identifiable trauma or trauma/burn program as applicable.
- Absence of TMD or TPD/TPM/TNC.
- No trauma or burn program manual.
- No identifiable trauma response.
- Consistent failure to implement trauma response as described in the trauma program manual.
- Absence of trauma registrar.
- Trauma or burn program manual procedures and protocols do not reflect actual practice.

Non Critical Deficiency:

- Trauma or trauma/burn program manual is inadequate to provide necessary framework for program.
- Key hospital staff, trauma surgeons and specialty medical staff unaware of contents of trauma or trauma/burn program manual.
- Occasional failure in application of trauma response not addressed in PI process.
- Trauma team response cumbersome and/or poorly communicated to trauma team or delayed.

Trauma Medical Director (Section 1.04)

Section1.04 Program Leadership: Level:	**I**	**IB**	**II**	**III**
(a) **Trauma Medical Director:**				
(i) The TMD must be a board certified/eligible general surgeon. An emergency medicine physician may serve as a Co-Director.	E	E	E	E
(ii) The TMD must have a minimum of three years of experience with a trauma program or be trauma fellowship training.	E	E	O	O
(iii) The TMD must participate in regional and national trauma organizations.	E	E	O	O
(iv) The TMD must be involved in trauma research, which includes the need to create a publication of results and presentations.	E	E	O	O
(v) The TMD must be actively involved in providing care to patients with life threatening or urgent injuries to discharge.	E	E	E	E
(vi) The TMD must oversee all aspects of multidisciplinary care from the time of injury to discharge.	E	E	E	E
(vii) The TMD must maintain current ATLS provider or instructor certification.	E	E	E	E

(viii) The TMD will have 30 hours of Category I trauma/critical care CMEs every three years and attend one national meeting whose focus is trauma or critical care.	E	E	E	O
(ix) The TMD will have 30 hours of Category I trauma/critical care CMEs every three years and/or attend one national meeting whose focus is trauma or critical care.	-	-	-	E
(x) The TMD may attend more than one national meeting over three year period.	O	O	O	O
(xi) Each surgeon, emergency physician, nurse practitioner or physician's assistant participating/taking call in the program or could possibly be caring for trauma alert patients in the ED must complete 30 Category I CMEs in trauma/critical care across the three year verification period or 20 CMEs across the two year designation period. Updating ATLS may be included in these CMEs. OR The TMD will provide an annual meeting and/or a self-learning packet/web based learning program. All of the following shall receive this training: • All full and part time surgeons taking trauma call • The TPD/TPM/TNC • Nurse practitioners and physicians assistants affiliated with the trauma program • All full and part time ED physicians who may be caring for trauma alert patients in the ED • All nurse practitioners and physicians assistants who may be caring for trauma alert patients in the emergency department. The TMD will provide the following updates during this meeting: • Highlights from national meetings and other continuing education to include a discussion of any changes applicable to the current guidelines and practice. • A review, including updated information from ATLS.	E	E	E	E

The TMD of the trauma program must be a board certified general surgeon. In addition, the TMD must have at least three years experience as a surgeon on a trauma program or in a setting with a high clinical volume of trauma patients. This may take place during residency or fellowship provided the residency or fellowship occurs in a designated Level I or Level II trauma center. If a TMD has not worked in a trauma center for three years he or she should provide an indication of volume and activity at a previous institution. This experience must have taken place within the last ten years.

The TMD must be currently active in delivering clinical care to trauma patients. The job description and interviews with hospital staff must confirm that the TMD has the authority and responsibility to oversee multidisciplinary aspect of trauma care. This does not mean that the TMD must be clinically involved with the care of each patient; rather he must have administrative responsibility pertaining to organization, coordination and evaluation of care.

The TMD must remain current in trauma care. For this reason he/she must maintain current certification in ATLS either as an instructor or as a provider. In addition, the TMD is required to obtain a minimum of 30 hours continuing education in trauma care every three years. While a portion of this continuing education may be obtained on site, the TMD must attend at least one national meeting with a focus of trauma or critical care within the three year verification cycle.

It is essential that the TMD remain active in development and management of the trauma system on the state and regional level. This will be demonstrated by evidence of attendance and participation in regional, state or national level trauma system and trauma performance groups.

The institution may choose to add an emergency physician co-director to the program. The presence of a co-director does not change requirements for experience, education and participation of the surgeon in the program. Advantages of a co-director include assistance in performing administration, coordination, education and evaluation of care normally assigned to the surgeon director. Additionally, the emergency physician will provide a different emphasis on the management of trauma with a greater focus on acute resuscitation. No requirements are provided for the position of trauma co-director. However; if the institution chooses to include this position, it must provide a job description and qualifications.

Critical Deficiency:

- Current TMD does not meet qualifications- e.g. not surgeon, incomplete or remote prior experience.
- TMD education not up to date: not current in ATLS, no attendance at national meeting, less than 30 hours continuing education in critical care and trauma over three years.

Non Critical Deficiency:

- No evidence or only sparse participation at local state or regional systems efforts.
- No publications or presentations.
- If a co-director is included, no job description or qualifications.
- Job description or performance of TMD does not indicate sufficient oversight of program.

Trauma Program Director/Manager/Nurse Coordinator (Section 1.06)

Section 1.06 Trauma Program Director/Manager/Nurse Coordinator: Level:	**I**	**IB**	**II**	**III**
(a) The TPD/TPM/TNC must be a dedicated full time equivalent (FTE).	E	E	E	E
(b) The TPD/TPM/TNC must have overall management responsibilities for the trauma program.	E	E	E	E
(c) There must be a defined job description delineating the TPD/TPM/TNC role and responsibilities. The TPD/TPM/TNC must be reflected in the hospitals organizational chart.	E	E	E	E
(d) The TPD/TPM/TNC must be a RN.	E	E	E	E
(e) The TPD/TPM/TNC, in addition to being a RN, must possess experience in emergency/critical care nursing.	E	E	E	O
(f) The TPD/TPM/TNC must obtain 30 TEH required per three year verification cycle, of which 50%, must be via an extramural source. This may be prorated by the State Trauma Coordinator for new hires or shorter periods of time due to extenuating circumstances.	E	E	E	E

(g) The TPD/TPM/TNC will attend one national or international meeting within the three year verification or designation period.	E	E	E	E

The TPD/TPM/TNC is essential to the integration and smooth functioning of the trauma program. This individual acts as the liaison between the trauma program and the hospital services necessary to provide care for the multiply injured patient. The TPD/TPM/TNC also is the primary contact and resource for the nursing services required for trauma care from the time of admission to rehabilitation and follow up care. On most services the trauma nurse coordinator also provides the logistical support for implementing the quality improvement program.

While specific job descriptions vary based on trauma program organization and support, it is essential that a job description be present and accurately reflective of what is expected. An organizational tree should indicate reporting relationships. These two documents should outline sufficient levels of authority to perform PI, interact with nursing and ancillary services and to perform any other tasks outlined in the job description.

The broad range of tasks assigned to the TPD/TPM/TNC may quickly come to consume substantial amounts of time. For this reason TPD/TPM/TNC's associated with all programs must be dedicated full time positions without oversight of other programs or areas or significant clinical obligations. It is allowable for the TPD/TPM/TNC to perform occasional clinical trauma nursing activities if deemed necessary to maintain contact with clinical staff or in exceptional instances of demand. However, this should not interfere with other trauma program obligations.

In addition to being a RN, Level I and II TPD/TPM/TNC's must have a minimum of three years of nursing experience in emergency/critical care nursing and provide documentation of continuing education specific to trauma and critical care as described in the criteria. All TPD/TPM/TNC's must attend a minimum of one national meeting every three years. This is to allow interaction with trauma staff outside of the hospital and to collect new information and updates on trauma management. For the same reason 50% of the TEHs 15 hours during a three year period must be off-site. Attendance at a national meeting may be included in offsite education hours.

Some programs include more than one nursing position. The titles for these positions may vary for example: trauma case manager, trauma nurse coordinator (in a program where there is a Trauma Program Manager) etc. The requirements above apply only to the individual identified as primarily responsible for the trauma program. However, if a nursing or other position is assigned to the trauma program, there must be a job description for the position, inclusion in the program organizational chart and plan for education commensurate with the position described.

Critical Deficiency:

- No TPD/TPM/TNC.
- TPD/TPM/TNC Position not full time.
- TPD/TPM/TNC not an RN.
- No job description for TPD/TPM/TNC.

Non Critical Deficiency:

- Insufficient prior critical care/emergency experience (Level I or II).
- Job description for any level is too extensive for time allotted.

- Insufficient continuing education hours off site or no attendance at a national meeting.
- If other program nursing positions are described, absence of job description and/or educational program.

Trauma Registrar (Section 1.09)

Section 1.09 Trauma Registrar: Level:	**I**	**IB**	**II**	**III**
(a) Must be a minimum of one full FTE dedicated to the trauma registry.	E	E	E	-
(b) A minimum of a 0.5 FTE must be fully dedicated to the trauma registrar position.	-	-	-	E
(c) Trauma registrars must attend 24 TEH required per three year verification cycle, of which 50 percent must be from an extramural source.	E	E	E	E

The trauma registrar is responsible for extracting information from charts, maintaining the trauma registry and developing and delivering reports from the registry. This role is vital in the maintenance of a robust PI program and in delivery of required trauma registry data to the state. The minimum requirement for Level I and II centers is a full time registrar, however, with larger services more registrars or assistants are necessary.

In order to extract information from patient charts, the registrar must be familiar with how the trauma program works, as well as, terminology, coding and the use of various scoring systems used to describe the severity of trauma. The educational program for a full time trauma registrar consists of 24 hours in three years on trauma, critical care, registry or data collection. While 24 hours is optimal for a part time registrar, there must be an educational experience at least proportional to the portion of time spent in that position.

The job description for the trauma registrar should clearly define the need to access patient records and to extract data. Key elements of the position include data extraction from charts, registry maintenance and report delivery.

Some programs may opt to use additional assistants to facilitate the role of trauma registrar. Examples of assistant activities include but are not restricted to, computer entry of data extracted from charts or collection of charts from the chart room. The presence of an assistant does not replace the requirement for a full time registrar. Assistants to the registrar may be of any employment status including voluntary. For this reason it is important to assure that job training is adequate to cover the position, particularly with regard to confidentiality of patient information and quality improvement. Other areas of job training should be tailored to the position.

As a program expands to include more than one registrar, the educational requirements are the same as for the original position. This is due to the fact the each registrar will be performing the same task, with the same key elements.

Critical Deficiency:

- No trauma registrar.
- No job description for registrar position.

Non Critical Deficiency:

- There is a registrar, but time allotted to position is insufficient for tasks expected.
- Education insufficient or not up to date.
- Assistants are used to supplement registrar position but training insufficient for expectations.

Trauma Team Response: (Section 1.10)

Section 1.10 Trauma Team/Trauma Team Response: Level:	**I**	**IB**	**II**	**III**
(a) There must be a clearly delineated trauma team response to the arrival of the patient with suspected or known major trauma in the ED 24 hours per day.	E	E	E	E
(b) **Trauma Surgeon:**				
(i) A trauma surgeon must meet the patient in the ED upon arrival. A PGY4 or PGY5 general surgery resident capable of assessing emergent situations, providing control and leadership of the care of the trauma patient may meet this requirement. In the event that this requirement is provided by a resident, the trauma surgeon must be available in a timely manner.	E	E	E	O
(ii) The ED physician is a designated member of the trauma team and may direct resuscitation and care of the patient until the arrival of the trauma team leader. A senior level emergency medicine resident may fulfill this function provided there is an attending ED physician present in the ED.	E	E	E	E
(iii) Trauma/general surgeons participating in the trauma program and taking active call must be dedicated to the hospital while on trauma call and show active participation in the trauma program.	E	E	E	E
(iv) Trauma/general surgeons participating in the trauma program and taking active call must have completed ATLS, successfully, at least once in the past.	E	E	E	E
(c) **Minimum Physician Coverage:**				
(i) A minimum of two attending level physicians must be present for the arrival of full trauma team alert patients. These physicians must be an anesthesiologist, EM physician, or general surgeon. A qualified general surgeon is expected to participate in major therapeutic decisions and be present in the ED for major resuscitations and at operative procedures on all seriously injured patients.	E	E	E	O
(ii) A minimum of one attending level physician must be present for the arrival of trauma team alert patients. This physician must have the capability to manage the initial care of the majority of injured patients and have the ability to transfer patients that exceed their resources to an appropriate level trauma center.	-	-	-	E
(d) **Anesthesiology:**				
i) There must be an anesthesiologist in the hospital 24 hours a day (refer to Section 2.04).	E	E	O	O
(ii) Anesthesiology must be on call and readily available 24 hours a day (refer to Section 2.04).	-	-	E	E
(iii) Anesthesiologist must be present for all emergent operative procedures on major trauma patients (refer to Section 2.04).	E	E	E	E
(e) **Trauma Related Surgical Specialties (as listed in Section 2.05):**				
(i) Promptly available as needed.	E	E	E	E

The hallmark of a trauma program is the trauma team response. This must be described in the trauma program manual and demonstrated on chart review for any site visit type other than provisional. The goal to the trauma team response is to expedite the diagnosis and management of injuries for the trauma patient.

The description of the team response in the trauma program manual must include criteria for response, notification of impending patient arrival to team members, who responds, target criteria for timeliness, team member roles and any actions expected as a result of trauma notification (for example: hold an OR open).

Every center must have a procedure for a full team response. This means that all team members (including the surgeon) are included and every effort is made to assure that the team is available ***at the bedside*** at the time of patient arrival. In addition, an operating suite must be available at short notice and arrangements include the rapid access to red blood cells for transfusion. The assumption is that the critically injured patient may require very rapid intervention for stabilization and surgical intervention for definitive care of injuries. In the single level response model, it is a criterion when calling the team, that the response must be broad in order to have the needed resources available to all patients requiring emergent interventions. For this reason, the single level response results in over triage and heavy utilization of resources.

While not required, many hospitals choose to use a tiered response to trauma. The tiered response includes the full team at the highest level and partial team response at one or more additional levels. When a tiered response is used, the trauma program manual must describe each level of response and criteria qualifying for the response level. While a tiered response addresses the needs of less severely injured patients and minimizes over utilization of resources, more oversight is necessary to assure that the effect is not diluted by a pattern of calling a lower level of response than necessary.

The site review team will review the trauma program manual, patient records, and the quality improvement program to determine the following:

- Alerts occur as described in the trauma program manual.
- Criteria are appropriate.
- Criteria address the needs of severely injured patients.
- That the full team response is timely.
- Tiered response is used as indicated in the trauma program manual.

While deviation from the description of the alert system in the trauma program, manual may occur from time to time, the site team will be evaluating the program for patterns of deviation especially in instances where the pattern is not identified by the institution's PI plan and addressed through the plan. Examples of such patterns include, but are not restricted to:

- Delay in calling a full team response until after the patient is evaluated.
- Severely injured patients or patients requiring emergent surgery not receiving full team response.
- Frequent need for upgrades in tiered response.
- Delay in arrival of team members for full team response.
- Mortality or morbidity attributable due to delays in team arrival.
- PI plan does not identify and address issues in team response.

Critical Deficiency:

- Trauma team response not identified in the facilities trauma program manual or communicated to team members.
- Response is as described in the trauma program manual, but criteria result in morbidity and mortality attributable to under triage – not addressed by PI program.
- Severely injured patients or patients requiring emergent surgical intervention not included in full team response- not addressed by PI program.
- Written procedure for team response is appropriate, but implementation results in under triage of critically injured patients and is not addressed by PI program.

Non Critical Deficiency:

- Consistent deviation from trauma team response as described in trauma program manual.
- Patterns of delay in full team response and not resulting in critical deficiency.

Additional Clinical Capabilities: (Section 2.05)

Section 2.05 Additional Clinical Capabilities: (On call and promptly available)Level:	**I**	**IB**	**II**	**III**
(a) **Surgical:**				
(i) Cardiac surgery	E	E	O	O
(ii) Thoracic surgery	E	E	E	O
(iii) Orthopedic surgery	E	E	E	E
(iv) Pediatric surgery	E	E	O	O
(v) Hand surgery	E	E	O	O
(vi) Microvascular/Replant surgery	E	E	O	-
(vii) Plastic surgery	E	E	E	O
(viii) Maxillofacial surgery	E	E	E	O
(ix) Ear, Nose and Throat surgery	E	E	E	O
(x) Oral surgery	E	E	O	O
(xi) Ophthalmic surgery	E	E	E	O
(xii) Gynecological surgery/Obstetrical surgery	E	E	E	O
(xiii) Urology	O	E	-	-
(b) **Non-surgical: (**On call and promptly available**)**				
(i) Cardiology	E	E	E	O
(ii) Pulmonology	E	E	O	O
(iii) Gastroenterology	E	E	O	O
(iv) Hematology	E	E	O	O
(v) Infectious Disease	E	E	O	O
(vi) Internal medicine	E	E	E	E
(vii) Nephrology	E	E	O	O
(viii) Neurology	O	E	O	O
(ix) Pathology	E	E	E	E
(x) Pediatrics	E	E	O	O

(xi) Psychiatry	0	E	O	O
(xii) Radiology	E	E	E	E
(xiii) Interventional Radiology	E	E	E	O
Section 2.06 Department of Social Services consultation must be available to the burn program.	O	E	-	-

The purpose of the sections on clinical capabilities is to ensure that the trauma center is capable of providing the services required for its level of designation, as denoted by being marked as essential and being able to manage corresponding injury types on a full time basis.

The hospital must offer each of the relevant services, although dedicated call to the trauma center is not necessary and the specialist need not be immediately available. A 24 hour call schedule for the program is NOT necessary. The hospital has the flexibility of organizing a plan to manage corresponding injuries on site in a manner best suited to staff and resources. For example, in the absence of a 24 hour call schedule for ENT the center may have a plan for immediate coverage of maxillofacial trauma patients with a rotating call schedule. PI processes should be in place to oversee the plan and to identify any potential problems. The plan may NOT involve transfer of patients with the injury type of concern.

Continuing Medical Education Program (physicians/physician extenders): (Section 3.01)

Article III Clinical Qualifications Level	**I**	**IB**	**II**	**III**
Section 3.01 General/Trauma Surgeons:				
(a) Board certified/eligible in general surgery.	E	E	E	E
(b) Must meet the educational requirements in Section 1.04(a)(xi).	E	E	E	E
(c) Successful ATLS course completion at least once	E	E	E	E
Section 3.02 Burn Surgeons:				
(a) There must be at least one FTE attending burn surgeon staff involved in the management of burn patients for each 200 acute inpatients admitted annually.	-	E	-	-
(b) The Burn Medical Director may appoint a qualified attending burn surgeon urged to participate in the care of the patients on the burn program.	-	E	-	-
(c) Attending staff burn surgeons must be board certified or eligible in general or plastic surgery.	-	E	-	-
(d) Attending staff burn surgeons must have completed a one-year fellowship in burn treatment or must have experience in the care patients with acute burn injuries for two or more years during a previous five years at a designated Level I trauma center.	-	E	-	-
(e) Attending staff burn surgeons must participate in CME of burn related education at a minimum of 30 hours or more averaged over a three year period.	-	E	-	-
(f) Attending staff burn surgeons must direct the total care of at least 20% or more of acutely burned patients annually admitted to the burn program averaged over a three year period.	-	O	-	-
(g) Privileges for physicians participating in the burn program must be determined by the medical staff credentialing process and approved by the Burn Medical Director.	-	E	-	-

Level	I	IB	II	III
(h) The burn program must maintain an on-call schedule for residents and attending staff burn surgeons available to the burn program. Residents and staff surgeons must be primarily available on a 24 hour basis.	-	E	-	-
(i) If residents rotate on the burn program, the Burn Medical Director, or his or her designee, must be responsible for an orientation program for new residents.	-	E	-	-
Section 3.03 Emergency Medicine:				
(a) Board certified/eligible in emergency medicine (exceptions may be made in rare instances based upon long term practice in emergency medicine.)	E	E	E	E
(b) All ED physicians must meet the educational requirements in Section 1.04(a)(xi).	E	E	E	E
(c) ED physicians must maintain current ATLS, **if not** boarded in emergency medicine.	E	E	E	E
Section 3.04 Neurosurgery:				
(a) Orthopedic surgeons performing trauma call must be board certified within five years of completing residency successfully.	E	E	E	O
(b) Orthopedic surgeons performing trauma call must have 10 hours of skeletal-trauma specific CMEs per year.	O	O	O	O
(c) Must have successfully completed an ATLS course once.	O	O	O	O
Section 3.05 Orthopedic Surgery:				
(a) Orthopedic surgeons must be board certified within five years of successfully completing an orthopedic residency.	E	E	E	O
(b) Orthopedic surgeons must have 10 hours of CMEs per year in skeletal trauma.	O	O	O	O
(c) Orthopedic surgeons must have successfully completed an ATLS course at least once.	O	O	O	O

The TMD of the trauma program is responsible for developing a program to address continuing education needs for those individuals responsible for the initial evaluation and ongoing medical care of trauma patients. With this version of criteria the list has been expanded and includes: trauma surgeons, emergency physicians, trauma program manager/nurse coordinator(s), residents (surgery and emergency medicine), nurse practitioners and physician assistants. All full and part time individuals are included in the program. Individuals not assigned to areas where potentially serious trauma patients are seen, need not be included. An example of this would be a physician's assistant who works only on the non-acute or "fast track" side of the ED. Documentation of participation in continuing education will be in the form of certificates or signed rosters. These should be available for the site team if requested at the time. Prior to the site visit, the institution will provide a roster of clinicians required to participate in the continuing education program.

The TMD may choose one of two tracks for continuing education in trauma care at the institution. All participants must participate in the same track (although content may vary according to category of participant). The selection of the continuing education tract must be indicated in the application. If the track is changed, notification of the change, including pertinent dates, should be provided to all participants in writing and included in trauma committee minutes.

Track One: Each of the participants must provide evidence of participation in 30 hours of continuing education in trauma or critical care over the three year period (or in the case of two year designation 20 hours). This may occur inside or outside of the hospital. ATLS may be included in the required number of hours, but

does not replace them. In the event that a conference is only partially dedicated to these topics, the TMD must determine which portion of the conference was qualified, and apply only that amount of time to the total

Track Two: The TMD with institutional technical assistance may choose to provide a program outlining highlights from recent national meetings, consensus documents, journals or textbooks outlining recent advances in critical care and trauma AND a brief overview of selected topics including recent changes in ATLS. This must be updated annually and may be in the form of a self-study packet, web or computer based program, an annual meeting or a prescribed combination. It is recommended but not essential that participants receive continuing education credits for this. It is essential that there be documentation of participation in the program by each individual. A written outline of this program must be provided at the time of the site review. For example:

- A surgeon attends a conference titled "Current concepts in general surgery" for a total of eight hours continuing education. While most of the conference is on ambulatory surgery and breast cancer, one hour is spent on ultrasound examination of the trauma patient and one hour on ventilation of the critically ill patient. The surgeon can count two hours of continuing education on trauma and critical care.
- A physician assistant has attended 12 mortality and morbidity conferences. Review of all Morbidity and Mortality Conference minutes for the hospital indicates that a quarter of the patients presented are trauma patients. The physician assistant can count three hours towards trauma and critical care.
- When using track two, it is the responsibility of the institution to calculate and tabulate the continuing education hours for each individual involved.
- Any surgeon, emergency physician, nurse practitioner or physician's assistant participating/taking call in the trauma program or could possibly be caring for trauma alert patients in the ED who has been with the trauma program for greater than six months, but less than the interval between site reviews is expected to complete a portion of the educational program commensurate with the time they have been with the trauma program.
- Any participant who withdraws from the roster for a period of not more than 12 months may have their CME requirements waived, commensurate with the length of their sabbatical. This may only occur once in a ten year period.

Critical Deficiency:

- Absent continuing education program.

Non Critical Deficiency:

- No more than one individual or 10% of the roster are not in compliance with continuing education requirements.
- Failure to clearly document participation in either track by the institution.
- Track One: program superficial content or not up to date.
- Track Two: program fails to break out appropriate trauma care related hours from multidisciplinary patient care conferences.

Trauma Nursing Education: (Section 3.06)

Nursing TEH – may encompass care of the trauma patient in any aspect of the continuum; from point of injury, to rehabilitation, and injury prevention. Acceptable means of education may include but are

not limited to: use of equipment, processes and protocols, PI, conferences, workshops, symposiums, scientific assemblies, in services, refresher courses, participation in a simulation lab, online education, classes, skills labs, case studies, journal article reviews and providing course instruction and lectures.

- Course instruction - hours will be awarded only for the trauma specific content presented and may be used toward credit only once in a 12 month period.
- Registrars – in addition to the education options listed above, approved areas include: developing spreadsheets and other custom reports, injury identification, scoring and any database functions primarily associated with trauma; statistics and data analysis.

External Source –national and international conferences, online or self study courses or professional journal articles with appropriate documentation, seminars and webinars, mission, goodwill or training activities/events/ excursions with appropriate documentation

The appropriateness of course content must be approved by the TPD/TPM/TNC. This does not apply to fully recognized national certification courses. Documentation of content such as a course outline, bibliography, competency validation checklist, or manual may be considered in evaluating a trauma specific focus.

Recognized national certification courses include:

- ENPC – Emergency Nurses Pediatric Course
- TNCC – Trauma Nurse Core Curriculum (ENA)
- ATCN – Advanced Trauma Care for Nurses (STN)
- PHTLS – Prehospital Trauma Life Support
- RTTDC – Rural Trauma Team Development Course
- ABLS – Advanced Burn Life Support
- National Disaster Management Courses
- CATN – Course in Advanced Trauma Nursing (ENA)

Excluded national certification courses:

- ACLS – Advanced Cardiac Life Support
- PALS – Pediatric Advanced Life Support
- NALS – Neonatal Advanced Life Support
- Or any education or training with a non-trauma specific content.

Performance Improvement: (Section 5.01)

Article V Performance Improvement Program Level:	**I**	**IB**	**II**	**III**
Section 5.01 Trauma/Burn Performance Improvement:				
(a) An organized PI program to examine the care of the injured patient within the hospital that looks towards improving outcomes by decreasing complications and improving efficiency. The process should clearly document the PI process, action plans, and resolution of the issue (loop closure).	E	E	E	E
(i) There must be a demonstrable relationship between PI outcomes and new or revised clinical protocols.	E	E	O	O
(ii) There should be an expansion of the PI program to include regional trauma systems.	O	O	O	O

Level:	I	IB	II	III
(b) The PI program should follow state recommended audit filters at a minimum.	E	E	E	E
(i) The PI program should participate in the creation of institutional and regional based audit filters as identified by the institution or regional PI committees.	O	O	O	O
(c) The PI program must demonstrate the application outcome and benchmarking based activity.	E	E	E	E
(d) Participation in the VSTR as mandated by the *Code of Virginia*. Data must be submitted to the VSTR within 30 days from the end of a quarter and include all patients: • With an ICD9-CM code(s) of 348.1, 800.0 – 959.9, 994.0 and 994.1, excluding 905-909 (late effect injuries), 910-924 (blisters, contusions, abrasions and insect bites), 930-939 (foreign bodies), and • Were admitted to the hospital, or • Were admitted for observation (not ER observation unless held in the ER due to no inpatient bed availability), or • Were transferred from one hospital to another for treatment of acute trauma, or • The patient dies within the hospital due to injury (includes, the ED and DOA's). Note: Hospitals may over report within these ICD9 codes if desired for internal reporting.	E	E	E	E
(e) Compliance with Section 5.01.d above on a quarterly basis	E	E	E	E
(f) Utilization of VSTR/National Trauma Data Bank (NTDB):				
(i) For new trauma centers, the PI program should utilize VSTR or NTDB data for institutional, regional, or state research or benchmarking for PI or injury prevention programs. For mature trauma centers (by the second verification visit) this criterion becomes a requirement.	O	O	O	O
(ii) For mature trauma centers (by its second verification visit) the PI program must utilize VSTR or NTDB data for institutional, regional, or state research or for benchmarking for PI or injury prevention programs.	E	E	E	E
(g) There must be a forum that includes the TMD, ED Director, TPD/TPM/TNC, designee from trauma subspecialties (neurosurgery, orthopedics) as specific issues present for multidisciplinary review of care of the injured patient including policies, procedures, system issues, and outcomes. The forum may include pre-hospital, nursing, ancillary personnel, a hospital administrator, and other physicians involved in trauma care. (The forum in h, below, may be combined with this meeting.)	E	E	E	E
(i) There must be 50% attendance by committee members (or designee) at multi-disciplinary review of care meetings.	E	E	E	E

Article III Clinical Qualifications Level	I	IB	II	III
(h) The hospital will have a structured peer review committee, which must have a method of evaluating trauma care. This committee must meet at least quarterly and include physicians representing pertinent specialties that include at least, trauma surgery, neurosurgery, orthopedics, emergency medicine, anesthesiology, and may include hospital management and other subspecialties as required. The TPD/TNC/TNC or designee may be a member. Outcomes of peer review will be incorporated into the educational and policy program of the trauma program. (The forum in g may be combined with this meeting.)	E	E	E	E

The presence of a PI program is critical to the existence of the trauma or trauma/burn center. While every hospital participates in PI, not every PI program addresses the needs of a trauma or burn program. Site review teams will be looking for a program specifically oriented to trauma and burn patients; one that covers multidisciplinary issues as well as all phases of trauma and burn care from pre-hospital care to rehabilitation. The TMD, Burn Medical Director, TPD/TPM/TNC, and/or Burn Manager/Coordinator must have oversight for the program.

A written PI plan should be provided and should describe the following:

- Selection of audit filters
- Management of unique events or reports
- Review of information and reports received
- Routing of pre-hospital care, nursing, and medical staff issues
- Means of implementing change
- Documentation with regard to implementing change
- Maintenance and review of PI plan
- Describe who has the authority and responsibility to implement the plan.

Every center must audit its trauma (including burn) deaths. In addition, the center should include audit filters based on its previous experience, those filters requested by the TSO&MC and filters designed to identify potential problems. Because each center is different, a list of audit filters for a center will be unique for that center. Process filters which evaluate whether or not a process is observed are valuable when developing a new trauma program or setting up a procedure for a currently existing program. Outcome filters describe the results of trauma and burn care. While death is certainly the ultimate outcome filter, a PI plan should address other outcomes such as disability at discharge or time to definitive procedures. Experienced trauma and trauma/burn centers are expected to place increasing emphasis on outcome oriented audit filters; their PI plan and program and are judged accordingly.

BURN PATIENT CRITERIA

Burn injuries that should be referred to a trauma/burn center for assessment:

The ABA has identified the following injuries that usually require referral to a trauma/burn center.
• Partial thickness and full thickness burns greater than 10 percent of the total body surface area (BSA) in patients under 10 or over 50 years of age. • Partial thickness burns and full thickness burns greater than 20 percent BSA in other age groups. • Partial thickness and full-thickness burns involving the face, eyes, ears, hands, feet, genitalia or perineum of those that involve skin overlying major joints. • Full-thickness burns greater than five percent BSA in any age group. • Electrical burns, including lightning injuries; (significant volumes of tissue beneath the surface may be injured and result in acute renal failure and other complications). • Significant chemical burns. • Inhalation injuries. • Burn injury in patients with pre-existing illness that could complicate management, prolonged recovery, or affect mortality. • Any burn patient in whom concomitant trauma poses an increased risk of morbidity or mortality may be treated initially in a trauma center until stable before transfer to a burn center. • Children with burns seen in hospitals without qualified personnel or equipment for their care should be transferred to a trauma/burn center with these capabilities. • Burn injury in patients who will require special social and emotional or long term rehabilitative support, including cases involving child abuse and neglect.

WORKS CITED

American College of Surgeons Committee on Trauma 2006 *Resources for the Optimal Care of the Injured Patient 2006* ChicagoAmerican College of Surgeons