Commonwealth of Virginia

Trauma System Plan

2018

EMS Advisory Board Approved

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Introduction

Injury is the leading cause of death for persons between the ages of 1 and 44, and one of the leading causes for all age groups.

When a person is severely injured there are three factors that improve chances of survival and decrease chances of permanent disability. These three factors are getting that person 1) to the right hospital, 2) in the right manner, and 3) in the right amount of time. An organized trauma system focuses on enhancing these three factors, as well as all of the other elements surrounding and influencing them. These other elements include and, as this plan demonstrates, are not limited to, rehabilitation to return the patient to their pre-injury health status, prevention of injury, and planning and preparing for disaster. Multiple research studies have shown that an injured person's chances of dying or suffering a severe or permanent disability are significantly reduced if their injuries are sustained in an area with an organized trauma system.

Purpose of the Virginia Trauma System Plan

The purpose of this document is to provide Virginia Trauma System stakeholders – including healthcare providers, government regulators and the public – with a road map of the steps needed to close identified gaps in the system. This will help ensure people injured in the Commonwealth are taken to the right hospital, in the right manner, and in the right amount of time.

Justification for the Development of a Comprehensive Trauma System Plan

Background

- In September 2015 the Commonwealth of Virginia voluntarily underwent a consultation visit by the Trauma Systems Consultation program of the American College of Surgeons (ACS). The purpose of the consultation was to gain an objective evaluation and assessment of the current trauma system in Virginia. The basis for the consultation is the Model Trauma Systems Planning and Evaluation document (MTSPE), created by the federal Health Resources and Services Administration (HRSA). The resulting Consultation Report is a comprehensive review of Virginia's current status from a public health perspective and includes recommendations for all facets of the system;
- The Executive Committee of the Emergency Medical Services Advisory Board charged the Trauma System Oversight and Management Committee (TSOMC) with addressing the ACS recommendations;
- Central to the request for the ACS consultation visit and the findings and recommendations of the ACS Consultation Report is the development of a Vision for Trauma Care in Virginia with a well-defined, specific and comprehensive Trauma System Development Plan, including a revised and effective reporting structure and legislative power to affect change;
- In the early stages of trauma center designation and trauma system development (1980s), partnering with Emergency Medical Services (EMS) was an appropriate and common practice around the country;
- Currently in Virginia, a statewide EMS System Plan exists that is both operational and strategic. It undergoes regular, triennial updates and involves a wide range of stakeholders;
- The provision of prehospital care has broadened significantly, requiring EMS to focus and adopt protocols and practices specific to prehospital management of heart attacks, strokes, and disasters;
- Currently, the trauma care plan in Virginia exists as an extension of the EMS system and is, by definition, significantly limited in perspective, structure and service to the injured.

Perspective and Service

- The trauma care plan in the Commonwealth of Virginia, as an extension of the EMS system, is limited to a prehospital perspective focusing mainly on the establishment of field triage criteria and prehospital trauma designation of trauma centers;
- In Virginia, as trauma centers have matured, their role in injury prevention, education, definitive care, organ donation and transplant, rehabilitation, and community activities has reached beyond the prehospital focus;
- A trauma system plan based on the public health model as recommended by the ACS visit and documented in the HRSA model does not currently exist in Virginia;
- Currently all essential components of the trauma system function independently and without integration;
- At the pre-injury level, there is no integration of the injury control efforts of the various components of the trauma system, leaving strategies ineffective at connecting the public health system with clinical health systems;
- At the prehospital level, a mature system exists but remains disconnected from a comprehensive trauma system plan, placing the burden on prehospital providers to navigate between various health system agendas with competitive market strategies;
- At the hospital level, there are no specific destination criteria and no defined expectations for trauma team activation;
- At the rehabilitation level, there is a lack of regional and state representation, as well as a lack of integration with the trauma system at all levels;
- There is no comprehensive trauma performance improvement (PI) plan with enforcement strategies at the local, regional or state level;
- There is no integrated data system for the preinjury, prehospital, hospital, rehabilitation, and post discharge phases of care – rendering appropriate policy measures difficult.

Current structure

- Currently, trauma system oversight falls under the EMS Advisory Board with no separate process established for trauma system issues;
- The state trauma program advisory group is the Trauma System Oversight and Management Committee (TSOMC), a committee of the EMS Advisory Board;
- TSOMC does not have operational authority to conduct either oversight or management of the trauma system, operating instead as an advisory body to the EMS Advisory Board;
- The EMS Advisory Board is mainly and appropriately focused on prehospital activities, and by necessity there is preponderance of prehospital representatives, including 11 regional EMS representatives;
- Trauma system leaders have no current process to make needed, appropriate, effective and efficient changes;
- OEMS provides support and guidance to the care of the injured, but remains significantly unbalanced in favor of EMS activities.

Need and Goals

- There is a need for the development of a comprehensive trauma system based on the HRSA MTSPE with built-in structural and legislative empowerment to deliver the optimal care for the injured in Virginia;
- There is a need for a trauma system oversight and management structure that is adequately represented at and can provide advice to the Virginia Board of Health;

- There is a need for the designation of a lead governmental agency, with sufficient funding, human resources, and the authority to develop policies, including those for system development, implementation, coordination, evaluation, and identification of additional funding sources;
- There is a recognized need for the revision of the Office of Emergency Medical Services' organizational structure to elevate the state trauma program to provide greater support to trauma system development through the realignment;
- There is a need for adequate representation of all components of the trauma system at the EMS Advisory Board, including pre-injury, acute care, and post-acute care;
- There is a need to realign existing resources within the Virginia Department of Health structure to support the development of a comprehensive trauma system;
- There is a need for a Virginia Trauma System with structure and processes that allows for effective policy development to promote the use of scientific knowledge in decision making to include:
    - Building constituencies
    - Identifying needs and setting priorities
    - Using legislative authority and funding to develop plans and policies to address needs
    - Ensuring the public's health and safety;
- There may be a need for the modification of the Code of Virginia to achieve the above goals.

Proposed Trauma System Committee Structure

- The Trauma System Committee should be integrated into the existing EMS Advisory Board structure. To achieve the mission and vision of the proposed system, the following leadership and governance structure will be needed:
    - Executive Committee of the EMS Advisory Board
        - Create a Trauma System Coordinator
            - On par with Administrative, Infrastructure, Professional Development and Patient Care Coordinators
            - Serves on the Executive Committee
            - Represents the Committees of the Trauma System
            - Add Trauma System representation to the other Committees of the EMS Advisory Board under the Administration, Infrastructure, and Professional Development Coordinators
    - The Trauma System will function under Committees representing the Pre-injury, Prehospital, Acute Care, and Post-Acute phases of care:
        - Trauma Administrative and Governance (comprised of the Trauma System Coordinator, Committee chairs and other stakeholders of the Trauma System)
        - System Improvement
        - Injury and Violence Prevention
        - Prehospital Care
        - Acute Care
        - Post-Acute
        - Emergency Preparedness and Response

    - Committee Structure:
        - The EMS Advisory Board's Trauma System Coordinator (TSC) will serve as chair of the Trauma Administrative and Governance Committee;
        - Chairs of the Trauma System Committees will be appointed by the TSC;

- The TSC will ensure that all committees have fair and equal representation from Trauma System stakeholders;
- The chair of the System Improvement Committee (SIC) shall serve a 3-year term with a limit of two consecutive terms;
- The chairs of the trauma system committees (except TAG and SIC) will serve either 2-year or 3-year terms with a limit of two consecutive terms:
    - The following committee chairs will serve 3-year terms:
        - Acute Care
        - Post-Acute
    - The following committee chairs will serve 2-year terms:
        - Injury & Violence Prevention
        - Prehospital
        - Emergency Preparedness and Response
- The members of each committee will serve alternating 2-year and 3-year terms with a limit of two consecutive terms with no more than 50% committee members (i.e., 7 members) rotating at the end of a term. The chair of each committee will submit the name and position of the rotating members and the proposed incoming members to the TSC for consideration and approval.

- The Office of EMS, Division of Trauma and Critical Care, will need the following personnel:
    - Trauma OMD – minimum of 0.25 FTE (new)
    - Trauma Manager – 0.75 FTE (existing)
    - Trauma Coordinator – 1 FTE (existing)
    - Trauma Data Manager – 1 FTE (new)
    - Data Analysts – 2 FTEs (existing)
    - Administrative Assistant – 0.5 FTE (existing)
- State EMS Advisory Board
    - Modification of the EMS Advisory Board to provide adequate representation of all components of the Trauma System to include the following:
        - Pre-Injury
            - The representative for the Pre-Injury component of the Trauma System should be familiar with injury-oriented community health assessments, epidemiology, and prevention of injury and violence (injury epidemiologist preferred);
        - Prehospital (existing)
        - Acute Care
            - The representative for the Acute Care component of the Trauma System should be familiar with the care of trauma victims in hospitals, both trauma centers and non-designated hospitals, from arrival at the ED until discharge;
        - Post-Acute Care
            - The representative of the Post-Acute Care component of the Trauma System should be familiar with returning trauma victims to the highest possible levels of quality of life and independence following injury (preferred representatives from physical, occupational and speech therapy, rehabilitation facilities or skilled nursing facilities);
        - Hospital Quality

        - The representative of the Hospital Quality component of the Trauma System should be familiar with hospital quality assurance and control processes and measures for decreasing mortality and morbidity caused by injuries;
    - Burn Care
        - The representative of the Burn component of the Trauma System should be familiar with all aspects of burn care, including burn service management;
    - Trauma Nursing Care
        - The representative of trauma nursing care should be a registered nurse familiar with hospital trauma program structure and requirements for state trauma center designation including personnel CME, quality improvement, trauma registry maintenance, trauma center budget management, and community outreach (Trauma Program Manager preferred);
    - ACS Committee on Trauma (Existing) – will serve as the Trauma System Coordinator.

– Name change to State EMS and Trauma Advisory Board

Trauma System Plan Task Force Mission, Vision, Values and Code of Conduct

Mission Statement

- To reduce the burden of preventable injury and to deliver the highest quality, evidence-based care for all within the Commonwealth along the continuum of care from the prehospital setting, through definitive acute care and rehabilitation with data analysis, quality improvement and ongoing funding.

Vision Statement

- The Commonwealth of Virginia trauma system will be a high quality, cost effective, accessible statewide system of injury prevention and trauma care for all.

Values

- Effective: Successful in producing the intended results in terms of injury prevention & optimal care to the injured in Virginia.
- Efficiency: The ability to perform a defined task or deliver a specific outcome with a minimum amount of waste, expense or unnecessary effort.
- Timely: Patients should experience no waits or delays in receiving care and service. Critical access facilities should experience no delay in consults or transferring injured patients.
- Safety: Avoiding harm to patients in the process of providing care for the medical condition needing treatment.
- Equitable: All citizens of and visitors to the Commonwealth should have equal access to high quality care.
- Patient Centered/Focused: Care that is respectful of and responsive to individual patient preference, needs and values and ensures that patient values guide all clinical decisions.

Code of Conduct

- Accountability: The obligation of one party to provide justification and be held responsible for their actions/results by another interested party.
- Commitment: Being bound emotionally or intellectually to a course of action.
- Compassion: Sympathetic consciousness of the suffering of the injured patients and concern for their loved ones, together with a desire to alleviate the suffering and its source.
- Collaboration: Health providers from different professions providing comprehensive services by working with people, their families, car providers, and communities to deliver the highest quality of care across settings.

- Honesty: We will not condone or engage in any behavior which would provide false or misleading statements to patients, their families and healthcare organizations related to the care of the patient.
- Transparency: Readily understood, honest and open; not secretive.
- Respectful Communication: Opinions, feelings and attitudes will be expressed honestly and in a way that respects the rights of others.

Administrative Components

Trauma Administrative and Governance

System Improvement

Trauma Administrative and Governance Committee

Committee Proposed Composition

16 Members maximum (15 voting members and Chair)

- Trauma System Coordinator (Chair)
- Chairs of the Trauma System Committees
  - System Improvement
  - Injury and Violence Prevention
  - Prehospital Care
  - Acute Care
  - Post-Acute Care
  - Emergency Preparedness and Response
- Trauma Program Manager Representative
- Citizen Representative
- Legislative
- Financial
- Virginia Hospital and Healthcare Association
- Burn
- Pediatrics
- American College of Emergency Physicians
- Level 3 Trauma Center

Goals and Objectives

Goal 1: Grow and elevate the trauma system to support the mission, vision, and values.

Objective ID	Objective
TAG 1.1	Evaluate the current structure.
TAG 1.2	Determination of meeting the needs of vision, mission, and values of trauma system plan.
TAG 1.3	Modify structure if necessary to support the vision, mission and values of the trauma system plan.
TAG 1.4	Review and recommend realignment of new and existing resources within the Virginia Department of Health structure to support the development and sustainability of a comprehensive trauma system

Goal 2: Create trauma system development to meet the vision, mission and values of the trauma system plan.

Objective ID	Objective
TAG 2.1	Provide strategic plan to meet the outlined mission and goals
TAG 2.2	Develop prioritization and timeline of benchmarks and indicators
TAG 2.3	Provide guidance to TS committees in meeting specified goals
TAG 2.4	Assure TS committees alignment with overall vision & mission of the TSP
TAG 2.5	Provide continuous monitoring of processes, outcomes, and deliverables with regular reports to Trauma system stakeholders

Goal 3: Develop a financial framework to meet our vision, mission and value statements.

Objective ID	Objective
TAG 3.1	Evaluate the current funding for the trauma system.
TAG 3.2	Develop strategies to create permanent and adequate funding for the trauma system.

Goal 4: Identify key stakeholders to support the trauma system vision, mission and values.

Objective ID	Objective
TAG 4.1	Identify key officials with the authority to implement and enforce changes.
TAG 4.2	Determine key components of the state legislative and regulatory processes.

System Improvement Committee

Committee Proposed Composition

15 Members maximum (14 voting members and Chair)

- Chair (appointed by Trauma System Coordinator)
- Representatives of the Trauma System Committees (5)
  - Injury and Violence Prevention
  - Prehospital Care
  - Acute Care (Level 1,2,3)
  - Post-Acute Care
  - Emergency Preparedness and Response
- Burn center representative
- Pediatric center representative
- Non-designated trauma center
- Citizen representative
- Epidemiologist (VDH Office of Family Health Service – Division of Population Health Data)
- Registrar Representative
- PI Coordinator representative
- Education representative
- Research representative

Goals and Objectives

Goal 1: To promote and support integrated data systems regarding the continuum of care and disposition of the patient in order to support trauma system education, performance improvement, public health planning, injury prevention and outcomes research

Objective ID	Objective
SIC 1.1	Conduct system-wide assessment and inventory of current data systems
SIC 1.2	Contract with expert in data system analysis to analyze current data systems
SIC 1.3	Develop a strategic plan and outline plan for implementation
SIC 1.4	Implement linkage of data

Goal 2: To promote, educate and empower institutions and providers to reduce the burden of preventable deaths and suffering as a result of injury through optimized care, implementation of best practice, development of clinical practice guidelines and engagement of our populace in their trauma system through training, advocacy and understanding.

Objective ID	Objective
SIC 2.1	Create plan for providing risk adjustment mortality reports by institution
SIC 2.2	Conduct an educational gap analysis of institutions, populace and providers regarding the role of the trauma system in the community.
SIC 2.3	Conduct a gap analysis of guidelines and protocols of care of the trauma patient

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Goal 3: To build a trauma system that works toward continuous improvement at all levels through periodic external and internal benchmarking, consultation, adoption of best practices and collaboration with local, state, regional and national resources.

Objective ID	Objective
SIC 3.1	Develop a plan for regional benchmarking
SIC 3.2	Develop state level continuous improvement for hospitals
SIC 3.3	Engage medical direction committee council in development of regional benchmarking

Goal 4: To conduct research to attain new insights and innovative solutions to injury-related health problems.

Objective ID	Objective
SIC 4.1	Gather insight from hospital collaboratives to develop regional injury prevention research activities
SIC 3.2	Create structure for determining research goals
SIC 3.3	Develop a strategic plan for research funding

Goal 5. To advise the Virginia Department of Health, Office of Emergency Medical Services on matters relating to maintaining a performance improvement process that supports the trauma center designation process, trauma triage plan, and improves trauma care throughout Virginia (§ 32.1-111.3:B.3).

Objective ID	Objective
SIC 5.1	To develop a performance improvement program for monitoring the quality of care, consistent with other components of the Trauma system plan
SIC 5.2	To develop a performance improvement program for monitoring the quality of care, consistent with other components of the Emergency Medical Services Plan

Operational and Clinical Components

Injury & Violence Prevention

Prehospital Care

Acute Care

Post-Acute Care

Emergency Preparedness and Response

Injury and Violence Prevention Committee

Committee Proposed Composition

15 Members maximum (14 voting members and Chair)

- Chair (appointed by Trauma System Coordinator)
- VDH Injury & Violence Prevention representative
- Safe Kids representative
- VDH Aging and Rehabilitation Services representative
- Hospital injury prevention coordinators representative
- Epidemiologist
- State Police representative
- Judicial system representative
- Office of the Attorney General representative
- State Public School System representative
- Community/Advocacy group representative
- Citizen representative
- Prehospital Committee representatives - 2 (EMS, Fire)
- Office of Chief Medical Examiner

Goals and Objectives

Goal 1: Use integrated data surveillance process to strengthen analyses, establish injury and violence prevention priorities and further statewide injury prevention efforts by trauma systems.

Objective ID	Objective
IVP 1.1	Use established databases to identify leading injury-related causes of morbidity and mortality.
IVP 1.2	Track and trend injury-related morbidity and mortality benchmarked against national data.
IVP 1.3	Identify high risk populations using existing data sources and public health tools.
IVP 1.4	Evaluate state trauma system through data analysis from existing data sources and public health tools.
IVP 1.5	Review data from key sources to identify gaps and review accomplishments to avoid duplication.
IVP 1.6	Develop a dashboard for continuous monitoring of injury-related morbidity and mortality status.

Goal 2: Integrate injury and violence prevention support by increasing opportunities for collaborative injury and violence prevention in all priority areas.

Objective ID	Objective
IVP 2.1	Build a sustainable infrastructure to provide leadership, data, and technical assistance for advancing injury and violence prevention in trauma systems
IVP 2.2	Develop and maintain active participation and partnerships with the lead injury prevention agency, Virginia Injury and Violence Prevention Collaborative

Goal 3: Implement a statewide injury and violence prevention initiative.

Objective ID	Objective
IVP 3.1	Assess the state trauma system's capacity to prevent injuries.
IVP 3.2	Establish a collaborative effort to provide statewide direction and focus on injury prevention among adults, children, and geriatrics

Prehospital Care Committee

Committee Proposed Composition

15 Members maximum (14 voting members and Chair)

- Chair (appointed by Trauma System Coordinator)
- Ground EMS provider (2)
- Helicopter EMS provider
- Ground critical care transport representative
- Medical Direction Committee representative
- Trauma Program Manager (1 adult, 1 pediatric)
- Fire Chief
- 911 communication officer
- Law enforcement representative
- EMS Educator
- Regional EMS Council Director
- Trauma survivor / Citizen representative
- Non-trauma center designated hospital

Goals and Objectives

Goal 1: Develop and implement a minimum set of statewide trauma treatment protocols for adult, pediatric, and geriatric patients.

Objective ID	Objective
PCC 1.1	Develop statewide minimum required treatment standards for treating injured patients that each EMS agency shall have within their protocols / polices.

Goal 2: Establish minimum statewide destination guideline standards for each step of the state trauma triage criteria for both adult and pediatric populations

Objective ID	Objective
PCC 2.1	Determine if disparities in the application of field triage exist based upon geography or patient type (pediatrics, geriatrics, etc.)
PCC 2.2	Allow regions to adapt the destination guidelines to match trauma system resources but ensure adherence to the statewide minimum standards

Goal 3: Develop resources for ground critical care transport

Objective ID	Objective
PCC 3.1	Define what critical care transport is within the Commonwealth of Virginia
PCC 3.2	Establish state standards for what is required on critical care transport ambulances in terms equipment / staff
PCC 3.3	Change Virginia code to read “Each jurisdiction is tasked to ensure that ground transport for the critically ill and injured patient is available.”

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Goal 4: Support programs for the recruitment and retention of EMS Providers

Objective ID	Objective
PCC 4.1	Reinforce the existing state and regional committees in place that are currently focusing on EMS recruitment and retention
PCC 4.2	Enhance the educational opportunities within the hospitals for EMS personnel.
PCC 4.3	Competitive salaries for EMS providers across the Commonwealth

Goal 5: Strengthen the language in Virginia Code (12VAC5-31-860 (48)) to update the safe transportation of children in the back of ambulances

Objective ID	Objective
PCC 5.1	Use the NHTSA Best Practice Recommendations for Safe Transportation of Children in Emergency Ground Ambulances (Sept 2012)
PCC 5.2	Allocate funds to assist EMS services in purchasing necessary devices that are age / size specific restraint systems for each ambulance
PCC 5.3	EMS agencies should utilize grant funding opportunities when needing to purchase equipment for the safe transport of children in the back of ambulances.
PCC 5.4	Update the Virginia Code 12VAC-31-860 (48) with the following: 1) Insert: "9g. Pediatric immobilization device (1)." and "9h. Pediatric restraint device (1)." 2) Edit Virginia Code: 12VAC5-31-710 to state, "All occupants in an ambulance need to be appropriately restrained."

Acute Care Committee

Committee Proposed Composition

15 Members maximum (14 voting members and Chair)

- Chair (appointed by Trauma System Coordinator)
- Trauma Center representatives (recommend TPM and TMD)
    - Level 1 Trauma Center (2)
    - Level 2 Trauma Center (2)
    - Level 3 Trauma Center (2)
- Pediatric Trauma Center representative
- Burn Center representative
- Non-designated facility representative
- Trauma Center Administrator
- Prehospital Care Committee representative
- Post-Acute Committee representative

Goals and Objectives

Goal 1: Continue to evaluate the process for designation of trauma centers

Objective ID	Objective
ACC 1.1	Review and update current standards
ACC 1.2	Evaluate for concurrent visit between state and ACS

Goal 2: Evaluate the process for designation of additional trauma centers

Objective ID	Objective
ACC 2.1	Review current standards
ACC 2.2	Evaluate/modify the criteria and guidelines for trauma center designation
ACC 2.3	Increase data sharing and statistical data analysis, to identify the areas of need

Goal 3: Engage all acute care facilities in the trauma system

Objective ID	Objective
ACC 3.1	Review how to provide technical assistance and guidelines for treatment and transfer protocols
ACC 3.2	Bring to TAG a proposal to discuss the “Inter-hospital Triage Criteria” and form a work group to approve and put into action
ACC 3.3	Review the process to promote participation in statewide trauma system performance improvement
ACC 3.4	Engage with non-designated acute care facility for involvement in state wide trauma system

Post-Acute Care Committee

Committee Proposed Composition

15 Members maximum (14 voting members and Chair)

- Chair (appointed by Trauma System Coordinator)
- Rehabilitation physician
- Acute Care Committee representative
- Administrative director of a rehabilitation facility
- Case manager / Social Worker from a trauma center
- Case manager / Social Worker from an acute rehabilitation center
- Brain Injury Council representative
- Department of Aging and Rehabilitative Services representative
- VA Physical Therapy Association (VPTA) representative
- VA Occupational Therapy Association (VOTA) representative
- Speech-Language-Hearing Association of Virginia (SHAV) representative
- Pediatric representative
- Skilled nursing facility representative

Goals and Objectives

Goal 1: Complete a resource assessment for the trauma system as it relates to post-acute care /rehabilitation

Objective ID	Objective
PAC 1.1	Complete a comprehensive system status inventory that identifies the availability and distribution of current capabilities and resources.

Goal 2: Integrate adequate rehabilitation facilities into the trauma system and ensure these resources are made available to all populations requiring them

Objective ID	Objective
PAC 2.1	Incorporate within the trauma system plan and the trauma center standards requirements for post-acute services, including interfacility transfer of trauma patients to rehabilitation centers.
PAC 2.2	Rehabilitation centers and outpatient rehabilitation services provide data on trauma patients to the central trauma system registry that include final disposition, functional outcome, and rehabilitation costs and also participate in performance improvement processes.

Emergency Preparedness and Response Committee

Committee Proposed Composition

15 Members maximum (14 voting members and Chair)

- Chair (appointed by Trauma System Coordinator)
- Regional Healthcare Coordinators (or designees) from each Emergency Preparedness Coalition (6)
- VDH Office of Emergency Preparedness representative
- VHHA Director of Emergency Preparedness
- Prehospital Committee representative
- Acute Care Committee representative
- Post-Acute Care Committee representative
- EMS for Children representative
- Burn representative
- Hospital Emergency Manager from a designated Trauma Center

Goals and Objectives

Goal 1: Ensure trauma system is engaged in the State disaster planning process.

Objective ID	Objective
EPR 1.1.	Create awareness of existing coalition preparedness and response capability
EPR 1.2	Ensure appropriate stake holders within the coalitions are adequately represented
EPR 1.3	Ensure a comprehensive trauma system is inclusive of the State Disaster preparedness/management plan.

Goal 2: Collaborate with the OEP and ensure the provision of disaster preparedness education to trauma centers, regional councils, and local emergency medical services (EMS) providers.

Objective ID	Objective
EPR 2.1	Contribute to the state emergency preparedness plan
EPR 2.2	Collaborate with the OEP to evaluate and modify a disaster preparedness guide for the EMS and trauma system

Goal 3: Collaborate with the OEP to assess and maximize the use of Assistant Secretary of Preparedness and Response (ASPR) funding to enhance the medical surge capabilities of the state's trauma centers.

Objective ID	Objective
EPR 3.1	Contribute to the assessment for each region annually via collaboration with VDH/VHHA.

Benchmarks, Indicators and Scoring

By Committee Assignment

Trauma Administrative and Governance Committee
Benchmarks, Indicators and Scoring

Benchmark 103: A resource assessment for the trauma system has been completed and is regularly updated.

Indicator	Scoring	Status
103.1: The trauma system has completed a comprehensive system status inventory that identifies the availability and distribution of current capabilities and resources.	1. There is no statewide resource assessment. 2. A State resource assessment has been completed that documents the frequency and distribution of resources for at least two of the following categories: prehospital and hospital personnel, education programs, facilities, and prehospital equipment. 3. A State resource assessment has been completed that documents the frequency and distribution of resources for more than two of the following categories: leadership, system development, legislation, finances, injury prevention, workforce resources, education, EMS, transport, communications, trauma care facilities, interfacility transfer, medical rehabilitation, information systems, medical oversight, system evaluation, performance improvement, and research. 4. A trauma jurisdiction-specific resource assessment has been completed for at least half of the trauma jurisdictions. 5. Trauma jurisdiction-specific resource assessments have been completed for the State, regional, and local areas and are updated at least biennially.	**2017-18 Assessment Score:** ③

Benchmark 103: A resource assessment for the trauma system has been completed and is regularly updated.

Indicator	Scoring	Status
103.2: The trauma system has completed a gap analysis based on the inventories of internal and external system status as well as system resource standards	1. There are no resource standards on which to base a gap analysis. 2. The State trauma advisory committee has begun to develop statewide trauma system resource standards so that a gap analysis can be completed. 3. State trauma system resource standards have been approved by the appropriate approving authority. 4. A gap analysis of statewide trauma system resources has been completed for the entire State based on the system resource standards adopted. 5. A gap analysis of statewide trauma system resources has been completed for the entire State and is updated at regular intervals based on the trauma resource standards in place.	**2017-18 Assessment Score:** ②

Benchmark 103: A resource assessment for the trauma system has been completed and is regularly updated.

Indicator	Scoring	Status
103.4 The trauma system has undergone a jurisdiction-wide external independent analysis.	1. No external examination of the trauma system or individual components has occurred. 2. Individual trauma centers have undergone outside consultation and verification. 3. In addition to trauma center verification, at least one other component of the system has been analyzed by external reviewers, for example, prehospital, rehabilitation, burns, and others. 4. An outside group of trauma system "experts" has conducted a formal trauma system external assessment and has made specific recommendations to the system. 5. Independent, external reassessment occurs regularly, at least every 5 years.	**2017-18 Assessment Score:** ④

Benchmark 105: The system assesses and monitors its value to its constituents in terms of cost-benefit analysis and societal investment.

Indicator	Scoring	Status
105.2 Cases that document the societal benefit are reported on so that the community sees and hears the benefit of the trauma system to society.	1. No effort is made to gather, catalogue, or report cases that document the societal benefit of the trauma system so that the community sees and hears the benefit of the trauma system to society. Such cases, for example, document descriptive information on dramatic "saves" within the trauma system. 2. Dramatic saves and functional outcome returns are documented at each facility or within various components of the system. 3. Cases concerning dramatic saves and return to a quality life are on file (at a system level), but not reported unless asked for by the press. 4. Dramatic saves and functional outcome returns are provided to, and reported by, the press. 5. Cases are used as part of information fact sheets that are distributed to the press and other segments of the community. These information fact sheets document the cost-benefit of the trauma system to the community.	**2017-18 Assessment Score:** ②

Benchmark 105: The system assesses and monitors its value to its constituents in terms of cost-benefit analysis and societal investment.

Indicator	Scoring	Status
105.3: An assessment of the needs of the media concerning trauma system information has been conducted.	1. There is no routine or planned contact with the media. 2. Plans are in place to feed information to the media in response to a particular traumatic event. 3. The media have been formally asked about what types of information would be helpful in reporting on trauma cases and issues. 4. Information resources for the media have been developed, based on the stated needs of the media; media representatives are included in trauma system informational events. 5. In addition to routine media contact, the media are involved in various oversight activities such as local, regional, and State trauma advisory councils.	**2017-18 Assessment Score:** ②

Benchmark 105: The system assesses and monitors its value to its constituents in terms of cost-benefit analysis and societal investment.

Indicator	Scoring	Status
105.4 An assessment of the needs of public officials concerning trauma system information has been conducted.	1. There is no routine or planned contact with public officials. 2. Plans are in place to provide information to public officials in response to a particular traumatic event. 3. Public officials and policy makers have been formally asked what types of information would be helpful in planning, monitoring, and reporting on trauma system issues. 4. Information resources for public officials have been developed, based on the stated needs of the public officials; public officials are included in trauma system informational events. 5. In addition to routine contact, public officials are involved in various oversight activities such as local, regional, and State trauma advisory councils.	**2017-18 Assessment Score:** ①

Benchmark 105: The system assesses and monitors its value to its constituents in terms of cost-benefit analysis and societal investment.

Indicator	Scoring	Status
105.5: An assessment of the needs of the general public concerning trauma system information has been conducted.	1. There is no routine or planned contact with the general public. 2. Plans are in place to provide information to the general public in response to a particular traumatic event. 3. The general public has been formally asked about what types of information would be helpful in understanding and supporting trauma system issues. 4. Information resources for the general public have been developed, based on the stated needs of the general public; general public representatives are included in trauma system informational events. 5. In addition to routine contact, the general public is involved in various oversight activities such as local, regional, and State trauma advisory councils.	**2017-18 Assessment Score:** ①

Benchmark 105: The system assesses and monitors its value to its constituents in terms of cost-benefit analysis and societal investment.

Indicator	Scoring	Status
105.6 An assessment of the needs of health insurers concerning trauma system information has been conducted.	1. There is no routine or planned contact with health insurers. 2. Plans are in place to provide information to health insurers during a response to a particular payment, reimbursement, and cost issue. 3. Health insurers have been formally asked about what types of information would be helpful in reporting on trauma cases and issues. 4. Information resources for health insurers have been developed, based on the stated needs of the insurers; insurance representatives are included in trauma system informational events. 5. In addition to routine contact, health insurers are involved in various oversight activities such as local, regional, and State trauma advisory councils.	**2017-18 Assessment Score:** ①

Benchmark 105: The system assesses and monitors its value to its constituents in terms of cost-benefit analysis and societal investment.

Indicator	Scoring	Status
105.7: An assessment of the needs of the general medical community, including physicians, nurses, prehospital care providers, and others, concerning trauma system information, has been conducted.	1. There is no routine or planned contact with the broad medical community. 2. Plans are in place to provide information to the broad medical community in response to a particular trauma system event or issue. 3. The broad medical community has been formally asked about what types of information would be helpful in reporting on trauma cases and issues. 4. Information resources for the general medical community have been developed, based on the stated needs of the general medical community; general medical community representatives are included in trauma system informational events. 5. In addition to routine contact, the broad medical community is involved in various oversight activities such as local, regional, and State trauma advisory councils.	**2017-18 Assessment Score:** ①

Benchmark 201: Comprehensive State statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development.

Indicator	Scoring	Status
201.1: The legislative authority (statute and regulations) plans, develops, implements, manages, and evaluates the trauma system and its component parts, including the identification of the lead	1. There is no specific legislative authority to plan, develop, implement, manage, and evaluate, or fund, the trauma system and its component parts. 2. There is legislative authority for establishing a trauma system, and specific timelines for adoption are being drafted and reviewed by trauma and injury constituencies. 3. The lead agency is identified in State statute and is required to plan and develop a statewide trauma system. 4. The lead agency is authorized to take actions to implement the trauma system and to report on the progress and effectiveness of system implementation. 5. The lead agency is required to plan, develop, implement, manage, monitor, and improve the trauma system while reporting regularly on the status of the trauma system within the State.	**2017-18 Assessment Score:** ③

Benchmark 201: Comprehensive State statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development.

Indicator	Scoring	Status
201.2: The legislative authority states that all the trauma system components, EMS, injury control, incident management, and planning documents, work together for the effective implementation of the trauma system (infrastructure is in place).	1. There is no legislative authority or integrated management, and system participants do not routinely work together. 2. There is no legislative authority; planning documents reflect a silo management structure in that participating agencies are not linked. For key issues, stakeholders sometimes come together to resolve problems. 3. There is no legislative authority, but people are working together to improve system effectiveness and management within their individual jurisdictions. 4. There is legislative authority, although it is not clearly evident that system components are integrated and working together. 5. There is legislative authority; it clearly provides for the integration of trauma system components for an effective management and infrastructure to plan and implement the trauma system, as evidenced by agency involvement and interaction.	**2017-18 Assessment Score:** ④

Benchmark 201: Comprehensive State statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development.

Indicator	Scoring	Status
201.3 Administrative rules/regulations direct the development of operational policies and procedures at the State, regional, and local levels.	1. There is no legal authority to adopt administrative rules/ regulations regarding the development of a trauma system at the State, regional, or local level. 2. There is legal authority, but there are no administrative rules/regulations governing trauma system development, including components of the trauma system such as designation of trauma facilities, adoption of triage guidelines, integration of prehospital providers and rehabilitation centers, communication protocols, and integration with public health and all hazards preparedness plans. 3. There are draft State, regional, or local rules/regulations for the different components of trauma system development including integration with public health and all-hazards preparedness plans. 4. There are existing statewide administrative rules/regulations for planning, developing, and implementing the trauma system and its components at the State, regional, and local levels. 5. The lead agency regularly reviews, through established committees and stakeholders, the rules/regulations governing system performance, including policies and procedures for system operations at the State, regional, and local levels that include integration with public health and all-hazards preparedness plans.	**2017-18 Assessment Score:** ②

Benchmark 201: Comprehensive State statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development.

Indicator	Scoring	Status
201.4 The lead agency has adopted clearly defined trauma system standards (e.g., facility standards, triage and transfer guidelines, and data collection standards) and has sufficient legal authority to ensure and enforce compliance.	1. The lead agency does not have sufficient legal authority and has not adopted or defined trauma system performance and operating standards, nor is there sufficient legal authority to do so. 2. Sufficient authority exists to define and adopt standards for trauma system performance and operations, but the lead agency has not yet completed this process. 3. There is sufficient legal authority to adopt and implement operation and performance standards including enforcement. Draft process procedures have been developed. 4. The authority exists to fully develop all operational guidelines and standards; the stakeholders are reviewing draft policies and procedures; and adoption by the lead agency, including implementation and enforcement, is pending. 5. The authority exists; operational policies and procedures and trauma system performance standards are in place; and compliance is being actively monitored.	**2017-18 Assessment Score:** ②

Benchmark 202: Trauma system leaders (lead agency, trauma center personnel, and other stakeholders) use a process to establish, maintain, and constantly evaluate and improve a comprehensive trauma system in cooperation with medical, professional, governmental, and citizen organizations.

Indicator	Scoring	Status
202.1 The lead agency demonstrates that it can bring organizations together to implement and maintain a comprehensive trauma system.	1. There is no evidence of partnerships, alliances, or organizations working together to implement and maintain a comprehensive trauma system. 2. There have been limited attempts to organize groups, but to date no ongoing system committees meeting regularly to design or implement the trauma system. 3. The lead agency has multiple committees meeting regularly to develop and implement a comprehensive trauma system plan. 4. The lead agency demonstrates, through its various committees, an ability to bring together multidisciplinary groups interested in developing, implementing, and maintaining a comprehensive trauma system plan. Multiple stakeholders for various disciplines are routinely recruited to participate in system operational issues and refinement depending on expertise needed (e.g., data vs. public information and education). 5. The lead agency has brought together multiple stakeholder groups to assist with, and make recommendations on, the development and implementation of the trauma system, preferably through a trauma-specific statewide multidisciplinary, multi-agency advisory committee.	**2017-18 Assessment Score:** ③

Benchmark 202: Trauma system leaders (lead agency, trauma center personnel, and other stakeholders) use a process to establish, maintain, and constantly evaluate and improve a comprehensive trauma system in cooperation with medical, professional, governmental, and citizen organizations.

Indicator	Scoring	Status
202.2 The lead agency has developed and implemented a trauma-specific statewide multidisciplinary, multi-agency advisory committee to provide overall guidance to trauma system planning and implementation strategies. The committee meets regularly and is instrumental in providing guidance to the lead agency.	1. There is no trauma-specific statewide multidisciplinary, multi-agency advisory committee providing guidance to the State lead agency in planning and developing a statewide trauma system. 2. There is no trauma-specific statewide multidisciplinary, multi-agency advisory committee, and attempts to organize one have not been successful but are continuing. 3. There is a trauma-specific statewide multidisciplinary, multi-agency advisory committee, but its meetings are infrequent and guidance is not always sought or available. Collaborative working arrangements have not been realized. 4. There is a trauma-specific statewide multidisciplinary, multi-agency advisory committee. Committee members and stakeholders regularly attend meetings. Collaboration and consensus are beginning. 5. There is a trauma-specific multidisciplinary, multiagency advisory committee with well-defined goals and responsibilities. It meets regularly with the lead agency providing staff support. The committee routinely provides guidance and assistance to the lead agency on system issues. Multiple subcommittees meet as often as necessary to resolve specific system issues and to report back to the trauma-specific statewide multidisciplinary, multi-agency advisory committee. There is strong evidence of consensus building among system participants.	**2017-18 Assessment Score:** ④

Benchmark 202: Trauma system leaders (lead agency, trauma center personnel, and other stakeholders) use a process to establish, maintain, and constantly evaluate and improve a comprehensive trauma system in cooperation with medical, professional, governmental, and citizen organizations.

Indicator	Scoring	Status
202.3 A clearly defined and easily understood structure is in place for the trauma system decision making process.	1. There is no defined decision-making process (written policy and procedure) regarding the trauma program within the trauma system lead agency or its committees. 2. There is an unwritten decision-making process that stakeholders use when convenient, although not regularly or consistently. 3. The decision-making process is articulated within the State Trauma System Plan, although it has not been fully implemented. Policies are not written. 4. The decision-making process is contained within the trauma system plan, and there are current policies and procedures in place to guide decision making. Use of the decision-making process is infrequent. 5. There is a clearly defined process for making decisions affecting the trauma program. The process is articulated in the trauma system plan and is further identified within system policies. Stakeholders know and understand the process and use it to resolve issues and to improve the program.	**2017-18 Assessment Score:** ②

Benchmark 202: Trauma system leaders (lead agency, trauma center personnel, and other stakeholders) use a process to establish, maintain, and constantly evaluate and improve a comprehensive trauma system in cooperation with medical, professional, governmental, and citizen organizations.

Indicator	Scoring	Status
202.4 Trauma system leaders have adopted and use goals and time-specific, quantifiable, and measurable objectives for the trauma system.	1. There are no goals or time-specific, quantifiable, and measurable objectives for the trauma system. 2. Trauma system leaders have met to discuss time-specific quantifiable goals. 3. Trauma system leaders are beginning the process of identifying measurable program goals and outcome-based, time-specific, quantifiable, and measurable objectives. 4. Trauma system leaders have adopted goals and time-specific, quantifiable, and measurable objectives that guide system performance. 5. Trauma system leaders, in consultation with their trauma-specific statewide multidisciplinary, multi-agency advisory committee, have established measurable program goals and outcome-based, time-specific, quantifiable, and measurable objectives that guide system effectiveness and system performance.	**2017-18 Assessment Score:** ③

Benchmark 203: The State lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

Indicator	Scoring	Status
203.1 The lead agency, in concert with a trauma-specific multi-disciplinary, multi-agency advisory committee, has adopted a trauma system plan.	1. There is not trauma system plan, and one is not in progress. 2. There is no trauma system plan, although some groups have begun meeting to discuss the development of a trauma system plan. 3. A trauma system plan was developed and adopted by the lead agency. The plan, however, has not been endorsed ty trauma stakeholders. 4. A trauma system plan has been adopted, developed with multi-agency groups, and endorse by those agencies. 5. A comprehensive trauma system plan has been developed, adopted in conjunction with trauma stakeholders, and includes the integration of other systems (e.g. EMS, public health, and emergency preparedness).	**2017-18 Assessment Score:** ②

Benchmark 203: The State lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

Indicator	Scoring	Status
203.2 A trauma system plan exists and is based on analysis of the trauma demographics and resource assessments.	1. There is no effort under way to develop a trauma system plan. 2. The lead agency is developing a trauma system plan without reference to the trauma demographics and resource assessments and analyses. 3. The lead agency is actively developing a trauma system plan based on trauma demographics and resource assessments and analyses. 4. A trauma system plan has been developed identifying system priorities and timelines and integrating trauma demographics and resource assessments and analyses preparedness plans. 5. The trauma system plan is updated at least biennially based on changes in trauma demographics and resource assessments and analyses. It is reviewed for integration of other relevant plans such as EMS, emergency preparedness, and public health.	**2017-18 Assessment Score:** ②

Benchmark 203: The State lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

Indicator	Scoring	Status
203.3 There is within the trauma system plan congruence of the population demographics with system development and resource allocation priorities. Note: Needs of specific populations (e.g., pediatric, burn, and Native American) are integrated into the plan. Considerations should be given to age, population characteristics, and urban and rural environments.	1. There is no evidence that population demographics drive resource allocation or that this information is used to establish system priorities in developing or implementing the trauma system plan. 2. Population demographics and system resources have been identified. It is not clear that this information is used for system allocation, priority setting, or system planning. 3. There is evidence that planning processes take into consideration the needs of special populations and other cultural or geographic parameters. 4. There is evidence within the trauma system plan that consideration of the needs of differing groups, cultural, geographic, and others, has been included. Specific application of information regarding the needs of special groups is occurring at the provider level. 5. The plan addresses the needs of all residents and visitors including special population groups applicable to the geographic area.	**2017-18 Assessment Score:** ①

Benchmark 203: The State lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

Indicator	Scoring	Status
203.4 The trauma system plan clearly describes the system design (including the components necessary to have an integrated and inclusive trauma system) and is used to guide system implementation and management. For example, the plan includes references to regulatory standard and documents, and includes methods of data collection and analysis.	1. There is no trauma system plan. 2. The trauma system plan does not address or incorporate the trauma system components (prehospital, communication, transportation, acute care, rehabilitation, and others), nor is it inclusive of all-hazards preparedness, EMS, or public health integration. 3. The trauma system plan provides general information about all the components including all-hazards preparedness, EMS, and public health integration; however, it is difficult to determine who is responsible and accountable for system performance and implementation. 4. The trauma system plan addresses every component of a well-organized and functioning trauma system including all-hazards preparedness and public health integration. Specific information of each component is provided, and trauma system design in inclusive of providing for specific goals and objectives for system performance. 5. The trauma system plans used to guide system implementation and management. Stakeholders and policy leaders are familiar with the plan and its components and use the plan to monitor system progress and to measure results.	**2017-18 Assessment Score:** ①

Benchmark 204: Sufficient resources, including those both financial and infrastructure related, support system planning, implementation, and maintenance.

Indicator	Scoring	Status
204.1 The trauma system plan clearly identifies the human resources and equipment necessary to develop, implement, and manage the trauma program, both clinically and administratively. (The trauma system plan integrates with the Assessment of Resources done previously.)	1. There is no method of assessing available resources or of identifying resource deficiencies in either the clinical or administrative areas of the trauma system. 2. The trauma system plan addresses resource needs and identifies gaps in resources within the trauma system, but no mechanism for correcting resource deficiencies has been identified. 3. Resource needs are identified, and a draft plan, inclusive of goals and timelines, has been prepared to address the resource needs. The plan has not been implemented. 4. Resource needs are clearly identified, and action plans are being implemented to correct deficiencies in both clinical areas and administrative support functions. 5. A resource assessment survey has been completed and is incorporated into the trauma system plan. Goals and measurable objectives to reduce or eliminate resource deficiencies have been implemented. Evaluation of progress on meeting resource needs is evident, and when necessary, the plan has been adapted.	**2017-18 Assessment Score:** ①

Benchmark 204: Sufficient resources, including those both financial and infrastructure related, support system planning, implementation, and maintenance.

Indicator	Scoring	Status
204.2 Financial resources exit that support the planning, implementation, and ongoing management of the administrative and clinical care components of the trauma system.	1. There is no funding to support the trauma system planning, implementation, or ongoing management and operations for either trauma system administration or trauma clinical care. 2. Some funding for trauma care within the third-party reimbursement structure has been identified, but ongoing support for administration and clinical care outside the third-party reimbursement structure is not available. 3. There is current funding for the development of the trauma system within the lead agency organization consistent with the trauma system plan, but costs to support clinical care support services have not been identified) transportation, communication, uncompensated care, standby fees, and others). No ongoing commitment of funding has been secured. 4. There is funding available for both administrative and clinical components of the trauma system plan. A mechanism to assess needs among various providers has begun. Implementation costs and ongoing support costs of the lead agency have been addressed within the plan. 5. A stable (consistent) source of reliable funding for the development, operations, and management of the trauma program (clinical care and lead agency administration) has been identified and is being used to support trauma planning, implementation, maintenance, and ongoing program enhancements.	**2017-18 Assessment Score:** ③

Benchmark 204: Sufficient resources, including those both financial and infrastructure related, support system planning, implementation, and maintenance.

Indicator	Scoring	Status
204.3 Designated funding for trauma system infrastructure support (lead agency) is legislatively appropriated. Note: Although nomenclature varies between jurisdictions, the intent of the indicator is to demonstrate long-term, stable funding for trauma system development, management, evaluation, and improvement.	1. There is no designated funding to support the trauma system infrastructure. 2. One-time funding has been designated for trauma system infrastructure support, and appropriations have been made to the lead agency budget. 3. Limited funds for trauma system development have been identified, but the funds have not been appropriated for trauma system infrastructure support. 4. Consistent, though limited, infrastructure finding has been designated and appropriated to the lead agency budget. 5. The legislature has identified, designated, and appropriated sufficient infrastructure funding for the lead agency consistent with the trauma system plan and priorities for funding administration and operations.	**2017-18 Assessment Score:** ③

Benchmark 204: Sufficient resources, including those both financial and infrastructure related, support system planning, implementation, and maintenance.

Indicator	Scoring	Status
204.4 Operational budgets (system administration and operations, facilities administration and operations, and EMS administration and operations) are aligned with the trauma system plan and priorities. Examples: Full-Time Equivalents (FTEs) per population to support the infrastructure; costs to improve the communication system.	1. There are no operational budgets. 2. There are limited operational budgets, not sufficient to cover related program costs for the lead agency, the EMS system, or the trauma center. 3. There are operational budgets that may be sufficient to cover most program costs, but they are without regard to the trauma system plan or priorities. 4. There are operational budgets that have some ties to the trauma system plan and that include consideration for the extraordinary costs to the trauma system (e.g., providers). 5. An operational budget exists for each component in the plan and matches system needs and priorities with program and operational expenditures.	**2017-18 Assessment Score:** ②

Benchmark 206: Trauma system leaders, including a trauma-specific statewide multidisciplinary, multi-agency advisory committee, regularly review system performance reports.

Indicator	Scoring	Status
206.2 The trauma-specific statewide multidisciplinary, Multi-agency advisory committee regularly reviews annotated trauma system data reports and system compliance information to monitor trauma system performance and to determine the need for system modifications	1. There is no trauma-specific statewide multidisciplinary, multi-agency advisory committee, and there are no regular reports of system performance. 2. There is a trauma-specific statewide multidisciplinary, multi-agency advisory committee, but it does not routinely review trauma system data reports. 3. The trauma-specific statewide multidisciplinary, multi-agency committee meets regularly and reviews process-type reports; no critical assessment of system performance has been completed. 4. The trauma-specific statewide multidisciplinary, multi-agency advisory committee meets regularly and routinely assesses reports from trauma data to determine system compliance and operational issues needing attention. 5. The trauma-specific statewide multidisciplinary, multiagency advisory committee and related stakeholder groups meet regularly and review trauma data reports to assess system performance over time, looking for ways to improve system effectiveness and patient outcomes.	**2017-18 Assessment Score:** ②

Benchmark 207: The lead agency informs and educates State, regional, and local constituencies and policy makers to foster collaboration and cooperation for system enhancement and injury control.

Indicator	Scoring	Status
207.1 The lead agency ensures communications, collaboration, and cooperation between State, regional, and local systems.	1. There is no evidence of active dialogue, either written or verbal, to suggest a strong working relationship between the trauma system lead agency and other governmental agencies (State, regional, or local). 2. There is little evidence that the lead agency and other governmental agencies working to implement a trauma system actively engage in system planning and operational dialogue. 3. The lead agency issues a quarterly update on trauma system activities. The update is largely one-way communication to other governmental agencies. Routine communication usually revolves around an event (reactionary); proactive, open communication is not the norm. 4. The lead agency, though its multidisciplinary committee, engages in open, frequent communication with its constituencies. Newsletters, activity reports, and proactive planning are occurring though the lead agency. Communication and collaboration among governmental organizations is occurring, although they are largely event based. 5. State, regional, and local systems engage in mutual and cooperative plan development and implementation. The lead agency seeks input and dialogue with a multitude of stakeholders. The communication is open, frequent, and proactive. Frequent dialogue occurs between the lead agency and local, regional, or state trauma system participants and leaders. There is evidence of mutual respect and sharing of information among the multidisciplinary groups.	**2017-18 Assessment Score:** ②

Benchmark 207: The lead agency informs and educates State, regional, and local constituencies and policy makers to foster collaboration and cooperation for system enhancement and injury control.

Indicator	Scoring	Status
207.2 The trauma system leaders (lead agency, advisory committees, and others) informs and educates constituencies and policy makers through community development activities, targeted media messaging, and active collaborations aimed at injury prevention and trauma system development.	1. No targeted messaging or media campaigns have begun to educate and inform community and State leaders or policy makers about either injury prevention needs or trauma system development activities. 2. Limited interfaces with policy makers and the media, aimed at both injury prevention and trauma system development, have occurred. Community development activities have been limited to incident-specific response opportunities. 3. Community activities have begun with the development of an injury prevention campaign, and there have been initial discussions with policy makers regarding trauma system development. 4. Trauma system leaders are engaging policymakers' discussions about injury prevention and the trauma system. Media awareness and media messaging have been targeted at injury prevention activities with limited trauma system integration. 5. A well-orchestrated and continuing trauma media campaign is under way. Key policy makers at the State, regional, and local levels are keenly aware of the benefits of a trauma system and of the importance of injury prevention programs.	**2017-18 Assessment Score:** ②

<u>Benchmark 207</u>: The lead agency informs and educates State, regional, and local constituencies and policy makers to foster collaboration and cooperation for system enhancement and injury control.

Indicator	Scoring	Status
207.3 Trauma system leaders (lead agency; trauma-specific statewide multidisciplinary, multi-agency advisory committees; and others) mobilize community partners in identifying the injury problem throughout the State and in building coalitions of personnel to design systems that can reduce the burden of injury. ***ACS Recommendation*** • *Encourage participation on the Injury and Violence Prevention subcommittee that extends beyond the trauma center representatives, e.g., state injury epidemiologist, EMS, fire, police, public health, and injury prevention organizations.* • *Strengthen and maintain the relationship between the state trauma program and the VDH Injury and Violence Prevention Program*	1. No State lead agency exists to establish, maintain, or mobilize community partners in identifying the injury problem or in building community coalitions 2. A State lead agency to review and report in the injury problem statewide exists, but there is limited involvement with community coalitions or trauma system partners. 3. A State lead agency for injury prevention has been established, and a statewide injury coalition has been meeting regularly and reporting on the status of injury in the State. Interface between the injury coalition and the trauma-specific statewide multidisciplinary, multi-agency advisory committee or trauma system leaders (government, acute care, or rehabilitation) has been limited. 4. Trauma system leaders (lead agency; trauma-specific statewide multidisciplinary, multi-agency advisory committees, and others) for injury prevention have a proven track record for identifying the injury problem and for targeting messages and programs to reduce the impact of injury in the State. The injury prevention lead agency (if not the trauma system lead agency) interfaces with trauma-specific statewide multidisciplinary, multi-agency advisory committee. Trauma system and injury prevention leaders have begun to identify strategies and are working collaboratively. Key policy makers are well informed about the burden of injury in the State. 5. Trauma system and injury prevention leaders regularly inform and educate policy makers on trauma system development and injury prevention. Injury coalitions and trauma-specific statewide multidisciplinary, multi-agency advisory committees are integrated and work collaboratively to inform the community and to educate community leaders.	**2017-18 Assessment Score:** ②

Benchmark 207: The lead agency informs and educates State, regional, and local constituencies and policy makers to foster collaboration and cooperation for system enhancement and injury control.

Indicator	Scoring	Status
207.4 A trauma system public information and education plan exists that heightens public awareness of trauma as a disease, the need for a trauma care system, and the prevention of injury. ***ACS Recommendation*** *Implement a web-based clearinghouse for the collection and maintenance of evidence-based injury prevention programs that can be accessed by the public.*	1. There is not written public information and education plan on trauma system or injury prevention and control 2. There is a trauma system public information and education plan, but linkages between programs and implementation of specific objectives have waned. 3. There is a trauma system, and injury prevention plans have a linked public information and education component that has specific timetables and measurable goals and objectives 4. The trauma system public information and education plan are being implemented in accordance with the timelines established and agreed on by the stakeholders and coalitions 5. The trauma system public information and education plan are being implemented in accordance with the timelines. Data concerning the effectiveness of the strategies are used to modify the plan and programs.	**2017-18 Assessment Score:** ①

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.1 There is well-defined trauma system medical oversight integrating the specialty needs of the trauma system with the medical oversight for the overall EMS system. Note: The EMS System medical director and the trauma medical director may, in fact, be the same person.	1. There is not medical oversight for EMS providers within the trauma system. 2. EMS medical oversight for all level of prehospital providers caring for the trauma patient is provided, but such oversight is provided outside of the purview of the trauma system. 3. The EMS and trauma medical directors have integrated prehospital medical oversight for prehospital personnel caring for trauma patients. 4. Medical oversight is routinely given to EMS providers caring for trauma patients. The trauma system has integrated medical oversight for prehospital providers and routinely evaluates the effectiveness of both on-line and off-line medical oversight. 5. The EMS and trauma system fully integrate the most up-to-date medical oversight and regularly evaluate program effectiveness. System providers are included in the development of medical oversight policies.	**2017-18 Assessment Score:** ②

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.2 There is a clearly defined, cooperative, and ongoing relationship between the trauma specialty physician leaders (e.g., trauma medical director within each trauma center) and the EMS system medical director.	1. The trauma specialty physician leaders and the EMS system medical director provide conflicting medical oversight to emergency care providers. 2. There is no formally established, ongoing relationship between the trauma medical director (within each trauma center) and the EMS system medical director; there is no evidence of informal efforts to cooperate and communicate. 3. There is no formally established, ongoing relationship between the trauma medical director (within each trauma center) and the EMS system medical director; however, the trauma medical director and the EMS system medical director meet or visit informally to resolve problems, "to plan strategies," and to coordinate efforts. 4. There is a formal, written procedure delineating the responsibilities of the trauma medical director (within each trauma center) and the EMS system medical director and specifying the formal method by which they work together. However, there is no evidence that the system is regularly used. 5. There is a formal, written procedure delineating the responsibilities of the trauma medical director (within each trauma center) and the EMS system medical director and specifying the formal method by which they work together. There is written documentation including, for instance, meeting minutes indicating this relationship is regularly used to coordinate efforts.	**2017-18 Assessment Score:** ②

Benchmark 303: Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients.

Indicator	Scoring	Status
303.1 The trauma system plan has clearly defined the roles and responsibilities of all acute care facilities treating trauma and of facilities that provide care to specialty populations (e.g., burn, pediatric, spinal cord injury, and others).	1. There is no trauma system plan that outlines roles and responsibilities of all acute care facilities treating trauma and of facilities that provide care to special populations. 2. There is a trauma system plan, but it does not address the roles and responsibilities of licensed acute care and specialty care facilities. 3. The trauma system plan addresses the roles and responsibilities of licensed acute care facilities or specialty care facilities, but not both. 4. The trauma system plan addresses the roles and responsibilities of licensed acute care facilities and specialty care facilities. 5. The trauma system plan clearly defines the roles and responsibilities of all acute care facilities treating trauma within the system jurisdiction. Specialty care services are addressed within the plan, and appropriate policies and procedures are implemented and tracked.	**2017-18 Assessment Score:** ①

Benchmark 303: Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients.

Indicator	Scoring	Status
303.3 The trauma lead authority ensures that trauma facility patient outcomes and quality of care are monitored. Deficiencies are recognized and corrective action is implemented. Variations in standards of care are minimized, and improvements are made routinely.	1. There is no requirement for trauma facilities to monitor patient outcomes and quality of care. 2. Designated trauma facilities are required to maintain a trauma registry including patient outcomes, but they are not required to regularly monitor these outcomes, or quality of care, and are required to report those findings to the lead trauma authority. 3. Designated trauma facilities are required to maintain a trauma registry and to use data from the registry in an ongoing performance improvement program to monitor and to improve the quality of care and patient outcomes. 4. Designated trauma facilities are required to maintain a trauma registry including patient outcomes, to use these data in an ongoing performance improvement program, to provide regular comparisons to local trauma system standards, and to report those findings to the lead trauma authority. 5. Designated trauma facilities are required to maintain a trauma registry including patient outcomes, to use these data in an ongoing performance improvement program. Deficiencies in meeting the local trauma system standards are recorded, and corrective action plans are instituted. Results of comparisons with State or national norms are regularly provided to the trauma agency, along with an explanation for significant variations from these norms, and a written plan to reduce these variations.	**2017-18 Assessment Score:** ④

Benchmark 303: Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients.

Indicator	Scoring	Status
303.3 The specific needs of unique populations, for example, English As a Second Language (EASL), socially disadvantaged, migrant/transient, remote, rural, and others, are accommodated within the existing trauma system.	1. There has been no consideration of the specific needs of unique populations, for example, EASL, in making an impact on the patient's access to care within the trauma system. 2. The lead agency and stakeholders are beginning to consider the specific needs of unique populations in implementing the trauma system. 3. The lead agency has, within the trauma system plan, identified the unique populations that may require special accommodations with the trauma system to effectively meet their needs. 4. The lead agency has, within the trauma system plan, accommodations for unique populations that allow them to effectively access trauma care. Monitoring processes are in development. 5. The trauma system has accommodated the specific needs of unique populations by allowing them to effectively access trauma care. Routine monitoring, review, and reporting of these populations are incorporated into the evaluation of trauma system effectiveness.	**2017-18 Assessment Score:** ②

Benchmark 309: The financial aspects of the trauma systems are integrated into the overall performance improvement system to ensure ongoing "fine-tuning" and cost-effectiveness.

Indicator	Scoring	Status
309.1 Cost data are collected and provided to the trauma system registry for each major component including prevention, prehospital, acute care all-hazards response planning, and rehabilitation.	1. No cost data are collected. 2. Administrative and program cost data are collected and included in the annual trauma system report. 3. In addition to administrative and program costs, clinical charges and costs are included in one or more major component areas and are provided to the trauma system registry for inclusion I the annual trauma system report. 4. The costs associated with individual system components, for example, prehospital, can be determined and are proved to the trauma system registry for inclusion in the annual trauma system report. 5. The cost of an aggregate system can be determined and is provided to the trauma system registry for inclusion in the annual trauma system report.	**2017-18 Assessment Score:** ①

Benchmark 309: The financial aspects of the trauma systems are integrated into the overall performance improvement system to ensure ongoing "fine-tuning" and cost-effectiveness.

Indicator	Scoring	Status
309.2 Collection and reimbursement data are submitted by each agency or institution on at least an annual basis. Common Definitions exist for collection and reimbursement data and are submitted by each agency.	1. Collection and reimbursement data are not gathered, nor do common definitions exist. 2. Common definitions exist, and collection and reimbursement data are available and reports to the lead agency for one or more clinical components. 3. Common definitions exist. Collection and reimbursement data are available and reported to the lead agency for one or more clinical components, and are compared to cost data for those components. 4. Common definitions exist. Collection and reimbursement data are available and reported to the lead agency for all clinical components, and are compared to cost data for those components. 5. Common definitions exist. Collection and reimbursement data are available and report to the lead agency for all clinical components, are compared to cost data for those components, and are reported in an aggregate for in the annual trauma system report.	**2017-18 Assessment Score:** ①

Benchmark 309: The financial aspects of the trauma systems are integrated into the overall performance improvement system to ensure ongoing "fine-tuning" and cost-effectiveness.

Indicator	Scoring	Status
309.3 Cost, charge, collection, and reimbursement data are aggregated with other data sources including insurers and data system costs and are include in annual trauma system reports. Note: "Outside" financial data means costs that may not routinely be captured in trauma center or registry data.	1. No outside financial data are captured. 2. Outside financial data are collected from one or sources (e.g., Medicaid or private insurers). 3. Extensive financial data, for example, cost charge, collection, and reimbursement, are collected from one or more sources. Sufficient expertise is available to the trauma system to analyze and report complex fiscal data. 4. Outside financial data are combined with internal trauma system data and are used to estimate total system costs. 5. Outside financial data are combined with internal trauma system data and are used to estimate total system costs. There financial data are described in detail in the annual trauma system report.	**2017-18 Assessment Score:** ①

Benchmark 309: The financial aspects of the trauma systems are integrated into the overall performance improvement system to ensure ongoing "fine-tuning" and cost-effectiveness.

Indicator	Scoring	Status
309.4 Financial data are combined with other cost, outcome, or surrogate measures, for example, years of potential life (YPLL), quality-adjusted life years (QALY), and disability-adjusted life years (DALY); length of stay; length of Intensive Care Unit (ICU) stay; number of ventilator days; and others, to estimate and track true system costs and cost-benefits.	1. No nonfinancial burden of disease costs and outcome measures are collected or modeled. 2. Estimated savings using various burdens of disease costs or outcome measure models are calculated for all injury prevention programs. 3. Estimated saving using various burdens of disease costs or outcome measure models are calculated for actual system costs. 4. Estimated savings using various burdens of disease costs or outcome measure models are calculated for all injury prevention programs and are combined with actual system cost data to determine costs and saving of the total system. 5. Estimated savings using various burdens of disease costs or outcome measure models are calculated for all injury prevention programs, are combined with actual system cost data to determine costs and savings of the total system, and are described in detail in the annual trauma system report.	**2017-18 Assessment Score:** ①

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.13 There is authority for a trauma medical director, and a clear job description, including requisite education, training, and certification, for this position. Note: The trauma medical director and the EMS system medical director may be the same person.	1. There is no requirement for a trauma medical director, and no job description has been developed. 2. There is authority for a trauma medical director, but no job description has been developed. 3. There is authority for a trauma medical director, and a job description is under development. Approval to hire is pending. 4. There is authority for a trauma medical director. The plan to hire one has been developed along with a comprehensive job description, including requisite education, training, and certification. 5. There is authority for a trauma medical director, and the job description, including requisite education, training, and certification, for the trauma medical director is clear. A physician appropriately credentialed has been hired, and the job classification is routinely assessed for appropriateness of the duties required.	**2017-18 Assessment Score:** ①

Benchmark 311: The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system.

Indicator	Scoring	Status
311.2 The lead agency refers issues of personnel noncompliance with trauma laws, rules, and regulations to appropriate boards or licensure authorities.	1. Individual personnel performance is not monitored. 2. Complaints about individual personnel noncompliance with trauma laws, rules, and regulations go directly to appropriate boards or licensure authorities. 3. Trauma authority personnel collaborate actively with licensure authorities to resolve complaints involving individual personnel noncompliance with trauma laws, rules, and regulations. 4. Individual personnel performance issues are addressed within trauma performance improvement processes unless they involve breaches of State or Federal statute. 5. Appropriate boards or licensure authorities are involved in the system performance improvement processes addressing individual personnel performance issues.	**2017-18 Assessment Score:** ②

Benchmark 311: The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system.

Indicator	Scoring	Status
311.4 Laws, rules, and regulations are routinely reviewed and revised to continually strengthen and improve the trauma system.	1. There is no process for examining laws, rules, or regulations. 2. Laws, rules, and regulations are reviewed and revised only in response to a "crisis" (e.g., malpractice insurance costs). 3. Laws, rules, and regulations are reviewed and revised on a periodic schedule (e.g., every 5 years). 4. Laws, rules, and regulations are reviewed by agency personnel on a continuous basis and are revised as needed. 5. Laws, rules, and regulations are reviewed as part of the performance improvement process involving representatives of all system components and are revised as they negatively impact system performance.	**2017-18 Assessment Score:** ②

Benchmark 311: The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system.

Indicator	Scoring	Status
311.5 The lead agency routinely evaluates all system components to ensure compliance with various laws, rules, and regulations pertaining to their role and performance within the trauma system.	1. The lead agency does not have the authority to evaluate all system components (e.g., prehospital). 2. Complaints concerning individual component performance within the trauma system go directly to the licensure agency responsible for that component. 3. Trauma agency personnel collaborate actively with licensure agencies to resolve complaints involving component performance within the trauma system. 4. Deficiencies in individual system components are addressed as part of the trauma system performance improvement process. 5. System components are equitably represented in the trauma system improvement process and work to improve individual component compliance and overall trauma system performance. De-designation, or revocation of licenses or certifications, is used only as a course of last resort to safeguard public health.	**2017-18 Assessment Score:** ⑤

Benchmark 311: The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system.

Indicator	Scoring	Status
311.6 Incentives are provided to individual agencies and institutions to seek State or nationally recognized accreditation in areas that will contribute to overall improvement across the trauma system, for example, Commission on Accreditation of Ambulance Services (CAAS) for prehospital agencies, Council on Allied Health Education Accreditation (CAHEA) for training programs, and American College of Surgeons (ACS) verification for trauma facilities.	1. There are no incentives for outside review and accreditation. 2. Accreditation processes are generally encouraged but are not specifically acknowledged; for example, no special dispensation is offered to agencies or institutions completing such accreditation. 3. Accreditation processes are strongly encouraged, and some incentives are provided, for example, extension of EMS agency review from 2 years to 3 years after CAAS accreditation. 4. Incentives are provided to agencies that successfully complete outside accreditation processes, for example, acceptance of CAAS accreditation instead of local EMS agency review. 5. As part of the system performance improvement process, the impact of outside review and accreditation on various agencies and institutions is monitored, and incentives are provided as appropriate.	**2017-18 Assessment Score:** ①

System Improvement Committee
Benchmarks, Indicators and Scoring

Benchmark 101: There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.

Indicator	Scoring	Status
101.1 There is a thorough description of the epidemiology of injury mortality in the system jurisdiction using population-based data.	1. There is no thorough description of the epidemiology of injury mortality in the system jurisdiction. 2. Death certificate data have been used to describe the statewide incidence of trauma deaths aggregating all etiologies, but no E-code reporting is available. 3. Death certificate data, by E-code, are reported on a statewide basis, but are not reported by sub-State jurisdiction. 4. Death certificate data, by E-code, are reported on statewide and sub-State jurisdictions. These data are compared to national benchmarks, if available. 5. Death certificate data, by E-code, are used as part of the overall assessment of trauma care in a State or sub- State, including statewide rural and urban preventable mortality studies.	**2017-18 Assessment Score:** ④

Benchmark 102: There is an established trauma management information system (MIS) for ongoing injury surveillance and system performance assessment.

Indicator	Scoring	Status
102.1 There is an established injury surveillance process that can, in part, be used as an MIS performance measure.	1. There is no established system-wide injury surveillance process. 2. There is a system-wide trauma registry, but not all hospitals in the service area contribute to the trauma management information system. 3. There is a system-wide trauma registry with all hospitals in the service area contributing data. 4. The system-wide trauma registry data are bolstered by one or more of the following databases: EMS data system, ED data system, or hospital discharge data. 5. The statewide trauma registry, EMS data system, ED data system, hospital discharge data, rehabilitation, and burn data system are accessible, electronically linked, and have consistent data definitions and elements. The data are used for both	**2017-18 Assessment Score:** ③

Benchmark 102: There is an established trauma management information system (MIS) for ongoing injury surveillance and system performance assessment.

Indicator	Scoring	Status
102.2 Injury surveillance is coordinated with statewide and local community health surveillance.	1. Injury surveillance, as described in 102.1, does not occur within the system. 2. Injury surveillance occurs in isolation from other health risk surveillance and is reported separately. 3. Injury surveillance occurs in isolation but is combined and reported with other health risk surveillance processes. 4. Injury surveillance occurs as part of broader health risk assessments. 5. Processes of sharing and linkage of data exist between EMS systems, public health systems, and trauma systems, and the data are used to monitor, investigate, and diagnose community health risks.	**2017-18 Assessment Score:** ③

Benchmark 102: There is an established trauma management information system (MIS) for ongoing injury surveillance and system performance assessment.

Indicator	Scoring	Status
102.3 Trauma data are electronically linked from a variety of sources. Note: Deterministically means with such patient identifiers as name and date of birth. Probabilistically means computer software is used to match likely records through such less certain identifiers as date of incident, patient age, gender, and others.	1. Trauma registry data exist but are not deterministically or probabilistically linked to other databases. 2. Trauma registry data exist and can be deterministically linked through hand-sorting processes. 3. Trauma registry data exist and can be deterministically linked through computer-matching processes. 4. Trauma registry data exist and can be deterministically and probabilistically linked to at least one other injury database including: EMS data systems (i.e., patient care records, dispatch data, and others), ED data systems, hospital discharge data, and others. 5. All data stakeholders (insurance carriers, FARS, and rehabilitation, in addition to typical trauma system resources) have been identified, data access agreements executed, hardware and software resources secured, and the "manpower" designated to deterministically and probabilistically link, analyze, and report a variety of data sources in a timely manner.	**2017-18 Assessment Score:** ①

Benchmark 102: There is an established trauma management information system (MIS) for ongoing injury surveillance and system performance assessment.

Indicator	Scoring	Status
102.4 There is a process to evaluate the quality, timeliness, completeness, and confidentiality of data.	1. There is no process or written policy to evaluate the quality, timeliness, completeness, and confidentiality of the data collected in the system. 2. There is a process of evaluation and written policy but no compliance with governance. Confidentiality of information is not ensured. 3. The process of reviewing the quality, timeliness, completeness, and confidentiality of data is just beginning. There is some compliance with a draft written policy. 4. There are draft written policies in place for evaluating the quality (including both reliability and validity), timeliness, and completeness of data and for ensuring confidentiality. 5. There is a comprehensive written policy and demonstrated compliance concerning data management and governance including an evaluation of the quality, timeliness, and completeness of data, with confidential protection of records ensured while allowing appropriate access for research purposes.	**2017-18 Assessment Score:** ③

Benchmark 102: There is an established trauma management information system (MIS) for ongoing injury surveillance and system performance assessment.

Indicator	Scoring	Status
102.5 There is an established method of collecting trauma financial data from all health care facilities and trauma agencies including patient charges as well as administrative and system costs.	1. Financial data are not collected as part of the trauma system registry. 2. Financial data are collected as part of the trauma system registry at individual facilities but are not reported to the lead trauma authority. 3. Financial data are collected as part of the trauma system registry and are analyzed and reported by the lead trauma authority. 4. Financial data from the trauma registry are linked with at least one other source of cost data such as hospital discharge data. 5. Financial data are linked and analyzed from the trauma registry, insurers, emergency department, EMS, hospital discharge, and rehabilitation and are compared with general trauma system infrastructure costs to establish the general financial health of the system and its value to the community.	**2017-18 Assessment Score:** ①

Indicator	Scoring	Status
105.1 The benefits of the trauma system, in terms of years of productive life lost (YPLL), quality-adjusted life years (QALY), disability-adjusted life years (DALY), and so on, are described.	1. There are no cost data available to the system to compare to quality of life indicators. 2. Trauma system costs are included in the trauma management information system that can serve as the basis for these calculations. 3. Additional sources of data, in terms of other economic and quality of life measures, are available. 4. Cost and quality of life measures can be analyzed and presented in descriptive and graphic form. 5. A series of reports and fact sheets are available and regularly updated to descriptively and graphically illustrate costs and benefits of the trauma system as well as the cost and benefits of specific personal behaviors.	**2017-18 Assessment Score:** ①

Benchmark 205: Collected data are used to evaluate system performance and to develop public policy.

Indicator	Scoring	Status
205.1 Collected data are used for strategic and budgetary planning.	1. There is no central data repository that can be accessed for strategic or budgetary planning. 2. There are varying databases that can be accessed but no single reporting structure to produce reports and to analyze findings. 3. Data are collected and stored in a central repository; however, reports are not routinely generated that could be used for strategic or budgetary planning. 4. There is a central warehouse for trauma and system financial data that are used for annual reporting of system performance. 5. There is a central repository and data warehouse for all trauma system data. System participants including trauma centers and the lead agency can access the data. Regular (written, on-line, or electronic) reports are generated to identify financial information and budget utilization. Regular reports are used for strategic planning and performance efficiency.	**2017-18 Assessment Score:** ②

Benchmark 205: Collected data are used to evaluate system performance and to develop public policy.

Indicator	Scoring	Status
205.2 Collected data from a variety of sources are used to review the appropriateness of trauma system policies and procedures. Note: The format of the reports in this and other sections may be written, Web-based, or other electronic media	1. There are no written, quantifiable trauma system performance standards or performance improvement mechanisms. 2. There are draft written, quantifiable system performance standards or performance improvement mechanisms for each component of the trauma system. 3. There are written, quantifiable system performance standards and performance improvement mechanisms that have been adopted by the lead agency in consultation with the trauma-specific statewide multidisciplinary, multi-agency advisory committee. 4. Data from trauma, EMS, public safety, and other sources are routinely used by the lead agency to assess the extent of compliance of the trauma system with adopted standards. 5. The lead agency, in cooperation with the trauma-specific statewide multidisciplinary, multi-agency advisory committee, uses compliance data from trauma, EMS, public safety, and other sources to improve system design changes or to make other system refinements. There is routine and consistent feedback to all system providers to ensure that data-identified deficiencies are corrected.	**2017-18 Assessment Score:** ②

Benchmark 205: Collected data are used to evaluate system performance and to develop public policy.

Indicator	Scoring	Status
205.3 The trauma management information system (MIS) is used to assess system performance, to measure system compliance with applicable standards, and to allocate trauma system resources to areas of need or to acquire new resources.	1. There is no trauma management information system. 2. There is a limited trauma management information system consisting of a trauma patient registry, but no data extraction is used to identify resource needs, to establish performance standards, or to routinely assess and evaluate system effectiveness. 3. There is a trauma management information system that routinely reports (written, on-line, or electronic) on system-wide management performance and compliance. Linkage between management reports, resource utilization, and performance measures has begun. 4. Routine trauma MIS reports are issued at the State, regional, and local levels as well as at the provider level. Reports focus on management strengths, compliance with standards, and resource utilization. Trends are used to improve system efficiency and performance. 5. Trauma MIS reports are used extensively to improve and report on system performance. The lead agency issues regular and routine reports to providers. Trauma leaders assess reports to determine system deficiencies and to allocate resources to areas of greatest need. System performance and standard compliance are assessed and reported.	**2017-18 Assessment Score:** ②

Benchmark 205: Collected data are used to evaluate system performance and to develop public policy.

Indicator	Scoring	Status
205.5 Education for trauma system participants is developed based on a review and evaluation of trauma MIS data.	1. There is no correlation between training programs for providers and the trauma management information system. 2. There is limited use of trauma MIS reports to target educational opportunities. 3. There is evidence that some providers are using trauma MIS reports to identify educational needs and to incorporate them into training programs. 4. Many educational forums have been conducted based on an analysis of the performance data in the trauma management information system. Clear ties link education of providers with identified areas of need from trauma MIS reports. 5. Routine analysis of trauma information and educational opportunities is being conducted. Integrated program objectives tying system performance and education are implemented and routinely evaluated. Regular updates to trauma information and education are available. Trauma MIS data are used to measure outcomes and effectiveness.	**2017-18 Assessment Score:** ①

Benchmark 206: Trauma system leaders, including a trauma-specific statewide multidisciplinary, multi-agency advisory committee, regularly review system performance reports.

Indicator	Scoring	Status
206.1 Trauma data reports are generated by the trauma system no less than once per year and are disseminated to trauma system leaders and stakeholders to evaluate and improve system performance effectiveness.	1. No trauma data reports are generated to evaluate and improve system performance effectiveness. 2. Some general trauma system information is available for the stakeholders, but it is not consistent or regular. 3. Trauma data reports are done on an annual basis but are not used for decision making and evaluating system effectiveness. 4. Routine reports are generated using trauma system data and other databases so that the system can be analyzed, standards evaluated, and performance measured. 5. Regularly scheduled reports are generated from trauma system data and are used by the stakeholder groups to evaluate and improve system performance effectiveness.	**2017-18 Assessment Score:** ③

Benchmark 208: The trauma, public health, and emergency preparedness systems are closely linked.

Indicator	Scoring	Status
208.1: The trauma system and the public health system have established linkages including programs with an emphasis on population-based public health surveillance, and evaluation, for acute and chronic traumatic injury and injury prevention.	1. There is no evidence that demonstrates program linkages, a working relationship, or the sharing of data between public health and the trauma system. Population-based public health surveillance, and evaluation, for acute or chronic traumatic injury and injury prevention has not been integrated with the trauma system. 2. There is little population-based public health surveillance shared with the trauma system, and program linkages are rare. Routine public health status reports are available for review by the trauma system lead agency and constituents. 3. The trauma system and the public health system have begun sharing public health surveillance data for acute and chronic traumatic injury. Program linkages are in the discussion stage. 4. The trauma system has begun to link with the public health system, and the process of sharing public health surveillance data is evolving. Routine dialogue is occurring between programs. 5. The trauma system and the public health system are integrated. Routine reporting, program participation, and system plans are fully vested. Operational integration is routine, and measurable progress can be demonstrated. (Demonstrated integration and linkage could include such activities as rapid response to and notification of incidents, integrated data systems, communication cross-operability, and regular epidemiology report generation.)	**2017-18 Assessment Score:** ①

Benchmark 301: The trauma management information system (MIS) is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system including a cost-benefit analysis.

Indicator	Scoring	Status
301.1 The lead trauma authority ensures that each member hospital of the trauma system collects and uses patient data as well as provider data to assess system performance and to improve quality of care. Assessment data are routinely submitted to the lead trauma authority.	1. There is no system-wide management information data collection system that the trauma centers and other community hospitals regularly contribute to or use to evaluate the system. 2. There is a trauma registry system in place in the trauma centers, but it is used by neither all facilities within the system nor the lead trauma authority to assess system performance. 3. The trauma management information system contains information from all facilities within a geographic area. 4. The trauma management information system is used by the trauma centers to assess provider and system performance issues. 5. Hospital trauma registry data are routinely submitted to the lead trauma authority, are aggregated, and are used to evaluate overall system performance.	**2017-18 Assessment Score:** ②

Benchmark 301: The trauma management information system (MIS) is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system including a cost-benefit analysis.

Indicator	Scoring	Status
301.2 Prehospital care providers collect patient care and administrative data for each episode of care and provide these data not only to the hospital, but have a mechanism to evaluate the data within their own agency including monitoring trends and identifying outliers	1. There is no jurisdiction-wide prehospital data collection. 2. Prehospital care providers have a patient care record for each episode of care, but it is not yet automated or integrated with the trauma management information system. 3. The prehospital patient care record electronically captures patient care provided by field personnel and can be transferred or entered into the trauma registry system within individual trauma centers. 4. The prehospital patient data system is integrated into the trauma management information system and is used by prehospital and hospital personnel to review and evaluate prehospital and system performance. 5. Individual prehospital agency data are electronically submitted to the lead trauma authority, are aggregated with other prehospital agency data, and are used to evaluate overall trauma system performance.	**2017-18 Assessment Score:** ②

Benchmark 301: The trauma management information system (MIS) is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system including a cost-benefit analysis.

Indicator	Scoring	Status
301.3 Trauma registry, emergency department (ED), prehospital, rehabilitation, and other databases are linked or combined to create a trauma system registry.	1. Some trauma registry and prehospital patient records are manually entered into a database when needed to answer system questions. There is no rehabilitation registry. 2. There are databases for trauma, emergency departments, prehospital, and rehabilitation as well as statewide injury databases. None of the databases are routinely linked. 3. There are electronic trauma registry and prehospital patient record databases. Both databases are linked, but the system does not use these data for routine review of system performance. Some rehabilitation data are collected separately from the trauma registry. 4. There is an integrated management information system that includes, at a minimum, hospital and prehospital databases. The information is linked, and providers use the databases for system evaluation. Rehabilitation centers routinely provide electronic data to the trauma registry system. 5. There is an integrated management information system that includes, at a minimum, trauma, ED, prehospital, 9-1-1 dispatch, and rehabilitation databases that are regularly used by the lead trauma authority and system provider agencies to monitor trauma system performance.	**2017-18 Assessment Score:** ①

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.5 The retrospective medical oversight of the EMS system for trauma triage, communications, treatment, and transport is closely coordinated with the established performance improvement processes of the trauma system	1. There is no retrospective medical oversight procedure for trauma triage, communications, treatment, and transport. 2. There is a retrospective medical oversight procedure for trauma triage, communications, treatment, and transport by both the trauma system and the EMS system, but the two processes are in conflict with each other or use different review criteria. 3. There is a retrospective medical oversight procedure for trauma triage, communications, treatment, and transport by the performance improvement processes of the trauma system or by the EMS system; however, this procedure is not coordinated. 4. By the performance improvement processes of the trauma system, there is retrospective medical oversight for trauma triage, communications, treatment, and transport that is coordinated with the EMS system retrospective medical direction, or by performance improvement processes of the EMS system that are coordinated by the trauma system. 5. There is retrospective medical oversight of the trauma triage, communications, treatment, and transport that is coordinated with the EMS system retrospective medical direction. There is evidence this procedure is being regularly used to monitor system performance and to make system improvements.	**2017-18 Assessment Score:** ③

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.6 There are mandatory system-wide prehospital triage criteria to ensure that trauma patients are transported to an appropriate facility based on their injuries. These triage criteria are regularly evaluated and updated to ensure acceptable and system-defined rates of sensitivity and specificity for appropriately identifying the major trauma patient.	1. There are no mandatory universal triage criteria to ensure trauma patients are transported to the most appropriate hospital. 2. There are differing triage criteria guidelines used by different providers. Appropriateness of triage criteria and subsequent transportation are not evaluated for sensitivity or specificity. 3. Universal triage criteria are in the process of being linked to the management information system for future evaluation. The triage criteria are used by all prehospital providers. 4. There is system-wide evaluation of the effectiveness of the triage tools in identifying trauma patients and in ensuring that they are transported to the appropriate facility. 5. System participants routinely evaluate the triage criteria for effectiveness. There is linkage with the trauma system, and sensitivity and specificity (over- and under- triage rates) of the tools used are regularly reported through the trauma lead authority. Updates to the triage criteria are made as necessary to improve system performance.	**2017-18 Assessment Score:** ⑤

Benchmark 304: The jurisdictional lead agency, in cooperation with other agencies and organizations, uses analytical tools to monitor the performance of population-based prevention and trauma care services.

Indicator	Scoring	Status
304.2 The trauma system MIS database is available for routine public health surveillance. There is concurrent access to the databases (emergency department, trauma, prehospital medical examiner, and public health epidemiology) for the purpose of routine surveillance and monitoring of health status that occurs regularly and is a shared responsibility.	1. There is no sharing of databases between emergency department, trauma, prehospital, medical examiner, or public health epidemiology. 2. The databases can be accessed by only the owner of the data and sharing of information goes through a formal request process. 3. There is concurrent access to the databases (emergency department, trauma, prehospital medical examiner, and public health epidemiology) but no sharing of databases that would support public health surveillance. 4. The databases are shared among emergency department, trauma, prehospital, medical examiner, and public health epidemiology. Access issues have been resolved, and epidemiologic monitoring is beginning to routinely monitor the data for unusual events. 5. The databases of emergency departments, trauma, prehospital, medical examiner, and public health epidemiology are shared files. The epidemiology staff can review all the databases and registries for routine surveillance and unusual occurrences. Concurrent review by the respective groups is used to ensure the effectiveness of the injury prevention and trauma system.	**2017-18 Assessment Score:** ①

Benchmark 306: The lead agency ensures that the trauma system demonstrates prevention and medical outreach activities within its defined service area.

Indicator	Scoring	Status
306.1 The trauma system has developed mechanisms to engage the general medical community and other system participants in their research findings and performance improvement efforts.	1. There is no evidence that the trauma system reaches out to the general medical community at large to integrate it into trauma system improvements. 2. There is some evidence of general medical community interface with the trauma centers, but it is sporadic and not well coordinated. 3. The trauma system can demonstrate routine interface with the general medical community regarding trauma care updates and performance improvements. 4. The trauma system has a formal mechanism to discuss trauma care, system improvements, and research results with the general medical community within its jurisdiction. 5. There is strong evidence of active participation between the trauma system and the general medical community. Routine discussions are held; performance updates are shared; and research results are integrated within the medical care system.	**2017-18 Assessment Score:** ①

Benchmark 307: To maintain its State, regional, or local designation, each hospital will continually work to improve the trauma care as measured by patient outcomes.

Indicator	Scoring	Status
307.2 The trauma system implements and regularly reviews a standardized report on patient care outcomes as measured against national norms	1. There is no evidence that the trauma system engages in any review of patient care outcome data to evaluate its performance against national norms. 2. There is some standardized measurement of outcomes for trauma patients within the trauma system and applied to the trauma centers. 3. Through the lead agency, trauma centers use a national standardized measurement tool to assess the quality of trauma patient care outcomes and to regularly report trends in performance improvement committee reports. 4. The trauma system has established standardized measurements of trauma patient care outcomes based on national norms and routinely uses the report to highlight improvements in trauma patient care or to identify patient care issues needing remedial action. 5. The trauma system has completed an assessment of trauma care outcomes based on national norms and implements any corrective action noted. Routine measurements of quality are carried out, and regular reporting is accomplished with improvements instituted, trends reported, and highlights acknowledged as necessary	**2017-18 Assessment Score:** ①

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.11 There are mechanisms within the system performance improvement processes to identify and correct systemic personnel deficiencies within the trauma system. Note: Systemic personnel deficiencies are those that cut across multiple agencies and institutions and impact the system as a whole. For example, if trauma triage protocols are not being adhered to by most prehospital providers from multiple agencies, then it is a systemic problem that could involve communication, training, medical direction, or performance improvement issues	1. There is no mechanism to identify, through performance improvement processes, systemic personnel deficiencies within the trauma system. 2. The trauma system has begun to identify systemic personnel deficiencies. 3. The trauma system has a mechanism to identify systemic personnel deficiencies and is working on a process for corrective action. 4. The trauma system has a mechanism to identify systemic personnel deficiencies and is instituting corrective actions across the system. 5. Trauma stakeholders, including trauma centers and the lead agency, monitor and correct personnel deficiencies as identified through quality assurance and performance improvement processes. A method of corrective action has been instituted, and appropriate follow up is occurring. Monitoring of system deficiencies and corrective actions is ongoing.	**2017-18 Assessment Score:** ①

Injury and Violence Prevention Committee
Benchmarks, Indicators and Scoring

Benchmark 101: There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.

Indicator	Scoring	Status
101.4 Collaboration exists between EMS, public health officials, and trauma system leaders to complete injury risk assessments.	1. No injury risk assessments are conducted. 2. Trauma system officials conduct injury assessments; however, there is no involvement of EMS or public health officials in those assessments. 3. Public health officials, along with EMS and trauma system participants, assist with the design of injury risk assessments. 4. Public health officials, along with EMS and trauma system leaders, assist with the design and analysis of injury risk assessments. 5. The public health epidemiologist, along with EMS and trauma system leaders, is involved in the development of injury reports. There is clear evidence of data sharing, data linkage, and well-defined reporting roles and responsibilities.	**2017-18 Assessment Score:** ①

Benchmark 101. There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.

Indicator	Scoring	Status
101.5: Integration of injury into other public health risk assessments occurs at State, regional, and community levels, resulting in the integration into key reports and planning documents such as *Healthy People 2010*.	1. No injury risk assessments are completed. 2. Injury risk assessments are conducted in a segregated manner by the trauma program, separate from other public health risk assessments. 3. Injury risk assessments are combined with other assessment data, after separate collection and analysis efforts. 4. Injury risk assessments are conducted by public health officials as an integrated component with other health risk assessments. 5. Injury risk assessments are conducted by public health officials as an integrated component with other health risk assessments. Comparisons and contrasts between injury death and disability rates are made, fully integrated, and published, along with other leading health risk indicators, for example, HIV/AIDS, cardiac, and cancer, in Health of the State and other formal public health documents.	**2017-18 Assessment Score:** ①

Benchmark 101. There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.

Indicator	Scoring	Status
101.6: The trauma system works with EMS and the public health system to complete a jurisdiction-wide study of the determinants of injury using existing data sources and public health tools.	1. There is no jurisdiction-wide study of the determinants of injury. 2. The trauma system, EMS, and public health officials (including EMS) using existing data sources such as the Behavioral Risk Factor Surveillance System (BRFSS) to describe determinants of injury among the general population. 3. The trauma system, EMS, and public health officials (including EMS) use existing data sources such as the Youth Risk Behavior Survey (YRBS) to describe determinants of injury among high-risk subpopulations. 4. Statewide data from all potential sources, for example, BRFSS, YRBS, Fatality Analysis Reporting System (FARS), vital records, and others, pertaining to the risk of injury, are summarized, electronically linked, and analyzed to determine the potential target areas for injury prevention activities. 5. A State injury prevention plan identifies injury prevention targets based, in part, on the determinants of injury and injury risk, and identifies strategies to document and demonstrate the cost-benefit of various behaviors.	**2017-18 Assessment Score:** ②

<u>Benchmark 101</u>: There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.

Indicator	Scoring	Status
101.7 The trauma system works with EMS and public health to identify special at-risk populations.	1. There is no effort to describe risks to special at-risk populations such as age categories, cultural/ethnic populations, geographic variances, pediatrics, and high-risk co-morbidities, for example, substance abuse, or children with special health care needs, or any combination of these. 2. Risk assessments have been conducted for various age groupings, for example, adolescents and elder persons. 3. In addition to risk assessments for age cohorts, cultural/ethnic variations have been analyzed. 4. In addition to risk assessments for age and cultural/ethnic cohorts, geographic distribution of injury within the jurisdiction has been analyzed, for example, inner city versus suburban. 5. There is strong evidence that multiple special at-risk populations have been identified during the assessment processes.	**2017-18 Assessment Score:** ①

Benchmark 103. A resource assessment for the trauma system has been completed and is regularly updated.

Indicator	Scoring	Status
103.3: There has been an initial assessment (and periodic reassessment) of overall system effectiveness.	1. No preventable mortality assessment has been conducted on a system-wide basis. 2. A system-wide preventable mortality study has been completed. 3. A system-wide preventable mortality study that includes rates, frequencies, and types of inappropriate care rendered within the hospitals participating in the trauma system has been conducted. 4. A system-wide preventable mortality study that includes rates, frequencies, and types of inappropriate care rendered in all phases of care within the trauma system, for example, prehospital, rehabilitation, and others, has been conducted. 5. The system has completed preventable mortality studies that include the determination of rates of inappropriate care, as well as an examination of the number of severely injured (ISS>15) patients arriving at the highest levels of available care within appropriate times. The assessment is repeated at regular intervals (could be an annual summary of deaths and complications).	**2017-18 Assessment Score:** ①

Benchmark 203. The State lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

Indicator	Scoring	Status
203.5 A written injury prevention and control plan is developed and coordinated with other agencies and community health programs. The injury program is data driven, and targeted programs are developed based on high injury risk areas. Specific goals with measureable objectives are incorporated into the injury plan. ***ACS Recommendation*** *Identify injury prevention priorities based on state epidemiology data and develop a state injury prevention plan.* • *Complete the plan within 1 year.* • *Implement one statewide injury prevention initiative the following year.*	1. There is no written plan for a coordinated injury prevention and control program 2. There are multiple injury prevention and control programs that may conflict with one another or with the goals of the trauma system, or both. 3. There is written plan for a coordinated injury prevention and control program that is linked to the trauma system plan and that has goals and time-specific, measurable objectives 4. The injury prevention and control plan is being implemented in accordance with established timelines. 5. The injury prevention and control plan is being implemented in accordance with established timelines; data concerning the effectiveness of the plan are being collected and are used to validate, evaluate, and modify the plan.	**2017-18 Assessment Score:** ②

Benchmark 205. Collected data are used to evaluate system performance and to develop public policy.

Indicator	Scoring	Status
205.4: Injury prevention programs use trauma MIS data to develop intervention strategies.	1. There is no evidence to suggest that trauma MIS data are used to determine injury prevention strategies 2. There is some evidence that trauma MIS data are available for injury prevention program strategies, but the use of these data is limited and sporadic 3. Trauma MIS reports are routinely provided to the injury prevention programs. The usefulness of the reports has not been measured, and injury prevention providers are just beginning to use trauma injury reports for program strategies and decision making. 4. Trauma MIS reports on the status of injury, and injury mechanisms, are routinely available to injury prevention providers and are used routinely to realign injury programs to target the greatest need. 5. A well-integrated trauma an injury reporting system exists. Evidence is available to demonstrate how system providers routinely use MIS data to identify program needs, to develop strategies on program priorities, and to set annual goals for injury prevention.	**2017-18 Assessment Score:** ②

Benchmark 301. The trauma management information system (MIS) is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system including a cost-benefit analysis.

Indicator	Scoring	Status
301.4: The lead agency has available for use the latest in computer/technology advances and analytical tools for monitoring injury prevention and control components of the trauma system. There is reporting on the outcomes of implemented strategies for injury prevention and control programs within the trauma system.	1. No computer/technology or analytical tools are available to the lead agency or other stakeholders to facilitate the monitoring of, or reporting on, the outcome of the implemented strategies for injury prevention and control within the trauma system. 2. There are integrated computer/technology systems, but the development and use of those systems for analytical monitoring and reporting has not yet begun. 3. The lead agency is using the computer/technology systems and analytical tools available to assist in monitoring the injury prevention and control programs of the trauma system. The evaluation of injury prevention and control programs is in its formative stages. 4. The lead agency has integrated the use of new computer/technology systems and analytical tools in the monitoring of injury prevention and control programs within the trauma system. 5. The trauma system participants, under the leadership of the trauma lead agency, have been trained in the use of the computer/technology systems and analytical tools. These tools are used routinely to monitor and report on the outcome of implemented strategies and on the effectiveness of injury prevention and control programs within the trauma system. A process is in place to facilitate the access to data for evaluation and research.	**2017-18 Assessment Score:** ①

Benchmark 304. The jurisdictional lead agency, in cooperation with other agencies and organizations, uses analytical tools to monitor the performance of population-based prevention and trauma care services.

Indicator	Scoring	Status
304.1: The lead agency, along with partner organizations, prepares annual reports on the status of injury prevention and trauma care in State, regional, or local areas.	1. No annual reports are available on the status of injury prevention or trauma care in State, regional, or local areas. 2. Annual reports are prepared but are not based on input from providers and other key stakeholders. 3. Annual reports are written by the lead agency with input from the trauma centers. 4. Annual reports are written by the lead agency in conjunction with the trauma centers and other stakeholders. Multiple sub-reports on the status of trauma care and injury prevention in State, regional, or local areas are distributed throughout the year. 5. There is an integrated annual reporting system that is electronically available to stakeholders. The lead agency, along with partner organizations, prepares and disseminates regular annual reports on the status of injury prevention and trauma care in State, regional, or local areas.	**2017-18 Assessment Score:** ②

Benchmark 306. The lead agency ensures that the trauma system demonstrates prevention and medical outreach activities within its defined service area.

Indicator	Scoring	Status
306.2: The trauma system is active within its jurisdiction with the evaluation of community-based activities and injury prevention and response programs.	1. There is no active participation by the trauma system in the evaluation of community-based activities and injury prevention and response programs. 2. There is some activity by the trauma system in the evaluation of community-based activities and injury prevention and response programs. 3. The trauma system evaluates community-based activities and injury prevention and response programs. 4. The trauma system is an active participant in community activities and in injury prevention and response programs, including the evaluation of program effectiveness. 5. The trauma system has integrated community-based activities and injury prevention and response programs with similar efforts within the community. Outreach efforts are well coordinated and duplication of effort is avoided. Ongoing evaluation is routine, and data are used to make program improvements.	**2017-18 Assessment Score:** ①

Benchmark 306. The lead agency ensures that the trauma system demonstrates prevention and medical outreach activities within its defined service area.

Indicator	Scoring	Status
306.3: The effect or impact of outreach programs (both medical community training/support and prevention activities) is evaluated as part of a system performance improvement process. ***ACS Recommendation*** *Strengthen the Virginia trauma center designation criteria specific to injury prevention requirements.* *Require Level I trauma centers to have a dedicated full or part-time injury prevention position that is not the trauma program manager.*	1. There is no effort by the lead agency to review the efforts of the trauma centers in either medical community training/support or prevention activities. 2. There is no routine evaluation of medical community training/support or prevention activities accruing within the jurisdiction. 3. Trauma centers do internal monitoring and evaluations of their efforts in medical community training/support and prevention activities. 4. The lead agency participates with trauma centers in evaluating their efforts in medical community training/support and prevention activities. The outreach programs are regularly assessed for effectiveness. 5. The lead agency and trauma centers routinely use the data both to implement outreach programs and to communicate trauma system outcomes and performance to the medical community through its annual report. Evaluation processes are institutionalized and used to enhance future outreach programs.	**2017-18 Assessment Score:** ①

Prehospital Care Committee

Benchmarks, Indicators and Scoring

Benchmark 203: The State lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

Indicator	Scoring	Status
203.7 The trauma system plan has established clearly defined methods of integrating the trauma system plan with the EMS, emergency, and public health preparedness plans.	1. There is no mention of integration between the trauma system plan and the EMS, emergency, and public health preparedness plans. 2. There is some cross-reference between plans, but defined methods of working collaboratively are not developed. 3. The written plans are integrated and there are defined methods for working collaboratively; however, implementation or practice within the geographic area has not occurred. 4. The trauma system plan has been integrated with other relevant plans. There is evidence of system integration activity. 5. The trauma system planning and operations have been fully integrated with the EMS, emergency, and public health preparedness plans. Training and exercises are conducted regularly, and the integration of the system and its plans is evident.	**2017-18 Assessment Score:** ①

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.3 There is clear-cut legal authority and responsibility for the EMS system medical director including the authority to adopt protocols, to implement a performance improvement system, to restrict the practice of prehospital care providers, and to generally ensure medical appropriateness of the EMS system.	1. There is no EMS system medical director. 2. There is an EMS system medical director with a written job description; however, the individual has no specific legal authority or time allocated for those tasks. 3. There is an EMS system medical director with a written job description, but with no specific legal authority. The system medical director has adopted protocols, has implemented a performance improvement program, and is generally taking steps to improve the medical appropriateness of the EMS system. 4. There is an EMS system medical director with a written job description and whose specific legal authorities and responsibilities are formally granted by law or by administrative rule. 5. There is an EMS system medical director with a written job description and whose specific legal authorities and responsibilities are formally granted by law or by administrative rule. There is written evidence that the system medical director has, consistent with the formal authority, adopted protocols, implemented a performance improvement program, is restricting the practice of prehospital care providers, and is making significant efforts to improve the medical appropriateness of the EMS system and to fully integrate EMS into the trauma care system.	**2017-18 Assessment Score:** ⑤

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.4 The trauma system medical director is actively involved with the development, implementation, and ongoing evaluation of system dispatch protocols to ensure they are congruent with the trauma system design. These protocols include, but are not limited to, which resources to dispatch, for example, Advanced Life Support (ALS) versus Basic Life Support (BLS), air-ground coordination, early notification of the trauma care facility, pre-arrival instructions, and other procedures necessary to ensure resources dispatched are consistent with the needs of injured patients. Note: The trauma system medical director and the EMS system medical director may be the same person. However, specific responsibility for, and oversight of, the trauma system must be ensured.	1. There are no trauma system dispatch protocols. 2. Trauma system dispatch protocols have been adopted, but without regard to the design of the trauma system. 3. Trauma system dispatch protocols have been adopted and are not in conflict with the trauma system design, but there has been no effort to coordinate the use of protocols with the lead agency or trauma center. 4. Trauma system dispatch protocols have been developed in close coordination with the trauma system medical director and are congruent with the trauma system design. 5. Trauma dispatch protocols have been developed in close coordination with the trauma system medical director and are congruent with the trauma system design. There are established procedures to involve the dispatchers and their supervisors in trauma system performance improvement and a "feedback loop" to change protocols or to update dispatcher education when appropriate.	**2017-18 Assessment Score:** ②

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.7 There is a universal access number for citizens to access the EMS/trauma system, with dispatch of appropriate medical resources. There is a central communication system for the EMS/trauma system to ensure field-to-facility bidirectional communications, inter-facility dialogue, and all-hazards response communications among all system participants. **Note: In some systems with limited resources, for example, rural, the available resources are, at least initially, the "appropriate resources."**	1. There is no universal access number (9-1-1) for easy citizen access to the EMS/trauma system and no coordinated communication system for triage, treatment, and transport of trauma patients for either single or multiple patient encounters. 2. There is a universal access number (9-1-1) for quick citizen access to care. However, there is no coordinated communication system within a jurisdiction to allow for communications to occur among system participants either routinely or during all-hazards events. 3. There are a universal access number (9-1-1) and a central communication system for quick citizen access to care. A communication plan for the trauma system has been completed. 4. The universal access number (9-1-1) and central communication system are integrated and communications regularly occur among dispatch, field providers, hospitals, and other system providers. The communication plan is implemented. Evaluation of the effectiveness of the communication system is done routinely, and corrective action is implemented as needed. 5. A state-of-the-art electronic communication system is available within the jurisdiction. The trauma system communication plan is integrated with other system plans. The system is also available in all-hazards responses and can be used as a quick call system and as a paging network and is linked to public health and other nontraditional partners. Evaluation of the communication system interface with the trauma system occurs routinely.	**2017-18 Assessment Score:** ⑤

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.8 There are sufficient and well-coordinated transportation resources to ensure EMS providers arrive at the scene promptly and expeditiously transport the patient to the correct hospital by the correct transportation mode.	1. There is no coordination of transportation resources within a jurisdiction. Multiple ambulances or aeromedical providers, or both, can all arrive on scene unannounced. 2. There is a priority dispatch system in place that sends transportation resources to the scene. 3. There is a priority dispatch system that ensures appropriate resources arrive on scene promptly and transport patients to the hospital. A plan for transporting trauma patients from the field to the hospital has been completed. 4. There is a priority dispatch and transportation system that ensures appropriate system resources for prompt transport of trauma patients to trauma centers. A trauma transportation plan has been implemented. System issues are evaluated, and corrective plans are implemented as needed. 5. The transportation system has a priority dispatch system; it regularly assesses its ability to get the right resources to the scene and to transport patients by using the correct mode of transportation. The transportation system is part of the overall EMS, trauma, and all-hazards response system.	**2017-18 Assessment Score:** ②

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.1 In cooperation with the prehospital certification and licensure authority, set guidelines for prehospital personnel for initial and ongoing trauma training including trauma-specific courses and those courses that are readily available throughout the State.	1. There are no trauma training guidelines for prehospital personnel as part of initial or ongoing certification or licensure. 2. Trauma training is incorporated into initial prehospital training programs following the National Highway Traffic Safety Administration (NHTSA) curricula. 3. Prehospital personnel are offered trauma training during their initial education, and specialty trauma continuing education courses are available periodically. 4. Prehospital trauma continuing education courses are regularly scheduled throughout the State. 5. Prehospital personnel receive trauma training as part of their initial certification and licensure. Routine continuing education in prehospital trauma care is provided. Such additional certifications as Basic Trauma Life Support (BTLS) and Pre-Hospital Trauma Life Support (PHTLS) are offered regularly throughout the State	**2017-18 Assessment Score:** ⑤

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.2 In cooperation with the prehospital certification and licensure authority, ensure that prehospital personnel who routinely provide care to trauma patients have a current trauma training certificate, for example, PHTLS, BTLS, and others, or that trauma training needs are driven by the performance improvement process.	1. There is no mechanism to ensure that prehospital personnel, for example, Emergency Medical Technicians (EMTs) routinely providing care to trauma patients are certified in PHTLS and BTLS or have completed other trauma training. 2. There is a requirement for EMTs routinely providing care to trauma patients to complete a certification course in trauma; however, no mechanism to ensure compliance has been instituted. 3. There is a requirement for EMTs providing care to trauma patients to complete a prehospital trauma course. Compliance with training requirements is the responsibility of the employing agency as part of the quality assurance process. 4. Requirements for EMT trauma training are provided by the trauma centers, the lead agency, or other educational training institutions. Monitoring compliance with meeting the requirement is beginning. 5. Regular EMT trauma training is conducted through a variety of venues. Other trauma training as identified through the performance improvement process is completed in cooperation with the appropriate authorities (e.g., trauma center, lead agency, and licensing body) to ensure a collectively competent prehospital workforce in issues of trauma care.	**2017-18 Assessment Score:** ①

Benchmark 311: The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system.

Indicator	Scoring	Status
311.1 The lead agency works in conjunction with the prehospital regulatory agency to ensure that prehospital care is provided by licensed agencies that are in compliance with any rules, regulations, or protocols specific to prehospital trauma delivery (e.g., taking patients to the correct facility in accordance with pre-existing destination protocols). Note: In many cases, the lead agency and the prehospital regulatory agency are the same entity.	1. There is no evidence that the lead agency and the prehospital regulatory agency work together to ensure appropriate provider agency licensure and compliance. 2. The lead agency refers complaints concerning issues of prehospital agency performance to the prehospital regulatory agency. 3. The trauma system lead agency and the prehospital regulatory agency work together to resolve complaints involving prehospital agencies that relate to trauma system performance. 4. The trauma system and the prehospital regulatory agency work together to monitor compliance of prehospital provider agencies with any rules, regulations, or protocols specific to prehospital trauma delivery. 5. The prehospital regulatory agency, working cooperatively with the lead agency, is involved in ongoing trauma system performance improvement processes and prehospital compliance with any rules, regulations, or protocols specific to prehospital trauma delivery (e.g., taking patients to the correct facility in accordance with pre-existing destination protocols).	**2017-18 Assessment Score:** ③

Acute Care Committee
Benchmarks, Indicators and Scoring

Benchmark 101: There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.

Indicator	Scoring	Status
101.2 There is a description of injuries within the trauma system jurisdiction including the distribution by geographic area, high-risk populations (pediatric, elder, distinct cultural/ethnic, rural, and others), incidence, prevalence, mechanism, manner, intent, mortality, contributing factors, determinants, morbidity, injury severity (including death), and patient distribution using any or all the following: vital statistics, emergency department (ED) data, EMS data, hospital discharge data, State police data (those from law enforcement agencies), medical examiner data, trauma registry, and other data sources. the description is updated at regular intervals.	1. There is no written description of injuries within the trauma system jurisdiction. 2. One or more population-based data sources (e.g., vital statistics and medical examiner data) describe injury within the jurisdiction, but clinical data sources are not used. 3. One or more population-based data sources and one or more clinical data sources are used to describe injury within the jurisdiction. 4. Multiple population-based and clinical data sources are used to describe injury within the jurisdiction, and the description is systematically updated at regular intervals. 5. Multiple population-based and clinical data sources (e.g., trauma registry, ED data, and others) are electronically linked and used to describe injury within the jurisdiction.	**2017-18 Assessment Score:** ④

Benchmark 101: There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.

Indicator	Scoring	Status
101.3 There is a comparison of injury mortality using local, regional, statewide, and national data.	1. There is no written comparison of injury mortality using local, regional, statewide, and national data. 2. There is a written descriptive comparison of at least the leading cause of injury death using local, regional, and statewide data. 3. There is a written descriptive, graphic, and tabular comparison of the leading cause of injury death using local, regional, statewide, and national data. 4. There is a written descriptive, graphic, and tabular comparison of the top three leading causes of injury death using local, regional, statewide, and national data. 5. There is a written descriptive, graphic, and tabular comparison of the top ten leading causes of injury death using local, regional, statewide, and national data.	**2017-18 Assessment Score:** ①

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.9 There is a procedure for communications among medical facilities when arranging for interfacility transfers including contingencies for radio or telephone system failure.	1. There are no specific communication plans or procedures to ensure communications among medical facilities when arranging for interfacility patient transfers. 2. Interfacility communication procedures are generally included in the patient transfer protocols for each medical facility, but there is no system-wide procedure. 3. There are uniform, system-wide procedures to facilitate communications among medical facilities when arranging for interfacility patient transfers, but there are no redundant procedures in the event of power or other communication system failures. 4. There are uniform, system-wide procedures for communications among facilities when arranging for interfacility patient transfers, and there are redundant procedures in the event of power or other communication system failures. 5. There are uniform, system-wide procedures for communications among facilities when arranging for interfacility patient transfers. There are redundant procedures in the event of power or other communication system failures. The effectiveness of these procedures is regularly reviewed and changes made, if necessary, during the performance improvement process.	**2017-18 Assessment Score:** ①

Benchmark 303: Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients.

Indicator	Scoring	Status
303.2 The trauma system lead agency should ensure that the number, levels, and distribution of trauma centers required to meet system demand are available.	1. There is no trauma system plan to identify the number, levels, and distribution of trauma centers required to meet system demand. 2. There is a trauma system plan, but it does not identify the number, levels, or distribution of trauma centers needed for the jurisdiction served. 3. There is a trauma system plan that identifies the number, levels, and distribution of trauma centers needed for the jurisdiction. The plan, however, is not based on available data. 4. There is a trauma system plan that identifies the number and levels of trauma centers needed based on actual available data. However, this plan is not used to make decisions about trauma facility designations. 5. There is a trauma system plan that identifies the number and levels of trauma centers based on needs identified through the needs assessment process. The plan is used to make decisions about trauma center designations and should account for facility resources and their geographic distribution, population densities, injured patient volumes, and transportation resource capabilities and times. The plan is reviewed and revised periodically.	**2017-18 Assessment Score:** ②

Benchmark 303: Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients.

Indicator	Scoring	Status
303.4 When injured patients arrive at a medical facility that cannot provide the appropriate level of definitive care, there is an organized and regularly monitored system to ensure the patients are expeditiously transferred to the appropriate, system-defined trauma facility.	1. There is no system to regularly review the conformity of interfacility transfers within the trauma system according to pre-established procedures. 2. There is a fragmented system, usually event based, to monitor the interfacility transfer of trauma patients. 3. The system for monitoring interfacility transfers is new, the procedures are in place, but training has yet to occur. 4. There is an organized system of monitoring interfacility transfers within the trauma system. 5. The monitoring of interfacility transfers of trauma patients has been integrated into the overall program of system performance improvement. As the system identifies issues for correction, a plan of action is implemented.	2017-18 Assessment Score: ①

Benchmark 307: To maintain its State, regional, or local designation, each hospital will continually work to improve the trauma care as measured by patient outcomes.

Indicator	Scoring	Status
307.1 The trauma system engages in regular evaluation of all licensed acute care facilities that provide trauma care to trauma patients and designated trauma hospitals. Such evaluation involves independent external reviews.	1. There is no ongoing mechanism for the trauma system to assess or evaluate the quality of trauma care delivered by all licensed acute care facilities that provide trauma care to trauma patients and designated trauma hospitals. 2. There is a mechanism for the trauma system to evaluate trauma care services in designated trauma hospitals through internal performance improvement processes. 3. There is a mechanism to evaluate trauma care services across the entire trauma care system through performance improvement processes. 4. Review of trauma care quality is both internal (through routine monitoring and evaluation) and external (through independent review during redesignation or reverification of trauma centers). 5. Quality of trauma care is ensured through both internal and external methods. Internal review is regular, and participation is routine for trauma stakeholders. External independent review teams provide further assurance of quality trauma care within all licensed acute care and trauma facilities treating trauma patients.	**2017-18 Assessment Score:** ②

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.3 As part of the established standards, set appropriate levels of trauma training for nursing personnel who routinely care for trauma patients in acute care facilities.	1. There are no trauma training standards for nursing personnel who routinely care for trauma patients in acute care facilities, for example, Advanced Trauma Care for Nurses (ATCN), Trauma Nursing Core Course (TNCC), Advanced Trauma Life Support (ATLS), or any national or State-recognized trauma nurse verification course. 2. There are trauma training standards for nursing personnel but no requirement for them to attend courses or to achieve certifications. 3. There are trauma training standards for nursing personnel written into the trauma plan. 4. There are trauma training standards (and associated rules/regulations) for nursing personnel written into the trauma plan, and nurses who care for trauma patients attend trauma training courses. 5. Nursing personnel working in acute care facilities that see trauma patients receive initial and ongoing trauma training, including updates in trauma care, continuing education, and trauma nurse certifications, as appropriate. Outcome data are monitored for performance improvement and subsequent training opportunities.	**2017-18 Assessment Score:** ①

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.4 Ensure that appropriate, approved trauma training courses are provided for nursing personnel on a regular basis.	1. There is no mechanism to provide appropriate, approved trauma training courses for nursing personnel throughout the jurisdiction. 2. There is a process to provide appropriate, approved trauma training courses for nursing personnel, but courses are sporadic and uncoordinated with needs. 3. There are appropriate, approved trauma training courses for nursing personnel throughout the jurisdiction. 4. Appropriate trauma training courses for nursing personnel have been approved and are provided regularly. There are initial trauma courses and opportunities for special courses as needed. 5. Appropriate trauma training courses for nursing personnel have been approved and are provided regularly throughout the jurisdiction and within the trauma centers. Courses are open to nurses from any facility that treats trauma patients and are matched to needs identified in the performance improvement process.	**2017-18 Assessment Score:** ①

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.5 In cooperation with the nursing licensure authority, ensure that all nursing personnel who routinely provide care to trauma patients have a current trauma training certificate (e.g., ATCN, TNCC, or any national or State trauma nurse verification course). As an alternative after initial trauma course completion, training can be driven by the performance improvement process.	1. There is no mechanism to ensure that nurses providing care to trauma patients are certified in an ATCN, TNCC, or any national or State trauma nurse verification course. 2. There is a requirement for nurse verification in trauma; however, no mechanism to ensure compliance has been instituted. 3. There is a requirement for nurse verification in trauma for nursing personnel who routinely provide care to trauma patients. Compliance with training requirements is the responsibility of the trauma center as part of the quality assurance process. 4. Requirements for nurse verification in trauma are provided by the trauma centers and the lead agency. Monitoring compliance with meeting the requirement is beginning. 5. Courses for nurse verification in trauma are conducted. Other trauma training as identified through the performance improvement process is completed in cooperation with the appropriate authorities (e.g., trauma center, lead agency, or licensing body). Compliance is documented and forwarded to the appropriate oversight body to ensure a collectively competent nursing workforce in issues of trauma care.	**2017-18 Assessment Score:** ③

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.6 As part of the established standards, set appropriate levels of trauma training for physicians who routinely care for trauma patients in acute care facilities.	1. There are no trauma training standards for physicians who routinely care for trauma patients in acute care facilities. 2. There are physician trauma training standards but no mechanism to ensure course attendance or successful completion. 3. There are physician trauma training standards written into the trauma plan. 4. There are physician trauma training standards written into the trauma plan, and physicians who care for trauma patients participate in trauma training. 5. Physicians working in acute care facilities that see trauma patients receive initial and ongoing trauma training, including updates in trauma care, continuing education, and certifications, as appropriate.	**2017-18 Assessment Score:** ①

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.7 Ensure that appropriate, approved trauma training courses are provided for physicians on a regular basis.	1. There is no mechanism to approve or provide appropriate trauma training courses for physicians throughout the jurisdiction. 2. There is a process to provide appropriate, approved trauma training courses for physicians, but courses are sporadic and uncoordinated with needs. 3. There are appropriate, approved trauma training courses provided regularly for physicians. 4. Trauma courses appropriate for physicians have been approved and are provided regularly. There are initial trauma courses and opportunities for special courses as needed. 5. Trauma courses for physicians are provided regularly throughout the jurisdiction and within the trauma centers. Courses are open to physicians from any facility that treats trauma patients and are matched to needs identified in the performance improvement process.	2017-18 Assessment Score: ②

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.8 In cooperation with the physician licensure authority, ensure that physicians who routinely provide care to trauma patients have a current trauma training certificate of completion, for example, Advanced Trauma Life Support (ATLS) and others. Alternatively, physicians may maintain trauma competence through continuing medical education programs after initial ATLS completion.	1. There is no mechanism to ensure that physicians who routinely provide care to trauma patients are certified in ATLS. 2. There is a requirement for ATLS for physicians who provide trauma care; however, no mechanism to ensure compliance has been instituted. 3. There is a requirement for ATLS for physicians who provide trauma care. Compliance with trauma course completion is the responsibility of the trauma center as part of the quality assurance process. 4. Requirements for ATLS and other trauma training for physicians are provided by the trauma centers and the lead agency. Monitoring compliance with meeting the requirements is beginning. 5. Regular ATLS, and other trauma training as identified through the performance improvement process, is completed in cooperation with the appropriate authorities (e.g., trauma center, lead agency, or licensing body) to ensure a collectively competent physician workforce in issues of trauma care.	**2017-18 Assessment Score:** ①

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.9 Conduct at least one multidisciplinary trauma conference annually that encourages system and team approaches to trauma care.	1. There are no multidisciplinary trauma conferences conducted within geographic boundaries of the trauma system. 2. There are sporadic multidisciplinary trauma conferences conducted. 3. Multidisciplinary trauma conferences are conducted occasionally, and attendance by trauma practitioners is monitored and reviewed. 4. Multidisciplinary trauma conferences are conducted at least annually. 5. Multidisciplinary (EMS, physicians, nurses, physiatrists, policy makers, consumers, and others) trauma conferences are conducted regularly; new findings from quality assurance and performance improvement processes are shared; and the conferences are open to all practitioners within the system. Regular attendance is required.	**2017-18 Assessment Score:** ②

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.10 As new protocols and treatment approaches are instituted within the system, structured mechanisms are in place to inform all personnel in those changes in a timely manner.	1. There is no structured mechanism to inform or educate personnel in new protocols or treatment approaches within the jurisdiction. 2. A structured mechanism is in place to inform or educate personnel in new protocols or treatment approaches, but it has not been tried or tested. 3. A structured mechanism is in place to inform personnel in new protocols or treatment approaches as changes in the system are identified. 4. A structured mechanism is in place to educate personnel in new protocols and treatment approaches. 5. A structured mechanism exists to educate personnel in new protocols and treatment approaches in a timely manner, and there is a method to monitor compliance with new procedures as they are instituted.	**2017-18 Assessment Score:** ①

Benchmark 310: The lead trauma authority ensures a competent workforce.

Indicator	Scoring	Status
310.12 There are mechanisms in place within agency and institutional performance improvement processes to identify and correct deficiencies in trauma care practice patterns of individual practitioners (e.g., EMTs, paramedics, nurses, physicians, and others) within the trauma system.	1. There is no mechanism in place to routinely assess the deficiencies in trauma care practice patterns of individual practitioners (e.g., EMTs, paramedics, nurses, physicians, and others) within the trauma system. 2. The trauma system has begun a process to evaluate deficiencies in trauma care practice patterns of individual practitioners. 3. A mechanism is in place to monitor and report on deficiencies in practice patterns of individual practitioners within the trauma system. The process is evolving as part of the quality assurance and performance improvement processes. 4. There is a well-defined process to assess care provided by practitioners within the trauma system. The quality assurance and performance improvement processes identify deficiencies, and corrective action plans are instituted. 5. Practice patterns of individual practitioners performing outside the standards of care are routinely assessed by the trauma centers and the local, regional, or State lead agency. Corrective actions (training, additional education, and disciplinary), as appropriate, are instituted, and trends are monitored and reported to the lead agency or other licensing agency.	**2017-18 Assessment Score:** ②

Post-Acute Care Committee
Benchmarks, Indicators and Scoring

Benchmark 308: The lead agency ensures that adequate rehabilitation facilities have been integrated into the trauma system and that these resources are made available to all populations requiring them.

Indicator	Scoring	Status
308.1 The lead agency has incorporated, within the trauma system plan and the trauma center standards, requirements for rehabilitation services including interfacility transfer of trauma patients to rehabilitation centers.	1. There are no written standards or plans for the integration of rehabilitation services with the trauma system or with trauma centers. 2. The trauma system plan has incorporated the use of rehabilitation services, but the use of those facilities for trauma patients has not been fully realized. 3. The trauma system plan has incorporated requirements for rehabilitation services. The trauma centers routinely use the rehabilitation expertise although written agreements do not exist. 4. The trauma system plan incorporates rehabilitation services throughout the continuum of care. Trauma centers have actively included rehabilitation services and their programs in trauma patient care plans. 5. There is evidence to show a well-integrated program of rehabilitation is available for all trauma patients. Rehabilitation programs are included in the trauma system plan, and the trauma centers work closely with rehabilitation centers and services to ensure quality outcomes for trauma patients.	**2017-18 Assessment Score:** ①

Benchmark 308: The lead agency ensures that adequate rehabilitation facilities have been integrated into the trauma system and that these resources are made available to all populations requiring them.

Indicator	Scoring	Status
308.2 Rehabilitation centers and out-patient rehabilitation services provide data on trauma patients to the central trauma system registry that include final disposition, functional outcome, and rehabilitation costs and also participate in performance improvement processes.	1. There is no requirement for the rehabilitation centers or outpatient rehabilitation services to contribute data on trauma patient outcomes. 2. Rehabilitation centers and out-patient rehabilitation services are integrated into the trauma plan, but there is no requirement for them to submit data on trauma patients to the central trauma system registry. 3. Rehabilitation centers and out-patient rehabilitation services are integrated into the trauma plan, and rehabilitation care is begun early in the patient's treatment plan within the acute care hospital. Data submission to the central trauma system registry is yet to be realized. 4. Some trauma centers and rehabilitation facilities and outpatient rehabilitation services have close links, and integration of services is routine. Data sharing between individual trauma centers and rehabilitation centers and services is accomplished, and some integration with the central trauma system registry is ongoing. Rehabilitation personnel participate in trauma system performance improvement processes. 5. The trauma plan integrates rehabilitation centers and outpatient rehabilitation services. Trauma centers integrate rehabilitation care early in the patient's treatment plan. Rehabilitation data, including final disposition, functional outcome, and rehabilitation costs, are collected. These data are routinely submitted to trauma centers and to the central trauma system registry for inclusion in system evaluation reports. Rehabilitation personnel are fully integrated into trauma system performance improvement processes.	**2017-18 Assessment Score:** ①

Emergency Preparedness and Response Committee
Benchmarks, Indicators and Scoring

Benchmark 104: An assessment of the trauma system's emergency preparedness has been completed including coordination with the public health, EMS system, and the emergency management agency.

Indicator	Scoring	Status
104.1 There is a resource assessment of the trauma system's ability to expand its capacity to respond to mass casualty incidents (MCIs) in an all-hazards approach.	1. There is no resource assessment of the trauma system's ability to expand its capacity to respond to mass casualty incidents for in an all-hazards approach. 2. An assessment of the ability of some components of the trauma care system to respond to a mass casualty incident has been included in all-hazards planning. 3. An assessment of the ability of all components of the trauma system to respond to a mass casualty incident has been conducted on a jurisdiction-wide basis. 4. A written inventory of system-wide MCI capacity has been completed and includes: medical reserve personnel, facility surge capacity, additional equipment resources and caches, communication interoperability, overall management structure such as NIMS (National Incident Management System), and SEMS (Standardized Emergency Management System). 5. The written inventory of trauma system-wide MCI capacity has been shared with, and incorporated into, broader community-wide and statewide planning efforts for all-hazards responses.	**2017-18 Assessment Score:** ④

Benchmark 104: An assessment of the trauma system's emergency preparedness has been completed including coordination with the public health, EMS system, and the emergency management agency.

Indicator	Scoring	Status
104.2 There has been a consultation by external experts to assist in identifying current status and needs of the trauma system to be able to respond to mass casualty incidents.	1. No external examination of the trauma system's performance or ability to respond within the all-hazards response system has occurred at the State, regional, or local level. 2. Individual trauma centers have undergone outside consultation during tabletop and simulated incident drills. 3. In addition to the involvement of at least some individual trauma centers, at least one other component of the trauma system has been analyzed by external reviewers, for example, prehospital, communications, information systems, and others. 4. Preparations are under way for a formal system-wide review of the trauma system response to a mass casualty incident (to occur within the next 6 months). 5. An outside group of all-hazards response "experts" has conducted a formal external assessment and has made specific recommendations to the system.	**2017-18 Assessment Score:** ④

Benchmark 104: An assessment of the trauma system's emergency preparedness has been completed including coordination with the public health, EMS system, and the emergency management agency.

Indicator	Scoring	Status
104.3 The trauma system has completed a gap analysis based on the resource assessment for trauma emergency preparedness.	1. There are no resource standards on which to base a gap analysis. 2. The statewide trauma advisory committee, in conjunction with appropriate incident management personnel, has begun to develop statewide MCI response resource standards. 3. State resource standards for trauma system response during a mass casualty incident have been developed and approved. 4. Some components (e.g., prehospital) of the trauma system, or facilities within it, have completed a gap analysis based on the adopted standards. 5. A system-wide trauma system MCI resource gap analysis has been completed for the jurisdiction based on the system resource standards adopted.	**2017-18 Assessment Score:** ①

Benchmark 203: The State lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

Indicator	Scoring	Status
203.6 The trauma system plan has established clearly defined methods of integrating with emergency preparedness plans (all hazards).	1. There is no trauma system plan and no integration between trauma and emergency preparedness. 2. There is an established trauma system plan; but it is silent on emergency integration, and no evidence is present to demonstrate integrated incident management and trauma systems. 3. The trauma system plan addresses the interaction of the lead agency of the trauma system and emergency preparedness service system. Close coordination and clearly defined goals and objectives are in process. 4. The trauma system plan addresses coordination between the lead agency of the trauma system and the lead agency for emergency preparedness. Plans are integrated, and working collaboration exists and is demonstrated. Routine working drills and training exercises are incorporated into operational plans. 5. The trauma system plan addresses the lead agency coordination between EMS and emergency preparedness. Plans are well integrated, and routine simulated incident drills that are conducted use an all-hazards approach. Results from drills and live responses are used to further improve the plans and processes.	**2017-18 Assessment Score:** ①

Benchmark 204: Sufficient resources, including those both financial and infrastructure related, support system planning, implementation, and maintenance.

Indicator	Scoring	Status
204.5 The trauma system plan includes identification of additional resources (both manpower and equipment) necessary to respond to mass casualty incidents.	1. The trauma system plan does not include the identification of additional resources necessary to respond to mass casualty incidents. 2. The trauma system plan addresses mass casualty incidents but has not identified additional resources. 3. The trauma system plan identifies resources, but it is unclear how the needs are going to be met. 4. The trauma system plan identifies both equipment and manpower resources available currently and additional resources needed; it also defines a process for securing and ensuring that equipment and human resources are available. 5. There is a well-drafted and rehearsed trauma system plan, along with sufficient caches of equipment and backup personnel, that ensures the rapid deployment of additional resources during mass casualty incidents.	**2017-18 Assessment Score:** ①

Benchmark 208: The trauma, public health, and emergency preparedness systems are closely linked.

Indicator	Scoring	Status
208.2 The incident management and trauma systems have formal established linkages for system integration and operational management.	1. There are no formal established linkages for system integration or operational management between the incident management and trauma systems. 2. There are limited linkages or interfaces between the incident management and trauma systems specific to mass casualties. 3. Plans are in place for both incident management and trauma system linkage. Integration is beginning, and cooperation within the multidisciplinary groups is occurring. Draft policies are being reviewed, and operational management strategies are being aligned. 4. There is evidence of program linkages between the incident management and trauma systems. Operational management guidelines exist and are routinely evaluated and tested. 5. Strong program linkages and interfaces are present. The incident management and trauma systems are well integrated, and operational procedures have been implemented, tested, and evaluated. System participants meet regularly and are familiar with the operational plans of both areas. Data from the trauma system and from the incident management system are shared.	**2017-18 Assessment Score:** ⑤

Benchmark 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.

Indicator	Scoring	Status
302.10 There are established procedures for EMS and trauma system communications in an all-hazards or major EMS incident that are effectively coordinated with the overall all-hazards response plan for the jurisdiction.	1. There are no written procedures for EMS and trauma system communications in the event of an all-hazards incident. 2. Local EMS systems have written procedures for EMS communications in the event of an all-hazards or major EMS incident. However, there is no coordination among the local jurisdictions. 3. There are statewide or regional EMS communication procedures in the event of an all-hazards or major EMS incident. These plans do not involve other jurisdictions and are not coordinated with the overall all-hazards response plan and incident management system. 4. There are statewide or regional EMS communication procedures in the event of an all-hazards or major EMS incident that are coordinated with other jurisdictions, with the overall all-hazards response plan, and with the incident management system. 5. There are statewide or regional EMS communication procedures in the event of an all-hazards or major EMS incident that are coordinated with other jurisdictions, with the overall all-hazards response plan, and with the incident management system. There are one or more communication system redundancies. These procedures are regularly tested in simulated incident drills, and changes are made in the procedures, when necessary, based on the results of these drills.	**2017-18 Assessment Score:** ④

Benchmark 305: The lead agency ensures that its trauma system plan is integrated with, and complementary to, the comprehensive mass casualty plan for both natural and man-made incidents, including an all-hazards approach to planning and operations.

Indicator	Scoring	Status
305.1 The EMS, the trauma system, and the all-hazards medical response system have operational trauma and all-hazards response plans and have established an ongoing cooperative working relationship to ensure trauma system readiness to all-hazards events	1. There is no system for integration between the EMS, the trauma system, and the all-hazards response system. 2. There have been some discussions between the EMS, the trauma system, and the all-hazards medical response system, but no formal plans have been developed. 3. Formal plans for the EMS, the trauma system, and the all-hazards medical response systems integration are in development and have started the approval process. Working relationships have formed and cooperation is evident. 4. There are plans in place to ensure that the EMS, the trauma system, and the all-hazards medical response system are integrated and operational. All-hazards exercises and simulated incident drills have the cooperation and participation of the trauma system. 5. The EMS, the trauma system, and all-hazards response plans are integrated and operational. Routine working relationships are present with cooperation and sharing of information to improve trauma system readiness for all-hazards responses.	**2017-18 Assessment Score:** ④

Benchmark 305: The lead agency ensures that its trauma system plan is integrated with, and complementary to, the comprehensive mass casualty plan for both natural and man-made incidents, including an all-hazards approach to planning and operations.

Indicator	Scoring	Status
305.2 All-hazards events routinely include situations involving natural (e.g., earthquake), unintentional (e.g., school bus crash), and intentional (e.g., terrorist explosion) trauma-producing events that test expanded response capabilities and surge capacity of the trauma systems.	1. All-hazards training is not a routine part of the trauma system. 2. Training in response to all hazards is solely the responsibility of the EMS and of emergency management agencies. Trauma response has not been integrated into the system. 3. All-hazards exercises are conducted routinely and include both trauma and EMS response capabilities. 4. The trauma, EMS, and public health stakeholders have begun exercises in an all-hazards approach to mass casualty incidents. 5. Exercises and training in all-hazards responses including testing of facility/clinic surge capacity are regularly conducted with trauma, EMS, and public health stakeholders. Debriefing sessions occur after each drill or event.	**2017-18 Assessment Score:** ④

Benchmark 305: The lead agency ensures that its trauma system plan is integrated with, and complementary to, the comprehensive mass casualty plan for both natural and man-made incidents, including an all-hazards approach to planning and operations.

Indicator	Scoring	Status
305.3 The trauma system, through the lead agency, has access to additional equipment, materials, and personnel for large-scale traumatic events. **Note: The lead agency will work with other appropriate national, State, regional, and local agencies to secure these additional resources.**	1. There is no surge capacity (prehospital, hospital, clinic, or coroner) built into the system for either smaller multipatient events or mass casualty incidents. 2. The trauma system has begun to identify additional equipment, materials, and personnel needed to respond to all-hazards events in light of new threats and emergencies. 3. The lead agency, working with the trauma stakeholders, has in place additional equipment and materials for mass casualty incidents. A process to utilize additional personnel resources is in development. Testing of newly acquired equipment, material, and personnel resources has not yet been completed. 4. The lead agency, in conjunction with the trauma stakeholders, has begun to test a method of deploying additional equipment, materials, and personnel during all-hazards events. 5. The lead agency has acquired additional equipment and materials for both the prehospital and hospital response to all-hazards events. Deployment issues have been resolved. A mechanism to share personnel resources has been developed and tested in both the prehospital and hospital setting (e.g., mutual aid, precredentialing of practitioners, and rapid assignment of privileges). The system routinely tests its capabilities in this area.	**2017-18 Assessment Score:** ④

Appendix A – EMS Advisory Board members, 2016-2018

Michel B. Aboutanos, MD, MPH, FACS
The Honorable Sherrin Cherrell Alsop
Byron F. Andrews, III
Samuel T. Bartle, MD
Dreama Chandler
Gary P. Critzer - Chair
Valeta C. Daniels
Richard H. Decker, III
Lisa M. Dodd, DO
Stephen J. Elliott
Jason D. Ferguson
R. Jason Ferguson
William B. Ferguson
Joan F. Foster
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Jonathan D. Henschel
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Sudha Jayaraman, MD, MSc
Jason R. Jenkins
Lori L. Knowles
John Korman
Cheryl Lawson, MD, FACEP
Julia Marsden
Marilyn K. McLeod, MD
Genemarie McGee - Vice-Chair
Corina Nuckols
Christopher L. Parker, BSN, RN, CEN CPEN, NRP, CCEMTP
Ronald Passmore, NRP
Anita Perry
Jethro H. Piland
Valerie Quick
Jose V. Salazar, MPH, NREMT-P
Matthew Tatum
Charlotte Tyson
Daniel C. Wildman

Appendix B – Trauma System Management and Oversight Committee members, 2016-2018

Dr. Michel Aboutanos - Chair
Emory Altizer, RN
Sid Bingley
Dr. Forest Calland
Dr. Michael Feldman
Dr. Maggie Griffen
Dr. Scott Hickey
Melissa Hall
Anne Mills Hunt
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Dr. Shawn Safford
Dr. Keith Stephenson
Ms. Susan Watkins
Lisa Wells, RN
Andi Wright, RN

Appendix C – Trauma System Plan Contributors

The following individuals contributed to the creation of the Commonwealth of Virginia Trauma System Plan. Their knowledge, time, effort and their vision are what made this plan possible.

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[A] Administrative Workgroup member
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[C] Data/Education/Research/Syst. Eval. Workgroup member
[D] Post-Acute Rehabilitative Workgroup member
[E] Pre-Hospital Care Workgroup member
[F] Acute Definitive Care Workgroup member
[G] Disaster Preparedness Workgroup member
♠ Office of EMS, VA Dept. of Health

Appendix D – Trauma System Plan Task Force and Task Force Workgroup Meetings

Task Force meetings

February 11, 2016
Courtyard by Marriott, 10077 Brook Rd., Glen Allen, VA 23059

March 3, 2016
The Perimeter Center, 9960 Mayland Dr., Henrico, VA 23233

June 2, 2016
Hampton Inn & Suites, 700 E. Main St., Richmond, VA 23219

September 1, 2016
Hampton Inn & Suites, 700 E. Main St., Richmond, VA 23219

December 1, 2016
Hampton Inn & Suites, 700 E. Main St., Richmond, VA 23219

March 2, 2017
Virginia Public Safety Training Center, 7093 Broad Neck Rd., Hanover, VA 23069

June 1, 2017
Virginia Public Safety Training Center, 7093 Broad Neck Rd., Hanover, VA 23069

September 7, 2017
Virginia Public Safety Training Center, 7093 Broad Neck Rd., Hanover, VA 23069

December 7, 2017
Hampton Inn & Suites, 700 E. Main St., Richmond, VA 23219

March 1, 2018
The Perimeter Center, 9960 Mayland Dr., Henrico, VA 23233

Workgroup meetings

The Task Force Workgroups held a total of 99 meetings between March 2016 and March 2018:

Administrative: 12 meetings
Injury Prevention: 15 meetings
Data/Education/Research/System Evaluation: 11 meetings
Post-Acute Rehabilitative: 18 meetings
Pre-Hospital Care: 19 meetings
Acute Definitive Care: 14 meetings
Disaster Preparedness: 10 meetings

Appendix E – American College of Surgeons Trauma System Consultation, September 1-4, 2015
Participant List

Consultation Team Members

Robert J. Winchell, MD, FACS, Surgeon, New York, NY – **Team Leader**
Alasdair K. T. Conn, MD, FACS, Surgeon, Boston, MA
Heidi A. Hotz, RN, Trauma Program Manager, Los Angeles, CA
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Trauma System Consultation Participants

Name		Title	Organization
Lindley	Aberbathy	Trauma Program Manager	Johnston-Willis Hospital
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Sheldon	Barr	VP of Emergency & Cardiovascular Services	HCO Corporate
Samuel	Bartle	Advisory Board Member/ EMS for Children Chair/ Pediatric EM Physician	VCU Health Systems
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Heather	Board	Office of Fam Health Srvs, Inj Viol Prev Program Admin Manager III	Virginia Department of Health
Thomas	Boro	General Surgeon	Danville Regional Medical Center
Beth	Broering	Trauma Program Manager	VCU Health Systems
Gary	Brown	Gen Admin Manager/ State EMS Director	Virginia Office of EMS
Vicki	Burton	Trauma Registrar	Mary Washington Hospital
Kathy	Butler	Trauma Program Manager	University of VA Medical Center
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Bryan	Collier	Trauma Medical Director/ Director of Surgical Nutrition	Carilion Roanoke Memorial Hospital
Jay	Collins	Trauma Surgeon	Sentara Norfolk General Hospital
Sonia	Cooper	Trauma Coordinator	Sentara VA Beach General Hospital
Gary	Critzer	Regional EMS Director/ EMS Advisory Board Chair	Waynesboro Dept of Emergency Management
John	DaVanzo	Rehabilitation Director	Bon Secours Maryview Medical Center
Mark	Day	Trauma Program Manager	Sentara VA Beach General Hospital
Richard	Decker	Member of ODEMSA Board of Directors	Old Dominion EMS Alliance

Todd	Dickerson	Emergency Department Director	Augusta Health
John	Duval	CEO	VCU Health Systems
David	Edwards	EMS for Children Program Manager/ Pediatric Emergency Care Coordinator	Virginia Office of EMS
Michael	Elliot	Trauma Center Administrator	Centra Health Lynchburg General Hospital
Michael	Feldman	Assistant Professor/ Burn Medical Director	VCU Health Systems
Jason	Fowlkes	Trauma Medical Director	Lewis Gale Hospital Montgomery
Carol	Gilbert	General Surgeon	Carilion Roanoke Memorial Hospital
Aaron	Glenn	Director of Nursing	Carilion Stonewall Jackson Hospital
Margaret	Griffen	Trauma Acute Care Surgeon	Inova Fairfax Hospital
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Marian	Hunter	Public Information Officer	Virginia Department of Health
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Amanda	Lavin	Asst Attorney General, Health Services Section	Office of the Attorney General
George	Lindbeck	State EMS & Trauma Systems Medical Director	Virginia Office of EMS
Raymond	Makhoul	Trauma Medical Director	Chippenham Medical Center
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Genemarie	McGee	CNO	Sentara Norfolk General Hospital
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Charles	Miller	Neuro Surgery	Chippenham Medical Center
Corri	Miller-Hobbs	Safe Kids Virginia Program Coordinator	Children's Hospital of Richmond at VCU

Anne	Mills	Director of Emergency Department	Danville Regional Medical Center
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Sherry	Mosteller	Trauma Program Manager	Carilion New River Valley Medical Center
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Melinda	Myers	Trauma Division Director	Inova Fairfax Hospital
Timothy J.	Novosel	Assistant Professor / General Surgery/ Trauma	Sentara Norfolk General Hospital
Martin	O'Grady	General And Vascular Surgeon	Sentara VA Beach General Hospital
Kelly	Parker	Hospital Preparedness Intern / Disaster	Virginia Department of Health
Christopher	Parker	RN / Paramedic	Lynchburg General Hospital/ Centra One
Robin	Pearce	Trauma Critical Care Coordinator	Virginia Office of EMS
Debra	Perina	ED Physician	University of Virginia Health System
Anita	Perry	Director of Flight Services	Wellmont One
Peter	Ploch	Trauma Medical Director, General Surgery	Lynchburg General Hospital/ Centra Health
Melissa	Porrey	Trauma Survivors Network Coordinator	Inova Fairfax Hospital
Dynette	Rombough	Corporate Vice President and President of Sentara	Sentara Northern Virginia Medical Center
John	Potter	Medical Director, Emergency Department	Winchester Medical Center
Faiqa	Qureshi	Division Director, Pediatric Emergency Medicine	Children's Hospital of the King's Daughters
Bob	Ramsey	Executive Director	Virginia College of Emergency Physicians
Robert	Rasmussen	Program Admin Manager III/ Traffic Engineering	Virginia Department of Transportation
Morris	Reece	Disaster Coordinator / Technical Advisor	Virginia Hospital and Healthcare Association/ WVEMS Regional Council
Karen	Rice	Admin & Office Specialist III	Virginia Office of EMS
Kelly	Rumsey	Nurse Clinician/ Program Manager	Children's Hospital of Richmond at VCU
Shawn	Safford	Section Chief, Pediatric Surgery	Carilion Clinic Children's Hospital
Gary	Scott	Vice President	Carilion Roanoke Memorial Hospital
Paul	Sharpe	Trauma/ Critical Care Manager	Virginia Office of EMS
Macon	Sizemore	Director of Rehabilitation Services	VCU Health Systems
Kelly	Southard	Chief/ REMS Board of Director President	Orange County Volunteer Rescue Squad
Greg	Stanford	Trauma Medical Director/ General Surgery	Winchester Medical Center
Keith	Stephenson	Trauma Medical Director/ General Surgery	Carilion New River Valley Medical Center

Adam	Stevens	Co-director for Trauma Services	Lynchburg General Hospital/ Centra Health
Eric	Stone	Associate Administrator/ VP of Clinical Operations	Riverside Regional Medical Center
Marcus	Stone	Director of Emergency Services and Business Health Services	Memorial Hospital of Martinsville
Wanda	Street	Administrative & Office Specialist II	Virginia Office of EMS
Lynn	Taylor	Curriculum Development Instructor	United Network for Organ Sharing
Dallas	Taylor	Director of Trauma Services	Lewis Gale Medical Center Salem
Robert	Teaster	Administrator for Transplant Services	University of Virginia Medical Center
Sadie	Thurman	System Director of Emergency Services	Riverside Regional Medical Center
David	Trump	Chief Deputy Commissioner for Public Health and Preparedness	Virginia Department of Health
Amanda	Turner	Trauma Coordinator	Lynchburg General Hospital/ Centra Health
Linda	Watkins	Injury Prevention Coordinator	Inova Fairfax Hospital
Leonard	Weireter	Professor of Surgery	Eastern Virginia Medical School
Lisa	Wells	Trauma Program Manager	Winchester Medical Center
Scott	Winston	Program Admin Manager III	Virginia Office of EMS
Greg	Woods	Executive Director	Southwest EMS Regional Council
Andrea	Wright	Director, Trauma Services	Carilion Roanoke Memorial Hospital
Jeffery	Young	Director, Trauma Center/ Professor of Surgery/ Chief Patient Safety Officer	University of Virginia Medical Center
Anne	Zehner	Program Admin Specialist II	Virginia Department of Health/ Office of Family Health Services

Appendix F – Commonwealth of Virginia Trauma System (COVATS) Plan Versions and Approvals

Version	Date
1.0	September 1, 2017
1.1	October 20, 2017
1.2	October 26, 2017
2.1	November 1, 2017
2.2	November 15, 2017
2.3	December 1, 2017
3.0	December 8, 2017
4.0	February 6, 2018
4.1	February 22, 2018
5.0	March 1, 2018
5.1	March 8, 2018
5.2	April 3, 2018
5.3	April 24, 2018
5.4	April 27, 2018
5.5	May 7, 2018 – Final Draft for approval
5.5.1	June 7, 2018 – Approved by Trauma System Task Force with minor modification
5.5.1	June 7, 2018 – Approved by Trauma System Oversight and Management Committee
5.5.1	August 3, 2018 – Approved by Emergency Medical Services Advisory Board