

STATE OF NEW HAMPSHIRE

TRAUMA SYSTEM PLAN 2019

New Hampshire Department of Safety

Division of Fire Standards and Training & Emergency Medical Services

Trauma Medical Review Committee

New Hampshire Trauma System Plan **2019**

The Development of the New Hampshire Trauma System Plan is a collaborative effort of the **NEW HAMPSHIRE DIVISION OF FIRE STANDARDS AND TRAINING & EMERGENCY MEDICAL SERVICES** and the **NEW HAMPSHIRE TRAUMA MEDICAL REVIEW COMMITTEE**. The dedication of these medical professionals, who volunteer their time, in the name of improving trauma care for the citizens and visitors of the Granite State is paramount to the success of the system.

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INTRODUCTION

The residents of the State of New Hampshire strongly support a comprehensive state-wide trauma system. This support is based on the following beliefs:

Traumatic injury is one of the principal causes of premature death and unnecessary disability. Residents and visitors are entitled to the highest level of emergency and trauma care services. The organized and coordinated delivery of emergency medical and trauma care services will result in an improved system of health care services throughout the state.

The statewide trauma system is described in this document, the New Hampshire Trauma System Plan. This document is designed to provide trauma care professionals, public health officers, and health policy experts with direction to fully integrate the public health and trauma care systems of New Hampshire. It offers guidance to promote the effective collaboration of all whose charge includes the health and welfare of the public.

This model emphasizes a public health approach to trauma system development. The system is inclusive in nature and engages not only all health care facilities to the level of their capabilities, but also the full range of public health services available in the communities served. The overall goal is a collaboration of these two systems of health care to reduce the incidence and severity of injury, as well as to improve the outcomes of those who are injured.

The NH Trauma System Plan has been developed within the public health system framework. In this document trauma care professionals are introduced to the use of the public health framework as a guide for trauma system management. Public health professionals will be introduced to an understanding of an inclusive trauma system organized within the commonly accepted parameters of the public health approach. Health care policy makers will be introduced to collaborative opportunities in which the public health system and the trauma care system can partner to reduce the total burden of injury in the community.

An important principle of the NH Trauma System Plan is that the effective delivery of trauma services to adult and pediatric trauma patients requires the formal, consistent and coordinated action of several agencies and facilities. Formalizing the trauma system

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adds additional administrative and regulatory components to the current structure while formalizing the relationships and responsibilities of the trauma system participants.

Traumatic injury refers to physical injuries that pose discernible risk for death or long-term disability. Trauma is estimated to be responsible for over 160,000 deaths annually in the United States, an estimated mortality rate of 55 per 100,000 population. These figures are not decreasing; rather, they are on the rise.

Trauma is the leading cause of death for Americans under 44 years of age (including homicides) and is among the top ten causes of death for all other age groups. In addition to the medical, psychosocial, and financial burdens placed on individuals, families, and hospitals, society at large is profoundly affected by injury.

The financial cost of injuries is estimated at more than \$224 billion annually. This estimate includes direct medical care, rehabilitation, lost wages, and lost productivity. The Federal government expenditure on injury-related medical cost approaches an estimated \$13 billion each year, with an additional \$18.4 billion allocated to death and disability benefits. Insurance companies and other private sources pay additional costs estimated at \$161 billion.

When national preparedness for all types of disasters, including terrorist events, is considered; the need for effective injury response (trauma) systems is clearly evident. Even with current efforts to minimize injury, it continues to be "the neglected disease of modern society," as it was described in the 1966 white paper *Accidental Death and Disability: The Neglected Disease of Modern Society*.

Trauma care of persons with multiple, severe injuries is believed to be as available and reliable nationwide as police and fire protection. Unfortunately, this belief is not universally true. Although great strides have been made during the past generation in extending emergency medical and trauma care to the citizens of our nation, most states are realizing that they need to create, further develop, or enhance their state's ability to care for trauma patients through system development.

Emerging Linkages between Public Health and Trauma Systems

Nationwide the increased incidence of major trauma in the late 1980s and early 1990s led public health professionals to recognize obvious parallels between the epidemiologic behaviors of illnesses and injuries. It also led these professionals to champion a public health approach to injury prevention and control.

Injury prevention leaders recognized that public health strategies tested during the years of communicable disease eradication could be successfully applied to the prevention of injury. As a result, these leaders developed the methods used for effective injury prevention programs.

Additionally, the tragic events of September 11, 2001, prompted a reassessment of the strengths and weaknesses of the emergency care and public health systems. Not only did an awareness of the need for prepared and fully interoperable emergency medical, trauma care, and disaster response systems increase, but recognition of the importance of the public health infrastructure in responding to terrorist threats for all hazards became evident. Upon review of the public health infrastructure, a broader understanding emerged of the need for emergency care and public health systems to be more integrated.

The Trauma System Approach

A trauma care delivery system consists of an organized approach to facilitate and coordinate a multidisciplinary system response to provide care for those who experience severe injury . The system encompasses a continuum of care that provides injured persons with the greatest likelihood of returning to their prior level of function and interaction within society. This continuum of care includes injury prevention, EMS 9-1-1/dispatch, medical oversight of prehospital care, appropriate triage and transport, emergency department trauma care, trauma center team activation, surgical intervention, intensive and general in- hospital care, rehabilitative services, mental and behavioral health, social services, community reintegration plans, and medical care follow-up .

There are many phases in the process of care for those who are traumatically injured. Although injury prevention initiatives can do a very good job to maintain injury rates at a minimum, they cannot prevent all injury. When injury occurs, each phase of care,

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as demonstrated in Figure 1 should occur seamlessly. Injury data should be collected throughout each phase of care and analyzed so that data usage will yield continuous performance improvement in trauma care delivery.

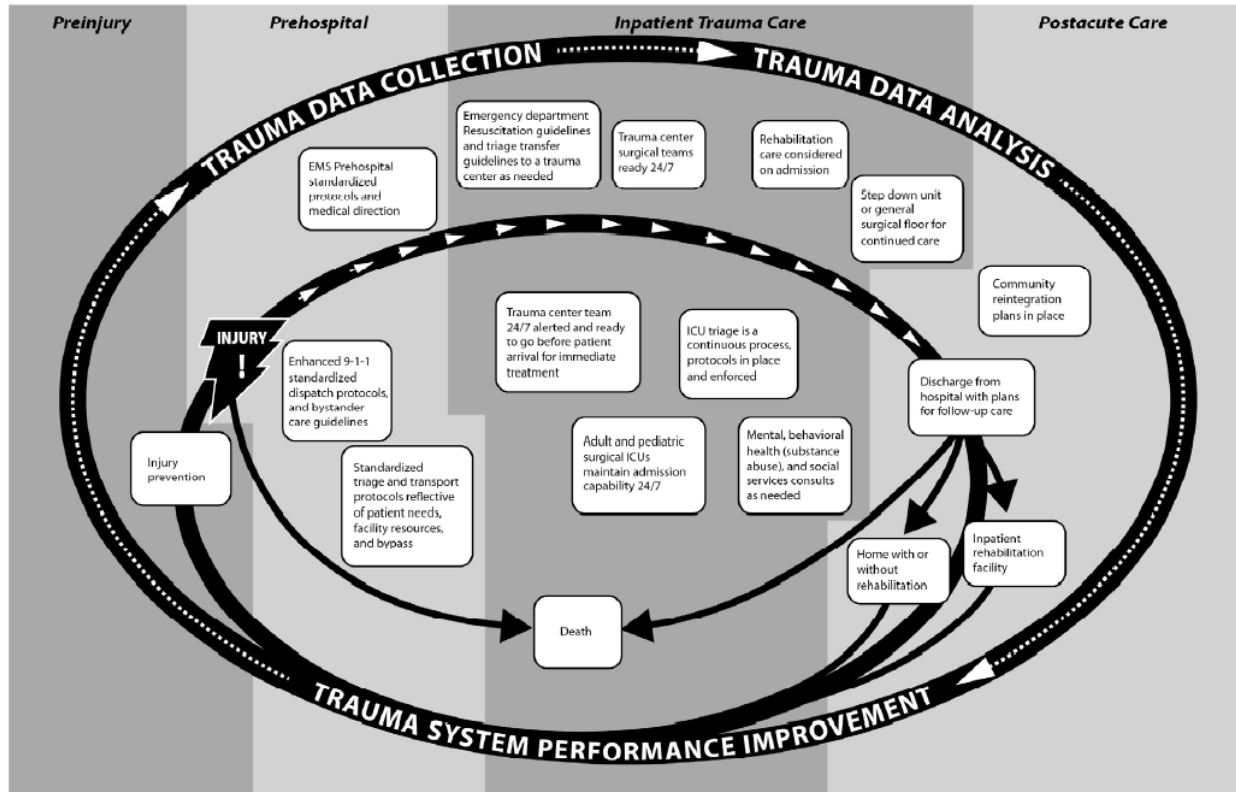


Figure 1 A Preplanned Trauma Care Continuum. Source: US Department of Health and Human Services, Health Resources and Services Administration, Trauma-EMS Systems Program: Model Trauma Systems Planning and Evaluation, February 2006 .

Many components make up the NH Trauma System. Detailed planning is required for all components to interface successfully and health professionals to interact properly, enabling the trauma system to work effectively. This statewide network, or system of health care delivery, requires a multidisciplinary team approach. Such an approach is a requirement for an inclusive, seamless system of health care delivery in which all involved health care providers function in pre-planned concert with one another.

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Emergency Medical Service (EMS) providers match patients, through protocols and medical supervision, with the correct medical facility equipped with the right resources to best meet the patient's needs. This approach may mean bypassing the closest medical facility.

A trauma system is a partnership between public and private entities to address injury as a community health problem. These entities have common interests (e.g., right patient, right hospital, and right time) and interdependent goals (e.g., injury prevention strategies for the community, and quality care in all settings-prehospital, hospital, and rehabilitation). The trauma system must effectively address the needs of the adult population and the specialized needs of seriously injured children.

The Public Health System

Public health is "what we as a society do collectively to assure the conditions in which people can be healthy." The public health system exists to ensure a safe and healthy environment for all citizens in their homes, in schools, in workplaces, and in such public spaces as medical care facilities, transportation systems, commercial locations, and recreational sites. To achieve the best population health, the public health system functions through activities undertaken within the formal structure of government and the associated efforts of private and voluntary organizations and individuals.

The public health system is a complex network of individuals and organizations that have the potential to play critical roles in creating conditions for health. The collaborative effort between these individuals and organizations is the framework needed to influence social policy that supports health. The primary strategy of the public health approach is the following:

- Identify a problem based on data [Assessment]
- Devise and implement an intervention [Policy Development]
- Evaluate the outcome [Assurance]

The public health approach is a proven, systematic method for identifying and solving problems. Improvements in the public health system, in partnership with the health

care system , can be accomplished through informed, strategic, and deliberate efforts to positively affect health.

Integration of Trauma Care and Public Health Systems

The application of the public health model to trauma systems is based on the concept that injury as a disease can be prevented and/or its negative impacts decreased by primary, secondary , or tertiary prevention efforts. Efforts to prevent or decrease the morbidity and mortality from injury are similar to those taken for infectious diseases. Thus, injury prevention is an essential component of the trauma system continuum of care. This concept provides support for public health system collaboration on targeted risk reduction programs for injury prevention, including major trauma.

Specialized trauma care is not enough to minimize the burden of injury to society at large. It must be combined with other risk reduction strategies to reduce the overall burden of physical injury. Many experts in trauma care and injury prevention recognize the need for both excellent trauma care and effective injury prevention programs to reduce injury deaths and disabilities.

This goal can be accomplished when private-public partnerships between health care providers and public health agencies emphasize optimal approaches for the three phases of injury prevention. Key objectives in reducing the burden of injury and in making improvements in the trauma care of persons with serious injury include forging effecting collaborations among community health care facilities and public health agencies. Injury will be significantly reduced through planned interventions that are based on public health strategies.

The application of the public health approach to trauma system development will result in the following:

- Recognition that injury continues to be a public health problem of monumental importance despite significant efforts at trauma system development.
- Identification and management of injury- and trauma system-related problems using data- driven problem identification and evaluation methods as employed by public health professionals.

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- Access to local, regional, and state public health professionals with injury prevention training and experience, as well as a broader range of strategies for primary and secondary prevention. Trauma care professionals are traditionally educated in tertiary prevention.
- Expansion of the focus of outreach for trauma system injury prevention to include primary prevention. Trauma centers and trauma systems usually address secondary and tertiary injury prevention.

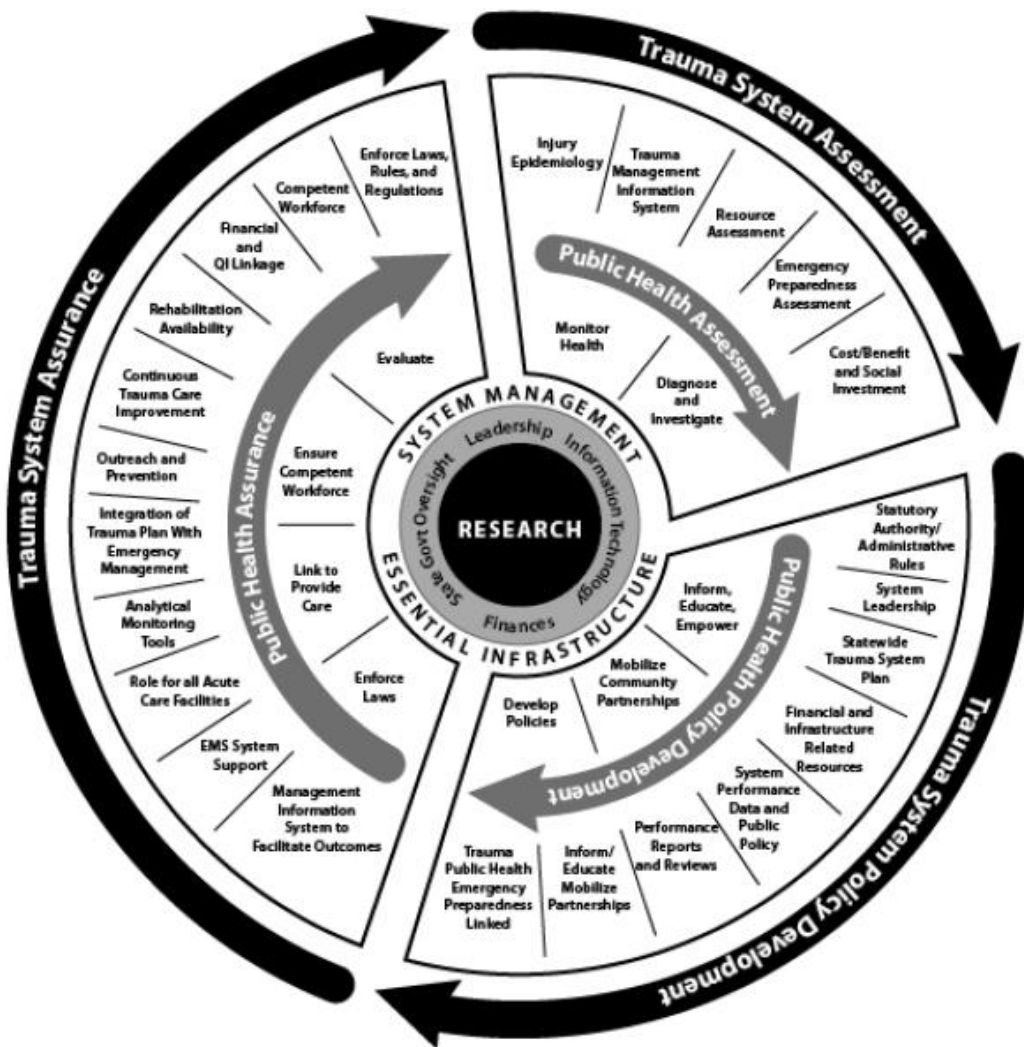


Figure 2 demonstrates public health functions (PH) and trauma system functions (TS) in one wheel. It displays how the conceptual public health model applies to trauma system planning.

SECTION ONE: ADMINISTRATIVE COMPONENTS:

Organization and Management:

I. Description:

The New Hampshire Trauma System is an organized and coordinated delivery of pre- hospital, hospital and rehabilitation medical and health care services. The organizational structure of the New Hampshire Trauma System is dictated by the course of appropriate medical treatment and admission of all injured patients with specific emphasis on the optimal care needs of the severely injured trauma patient. The organizational structure of the New Hampshire trauma system identifies and defines the authorities and responsibilities of each system provider (agency or facility), the relationships between each facility and the reporting requirements between each.

State-wide trauma systems have an additional organizational feature, a trauma system administrative lead agency and governing or coordinating board. The NH Department of Safety, Division of Fire Standards and Training and Emergency Medical Services (FST&EMS) is the lead agency that has the responsibility and authority to administer the system. The Trauma Medical Review Committee (TMRC) is the coordinating board for trauma care.

The NH Trauma System recognizes and addresses the need for effective and competent care of both the adult and pediatric trauma patient.

II. Standards:

The organizational structure of the NH Trauma System fosters coordinated action by each system participant to assure and facilitate the appropriate course of medical treatment that is necessary for the severely injured trauma patient. The statewide trauma system adds an administrative and regulatory structure to the delivery of trauma services, and formalizes the relationships and responsibilities of the trauma system participants.

The NH Trauma System is a voluntary, inclusive trauma system. One of the hallmarks of a trauma system is the ability to categorize hospitals according to the level of resources each can apply to the definitive care of trauma. A level I trauma hospital has all the resources available to treat a seriously injured patient. A community hospital (level III

or IV) might be capable of providing definitive care to minor to moderate patients, but has a limited role in caring for seriously injured patients (stabilization and transfer).

The NH Trauma System is voluntary in that hospitals may choose to actively participate in the trauma system by seeking trauma hospital assignment. In some states this process is mandatory, but in NH it is not. A NH hospital seeking assignment at a particular level agrees to meet the standards set by the TMRC, undergo an assessment of its ability to meet the standards, and adhere to those standards.

An inclusive trauma system means that all acute care hospitals with emergency departments are recognized to have a role in trauma care, whether or not they actively participate in the NH Trauma System through trauma hospital assignment. Non-participating hospitals in the NH Trauma System benefit from statewide performance improvement activities, improvements in care delivered by EMS providers, educational opportunities, and consulting services offered through the Trauma System Section of the NH Division of FST & EMS.

System Management:

I. Description:

An effective trauma system is one which has a lead agency or bureau implementing the recommendations of a coordinating board. The coordinating board should be empowered by legislation with the authority to establish, implement, monitor and enforce trauma system standards, policies, procedures and protocols. The board should also be empowered to define participation in the system and make recommendations for the correction of non-compliance with standards and regulations.

The delivery of trauma care services to severely injured trauma patients in New Hampshire involves several agencies and facilities providing rapid and coordinated health care services to individual trauma patients. These agencies are pre-hospital emergency medical service providers, assigned trauma hospitals, other acute care hospitals, rehabilitation facilities and specialty care facilities.

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In optimal trauma systems each of these diverse agencies provide trauma services based on specific performance standards, operate in a coordinated manner and continually strive to improve their individual and coordinated delivery of service

II. Standards:

The New Hampshire Trauma System is a coordinated system managed on the state level by FST&EMS which should have sufficient resources and personnel to effectively manage the trauma system.

To assure public accountability and responsiveness to the needs of the trauma system service providers, the TMRC is composed of representatives of the trauma system participants, governmental officials and concerned citizens.

Trauma System Lead Agency:

Authority and Responsibilities of the Commissioner of Safety:

The Commissioner of Safety is empowered to educate the public, establish a data collection system and provide for training of providers about the trauma system. The Commissioner of Safety is specifically empowered by RSA 153-A:7 to:

- Adopt rules, with the approval of the Coordinating Board and the Trauma Medical Review Committee, in accordance with RSA 153-A:20.
- Oversee the establishment of the Trauma Medical Review Committee.

With regards to rule making authority specifically for the Trauma System, the Commissioner of Safety is empowered by RSA 153-A:20 to develop rules relative to:

- Patient triage and transfer
- The categories of classification of hospitals which provide adult and pediatric trauma services

**Authority and Responsibilities of the Division of Fire Standards and Training and
Emergency Medical Services:**

The staff to administer the day-to-day operation of the trauma system has been organizationally placed within the New Hampshire Department of Safety, Division of Fire Standards and Training and Emergency Medical Services, and has been charged with the following responsibilities:

- Implement the recommendations of the Trauma Medical Review Committee
- Perform staff and clerical functions needed by the Trauma Medical Review Committee to carry out its responsibilities, specifically staff and clerical services related to hospital classification and participation.
- Monitor the performance of trauma system service providers in accordance with standards, criteria and provider obligations recommended by the Trauma Medical Review Committee
- Implement the system-wide data collection program and system quality management and evaluation program.
- Facilitate the implementation of injury prevention and public education and information programs.

**Authority and Responsibilities of the Emergency Medical and Trauma Services
Coordinating Board:**

With regards to the Trauma System, the Emergency Medical and Trauma Services Coordinating Board is empowered by New Hampshire RSA 153-A:4 to:

- Routinely assess the delivery of emergency medical services, based on information and data provided by the department and from other sources the board deems appropriate, with particular attention to the quality and availability of care.
- Propose rules to the commissioner prior to their adoption under RSA 541-A, or consider and advise on rules proposed by the Commissioner.
- Approve statewide trauma policies, procedures, and protocols of the statewide

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trauma system and the establishment of minimum standards for system performance and patient care proposed by the Commissioner prior to their adoption under RSA 541-A.

- Coordinate interstate cooperation and delivery of emergency medical and trauma services.

Authority and Responsibilities of the Trauma Medical Review Committee:

The Trauma Medical Review Committee is empowered by New Hampshire RSA 153-A:8-V to:

- a. Develop and routinely update the adult and pediatric trauma system plan
- b. Review statewide system operations, including monitoring adherence to established guidelines and standards, the availability of appropriate resources, and the periodic review of trauma hospital classification criteria
- c. Review the delivery of emergency medical services by providers and units concerning the provision of care to trauma patients
- d. Make recommendations to the Coordinating Board based on the reviews described in (a) and (b) above.
- e. Recommend to the Emergency Medical Services Medical Control Board modifications of the protocols of trauma care as a result of system-wide review
- f. Assist trauma hospitals in the development and implementation of trauma quality improvement programs
- g. Establish such subcommittees as deemed appropriate to carry out the functions of the committee
- h. Assist the Coordinating Board in the coordination of a system of comprehensive emergency medical services and the establishment of standards throughout the state by advising the Coordinating Board on policies, procedures and protocols

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The Trauma Medical Review Committee will systematically collect data in order to evaluate trauma system operations, including monitoring compliance with standards, availability of appropriate resources, maintaining confidentiality, and periodic review of trauma facility standards.

Injury Prevention:

I. Description:

A primary goal of the NH Trauma System is to decrease the incidence and severity of trauma. To accomplish this goal, the NH Trauma System will utilize a state-wide public health initiative which considers injury as a disease that can be prevented or its negative impacts decreased. This concept provides support for collaboration between trauma system managers, community health care providers, including EMS and Fire personnel, and public health agencies. It also allows the injury prevention initiative to address all phases of injury prevention efforts: pre-injury (primary); at the time of injury (secondary); and post injury (tertiary). Combining the expertise of professionals from many organizations enables effective leveraging of all resources for primary and secondary prevention and their coordination with the trauma system in tertiary prevention.

Statewide injury prevention planning, implementation and evaluation require extensive collaboration between agencies and organizations beyond those providing direct clinical care. The NH Injury Prevention Program located in the NH Department of Health and Human Services has overall responsibility for the development, implementation and evaluation of the NH Injury Prevention Plan. The NH Trauma System leadership will collaborate closely with the NH Injury Prevention Program to implement and monitor its injury prevention initiatives and programs.

A critical element of an injury prevention program is the necessity for statewide data to assess the incidence and severity of injury in the state and local communities. Data are collected and analyzed by many agencies and organizations but individual databases may provide an incomplete analysis of injury occurrence. Collaboration of these various organizations and sharing of data will enhance monitoring capability and development of

directed prevention programs. Potential data sources include: vital statistics, hospital discharges, emergency department discharges, Behavioral Risk and Youth Risk Surveys (BRFSS/YRBS), trauma registries, State Fire Marshal, NH Wisdom, NH Medical Examiner's Office, NH-Violent Death Reporting System, Prescription Drug Monitoring Program, Enhanced State Surveillance of Opioid Related Morbidity and Mortality (ESSOS), Department of Safety (DOS) NH Fatal Accident Reporting System (FARS) and DOS/NH Department of Motor Vehicles VISION and Emergency Medical Services (TEMSIS).

II. Standards:

The NH State Trauma System will be an active partner in the NH Department of Health and Human Services based Injury Prevention Program whose aim is to reduce injury-related morbidity and mortality. This will include creating a memorandum of understanding and/or data sharing agreement with DHHS to formalize this collaborative relationship. NH State Trauma Program Leadership will:

- Partner with injury prevention programs and advocates initiatives to address state wide and community based prevention strategies identified in the NH State Injury Prevention Plan. The NH State Injury Prevention Plan is posted under publications on the following website: <https://www.dhhs.nh.gov/dphs/bchs/mch/injury.htm> and is updated periodically.
- Review recommendations regarding injury prevention as noted in the 2016 Trauma System Consultation Report to address any gaps and opportunities noted. For example consider using the Trauma System Self-Assessment Supplemental Tool: Bench Marks Indicators, and Scoring Tool (BIS) to define NH's system-specific health status benchmarks and performance indicators.
- Issue a quarterly report with EMS/trauma registry data on the 5 (10) most common injuries (winter, spring, summer, fall). This should also include a category for EMS runs that did not result in transport. This information should help identify any trends and be disseminated to the Trauma Medical Review Committee and be posted on the Bureau's Trauma Dashboard site.
- Assist and participate in creating a clearinghouse of community/departments injury

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prevention activities and resources categorized by county, and focusing on both intentional and unintentional injury. Utilize the framework of the NH Public Health Networks to achieve this goal. Examples Include co/smoke detector distribution, falls prevention, youth activities, health fairs, etc. Use presentations like “Stop the Bleed” as an example of good community outreach, continue to promote EMS/community partnerships, using other national and state injury prevention strategies.

- Share on-line education/resources/toolkits with hospitals, EMS, rehabilitation providers and law enforcement partners to assist with their efforts to provide enhanced primary injury prevention efforts. Examples include web sites such as Safe Kids Worldwide Member Resource Network, NH Falls Task Force, NH Teen Driver, HighwaySafety4NH, etc.
- Designate a trauma program member to attend the Injury Prevention Advisory Council (IPAC) quarterly meetings in an effort to coordinate injury prevention efforts and data sharing.

Hospitals play an important role in reducing the impact of injury in their communities by providing leadership and participating in targeted evidence-based prevention efforts. Hospitals are urged to take part in ongoing prevention programs that meet their community's needs. Ideally hospitals should:

- Designate a prevention coordinator who is knowledgeable about the core competencies of injury and violence prevention.
- Implement targeted injury prevention programs/strategies using trauma information specific to their communities.
- Participate in existing public health network and community prevention coalitions or activities.

Trauma System Performance Improvement Program:

I. Description:

The New Hampshire Trauma System state-wide performance improvement program is a system-wide evaluation program that monitors the performance of the trauma system over time and assesses the system's impact on trauma victims' mortality and morbidity . It is important to understand that there are two major foci of the New Hampshire performance improvement program; a system-wide performance improvement program and individual hospital and EMS agency trauma performance improvement programs. These two programs operate concurrently and there is a direct relationship between the state-wide performance improvement program and the performance improvement programs of the individual trauma care service providers . The trauma care service providers, particularly the hospitals, will gather detailed data regarding services rendered to trauma patients.

These providers will also submit specific data elements relating to system-wide issues to the state-wide trauma performance improvement program. This state-wide program will routinely analyze and report on the effectiveness and efficiency of the overall trauma system.

System-Wide Data

A crucial part of a system-wide performance improvement program is the collection of system-wide data. This data is typically collected through a state-wide trauma registry. In addition, nation-wide trauma databases have been established. Hospitals that actively participate in the NH Trauma System are required to submit data to the state trauma registry. See Appendix B for information regarding the statewide trauma registry.

Prehospital Data

The Division of Fire Standards and Training and EMS has designed and implemented a state-wide electronic pre-hospital run report program. In 1992, the

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Legislature of New Hampshire passed new emergency medical services statutes empowering FST & EMS to mandate the collection of pre-hospital run report data. The NH Trauma and EMS Information System (TEMSIS) is the state's electronic data system, which has been in place since 2006.

Hospital Data

In regards to trauma patients, there have been two types of data collection and analysis that the hospitals have performed. The first is the use of trauma registry programs. Several of the hospitals that admit a significant number of trauma patients have installed trauma registries, either commercially available programs or in-house developed programs. The New Hampshire Division of Fire Standards and Training & Emergency Medical Services maintains a trauma registry platform which is free for all facilities in the State to use. As data submission to the state is required, trauma centers are strongly encouraged to utilize this platform. Schema documents are available for third party vendors to develop the necessary data exchange functionality to allow for the uploading of required information to the New Hampshire trauma registry. This functionality is developed at the trauma center's expense.

The second data collection and analysis program in which all New Hampshire hospitals participate is the reporting of uniform hospital discharge abstract data on all admitted patients. The data are collected by the New Hampshire Hospital Association and the NH Department of Health and Human Services and has been analyzed to identify the number, type, and severity of injuries of patients admitted to hospitals with traumatic injuries. There are two limitations of the discharge abstract data. First, there is a lag time of several years in the collection, analysis and reporting of the data. Secondly the data elements do not contain information regarding pre-hospital activity, source of admission, or the activity of trauma medical personnel. The NH Hospital Association collects data about emergency room encounters. This data is collected from all hospitals and describes a significant number of patient encounters.

Rehabilitation and Specialty Care Facilities Data

In 1994, the NH Hospital Association began collecting data from rehabilitation and other specialty health care facilities. This data set is similar to the hospital data and provides information regarding the number, type and severity of trauma patients admitted to these types of facilities.

II. Standards:

The statewide/system-wide performance improvement program focuses on the overall effectiveness of the trauma system, particularly whether there has been significant improvement in the care delivered to major trauma patients as a result of the operation of the trauma system. Some examples of issues the Trauma Medical Review Committee will consider are: whether significantly more major trauma patients are being transported to and treated in trauma qualified hospitals than before; whether the performance of all system service providers is consistent with published performance standards and criteria; and whether the mortality and morbidity of major trauma patients is improving.

1. Guiding Principles:

The design of the state-wide performance improvement program and its data collection and reporting system is guided by several principles. These principles are:

- a. The data collection systems used by the major providers of trauma service providers, the hospitals and pre-hospital agencies, will be the primary source for system-wide data. These facilities and agencies will routinely submit uniform system-wide data elements to FST & EMS. This process of data collection will insure the highest degree of data consistency and the lowest amount of data entry redundancy.
- b. The state-wide trauma system data collection program should collect only information from trauma system service providers that is appropriate and necessary to evaluate the system-wide delivery of trauma services.
- c. The data collection program should attempt to minimize the added costs and

responsibilities related to the collection of new data from the trauma system service providers.

- d. The data program should utilize, where ever possible, currently available data and information which relates to or describes trauma patients.
- e. The program should only attempt to collect data that has a high potential for being complete, accurate and descriptive.

2. Data Collection Standards:

A condition of active participation in the NH Trauma System is that all trauma-assigned hospitals will collect and submit data elements to FST & EMS on each major trauma patient. The New Hampshire Trauma Registry includes hospital, pre-hospital and referring hospital data and has the ability to run reports on all required data elements. The New Hampshire trauma registry data dictionary contains the listing of all active and required elements in the New Hampshire trauma registry. All New Hampshire hospitals are encouraged to utilize the New Hampshire trauma registry as their data collection and reporting program.

Because the trauma system's performance improvement and medical review processes are continually evolving, data requirements are subject to modification, at least annually, based on the performance improvement recommendations of the Trauma Medical Review Committee.

In addition to aggregated trauma registry data, information that is available from other sources regarding or describing trauma victims will be collected, linked, analyzed and reported. As previously described, data that is currently available from the New Hampshire Hospital Association, the hospital discharge abstract data (UHDDS) and ambulatory data as well as traffic accident data from the New Hampshire Department of Safety contains a considerable amount of information regarding traumatic injuries, particularly of trauma patients that have been hospitalized or involved in traffic accidents.

3. *Statewide Trauma Performance Improvement:*

The Trauma Medical Review Committee (TMRC) has been empowered to systematically collect data in order to perform the following activities:

- a. Evaluate trauma system operations, including monitoring compliance with standards, availability of appropriate resources, maintaining confidentiality and periodic review of trauma facility standards.
- b. Evaluate patient care outcomes at the system level.
- c. Establish a process for documenting corrective action plans, problem re- evaluation and oversight.
- d. Recommend modifications of the standards of care in light of the results of system wide review.
- e. Review the trauma performance improvement programs of the trauma system providers.

The TMRC has the authority to collect data from all trauma system service providers. Committee staff may collect and link (where appropriate) traffic accident reports, pre- hospital run reports, hospital discharge abstract data, trauma receiving facility registry data, rehabilitation facility data and medical examiner data. On an ongoing basis, the TMRC will collect more detailed data and information from the trauma receiving facilities. Patient confidentiality will be maintained in two ways. RSA 153-A:9 provides protection against judicial discovery of the records and actions of the Trauma Medical Review Committee. In addition any and all patient identifiers will be purged from the data system after the necessary data linkages have occurred.

The collection of trauma data from all possible data sources remains a challenge. The following are examples of performance improvement reports that the Trauma Medical Review Committee could generate with all available data sources reporting. These reports include:

- a. Total incidence of traumatic injury treated by pre-hospital providers, emergency departments , and admitted to trauma system hospitals, compared to prior years

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- b. The number and nature of traumatic deaths
- c. The type and severity of trauma injury
- d. The causes of injury
- e. The demographics of injury, age, sex, location, etc.
- f. System efficiency reports:
 - i. The evaluation and analysis of:
 - Times of injury as compared to times of treatment
 - Trauma patient injury assessment and scoring
 - Interfacility transfer information
 - Trauma patient identification, pre-hospital and hospital
 - ii. The results of standards enforcement:
 - Trauma team mobilization
 - Arrival of trauma team members
- g. Injury prevention initiatives and priorities
- h. The analysis of traffic accident injuries, including restraint utilization

Hospital Specific Reports:

- a. Total number of traumatic injury admissions for all hospitals
- b. The number and nature of traumatic deaths of admitted trauma patients
- c. The type and severity of trauma injury
 - i. The cause of injury (E codes)
 - ii. The demographics of injury, age, sex, residence, date
- d. The financial impact of traumatic injury
 - i. Total charges by financial classification
- e. Hospital disposition/outcome

Emergency Department Reports:

- a. Total number of traumatic injury ER encounters for all hospitals

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- b. The type and severity of trauma injury
 - i. The demographics of injury, age, sex, residence, date
 - ii. The financial impact of traumatic injury
 - iii. Total charges by financial classification
- c. ED Disposition/Outcome

Rehabilitation Reports:

- a. Total number of traumatic injury admissions for all rehabilitation facilities
- b. The number and nature of traumatic deaths of admitted trauma rehabilitation patients
- c. The financial impact of traumatic injury
 - i. Total charges by financial classification
- d. Patient disposition

Prehospital Reports:

- a. Call for service to dispatch time
- b. Response times
- c. Nature of field assessment & treatment
- d. Use of field triage criteria and standards
- e. Nature of transport decisions
- f. Scene time
- g. Transport time
- h. Over and under triage rates
- i. Air medical transport utilization
- j. Interfacility transfer transports

Medical Examiner Reports

- a. Cause of death

- b. Circumstances of death

Traffic Accident Reports

- a. Location and time of accident
- b. Conditions causing accident and circumstances of accident scene
- c. Nature and severity of vehicular damage
- d. Position and activities of driver, occupants

4. Implementing Trauma Care Improvement Initiatives:

After analysis of the data, the TMRC should recommend to the Emergency Medical and Trauma Services Coordinating Board remediation in instances where the performance of EMS providers does not meet the criteria and standards of the trauma system. In addition the TMRC may consult directly with hospitals in the NH Trauma System to develop plans to remediate any deficiencies. The TMRC will advise the NH Medical Control Board on changes to prehospital protocols and shall undertake efforts to conduct educational programs to enhance trauma care.

III. Trauma Facility and EMS Provider Trauma Performance Improvement Program Guidelines:

The NH Trauma Plan requires all designated trauma centers to conduct a trauma performance improvement and patient safety (PIPS) program. Other acute care hospitals in NH and EMS agencies are strongly encouraged to conduct trauma performance improvement. The specific design and nature of the facility and service provider performance improvement programs is an institutional or service provider decision.

The trauma hospital performance improvement program should be administered under the auspices of the hospital's trauma service and although integrated with the hospital's overall quality improvement program, should be an independent activity. The Clinical System Section of the NH Division of Fire Standards and Training and EMS is available to assist hospitals and EMS agencies develop trauma PI programs.

1. Trauma Facility Performance Improvement Programs and Patient Safety:

The NH Trauma Plan requires all trauma assigned hospitals to conduct PIPS review of certain criteria. The Trauma Medical Review Committee will periodically review the mandatory standards for trauma designation review. These criteria may be found in Appendix A. Just as important, the NH Trauma Plan strongly encourages hospitals to conduct trauma PIPS review on selected criteria that are meaningful for their facility .

The following are recommendations for Trauma Facility Performance Improvement Programs. The trauma facility performance improvement program may address some or all of the following:

- a. The adherence to treatment protocols in the:
 - i. Emergency department, and
 - ii. All other departments treating trauma victims.
- b. Evaluation of personnel availability in accordance with:
 - i. System criteria and standards, and
 - ii. Facility verification level
- c. Evaluation of the process of patient management:
 - i. Timeliness of response and therapy
 - ii. Appropriateness of length of stay
 - iii. Appropriateness of procedures performed and care provided.
- d. Evaluation of patient outcome:
 - i. Efficacy of specific treatments
 - ii. Complications
 - iii. Physician performance compared to an established norm
 - iv. Patient morbidity, mortality, disability, and the effect of rehabilitation

The Trauma Medical Review Committee has the responsibility and authority to periodically review the PIPS documentation of designated hospitals.

2. Trauma Registry Data Submission:

All designated trauma centers in the State shall submit data to the New Hampshire Trauma Registry. The submission of data is a condition of facility designation. The New Hampshire Trauma Registry is hosted by the Division of Fire Standards and Training and Emergency Medical Services, maintained by ImageTrend, and is free for all New Hampshire hospitals to utilize. The state trauma registry can be found at www.nhtemis.org/trauma.

The State's trauma registry is National Trauma Data Bank (NTDB) compliant, collecting all nationally required elements, including Trauma Quality Improvement Program (TQIP) fields, and allowing for files to be submitted to the NTDB. The State trauma registry also allows for collection of all facility outcome and process improvement (PIPS) fields in confidential format. While direct data entry is recommended and preferred, there are also options for data uploading from third party registries into the State's registry.

The State inclusion requirements, required data elements, accepted field values, and recommended data submission schedule are all listed in the New Hampshire Trauma Registry Data Dictionary which is available on the Division website at nh.gov/ems. The State data set is aligned with the National Trauma Data Set from the NTDB, and is reviewed and edited annually in August for release the following January.

3. Pre-Hospital Trauma Performance Improvement Programs:

The data elements collected on prehospital electronic patient care reports (ePCR) through the New Hampshire Trauma and EMS Information System (TEMSIS) may be sufficient to inform EMS agencies and Pre-Hospital providers on their trauma performance. However their role in state-wide, system level, performance improvement is limited as the data is largely descriptive.

If a trauma program were to start a pre-hospital performance improvement program, the following areas could be investigated through the use of TEMSIS records:

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- a. Response times
- b. Evaluation of field assessment, triage, treatment, and transport decisions
- c. Adherence to Statewide treatment protocols
- d. Evaluation of patient outcome
- e. Use of medical direction

SECTION TWO: CLINICAL COMPONENTS:

Pre-Hospital Trauma Services:

I. Description:

The delivery of pre-hospital trauma care to both adults and children is a major aspect of the New Hampshire Trauma System. The EMS system works in a coordinated manner with other components of the trauma system. Pre-hospital trauma care includes the following sub-components:

- Public Education
- Communication
- Trauma Triage and Transport
- Medical Control and Medical Direction
- Aeromedical Services
- Human Resources

II. Pre-Hospital Trauma System Sub-Components:

Public Education:

Description: Pre-hospital providers contribute to the overall trauma system public education programs by facilitating public understanding of the nature and significance of a trauma system including: what the trauma system is supposed to do; how to easily access the trauma system in times of need; and how to perform appropriate citizen assistance and interventions to trauma victims. The training of citizens in the appropriate use of

cardiopulmonary resuscitation (CPR), first aid, and bleeding control (B-Con) is of particular importance. The first medical contact that trauma victims have with the trauma system is usually with pre-hospital personnel. Public perception correctly identifies the initial provision of life-saving care and assistance as that provided by fire/rescue or ambulance services. Public education programs are related to and complement trauma injury prevention programs.

Standards: The pre-hospital focus of trauma system public education programs deals with the purpose and significance of the trauma system, public access and citizen appropriate treatment activities such as CPR, first aid, and B-Con assistance. Educational programs should target groups or individuals at high risk for injury. Specific focus should be placed on changing personal behavior that is injury-inducing such as the failure to use car seat belts and restraints, child restraints, motorcycle and bicycle helmets. New Hampshire benefits from public education programs that specifically address recreational and water safety and firearms safety training. Since trauma (primarily auto and firearm related) is the leading cause of death for the 1-24 age group in New Hampshire as well as in the rest of the country, direct attention should be placed on public education programs targeted at the elementary and high school student population, parents and young adults.

The utilization of pre-hospital personnel, such as emergency medical technicians and paramedics, in the presentation of public education programs has the potential for producing excellent results. It is recommended that EMS agencies work with their local medical resource hospital to coordinate these activities.

Communication

There are four aspects to pre-hospital communications: citizen access to the emergency medical system to report the discovery of an injury and associated citizen assistance instructions by dispatch personnel, communication from the dispatch center to the EMS service provider, communication between EMS providers, the receiving hospital or medical control facility, and communication to and from helicopter transport services.

1. System Access:

Description: System access is defined as the ability to rapidly and effectively report a medical emergency to the proper authorities which will culminate in the dispatch of appropriate emergency services. The most effective access system is 9-1-1. In addition, this element includes the process of advising citizens to take appropriate actions to benefit the injury victim. The NH Emergency Communications system effectively addresses these needs.

Standards: The universal emergency telephone access number (9-1-1) has been conclusively shown to significantly shorten emergency response times and save lives. This system has been installed throughout New Hampshire. Upon accessing this three digit number, callers are screened immediately to public safety dispatch and a coordinated emergency response is obtained. The NH Enhanced 9-1-1 system permits the call receiver to automatically identify the caller's number and location. The provision of first aid advice to citizen callers by emergency communicators (via standardized dispatcher protocols) is an integral aspect of trauma system citizen access. The type of assistance that can be provided by a citizen, such as applying pressure to an open wound, based on the instructions given by the dispatcher, can make a significant difference in the trauma victim's outcome.

2. Dispatcher Communication with Emergency Medical Services:

Description: Dispatcher communication is the ability of a dispatch center to rapidly communicate with EMS service providers. The center alerts the service of the nature of the emergency and directs the service to respond to the emergency situation. This activity also includes the EMS agency's ability to communicate from the scene of the injury with the dispatch center to request additional assistance or information.

Standards: Each emergency medical service provider in the state of New Hampshire should be dispatched by a dispatch center that has rapid and accurate ability to communicate with EMS agencies in its coverage area. This communications ability shall be available 24 hours-a-day, 7 days-a-week. Each EMS agency and provider shall have the

ability to rapidly and easily communicate with its dispatch center from the scene of the injury and enroute to or from the scene.

3. Communication between Emergency Medical Services and Medical Facilities:

Description: Communication between EMS services and receiving hospitals refers to the ability of the EMS service provider to communicate with his/her receiving or medical control hospital to provide information concerning the patient's condition and to receive instructions. It is expected that communication between EMS providers and receiving hospitals will be improved with the enactment of FirstNet. As of the writing of this plan, enactment is expected by 2020.

Standards: Rapid and accurate two-way communication between EMS service providers and medical control should be assured. Licensed emergency medical service vehicles are required by NH law to be adequately equipped with communication equipment.

4. Aeromedical Communication:

Description: Aeromedical communication refers to the ability of an EMS service provider or hospital to request emergency air transport and the ability of the aeromedical service to maintain continuous communication with the EMS service or the hospital.

Standards: EMS services and hospitals must have radio systems that enable communications with aeromedical services. EMS services and hospitals must have a process in place to request air medical services.

Trauma Triage and Transport:

Description: The decision regarding where the acutely injured trauma patient will receive definitive care is based on an assessment process performed by pre-hospital field personnel. Consultation with on-line medical control personnel may be initiated at the discretion of the EMS provider.

The NH EMS trauma triage protocol is regularly updated as part of the overall state EMS protocols. Multidisciplinary trauma stakeholders, including members of the Trauma Medical Review Committee, participate in the review and revision of NH EMS Protocols

that refer to traumatic injury. These protocols are reviewed by the NH EMS Medical Control Board and approved protocols go through a formal roll-out process. This process is on a biennial basis.

Standards: According to the Trauma Triage protocol each person accessing the EMS system who has sustained an injury requiring transport should be transported to the closest facility possessing the capability of providing the level of care to meet that patient's needs. In the setting of minor or even moderate injury the closest appropriate hospital may be the closest acute care hospital. For a patient with actual or potential major trauma the closest appropriate facility may be a trauma hospital that has demonstrated that it is specially qualified for trauma care, even if another acute care hospital might be physically closer.

Prehospital personnel shall apply triage standards:

1. To determine where the injured patient should be transported
2. To alert the trauma facility of the pending arrival of a severely injured patient
3. To determine whether helicopter response is appropriate

Providers shall follow the current Trauma Triage Protocol. Future changes with this protocol will be made according to evidenced based medicine and theory and will meet or exceed current standards of trauma care. Potential exceptions to this standard may occur. It is the responsibility of the provider to follow the most current New Hampshire Patient Care Protocols, use good clinical judgement, and contact medical control for further guidance if necessary.

Medical Control and Medical Direction:

Description: On-line medical control is the medical advice and instruction that is verbally provided by qualified physicians to prehospital emergency medical personnel while providing emergency medical care. Typically, emergency medical personnel contact

medical control to report the patient's chief complaint, assessment findings and request orders regarding patient treatment.

Off-line medical direction is the medical supervision that a qualified physician provides pre- hospital personnel and services, as evidenced by medical standing orders and protocols, to be used by emergency medical personnel within specific situations. Pre-hospital medical directors are additionally responsible for establishing and monitoring quality assurance programs and activities.

Standards: The New Hampshire Trauma System, as a component of the NH Division of Fire Standards and Training and EMS, provides for appropriate on-line medical control and standardized protocols for the pre-hospital management of major trauma patients.

Trauma teams at the trauma hospitals should be activated prior to patient arrival and should be based on uniformly adopted field triage criteria and guidelines as well as the judgment of emergency department staff. Prehospital providers should request a trauma team activation as part of their pre-arrival report for those patients that meet the appropriate criteria.

Every NH EMS agency is required to have a medical resource hospital which agrees to provide medical direction. Pre-hospital medical direction should be provided by physicians qualified in emergency medical services in conjunction with approved EMS protocols. Pre- hospital medical directors should assist in the facilitation of quality management programs, consistent with current NH EMS Rules.

Aeromedical Transport:

Description: Aeromedical transport is the provision of critical care equipped air transport (flight) services to major trauma victims. The service is appropriate when the time to definitive care for seriously injured patients is prolonged because of distance, or (when) the appropriate level of prehospital resources is not available.

Standards: Aeromedical transport services are a critical component of the New Hampshire Trauma System, necessary because of the geographical area of the state, the adverse impact that long ground transport times have on major trauma patients and the benefit of direct access to definitive trauma care.

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Transfers from ground ambulance to aeromedical transport shall occur at the closest appropriate landing site. In cases where a hospital heliport is used strictly as the ground to air ambulance transfer point, no transfer of care to hospital staff is implied or assumed. If clinical staff (Doctor, Nurse, Paramedic, etc.) from said hospital initiates any type of care, (assessment, etc.), the hospital shall provide initial stabilization prior to transfer to the air ambulance crew for transport, per the provisions set forth in EMTALA.

The provision of scene helicopter response can, in the appropriate circumstance, significantly reduce the time from onset of injury to definitive surgical care. EMS agencies must ensure that their providers are competent in the procedures and protocols for appropriate identification of patients (as found in NH EMS protocols) needing aeromedical transport. Pre-hospital services must also ensure the availability of personnel who are competent in assisting aeromedical personnel in safe landings and take offs.

Air medical transport units will have a structured air medical safety educational program in place to train EMS personnel in safety practices when interfacing with air medical transport. Air medical transport programs will have a structured air medical education curriculum for medical crew members and an ongoing performance improvement and patient safety program.

In addition to helicopter scene flights for trauma, it must be emphasized that air medical transport also plays a significant role in the inter-facility transport of trauma patients who are transferred from a community hospital to tertiary care.

Human Resources:

Description: This section deals with the type, qualifications and number of pre-hospital personnel providing service to major trauma patients. This section also deals with the trauma related training of pre-hospital personnel. Pre-hospital trauma training programs generally use a standardized curriculum for each level of EMS personnel. Professional training of pre-hospital personnel involves initial training, continuing education and refresher courses that are regularly available to all emergency medical services personnel.

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Standards: There are a variety of different models of providing prehospital care in New Hampshire. Emergency Medical Services are provided by full-time career EMS personnel in many areas, particularly urban, small cities and suburban areas, while there are a substantial number of volunteer providers in rural areas. There are also variations in the level of EMS providers: Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), Advanced Emergency Medical Technician (AEMT), and Paramedic. Decisions regarding the provision of EMS to a community are made at the local level. There is no statewide mechanism in New Hampshire to identify the optimal number and level of EMS providers in any given area, nor is there a mechanism to facilitate optimal staffing or positioning of vehicles.

Prehospital trauma training programs will use a national standardized curriculum for each level of EMS personnel. Professional training of pre-hospital personnel based on standardized curricula focuses on assessment, patient care and transportation, proper equipment use and maintenance, personal health and safety. Stand-alone trauma courses such as Prehospital Trauma Life Support (PHTLS) and Basic Trauma Life Support (BTLS), and Pediatric Education for Prehospital Providers (PEPP) are a desirable addition to trauma education in NH.

The NH Trauma System advocates for EMS personnel to participate in these educational programs and provides a mechanism for informing state providers about pending courses via the NH Division of Fire Standards and Training and EMS website - Course and Exam Schedule. These programs should be routinely monitored and evaluated and must be taught by qualified instructors. All initial EMS education, refresher training and stand-alone courses regarding trauma should include considerations for the assessment and treatment of injured children.

Hospital Trauma Services:

I. Description:

This section describes the role of New Hampshire hospitals in the New Hampshire Trauma System and the standards and process of participation. It is recognized that all NH acute care hospitals provide trauma care services to persons incurring a traumatic injury.

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It is expected that any hospital with emergency service capability will be capable of providing stabilization of adult and pediatric trauma patients during the acute and emergent course of their injury. Based on the patient's level of acuity and the capability of the hospital, the patient may need to be transferred to a facility with a more comprehensive capability of care. This transfer must be done in the timeliest manner possible.

The NH Trauma System encourages relationships between hospitals providing regional trauma care (i.e. a Level I or II trauma hospital) and community/critical access hospitals, particularly rural hospitals. Improved communications between hospitals can result in a quicker process for patient transfer.

II. Standards:

A. Overall System Design:

The design of the New Hampshire Trauma System is based on the concept of inclusion of all providers of care to trauma victims within the system. All of the hospitals in New Hampshire have historically provided care to major trauma victims - including children - although the volume of admissions varied from facility to facility. The design of the system is to encourage the active participation of all New Hampshire hospitals in the system.

The goal of the system is to facilitate the treatment and admission of severely injured trauma patients to Level I or Level II trauma hospitals and the stabilization, resuscitation and rapid transfer of severely injured trauma from the local and rural trauma hospitals. Pre-hospital service providers will be directed to transport severely injured trauma victims to those hospitals with the verified capability to provide the appropriate level of trauma service. All hospitals regardless of the level of active participation in the NH Trauma System will be encouraged to participate in trauma system education and training programs.

B. Adult Trauma Facility Standards:

Level I: *This level is verified by the ACS-COT.* A trauma center satisfying this level provides the highest level of care for patients with complex traumatic injuries that present directly

to the hospital's emergency department or by Interfacility transfer . The hospital is a regional resource that treats a significant number of seriously injured patients and is responsible for outreach, accredited education and is committed to research in trauma.

Level II: *This level is verified by the ACS-COT.* A trauma center that has the resources to provide a high level of care for patients with complex injuries. The hospital has essentially all the surgical specialty providers as a Level I, on-call and promptly available 24/7 . A Level II provides definitive care on a regional basis for complex trauma patients, but may transfer the most specialized of trauma patients to a Level I or specialty facility (e.g. burn center).

Level III: A trauma center that provides trauma care for a local catchment area. Depending on the hospital's resources (such as neurosurgery) some Level III trauma hospitals are able to care for complex trauma patients, but the expectation of most Level III facilities for major trauma patients is stabilization and prompt transfer to a Level I or Level II trauma center.

Level IV: A trauma center that provides 24-hour emergency services. This level of trauma center is expected to resuscitate, stabilize, and transfer major trauma patients to a higher level facility. This facility will admit only those patients who are determined to have injuries that do not meet criteria for transfer.

Non-Designated Hospital: A hospital that has not received a trauma designation.

Level I and II trauma centers hospitals should assume a leadership role and be prepared to support the other components of the trauma system through education, coordination and performance improvement activities, and medical direction of pre-hospital personnel.

C. Role of out-of-state Trauma Centers:

The current role of out-of-state specialty care facilities, such as Level I adult and pediatric trauma centers in Boston, Massachusetts and Portland, Maine, regional burn centers and re-implantation facilities will continue. The current volume of New Hampshire residents that incur significant burn injuries and re-implantation services is generally low.

- When New Hampshire residents are transferred to out-of-state facilities for specialty trauma care, the out-of-state facilities should be requested to provide data and information detailing patient progress and outcome. This information should be provided to the referring facility to assist in the Performance Improvement Process. and to the statewide trauma quality management program

III. Process of Participation:

Five Guiding Principles of Trauma System Participation:

1. Major and severely injured adult and pediatric patients must be transported to and treated at hospitals that have the clinical capability to effectively treat the full extent of their injuries. Severely injured trauma patients require the services of organized trauma teams composed of qualified physicians and health professionals having appropriate equipment and supplies.
2. Inclusion of all hospitals as active participants in the trauma system. Historically, all New Hampshire hospitals with an emergency department have provided care to trauma patients. Each hospital will be designated according to its capability to provide trauma services
3. Hospitals should only admit trauma patients that are within the capability of the facility to provide definitive treatment. When this capability is exceeded by the patient's severity of injury, the hospital should transfer the patient to a higher level Trauma Center facility.
4. Every acute care hospital should have, at a minimum, the capability to stabilize, resuscitate and rapidly transfer major or severely injured trauma patients.
5. All hospitals have the opportunity to increase or enhance their capability to provide trauma services.

Steps in Trauma System Participation Process:

Step 1: Request for Participation -

Hospitals that wish to participate in the New Hampshire Trauma System should contact the Division of Fire Standards and Training and EMS to set up a needs assessment trauma@dos.nh.gov. While preparing to become a trauma center the Division and the TMRC will assist the hospital as needed

Step 2: Decide on Level of Designation -

The state of NH requires all trauma centers to have an adult AND pediatric designation level. At a minimum, a level IV is required. Those seeking Level I or II must go through ACS verification. Hospitals may voluntarily choose verification for Level III and IV adult trauma center by the ACS. Upon a successful verification by the ACS, the State of NH will then designate that trauma center accordingly. The State of NH will visit Level III and Level IV adult and pediatric trauma centers and designate accordingly. Hospitals choosing to obtain an ACS Verification as an adult trauma center but not a pediatric trauma center will still need a site visit by the state for the Pediatric designation. This will be completed at the same time as the ACS visit.

Step 3: Complete Trauma Center Application and Pre-Review Questionnaire (PRQ)

Submit the application six months prior to the desired review date, then submit the required attachments per the instructions in the application packet. For hospitals seeking adult only ACS reviews, a pediatric application will need to be submitted 6 months prior to the review.

Step 4: Hospital Site Visit:

The Site Visitation teams, to include at least a physician, trauma nurse and the NH Division of Fire Standards and Training & EMS Clinical Systems Section, will perform the following activities:

1. Visit the hospital and assess the hospital's capability to provide trauma services at the level requested by the hospital by using the Trauma Center Criteria Checklist

2. Compile the results of the on-site assessment
3. Provide consultative assistance and information to the hospital and its medical staff

Step 5: Determination of Designation:

Following the site visit at the hospital, the Designation Sub-committee will review all documents submitted by the hospital and the visitation team. The Designation Sub-committee will make its recommendation to the Trauma Medical Review Committee. The TMRC will make the final recommendation and advise the hospital of any deficiencies, strengths, areas of improvement that are identified.

Deficiencies:

One Type I deficiency will automatically prevent a hospital from becoming a designated trauma center

One to four Type II deficiencies, result in a provisional Trauma Center designation, and the need to either show proof of correcting the deficiencies within that 1 year, or receive a focused site visit - whichever the designation sub-committee deems appropriate. The site review team may stipulate a shorter time to correct deficiencies.

If approved, the TMRC will recommend to the Commissioner of Safety a level of participation for a period of up to three years from the review date. The Commissioner or his designee will issue a document to the hospital with notification to pre-hospital medical control physicians and pre-hospital providers identifying the hospital's level of designation.

If the hospital subsequently wishes to change its designation and participation status, the hospital can reapply at any time during its term.

Step 6: Appeals Process –

Any hospital that does not agree with and challenges the Committee's recommended level of classification and participation can, at its own expense, have its facility evaluated by the American College of Surgeon's (ACS) Committee on Trauma's representatives. If the hospital chooses not to apply to ACS they may reapply for State designation after addressing sited deficiencies.

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Pre-Hospital Impact:

Pre-hospital providers and their medical control physicians will be directed by the Division of Fire Standards and Training and EMS to preferentially transport major and severely injured trauma patients, in accordance with statewide protocol, to the hospitals with capability to provide the appropriate level of trauma service.

Revocation of Designation:

Any trauma center found to be out of compliance with the requirements of their designation level will be notified of the deficiency. Failure to take corrective steps to address the deficiency will risk the loss of designation. The Division and TMRC will determine appropriate timeframe to correct deficiencies. Hospitals that lose their designation for failure to correct deficiencies will be required to re-apply if active participation in the NH Trauma System is desired at a later date. Notice of the loss of designation will be communicated in writing to the hospital, prehospital medical control physicians and prehospital providers.

Renewal of Designation:

For renewal of designation Trauma Center will complete an application at least six month prior to expiration, to avoid a lapse in designation status.

IV. Inter Hospital Trauma Patient Transfer

Description: The interfacility transfer of major trauma patients will be necessary in those situations where the severity of the patient's injury exceeds the capacity of the initial receiving hospital and require expeditious transfer to a higher level trauma center. While NH EMS trauma triage and air medical transport protocols are intended to route severely injured patients directly to the highest appropriate level of trauma center, this is not always feasible and patients are transported to the closest hospital.

Standards: Interfacility transfer is enhanced by each trauma center adopting guidelines regarding (1) identification of patients who will benefit from transfer and (2) how and when a patient will be transferred. The process of transfer will be in accordance with Federal EMTALA and HIPAA requirements. In addition to the prehospital triage criteria discussed earlier, hospital clinicians should consider the following list of examples

of physiological, anatomical, and other criteria that identify patients at high risk of dying or permanent disability. Depending on the hospital's level of capabilities, such trauma patients should be considered for PROMPT transfer.

Adult and Pediatric Transfer Criteria:

- Penetrating injury or open fracture of the skull
- Glasgow Coma Score < 12 or lateralizing neurological signs
- Deterioration in GCS of 2 or more
- Significant spinal fracture or spinal cord deficit
- Major chest trauma:
 - Torn thoracic vessel or suspected mediastinal vascular injury
 - Penetrating wounds to the central chest area (i.e. cardiac injury)
 - Flail segment
- Major abdominal vascular or visceral injuries
- Unstable pelvis fractures
- Fracture or dislocation with loss of distal pulses
- Open and/or multiple long bone fractures
- Burns:
 - Greater than 20% TBSA
 - Circumferential
 - Hands, genital, face
- Extremes in ages
- Trauma with significant comorbidities, such as:
 - Coronary artery disease
 - COPD
 - Type I diabetes mellitus
 - immunosuppression
 - Extremes in age (pediatric and geriatric)

V. Telemedicine:

In consideration of telemedicine in specialty surgical care, it is recognized that trauma care and telemedicine are evolving. The TMRC defines a trauma telemedicine program as one which addresses exceptions to the 24/7 accessibility to particular specialists (such as neurosurgeons or orthopedic surgeons) by activating a trauma telemedicine specialist. The process will be collaboration between the trauma surgeon and the telemedicine consultant

to determine whether the patient has an injury that requires transfer to another facility, or if it is safe to admit the patient to the originating hospital with observation by the telemedicine specialist in collaboration with medical staff at the originating hospital.

Elements to be considered would be:

- There is video technology and imaging transmission to enable a real-time consultation with an applicable specialist, such as a neurosurgeon.
- There is a formal trauma telemedicine program in which the hospital commits to the practice of admitting patients in consultation with the specialist as medically indicated.
- Trauma surgeons, intensivists, and hospitalists at the hospital fully cooperate with the telemedicine program.
- A performance improvement and patient safety process specific to the trauma telemedicine program is in place.

VI. Pediatric Facility Standards:

Seriously injured children present a physiological complexity that is different than that of adults. Medical providers must be diligent in preparations to effectively deal with seriously injured children, despite the infrequency of such events. A regionalized approach to pediatric trauma care is sensible, but geographical access to such resources in NH must be considered. Rural hospitals play an important role in the NH Trauma System. All hospitals including those with limited pediatric capability will be called upon to resuscitate severely injured children.

Although all acute care hospitals must be capable of resuscitation and stabilization, comprehensive pediatric services are limited to a few regional pediatric hospitals. As such, an important part of the pediatric trauma system is the development of well-defined written guidelines for the rapid identification of injured children exceeding a hospital's capability and for streamlining the process for transfer of pediatric trauma patients to facilities capable of providing comprehensive pediatric care.

Pediatric Trauma Service Component:

In order to encourage maximum participation there will be four levels of assignment for pediatric trauma service hospitals in New Hampshire. The following descriptions provide a global overview of the desired roles of the four levels. For more specific information regarding the resources required of the four levels refer to the pediatric hospital standards.

Pediatric Level I- *This level is verified by the ACS-COT.* This hospital provides the most comprehensive level of care and has a pediatric intensive care unit. The facility will be capable of providing comprehensive specialized pediatric medical and surgical care to all acutely ill and injured children. The Level I Pediatric Trauma Hospital will be responsible for serving as a regional referral center for the specialized care of pediatric patients, or in special circumstances will provide safe and timely transfer of children to other facilities for specialized care.

Pediatric Level II- *This level is verified by the ACS-COT.* This hospital will have a defined separate pediatric inpatient service and a department/division of pediatrics within the medical staff structure. A Level II facility will be capable of identifying those pediatric patients who are critically ill or injured, stabilizing pediatric patients (including the management of airway, breathing, circulation and disability), and will also provide ongoing inpatient care or appropriate transfer to a Level I pediatric critical care center

Pediatric Level III - This hospital will be capable of identifying those pediatric patients who are critically ill or injured, stabilizing pediatric patients (including the management of airway, breathing and circulation) , and will have clearly defined capabilities for the management of minor to moderate pediatric inpatient problems.

Pediatric Level IV - This hospital will be capable of identifying those pediatric patients who are critically ill or injured, stabilizing pediatric patients (including the management of

airway, breathing and circulation), and providing appropriate transfer to a definitive care facility. A Level IV hospital will have limited pediatric inpatient admission capability for pediatric trauma.

The minimum level of pediatric capability for any hospital assigned within the NH Trauma System is a Pediatric Level IV.

VII. New Hampshire Trauma Center Checklist

The following section is intended to serve as a checklist of the standards required for the different levels of adult trauma hospital. Active trauma hospitals within the NH trauma System may use this section to continually verify that they meet the requirements of the level of assignment currently held. Unassigned hospitals considering active participation in the NH Trauma System should use this section as a self-assessment of their ability to meet the requirements, or in which areas they need to improve to successfully meet the requirements.

Refer to the pediatric trauma hospital standards beginning on page 53 for pediatric requirements.

Definitions for the following tables:

- **Promptly Available:** For the highest level of trauma team activation, providers may respond on an on-call basis, but must meet the following conditions:
 - Trauma Surgeon - The maximum allowable time is 30 minutes(tracked from patient arrival in the ED) with 80% compliance tracked by the PIPS program.
 - For all other trauma team members - in all trauma hospital levels the maximum allowable time of arrival for members of the trauma team is 30 minutes from activation.
 - For other providers that are required by the hospital standards to be promptly available, but are not members of the trauma team, promptly available is defined as arrival within 30 minutes of consultation by the trauma team leader.
 - While the PIPS program is required to monitor timely arrival of the anesthesia provider, monitoring of other medical providers is not mandatory

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(but is encouraged). Recurring problems regarding prompt response of providers must be addressed in the PI process.

- **Essential:** This is a mandatory Requirement for the trauma hospital
- **Desired:** This criteria is not mandatory, but is strongly encouraged

Criteria	Essential	Desired
Adult Trauma Service		
Hospital has the written commitment of the institutional governing body and the medical staff to be an assigned trauma hospital	X	
There is a multidisciplinary peer review Trauma Performance Improvement and Patient Safety (PIPS) Program with participation from general surgery, orthopedic surgery, neurosurgery, emergency medicine, anesthesia, administration and nursing services.	X	
Hospital has an organized trauma service that has formal responsibility for the management and coordination of the care of multiple-system or major injury patients		X
There are guidelines for the initial triage of trauma patients	X	
There are policy and procedures for the pre-arrival activation of the trauma team based on prehospital report	X	
Hospital has written, well defined guidelines for the transfer of trauma patients to other facilities	X	
Decision to transfer an injured patient to a specialty care facility is based solely on the needs of the patient.	X	
Published on-call schedules are maintained for surgeons, neurosurgeon (<i>if applicable</i>), orthopedic surgeons and other specialists	X	
Hospital complies with NH EMS protocols regarding air medical transport	X	
Adult Trauma Program Director		
There is a physician Trauma Service Director	X	
The director is a board certified general surgeon		X
The director is a board certified physician with demonstrated competence in trauma care	X	
The trauma service director is current in ATLS	X	
The director participates in the instruction of trauma surgeons and other providers	X	
The director is responsible for the trauma PIPS Program	X	
The director has administrative authority to evaluate trauma team members and provide on- going education services	X	

Criteria	Essential	Desired
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Adult Trauma Service		
The trauma service has an organized trauma response	X	
The trauma response team is directed by a general surgeon or emergency physician	X	
Written guidelines for the composition and activation of the trauma team are in place	X	
A log of trauma team activations is included in the trauma registry	X	
Trauma team members will satisfy credentialing requirements as specified in each clinical specialty section	X	
When a hospital uses a two-tiered trauma team activation policy, the criteria for graded activation are clearly defined by the hospital and continuously evaluated by the trauma PIPS program and the highest level of activation requires the participation of a general surgeon.	X	
Adult Trauma Coordinator		
There is a trauma coordinator	X	
The trauma coordinator is actively involved in clinical activities-establishing protocols, monitoring care and assisting trauma staff	X	
The trauma coordinator participates in the education of professional staff, continuing education and community education and injury prevention efforts	X (III)	X (IV)
The trauma coordinator participates in research activities such as protocol design, data collection, analysis and reporting		X
The trauma coordinator participates in performance improvement activities, developing audit filters , audits and case reviews	X	
The trauma coordinator is responsible for the trauma registry	X	
Adult General Surgery		
The general surgeon who participates in the trauma team is board certified or eligible* or is an ACS fellow <i>* Board eligible surgeons must become board certified within five years</i>	X	
The general surgeon is credentialed to practice in the facility and meets trauma credentials* <i>*Appropriately Credentialed means ATLS certified or sixteen (16) hours of trauma focused CME over a two year period.</i>	X	
The general surgeon is on-call and promptly available	X	
The trauma surgeon on call is dedicated to the trauma hospital while on duty	X(III)	X(IV)
Adult Neurosurgery (if applicable)		
Neurosurgeons who care for trauma patients are board certified or eligible neurosurgeons* <i>* Board eligible surgeons must become board certified within five years</i>	X	
There is a neurosurgeon on-call and promptly available 24 hours a day		X (III only)

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Criteria	Essential	Desired
The neurosurgeon is credentialed to practice in the facility and meets trauma credentials* <i>*Appropriately Credentialed means ATLS certified or sixteen (16) hours of trauma focused CME over a two year period.</i>	X (III if neuro capable)	
Adult Orthopedic Surgery		
Orthopedic surgeons who care for trauma patients are board certified or eligible* <i>* Board eligible surgeons must become board certified within five years</i>	X	
An orthopedic surgeon is on-call and promptly available	X (III)	X (IV)
An orthopedic surgery liaison to the PIPS program is designated	X	
The orthopedic surgeon is credentialed to practice in the facility and meets trauma credentials* <i>*Appropriately Credentialed means ATLS certified or sixteen (16) hours of trauma focused CME over a two year period.</i>	X	
Adult Emergency Medicine		
The emergency department is staffed by board certified physicians with special competence in the care of the critically injured patient* <i>*Special Competence: board certified in Emergency Medicine OR Board certified in a primary specialty (Family, Internal medicine, Pediatrics, OB/GYN) with full-time Commitment to Emergency Medicine and is an ATLS provider</i>	X (III)	X (IV)
The emergency physician is in-house 24 hours a day	X (III)	X (IV)
The emergency department is staffed in-house 24 hours a day by a physician or physician assistant or nurse practitioner with a full- time commitment to emergency medicine* <i>*A nurse practitioner or physician assistant who provides care to trauma patients must practice under the supervision of the emergency physician and must meet physician trauma credentials</i>		X (IV Only)
The Emergency Physician is credentialed to practice in the facility and meets trauma credentials* <i>*Appropriately Credentialed means ATLS certified or sixteen (16) hours of trauma focused CME over a two year period.</i>	X	
An Emergency Medicine Liaison to the PIPS program is designated	X	
Adult Anesthesiology		
Anesthesiologists who care for trauma patients are board certified or eligible* <i>* Board eligible providers must become board certified within five years</i>	X	
There is an anesthesiologist is in-house 24 hours a day		X
There is an anesthesiologist on-call and promptly available 24 hours a day	X	
An anesthesiology liaison to the PIPS program is designated	X	
Adult Surgical Subspecialties <i>On-Call and Promptly Available</i>		
Hand Surgery		X (III Only)
OB/GYN Surgery		X
Ophthalmic Surgery		X (III Only)
Oral/Maxillofacial Surgery		X (III Only)

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Criteria	Essential	Desired
Plastic Surgery		X (III Only)
Thoracic Surgery		X (III Only)
Urologic Surgery		X (III Only)
There is a clearly identified process utilized by the ED or Trauma service to alert the above listed specialists to respond*	X	
<i>*If not available there must be transfer guidelines in place</i>		
Non-Surgical Subspecialties		
<i>On-Call and Promptly Available for Consultation</i>		
Cardiology		X (III Only)
Gastroenterology		X (III Only)
Infectious disease		X (III Only)
Internal Medicine/Family Practice	X	
There is a clearly identified process utilized by the ED or Trauma service to alert the above listed specialists to respond	X	
Adult Emergency Department Personnel		
Designated physician director	X	
Physicians with special competence in care of critically injured and a designated member of the trauma team in house and available 24 hours a day	X	
Registered Nursing personnel must hold current TNCC certification or show evidence of an average of 2 hours of trauma education per year In emergency department and immediately available	X	
If Paramedics are utilized in ED, Must hold current PHTLS or ITLS or show evidence of trauma education	X	
Operating Room Personnel		
OR staff are on call and promptly available	X	
There is a documented method for prompt mobilization of consecutive OR teams for additional trauma patients		X
Registered nurse available in OR during surgery	X	
Post Anesthesia Recovery Unit Personnel		
Registered Nursing and other essential personnel are on call and promptly available 24 hours a day	X	
ICU Personnel		
There is a designated surgical director of the ICU		X
The ICU is staffed by physicians board certified or board eligible in critical care, pulmonary medicine, cardiology or surgery*	X (III Only)	
<i>* Board eligible providers must become board certified within five years</i>		
An ICU physician is on-call and promptly available 24 hours a day	X	
There is an ICU physician liaison to the trauma PIPS program	X	
The ICU is staffed by registered nurses with evidence of critical care training	X(III)	X(IV)

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Criteria	Essential	Desired
ICU nurses who care for trauma patients must hold current TNCC certification or show evidence of an average of 2 hours of trauma education per year	X(III)	X(IV)
Other Trauma Related Programs		
A respiratory therapist is on-call and promptly available	X(III)	X(IV)
The hospital has patient and family services	X	
The hospital has acute hemodialysis capability or a transfer agreement with a dialysis center	X(III)	X(IV)
The hospital has written guidelines for burn center referral and transfer criteria	X	
Radiological Services		
Radiologists are promptly available, in person or by teleradiology, when requested, for the interpretation of radiographs, performance of complex imaging studies.	X	
The hospital has a radiology technician on-call and promptly available 24 hours a day	X	
Computed tomography and conventional radiography are available 24 hours a day	X	
There is a CT Technician on-call & promptly available 24 hours a day	X	
A radiology liaison to the PIPS program is designated	X	
Rehabilitation Services		
The hospital has acute rehabilitation services within its facility	X	
The hospital has social services.	X	
The hospital has occupational therapy services.	X	
The hospital has speech therapy services.	X	
The hospital has a mechanism in place to transfer patients to a freestanding rehabilitation hospital.	X	
Clinical Laboratory Services		
Clinical laboratory services are available 24 hours a day	X	
Able to conduct standard analyses of blood, urine, and other body fluids	X	
Able to conduct blood typing and cross-matching	X	
Able to conduct coagulation studies	X	
The blood bank must have an adequate supply of red blood cells, fresh frozen plasma, platelets, cryoprecipitate, and appropriate coagulation factors to meet the needs of injured patients	X	
Able to determine blood gases and PH determination	X	
Able to conduct microbiology studies	X	
Able to conduct drug and alcohol screening	X	
Performance Improvement & Patient Safety (PIPS)		
The facility demonstrates a clearly defined PIPS program for the trauma population	X	

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Criteria	Essential	Desired
The PIPS program is supported by a reliable method of data collection that consistently gathers valid and objective information necessary to identify opportunities for improvement	X	
Scheduled multi-disciplinary trauma review, to include case reviews and system process issues. Representatives of the NH Trauma Medical Review Committee may periodically participate in reviews	X	
The program is able to demonstrate that the trauma registry supports the PIPS process	X	
The process of analysis includes multidisciplinary review	X	
The process of analysis occurs at regular intervals to meet the needs of the program	X	
The results of analysis define corrective strategies	X	
The results of analysis and corrective strategies are documented	X	
The trauma program is empowered to address issues that involve multiple disciplines	X	
The hospital complies with all criteria/process measures for PIPS review as required by the NH Trauma Medical Review Committee	X	
<i>Trauma Registry</i>		
Trauma registry data are collected and analyzed	X	
Data elements required by the NH Trauma Medical Review Committee are submitted to the State	X	
Data is submitted to the NTDB		X
The facility uses the registry to support the PIPS process	X	
The trauma registry has at least 80% of the trauma cases entered within 60 days of discharge	X	
The trauma program ensures that trauma registry confidentiality measures are in place	X	
There are strategies for monitoring data validity for the trauma registry	X	
<i>Injury Prevention / Public Education</i>		
The hospital participates in annual state or local injury prevention efforts involving public education , providing effective injury prevention devices and advocating for environmental and/or policy changes to reduce injuries	X	
The hospital monitors patient data to determine areas in which to focus injury prevention efforts	X	
The hospital monitors patient data to monitor progress of prevention programs	X	
<i>Continuing Education</i>		
Continuing Education Provided for Physicians	X	
Continuing Education Provided for Nursing	X	
Continuing Education Provided for Allied Healthcare/EMS	X	

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Criteria	Essential	Desired
<i>Organ Procurement Program</i>		
The hospital has active participation with the region's organ procurement organization	X	
<i>Disaster Planning and Management</i>		
The hospital meets the disaster-related requirements of the Joint Commission or Centers for Medicare and Medicaid Services, and has a written disaster plan	X	
A representative of the trauma committee is a member of the hospital's disaster committee.	X	
<i>Pediatric Trauma Service</i>		
The hospital has the written commitment of the institutional governing body and the medical staff to be an assigned pediatric trauma hospital	X	
The multidisciplinary peer review Trauma Performance Improvement and Patient Safety (PIPS) Program includes participation of pediatric representation	X	
There are guidelines for the initial triage of pediatric trauma patients	X	
The hospital has written , well defined guidelines for the transfer of pediatric trauma patients to other facilities	X	
<i>Pediatric Trauma Program Director</i>		
There is a physician Pediatric Trauma Director <i>(May be same person as the adult physician trauma program director)</i>	X	
The pediatric trauma director is current in PALS or APLS		X
The pediatric trauma director is responsible for the pediatric PIPS Program	X	
<i>Pediatric Trauma Teams</i>		
There is an organized pediatric trauma response	X	
Written guidelines for the composition of and activation of the pediatric trauma team are in place	X	
<i>Pediatric Surgery</i>		
A surgeon who meets pediatric trauma credentials is on call and promptly available 24 hours a day* <i>*Pediatric trauma credentials are ATLS and PALS OR APLS Certifications</i>		X
The pediatric surgeon is appropriately credentialed to practice in the facility and meets pediatric trauma credentials* <i>*Pediatric trauma credentials are ATLS and PALS OR APLS Certifications</i>	X (If facility has pediatric surgery capability)	
<i>Pediatric Orthopedic Surgery</i>		
An orthopedic surgeon who meets pediatric trauma credentials is on call and promptly available 24 hours a day* <i>*Pediatric trauma credentials are ATLS and PALS OR APLS Certifications</i>		X (III Only)

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Criteria	Essential	Desired
<i>Pediatric Emergency Medicine</i>		
The emergency department is staffed by board certified physicians with special competence in the care of the critically injured child* <i>Special Competence: board certified in Emergency Medicine OR Board certified in a primary specialty (Family, Internal medicine, Pediatrics, OB/GYN) with full-time Commitment to Emergency Medicine and is an ATLS and PALS provider</i>	X(III)	X(IV)
The hospital has an emergency physician in-house 24 hours a day	X(III)	X(IV)
The emergency department is staffed in-house 24 hours a day by a physician or physician assistant or nurse practitioner with a full- time commitment to emergency medicine* <i>*A nurse practitioner or physician assistant who provides care to trauma patients must practice under the supervision of the emergency physician and must meet physician trauma credentials</i>	X (IV Only)	
A pediatric hospitalist/pediatrician is on call and promptly available	X (III Only)	
<i>Pediatric Emergency Department Personnel</i>		
Registered Nursing personnel must hold current ENPC or PALS certification or show evidence of an average of 2 hours of pediatric trauma education per year	X	
If paramedic providers are utilized , must hold current certification in PALS	X	
<i>Pediatric Equipment</i>		
There is at least one area identified with the capacity and equipment for pediatric resuscitation (more than one is desired but not essential)	X	
Organized pediatric emergency cart with sizes for all pediatric patients	X	
Pediatric resuscitation drugs	X	
Printed drug doses/length-based resuscitation tape	X	
Pediatric ventilator		X
Heating source (for infant warming)	X	
Fracture management devices and equipment suitable for pediatric immobilization	X	
Intraosseous infusion equipment with appropriate size gauges for children	X	
<i>Pediatric Inpatient Care Service</i>		
The hospital has a Pediatric Inpatient Care Service	X (III Only)	
There is a Pediatric Dept. Chair or Pediatric Inpatient Director who is board certified in Pediatrics	X (III Only)	
There are Pediatric hospitalists I pediatricians who are board certified or eligible in Pediatrics credentialed by hospital and current in PALS	X (III Only)	
Unit nurses who care for pediatric trauma patients must hold current ENPC or PALS certification , or show evidence of 2 hours of pediatric trauma education per year	X (III Only)	

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Criteria	Essential	Desired
<i>Pediatric Support and Rehabilitation</i>		
There is a child abuse policy	X	
<i>Pediatric Triage, Transfer, and Transport</i>		
The hospital has telephone consultation with a physician who is board certified/eligible in pediatrics or pediatric emergency medicine - available 24 hours per day	X	
The hospital has written pediatric trauma transfer guidelines	X	

APPENDIX A: MANDATORY PERFORMANCE AND PATIENT SAFETY CRITERIA

The following measures must be evaluated by the PIPS program at all New Hampshire Trauma Centers. This list is current as of the printing of this manual; however the most up-to-date PIPS program criteria can be found in the New Hampshire Trauma Data Dictionary: nh.gov/ems

1. The criteria for graded activation are clearly defined by the trauma center and continuously evaluated.
2. For the highest level of activation at a level III center, the trauma surgeon is present within 30 minutes (time called to arrival) 80% of the time, when requested. Compliance of the surgeon's presence in the emergency department should be monitored.
3. Trauma Deaths are systematically reviewed for quality of care, and assigned to one of the following categories: preventable, potentially preventable or non-preventable.
4. Document the appropriate timeliness of the arrival of anesthesia services.
5. Evaluate operating room availability and delays.
6. Discrepancies in diagnostic imaging interpretation for trauma are monitored.

APPENDIX B: APPLICABLE STATE TRAUMA LAW AND RULES

TITLE XII PUBLIC SAFETY AND WELFARE

CHAPTER 153-A EMERGENCY MEDICAL AND TRAUMA SERVICES

Section 153-A:8

153-A:8 Trauma Medical Review Committee. -

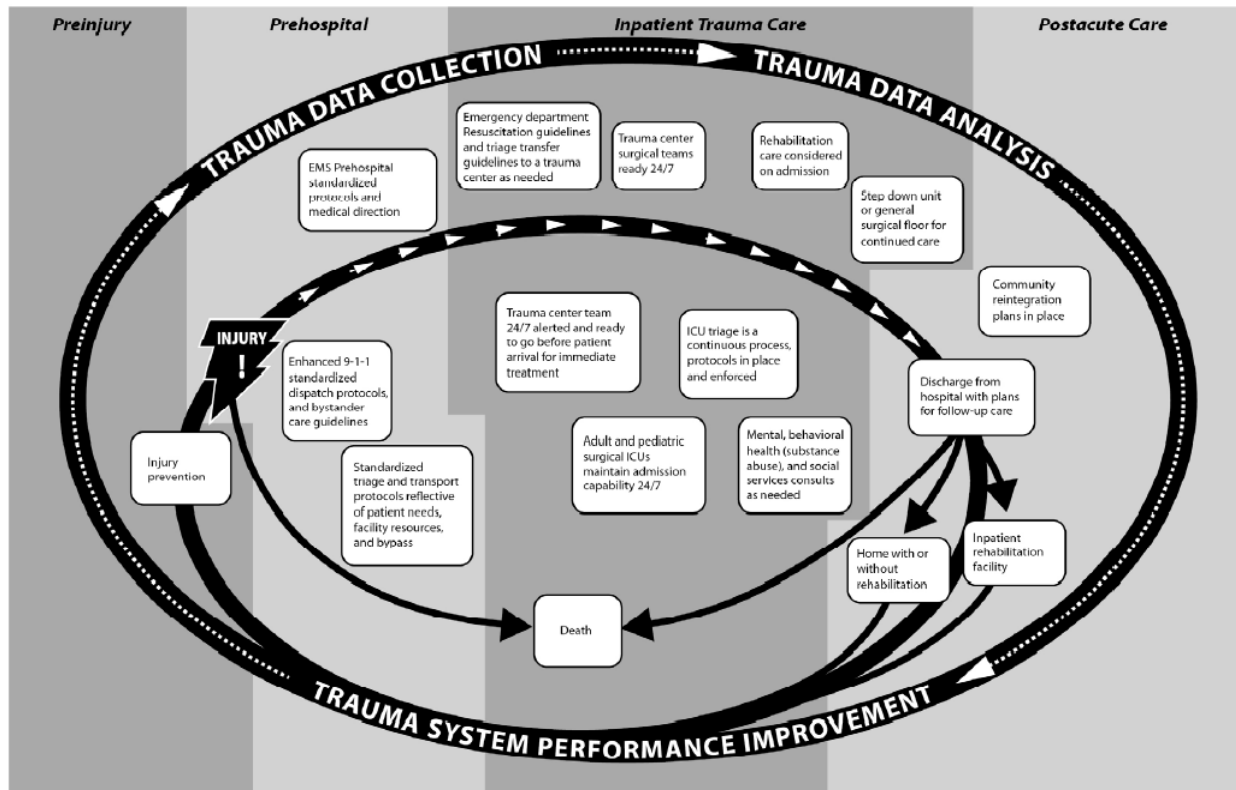
- I. There is established a trauma medical review committee which shall consist of:
 - (a) A minimum of 5 physicians representing the surgical disciplines of neurosurgery, general surgery, pediatric surgery, orthopedic surgery, and other physicians experienced in the treatment of adult and pediatric trauma patients.
 - (b) One member from the New Hampshire chapter of the American College of Emergency Physicians.
 - (c) One member from the New Hampshire Paramedic Association.
 - (d) One member from the New Hampshire Emergency Nurses Association.
 - (e) One trauma nurse coordinator.
 - (f) One member from the New Hampshire Association of Emergency Medical Technicians.
 - (g) The state medical examiner or designee.
 - (h) One member of the emergency medical services medical control board.
 - (i) One representative from a New Hampshire acute care hospital nominated by the New Hampshire Hospital Association.
 - (G) One representative of the Professional Firefighters of New Hampshire.
 - (k) One representative of the New Hampshire Association of Fire Chiefs.
- II. Each member shall be appointed by the commissioner.
- III. The commissioner or the commissioner's designee shall serve as a nonvoting member and as executive secretary.
- IV. The term of each member shall be 3 years. The chair shall be appointed by the commissioner. The trauma medical review committee shall nominate one of its members to the governor for appointment to the coordinating board established in RSA 153-A:3.
- V. The committee shall:
 - (a) Develop and routinely update the adult and pediatric trauma system plan.

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- (b) Review statewide trauma system operations, including monitoring adherence to established guidelines and standards, the availability of appropriate resources, and the periodic review of trauma hospital classification criteria.
- (c) Review the delivery of emergency medical services by providers and units concerning the provision of care to trauma patients.
- (d) Make recommendations to the coordinating board based on the reviews described in subparagraphs (b) and (c).
- (e) Recommend to the emergency medical services medical control board modifications of the protocols of trauma care as a result of system-wide review.
- (f) Assist trauma hospitals in the development and implementation of trauma quality improvement programs.
- (g) Establish such subcommittees as deemed appropriate to carry out the functions of the committee.
- (h) Assist the coordinating board in the coordination of a system of comprehensive emergency medical services and the establishment of minimum standards throughout the state by advising the coordinating board on policies, procedures, and protocols.

Source. 1999, 345:6, eff. July 1, 1999.

PART Saf-C 5918 TRAUMA SYSTEM



Saf-C 5918.01 Categories of trauma hospital classification. The division will approve, according to the NH Trauma System Plan, a voluntary categorization of trauma hospitals. The levels of categorization shall be as follows:

- (a) Level I trauma hospital; or
- (b) Level II trauma hospital; or
- (c) Level III trauma hospital; or
- (d) Level IV trauma hospital.

Saf-C 5918.02 Adult and pediatric categories. Each of the categories in Saf-C 5918.01 shall be assessed for both adult and pediatric categories.

Saf-C 5918.03 Identification of trauma hospitals. No hospital shall hold itself out as a trauma hospital or trauma center unless it is classified as a trauma hospital by the division.

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Saf-C 5918.04 Compliance. All standards, certifications and documents showing compliance shall be maintained and not allowed to lapse during the assignment period. The division shall request any documentation as it deems necessary in order to verify compliance.