2025

# Wisconsin State Trauma Plan


Wisconsin Department of Health Services
Office of Preparedness and Emergency Health Care

201 E. Washington Ave.

Madison, WI 53703

dhstrauma@dhs.wisconsin.gov

dhs.wisconsin.gov/trauma/index.htm

P-03764 (01/2026)

WISCONSIN DEPARTMENT of HEALTH SERVICES

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# Executive summary

Traumatic injury is the largest cause of death for Wisconsinites under 45 years of age (WISQARS, 2023). Traumatic injuries include blunt or piercing force injuries, often related to motor vehicle traffic, firearm, object, or human impact forces. In 2023, there were 382,283 emergency department visits and 3,766 deaths related to traumatic injuries in Wisconsin (WISH, 2025; WISQARS, 2025). Beyond physical injuries to individuals and impacts on families and communities, traumatic injuries impact health care systems and health system finances. Fatal traumatic injuries alone cost Wisconsin $29.49 billion in 2023 (WISQARS, 2025). However, classified trauma centers decrease mortality up to 25% and integrated trauma systems can decrease injuries and their associated costs (American College of Surgeons, 2024).

Trauma systems span across the continuum of care and include the hospitals, personnel, and activities necessary to address or reduce the burden of injury. A trauma system plan includes components related to prehospital, hospital, performance improvement, rehabilitation, and programs supporting the trauma system. When integrated, these components support an effective, high-quality trauma care system. While trauma system plans are enacted on the regional level in Wisconsin, this is the first iteration of a statewide trauma system plan. A comprehensive, cohesive statewide trauma system plan provides a system overview and shared goals to ensure collaboration across regions, health care organizations, and community partners. It is a reference point for trauma system participants and an inspiration for action.

Since there is not a national governing body for trauma systems in the United States, trauma systems are governed at the state level. The Wisconsin Trauma Care System authority is outlined in Wis. Stat. § 256.25(2) and the trauma program is based in Wis. Admin. Code Ch. DHS 118. The Wisconsin Department of Health Services (DHS) provides support to trauma system participants while ensuring that trauma system activities are congruent with state legislation and administrative rules. At the state level, the Statewide Trauma Advisory Council (STAC) advises DHS and trauma centers. Regional Trauma Advisory Councils (RTACs) offer further leadership on a local level. These groups and other partners in local and state government collaborate to create a shared vision for the trauma system. The Wisconsin Trauma Care System aims to reduce death and disability resulting from traumatic injury by providing optimal care of injured patients and their families while collecting and analyzing traumatic injury-related data.

# Acknowledgements

DHS Office of Preparedness and Emergency Health Care (OPEHC) thanks our partners for their contributions to the Wisconsin Trauma Care System plan.

## STAC members

- Marshall Beckman, MD
- Ann O'Rourke, MD
- Jennifer Roberts, MD
- David Schultz, MD
- Levon O'hAodha, MD
- Amanda Alcantar-Kistner, RN
- Rebecca Ekenstedt, RN
- Jay McDonald, EMTB, RN
- Matthew Dykstra, EMTP
- Daniel Budreau, MD
- Tammy Aspeslet, RN
- Kristin Braun, MSN
- Michael Clark, MD

## Individuals

- Kat Van Hampler, Section Manager, OPEHC
- Katie Prather, Trauma Registry Data Manager, OPEHC
- Lauren Lansing, Program and Policy Intern, OPEHC
- Margaret Wogahn, State Trauma Coordinator, OPEHC
- Will Koehne, Epidemiologist, OPEHC

# Introduction

## Trauma in Wisconsin

Traumatic injury is the leading cause of death for Wisconsinites under 45 years of age (WISQARS, 2023). Traumatic injuries include blunt or piercing force injuries, often related to motor vehicle traffic, firearm, object, or human impact forces. In 2023, there were 382,283 emergency department visits and 3,766 deaths related to traumatic injuries in Wisconsin (WISH, 2025; WISQARS, 2025). The top causes of traumatic injury in Wisconsin are falls, motor vehicle traffic, firearms and being struck by or against an object or person (WISH, 2025).

Beyond physical injuries to individuals and their effects on families and communities, traumatic injuries impact health care systems and health system finances. Trauma related injuries cost the United States $4.2 trillion annually (Peterson, 2021). Wisconsin had the 14th highest traumatic injury mortality rate in the U.S. in 2023 (Koehne, 2025). Fatal traumatic injuries alone cost Wisconsin $29.49 billion in 2023 (WISQARS, 2025). Most fatal traumatic injuries in Wisconsin result from falls in adults over 65 years of age (WISH, 2025).

In 2024, 5,989,256 people resided in Wisconsin (Department of Administration, 2024). 19.2% of the population is 65 years of age or older (US Census, 2020). While the median age in Wisconsin is 40.5 years, 24.3% of Wisconsin's population is under 20 years of age (US Census, 2020). Wisconsin has an area of 54,168 square miles (US Census, 2020). Wisconsin has a mixture of urban and rural counties with the most rural counties concentrated in the Northern part of the state. Wisconsin is home to 11 federally recognized Tribal nations, the largest of which geographically is the Menominee/Stockbridge-Munsee reservation (Wisconsin State Tribal Relations Initiative, 2025). The two largest metropolitan areas in the state are Milwaukee and Madison (Department of Administration, 2024). Most trauma centers are located near metropolitan areas.

Wisconsin is home to 804 Emergency Medical Service (EMS) providers, including 365 transporting services and 15 air medical services (Office of Preparedness and Emergency Health Care, 2025a). Currently, 99 out of 138 hospitals in Wisconsin are classified and participate in the trauma system.

## History of trauma system development

Trauma systems developed over the past century in the United States at the national, state, and local levels. Trauma care systems expanded following the Vietnam War which demonstrated the importance of rapid transportation in improving injured patient outcomes. Domestic and military trauma systems have been closely connected since they began. Over time, developments and inspirations have been shared between military and domestic trauma systems. Federal involvement in trauma system development happened briefly in the 1990s through 2006 when funding for a national trauma system ended. Since then, the highest level of trauma system organization is at the state level.

Wisconsin began funding the state trauma system in 2000. In 2005, the state developed Regional Trauma Advisory Councils (RTACs) and classification levels for trauma centers. Wisconsin received a trauma system consultation from the American College of Surgeons (ACS) in 2011 to determine strengths, weaknesses, and future goals. Wisconsin supports the trauma system by managing state and federal funding as well as by codifying aspects of it in state statute and administrative code.

## Purpose

A statewide trauma system plan integrates regional and local trauma plans to facilitate an overarching vision and improve overall system success. The Wisconsin Trauma Care System Plan is supported by Wis. Admin. Code Ch. DHS 118 and Wis. Stat. § 256.25(2). Formalizing the existing system in a state plan encourages focused performance improvement and strategic planning while reducing redundancies and communication gaps. It supports system sustainability and efficiency while ensuring collaboration across trauma regions, health care organizations, and community partners. In 2011, a consultation visit uncovered system challenges regarding variability and localization of trauma care and low levels of legislative advocacy and public education around injury trends, economic impact, and the trauma system (American College of Surgeons, 2011). This plan directly addresses these gaps while enforcing the system's strengths.

Statewide trauma plans and systems also reduce death and disability resulting from traumatic injury. Hospitals in the trauma system have more trauma staffing and resources which are associated with increased hospital revenue and patient outcomes (Colosimo, 2023). Further, trauma centers can decrease injury mortality by up to 25% (American College of Surgeons, 2024).

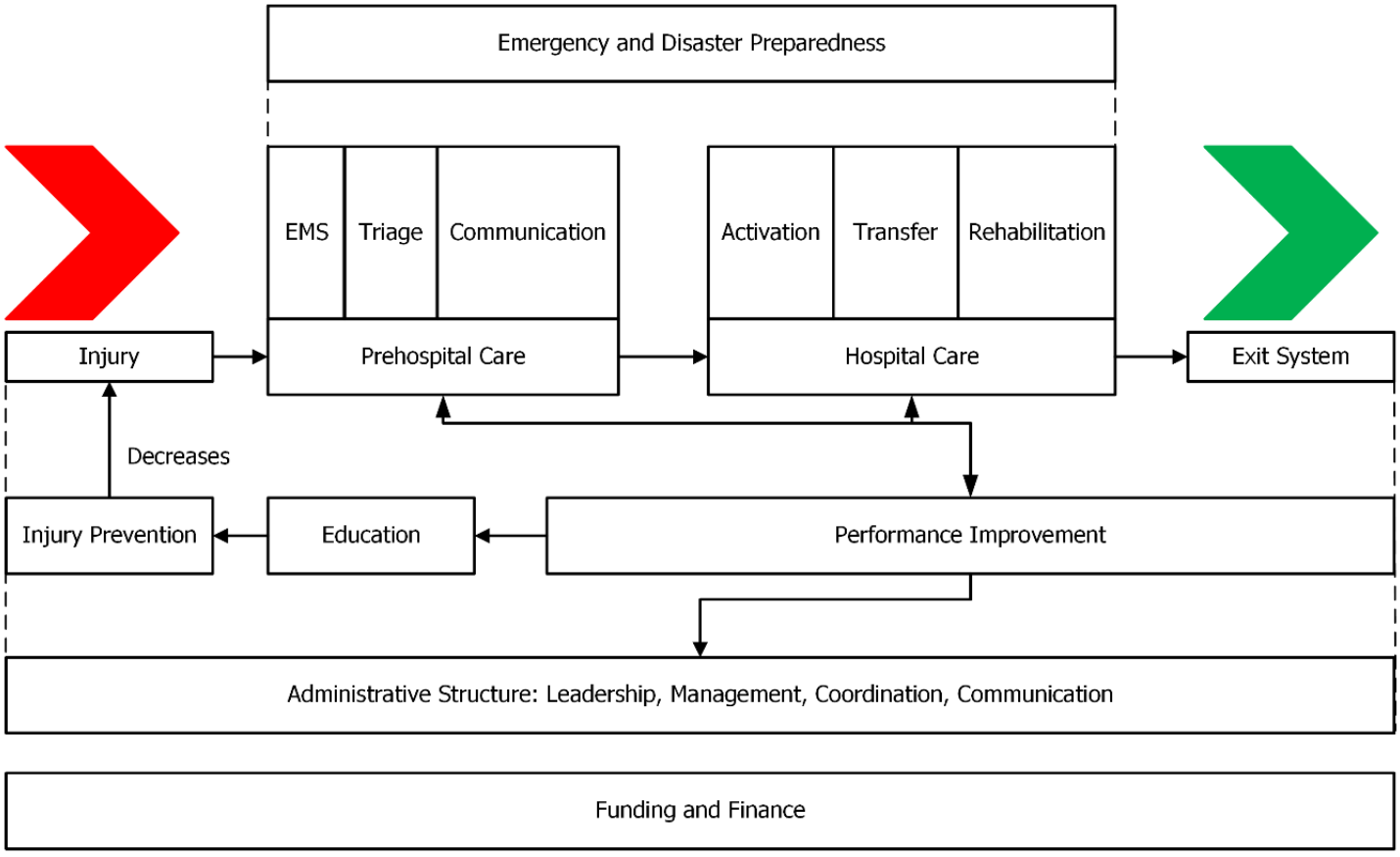
## Introduction to the system

The Wisconsin Trauma Care System includes components related to prehospital care, hospital care, performance improvement, and programs supporting the trauma system. The integration and enactment of these components reduces injury morbidity and mortality and enhances the outcomes of the trauma system. Prehospital components include EMS, field triage, and communications between EMS, hospitals, patients, and bystanders. Hospital care components include trauma team activation, patient transfers, hospital classification and capacity, and rehabilitation services. Trauma center classification outlines a hospital's trauma capabilities and determines how they participate in the trauma system. In Wisconsin, the trauma system is voluntary and includes trauma centers in Levels I–IV and unclassified. Unclassified hospitals choose not to be a part of the Trauma Care System or are not approved as Level I–IV. Level IV hospitals provide stabilization and life support prior to transfer to Level I or II. Level III hospitals may arrange transfers or provide resuscitation, stabilization and emergency surgery. Level II and Level I hospitals provide leadership and care for traumatic injuries, but Level I hospitals also have teaching and research capabilities.

The injured patient's experience and transition between these areas of care are facilitated by system-wide communication, leadership, funding, and performance improvement (Figure 1). Leadership includes state, regional, and local trauma organizations. This mechanism is based in the continuum of care model which includes data collection, analysis, and performance improvement at all stages of

the patient's experience, from before their injury event throughout their time in the trauma system, to best support patients and improve the trauma system. From a system perspective, this rigorous data collection and analysis improves patient outcomes by increasing workforce capacity, introducing best practices, and strengthening partnerships across the trauma system.

**Figure 1.** Model of the Trauma Care System from initial injury event to care completion



# Goal of the trauma system

## Vision statement

The Wisconsin Trauma Care System aims to reduce death and disability resulting from traumatic injury by providing optimal care of injured patients and their families while collecting and analyzing traumatic injury-related data.

## Values

- Collaboration and Partnership
- Accountability and Trust
- Communication and Access
- Community Involvement and Representation
- Innovation and Sustainability
- Workforce Development

## Wisconsin trauma system goals

- Encourage the work of local and community organizations through partnerships and strengthen their capacity to act.
- Improve system communication and coordination through deliberate connections and leadership.
- Support system capacity through sustainable resource management.
- Increase access to adequate, timely trauma care through prehospital resource integration.
- Develop and use best-practices to support a robust, growing state trauma system and promote optimal trauma care for patients and support for staff.
- Optimize system collaboration and evaluation through data integration.
- Leverage trauma system data in decision-making, outreach, and action.
- Assure trauma system readiness for emergencies and disasters by improving capacity and coordination.
- Decrease traumatic injuries in Wisconsin communities through systematic and data-informed approaches.
- Increase public understanding and support of the Wisconsin Trauma Care System.
- Develop a skilled workforce to provide injury prevention and trauma care services.
- Ensure sustainable funding for all trauma system functions necessary to support positive injured patient outcomes.

# Administrative structure

## Trauma system leadership

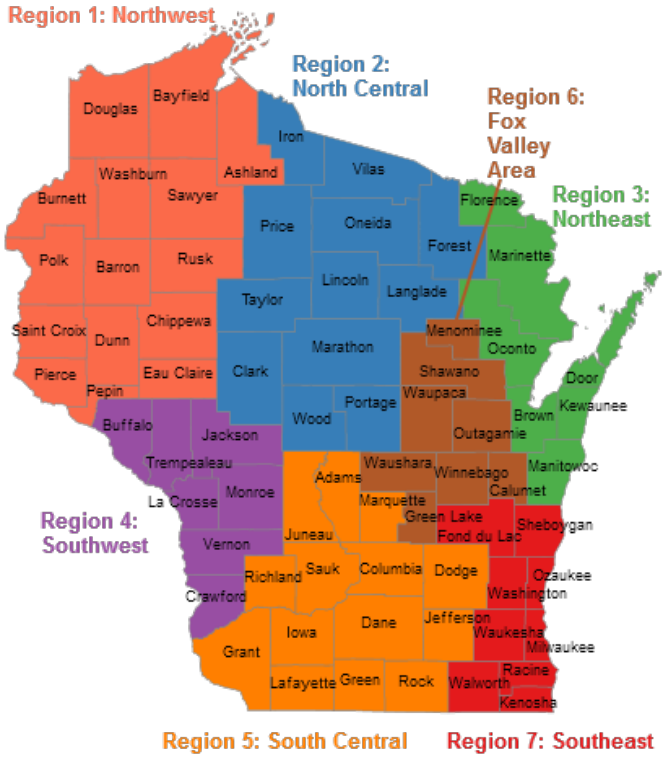
The Wisconsin Trauma Care System is overseen by OPEHC. Wisconsin Admin. Code Ch. DHS 118 and Wis. Stat. § 256.25(2) authorizes OPEHC to monitor trauma system participants and enforce trauma system programs.

The Statewide Trauma Advisory Council (STAC) leads and advises the state in trauma care. STAC members represent clinical, prehospital, and health care experts from across the state. In accordance with Wis. Stat. 15.197(25), STAC includes four physicians representing urban and rural areas, two registered nurses, two prehospital EMS providers, two representatives of a rural hospital, two representatives of an urban hospital, and one member of the EMS Advisory Board. Members participate in subcommittees which include Trauma Coordinators, Data Management, Performance Improvement, and Injury Prevention. STAC meets quarterly and its meetings are open to the public.

Regional Trauma Advisory Councils (RTACs) lead regional trauma systems to implement projects to improve patient outcomes. Wisconsin includes seven RTACs, each of which is led by an RTAC Coordinator. RTAC membership includes members from health care organizations, first responder services, and public health organizations.

Healthcare Emergency Readiness Coalitions (HERCs) include health care organizations, public health agencies, emergency management services, and emergency medical services that collaborate to make their communities safer and more resilient. Wisconsin has 7 regional HERCs which align with the RTAC boundaries. HERCs are funded through Wisconsin's Hospital Preparedness Program via the Hospital Preparedness Program Cooperative Agreement with the United States Department of Health and Human Services' Administration for Strategic Preparedness and Response (ASPR) to prepare for response to emergencies and disasters.

**Figure 2.** RTAC and HERC Regions Map

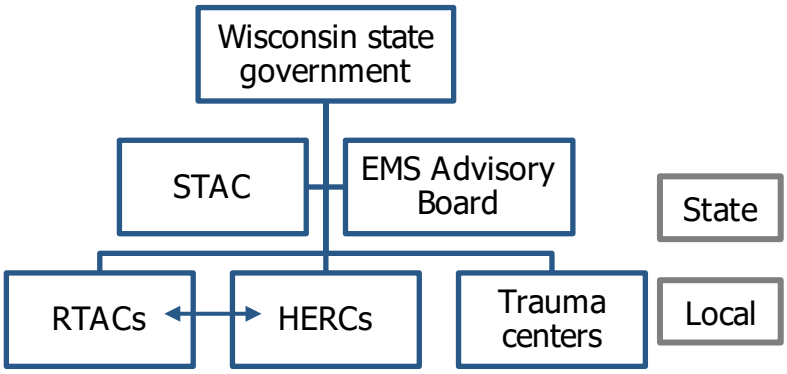



## Management and coordination

While trauma system leadership follows a defined structure, integrated organization systems ensure that trauma system management and communication are multidirectional and collaborative. Resources may be contributed by federal or state funds via DHS or be contributed by local sources and trauma centers.

System-wide resource organization is managed and tracked by DHS to maintain accountability and transparency. However, each RTAC, HERC, and trauma center manages and reports their own resources and use of them. Similarly, human resources may be shared within the system but are primarily managed within their own organization.

**Figure 3.** Trauma System Organizational Structure




The Wisconsin state government and DHS oversee the trauma system and communicate to other organizations in the system and receive reports from them. They ensure that the trauma system is meeting its goals and is aligned with state and national policy while managing the trauma registry and data sharing systems. STAC reports to the Office of the Secretary and advises the state and trauma regions on goals and programs. The EMS Advisory Board reports to the Governor's Office and has overlapping programs and goals with STAC. RTACs interface with DHS, STAC representatives, and HERC representatives to make decisions and interventions on a regional level and contribute data and reports to state-level entities. RTACs communicate with local trauma centers and EMS agencies to develop programs, respond to local needs, and escalate feedback to the state-level. Trauma centers communicate with RTACs, HERCs, STAC, or DHS to accomplish programs and provide data to the state for analysis and compliance purposes. While collaboration with RTACs is voluntary, many trauma centers align with regional goals and support RTAC programs.

## Communications

Trauma system communications include communication between trauma system organizations and between the trauma system and external partners. Communication is necessary for trauma system success and sustainable expansion and improvement. Networks and data sharing platforms, including EMResource and EMTrack, drive communication during patient care. Communication outside direct patient care is directed through meetings and connections between leaders of committees and organizations. To facilitate coalition and partnership building and reduce redundant resource spending, the trauma system collaborates with emergency preparedness, EMS Advisory Board, injury prevention and control, public health, social services, mental health and rural health offices and organizations. These communications are facilitated by the state government or regional coordinators, though active networking and collaboration is encouraged across and between all system levels.

## Goals and objectives

| **Goal:** Encourage the work of local and community organizations through partnerships and strengthen their capacity to act. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Review and expand board and council membership recruitment efforts to encourage active participation from a breadth of partners. | STAC | 2 years | 1 document outlining current and preferred membership recruitment strategies<br>1 update to the STAC membership recruitment process reflecting changes outlined in the document |
| Develop future collaborations and prepare for partnerships through partner mapping. | DHS | 2 years | Conduct a partner mapping project, update it every year, publish results |

| **Goal:** Improve system communication and coordination through deliberate connections and leadership. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Connect trauma staff with other trauma staff needing support to improve capacity and outcomes via a mentorship program. | STAC | 2 years | Develop an annual opt-in mentorship program<br>>12 people involved in the mentorship program annually |
| Develop co-working and networking opportunities. | STAC | 2 years | ≥2 networking or co-working events per year |
| Establish a better communication method for trauma care partners and between local partners, RTACs, STAC, and OPEHC. | DHS | 3 years | 1 streamlined communication plan for participating organizations<br>Each organization knows how to contact each other and DHS |
| Further integrate advisory groups (STAC, RTACs, HERCs, EMS Advisory Board). | DHS | 2 years | At least 1 EMS Advisory Board Representative at each STAC meeting<br>At least 1 STAC representative at each EMS Advisory Board meeting<br>Requirement for each STAC member from a region to solicit feedback or meet with their RTAC Coordinator each year<br>HERC and RTAC leaders in the same region communicate quarterly |
| Build leadership and capacity of trauma system communicators, educators and staff by developing and implementing a narrative strategy. | DHS | 2 years | 1 narrative strategy document made with feedback from system members<br>1 presentation of narrative strategy to system leaders with an action plan of how to engage it |

| **Goal:** Support system capacity through sustainable resource management. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Encourage resource sharing to reduce waste and duplication by enacting resource management to facilitate resource coordination. | STAC | 2 years | Create an interface where health care systems, RTACs and the state government can interact to align resources for shared event<br>Create at least annual share-out opportunities for organizations to share ways they used resources creatively or events that succeeded and could inspire other organizations<br>Share broad budget outcomes at the end of the fiscal year with coordinators |
| Evaluate access to resources that OPEHC provides to encourage sustainable resource utilization. | DHS | 2 years | Qualitatively measure which resources are used and list these in a document<br>Phase out or increase awareness of underused resources reported in the document |

# Prehospital

Prehospital care includes activities and resources from the scene of the incident until the patient arrives at a trauma center or hospital. These activities and resources include EMS, field triage, and communications between EMS personnel, hospitals, patients, and bystanders. Wisconsin has 804 EMS providers with 19,408 personnel, of which 17.2% are emergency medical responders (EMRs), 43.7% are emergency medical technicians (EMTs), and 29.2% are paramedics (Office of Preparedness and Emergency Health Care, 2025b). Of the EMS providers, 15 are air medical services, 347 are non-transporting services and 365 are transporting services. Paramedic services are primarily located near larger metropolitan areas. EMR and EMT services are more prominent in rural counties, though they are present in all counties (Wisconsin Department of Health Services, 2025b).

**Table 1.** EMS providers by region (Office of Preparedness and Emergency Health Care, 2025b)

| RTAC/HERC Region | Service Providers Count |
|---|---|
| Region 1 | 119 |
| Region 2 | 113 |
| Region 3 | 76 |
| Region 4 | 69 |
| Region 5 | 162 |
| Region 6 | 80 |
| Region 7 | 166 |

## EMS resources and regulation

Wisconsin Admin. Code Ch. DHS 110 requires that EMS providers are licensed, and their service offerings align with state regulations. It outlines EMS responsibilities to meet staffing, service, and communication requirements. EMS are required to have a service director, a service medical director, an infection control designee, a quality assurance designee, a training designee, and a data contact designee. Ambulances must be staffed by at least two providers with at least one at the ambulance's level of service. For example, an EMT ambulance must have at least two EMT providers (Wis. Admin. Code Ch. DHS 110.50).

Helicopter EMS (HEMS) may be deployed when response time is critical and care transitions, load and off-load times, and pre-flight safety checks are considered. Time-critical patients may include patients with major traumatic injuries, stroke or cardiac symptoms. HEMS may assist with transportation, patient care, and disaster response. When requested, the closest HEMS unit should be dispatched, and landing zone safety guidelines must be followed prior to HEMS engagement. Considerations for HEMS auto-launch or early-activation can be found in Wisconsin's HEMS Utilization Guidelines.

## Transportation protocols

Transportation destination is based on Wisconsin's Trauma Field Triage Protocol which determines the level of trauma center destination required based on patient symptoms, age, and incident scene. The Wisconsin State government provides guidelines on interfacility transportation aligned with current national guidelines under Wis. Admin. Code chs. 110 and 118. However, individual EMS services may adjust the scope of practice when creating their operational plans. Transfer agreements are established between transferring EMS and health care facilities and outline medical control and direction as well as responsibility.

## Triage and trauma decision criteria

Triage protocols in Wisconsin are guided by DHS, STAC, and the EMS Advisory Board. Since 2022, these bodies have endorsed the National Guideline for the Field Triage of Injured Patients to guide initial triage decisions (Appendix C).

## Communication

Public access to EMS uses the 911 communication system. EMS dispatch is provided by law enforcement or combined law enforcement, fire, and EMS agencies for service coordination. Ambulance and EMS personnel are trained to use communication equipment and technologies. Medical control communications connect EMS field personnel with hospitals to receive medical advice. Backup communications using radio or phones allow services to continue despite gaps or issues with primary communication methods. The Partner Communications and Alerting (PCA) Portal communicates resources, contacts, and capacity for preparedness and response programs between DHS, local public health departments, and preparedness partners in the state. Wisconsin uses the Wisconsin Interoperable System for Communications (WISCOM) via radio for redundant communication between hospitals though EMS agencies may use WISCOM for communications. Communication codes and radio channels are managed at a state level for communication efficiency.

## Goals and objectives

| **Goal:** Increase access to adequate, timely trauma care through prehospital resource integration. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Integrate prehospital data collection with trauma registry data to support continuum of care analyses. | DHS | 4 years | Aligned indicators from Wisconsin Ambulance Run Data System (WARDS) and the trauma registry focused on system analysis<br>Indicators recorded in an evaluation matrix and recorded annually<br>Integrated evaluation shared at STAC and EMS Advisory Board meetings annually |
| Analyze how Wis. Admin code Ch. DHS 118 impacts access and location of health care services. | DHS | 2 years | 1 policy analysis document with an action plan or recommended next steps |
| Improve coordination between leading trauma and EMS bodies. | STAC | 2 years | At least 1 EMS Advisory Board Representative at each STAC meeting<br>At least 1 STAC representative at each EMS Advisory Board meeting<br>At least 1 joint project quinquennial between EMS Advisory Board and STAC |

# Hospital

## Trauma system participation

Hospitals that participate in the Wisconsin Trauma Care System are classified as trauma centers. Wisconsin has two Level I trauma centers, nine Level II trauma centers, 23 Level III trauma centers, 62 Level IV trauma centers, and three pediatric trauma centers, of which two trauma centers are Level I and one trauma center is a Level II. 39 hospitals in Wisconsin remain unclassified and do not formally participate in the trauma system.

The following defines each level for trauma care centers:

- **Level I:** Hospital is characterized by capability to provide leadership and total care for every aspect of traumatic injury from prevention through rehabilitation, including research.
- **Level II:** Hospital provides the initial definitive trauma care regardless of the severity of injury but differs from Level I in teaching and research capability.
- **Level III:** Hospital provides assessment, resuscitation, stabilization, and emergency surgery and arranges transfer to a Level I or II center for definitive surgical and intensive care as necessary.
- **Level IV:** Hospital provides stabilization and advanced trauma life support prior to patient transfer to a Level I or II.
- **Unclassified:** Hospital has chosen not to be part of the Trauma Care System or has not been approved as a Level I, II, III or IV.

Level I and II trauma centers and pediatric trauma centers are verified by ACS. Level III and IV trauma centers are classified by the state. Classification criteria for Level III and IV trauma centers are outlined in Appendix D. The Wisconsin trauma system also recognizes hospitals In Active Pursuit (IAP) of trauma classification. These hospitals are unclassified hospitals entering the process to become a Level III or IV trauma center. Participation in the trauma system is voluntary. Trauma centers may choose to be part of the trauma system to improve relationships and communication with partners across the state as well as access structured best-practice performance improvement opportunities.

Classifications are determined by site reviews of trauma centers every three years. Hospitals must submit their application via email at least six months prior to their classification expiration date. Hospitals IAP may request an application by emailing OPEHC. Prior to the site review, hospitals must schedule their visit and submit a Pre-Review Questionnaire (PRQ), two job descriptions, activation criteria, and a written Performance Improvement and Patient Safety (PIPS) plan. The site reviewers will review these documents and conduct a pre-review phone call with the hospital and the trauma program manager. Following the review, the site reviewers will compile a report which will be reviewed, and approval or follow-up letters will be shared with the hospital.

## Trauma team activation

Trauma centers develop hospital-level trauma team activation protocols. DHS provides baseline requirements for a trauma team activation, but individual trauma centers may expand their activation protocols to include other activation criteria, including criteria specialized for adolescent or geriatric patients. Emergency departments activate a trauma team response based on patient status and activation protocol criteria. Trauma activation teams may consist of physicians, nurses, certified nursing assistants, managers, pharmacists, and technicians.

## Trauma center capacity

Trauma center capacity affects a trauma center's ability to treat patients and how they communicate with other members of the trauma system. A trauma center that exceeds its capacity enters overload and may need to coordinate diversions or interfacility transfers with EMS transport services. Diversion policies are determined by individual hospitals in collaboration with EMS to decide where EMS should take new injured patients when a trauma center is at capacity. EMTrack and EMResource are used to monitor hospital capacity and emergency department diversion status through an online system shared with EMS providers and trauma centers. This system allows hospitals and EMS to communicate in real-time and direct patient transport to expedite patient care.

## Rehabilitation

Some injured patients may need rehabilitation to complete full or partial recovery from their injury. Injured patients with multiple or severe injuries are more likely to seek rehabilitation services. Patients may access rehabilitation for physical recovery as well as psychosocial support. Rehabilitation may take place in trauma centers or rehabilitation centers. Access to rehabilitation services is determined by patient need, facility capacity, insurance requirements, and transportation facilitation.

## Goals and objectives

| **Goal:** Develop and use best-practices to support a robust, growing state trauma system and promote optimal trauma care for patients and support for staff. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Increase the number of classified trauma centers in the trauma system, especially in rural areas. | DHS | 5 years | Increase the number of classified trauma centers by 10% in 5 years<br>Expand outreach to CEOs, the public, and health care personnel through 3 focused communication campaigns |
| Support classified trauma centers by maintaining educated review teams and offering performance improvement support, feedback opportunities, and statewide connections. | DHS | 2 years | Annual training and review for classification site reviewers<br>Offer detailed reports and feedback from reviews to trauma centers and include contact information for applicable facilities or individuals to support performance improvement |

| | | | |
|---|---|---|---|
| | | | Offer post-review surveys to each site for feedback on the review process |
| Ensure hospital administrators understand the importance and process of classification to best support their trauma staff and departments. | DHS | 1 year | 1 outreach campaign for hospital administrators with documents that can be used in future communications |
| Use TQIP to disseminate information on best practices to the trauma system. | DHS | 1 year | 90% of trauma centers reached by 70% of TQIP communications from DHS |

# Performance Improvement

## Overview

Performance improvement is necessary to create informed, impactful action and ensure system outcomes trend in a positive direction. Evaluation informs action and ensures that gaps in access or outcomes are promptly addressed. Trauma system evaluation includes analysis of the entire continuum of care from dispatch and prehospital data to emergency department, trauma care, and rehabilitation data. Collecting and analyzing data from across the continuum of care allows the system to rapidly respond to issues that arise in one aspect of the system that may not be reflected in full-system data. Data-backed performance improvement is best practice in maintaining a high-quality, adaptive and responsive trauma care system. Consistent performance improvement ensures that the trauma system consistently improves and adapts to provide optimal care for injured patients.

The Wisconsin Trauma Registry is authorized under Wis. Admin. Code § DHS 118.09 to maintain data on traumatic injuries including the injury event, prehospital information, patient demographics, imaging, diagnosis, treatment, and short-term outcomes. The trauma registry is hosted through ImageTrend. DHS is authorized to analyze this data for injury prevention, education, research, and evaluation purposes at the local, regional, and state level. RTACs and hospitals can use their own data for performance improvement and tracking purposes and deidentified aggregate data may be used by public health researchers and entities.

## Data collection

All Wisconsin trauma centers, as well as hospitals planning to become a trauma center, must submit data to the Wisconsin Trauma Registry. Data submissions must be completed on a quarterly basis or within 60 days of patient discharge depending on the data submission method. If a patient is transported to a hospital submitting trauma data by EMS agencies, relevant WARDS reports are also collected.

Hospitals may enter data directly into the trauma registry for no cost or purchase their own registry software. The Wisconsin Trauma Data Dictionary supports registrars in reporting trauma cases to the trauma registry by outlining inclusion criteria (Appendix F) and required data reporting descriptions. Hospitals may choose to include injuries and events outside of the inclusion criteria set by the state. Data sent to the State Trauma Registry is confidential and protected. Trauma registry data format is aligned with the ACS and National Trauma Data Bank (NTDB) standards.

DHS 110 requires EMS agencies to have a mass casualty incident patient movement plan. It is an option to use EMTrack as an electronic means to track persons and can be used to trace the movement of persons through the health care system. It shares data between incident commanders, field responders, and health care organizations in real-time. EMS may use EMTrack for transfers, diversion, and acceptance reports. EMTrack is interoperable with EMResource and can also be used for performance improvement. EMResource tracks hospital availability and resources to support patient transfer and communicate when emergency departments can receive patients. WARDS Elite

collects patient transfer and scene information from EMS to form comprehensive patient charts which can be used in performance improvement activities.

## Performance improvement and system compliance

Performance improvement and patient safety (PIPS) are implemented within trauma centers. PIPS can include primary review, secondary review, tertiary review, quaternary review, prehospital review, and follow up actions to investigate injured patient care. This system adheres to requirements in Wis. Admin. Code § DHS 118.15 while Appendix A provides guidance for PIPS program organization. Trauma centers must have an integrated concurrent trauma PIPS program with concurrent inpatient rounding. Trauma centers routinely conduct PIPS to ensure patient care quality. This allows the hospital to track outcomes in real time and address areas for performance improvement quickly and routinely.

Classification PRQs must be submitted to DHS every three years. Beyond the information collected during the PIPS process, PRQs contain supplemental information which can be used for performance improvement and quality management on the hospital and state level during the site review process. PRQs and site reviews support accountability among trauma centers and offer opportunities for assessment and improvement as hospitals are reclassified or seek new classifications. Performance improvement may be implemented during site reviews or routine trauma center processes.

## Research

The trauma system engages in research to improve the trauma system and patient outcomes. Research may be conducted peripherally with external system partners, including universities and injury research centers. Researchers may request aggregate patient data from DHS for injury-related studies. Level I trauma centers are equipped to conduct their own research and may use their own data or collaborate with DHS to access aggregate system-wide data. Research collaborations and explorations support development of trauma system improvements and injury prevention to decrease injured patient morbidity and mortality.

## Goals and objectives

| **Goal:** Optimize system collaboration and evaluation through data integration. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Integrate and align data between data systems (WARDS, EMResource, E-Licensing, Cardiac Arrest, OHI, Trauma, GIS tools, EMTrack, stroke, and STEMI). | DHS | 3 years | 1 written plan to align data and optimize their integration<br><br>Update indicator options in the registry to align with the written plan. |
| Integrate injury data into public health risk assessments at community, regional, | DHS, RTACs | 2 years | Add an injury indicator into the state health risk assessment. |

| | | | |
|---|---|---|---|
| and state levels so that injury is emphasized in planning and action. | | | Disseminate recommended injury metrics to counties and RTACs to promote their use in local risk assessments.<br>Repeat advocacy when new risk assessments are planned. |

| **Goal:** Leverage trauma system data in decision-making, outreach, and action. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Engage the health care community and trauma system participants in performance improvement. | RTACs | 2 years | 1 annual feedback session on performance improvement<br>1 annual survey for feedback on the system from the public, health care personnel and system participants |
| Analyze the impact of outreach programs to support system improvement. | DHS | 4 years | >3 metrics developed to measure outreach impact, measured annually |
| Develop data-focused decision-making processes and indicators aligned with national and global goals. | DHS | 1 year | 1 spreadsheet and 1 report linking current trauma system indicators and programs with national and global goals<br>1 action plan outlining missing goals or gaps in data to be filled in following years |
| Ensure data-focused decision-making opportunities and methods are integrated into local, regional, and state performance improvement processes and programs. | DHS | 3 years | 1 review of each regional trauma system performance improvement plans with actionable steps for improvement<br>1 review of state trauma system performance improvement plan with actionable steps for improvement<br>Biannual review of performance improvement methods recommended by the state |

# Emergency and disaster preparedness

The trauma system is complementary to the disaster management and mass casualty incident (MCI) response system. Trauma system components, including prehospital EMS and trauma centers, may be mobilized to respond to MCIs and local disasters. Disasters and MCIs often result in traumatic injuries among multiple patients. The resources that equip trauma centers to respond to traumatic injuries optimize them to receive injured patients from disasters or MCIs.

During MCIs, communication and organization comes from the Incident Command System (ICS). Most MCI plans are developed on the local level and use overlapping resources with the statewide trauma system. DHS offers free communication systems to facilitate emergency preparedness and response. EMResource provides real-time situational awareness of ongoing incidents and polls hospital bed availability while EMTrack traces the movement of persons involved in an incident. Communication systems are available to the normally operating trauma system and the emergency and disaster response system. HERCs and RTACs are involved in bringing regional EMS together to prepare for emergencies and disasters. Regular training and drills for large scale incidents are conducted in communication systems to prepare for disasters. Public Health Emergency Preparedness (PHEP) Advisory Committee allocates resources and provides programs to prepare for public health emergencies, including detecting, investigating, addressing, and recovering from emergencies. The HERCs, RTACs, PHEP, and trauma system collaborate to address and prepare for emergencies.

Under regular and disaster circumstances, the trauma system must be prepared to address obstacles in responding to injuries and incidents arising from rurality and low population densities. Organization of personnel and resources and communication are necessary to address these challenges.

## Goals and objectives

| **Goal:** Assure trauma system readiness for emergencies and disasters by improving capacity and coordination. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Coordinate with preparedness partners across local, regional, and state levels to develop plans and respond to emergencies and disasters. | DHS | 2 years | The Wisconsin Hazards Mitigation Plan and written trauma system specifications are available for coordinators at each response level and organization |
| Improve trauma system capacity through readiness trainings, drills, and exercises. | HERC and RTAC | 5 years | Each HERC and RTAC region supports at least 1 readiness training, drill or exercise annually<br>Post-training reports and/or surveys show an increase in readiness and understanding |
| Utilize post-disaster and post-drill reports to evaluate system preparedness and | HERC and RTAC | 5 years | Each post-disaster or drill report is shared with leaders involved in the drill and other regions' HERC and RTAC leads |

| | | | |
|---|---|---|---|
| communicate improvement areas to partners. | | | |

# Injury prevention

Injury prevention is critical to the future of the trauma care system. Injury prevention decreases the number of injured patients who enter the trauma system and lowers overall injury morbidity and mortality. Injury can be prevented prior to the injury event or reduced in severity after the injury event to improve patient outcomes. Thus, injury prevention focuses on community mechanisms to avoid injury or provide rapid first aid following injuries.

## Injury prevention activities

- Bike helmet handout events
- Bike rodeos for helmet fitting and bike safety
- Stop the Bleed® education events for communities, school districts, and emergency responders
- Trauma awareness weeks and month
- Fall awareness and rug safety events
- Suicide prevention
- Distracted and reckless driving outreach events
- Motorcycle safety courses
- Teen driver clinics
- Car seat education and handouts
- Water safety and life jacket loaner stations
- ATV education
- Gun locks

## Injury prevention resources

- 211 Wisconsin
- American Automobile Association
- American Red Cross
- ATV Safety Institute
- CDC Injury Center
- Children's Hospital of Wisconsin
- Comprehensive Injury Center (CIC) Division of Suicide Prevention
- Comprehensive Injury Center (CIC) Division of Violence Prevention
- Falls Free Wisconsin
- Futures Without Violence Intimate Partner Violence Resources
- HEADS UP for Concussions
- Impact Teen Drivers
- Marshfield Clinic National Children's Center for Rural and Agricultural Health and Safety
- Medical College of Wisconsin Comprehensive Injury Center
- National Child Passenger Safety Board
- National Council on Aging
- National Highway Traffic Safety Administration (NHTSA)
- National Injury Prevention Foundation Think First

- National Safety Council (NSC)
- Northwell Health Gun Violence Resources
- Prevent Child Injury
- Safe Kids Wisconsin
- Sea Tow Foundation for Life Jacket Resources
- Stop the Bleed
- The Wisconsin Alcohol Policy Project (WisApp)
- Wisconsin Bike Fed
- Wisconsin Department of Natural Resources (DNR)
- Wisconsin Department of Transportation (WisDOT)
- Wisconsin Injury and Violence Prevention Program
- Wisconsin Institute for Healthy Aging (WIHA)
- Wisconsin Interactive Statistics on Health

## Goals and objectives

| **Goal:** Decrease traumatic injuries in Wisconsin communities through systematic and data-informed approaches. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Offer technical assistance, support, and outreach to support injury prevention based on data and best practices. | DHS | 2 years | Support new outreach activity proposals with data or science-backed practices and methods as documented through writing |
| Integrate analyses of alcohol-related injuries into data collection and injury prevention outreach to better understand the role alcohol plays in traumatic injury. | RTACs | 3 years | Annual one-page document on alcohol-related injuries for dissemination which uses statewide trauma data<br>>1 alcohol-focused injury prevention event annually per region |
| Develop injury prevention programs to address focus areas and gaps demonstrated in regional data. | RTACs | 5 years | Annual data focus area and associated activity reports by each RTAC |

# Education and training

Education for health care personnel, the public, policymakers, and trauma system leaders supports effective trauma system management and injury prevention. Formal education and training for EMS personnel develops their capacity to respond to emergencies and smoothly transition patients into the trauma system. Trainings for trauma system and health care leaders ensures their understanding of trauma system processes and updates to improve performance. Educating the public on injury prevention and response can decrease the injury load on the trauma system and prevent future morbidities and mortalities related to injury. To support these efforts, DHS, RTACS, and health care systems develop outreach materials and courses for a variety of audiences.

## List of DHS course offerings

- Trauma Program Basics (101)
- Trauma Program Performance Improvement (201)
- Trauma Registry Data Entry
- Trauma Registry Transactional Reporting
- Trauma Registry Analytical Tabular Reporting
- Trauma Registry Open Office Hours
- Wisconsin Trauma Coordinator Networking

## Goals and objectives

| **Goal:** Increase public understanding and support of the Wisconsin trauma system. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Educate DHS, the state legislature, and the public about the trauma system using an effective narrative. | DHS | 3 years | 1 developed narrative document disseminated to applicable partners |
| Strengthen community capacity to improve health outcomes through trainings and outreach programs. | RTACs | 4 years | >4 events annually in each RTAC related to community education and advocacy<br>Evaluation plan template developed for measuring community impact and prioritizing focus areas |

| **Goal:** Develop a skilled workforce to provide injury prevention and trauma care services. | | | |
|---|---|---|---|
| **Objective** | **Leadership** | **Timeline** | **Benchmark** |
| Support facilities in using the trauma registry to its fullest capacity through training courses, videos and documents. | DHS | 3 years | Offer education materials to >90% of hospitals in Wisconsin<br>Trauma registry training reaches at least one person at >75% of trauma centers |
| Identify gaps in trauma system knowledge through | DHS | 2 years | Document outlining in the trauma system knowledge among trauma center personnel and the public |

| | | | |
|---|---|---|---|
| data and use experts to improve general understanding. | | | Invite experts to open meetings or focused events to directly address the gaps outlined in the above document |

# Finance

The Wisconsin Trauma Care System is funded by federal grants, the Wisconsin Department of Transportation (DOT), and Wisconsin General Purpose Revenue (GPR). DHS distributes GPR, DOT, and federal funds to RTACs, trauma center site reviewers, and other grantees. To support financial accountability, RTACs and associated organizations submit their budgets and expenses to DHS for approval. The Hospital Preparedness Program federal grant funds DHS personnel involved in the trauma system.

## Goals and objectives

| **Goal:** Ensure sustainable funding for all trauma system functions necessary to ensure positive injured patient outcomes. | | | |
|---|---|---|---|
| **Objective** | **Lead** | **Timeline** | **Benchmark** |
| Uplift health impacts in policy conversations by advocating for trauma system funding and developing a strategic message to promote trauma system support. | DHS | 3 years | 1 written strategic message plan |
| Develop a strategic approach to support sustainable funding which incorporates partner feedback, resources, and best practices. | STAC | 1 year | Written document outlining sustainable funding goals, partners and engagement, resource sharing, and related actionable activities |
| Manage fiscal resources in alignment with DPH and trauma system core values. | DHS | 4 years | Annually, ensure at least 75% of funds are aligned with a category outlined in the trauma system strategic plan (e.g. injury prevention). |
| Evaluate funding and ideal funding status necessary to fully fund the trauma care system through a system fiscal assessment. | DHS | 2 years | Generate a value for ideal funding status for each major trauma system component.<br>A document tracking funding changes over time |
| Combine financial data with outcome and cost data to estimate true system costs and benefits by including financial costs in the registry and analyzing annually. | DHS | 3 years | A recorded cost estimate for each year after 2023<br>A literature review or cost analysis document outlining cost estimation procedures and sources |

# Trauma system priorities

The goals in this trauma system plan guide the future efforts of organizations involved with the Wisconsin Trauma Care System. Certain goals are prioritized to promote growth in the areas of injury prevention, trauma center classification, and data utilization.

## Priority goals

- Decrease traumatic injuries in Wisconsin communities through systematic and data-informed approaches.
- Increase access to a robust, growing statewide trauma system by increasing the number of classified hospitals in the trauma system.
- Optimize trauma system collaboration and evaluation through data integration.
- Leverage trauma system data in decision-making, outreach, and action.
- Reduce emergency department visits for nonfatal injuries and reduce fatal injuries in Wisconsin.

# Conclusion

A state trauma system improves health outcomes across the state by setting standards, allocating resources, and connecting EMS and hospital personnel across county borders. By investing in our local trauma systems and achieving cross-cutting strategic goals, the Wisconsin statewide trauma system will develop and integrate partners, communities, and health systems. Through the implementation of this state trauma system plan, Wisconsin dedicates itself to supporting healthy communities, fostering sustainable collaboration, and decreasing traumatic injury morbidity and mortality in our state.

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# Appendix B. Definitions and Acronyms

| | |
|---|---|
| **ASPR** | Administration for Strategic Preparedness and Response |
| **CDC** | Centers for Disease Control and Prevention |
| **CQI** | Continuous Quality Improvement |
| **DHS** | Department of Health Services |
| **DPH** | Division of Public Health |
| **EMResource** | Healthcare Emergency Resource Management |
| **EMS** | Emergency Medical Services |
| **EMSC** | Emergency Medical Services for Children |
| **EMTrack** | Patient Tracking and Population Tracking System |
| **HEP** | Health Emergency Preparedness and Response |
| **HERC** | Healthcare Emergency Readiness Coalition |
| **HHS** | US Department of Health and Human Services |
| **HIPPA** | Health Insurance Portability and Accountability Act |
| **HPP** | Hospital Preparedness Program |
| **ICD** | International Classification of Diseases |
| **ICU** | Intensive Care Unit |
| **IP** | Improvement Plan |
| **MCI** | Mass Casualty Incident |
| **OPEHC** | Office of Preparedness and Emergency Health Care |
| **PHEP** | Public Health Emergency Preparedness Program |
| **PI** | Performance Improvement |
| **PRQ** | Pre-Review Questionnaire |
| **RTAC** | Regional Trauma Advisory Council |
| **STAC** | Statewide Trauma Advisory Council |
| **TQIP** | Trauma Quality Improvement Program |
| **TRAIN** | Training Finder Real-Time Affiliate Integrated Network |
| **WARDS** | Wisconsin Ambulance Run Data System |
| **WEM** | Wisconsin Emergency Management |
| **WERP** | Wisconsin Emergency Response Plan |

**Audit Filters:** filters defined by ACS guidelines and the state which describe trauma events' actions, timeframes and outcomes

**Basic Life Support:** a part of first aid that includes CPR, AED use, and ventilations

**Bypass:** the outcome of triage wherein a team takes a trauma patient to a higher-level trauma facility
**Classification:** the trauma level of a hospital as determined by the state which describes their capabilities and services on levels 1–4, also known as 'designation'
**Diversion:** action taken when hospitals communicate to EMS personnel to transport the patient to another facility
**Field Triage:** determination of patient injury and severity by EMS prior to transportation to a facility
**In-House:** within the same hospital or health care facility
**Injury Severity Score (ISS):** a scoring system used to determine the severity of traumatic injuries on a scale of 0 to 6 where 0 is uninjured and 6 is lethal
**International Classification of Diseases (ICD):** a framework used to record diagnostic health information
**Mechanism of Injury:** the cause of an injury, such as a firearm or fall
**Morbidity:** the rate or number of individuals with a specific health condition in a given population
**Mortality:** the rate or number of deaths in a given population
**Trauma Patient:** a patient who has sustained a traumatic injury
**Traumatic Injury:** a piercing or blunt force injury (by a person, object, or force)

# Appendix C. National Guidelines for Field Triage of Injured Patients

## National Guideline for the Field Triage of Injured Patients

### *RED CRITERIA*
***High Risk for Serious Injury***

| Injury Patterns | Mental Status & Vital Signs |
|---|---|
| • Penetrating injuries to head, neck, torso, and proximal extremities<br>• Skull deformity, suspected skull fracture<br>• Suspected spinal injury with new motor or sensory loss<br>• Chest wall instability, deformity, or suspected flail chest<br>• Suspected pelvic fracture<br>• Suspected fracture of two or more proximal long bones<br>• Crushed, degloved, mangled, or pulseless extremity<br>• Amputation proximal to wrist or ankle<br>• Active bleeding requiring a tourniquet or wound packing with continuous pressure | **All Patients**<br>• Unable to follow commands (motor GCS < 6)<br>• RR < 10 or > 29 breaths/min<br>• Respiratory distress or need for respiratory support<br>• Room-air pulse oximetry < 90%<br><br>**Age 0–9 years**<br>• SBP < 70mm Hg + (2 x age years)<br><br>**Age 10–64 years**<br>• SBP < 90 mmHg or<br>• HR > SBP<br><br>**Age ≥ 65 years**<br>• SBP < 110 mmHg or<br>• HR > SBP |

***Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system***

### *YELLOW CRITERIA*
***Moderate Risk for Serious Injury***

| Mechanism of Injury | EMS Judgment |
|---|---|
| • High-Risk Auto Crash<br>– Partial or complete ejection<br>– Significant intrusion (including roof)<br>• >12 inches occupant site OR<br>• >18 inches any site OR<br>• Need for extrication for entrapped patient<br>– Death in passenger compartment<br>– Child (Age 0–9) unrestrained or in unsecured child safety seat<br>– Vehicle telemetry data consistent with severe injury<br>• Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.)<br>• Pedestrian/bicycle rider thrown, run over, or with significant impact<br>• Fall from height > 10 feet (all ages) | **Consider risk factors, including:**<br>• Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact<br>• Anticoagulant use<br>• Suspicion of child abuse<br>• Special, high-resource healthcare needs<br>• Pregnancy > 20 weeks<br>• Burns in conjunction with trauma<br>• Children should be triaged preferentially to pediatric capable centers<br><br>**If concerned, take to a trauma center** |

***Patients meeting any one of the YELLOW CRITERIA WHO DO NOT MEET RED CRITERIA should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highest-level trauma center)***

Newgard, C.D., Fischer, P.E., Gestring, M., Michaels, H.N., Jurkovich, G.J., Lerner, E.B., Fallat, M.E., Delbridge, T.R., Brown, J.B., Bulger, E.M., the Writing Group for the 2021 National Expert Panel on Field Triage. (2022). National guideline for the field triage of injured patients: Recommendations of the National Expert Panel on Field Triage, 2021. *Journal of Trauma and Acute Care Surgery, 93*(2), p e49-e60. DOI: 10.1097/TA.0000000000003627

# Appendix D. Levels III and IV Classification Criteria

This guide provides the criteria necessary to obtain a trauma care facility (TCF) level III or level IV classification, as outlined in Wis. Admin. Code Ch. DHS 118.

**Trauma Care System**

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 1(a) | TCFs and their health care providers must be active and engaged participants in the trauma care system and promote standardization, integration, and PIPS throughout the region and state. TCFs must be involved in state and regional trauma care system planning, development and operation and actively participate in regional and statewide trauma care system meetings and committees that provide oversight. The TPM, TMD or trauma registrar must attend at least 50% of the TCF's RTAC meetings annually. The TPM, TMD or trauma registrar may not represent more than three TCFs at any one RTAC meeting. |

**Description of Trauma Care Facilities and Their Role in a Trauma Care System**

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 2(a) | The TCF must have an integrated, concurrent trauma PIPS program. |
| III | 2(b) | The TCF must have surgical commitment. Surgical commitment may be demonstrated in a number of ways, including:<br>(1) Having a surgeon who is the full-time director of the trauma program.<br>(2) Having surgeons who take an active role in all aspects of caring for injured patients.<br>(3) Having surgical participation in the trauma PIPS program.<br>(4) Having surgeons who assume an advocacy role for injured patients.<br>(5) Having surgical leadership promoting the trauma program to the community, hospital and other colleagues |
| III & IV | 2(c) | The TCF must be able to provide the necessary human and physical resources including the physical plant and equipment as well as policies<br>and procedures to properly administer acute care for all ages, consistent with their level of classification |
| III & IV | 2(d) | To care for adult patients, the TCF must have emergency department policies, procedures, protocols, or guidelines for:<br>(1) Sedation and analgesia.<br>(2) Medical imaging.<br>(3) Injury imaging.<br>(4) Dosing for intubation medications, code drugs and neurologic drugs. |
| III & IV | 2(e) | The TCF must have the following medications and equipment readily available for emergency care:<br>(1) Airway control and ventilation.<br>(2) Pulse oximetry.<br>(3) End tidal carbon dioxide determination.<br>(4) Suction.<br>(5) Electrocardiogram monitoring or defibrillation.<br>(6) Fluid administration such as standard intravenous therapy or large- bor administration devices and catheters.<br>(7) Cricothyrotomy, thorascostomy, vascular access and chest decompression.<br>(8) Gastric decompression.<br>(9) Conventional radiology.<br>(10) Two-way radio communication with ambulance crew or rescue.<br>(11) Skeletal and cervical immobilization.<br>(12) Thermal control for patients and resuscitation fluids.<br>(13) Rapid fluid infusion. |

| | | |
|---|---|---|
| III | 2(f) | It is expected that the surgeon will be in the emergency department on patient arrival with adequate notification from the field. The maximum acceptable surgeon response time, with notification from the field and tracked from patient arrival, is 30 minutes for the highest-level activation. The surgeon must be activated for all highest-level activations regardless of impending transfer or other scenario. |
| IV | 2(g) | It is expected that a physician, if available or APP/midlevel provider will be in the emergency department on patient arrival with adequate notification from the field. The maximum acceptable response time for a physician or APP/midlevel provider, with notification from the field and tracked from patient arrival, is 30 minutes for the highest-level activation. The TCF must demonstrate, through documentation in the medical record, that a physician or APP/ midlevel provider is present within 30 minutes at least 80% of the time for all highest-level activations. All activations and response times must be reviewed in the trauma PIPS program. For TCFs with less than six highest level activations annually, physician and APP/midlevel provider response time may be tracked over three years. |
| III | 2(h) | The TCF must have continuous general surgical coverage. The TCF must have a back-up plan in place for when a surgeon is not available. The back-up plan may include activation of a back-up surgeon or transfer of the patient. A surgeon may be on-call at more than one TCF, but each TCF must have a back-up plan. The TCF must monitor all the times that a surgeon is unable to respond through the trauma PIPS program. |
| III & IV | 2(i) | The TCF must have transfer plans that include a plan for expeditious critical care transport, follow-up and performance monitoring. |
| IV | 2(j) | The TCF must have collaborative treatment and transfer guidelines reflecting the TCF's capabilities. These treatment and transfer guidelines must be developed and regularly reviewed with input from higher-level TCFs in the region. |
| IV | 2(k) | The TCF must have 24-hour emergency coverage by a physician or APP/midlevel provider. |
| IV | 2(l) | The TCF's emergency department must:<br>(1) Be continuously available for resuscitation.<br>(2) Have continuous coverage by a registered nurse.<br>(3) Have continuous coverage by a physician or APP/midlevel provider.<br>(4) Have a physician as its medical director. |
| IV | 2(m) | Physicians licensed to practice medicine who treat trauma patients in the ED must be current in ATLS unless the physician is board-certified in emergency medicine. APPs/midlevel providers who participate in the initial evaluation of trauma patients must be current in ATLS. This may be fulfilled by the Comprehensive Advanced Life Support program if the program includes the mobile trauma module skills station and the provider is re-verified every four years. The Rural Trauma Team Development Course does not fulfill this requirement. |
| III & IV | 2(n) | A TMD and TPM knowledgeable and involved in trauma care must work together with guidance from the trauma multidisciplinary peer review committee to identify events, develop corrective action plans and ensure methods of monitoring, reevaluating and benchmarking. |
| III & IV | 2(o) | The trauma multidisciplinary peer review committee must:<br>(1) Meet at least quarterly to ensure cases are being reviewed in a timely fashion.<br>(2) Review systemic and care provider issues and propose improvements to the care of the injured patient.<br>(3) Include the TPM, TMD and other key staff and departments involved with care of the trauma patient as members of the committee.<br>(4) Have representation from general surgery, including all general surgeons taking trauma call.<br>(5) Have liaisons from emergency medicine, orthopedics, anesthesiology, critical care and the ICU.<br>(6) Have liaisons from all the specialty care services, such as neurosurgery and radiology, provided by the TCF.<br>(7) Require 50% attendance of its continuous members and document attendance.<br>(8) Systematically review mortalities, significant complications and process variances associated with unanticipated outcomes and determine opportunities for improvement, as evidenced by documented meeting minutes. |

| | | |
|---|---|---|
| | | (9) Review selected cases involving multiple specialties, mortality data, adverse events and problem trends.<br>If a designated liaison is unable to attend, another representative from the same service team may participate in their place. The TCF may determine which members of the trauma multidisciplinary peer review committee are continuous versus ad-hoc. |
| III & IV | 2(p) | The TCF's trauma PIPS program must have audit filters to review and improve pediatric and adult patient care. |
| III | 2(q) | If an adult TCF annually admits 100 or more injured patients younger than 15 years old, the TCF must:<br>(1) Have trauma surgeons credentialed for pediatric trauma care by the facility's credentialing body.<br>(2) Have a pediatric emergency department area.<br>(3) Have a pediatric intensive care area.<br>(4) Have appropriate resuscitation equipment.<br>(5) Have a pediatric-specific trauma PIPS program. |
| III & IV | 2(r) | If an adult TCF annually admits fewer than 100 injured patients younger than 15 years old, the TCF must review the care of injured children as part of the trauma PIPS program. This review must include pediatric admissions and transfers. |

## Prehospital Trauma Care

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 3(a) | The TCF must participate in the training of prehospital care providers, the development and improvement of prehospital care protocols and the prehospital PIPS program. The TCF must review care and provide feedback to prehospital care providers. The TCF can participate in the training of prehospital care providers in a variety of ways including being involved in programs such as Prehospital Trauma Life Support (PHTLS), grand rounds, trauma conferences, and case reviews. |
| III & IV | 3(b) | The trauma health care team, including surgeons, emergency medicine physicians, medical directors for EMS agencies and basic and advanced prehospital personnel must actively participate in the development of protocols that guide prehospital care. |
| III | 3(c) | TCFs must evaluate over and under triage rates on a quarterly basis and perform rigorous multidisciplinary performance improvement to attain a goal of less than five percent under triage. If a TCF is not meeting this goal, the TCF must explain the variance and demonstrate that they are doing performance improvement work to reach this goal |
| III & IV | 3(d) | A TCF must have a diversion protocol for trauma related occurrences, which includes a system to notify dispatch and EMS agencies |
| III | 3(e) | The TMD must be involved in the development of the TCF's diversion protocol for trauma related occurrences. |
| III | 3(f) | A trauma surgeon must be involved in the decision each time the TCF goes on diversion for trauma related occurrences. |
| III | 3(g) | A TCF must not be on diversion for trauma related occurrences more than five percent of the time. |
| III & IV | 3(h) | When a TCF is required to divert for trauma related occurrences it must:<br>(1) Notify other TCFs of divert or advisory status.<br>(2) Maintain a divert log.<br>(3) Review all diverts and advisories to the trauma PIPS program. |
| III & IV | 3(i) | The TCF must routinely document, report and monitor their diversion hours. This documentation must include the reason for initiating the diversion policy. |

## Inter-hospital Transfer

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 4(a) | When transferring a patient direct provider to provider contact is required. |
| III & IV | 4(b) | The TCF's decision to transfer an injured patient to a specialty care facility in an acute situation must be based solely on the needs of the patient and not on the requirements of the patient's specific provider network or the patient's ability to pay. |

| | | |
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| III & IV | 4(c) | When a patient is being transferred out, the TCF must have a contingency plan that includes:<br>(1) A credentialing process to allow the trauma surgeon or other physician to provide initial evaluation and stabilization of the patient.<br>(2) A requirement for direct contact with the accepting facility to arrange for expeditious transfer or ongoing monitoring support.<br>(3) A review process through the trauma PIPS program to monitor the efficacy of the transfer process |
| III & IV | 4(d) | The TCF must review all trauma patients who are transferred out during the acute care phase and all trauma patients transferred to a higher level of care within or outside of the TCF to review the rationale for transfer, appropriateness of care, adverse outcomes and opportunities for improvement. This case review should include evaluation of transport activities and follow-up from the TCF to which the patient was transferred. |

## Hospital Organization and the Trauma Program

| Level | Reference | Description of Criteria |
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| III & IV | 5(a) | The decision of a hospital to become a TCF requires the commitment of the institutional governing body and the medical staff, and this administrative commitment must be documented. The TCF must have resolutions from both the institutional governing body and the medical staff acknowledging this commitment, and these resolutions must empower the trauma PIPS program to address events that involve multiple disciplines and to evaluate all aspects of trauma care. |
| III & IV | 5(b) | The TCF's administrative support must be current at the time of the site visit and must be reaffirmed every three years. The administrative support must be from the Board of Directors, Chief Executive Officer or Chief Administrator and the medical staff or medical executive committee. |
| III & IV | 5(c) | The trauma program must involve multiple disciplines and transcend normal department hierarchies by having appropriate specialty representation from all phases of care. |
| III & IV | 5(d) | The TMD must meet one of the following set of standards:<br>(1) Be a current board-certified general surgeon, neurosurgeon or orthopedic surgeon and be actively involved in the care of trauma patients.<br>(2) Be eligible for board certification in general surgery, neurosurgery or orthopedic surgery and be actively involved in the care of trauma patients.<br>(3) Be approved to take trauma call through the alternate pathway requirements for general surgeons, neurosurgeons or orthopedic surgeons and be actively involved in the care of trauma patients.<br>(4) Be a current board certified emergency medicine physician and staff the emergency department.<br>(5) Be eligible for board certification as an emergency medicine physician and staff the emergency department.<br>(6) Be approved to take trauma call through the alternate pathway for emergency medicine physicians and staff the emergency department. |
| III & IV | 5(e) | The TMD must be current in ATLS. |
| III & IV | 5(f) | The TMD must have the authority to manage all aspects of trauma care. |
| III | 5(g) | The TMD may not direct more than two trauma centers. |
| III & IV | 5(h) | The TMD must actively participate in the trauma multidisciplinary PIPS review committee. |
| III | 5(i) | The TMD, in collaboration with the TPM, must have the responsibility and authority to report any deficiencies in trauma care and any trauma team members who do not meet specified trauma call criteria to the appropriate person(s). |
| III | 5(j) | The TMD must conduct, and have the authority to conduct, an annual assessment of the trauma panel providers in the form of Ongoing Professional Practice Evaluation and Focused Professional Practice Evaluation when indicated by findings of the trauma PIPS process. The TMD must have the authority to recommend changes for the trauma panel based on performance review. |
| III & IV | 5(k) | The TMD and TPM must be granted authority by the hospital governing body to lead the trauma PIPS program. This authority must be evidenced in written job descriptions for both the TMD and TPM. |

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| III & IV | 5(l) | The criteria for a graded activation must be clearly defined by the TCF. TCFs must have the highest level of activation. The highest level activation criteria must include the following criteria:<br>(1) Confirmed blood pressure less than 90 millimeters of mercury at any time in adults and delineated by age range hypotension in children.<br>(2) Gunshot wounds to the neck, chest, or abdomen or extremities proximal to the elbow/knee.<br>(3) Glasgow coma scale score less than nine with mechanism attributed to trauma.<br>(4) Transfer patients from other hospitals receiving blood to maintain vital signs.<br>(5) Intubated patients transferred from the scene or patients who have respiratory compromise or are in need of an emergency airway. This includes intubated patients who are transferred from another facility with ongoing respiratory compromise.<br>(6) Emergency medicine physician's discretion. |
| III & IV | 5(m) | The trauma team, as defined by the TCF, must be fully assembled within 30 minutes of trauma activation. |
| III & IV | 5(n) | The TCF's trauma PIPS program must evaluate on an ongoing basis the potential criteria for the various levels of trauma team activation to determine which patients require the resources of the full trauma team. Variances in trauma team activation must be documented and reviewed for reasons for delay, opportunities for improvement and corrective actions. |
| III & IV (if TCF provides surgical services for trauma patients) | 5(o) | An emergency medicine physician may initially evaluate the limited-tier trauma patient, but the TCF must have a clearly defined response expectation for the trauma surgical evaluation of those patients requiring admission. |
| III | 5(p) | The TCF may admit injured patients to individual surgeons, but the structure of the trauma program must allow the TMD to have oversight authority for the care of these patients. The TCF must have a process for the TMD and TPM to review inpatient cases through the trauma PIPS program. |
| III & IV (if TCF provides surgical services for trauma patients) | 5(q) | For TCFs that admit injured patients to individual surgeons or nonsurgical services, the TCF must have a method to identify injured patients, monitor the provision of health care services, make periodic rounds and hold discussions with individual practitioners. These activities may be carried out by the TPM in conjunction with the TMD at a frequency commensurate with the volume of trauma admissions. |
| III & IV (if TCF provides surgical services for trauma patients) | 5(r) | A TCF must have written guidelines for the care of non-surgically admitted patients. TCFs that admit more than 10% of injured patients to non-surgical services must review all non-surgical admissions through the trauma PIPS program. Care must be reviewed for appropriateness of admission, patient care, complications and outcomes. If a trauma patient is admitted by an internal medicine physician for medical comorbidities or medical management, a surgical consultation is required. |
| III & IV | 5(s) | The TPM must show evidence of educational preparation, relevant clinical experience in the care of injured patients and administrative ability. The TCF may determine who meets these requirements. Evidence that a TPM meets these requirements may include a copy of the trauma coordinator job description. The TPM may be a nurse, but does not have to be. |

## Clinical Functions: General Surgery

| Level | Reference | Description of Criteria |
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| III | 6(a) | The TCF must have continuous general surgery capability. |
| III & IV (if TCF provides surgical services for trauma patients) | 6(b) | General surgeons must meet one of the following set of standards in order to take trauma call:<br>(1) Be board certified by the American Board of Surgery.<br>(2) Be eligible for board certification by the American Board of Surgery according to current criteria.<br>(3) Meet the general surgery alternate pathway requirements in 6(c); or<br>(4) Have completed an Accreditation Council for Graduate Medical Education or Canadian residency and be recognized by a major professional organization. |
| III & IV (if TCF provides surgical services for trauma patients) | 6(c) | The alternate pathway requirements for general surgeons are:<br>(1) Completion of a residency training program in general surgery, with the time period consistent with years of training in the United States. The completion of a residency training program must be evidenced by a certified letter from the program director.<br>(2) Current certification as a provider or instructor of the ATLS program.<br>(3) Completion of 36 hours of trauma continuing medical education within the last three years.<br>(4) Attendance at educational meetings and at least 50% of all trauma PIPS meetings in the past three years.<br>(5) Membership or attendance at local and regional or national meetings during the past three years.<br>(6) Provision of a list of patients treated in the last three years with accompanying Injury Severity Score and outcome data.<br>(7) Completion of a performance improvement assessment by the TMD demonstrating that the morbidity and mortality results for patients treated by the surgeon compare favorably with comparable patients treated by other members of the call panel.<br>(8) License to practice medicine and approval for full and unrestricted surgical privileges by the facility's credentialing committee. |
| III & IV (if TCF provides surgical services for trauma patients) | 6(d) | Trauma surgeons in a TCF must have privileges in general surgery. |
| III & IV (if TCF provides surgical services for trauma patients) | 6(e) | The attending surgeon must be present in the operating room for all operations and the TCF must document the presence of the attending surgeon. |
| III & IV (if TCF provides surgical services for trauma patients) | 6(f) | All general surgeons on the trauma team must have successfully completed the ATLS course at least once. |

## Clinical Functions: Emergency Medicine

| Level | Reference | Description of Criteria |
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| III | 7(a) | The TCF's emergency department must have a designated emergency physician director supported by an appropriate number of additional physicians to ensure immediate care for injured patients. |

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| III | 7(b) | When it is necessary for the physician to leave the emergency department for short periods to address in-house emergencies, these cases and their frequency must be reviewed by the trauma PIPS program for timeliness of response and appropriateness of care and to ensure that this practice does not adversely affect the care of patients in the emergency department. |
| III & IV | 7(c) | For TCFs with an emergency medicine residency training program, supervision must be provided by in-house attending emergency physicians 24 hours per day |
| III & IV | 7(d) | Emergency medicine physicians must meet one of the following set of standards in order to take trauma call:<br>(1) Be board certified in emergency medicine.<br>(2) Be eligible for board certification by the appropriate emergency medicine board according to current criteria.<br>(3) Be board certified in a specialty other than emergency medicine recognized by the American Board of Medical Specialties, the American Osteopathic Association, or the Royal College of Physicians and Surgeons of Canada.<br>(4) Meet the emergency medicine alternate pathway requirements; or<br>(5) Have completed an Accreditation Council for Graduate Medical Education or Canadian residency and be recognized by a major professional organization. Note: An example of recognition by a major professional organization is being a fellow of the ACS. |
| III & IV | 7(e) | The alternate pathway requirements for emergency medicine physicians are:<br>(1) Completion of a residency training program in emergency medicine, with the time period consistent with years of training in the United States. The completion of a residency training program must be evidenced by a certified letter from the program director.<br>(2) Current certification as a provider or instructor of the ATLS program.<br>(3) Completion of 36 hours of trauma continuing medical education within the last three years.<br>(4) Attendance at educational meetings and at least 50% of all trauma PIPS meetings in the past three years.<br>(5) Membership or attendance at local and regional or national meetings during the past three years.<br>(6) Provision of a list of patients treated in the last three years with accompanying Injury Severity Score and outcome data.<br>(7) Completion of a performance improvement assessment by the TMD demonstrating that the morbidity and mortality results for patients treated by the emergency medicine physician compare favorably with comparable patients treated by other members of the call panel.<br>(8) License to practice medicine and approval for full and unrestricted emergency medicine privileges by the facility's credentialing committee. |
| III & IV | 7(f) | Emergency medicine physicians on the emergency department schedule must be regularly involved in the care of injured patients. |
| III & IV | 7(g) | A representative from the emergency department must participate in the prehospital PIPS program. |
| III & IV | 7(h) | If the TMD is not an emergency medicine physician, there must be a designated emergency medicine physician liaison available to the TMD for trauma PIPS issues that occur in the emergency department. As part of the trauma PIPS program, the designated emergency medicine physician liaison must be responsible for all emergency department audits, critiques and mortality review of patients treated in the emergency department. |
| III | 7(i) | Emergency medicine physicians must participate actively in the overall trauma PIPS program and the multidisciplinary trauma peer review committee. |
| III & IV | 7(j) | Physicians who are licensed to practice medicine who treat trauma patients in the emergency department must be current in ATLS unless the physician is board-certified in emergency medicine. APPs/midlevel providers who participate in the initial evaluation of trauma patients must be current in ATLS. For Level IV TCFs, this may be fulfilled by the Comprehensive Advanced Life Support program if the program includes the mobile trauma module skills station and the provider is re-verified every four years. The Rural Trauma Team Development Course does not fulfill this requirement. |

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| III & IV | 7(k) | All board-certified emergency medicine physicians or those eligible for certification by an appropriate emergency medicine board according to current requirements must have successfully completed the ATLS course at least once. |

## Clinical Functions: Neurosurgery

| Level | Reference | Description of Criteria |
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| III & IV | 8(c) | The TCF must have a written policy or guideline approved by the TMD that defines which types of patients require a response by neurosurgery and which type of neurosurgical injuries may remain at the TCF and which should be transferred. |
| III & IV | 8(d) | If a TCF does not have neurosurgical coverage, all patients requiring ICP monitoring and patients with significant traumatic brain injuries should be transferred to a higher level TCF. If the TCF does not transfer the patient with a traumatic brain injury, the scope of practice and care of the patient must be outlined in a written guideline or policy. |
| III & IV | 8(e) | For all neurosurgical cases, whether patients are admitted or transferred, care must be timely and appropriate. |
| III & IV | 8(f) | If a TCF provides neurosurgical services, neurosurgery must be part of the trauma PIPS program. |
| III, if the TCF provide neurosurgery for trauma patients & IV, if the TCF provide neurosurgery for trauma patients | 8(a) | The TCF must have a formal and published contingency plan for times in which a neurosurgeon is encumbered upon the arrival of a neuro-trauma case. The contingency plan must include:<br>(1) A credentialing process to allow the trauma surgeon to provide initial evaluation and stabilization of a neuro-trauma patient.<br>(2) A requirement for direct contact with the accepting facility to arrange for expeditious transfer or ongoing monitoring support.<br>(3) A review process through the trauma PIPS program to monitor the efficacy of the plan and process. The TCF, in conjunction with a higher level classification TCF, may define the non-survivable injury patient who can be kept at the facility and transmitted to palliative care. |
| III, if the TCF provide neurosurgery for trauma patients & IV, if the TCF provide neurosurgery for trauma patients | 8(b) | If one neurosurgeon covers more than one TCF, each TCF must have a published back-up schedule. The back-up schedule may include calling a back-up neurosurgeon, guidelines for transfer or both. The trauma PIPS program must demonstrate that appropriate and timely care is provided when the back-up schedule must be used. |
| III, if the TCF provide neurosurgery for trauma patients, & IV, if the TCF provide neurosurgery for trauma patients | 8(g) | For neurosurgical cases, the trauma PIPS program must:<br>(1) Monitor all patients admitted or transferred.<br>(2) Review all cases requiring backup to be called in or the patient to be diverted or transferred because of the unavailability of the neurosurgeon on call.<br>Monitor the 30-minute response time for the neurosurgeon once consulted. |

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| III, if the TCF provide neurosurgery for trauma patients & IV, if the TCF provide neurosurgery for trauma patients | 8(h) | Neurosurgeons must meet one of the following set of standards in order to take trauma call:<br>(1) Be board certified by an appropriate neurosurgical board.<br>(2) Be eligible for board certification by an appropriate neurosurgical board.<br>(3) Meet the neurosurgery alternate pathway requirements; or<br>(4) Have completed an Accreditation Council for Graduate Medical Education or Canadian residency and be recognized by a major professional organization.<br>*Note: An example of recognition by a major professional organization is being a fellow of the ACS.* |
| III, if the TCF provide neurosurgery for trauma patients & IV, if the TCF provide neurosurgery for trauma patients | 8(i) | The alternate pathway requirements for neurosurgeons are:<br>(1) Completion of a residency training program in neurosurgery, with the time period consistent with years of training in the United States. The completion of a residency training program must be evidenced by a certified letter from the program director.<br>(2) Current certification as a provider or instructor of the ATLS program.<br>(3) Completion of 36 hours of trauma continuing medical education within the last three years.<br>(4) Attendance at educational meetings and at least 50% of all trauma PIPS meetings in the past three years.<br>(5) Membership or attendance at local and regional or national meetings during the past three years.<br>(6) Provision of a list of patients treated in the last three years with accompanying Injury Severity Score and outcome data.<br>(7) Completion of a performance improvement assessment by the TMD demonstrating that the morbidity and mortality results for patients treated by the surgeon compare favorably with comparable patients treated by other members of the call panel.<br>License to practice medicine and approval for full and unrestricted surgical privileges by the facility's credentialing committee. |

## Clinical Functions: Orthopedics

| Level | Reference | Description of Criteria |
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| III | 9(a) | The TCF must have orthopedic surgery capability. |
| III & IV, if the TCF provide orthopedic surgery for trauma patients | 9(b) | An operating room must be adequately staffed, with at least an operating room nurse and operating room technician, and available within 30 minutes of operating room team request for emergency operations on musculoskeletal injuries. |
| III & IV, if the TCF provide orthopedic surgery for trauma patients | 9(c) | The TCF must have an orthopedic surgeon who is identified as the liaison to the trauma program. |
| III | 9(d) | TCFs must have an orthopedic surgeon on call and promptly available 24 hours a day. |
| III & IV, if the TCF provide orthopedic surgery for trauma patients | 9(e) | A TCF must include orthopedic surgery as part of the trauma PIPS program. |
| III & IV, if the TCF provide orthopedic surgery for | 9(f) | If the orthopedic surgeon is not dedicated to a single facility or is unavailable while on call, the TCF must have a published back-up schedule. The back-up schedule may include calling a back-up orthopedic surgeon or guidelines for transfer or both. |

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| trauma patients | | |
| III & IV, if the TCF provide orthopedic surgery for trauma patients | 9(g) | As part of the trauma PIPS program, the TCF must review all major orthopedic trauma cases for appropriateness of the decision to transfer or admit. The TCF must define the scope of practice and indicators for patients that will be admitted. |
| III & IV, if the TCF provide orthopedic surgery for trauma patients | 9(h) | Orthopedic surgeons must meet one of the following set of standards in order to take trauma call:<br>(1) Be board certified in orthopedic surgery.<br>(2) Be eligible for board certification by the appropriate orthopedic specialty board according to current criteria.<br>(3) Meet the orthopedic surgery alternate pathway requirements; or<br>(4) Have completed an Accreditation Council for Graduate Medical Education or Canadian residency and be recognized by a major professional organization. |
| III & IV, if the TCF provide orthopedic surgery for trauma patients | 9(i) | The alternate pathway requirements for orthopedic surgeons are:<br>(1) Completion of a residency training program in orthopedic surgery, with the time period consistent with years of training in the United States. The completion of a residency training program must be evidenced by a certified letter from the program director.<br>(2) Current certification as a provider or instructor of the ATLS program.<br>(3) Completion of 36 hours of trauma continuing medical education within the last three years.<br>(4) Attendance at educational meetings and at least 50% of all trauma PIPS meetings in the past three years.<br>(5) Membership or attendance at local and regional or national meetings during the past three years.<br>(6) Provision of a list of patients treated in the last three years with accompanying Injury Severity Score and outcome data.<br>(7) Completion of a performance improvement assessment by the TMD demonstrating that the morbidity and mortality results for patients treated by the surgeon compare favorably with comparable patients treated by other members of the call panel.<br>(8) License to practice medicine and approval for full and unrestricted surgical privileges by the facility's credentialing committee. |

## Pediatric Trauma Care

| Level | Reference | Description of Criteria |
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| III & IV | 10(a) | A TCF that stabilizes pediatric trauma patients in the emergency department must have guidelines to assure appropriate and safe care of children. A TCF's pediatric trauma guidelines must include:<br>(1) Child maltreatment assessment, treatment or transfer and reporting protocols including a list of indicators of possible physical abuse.<br>(2) Imaging guidelines, including age and weight-based criteria based on as low as reasonably achievable guidelines.<br>(3) A system to assure appropriate sizing and dosing of resuscitation equipment and medications.<br>(4) Dosing guidelines for intubation, code and neurologic drugs.<br>(5) Guidelines for administration of sedation. |

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| III & IV | 10(b) | A TCF that stabilizes pediatric trauma patients in the emergency department must have the following medications and equipment:<br>(1) Mannitol or 3% saline.<br>(2) Intubation, code and neurologic medications.<br>(3) Catheter-over-the-needle device; 22 and 24 gauge.<br>(4) Pediatric intraosseous needles or device.<br>(5) Intravenous solutions including the following: normal saline and dextrose 5% normal saline.<br>(6) Infant and child c-collars.<br>(7) Cuffed endotracheal tubes: 3.5, 4.5, 5.5, and 6.5 millimeters.<br>(8) Laryngoscope: Straight: 1, Straight: 2, and Curved: 2.<br>(9) Infant and child nasopharyngeal airways.<br>(10) Oropharyngeal airways sizes 0,1,2,3 and 4.<br>(11) Pediatric stylets for endotracheal tubes.<br>(12) Infant and child suction catheters.<br>(13) Bag-mask device, self-inflating: infant: 450 milliliters.<br>(14) Masks to fit bag-mask device adaptor for infants and children.<br>(15) Clear oxygen masks: partial non-breather infant and partial nonbreather child.<br>(16) Infant and child nasal cannulas.<br>(17) Nasogastric tubes: Infant: 8 French size and child: 10 French size.<br>(18) Laryngeal mask airway: sizes 1.5, 2, 2.5, and 3.<br>(19) Chest tubes: Infant: 10 or 12 French size and Child: one in the 16–24 French size range. |

## Collaborative Clinical Services

| Level | Reference | Description of Criteria |
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| III | 11(a) | The TCF must have an ICU. An ICU, regardless of whether an area of the facility is actually so designated, is a department or area of a TCF that provides intensive treatment medicine, focuses on patients with severe and life-threatening illness or injuries which require constant and close monitoring and support and is staffed by highly trained doctors and nurses who specialize in caring for critically ill patients. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(b) | Anesthesiology services, including anesthesiologists or certified registered nurse anesthetists, must be available within 30 minutes of notification and request for emergency operations, for managing airway problems, and as needed for patient care. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(c) | A qualified and dedicated physician anesthesiologist or certified registered nurse anesthetist or a certified anesthesia assistant must be designated as a liaison to the trauma program. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(d) | The anesthesia liaison must participate in the trauma PIPS program. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(e) | The TCF must document the availability of anesthesia services and delays in airway control or operations in the trauma PIPS program. |
| III & IV, if the TCF provides anesthesiology | 11(f) | When the anesthesiologist or designee is responding from outside the TCF, during the time between notification of the anesthesia provider and their arrival, a provider must be available for emergency airway management. The presence of a provider skilled in |

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| services for trauma patients | | emergency airway management must be documented. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(g) | An operating room must be adequately staffed, with at least an operating room nurse and operating room technician, and available within 30 minutes of operating room team request. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(h) | The TCF must monitor the timeliness of starting operations and the instances when operating room personnel including anesthesia support services, post anesthesia care unit personnel are not available for greater than 30 minutes. The TCF must monitor and document through the trauma PIPS program the response times of these personnel. The TCF must identify and review operating room delays involving trauma patients or adverse outcomes for reasons for delay and opportunities for improvement. |
| III & IV | 11(i) | The TCF must have the ability to perform services involving rapid infusers, thermal control equipment and resuscitation fluids, intraoperative radiologic capabilities and equipment for fracture fixation/stabilization. |
| III & IV | 11(j) | If a TCF provides neurosurgical services, the TCF must have the necessary equipment to perform a craniotomy. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(k) | Post anesthesia services, including qualified nurses, must be available 24 hours per day to provide care for the patient if needed during the recovery phase. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(km) | In the delivery of post anesthesia care, providers must have the necessary equipment to monitor and resuscitate patients, consistent with the process of care designated by the facility. |
| III & IV | 11(l) | The TCF's trauma PIPS program must address the need for pulse oximetry, end-tidal carbon dioxide detection, arterial pressure monitoring, patient rewarming and intracranial pressure monitoring. |
| III & IV | 11(lm) | A TCF must have policies designed to ensure that trauma patients who may require resuscitation and monitoring are accompanied by appropriately trained providers during transportation to, and while in, the radiology department. |
| III & IV | 11(m) | Conventional radiology must be available 24 hours per day. The radiology technician does not need to be in-house 24 hours per day but must respond within 30 minutes of notification. |
| III | 11(mm) | CT must be available 24 hours per day. The CT technologist does not need to be in-house 24 hours per day but must respond within 30 minutes of notification. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(n) | If a CT technologist takes a call from outside the facility, the TCF's trauma PIPS program must document the CT technologist's time of arrival at the facility. |
| III & IV | 11(nm) | For TCFs with MRI capabilities, the MRI technologist may respond from outside the hospital. The trauma PIPS program must document and review arrival of the MRI technologist within one hour of being called. |
| III | 11(o) | Qualified radiologists must be available within 30 minutes of notification, in person or by tele-radiology, to interpret radiographs. |
| III | 11(om) | Radiological diagnostic information must be communicated in a timely manner in either written or electronic form. |

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| III | 11(p) | Critical radiology information deemed to immediately affect patient care must be verbally communicated to the trauma team in a timely manner. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(pm) | The final radiology report must accurately reflect the chronology and context of communications with the trauma team, including changes between the preliminary and final interpretations. The TCF must have a written over-read process that defines how changes in interpretation are documented and communicated. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(q) | The TCF must monitor changes in interpretation between the preliminary and final radiology reports, as well as missed injuries, through the trauma PIPS program. |
| III & IV, if the TCF provides anesthesiology services for trauma patients | 11(qm) | A surgeon on the trauma call panel must be actively involved in and responsible for setting policies and making administrative decisions related to trauma ICU patients. This may be a TMD who is a surgeon. |
| III | 11(r) | The TCF must have physician coverage of the ICU available within 30 minutes and have a formal plan in place for emergency coverage. A TCF must track physician response time as part of the trauma PIPS program. Physician coverage of the ICU does not replace the primary surgeon but instead ensures that the patient's immediate needs are met while the primary surgeon is being contacted. |
| III | 11(rm) | The TCF's trauma PIPS program must review all ICU trauma admissions and transfers of ICU patients to ensure that appropriate patients are being selected to remain at the TCF versus being transferred to a higher level of care. The TCF must have a written guideline that defines which types of ICU patients they will admit and which they will transfer to a higher level of care. |
| III | 11(s) | In a TCF, the trauma surgeon must retain responsibility for and coordinate all therapeutic decisions of trauma ICU patients. Many of the daily care requirements can be collaboratively managed by a dedicated ICU team, but the trauma surgeon must be kept informed and concur with major therapeutic and management decisions made by the ICU team. |
| III & IV | 11(sm) | The TCF's trauma PIPS program must document that timely and appropriate ICU care and coverage are being provided for trauma ICU patients. The TCF must continuously monitor the timely response of credentialed providers to the ICU as part of the trauma PIPS program. The TCF's trauma PIPS program must include quality indicators for the ICU including review of complications. Review of complications includes but is not limited to review of orthopedic and neurosurgical complications if the TCF provides these services. |
| III | 11(t) | The TCF must have a designated ICU liaison to the trauma service. The liaison must be designated based on the service that provides the majority of the care in the ICU. |
| III | 11(tm) | In the TCF, qualified critical care nurses must be available 24 hours per day to provide care for trauma patients during the ICU phase. The TCF may define who is a qualified critical care nurse based on education and competency standards. |
| III | 11(u) | For trauma patients in the ICU, the TCF must have adequate numbers of licensed registered nurses, licensed practical nurses and other personnel to provide nursing care to all trauma patients in the ICU. |
| III | 11(um) | The TCF must have the necessary equipment for the ICU to monitor and resuscitate patients. Each TCF shall determine the equipment necessary based on the types of patients admitted and treated. |
| III & IV | 11(v) | If a TCF has neurosurgical coverage and admits neuro-trauma patients, intracranial pressure monitoring equipment must be available. |
| III & IV | 11(vm) | Trauma patients, as defined by the Wisconsin trauma registry inclusion criteria, must not be admitted or transferred by a primary care physician without the knowledge and |

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| | | consent of the trauma service. The TCF's trauma PIPS program must monitor adherence to this guideline. Note: The Wisconsin trauma registry inclusion criteria are contained within the Wisconsin Trauma Data Dictionary, which is published on the Department's Trauma webpage: https://www.dhs.wisconsin.gov/publications/p01117.pdf. |
| III | 11(w) | The TCF must have a respiratory therapist in-house or on call 24 hours a day. |
| III & IV | 11(wm) | The TCF must have laboratory services available 24 hours per day for the standard analysis of blood, urine and other body fluids, including micro- sampling when appropriate. |
| III & IV | 11(x) | The TCF's blood bank must be capable of blood typing and cross- matching. |
| III | 11(xm) | The TCF's blood bank must have an adequate supply of packed red blood cells and fresh frozen plasma available within 15 minutes. |
| III & IV | 11(y) | TCFs must have a massive transfusion protocol that is developed collaboratively with the trauma service and blood bank. |
| III | 11(ym) | The TCF must have coagulation studies, blood gas analysis and microbiology studies available 24 hours per day. |
| III & IV | 11(z) | APPs who participate in the initial evaluation of trauma patients must be current in ATLS, except if the APP is accepting a trauma patient as a direct admission. For Level IV TCFs, this may be fulfilled by the Comprehensive Advanced Life Support program if the program includes the mobile trauma module skills station and the provider is re-verified every four years. The Rural Trauma Team Development Course does not fulfill this requirement. |
| III & IV | 11(zm) | A TCF must have appropriate orientation, credentialing processes and skill maintenance for APPs, as witnessed by an annual review by the TMD. |

**Rehabilitation**

| Level | Reference | Description of Criteria |
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| III | 12(a) | Physical therapy services must be provided in the TCF. |
| III | 12(b) | Social services must be provided in the TCF. |

**Guidelines for the Operation of Burn Centers**

| Level | Reference | Description of Criteria |
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| III & IV | 13(a) | A TCF must have written guidelines, including transfer plans, for the care of burn patients. |

**Trauma Registry**

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 14(a) | A TCF must collect and analyze trauma registry data and must submit this data to the department per s. DHS 118.09 (3) (a) & (b). |
| III & IV | 14(b) | The TCF must submit the required data elements, defined by the Wisconsin Trauma Data Dictionary to the Wisconsin trauma registry. Note: The Wisconsin Trauma Data Dictionary is prepared, maintained and updated by the Wisconsin Department of Health Services and is published on the Department's Trauma webpage: https://www.dhs.wisconsin.gov/publications/p01117.pdf |
| III & IV | 14(c) | A TCF must use trauma registry data to support their trauma PIPS program. |
| III & IV | 14(d) | A TCF must use trauma registry data to identify injury prevention priorities that are appropriate for local implementation. |
| III & IV | 14(e) | A TCF's trauma registry must be concurrent. At a minimum, the TCF must enter 80% of cases within 60 days of patient discharge. |
| III | 14(f) | At least one staff trauma registrar at each TCF must either have previously attended the following two courses or attend the following two courses within 12 months of being hired:<br>(1) The American Trauma Society's two-day, in person trauma registry course or equivalent provided by a state trauma program.<br>(2) The Association of the Advancement of Automotive Medicine's Abbreviated Injury Scale and Injury Scoring: Uses and Techniques course. This requirement will take |

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| | | effect on January 1, 2022. |
| III & IV | 14(g) | The TCF must ensure that appropriate measures are in place to meet the confidentiality requirements of the trauma registry data. The TCF must protect against threats, hazards and unauthorized uses or disclosures of trauma program data as required by the Health Insurance Portability and Accountability Act and other state and federal laws. Protocols to protect confidentiality, including providing information only to staff members who have a demonstrated need to know, must be integrated in the administration of the TCF's trauma program. |
| III & IV | 14(h) | The TCF must demonstrate that appropriate staff resources are dedicated to the trauma registry. |
| III & IV | 14(i) | The TCF must have a strategy for monitoring the validity of the data entered into the trauma registry. |
| III & IV | 14(j) | The TCF must demonstrate that all trauma patients can be identified for review. |
| III & IV | 14(k) | The TCF's trauma PIPS program must be supported by a reliable method of data collection that consistently obtains the information necessary to identify opportunities for improvement. |

## Performance Improvement and Patient Safety

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 15(a) | The TCF must have a trauma PIPS program that includes a comprehensive written plan outlining the configuration and identifying both adequate personnel to implement that plan and an operational data management system. |
| III & IV | 15(b) | The TCF's loop closure including problem resolution, outcome improvements and assurance of safety must be readily identifiable through methods of monitoring, re-evaluation, benchmarking and documentation. |
| III & IV | 15(c) | The TCF's trauma PIPS program must integrate with the facility quality and patient safety efforts and have a clearly defined reporting structure and method for the integration of feedback. |
| III & IV | 15(d) | The TCF must use clinical practice guidelines, protocols and algorithms derived from evidence-based validated resources to help reduce unnecessary variation in the care they provide. |
| III & IV | 15(e) | The TCF must document, in the trauma PIPS program written plan, all process and outcome measures. At least annually, the TCF must review and update all process and outcome measures. |
| III & IV | 15(f) | The TCF must systematically review all trauma-related mortalities from point of injury to death and identify mortalities with opportunities for improvement for the multidisciplinary trauma peer review committee. |
| III & IV | 15(g) | The TCF must have sufficient mechanisms available to identify events for review by the trauma PIPS program. Once an event is identified, the trauma PIPS program must be able to verify and validate that event. |
| III & IV | 15(h) | The TCF must have a process to address trauma program operational events including system process related events and, when appropriate, the analysis and proposed corrective action. The TCF must have documentation that reflects the review of operational events, and when appropriate, the analysis and proposed corrective action. |
| III & IV | 15(i) | When the TCF identifies an opportunity for improvement, appropriate corrective actions to mitigate or prevent similar future adverse events must be developed, implemented and clearly documented by the trauma PIPS program. |
| III & IV | 15(j) | When a general surgeon cannot attend the trauma multidisciplinary peer review meeting, the TMD must ensure that the general surgeon receives and acknowledges receipt of critical information generated at the meeting. |

## Outreach and Education

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 16(a) | The TCF must engage in public and professional education, including participation in prehospital education. |
| III & IV | 16(b) | The TCF must provide trauma-related education for nurses involved in trauma care. |

**Prevention**

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 17(a) | The TCF must have an organized and effective approach to injury prevention and must prioritize these efforts based on local trauma registry and epidemiologic data. |
| III & IV | 17(b) | The TCF must have someone in a leadership position that has injury prevention as part of his or her job description. |
| III & IV | 17(c) | Universal screening for alcohol use must be performed and documented for all injured patients over 12 years of age. This screening must be done on patients admitted or discharged from the emergency department, but not those transferred to a higher level of care. |

**Disaster Planning and Management**

| Level | Reference | Description of Criteria |
|---|---|---|
| III & IV | 18(a) | The TCF must meet the disaster-related requirements of the Joint Commission or other accrediting bodies. |
| III | 18(b) | A liaison from the trauma program must be a member of the TCF's disaster committee. |
| III & IV | 18(c) | The TCF must participate in regional disaster management plans and exercises. |

# Appendix E. List of Trauma Facilities

| Pediatric Trauma Hospitals Level I and II | | | |
|---|---|---|---|
| American Family Children's Hospital<br>600 Highland Ave<br>Madison, WI 53792 | Children's Wisconsin—Milwaukee Hospital<br>9000 W Wisconsin Ave<br>Milwaukee, WI 53226 | Marshfield Medical Center (Level II)<br>611 N Saint Joseph Ave<br>Marshfield, WI 54449 | |
| **Trauma Hospitals Level I** | | | |
| Froedtert Memorial Lutheran Hospital<br>9200 W Wisconsin Ave<br>Milwaukee, WI 53226 | UW Health—University Hospital<br>600 Highland Ave<br>Madison, WI 53792 | | |
| **Trauma Hospitals Level II** | | | |
| Aspirus Wausau Hospital<br>333 Pine Ridge Blvd<br>Wausau, WI 54401 | Aurora BayCare Medical Center<br>2845 Greenbrier Rd<br>Green Bay, WI 54311 | Aurora Medical Center Summit<br>36500 Aurora Dr<br>Summit, WI 53066 | Bellin Health Hospital<br>744 S Webster Ave<br>Green Bay, WI 54301 |
| Gundersen Lutheran Medical Center<br>1900 South Ave<br>La Crosse, WI 54601 | Marshfield Medical Center<br>611 N Saint Joseph Ave<br>Marshfield, WI 54449 | Mayo Clinic Health System—Eau Claire<br>1221 Whipple St<br>Eau Claire, WI 54703 | SSM Health St. Mary's Hospital Madison<br>700 S Park St<br>Madison, WI 53715 |
| Theda Care Regional Medical Center—Neenah<br>130 2nd St<br>Neenah, WI 54956 | | | |
| **Trauma Hospitals Level III** | | | |
| Ascension All Saints Hospital—Spring Street Campus<br>3801 Spring St<br>Mount Pleasant, WI 53405 | Ascension Columbia St. Mary's Hospital Ozaukee<br>13111 N Port Washington Rd<br>Mequon, WI 53097 | Ascension NE Wisconsin Mercy Hospital<br>500 S Oakwood Rd<br>Oshkosh, WI 54904 | Ascension NE Wisconsin St. Elizabeth Hospital<br>1506 S Oneida St<br>Appleton, WI 54915 |
| Aspirus Stevens Point Hospital<br>900 Illinois Ave<br>Stevens Point, WI 54481 | Aurora Lakeland Medical Center<br>W3985 County Road Nn<br>Elkhorn, WI 53121 | Aurora Medical Center—Bay Area<br>3003 University Dr<br>Marinette, WI 54143 | Aurora Medical Center Grafton<br>975 Port Washington Rd<br>Grafton, WI 53024 |

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| Aurora Medical Center Kenosha<br>10400 75th St<br>Kenosha, WI 53142 | Aurora Medical Center Oshkosh<br>855 N Westhaven Dr<br>Oshkosh, WI 54904 | Aurora St. Luke's Medical Center<br>2900 W Oklahoma Ave<br>Milwaukee, WI 53215 | Beloit Memorial Hospital<br>1969 W Hart Rd<br>Beloit, WI 53511 |
| Froedtert Menomonee Falls Hospital<br>W180N8085 Town Hall Rd<br>Menomonee Falls, WI 53051 | Froedtert Pleasant Prairie Hospital<br>9555 76th St<br>Pleasant Prairie, WI 53158 | Holy Family Memorial Medical Center—Froedtert<br>2300 Western Ave<br>Manitowoc, WI 54220 | Mayo Clinic Health System—La Crosse<br>700 West Ave S<br>La Crosse, WI 54601 |
| Mercy Hospital and Trauma Center<br>1000 Mineral Point Ave<br>Janesville, WI 53548 | ProHealth Oconomowoc Memorial Hospital<br>791 Summit Ave<br>Oconomowoc, WI 53066 | ProHealth Waukesha Memorial Hospital<br>725 American Ave<br>Waukesha, WI 53188 | Sauk Prairie Hospital<br>260 26th St<br>Prairie Du Sac, WI 53578 |
| SSM Health Monroe Clinic Hospital<br>515 22nd Ave<br>Monroe, WI 53566 | SSM Health St. Agnes Hospital<br>430 E Division St<br>Fond Du Lac, WI 54935 | ThedaCare Regional Medical Center—Appleton<br>1818 N Meade St<br>Appleton, WI 54911 | |
| **Trauma Hospitals Level IV** | | | |
| Amery Hospital & Clinic<br>265 Griffin St E<br>Amery, WI 54001 | Ascension Columbia St. Mary's Hospital Milwaukee<br>2323 N Lake Dr<br>Milwaukee, WI 53211 | Ascension SE Wisconsin Hospital—Elmbrook Campus<br>19333 W North Ave<br>Brookfield, WI 53045 | Ascension SE Wisconsin Hospital—Franklin Campus<br>10101 S 27th St<br>Franklin, WI 53132 |
| Ascension SE Wisconsin Hospital—St. Joseph Campus<br>5000 W Chambers St<br>Milwaukee, WI 53210 | Aspirus Eagle River Hospital<br>201 Hospital Rd<br>Eagle River, WI 54521 | Aspirus Medford Hospital<br>135 S Gibson St<br>Medford, WI 54451 | Aspirus Stanley Hospital<br>1120 Pine St<br>Stanley, WI 54768 |
| Aspirus Tomahawk Hospital<br>401 W Mohawk Dr Ste 100 | Aurora Medical Center Washington County<br>1032 E Sumner St<br>Hartford, WI 53027 | Aurora Memorial Hospital of Burlington<br>252 McHenry St<br>Burlington, WI 53105 | Aurora Mount Pleasant<br>13250 Washington Ave<br>Mt Pleasant, WI 53177 |

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| Tomahawk, WI 54487 | | | |
| Aurora Sheboygan Memorial Medical Center<br>2629 N 7th St<br>Sheboygan, WI 53083 | Aurora Sinai Medical Center<br>945 N 12th St<br>Milwaukee, WI 53233 | Aurora St. Luke's South Shore<br>5900 S Lake Dr<br>Cudahy, WI 53110 | Aurora West Allis Medical Center<br>8901 W Lincoln Ave<br>West Allis, WI 53227 |
| Black River Memorial Hospital<br>711 W Adams St<br>Black River Falls, WI 54615 | Burnett Medical Center<br>257 W Saint George Ave<br>Grantsburg, WI 54840 | Crossing Rivers Health<br>37868 US Highway 18<br>Prairie Du Chien, WI 53821 | Cumberland Healthcare Hospital<br>1110 7th Ave<br>Cumberland, WI 54829 |
| Door County Medical Center<br>323 S 18th Ave<br>Sturgeon Bay, WI 54235 | Essentia Health St. Mary's Hospital—Superior<br>3500 Tower Ave<br>Superior, WI 54880 | Froedtert West Bend Hospital<br>3200 Pleasant Valley Rd<br>West Bend, WI 53095 | Gundersen Boscobel Area Hospital and Clinics<br>205 Parker St<br>Boscobel, WI 53805 |
| Gundersen Moundview Hospital and Clinics<br>402 W Lake St<br>Friendship, WI 53934 | Gundersen St. Joseph's Hospital and Clinics<br>400 Water Ave<br>Hillsboro, WI 54634 | Gundersen Tri-County Hospital and Clinics<br>18601 Lincoln St<br>Whitehall, WI 54773 | Howard Young Medical Center—Asprius<br>240 Maple St<br>Woodruff, WI 54568 |
| HSHS St. Nicholas Hospital<br>3100 Superior Ave<br>Sheboygan, WI 53081 | Hudson Hospital & Clinic<br>405 Stageline Rd<br>Hudson, WI 54016 | Lafayette Hospital and Clinics<br>800 Clay St<br>Darlington, WI 53530 | Marshfield Medical Center—Beaver Dam<br>707 S University Ave<br>Beaver Dam, WI 53916 |
| Marshfield Medical Center—Eau Claire<br>2310 Craig Rd<br>Eau Claire, WI 54701 | Marshfield Medical Center—Ladysmith<br>900 College Ave W<br>Ladysmith, WI 54848 | Marshfield Medical Center—Minocqua<br>9601 Townline Rd<br>Minocqua, WI 54548 | Marshfield Medical Center—Neillsville<br>216 Sunset Pl<br>Neillsville, WI 54456 |
| Marshfield Medical Center—Rice Lake<br>1700 W Stout St<br>Rice Lake, WI 54868 | Mayo Clinic Health System—Chippewa Valley<br>1501 Thompson St<br>Bloomer, WI 54724 | Mayo Clinic Health System—Northland<br>1222 E Woodland Ave<br>Barron, WI 54812 | Mayo Clinic Health System—Oakridge<br>13025 8th St<br>Osseo, WI 54758 |
| Mayo Clinic Health System—Red Cedar<br>2321 Stout Rd<br>Menomonie, WI 54751 | Mayo Clinic Health System—Sparta<br>310 W Main St<br>Sparta, WI 54656 | Reedsburg Area Medical Center<br>2000 N Dewey Ave<br>Reedsburg, WI 53959 | River Falls Area Hospital<br>1629 E Division St<br>River Falls, WI 54022 |
| Southwest Health<br>1400 Eastside Rd | Spooner Health System Hospital | SSM Health Ripon Medical Center | SSM Health St. Clare Hospital—Baraboo |

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|---|---|---|---|
| Platteville, WI 53818 | 819 Ash St<br>Spooner, WI 54801 | 845 Parkside St<br>Ripon, WI 54971 | 707 14th St<br>Baraboo, WI 53913 |
| SSM Health Waupun Memorial Hospital<br>620 W Brown St<br>Waupun, WI 53963 | St. Croix Regional Medical Center<br>235 E State St<br>Saint Croix Falls, WI 54024 | Tamarack Health Ashland Medical Center<br>1615 Maple Ln<br>Ashland, WI 54806 | Tamarack Health Hayward Medical Center<br>11040 N State Road 77<br>Hayward, WI 54843 |
| ThedaCare Medical Center—Berlin<br>225 Memorial Dr<br>Berlin, WI 54923 | ThedaCare Medical Center—New London<br>1405 Mill St<br>New London, WI 54961 | ThedaCare Medical Center—Shawano<br>100 County Road B<br>Shawano, WI 54166 | ThedaCare Medical Center—Waupaca<br>800 Riverside Dr<br>Waupaca, WI 54981 |
| ThedaCare Medical Center—Wild Rose<br>601 Grove Ave<br>Wild Rose, WI 54984 | Tomah Health<br>321 Butts Ave<br>Tomah, WI 54660 | Unitypoint Health—Meriter Hospital<br>202 S Park St<br>Madison, WI 53715 | Vernon Memorial Hospital<br>507 S Main St<br>Viroqua, WI 54665 |
| Western Wisconsin Health<br>1100 Bergslien St<br>Baldwin, WI 54002 | Westfields Hospital & Clinic<br>535 Hospital Rd<br>New Richmond, WI 54017 | | |

# Appendix F. Trauma Registry Inclusion Criteria

The following flow chart demonstrates the criteria necessary for level I, II, III, and IV trauma facilities to submit a trauma patient's information into the registry. Trauma facilities may also include patients in the registry who meet their facility inclusion criteria.