

**Departmental Requirements
For
All-inclusive Trauma System**

**Draft
01/06**

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Department Trauma Center Designation Requirements

Following is the policy for the designation of trauma centers pursuant to 2005 PA 580, 581, and 582.

Health care Facility right To Request Designation Any health care facility in Michigan has a right to request designation at one of four trauma levels as defined in code

Request for initial Designation All healthcare facility that wishes to use the word “trauma” to describe its facility, or in its advertising, must obtain and maintain a designation from the department at one of the four levels as defined in code.

The initial request for designation must identify the following;

- a. The name of the facility
- b. The address of the facility
- c. Facility contact person
- d. The level of designation the facility is seeking
- e. A copy of the ASCOT certification indicating the level of verification the facility has meet. The facilities medical director must also attest that he/she has reviewed the criteria set forth in code and the departments designation and verification requirements and;
 1. the facility meets all of the identified criteria or;
 2. that the facility does not meet all of the identified criteria and believes that it can meet all of those criteria within a reasonable time frame but not to exceed 3 years from that date of application (**note: the data submission requirements must be met as proscribed**)
- f. If a facility seeks designation based on e (2) of these requirements than the letter of application must include
 1. the criteria the facility does not currently meet
 2. how the facility plans to meet the remaining criteria
 3. a proposed timeframe for meeting the those requirement(s)

Application Fee Along with the application materials, the institution must also include the required non refundable application fee.

1. The application fee for an institution seeking a Level I designation is \$1000
2. The application fee for an institution seeking a Level II designation is \$ 800

3. The application fee for an institution seeking a level III designation is \$600
4. The application fee for an institution seeking a level IV designation is \$500

Department Response

The department will acknowledge receipt of the application in writing within 15 working days of receipt, and notify the applicant of any omission or errors on the application.

Within 90 days of the receipt of application the department, as applicable, will notify the requesting hospital of its initial designation, request additional information or clarification, or will begin coordinating the logistics of site visits for verification and designation with the applying institutions point of contact person, as listed on the initial application.

Level I designation

Healthcare facilities desiring to be designated as a Level I Regional Trauma Research Facility must apply to the department, and independently obtain ACS certification at that level. In addition, in order to be designated as a Level I Regional Trauma Research Facility, the institution must also;

- a) Comply with data submission requirements as set forth in the departments trauma center data submission requirement
- b) Develop and submit a performance improvement plan as proscribed in the departments' trauma center performance improvement requirements
- c) Meet the trauma staff educational requirements as proscribed in the departments trauma center staff educational requirements
- d) Participate in coordinating and implementing regional injury prevention plans and set forth in the departments trauma center regional injury prevention requirements
- e) Provide staff assistance to the department in the designation and verification process of Community Trauma Facilities and Trauma Support Facilities to the extent that funding is appropriated by the legislature for the department to support designation and verification activities.

Level II Designation

Healthcare facilities desiring to be designated as a Level II Regional Trauma Facility must independently obtain ACS certification at that level. In addition, in order to be designated a Level II Regional Trauma Facility, the institution must also;

- a) Comply with data submission requirements as set forth in the departments' trauma center data submission requirement
- b) Develop and submit a performance improvement plan as proscribed in the departments' trauma center performance improvement requirements
- c) Meet the trauma staff educational requirements as proscribed in the departments' trauma center staff educational requirements
- d) Participate in coordinating and implementing regional injury prevention plans and set forth in the departments' trauma center regional injury prevention requirements

- e) Provide staff assistance to the department in the designation and verification process of Community Trauma Facilities and Trauma Support Facilities to the extent that funding is appropriated by the legislature for the department to support designation and verification activities.

Level III Designation

Healthcare Facilities desiring to be designated as a Community Trauma Facility must meet the criteria set forth in ACS certification criteria. Healthcare facilities pursuing a Community Trauma facility designation may, if they so choose, elect to go through the ACS Verification process. If a facility elects to obtain a Level III certification through the ACS process they must, in addition to meeting the ACS criteria, meet the criteria listed below. A facility seeking a Community Trauma facility designation may also be verified using “in-state” resources, but must also comply with the following requirements; (note: the department may elect to contract with an organization to complete the certification of Community Trauma facility, and to the extent funding is available to the department, pass along the cost associated with certification to the facility seeking designation.)

- a) Comply with data submission requirements as set forth in the departments’ trauma center data submission requirement
- b) Develop and submit a performance improvement plan as proscribed in the departments’ trauma center performance improvement requirements
- c) Meet the trauma staff educational requirements as proscribed in the departments’ trauma center staff educational requirements
- d) Participate in coordinating and implementing regional injury prevention plans and set forth in the departments’ trauma center regional injury prevention requirements

Level IV Designation

Healthcare facilities desiring to be designated as a Trauma Support Facility shall be verified using “in-state” resources, and must meet the criteria set forth by ACS for level IV certification (with an exception granted for a “c-arm”). Healthcare facilities pursuing a Trauma Support Facility designation must, in addition to meeting the criteria set forth above, must also meet the following criteria;

- a) Comply with data submission requirements as set forth in the departments’ trauma center data submission requirement
- b) Develop and submit a performance improvement plan as proscribed in the departments’ trauma center performance improvement requirements
- c) Meet the trauma staff educational requirements as proscribed in the departments’ trauma center staff educational requirements
- d) Participate in coordinating and implementing regional injury prevention plans and set forth in the departments’ trauma center regional injury prevention requirements

Level IV Verification

After the department's initial designation of a Trauma Support Facility trauma center verification of that center will be accomplished through a self-assessment by the facility utilizing the Designation and Verification tool;

Following the submission of the site survey, the department shall make arrangements to conduct an on site survey during the 3 year designation period

The site survey team should at a minimum consist of ;

- a) a trauma surgeon
- b) an ER doctor
- c) a trauma nurse
- d) a representative of the department, or its designee

The department, at its discretion, may appoint a representative from outside the department as a member of the site survey team. Should the department elect to utilize a representative from outside, the individual's credentials will be forwarded to the applicant institution for review.

The applicant is responsible for all costs associated with the site visit, an estimate of which will be provided prior to the actual site visit.

The applicant institution has the right to object to the inclusion of any of the site survey team members, but must do so in writing, and to the EMS & Trauma section Director.

All medical professionals assigned to the site survey team should be free from the appearance of a conflict of interest, and possess at least three years of experience in the care of trauma patients and;

- a) come from outside the applicant's region
- b) be currently employed as someone responsible for the care of trauma patients
- c) have no business or patient care relationship with the institution that they are conducting the site survey.

The applicant will be notified of the composition of the site survey team 30 days prior to the site visit, and may file a written objection with the department should they feel any of the members have a conflict of interest.

Within 30 days of a site visit the department will notify the applicant of the results of the on site survey.

The applicant/institution will have 60 days from the date of notification of the site survey results to withdraw their application

Decision Appeal

A hospital may appeal the decision of the department using the procedure proscribed in the departments' Trauma center Administrative Hearings Procedures requirements.

Designation & Verification Tools

Level IV Trauma Center Site Survey Checklist

Level IV Trauma Center Definition: Level IV Trauma Centers are generally licensed rural facilities with a commitment to the resuscitation of the trauma patients and have written transfer protocols in place to ensure that those patients requiring a higher level of care are appropriately transferred for definitive care. These facilities may not be staffed by a physician but, rather, may be staffed by a licensed mid-level provider (ie. Nurse Practitioner or Licensed Physician Assistant).

All essential (E) criteria must be met before a "Certificate of Designation" will be issued.

		Hospital met?		Reviewers		Comments (for site reviewers only)
		Yes	No	Yes	No	
INSTITUTIONAL ORGANIZATION						
Does the Hospital Board / Leadership support the trauma program?						
<u>Trauma Program:</u> There must be a commitment on behalf of the entire facility to the organization of trauma care. A trauma program must be established and recognized by the institution. The trauma program must come under the direction of a board certified physician/general surgeon potentially cross-trained to include appropriate areas for acute trauma management who is committed and willing to provide off-line administration to the program.						
<u>Trauma Team:</u> May include the following: (Describe your team under comments)	E					
Physician w/ Emergency Department privileges: Trauma Team Physicians: The physician acting as trauma team leader is expected to make key decisions about management of the trauma patient's care and determine if the patients needs transfer to a higher level of care. If transfer is required, the physician is accountable to coordinate the process with the receiving physician at the receiving facility. Guidelines should be written to determine which types of patients should be admitted to the Level IV facility and which patients should be transferred to a higher level of care.	E					
Family Physician skilled in Trauma Care						
Mid-level Provider						
Anesthetist						
Nurse(s): (preferable OR, ED, ICU)						
Prehospital Care Provider						
Laboratory Technician						
Respiratory Therapist						

Radiology Technician

Social Services/Pastoral Care

Describe Trauma Team Activation process: There must be a written protocol in place describing the system for calling the trauma team in both emergent and urgent situations, along with expected response times. Criteria for delineating emergent from urgent situations should be defined.

Trauma Guidelines/Standards of Care ie. ATLS/Rural Trauma Course™

Published on-call schedule

Are the surgeons responding in the defined time frames? (If applicable, provide percentage)

Trauma program medical director: The director will be a board certified physician with demonstrated interest and competency in trauma care. The director will develop a Quality Improvement process and through this process will have the responsibility / accountability for all trauma patients and administrative authority for the hospital trauma program. The director must have successfully completed an American College of Surgeons Advanced Trauma Life Support (ATLS) course. The director must be involved in trauma related CME's annually. The trauma director and/or designee must be actively involved with regional Trauma System development.

Trauma multidisciplinary committee

Trauma coordinator/TPM: The Trauma Coordinator is a Registered Nurse/mid-level provider with a proportional dedicated responsibility to conduct the functions of the Trauma Coordinator, commensurate with patient admitted ratio. Working in conjunction with the Trauma Director, the Trauma Coordinator provides insight and leadership to the entire trauma program and is responsible for organization of the program and all systems necessary for the continuum of trauma care. The Trauma Coordinator is responsible for data collection, development of policies and protocols, QI activities, trauma education and prevention activities. Suggested credentials for this position are demonstrated expertise in trauma care with sufficient years of clinical nursing experience. The Trauma Coordinator should develop liaison with local EMS personnel and participate in regional Trauma System development.

CLINICAL CAPABILITIES

(Specialty Immediately Available 24 hours/day)

General surgery

Define the role and relationship of the surgeon and Emergency Department physician (if applicable)

Anesthesia (see Chapter 11)

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D				

Orthopedic surgery	D					
Plastic surgery	D					
Radiology	D					
CLINICAL QUALIFICATIONS						
General/trauma surgeon (see Chapter 6)						
16 hours CME/year	D					
ATLS completion / Rural Trauma Course™	E					
Emergency medicine (see Chapter 7)						
ATLS completion	E					
Neurosurgery (see Chapter 8)						
16 hours CME/year	D					
ATLS completion	D					
Orthopedic surgery (see Chapter 9)						
16 hours CME in skeletal trauma	D					
ATLS completion	D					
Peer review committee attendance >50%	D					
FACILITIES/RESOURCES/CAPABILITIES						
Volume Performance						
Presence of surgeon at resuscitation	D					
Presence of surgeon at operative procedures	E					
Emergency Department (ED)						
Personnel						
Designated physician director	D					
Equipment for resuscitation for patients of all ages						
Airway control and ventilation equipment	E					
Pulse oximetry	E					
Suction devices	E					
Electrocardiograph-oscilloscope-defibrillator	E					
CVP monitoring equipment	D					
Standard IV fluids and administration sets	E					
Large-bore intravenous catheters	E					
Sterile surgical sets for						
Airway control/cricothyrotomy	E					
Thoracostomy	E					
Venous cutdown	E					
Peritoneal lavage	D					
Arterial catheters	D					
Ultrasound	D					
Drugs necessary for emergency care	E					
X ray availability 24 hours/day	D					
Cervical traction devices	D					
Broselow tape	E					
Thermal control equipment						
For patient	E					
For fluids and blood	D					
Rapid infuser system	D					
Qualitative end-tidal CO2 determination	E					
Communication with EMS vehicles	E					
Personal protective equipment						
Operating Room						
Immediately available 24 hours/day	D					
Presence of a surgeon at operative procedures	E					
Personnel available 24 hours/day	E					

Age-specific equipment

Thermal control equipment

For patient

For fluids and blood

X ray capability, including c-arm image intensifier

Endoscopes, bronchoscope

Equipment for long bone and pelvic fixation

Rapid infuser system

Postanesthetic Recovery Room
(SICU is acceptable)

Equipment for monitoring and resuscitation

Pulse oximetry

Thermal control equipment

Designated surgical director or surgical co-director

Respiratory Therapy Services

Available in-house 24 hours/day

On call 24 hours/day

Radiological Services (Available 24 hours/day)

In-house radiology technologist

Sonography

How are the physicians credentialed?

Computed tomography

Clinical Laboratory Service (Available 24 hours/day)

Standard analyses of blood, urine, and other
body fluids, including micro sampling when
appropriate

Blood typing and cross-matching

Coagulation studies

Comprehensive blood bank or access to a community
central blood bank and adequate storage facilities

Blood gases and pH determinations

Microbiology

Transfers: All Level IV facilities will have protocols for transfer of patients to a higher level trauma center, as well as transfer protocols for specialty referral centers (ie. Burns, pediatrics, rehabilitation). Each Level IV facility should conduct an assessment of its own capabilities for managing trauma patients and identify those types of patients who would require resources not available at the Level IV facility. All facilities will work together to develop transfer guidelines indicating which patients should be considered for transfer, and procedures to ensure the most expedient, safe transfer of the patient. All transfers should be in compliance with Federal COBRA/EMTALA regulations. Written transfer agreements are recommended but not required. All transfers should be evaluated through the internal QI process.

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Who monitors a critical trauma patient prior to transfer to a higher level of care?

Acute Hemodialysis

Transfer agreement

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Burn Care – Organized

In-house or transfer agreement with Burn Center

E				
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Acute Spinal Cord Management

In-house or transfer agreement with Regional Acute Spinal Cord Injury Rehabilitation Center

E				
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REHABILITATION SERVICES

Transfer agreement to an approved rehabilitation facility

E				
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Physical therapy

D				
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What are the most common causes of delay? (Describe under comments)

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Occupational therapy

D				
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Social Service

D				
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PERFORMANCE IMPROVEMENT

Performance improvement program: The Level IV facility must be committed to the regional evaluation process and is encouraged to participate in the coordination of quality care, education, policy development, and facilitating public education and awareness. Each Level IV facility must develop an internal Quality Improvement (QI) Plan that minimally addresses the following:

E				
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An organizational structure that facilitates quality improvement. A Multidisciplinary Trauma Committee that includes the review of trauma patients.

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Development of treatment protocols/guidelines

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A process to delineate credentialing and privileges of all Physicians, Physician Assistants, or Advanced Practice Nurse providers of trauma patient care.

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Explicit quality indicators or audit filters

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A peer review process

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Feedback mechanisms to evaluate the appropriateness of transfer decisions and procedures, and the impact on patient outcomes.

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A mortality review for all trauma deaths, preferably including autopsy findings.

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Who manages the Trauma Performance Improvement process?

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Describe the trauma performance improvement process, ie. How an issue is defined, reviewed and processed.

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Trauma registry: All Level IV trauma facilities must participate in regional and state-wide trauma registry.

In-house

D				
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Describe Participation in state, local, or regional registry

E				
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Audit of all trauma deaths

E				
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Morbidity and mortality review

E				
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Trauma conference – multidisciplinary

D				
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Medical nursing audit
 Review of prehospital trauma care
 Review of times and reasons for trauma-related bypass

E				
D				
D				
D				
D				

Review of times and reasons for transfer of injured patients

Performance improvement personnel dedicated to care of injured patients

CONTINUING EDUCATION/OUTREACH

ATLS provide/participate

Programs provided by hospital for:

Staff/community physicians (CME)

Nurses: ie. TNCC/ATCN/Rural Trauma Course™

Prehospital personnel provision/participation

D				
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EMERGENCY PREPAREDNESS

What is your facilities role in a disaster/emergency management response?

When was the last time you had a disaster drill?

What lessons were learned?

Where is your decontamination area?

PREVENTION

Describe any injury prevention programs that the institution participated in within the last 12 months

Collaboration with other institutions

Monitor progress/effect of prevention programs

Outreach activities

Coordination and/or participation in community prevention activities

D				
D				
D				
D				
D				

ADULT TRAUMA CENTERS CARING FOR INJURED CHILDREN

Pediatric resuscitation equipment in all patient care areas

Pediatric-specific performance improvement program

E				
E				

**This criteria may be satisfied by a transfer agreement.

**MICHIGAN TRAUMA SYSTEM
CONFIDENTIAL
MEDICAL RECORD REVIEW TOOL**

Date of Review _____ Reviewer: _____

CIRCLE ALL CATEGORIES THAT APPLY:

Death ISS>25 Pediatric Death Pediatric Patient < 12

EDH/SDH THORACIC: Aorta/Cardiac

**Spleen/Liver Pelvis/Femur Pelvis w/ Hypotension Non-Surgical
Service Transfer**

PRE-HOSPITAL PHASE	YES	NO	N/A	COMMENTS
Ambulance report in medical record?				
Scene time: _____				
Airway management appropriate?				
Immobilization appropriate?				
Interventions appropriate?				
Prolonged extrication?				
B/P _____ / _____ P _____ R _____ GCS: Eye _____ Verbal _____ Motor _____ Total: _____				
ED/RESUSCITATIVE PHASE	YES	NO	N/A	COMMENTS
Trauma activation called or not called appropriately, if NO please comment.				
Level of activation:				
Was an Emergency physician involved in trauma patient care?				
Trauma Surgeon: Time Called _____ Arrived _____				
Trauma Resident: Time Called _____ Arrived _____				
Neurosurgeon: Time Called _____ Arrived _____				
Orthopedic Surg: Time Called _____ Arrived _____				
Anesthesiologist/CRNA: Time Called _____ Arrived _____				
Number of hours in ED? (or Resuscitation Unit)				
Did Resuscitation interventions follow current				

ATLS standards of care?					
A. Were airway, breathing, and circulation priorities addressed?					
B. Was there adequate hemorrhage control?					
C. Evidence of Hypothermia prevention and treatment?					
D. Spinal Immobilization Were appropriate actions taken to identify possible C-spine injury and prevent further injury?					
Were the initial primary and secondary survey noted?					
ED/RESUSCITATIVE PHASE (cont'd)	YES	NO	N/A	COMMENTS	Page 2
Major injuries noted? (Please list) ISS: _____					
Transfer initiated to higher level of care?					
Documented evidence of contact with receiving physician, nursing report called?					
Admission Vitals Temp: _____ B/P _____ / _____ P _____ R _____ GCS: Eye _____ Verbal _____ Motor _____ Total: _____					
Were vital signs monitored at appropriate time intervals?					
Was documentation adequate (related to findings, plan of care, etc.) by attending physicians?					
Laboratory/Blood Bank:					
Appropriate lab tests ordered?					
Laboratory results in medical record?					
Appropriate and timely use of Blood and blood products?					
Radiology & Computerized Tomography:					
Were appropriate radiographic studies obtained during the resuscitative phase of care?					
Radiology reports in medical record?					

Was the trauma patient monitored during studies: (RN with pt., vital signs & care documented)				
Was CT scan performed at this hospital?				
Time CT study ordered _____				
Was pt. monitored during study with nurse and/or physician present?				
CT report in medical record?				
ADDITIONAL COMMENTS:				
NEUROSURGICAL INVOLVEMENT	YES	NO	N/A	COMMENTS
Neurosurgery involved in care?				
Was admitting GSC <13 or other indication for neuro consult?				
ORTHOPEDIC SURGERY INVOLVEMENT	YES	NO	N/A	COMMENTS
Orthopedics involved in care?				
Was there appropriate emergency management of fractures and joint dislocations?				
ADDITIONAL COMMENTS:				
PERIOPERATIVE PHASE	YES	NO	N/A	COMMENTS
Patient admitted to OR from ED? If no, proceed to next section.				
Time to OR: _____				
Was Operating room and staff immediately available?				
Anesthesiologist immediately available?				
Operative intervention appropriate/timely?				
Type of surgery performed?				
ADDITIONAL COMMENTS:				
CRITICAL CARE PHASE	YES	NO	N/A	COMMENTS
Pt. admitted to ICU or other critical care bed?				
Was this a planned admission?				
Care provided by: (Insert √)				

a. Trauma Surgery _____ b. Neurosurgery _____ c. Orthopedic surgery _____ d. Intensivist _____ e. Other: (Specify)_____				
Is there evidence of supervision of care by Trauma Attending?				
Evidence of nursing monitoring per policy?				
Evidence of appropriate and timely nursing interventions?				
CRITICAL CARE PHASE	YES	NO	N/A	COMMENTS
Was pain management adequate?				
Were appropriate ancillary support services utilized? (i.e., nutrition, physical, speech, occupational therapists, social services)				
Critical care length of stay? Days _____				
ADDITIONAL COMMENTS:				
MED-SURG PHASE	YES	NO	N/A	COMMENTS
Was patient admitted to medical/surgical unit? If not, proceed to next section.				
Evidence of plan for pain management?				
Evidence of appropriate nursing assessment and time interventions?				
Were appropriate ancillary support services utilized?				
ADDITIONAL COMMENTS:				
DISCHARGE PLANNING	YES	NO	N/A	COMMENTS
Pt. capabilities described at discharge (i.e. mobility, speech, self-feeding)?				
Evidence of pt./family discharge information/teaching?				
Evidence of appropriate plan for pain control after discharge?				
Written discharge notes with follow-up scheduled?				
ADDITIONAL COMMENTS:				
REHABILITATIVE CARE PHASE	YES	NO	N/A	COMMENTS
Rehabilitation services required?				

Adult Trauma Triage Criteria & Methodology

The EMT or paramedic shall assess the condition of those injured persons with anatomical and physiological characteristics (14) years of age or older for the presence of at least one of the following four (4) criteria to determine whether to transport. These four criteria are to be applied in the order listed, and once any one criterion is met that identifies the patient as a trauma patient, an assessment is required to determine the transport destination.

Criteria:

1. GCS ≤ 13
2. Meets color-coded triage system (see below)
3. Meets local criteria (specify): _____
4. Patient does not meet any of the trauma criteria listed above but, in the judgment of the EMT or paramedic, should be transported (document)

COMPONENT

▼ Blue ▼

AIRWAY	RESPIRATORY RATE OF 30 or GREATER	
CIRCULATION	HR OF 120 BEATS PER MINUTE or GREATER	
BEST MOTOR RESPONSE²	BMR = 5	
CUTANEOUS	SOFT TISSUE LOSS ³ OR PENETRATING INJURY TO EXTREMITIES DISTAL TO KNEE OR ELBOW	
FRACTURE	SINGLE FX SITE DUE TO TRAUMA EXCLUDING GROUND-LEVEL FALL	
AGE	55 YEARS or OLDER	
MECHANISM OF INJURY	PROLONGED EXTRICATION (>20 MIN.), EVIDENCE OF HIGH SPEED CRASH OR SIGNIFICANT VEHICLE DAMAGE OR BENT STEERING WHEEL OR ROLLOVER, OR MOTORCYCLE CRASH	
BURNS	<10% 2 ND OR 3 RD DEGREE	

B = any two (2) - transport as a trauma alert

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Airway assistance beyond administration of oxygen 2. <u>Best Motor Response</u>: <ol style="list-style-type: none"> 6: Obeys movement commands 5: Purposeful movement to pain 4: Withdraws to pain 3: Flexes to pain (decorticate posturing) 2: Extension response to pain (decerebrate posturing) 1: No response | <ol style="list-style-type: none"> 3. Major degloving injuries, or major 4. Excluding superficial wounds in w 5. Long bone (Including humerus, (r ulna), femur, (tibia or fibula). |
|--|---|

Pediatric Trauma Triage Criteria & Methodology

The EMT or paramedic shall assess the condition of those injured persons with anatomical and physiological characteristics of a person younger for the presence of at least one of the following three (3) criteria to determine whether to transport as a trauma alert. These three criteria are listed in the order listed, and once any one criterion is met that identifies the patient as a trauma alert; no further assessment is required to determine the patient's triage status.

Criteria:

1. Meets color-coded triage system (see below)
2. Meets local criteria (specify): _____
3. Patient does not meet any of the trauma criteria listed above but, in the judgment of the EMT or paramedic, should be transported as a trauma alert (document)

COMPONENT	▼Blue▼	▼Red▼
SIZE	WEIGHT ≤ 11 Kg or LENGTH ≤ 33 INCHES ON A PEDIATRIC LENGTH AND WEIGHT EMERGENCY TAPE	
AIRWAY		ACTIVE AIRWAY ASSISTANCE ¹ OR CR
CONSCIOUSNESS	AMNESIA OR LOSS OF CONSCIOUSNESS	ALTERED MENTAL STATUS ² OR COMA PARALYSIS OR SUSPICION OF SPINAL SENSATION
CIRCULATION	CAROTID OR FEMORAL PULSES PALPABLE, BUT THE RADIAL OR PEDAL PULSE NOT PALPABLE OR SBP < 90 mm OF Hg ²	LACK OF RADIAL PULSE WITH SYSTO
FRACTURE	SINGLE CLOSED LONG BONE ⁴ FRACTURE ⁵	OPEN LONG BONE ⁴ FRACTURE ⁶ OR M OR MULTIPLE DISLOCATIONS ⁶
CUTANEOUS		MAJOR SOFT TISSUE DISRUPTION ⁷ OR OR 2 ND OR 3 RD DEGREE BURNS TO ≥ 1 OR ANY PENETRATING INJURY TO HE

B = any two (2) - transport as a trauma alert

R = any one (1) - transport as a trauma alert

1. Airway assistance beyond administration of oxygen
2. OR < 70 + 2 x age in years
3. Altered mental states include drowsiness, lethargy, inability to follow commands, unresponsiveness to voice, totally unresponsive.
4. Long bones include the humerus, (radius, ulna) femur, (tibia or fibula)
5. Long bone fractures do not include isolated wrist or ankle fractures.
6. Long bone fractures do not include isolated wrist or ankle fractures or dislocations.
7. Includes major degloving injury.
8. Amputation proximal to ankle or wrist.
9. Excluding superficial wounds where the depth of the wound can be determined.

Michigan Trauma System Pre-hospital Destination Guidelines

Introduction

The purpose of this guideline is to assist regional trauma coordinators and local Medical Control Authorities in the development of protocols to ensure the best possible care of major trauma victims. The development of destination protocols is often fraught with many political and competitive issues. This guideline seeks to minimize these difficulties by attempting to focus on the best way to get the seriously injured patient to the hospital that can provide definitive care as soon as possible.

With the assistance of the regional trauma coordinator the local MCA's must develop and submit trauma destination protocols to the EMS and Trauma section for review. The following guidelines will be used in evaluating those destination protocols.

- 1) All trauma alert patients as defined by the Adult and Pediatric Trauma and Triage Criteria and Methodology documents should be transported to the closest appropriate state designated trauma center. There is not one single set of criteria that can define the appropriate trauma center for each area of the state. Each region will need to determine a system that is appropriate for their specific situation. The following guidelines should be used to assist in this process:
 - a. If a level 1 or 2 state designated trauma center is within 30 minutes transport time of the scene, the adult patient should be transported to the closest of these facilities.
 - b. Pediatric trauma alert patients should be transported to a regionally designated facility for appropriate evaluation and stabilization and then transported to the appropriate children's trauma center if needed. Parents should be transported to the same facility as their children if resources are available.
- 2) Bypassing a level 3 or 4 trauma center or a non-participating hospital is appropriate as long as the level 1 or 2 facility is within a reasonable distance from the scene.
- 3) No trauma alert patients should be transported to a facility not participating in the state trauma system unless no other reasonable alternative is available – for instance, the next closest facility is more than a reasonable distance from the scene.
- 4) Some areas of the state have prolonged transport times to any facility. Trauma alert patients in these areas should be transported to the closest facility that can facilitate rapid transport to the definitive care facility.
- 5) In areas of the state where level 1 and 2 trauma centers are not within a reasonable distance from the scene, the trauma alert patient should be transported to the closest appropriate highest level trauma center.
 - a. Each region will need to carefully evaluate this situation since it could be detrimental to the patient to transport him/her to a level 4 center 30 minutes to the east, when the closest level 2 center is 40 minutes to the west. That patient would then have to be transported 70 minutes back to the west after stabilization.
 - b. Protocols must also take into account the fact that some centers may have different resources available even though they are the same level.
 - c. Each region must make appropriate determinations for destination based on what is best for the patient rather than based on politics or economic factors.
 - d. In areas of the state close to state borders, the most appropriate facility may be out of the state. Whenever possible trauma alert patients should be transported within state borders, but local protocols will need to address this issue.

Departmental Performance Improvement Requirements

State (Regional) Trauma Performance Improvement Process

I. System Issues:

- a. **Designation:** Compliance with Criteria
- b. **Triage and Transport (Access):** Compliance with Guidelines
- c. **Outcomes: (stratified by ISS/TRISS)**
 - i. Transfers:
 - ii. LOS
 - iii. Deaths

II. Patient Care Issues:

- a. Mortality: all deaths
- b. Morbidity: Defined by regions

III. Review of Hospital PI

IV. Audit Filters and Data Elements:

- a. **Trauma related deaths.**
 - i. List hospital, elapsed time, ED admission time, MOI, age, cause code, transport mode, GCS, RTS, AIS, ICD-9, CPT's and ISS for each patient.
- b. **Trauma patients with more than one inter-hospital transfer prior to definitive care.** (Definitive care is defined as the final discharge hospital.)
 - i. List hospitals sending and accepting the transfer for each patient meeting criterion.
- c. **Ground transport trauma patients with an ED RTS less than or equal to 5.5 and scene transport times (scene departure to ED arrival) greater than 20 minutes.**
 - i. List (and sort by) hospital, transport mode, EMS agency, scene to hospital transport time, injury county, cause code, ISS, and outcome for each patient meeting these criteria.
- d. **Trauma patients with EMS scene times (EMS scene arrival to EMS scene departure) greater than 20 minutes.**
 - i. List EMS agency, transport mode, scene time, scene procedures (air, CPR, fluids), trauma type, injury zip code (injury county), ISS, and outcome for patients meeting criterion.

- e. **Transferred trauma patients with an ISS greater than 15 and transfer time (ED admit to definitive hospital admit) greater than 6 hours for rural place of injury or 4 hours for urban place of injury.**
 - i. List ED hospital, definitive hospital, urban or rural place of injury, transfer time, cause code, ISS, and outcome for patients meeting criteria.
- f. **Trauma patients with an ISS greater than 15 and ED time (ED admit to ED discharge) greater than 2 hours.**
 - i. List hospital, patient transfer? (yes or no), cause code, and ED time for patients meeting criteria.
- g. **Trauma patients who die with a probability of survival (TRISS) > 50%. (TRISS score for trauma patients using physiologic measures collected at the first presenting hospital.)**
 - i. List hospital, age, cause code, transport mode, ISS, outcome, LOS, and TRISS for patients meeting criteria.
- h. **Trauma patients with an ISS greater than 15 who are discharged from non-trauma centers.**
 - i. List hospital, age, cause code, transport mode, ISS, outcome, discharge disposition, and time to discharge for each patient meeting criteria.
- i. **Trauma patients transported by EMS without an associated ambulance report in the medical record.**
 - i. List percentage of missing run reports by transport mode and EMS agency.
- j. **Trauma patients less than 14 years old (children) who either had an ED GCS less than or equal to 8, intubation, or ISS greater than 15 and not transferred to a regional pediatric trauma center.**
 - i. List hospital, age, ED GCS, ISS, cause code, LOS, and transport mode for each patient meeting criteria.

V. Trauma System Evaluation

1 Development of Evaluation Process

Each Trauma Care Region shall be responsible for ongoing evaluation of its trauma care system. Accordingly, each Region shall develop a procedure for receiving information from EMS providers, Trauma Centers and the local medical community on the implementation of various components of that Region's trauma system, including but not limited to (1) components of the Regional Trauma Plan, (2) triage criteria, and effectiveness (3) activation of trauma team, (4) notification of specialists and (5) trauma center diversion.

2 Results to be Reported Annually

Based upon information received by the Region in the evaluation process, the Region shall annually (or as often as is necessary to insure system performance) prepare a report containing results of the evaluation and a performance improvement plan. Such report shall be made available to all EMS providers, Trauma Centers and the local medical community.

The Region shall ensure that all Trauma Centers participate in this annual evaluation process, and encourage all other hospitals that treat trauma patients to do likewise. Specific information related to an individual patient or practitioner shall not be released. Aggregate system performance information and evaluation will be available for review.

VI. Performance Improvement

1. Performance Improvement process for Trauma Centers

All Trauma Centers shall develop and have in place a performance improvement process focusing on structure, process, and outcome evaluations which focus on improvement efforts to identify root causes of problems, intervene to reduce or eliminate these causes, and take steps to correct the process as set forth in the trauma center level specific requirements. In addition, the process shall include:

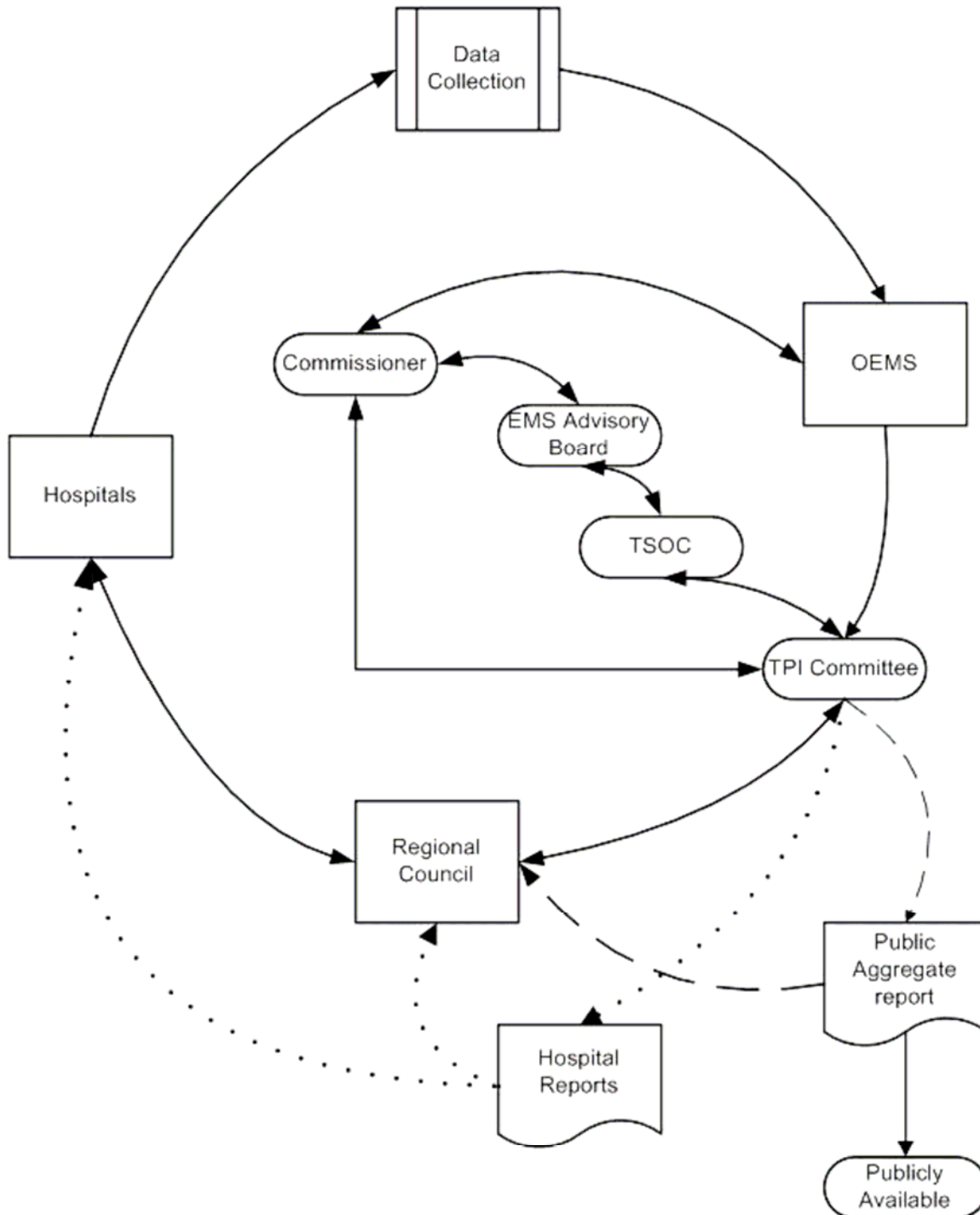
- (1) a detailed audit of all trauma-related deaths, major complications and transfers;
- (2) a multidisciplinary trauma peer review committee that includes all members of the trauma team;
- (3) participation in the trauma system data management system;
- (4) the ability to follow up on corrective actions to ensure performance improvement activities.

This system shall provide for input and feedback from these patients and guardians to hospital staff regarding the care provided.

2. Performance Improvement process for Trauma Care Regions

Each trauma care region shall be required to develop and implement a regionwide trauma performance improvement program. This program shall, at a minimum, include processes for the review of all region-wide policies, procedures, and protocols.

Schematic of Trauma Performance Improvement



Departmental Data Requirements

(National Trauma Data Element as Adopted with Additional Michigan Data Elements)

Field Name	Name	Definition (Based on National Trauma Registry)	
<u>Demographics</u>			
HomeZip	Patient's Home ZIP code	The patient's home ZIP code of primary residence	
HomeCountry	Patient's Home Country	The patient's home country where he/she resides	
HomeState	Patient's Home State	The patient's home state (territory, province, or District of Columbia) where the patient resides	
HomeCounty	Patient's Home County	The patient's home county (or parish) of residence	
HomeCity	Patients Home City	The patient's home city (or township, village) of residence	
	Alternate Home Residence	Documentation of the type of patient without a home zip code (e.g. homeless, illegal citizen, migrant, foreign visitor)	
DateOfBirth	Date of Birth	The patient's date of birth	
Age	Age	The patient's age at the time of injury (best approximation)	
AgeUnits	Age Units	The units used to document the patient's age (years, months, days, hours)	
Race	Race	The patient's race	
Ethnicity	Ethnicity	The patient's ethnicity	
Sex	Sex	The patient's sex	
TransGender	Transgender Assignment	The patient's currently assigned sex	
<u>Injury</u>			
DateTime	Injury Incident Date/Time	The date/time the injury occurred	
WorkRelated	Work-Related	Indication of whether the injury occurred during paid employment	
PatientsOccupationalIndustry	Patient's Occupational Industry	The occupational industry associated with the patient's work environment	
PatientsOccupation	Patient's Occupation	The occupation of the patient	
PrimaryEcode	Primary E-Code	E-code used to describe the mechanism (or external factor) that caused the injury event	
SecondaryEcode	Secondary E-Code	E-code used to describe the place/site/location of the injury event (E 849.X)	
AdditionalEcode	Additional E-Code	Additional E-code used to describe, for example, a mass casualty event, or other external cause	
InjuryZip	Incident Location Zip Code	The ZIP code of the incident location	
IncidentState	Incident State	The state, territory, or province where the patient was found or to which the unit responded (or best approximation)	
IncidentCounty	Incident County	The county or parish where the patient was found or to which the unit responded (or best approximation)	
IncidentCity	Incident City	The city or township where the patient was found or to which the unit responded (or best approximation)	
UseOfSafety Equipment	Protective Devices	Protective devices (safety equipment) in use or worn by the patient at the time of injury	
UseOfSafety Equipment	Child Specific Restraint	Protective child restraint devices used by patient at the time of injury	

AirbagDeployment	Airbag Deployment	Indication of an airbag deployment during a motor vehicle crash	
<u>Prehospital</u>			
EMSNotifyDate and Time	EMS Dispatch Date and Time	The date and time the unit transporting to the hospital was notified by dispatch	
EMSArrivalDate and Time	EMS Unit Arrival on Scene Date and Time	The date and time the unit transporting to the hospital arrived on the scene (the date/time the vehicle stopped moving)	
EMSLeftDateTime	EMS Unit Scene Departure Date and Time	The date and time the unit transporting to the hospital left the scene (started moving)	
TransportMode	Transport Mode	The mode of transport delivering the patient to the hospital	
OtherTransportMode	Other Transport Mode	All other modes of transport used during patient care event, except the mode delivering the patient to the hospital	
EMSSBP	Initial Field Systolic Blood Pressure	First recorded systolic blood pressure in the prehospital setting	
EMSPulseRate	Initial Field Pulse Rate	First recorded pulse in the prehospital setting (palpated or auscultated, expressed as a number per minute)	
EMSRespiratoryRate	Initial Field Respiratory Rate	First recorded respiratory rate in the prehospital setting (expressed as a number per minute)	
EMSPulseOximetry	Initial Field Oxygen Saturation	First recorded oxygen saturation in the prehospital setting (expressed as a percentage)	
EMSGCSEye	Initial Field GCS – Eye	First recorded Glasgow Coma Score (Eye) in the prehospital setting	
EMSGCSVerbal	Initial Field GCS – Verbal	First recorded Glasgow Coma Score (Verbal) in the prehospital setting	
EMSGCSMotor	Initial Field GCS – Motor	First recorded Glasgow Coma Score (Motor) in the prehospital setting	
EMSTotalGCS	Initial Field GCS	First recorded Glasgow Coma Score (total) in the prehospital setting	
InterFacilityTransfer	Inter-Facility Transfer	Determination if the patient was transferred from another acute care facility	
<u>Emergency Department</u>			
AHAHospitalNumber	AHA Hospital Number	The number assigned to the admitting hospital by the American Hospital Association	
HospitalTrauma Designation	Hospital Trauma Verification/Designation	Determination of whether the hospital has been verified and/or designated as a trauma center	
LevelTrauma Designation	Level Of Trauma Center	Determination of trauma center level at which the hospital is verified and/or designated	
CenterDesignating Body	Trauma Center Authority	Identification of the organization of governing body designating/verifying the trauma center	
EMSLeftDateTime	ED/Hospital Arrival Date and Time	The date and time the patient arrived to the ED/hospital	
SBP	Initial ED/Hospital Systolic Blood Pressure	First recorded systolic blood pressure in the ED/hospital	
PulseRate	Initial ED/Hospital Pulse Rate	First recorded pulse in the ED/hospital (palpated or auscultated, expressed as a number per minute)	
Temperature	Initial ED/Hospital Temperature	First recorded temperature (in degrees celcius/centgrade) in the ED/hospital	
RespiratoryRate	Initial ED/Hospital Respiratory Rate	First recorded respiratory rate in the ED/hospital (expressed as a number per minute)	
HospitalTrauma Designation	Initial ED/Hospital Respiratory Assistance	Determination of respiratory assistance associated with the initial ED/hospital respiratory rate	
PulseOximetry	Initial ED/Hospital Oxygen Saturation	First recorded oxygen saturation in the ED/hospital (expressed as a percentage)	

SupplementalOxygen	Initial ED/Hospital Supplemental Oxygen	Determination of the presence of supplemental oxygen during assessment of initial ED/hospital oxygen saturation	
GCSEye	Initial ED/Hospital GCS – Eye	First recorded Glasgow Coma Score (Eye) in the ED/hospital	
GCSVerbal	Initial ED/Hospital GCS – Verbal	First recorded Glasgow Coma Score (Verbal) in the ED/hospital	
GCSMotor	Initial ED/Hospital GCS – Motor	First recorded Glasgow Coma Score (Motor) in the ED/hospital	
TotalGCS	Initial ED/Hospital GCS – Total	First recorded Glasgow Coma Score (total) in the ED/hospital	
GCSQualifier	Initial ED/Hospital GCS Assessment Qualifiers	Documentation of factors potentially affecting the first assessment of GCS upon arrival in the ED/hospital	
AlcoholDrugUse Indicators	Alcohol Use Indicator	Use of alcohol by the patient	
AlcoholDrugUse Indicators	Drug Use Indicator	Use of drugs by the patient	
EDProcedures	ED Procedures	Operative and essential procedures conducted during ED admission	
EdDischargeDisposition	ED Discharge Disposition	The disposition of the patient at the time of discharge from the ED	
DeathInED	ED Death	The type of death incurred while the patient was in the ED	
EdDischargeDateand Time	ED Discharge Date and Time	The date and time the patient was discharge from the ED	

Hospital Procedure Information

HospitalProcedures	Hospital Procedures	Operative and essential procedures conducted during hospital stay	
ProcedureDateTime	Procedure Date and Time	The date and time operative and essential procedures were performed	

Diagnoses Information

ComorbidConditions	Comorbid Conditions	Pre-existing comorbid factors present at patient arrival to ED/hospital	
InjuryDiagnosis	Injury Diagnosis	Diagnoses related to all identified injuries	

Outcome Information

TotalICULOS	Total ICU Length of Stay	The total number of patient days in any ICU (including all episodes)	
HospitalDischarge DateTime	Hospital Discharge Date and Time	The date and time the patient was discharged from the hospital	
HospitalDischarge Disposition	Hospital Discharge Disposition	The disposition of the patient when discharged from the hospital	

Financial Information

PrimaryMethod Payment	Primary Method of Payment	Primary source of payment for hospital care	
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Quality Assurance Information

HospitalComplication	Hospital Complications	Diagnoses related to all identified injuries	

E12-03	Destination Medical Record Number	The patient's medical record number at the patient's receiving facility (2005 NHTSA Uniform PreHospital Dataset V.2.20)	
E01_01	Patient Care Report Number	The unique number automatically assigned by the EMS agency for each patient care report (PCR). This is a unique number to the EMS agency for all of time. (2005 NHTSA Uniform PreHospital Dataset V.2.20)	



Michigan & National Trauma Registry

DATA DICTIONARY



Acknowledgements

Introduction

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National Trauma Registry Dataset Patient Inclusion Criteria

Definition:

To ensure consistent data collection across states into the National Trauma Registry, a trauma patient is defined as a patient sustaining a traumatic injury and meeting the following criteria:

At least one of the following injury diagnostic codes defined in the International Classification of Diseases, Ninth Revision, Clinical Modification (**ICD-9-CM**): **800-959.9**

Excluding:

905 - 909 (late effects of injury)

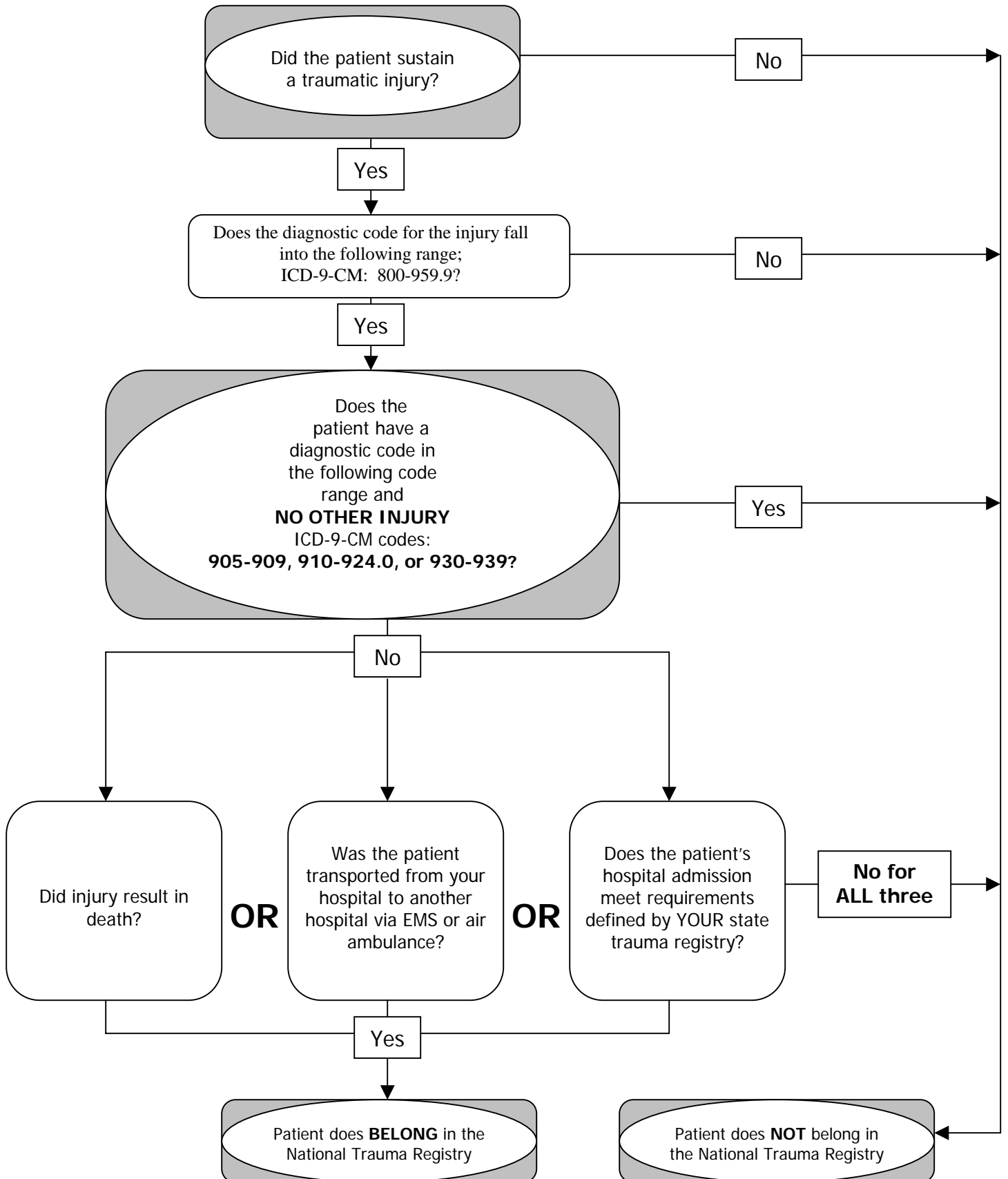
910 - 924.0 (superficial injuries including; blisters, contusions, abrasions and insect bites)

930 - 939 foreign bodies

AND MUST INCLUDE ONE OF THE FOLLOWING IN ADDITION TO (ICD-9-CM 800-959.9)

- Hospital admission as defined by your state trauma registry inclusion criteria; OR
- Patient transfer via EMS transport from one hospital to another hospital; OR
- Death resulting from the traumatic injury (independent of hospital admission, transfer, or EMS-transport)

2005 National Trauma Registry Inclusion Criteria



COMMON NULL VALUES

Data Format [combo] single-choice

National Element



Definition

These values are to be used with each of the National Trauma Registry Data Elements described in this document which have been defined to accept the Null Values. Please include these variables in the implementation of the ACS Version X.X Dataset.

Field Values

-25 Not Applicable	-20 Not Recorded
-15 Not Reporting	-10 Not Known
-5 Not Available	

Additional Information

- For any collection of data to be of value and reliably represent what was intended, a strong commitment must be made to ensure the correct documentation of incomplete data. When data elements associated with the National Trauma Registry are to be electronically stored in a database or moved from one database to another using XML, the indicated null values should be applied.
- Not Applicable: (Code -25) = At the time the patient was hospitalized, the information requested was “Not Applicable” to the hospitalization or the patient care event. For example, variables documenting EMS care would be “Not Applicable” if a patient self-transport to the hospital.
- Not Recorded: (Code -20) = If hospital documentation or an information system has an empty field or nothing is recorded, code “-20” should be inserted into the database and/or XML for that data element. This null value signifies that the hospital patient care record provides a “place holder” to document the specific data element, but that no value for that element was recorded for the patient. For example, a hospital patient care record may request date of birth, but none was recorded.
- Not Reported: (Code -15) = If the hospital patient care report or information system does not include an element contained in the National Trauma Registry Dataset, code “-15” should be inserted into the database and/or XML for that data element. For example, patient ethnicity may not be requested on the hospital patient care report.
- Not Known: (Code -10) = At the time of the hospital patient care report documentation, information was “Not Known” to the patient, family, or health care provider. This documents that there was an attempt to obtain information but it was unknown by all parties involved at the time of hospitalization. For example, injury date and time may be documented in the hospital patient care report as “Unknown”.

References to Other Databases

- Compare with NHTSA V.2.10 - E00

Demographic Information

I. PATIENT'S HOME ZIP CODE

Data Format [text]

National Element



Definition

The patient's home ZIP code of primary residence.

XSD Data Type <i>xs:integer</i>	XSD Domain (Simple Type) <i>HomeZip</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD Yes	Minimum Constraint 3 Maximum Constraint 10

Field Values

- Common Null Values
- Relevant value for data element

Additional Information

- Can be stored as a 5 or 9 digit code (XXXXX-XXXX).
- May require adherence to HIPAA regulations.

Uses

- Allows data to be sorted based upon the geographic location of the patient's home.
- *If zip code is not applicable, complete variable: Alternate Home Residence.*
- *If zip code is unavailable, complete variables: Patient's Home Country; Patient's Home State; Patient's Home County and; Patient's Home City.*
- Autogenerates a FIPS code.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Common Null Values
- Patient's Home Country
- Patient's Home State
- Patient's Home County
- Patient's Home City
- Alternate Home Residence

References to Other Databases

- NHTSA V.2.10 - E06_08

II. PATIENT'S HOME COUNTRY

Data Format [combo] single-choice

National Element



Definition

The patient's home country where he/she resides.

XSD Data Type <i>xs:string</i>	XSD Domain (Simple Type) <i>HomeCountry</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 3 Maximum Constraint 3

Field Values

- Common Null Values
- Relevant value for data element (three digit country code)

Additional Information

- *Only completed when ZIP code is not reported (-20), not recorded (-15), or not known (-10).*

Uses

- Allows data to be sorted based upon the geographic location of the patient's home.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Common Null Values
- Patient's Home State
- Patient's Home County
- Patient's Home City
- Alternate Home Residence

References to Other Databases

- NHTSA 2.1 - E06_07

III. PATIENT'S HOME STATE

Data Format [combo] single-choice

National Element



Definition

The patient's home state (territory, province, or District of Columbia) where the patient resides.

XSD Data Type <i>xs:string</i>	XSD Domain (Simple Type) <i>HomeState</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 2 Maximum Constraint 3

Field Values

- Common Null Values
- Relevant value for data element (two digit FIPS code)

Additional Information

- *Only completed when ZIP code is not reported (-20), not recorded (-15), or not known (-10).*

Uses

- Allows data to be sorted based upon the geographic location of the patient's home
- Autogenerates a FIPS code.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Common Null Values
- Patient's Home Country
- Patient's Home County
- Patient's Home City
- Alternate Home Residence

References to Other Databases

- NHTSA 2.1 - E06_07

IV. PATIENT'S HOME COUNTY

Data Format [combo] single-choice

National Element



Definition

The patient's home county (or parish) of residence.

XSD Data Type <i>xs:string</i>	XSD Domain (Simple Type) <i>HomeCounty</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 2 Maximum Constraint 3

Field Values

- Common Null Values
- Relevant value for data element (two [or three] digit FIPS code)

Additional Information

- *Only completed when ZIP code is not reported (-20), not recorded (-15), or not known (-10).*

Uses

- Allows data to be sorted based upon the geographic location of the patient's home
- Autogenerates a FIPS code.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Common Null Values
- Patient's Home Country
- Patient's Home State
- Patient's Home City
- Alternate Home Residence

References to Other Databases

- NHTSA 2.1 - E06_06

V. PATIENT'S HOME CITY

Data Format [combo] single-choice

National Element



Definition

The patient's home city (or township, village) of residence.

XSD Data Type *xs:string*

XSD Domain (Simple Type) *HomeCity*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 2 **Maximum Constraint** 30

Field Values

- Common Null Values
- Relevant value for data element (two digit FIPS code)

Additional Information

- *Only completed when ZIP code is not reported (-20), not recorded (-15), or not known (-10).*

Uses

- Allows data to be sorted based upon the geographic location of the patient's home
- Autogenerates a FIPS code.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Common Null Values
- Patient's Home Country
- Patient's Home State
- Patient's Home County
- Alternate Home Residence

References to Other Databases

- NHTSA V.2.10 - E06_05

VI. ALTERNATE HOME RESIDENCE

Data Format [combo] single-choice

National Element



Definition

Documentation of the type of patient without a home zip code.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *Race*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values (except -25 [Not Applicable])

XXX Migrant

XXX Homeless

XXX Foreign Visitor

XXX Illegal Citizen

Additional Information

- Only completed when ZIP code is not applicable (-25).

Uses

- Allows data to be sorted based upon type of residence

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Common Null Values
- Patient's Home Country
- Patient's Home State
- Patient's Home County
- Patient's Home City

VII. DATE OF BIRTH

Data Format [date]

National Element



Definition

The patient's date of birth.

XSD Data Type <i>xs:date</i>	XSD Domain (Simple Type) <i>DateOfBirth</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 1,890 Maximum Constraint 2,030

Field Values

- Common Null Values (except **-25** [Not Applicable])
- Relevant value for data element

Additional Information

- Collected as YYYY-MM-DD.
- *If less than 24 hours, complete variables: Age and; Age Units.*
- *If not reported (-20), not recorded (-15), or not known (-10), complete variables: Age and; Age Units.*
- Used to calculate patient age in years, months and days then deleted.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Patient Age
- Age Units

References to Other Databases

- NHTSA V.2.10 - E06_16

VIII. AGE

Data Format [number]

National Element



Definition

The patient's age at the time of injury (best approximation)

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *Age*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 1,890 **Maximum Constraint** 2,030

Field Values

- Common Null Values (except **-25** [Not Applicable])
- Relevant value for data element

Additional Information

- Used to calculate patient age in years, months, days and hours.
- *Only completed when date of birth is not reported (-20), not recorded (-15), or not known (-10).*
- *Must also complete variable: Age Units*

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Date of Birth
- Age Units

References to Other Databases

- NHTSA V.2.10 - E06_14

IX. AGE UNITS

Data Format [combo] single-choice

National Element



Definition

The units used to document the patient's age (Years, Months, Days, Hours)

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *AgeUnits*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

700 Hours

705 Days

710 Months

715 Years

Additional Information

- Used to calculate patient age in years, months and days.
- *Only completed when date of birth is not reported (-20), not recorded (-15), or not known (-10).*
- *Must also complete variable: Age*

Uses

- Allows data to be sorted based upon age.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Date of Birth
- Age

References to Other Databases

- NHTSA V.2.10 - E06_15

X. RACE

Data Format [combo] single-choice

National Element



Definition

The patient's race.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *Race*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values (except -25 [Not Applicable])

660 American Indian

665 Asian

670 Black or African American

675 Native Hawaiian or Other Pacific Islander

680 White

685 Other Race

XXX Asian Indian

XXX Chinese

XXX Vietnamese

XXX Japanese

XXX Gaumanian

XXX Filipino

XXX Samoan

XXX Korean

XXX Alaska Native

XXX Aleut

Additional Information

- Patient race should be based upon self-report or identified by a family member

Uses

- Allows data to be sorted based upon race.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

References to Other Databases

- NHTSA V.2.10 - E06_12

XI. ETHNICITY

Data Format [combo] single-choice

National Element



Definition

The patient's ethnicity.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *Ethnicity*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values (except -25 [Not Applicable])

690 Mexican

695 Not of Hispanic Origin

XXX Puerto Rican

XXX Other Hispanic

XXX Central or South American

XXX Unknown Hispanic

Additional Information

- Patient ethnicity should be based upon self-report or identified by a family member

Uses

- Allows data to be sorted based upon ethnicity.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

References to Other Databases

- NHTSA V.2.10 - E06_13

XII. SEX

Data Format [combo] single-choice

National Element



Definition

The patient's sex.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *Sex*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values (except -25 [Not Applicable] and -10 [Not Known])

650 Male

XXX Transgender

655 Female

Uses

- Allows data to be sorted based upon gender.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

References to Other Databases

- NHTSA V.2.10 - E06_11

XIII. TRANSGENDER ASSIGNMENT

Data Format [combo] single-choice

National Element



Definition

The patient's currently assigned sex.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *TransGender*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values (except -25 [Not Applicable]) XXX Male Assignment

XXX Female Assignment

Additional Information

- *Only completed when patient's sex is recorded as Transgender.*

Uses

- Allows data to be sorted based upon assigned gender.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Injury Information

XIV. INJURY INCIDENT DATE/TIME

Data Format [date/time]

National Element



Definition

The date/time the injury occurred.

XSD Data Type *xs:dateTime*

XSD Domain (Simple Type) *DateTime*

Multiple Entry Configuration No

Accepts Null Value Yes, but null value is blank or empty

Required in XSD No

Minimum Constraint 1,990 **Maximum Constraint** 2,030

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD HH:MM.
- HH:MM should be collected as military time.
- Estimates of date/time of injury should be based upon report by patient, witness, family, or health care provider. Other proxy measures (e.g., 911 call time) should not be used.
- If date or time of injury is unavailable, the null value is blank (or empty).
- If the date/time is electronically stored within a database or transmitted via XML as a "tick", the referenced variables may also be used.

Uses

- Important to identify when the clinical event started to better analyze resource utilization and outcomes.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

References to Other Databases

- NHTSA V.2.10 - E05_01

XV. WORK-RELATED

Data Format [combo] single-choice

National Element



Definition

Indication of whether the injury occurred during paid employment.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *WorkRelated*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values (except -25 [Not Applicable]) 0 No

1 Yes

Additional Information

- *If work related, two additional data fields should be completed: Patient's Occupational Industry and Patient's Occupation.*

Uses

- Allows one to characterize injuries associated with job environments.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Patient's Occupational Industry
- Patient's Occupation

References to Other Databases

- NHTSA V.2.10 - E07_15

XVI. PATIENT'S OCCUPATIONAL INDUSTRY

Data Format [combo] single-choice

National Element



Definition

The occupational industry associated with the patient's work environment.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *PatientsOccupationalIndustry*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values (except -25 [Not Applicable])

790 Construction

795 Finance, Insurance, and Real Estate

800 Government

805 Manufacturing

810 Natural Resources and Mining

815 Retail Trade

820 Other Services

825 Transportation and Public Utilities

830 Wholesale and Retail Trade

XXX Agriculture, Forestry, Fishing

XXX Leisure and Hospitality

XXX Professional and Business Services

XXX Transportation and Utilities

XXX Education and Health Services

Additional Information

- *Only completed if injury is work-related.*
- If work related, also complete Patient's Occupation.
- US Bureau of Labor Statistics Industry Classification.

Uses

- Allows data to be sorted based upon age.

Data Collector

- Can be used to better describe injuries associated with work environments.

Other Associated Elements

- Work-related
- Patient's occupation

References to Other Databases

- NHTSA V.2.10 - E07_16

XVII. PATIENT'S OCCUPATION

Data Format [combo] single-choice

National Element



Definition

The occupation of the patient.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *PatientsOccupation*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values

840 Business and Financial Operations Occupations

850 Architecture and Engineering Occupations

860 Community and Social Services Occupations

870 Education, Training, and Library Occupations

880 Healthcare Practitioners and Technical Occupations

890 Protective Service Occupations

900 Building and Grounds Cleaning and Maintenance

910 Sales and Related Occupations

920 Farming, Fishing, and Forestry Occupations

930 Installation, Maintenance, and Repair Occupations

940 Transportation and Material Moving Occupations

835 Management Occupations

845 Computer and Mathematical Occupations

855 Life, Physical, and Social Science Occupations

865 Legal Occupations

875 Arts, Design, Entertainment, Sports, and Media

885 Healthcare Support Occupations

895 Food Preparation and Serving Related

905 Personal Care and Service Occupations

915 Office and Administrative Support Occupations

925 Construction and Extraction Occupations

935 Production Occupations

945 Military Specific Occupations

Additional Information

- *Only completed if injury is work-related.*
- If work related, also complete Patient's Occupational Industry.
- 1999 US Bureau of Labor Statistics Standard Occupational Classification (SOC).

Uses

- Can be used to better describe injuries associated with work environments.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Work-related
- Patient's occupational industry

References to Other Databases

- NHTSA V.2.10 - E07_17

XVIII. PRIMARY E-CODE

Data Format [number]

National Element



Definition

E-code used to describe the mechanism (or external factor) that caused the injury event.

XSD Data Type <i>xs:string</i>	XSD Domain (Simple Type) <i>PrimaryEcode</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD Yes	Minimum Constraint 3 Maximum Constraint 5

Field Values

- Common Null Values
- Relevant ICD-9-CM code value for injury event

Additional Information

- E-code is used to auto-generate two calculated fields: Trauma Type: (Blunt, Penetrating, Burn) and Intentionality (based upon CDC 9 matrix).
- ICD-9-CM Codes were retained over ICD-10 due to CMS's continued use of ICD-9.

Uses

- Allows injuries to be characterized by mechanism causing the injury.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Secondary E-code
- Additional E-code

XIX. SECONDARY E-CODE

Data Format [number]

National Element



Definition

E-code used to describe the place/site/location of the injury event (E 849.X).

XSD Data Type *xs:string*

XSD Domain (Simple Type) *SecondaryEcode*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD Yes

Minimum Constraint 3 **Maximum Constraint** 5

Field Values

- Common Null Values
- Relevant ICD-9-CM code value for injury even

Additional Information

- ICD-9-CM Codes were retained over ICD-10 due to CMS's continued use of ICD-9.

Uses

- Allows injuries to be characterized by the place/site/location of the injury.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Primary E-code
- Additional E-code

XX. ADDITIONAL E-CODE

Data Format [number]

National Element



Definition

Additional E-code used to describe, for example, a mass casualty event, or other external cause.

XSD Data Type <i>xs:string</i>	XSD Domain (Simple Type) <i>AdditionalEcode</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD Yes	Minimum Constraint 3 Maximum Constraint 5

Field Values

- Common Null Values
- Relevant ICD-9-CM code value for injury even

Additional Information

- E-code is used to auto-generate two calculated fields: Trauma Type: (Blunt, Penetrating, Burn) and Intentionality (based upon CDC matrix).
- ICD-9-CM Codes were retained over ICD-10 due to CMS's continued use of ICD-9.

Uses

- Allows injuries to be characterized by external cause or presence of a mass casualty event.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Primary E-code
- Secondary E-code

XXI. INCIDENT LOCATION ZIP CODE



Data Format [text]

National Element

Definition

The ZIP code of the incident location.

XSD Data Type *xs:integer*

Multiple Entry Configuration No

Required in XSD Yes

XSD Domain (Simple Type) *InjuryZip*

Accepts Null Value Yes, common null values

Minimum Constraint 3 **Maximum Constraint** 10

Field Values

- Common null values
- Relevant value for data element

Additional Information

- Can be stored as a 5 or 9 digit code (XXXXX-XXXX).
- *If unavailable, complete variables: Incident State; Incident County and; Incident City.*
- May require adherence to HIPAA regulations.

Uses

- Allows data to be sorted based upon the geographic location of the injury event
- Autogenerates a FIPS code.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

References to Other Databases

- NHTSA V.2.10 - E08_15

XXII. INCIDENT STATE

Data Format [combo] single-choice

National Element



Definition

The state, territory, or province where the patient was found or to which the unit responded (or best approximation)

XSD Data Type <i>xs:string</i>	XSD Domain (Simple Type) <i>IncidentState</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 2 Maximum Constraint 3

Field Values

- Common Null Values
- Relevant value for data element (two digit FIPS code)

Additional Information

- *Only completed when ZIP code is unavailable.*

Uses

- Allows data to be sorted based upon the geographic location of the patient's home
- Autogenerates a FIPS code.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Incident County
- Incident City

References to Other Databases

- NHTSA 2.1 - E08_14

XXIII. INCIDENT COUNTY

Data Format [combo] single-choice

National Element



Definition

The county or parish where the patient was found or to which the unit responded (or best approximation)

XSD Data Type *xs:string*

XSD Domain (Simple Type) *IncidentCounty*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 2 **Maximum Constraint** 20

Field Values

- Common Null Values
- Relevant value for data element (two digit FIPS code).

Additional Information

- *Only completed when ZIP code is unavailable.*

Uses

- Allows data to be sorted based upon the geographic location of the patient's home
- Autogenerates a FIPS code.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Incident State
- Incident City

References to Other Databases

- NHTSA 2.1 - E08_13

XXIV. INCIDENT CITY

Data Format [combo] single-choice

National Element



Definition

The city or township where the patient was found or to which the unit responded (or best approximation)

XSD Data Type <i>xs:string</i>	XSD Domain (Simple Type) <i>IncidentCity</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 2 Maximum Constraint 30

Field Values

- Common Null Values
- Relevant value for data element (two digit FIPS code)

Additional Information

- *Only completed when ZIP code is unavailable.*

Uses

- Allows data to be sorted based upon the geographic location of the patient's home
- Autogenerates a FIPS code.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Incident State
- Incident County

References to Other Databases

- NHTSA V.2.10 - E08_12

XXV. PROTECTIVE DEVICES

Data Format [combo] multiple-choice

National Element



Definition

Protective devices (safety equipment) in use or worn by the patient at the time of the injury.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *UseOfSafetyEquipment*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values (except -25 [Not Applicable])

XXX Airbag Deployed

2170 Child Restraint (booster seat, child car seat)

2175 Eye Protection

2180 Helmet

2185 Lap Belt

2190 Other

2195 Personal Floatation Device

2200 Protective Clothing (e.g., padded leather pants)

2205 Protective Non-Clothing Gear (e.g., shin guard)

2210 Shoulder Belt

XXX None in use

Additional Information

- Check all that apply.
- If "Airbag Deployed" is present, complete variable "Airbag Deployment".
- If "Child Restraint" is present, complete variable "Child Specific Restraint".
- Evidence of the use of safety equipment may be reported or observed.

Uses

- Used to better define injury cause and characterize injury patterns.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Airbag Deployment
- Child Specific Restraint

References to Other Databases

- Compare to NHTSA V.2.10 – E10_08

XXVI. CHILD SPECIFIC RESTRAINT

Data Format [combo] multiple-choice

National Element



Definition

Protective child restraint devices used by patient at the time of injury.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *UseOfSafetyEquipment*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values (except -25 [Not Applicable])

XXX Child Car Seat

XXX Child Booster Seat

XXX Infant Car Seat

Additional Information

- Check all that apply.
- Evidence of the use of safety equipment may be reported or observed.
- *Only completed when Protective Devices include "Child Restraint"*

Uses

- Used to better define injury cause and characterize injury patterns.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Protective Devices

References to Other Databases

- Compare to NHTSA V.2.10 – E10_08

XXVII. AIRBAG DEPLOYMENT

Data Format [combo] multiple-choice

National Element



Definition

Indication of an airbag deployment during a motor vehicle crash.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *AirbagDeployment*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values (except -25 [Not Applicable])

2230 Airbag Deployed Side

2225 Airbag Deployed Front

XXX Airbag Deployed Curtain

2235 Airbag Deployed Other (knee, airbelt, etc)

Additional Information

- Check all that apply.
- Evidence of the use of airbag deployment may be reported or observed.
- *Only completed when Protective Devices include "Airbag Deployment"*

Uses

- Used to better define injury cause and characterize injury patterns.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Protective Devices

References to Other Databases

- NHTSA V.2.10 – E10_09

Prehospital Information

XXVIII. EMS DISPATCH DATE AND TIME

Data Format [date/time]

National Element



Definition

The date and time the unit *transporting to the hospital* was notified by dispatch.

XSD Data Type *xs:dateTime*

XSD Domain (Simple Type) *EMSNotifyDateTime*

Multiple Entry Configuration No

Accepts Null Value Yes, but null value is blank or empty

Required in XSD Yes

Minimum Constraint 1,990 **Maximum Constraint** 2,030

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD HH:MM.
- HH:MM should be collected as military time.
- If the date/time is electronically stored within a database or transmitted via XML as a “tick”, the referenced variables may also be used.
- Used to auto-generate an additional calculated field: Total EMS Time (elapsed time from EMS dispatch to hospital arrival).

Uses

- Allows data to be sorted based upon EMS agency time intervals.

Data Collector

- 911 or Dispatch Center and electronically or verbally transmitted to the EMS agency.

Other Associated Elements

- EMS Unit Arrival on Scene Date and Time
- EMS Unit Left Scene Date and Time

References to Other Databases

- NHTSA V.2.10 - E05_04

XXIX. EMS UNIT ARRIVAL ON SCENE DATE AND TIME



Data Format [date/time]

National Element

Definition

The date and time the unit *transporting to the hospital* arrived on the scene (the date/time the vehicle stopped moving).

XSD Data Type *xs:dateTime*
Multiple Entry Configuration No
Required in XSD Yes

XSD Domain (Simple Type) *EMSArrivalDateTime*
Accepts Null Value Yes, but null value is blank or empty
Minimum Constraint 1,990 **Maximum Constraint** 2,030

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD HH:MM.
- HH:MM should be collected as military time.
- If the date/time is electronically stored within a database or transmitted via XML as a “tick”, the referenced variables may also be used.
- Used to auto-generate two additional calculated fields: Total EMS Response Time (elapsed time from EMS dispatch to scene arrival) & Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).

Uses

- Allows data to be sorted based upon EMS agency time intervals.

Data Collector

- 911 or Dispatch Center and electronically or verbally transmitted to the EMS agency.

Other Associated Elements

- EMS Unit Dispatch Date and Time
- EMS Unit Left Scene Date and Time

References to Other Databases

- NHTSA V.2.10 - E05_06

XXX. EMS UNIT SCENE DEPARTURE DATE AND TIME



Data Format [date/time]

National Element

Definition

The date and time the unit *transporting to the hospital* left the scene (started moving).

XSD Data Type *xs:dateTime*

XSD Domain (Simple Type) *EMSLeftDateTime*

Multiple Entry Configuration No

Accepts Null Value Yes, but null value is blank or empty

Required in XSD Yes

Minimum Constraint 1,990 **Maximum Constraint** 2,030

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD HH:MM.
- HH:MM should be collected as military time.
- If the date/time is electronically stored within a database or transmitted via XML as a “tick”, the referenced variables may also be used.
- Used to auto-generate an additional calculated field: Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).

Uses

- Allows data to be sorted based upon EMS agency time intervals.

Data Collector

- 911 or Dispatch Center and electronically or verbally transmitted to the EMS agency.

Other Associated Elements

- EMS Dispatch Date and Time
- EMS Unit Arrival on Scene Date and Time

References to Other Databases

- NHTSA V.2.10 - E05_09

XXXI. TRANSPORT MODE

Data Format [combo] single-choice

National Element



Definition

The mode of transport delivering the patient to the hospital.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *TransportMode*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

XXX Private/Public Vehicel/Walk-in

XXX Ground Ambulance

XXX Police

XXX Helicopter Ambulance

XXX Other

XXX Fixed-wing Ambulance

Uses

- Allows data to be evaluated based on mode of transport utilized to reach the hospital.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Interfaculty Transfer
- Other Transport Mode

XXXII. OTHER TRANSPORT MODE

Data Format [combo] multiple-choice

National Element



Definition

All other modes of transport used during patient care event, except the mode delivering the patient to the hospital.

XSD Data Type <i>xs:integer</i>	XSD Domain (Simple Type) <i>OtherTransportMode</i>
Multiple Entry Configuration Yes	Accepts Null Value Yes, common null values
Required in XSD Yes	

Field Values

Common Null Values	XXX Private/Public Vehicle/Walk-in
XXX Ground Ambulance	XXX Police
XXX Helicopter Ambulance	XXX Other
XXX Fixed-wing Ambulance	

Uses

- Allows data to be evaluated based on mode of transport utilized to reach the hospital.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Interfaculty Transfer
- Transport Mode

XXXIII. INITIAL FIELD SYSTOLIC BLOOD PRESSURE

Data Format [number]

National Element



Definition

First recorded systolic blood pressure in the prehospital setting.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *EMSSBP*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 0 **Maximum Constraint** 400

Field Values

- Common Null Values.
- Relevant value for data element.

Additional Information

- Used to auto-generate an additional calculated field: Revised Trauma Score - EMS (adult & pediatric).

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Initial Field Pulse Rate
- Initial Field Respiratory Rate
- Initial Field SaO2
- Initial Field GCS - Eye
- Initial Field GCS - Verbal
- Initial Field GCS - Motor
- Initial Field GCS- Total

References to Other Databases

- Compare to NHTSA 2.1 – E14_04

XXXIV. INITIAL FIELD PULSE RATE

Data Format [number]

National Element



Definition

First recorded pulse in the prehospital setting (palpated or auscultated, expressed as a number per minute).

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *EMSPulseRate*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 0 **Maximum Constraint** 400

Field Values

- Common Null Values.
- Relevant value for data element.

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Initial Field Systolic Blood Pressure
- Initial Field Respiratory Rate
- Initial Field SaO2
- Initial Field GCS - Eye
- Initial Field GCS - Verbal
- Initial Field GCS - Motor
- Initial Field GCS- Total

References to Other Databases

- Compare to NHTSA 2.1 – E14_07

XXXV. INITIAL FIELD RESPIRATORY RATE

Data Format [number]

National Element



Definition

First recorded respiratory rate in the prehospital setting (expressed as a number per minute).

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *EMSRespiratoryRate*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 0 **Maximum Constraint** 100

Field Values

- Common null values
- Relevant value for data element.

Additional Information

- *If available, complete additional field: "Initial ED Respiratory Assistance".*
- Used to auto-generate an additional calculated field: Revised Trauma Score - ED (adult & pediatric).

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Initial Field Systolic Blood Pressure
- Initial Field Pulse Rate
- Initial Field SaO2
- Initial Field GCS - Eye
- Initial Field GCS - Verbal
- Initial Field GCS - Motor
- Initial Field GCS- Total

References to Other Databases

- Compare to NHTSA 2.1 – E14_11

XXXVI. INITIAL FIELD OXYGEN SATURATION

Data Format [number]

National Element



Definition

First recorded oxygen saturation in the prehospital setting (expressed as a percentage).

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *EMSPulseOximetry*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 0 **Maximum Constraint** 100

Field Values

- Common null values
- Relevant value for data element.

Additional Information

- *If available, complete additional field: "Initial ED Supplemental Oxygen".*

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Initial Field Systolic Blood Pressure
- Initial Field Pulse Rate
- Initial Field Respiratory Rate
- Initial Field GCS - Eye
- Initial Field GCS - Verbal
- Initial Field GCS - Motor
- Initial Field GCS- Total

References to Other Databases

- Compare to NHTSA 2.1 – E14_09

XXXVII. INITIAL FIELD GCS - EYE

Data Format [number]

National Element



Definition

First recorded Glasgow Coma Score (Eye) in the prehospital setting.

XSD Data Type *xs:integer*

Multiple Entry Configuration No

Required in XSD No

XSD Domain (Simple Type) *EMSGCSEye*

Accepts Null Value Yes, common null values

Minimum Constraint 1 **Maximum Constraint** 4

Field Values

- Common Null Values
- All Patients: 1 = None
- All Patients: 2 = Opens Eyes in response to painful stimulation
- All Patients: 3 = Opens Eyes in response to verbal stimulation
- All Patients: 4 = Opens Eyes spontaneously

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Initial Field Systolic Blood Pressure
- Initial Field Pulse Rate
- Initial Field respiratory rate
- Initial Field SaO2
- Initial Field GCS - Verbal
- Initial Field GCS - Motor
- Initial Field GCS- Total

References to Other Databases

- NHTSA 2.1 – E14_15

XXXVIII. INITIAL FIELD GCS - VERBAL



Data Format [number]

National Element

Definition

First recorded Glasgow Coma Score (Verbal) in the prehospital setting.

XSD Data Type *xs:integer*

Multiple Entry Configuration No

Required in XSD No

XSD Domain (Simple Type) *EMSGCSVerbal*

Accepts Null Value Yes, common null values

Minimum Constraint 1 **Maximum Constraint** 5

Field Values

- Common Null Values
- Patients 0-23 months: 1 = None
- Patients 0-23 months: 3 = Inappropriate cry
- Patients 0-23 months: 5 = Smiles, coos, cries
- Patients 0-23 months: 2 = Persistent cry
- Patients 0-23 months: 4 = Cries, inconsolable
- Patients 0-23 months: 9 = Not assessed
- Patients 2-5 years: 1 = None
- Patients 2-5 years: 3 = Cries and/or screams
- Patients 2-5 years: 5 = Appropriate words
- Patients 2-5 years: 2 = Grunts
- Patients 2-5 years: 4 = Inappropriate words
- Patients 2-5 years: 9 = Not assessed
- Patients >5 years: 1 = None
- Patients >5 years: 3 = Inappropriate words
- Patients >5 years: 5 = Oriented and appropriate speech
- Patients >5 years: 2 = Non-specified sounds
- Patients >5 years: 4 = Confused conversation or speech

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Initial Field Systolic Blood Pressure
- Initial Field respiratory rate
- Initial Field Pulse Rate
- Initial Field SaO2
- Initial Field GCS - Eye
- Initial Field GCS - Motor
- Initial Field GCS- Total

References to Other Databases

- NHTSA 2.1 – E14_16

XXXIX. INITIAL FIELD GCS - MOTOR

Data Format [number]

National Element



Definition

First recorded Glasgow Coma Score (Motor) in the prehospital setting.

XSD Data Type *xs:integer*

Multiple Entry Configuration No

Required in XSD No

XSD Domain (Simple Type) *EMSGCSMotor*

Accepts Null Value Yes, common null values

Minimum Constraint 1 **Maximum Constraint** 6

Field Values

- Common Null Values
- Patients up to 5 years: 1 = None
- Patients up to 5 years: 2 = Extensor posturing in response to painful stimulation
- Patients up to 5 years: 3 = Flexor posturing in response to painful stimulation
- Patients up to 5 years: 4 = General withdrawal in response to painful stimulation
- Patients up to 5 years: 5 = Localization of painful stimulation
- Patients up to 5 years: 6 = Spontaneous
- Patients >5 years: 1 = None
- Patients >5 years: 2 = Extensor posturing in response to painful stimulation
- Patients >5 years: 3 = Flexor posturing in response to painful stimulation
- Patients >5 years: 4 = General withdrawal in response to painful stimulation
- Patients >5 years: 5 = Localization of painful stimulation
- Patients >5 years: 6 = Obeys commands with appropriate motor responses

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Initial Field Systolic Blood Pressure
- Initial Field respiratory rate
- Initial Field Pulse Rate
- Initial Field SaO2
- Initial Field GCS - Eye
- Initial Field GCS - Verbal
- Initial Field GCS- Total

References to Other Databases

- NHTSA 2.1 – E14_17

XL. INITIAL FIELD GCS - TOTAL

Data Format [number]

National Element



Definition

First recorded Glasgow Coma Score (total) in the prehospital setting.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *EMSTotalGSC*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 1 **Maximum Constraint** 15

Field Values

- Common Null Values
- Relevant value for data element.

Additional Information

- *Utilize only if total score is available without component scores.*

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Initial Field Systolic Blood Pressure
- Initial Field Pulse Rate
- Initial Field respiratory rate
- Initial Field SaO2
- Initial Field GCS - Eye
- Initial Field GCS - Verbal
- Initial Field GCS - Motor

References to Other Databases

- Compare to NHTSA 2.1 – E14_19

XLI. INTER-FACILITY TRANSFER

Data Format [combo] single-choice

National Element



Definition

Determination if the patient was transferred from another acute care facility.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *InterFacilityTransfer*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

0 No

1 Yes

Additional Information

- Patients transferred from a private doctor's office, stand-alone ambulatory surgery center, or delivered to your hospital by a non-EMS transport is not considered an inter-facility transfer.

Uses

- Allows data to be evaluated based on presence of an inter-facility transfer.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Transport Mode

Emergency Department Information

XLII. AHA HOSPITAL NUMBER

Data Format [number]

National Element



Definition

The number assigned to the admitting hospital by the American Hospital Association

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *AHAHospitalNumber*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 1,890 **Maximum Constraint** 2,030

Field Values

- Common Null Values (except **-25** [Not Applicable])
- Relevant value for data element

Additional Information

- Used to stratify data by type of hospital.

Data Collector

- Autofill, updated yearly

Other Associated Elements

- Hospital Trauma Designation
- Level of Trauma Center Designation
- Trauma Center Designation Body

XLIII. HOSPITAL TRAUMA VERIFICATION/DESIGNATION



Data Format [combo] single-choice

National Element

Definition

Determination of whether the hospital has been verified and/or designated as a trauma center.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *HospitalTraumaDesignation*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

0 No

1 Yes

Additional Information

- A trauma center is a hospital that is designated by a state or local authority or is verified by the American College of Surgeons.
- If the hospital is a verified/designated trauma center, two additional data fields should be completed: Level of Trauma Center Designation and Trauma Center Designating Body.

Uses

- Allows data to be sorted based upon trauma center designation.

Data Collector

- Autofill, updated yearly

Other Associated Elements

- AHA Hospital Number
- Level of Trauma Center Designation
- Trauma Center Designating Body

XLIV. LEVEL OF TRAUMA CENTER

Data Format [combo] single-choice

National Element



Definition

Determination of trauma center level at which the hospital is verified and/or designated.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *LevelTraumaDesignation*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

XXX Adult Level – 1

XXX Adult Level – 3

XXX Adult Level – 2

XXX Adult Level 4/5/Unspecified

XXX Pediatric Level – 2

XXX Pediatric Level – 1

XXX Pediatric Lev

Additional Information

- Only completed if "Hospital Trauma Designation" is marked "Yes".

Uses

- Allows data to be sorted based upon trauma center designation.

Data Collector

- Autofill, updated yearly.

Other Associated Elements

- AHA Hospital Number
- Hospital Trauma Designation
- Trauma Center Designating Body

XLV. TRAUMA CENTER AUTHORITY

Data Format [combo] single-choice

National Element



Definition

Identification of the organization of governing body designating/verifying the trauma center.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *CenterDesignatingBody*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

XXX Verified by the American College of Surgeons

XXX Self-designation

XXX Designated by State or Local Authority

Additional Information

- Only completed if "Hospital Trauma Designation" is marked "Yes".

Uses

- Allows data to be sorted based upon trauma center designation.

Data Collector

- Autofill, updated yearly.

Other Associated Elements

- AHA Hospital Number
- Hospital Trauma Designation
- Level of Trauma Center Designation

XLVI. ED/HOSPITAL ARRIVAL DATE AND TIME

Data Format [date/time]

National Element



Definition

The date and time the patient arrived to the ED/hospital.

XSD Data Type *xs:dateTime*

XSD Domain (Simple Type) *EMSLeftDateTime*

Multiple Entry Configuration No

Accepts Null Value Yes, but null value is blank or empty

Required in XSD Yes

Minimum Constraint 1,990 **Maximum Constraint** 2,030

Field Values

- Relevant value for data element.

Additional Information

- If the patient was brought to the ED, enter date/time patient arrived at ED. If patient was directly admitted to the hospital, enter date/time patient was admitted to the hospital.
- Collected as YYYY-MM-DD HH:MM.
- HH:MM should be collected as military time.
- If the date/time is electronically stored within a database or transmitted via XML as a "tick", the referenced variables may also be used.
- Used to auto-generate two additional calculated fields: Total EMS Time: (elapsed time from EMS dispatch to hospital arrival) and Total Length of Hospital Stay (elapsed time from ED/Hospital Arrival to ED/Hospital Discharge).

Uses

- Allows data to be sorted based upon total length of hospital stay.

Data Collector

- 911 or Dispatch Center and electronically or verbally transmitted to the EMS agency.

Other Associated Elements

- EMS Dispatch Date and Time
- EMS Unit Arrival on Scene Date and Time



Data Format [number]

National Element

Definition

First recorded systolic blood pressure in the ED/hospital.

XSD Data Type <i>xs:integer</i>	XSD Domain (Simple Type) <i>SBP</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 0 Maximum Constraint 400

Field Values

- Common Null Values.
- Relevant value for data element.

Additional Information

- Used to auto-generate an additional calculated field: Revised Trauma Score - ED (adult & pediatric).

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record or medical device.

Other Associated Elements

- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Respiratory Rate
- Initial ED/Hospital Temperature
- Initial ED/HOSPITAL SaO2
- Initial ED/HOSPITAL GCS - Eye
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS- Total
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- Compare to NHTSA 2.1 – E14_04

XLVIII. INITIAL ED/HOSPITAL PULSE RATE

Data Format [number]

National Element



Definition

First recorded pulse in the ED/hospital (palpated or auscultated, expressed as a number per minute).

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *PulseRate*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 0 **Maximum Constraint** 400

Field Values

- Common Null Values.
- Relevant value for data element.

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record or medical device.

Other Associated Elements

- Initial ED/Hospital Systolic Blood Pressure
- Initial ED/Hospital Respiratory Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital SaO2
- Initial ED/Hospital GCS - Eye
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS- Total
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- Compare to NHTSA 2.1 – E14_07

XLIX. INITIAL ED/HOSPITAL TEMPERATURE

Data Format [number]

National Element



Definition

First recorded temperature (in degrees celsius/centigrade) in the ED/hospital.

XSD Data Type *xs:integer*

Multiple Entry Configuration No

Required in XSD No

XSD Domain (Simple Type) *Temperature*

Accepts Null Value Yes, common null values

Minimum Constraint 0 **Maximum Constraint** 400

Field Values

- Common Null Values
- Relevant value for data element.

Additional Information

- Should include a program for converting Fahrenheit to Celsius.

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record or medical device.

Other Associated Elements

- Initial ED/Hospital Systolic Blood Pressure
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital respiratory rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital SaO2
- Initial ED/Hospital GCS - Eye
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS- Total
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- Compare to NHTSA 2.1 – E14_20

L. **INITIAL ED/HOSPITAL RESPIRATORY RATE**



Data Format [number]

National Element

Definition

First recorded respiratory rate in the ED/hospital (expressed as a number per minute).

XSD Data Type <i>xs:integer</i>	XSD Domain (Simple Type) <i>RespiratoryRate</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 0 Maximum Constraint 100

Field Values

- Common null values
- Relevant value for data element.

Additional Information

- *If available, complete additional field: "Initial ED/Hospital Respiratory Assistance".*
- Used to auto-generate an additional calculated field: Revised Trauma Score - ED (adult & pediatric).

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record or medical device.

Other Associated Elements

- Initial ED/Hospital Systolic Blood Pressure
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital SaO2
- Initial ED/Hospital GCS - Eye
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS- Total
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- Compare to NHTSA 2.1 – E14_11

LI. INITIAL ED/HOSPITAL RESPIRATORY ASSISTANCE



Data Format [combo] single-choice

National Element

Definition

Determination of respiratory assistance associated with the initial ED/hospital respiratory rate.

XSD Data Type <i>xs:integer</i>	XSD Domain (Simple Type) <i>HospitalTraumaDesignation</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	

Field Values

Common Null Values

1 Assisted Respiratory Rate

0 Unassisted Respiratory Rate

Additional Information

- Only completed if a value is provided for "Initial ED/Hospital Respiratory Rate".

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel.

Other Associated Elements

- Initial ED/Hospital Respiratory Rate

LII. INITIAL ED/HOSPITAL OXYGEN SATURATION

Data Format [number]

National Element



Definition

First recorded oxygen saturation in the ED/hospital (expressed as a percentage).

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *PulseOximetry*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 0 **Maximum Constraint** 100

Field Values

- Common null values
- Relevant value for data element.

Additional Information

- *If available, complete additional field: "Initial ED/Hospital Supplemental Oxygen".*

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record or medical device.

Other Associated Elements

- Initial ED/Hospital Systolic Blood Pressure
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital Respiratory Rate
- Initial ED/Hospital GCS - Eye
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS- Total
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- Compare to NHTSA 2.1 – E14_09

LIII. INITIAL ED/HOSPITAL SUPPLEMENTAL OXYGEN



Data Format [combo] single-choice

National Element

Definition

Determination of the presence of supplemental oxygen during assessment of initial ED/hospital oxygen saturation level.

XSD Data Type <i>xs:integer</i>	XSD Domain (Simple Type) <i>SupplementalOxygen</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	

Field Values

Common Null Values 1 Supplemental Oxygen

0 No Supplemental Oxygen

Additional Information

- Only completed if a value is provided for "Initial ED/Hospital Oxygen Saturation".

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel.

Other Associated Elements

- Initial ED/Hospital Oxygen Saturation

LIV. INITIAL ED/HOSPITAL GCS - EYE

Data Format [number]

National Element



Definition

First recorded Glasgow Coma Score (Eye) in the ED/hospital.

XSD Data Type *xs:integer*

Multiple Entry Configuration No

Required in XSD No

XSD Domain (Simple Type) *GCSEye*

Accepts Null Value Yes, common null values

Minimum Constraint 1 **Maximum Constraint** 4

Field Values

- Common Null Values
- All Patients: 1 = None
- All Patients: 2 = Opens Eyes in response to painful stimulation
- All Patients: 3 = Opens Eyes in response to verbal stimulation
- All Patients: 4 = Opens Eyes spontaneously

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record.

Other Associated Elements

- Initial Systolic Blood Pressure
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital respiratory rate
- Initial ED/Hospital SaO2
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS- Total
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- NHTSA 2.1 – E14_15

LV. INITIAL ED/HOSPITAL GCS - VERBAL

Data Format [number]

National Element



Definition

First recorded Glasgow Coma Score (Verbal) in the ED/hospital.

XSD Data Type *xs:integer*

Multiple Entry Configuration No

Required in XSD No

XSD Domain (Simple Type) *GCSVerbal*

Accepts Null Value Yes, common null values

Minimum Constraint 1 **Maximum Constraint** 5

Field Values

- Common Null Values
- Patients 0-23 months: 1 = None
- Patients 0-23 months: 3 = Inappropriate cry
- Patients 0-23 months: 5 = Smiles, coos, cries
- Patients 0-23 months: 2 = Persistent cry
- Patients 0-23 months: 4 = Cries, inconsolable
- Patients 0-23 months: 9 = Not assessed
- Patients 2-5 years: 1 = None
- Patients 2-5 years: 3 = Cries and/or screams
- Patients 2-5 years: 5 = Appropriate words
- Patients 2-5 years: 2 = Grunts
- Patients 2-5 years: 4 = Inappropriate words
- Patients 2-5 years: 9 = Not assessed
- Patients >5 years: 1 = None
- Patients >5 years: 3 = Inappropriate words
- Patients >5 years: 5 = Oriented and appropriate speech
- Patients >5 years: 2 = Non-specified sounds
- Patients >5 years: 4 = Confused conversation or speech

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record.

Other Associated Elements

- Initial Systolic Blood Pressure
- Initial ED/Hospital respiratory rate
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital SaO2
- Initial ED/Hospital GCS - Eye
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS- Total
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- NHTSA 2.1 – E14_16

LVI. INITIAL ED/HOSPITAL GCS - MOTOR

Data Format [number]

National Element



Definition

First recorded Glasgow Coma Score (Motor) in the ED/hospital.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *GCSMotor*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 1 **Maximum Constraint** 6

Field Values

- Common Null Values
- Patients up to 5 years: 1 = None
- Patients up to 5 years: 2 = Extensor posturing in response to painful stimulation
- Patients up to 5 years: 3 = Flexor posturing in response to painful stimulation
- Patients up to 5 years: 4 = General withdrawal in response to painful stimulation
- Patients up to 5 years: 5 = Localization of painful stimulation
- Patients up to 5 years: 6 = Spontaneous
- Patients >5 years: 1 = None
- Patients >5 years: 2 = Extensor posturing in response to painful stimulation
- Patients >5 years: 3 = Flexor posturing in response to painful stimulation
- Patients >5 years: 4 = General withdrawal in response to painful stimulation
- Patients >5 years: 5 = Localization of painful stimulation
- Patients >5 years: 6 = Obeys commands with appropriate motor responses

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record.

Other Associated Elements

- Initial Systolic Blood Pressure
- Initial ED/Hospital respiratory rate
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital SaO2
- Initial ED/Hospital GCS - Eye
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS- Total
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- NHTSA 2.1 – E14_17

L.VII. INITIAL ED/HOSPITAL GCS - TOTAL

Data Format [number]

National Element



Definition

First recorded Glasgow Coma Score (total) in the ED/hospital.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *TotalGSC*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Minimum Constraint 1 **Maximum Constraint** 15

Field Values

- Common Null Values
- Relevant value for data element.

Additional Information

- *Utilize only if total score is available without component scores.*

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.
- Used to auto-generate an additional calculated field: Revised Trauma Score - ED (adult & pediatric).

Data Collector

- Hospital personnel or electronically through linkage with medical record.

Other Associated Elements

- Initial ED/Hospital Systolic Blood Pressure
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital respiratory rate
- Initial ED/Hospital SaO2
- Initial ED/Hospital GCS - Eye
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS Assessment Qualifiers
- Presence of ETOH/ BAC

References to Other Databases

- Compare to NHTSA 2.1 – E14_19

L VIII. INITIAL ED/HOSPITAL GCS ASSESSMENT QUALIFIER

Data Format [combo] single-choice

National Element



Definition

Documentation of factors potentially affecting the first assessment of GCS upon arrival in the ED/hospital.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *GCSQualifier*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values

3210 Initial GCS has legitimate values without interventions

3215 Patient Chemically Sedated

3220 Patient Intubated

XXX Obstruction to the Patient's Eye

Uses

- Provides documentation of assessment and care.
- Used in quality management for the evaluation of care and EMS Agency Performance.

Data Collector

- Hospital personnel or electronically through linkage with medical record.

Other Associated Elements

- Initial ED/Hospital Systolic Blood Pressure
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital respiratory rate
- Initial ED/Hospital SaO2
- Initial ED/Hospital GCS - Eye
- Initial ED/Hospital GCS - Verbal
- Initial ED/Hospital GCS - Motor
- Initial ED/Hospital GCS- Total
- Presence of ETOH/ BAC

References to Other Databases

- Compare to NHTSA 2.1 – E14_18

LIX. ALCOHOL USE INDICATOR

Data Format [combo] single-choice

National Element



Definition

Use of alcohol by the patient.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *AlcoholDrugUseIndicators*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

XXX No (not suspected)

XXX Yes (confirmed by test [trace levels])

XXX No (confirmed by test)

XXX Yes (confirmed by test [beyond legal limit])

Uses

- Allows data to be sorted based upon alcohol and drug indicators.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

References to Other Databases

- Compare to NHTSA V.2.10 – E12_19

LX. DRUG USE INDICATOR

Data Format [combo] single-choice

National Element



Definition

Use of drugs by the patient.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *AlcoholDrugUseIndicators*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

XXX No (not suspected)

XXX Yes (confirmed by test [prescription drug])

XXX Yes (suspected)

XXX Yes (confirmed by test [illegal use drug])

Uses

- Allows data to be sorted based upon alcohol and drug indicators.

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

References to Other Databases

- Compare to NHTSA V.2.10 – E12_19

LXI. ED PROCEDURES

Data Format [combo] multiple-choice

National Element



Definition

Operative and essential procedures conducted during ED admission.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *EDProcedures*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

Major and minor procedure (ICD-9-CM) codes as defined by CMS

<http://www.cms.hhs.gov/providers/pufdownload#icd>

XXX Endotracheal Airway

XXX Nasotracheal Airway

XXX Cricothyroidotomy Airway

XXX Arterial Line

XXX Cardiac Monitoring

XXX Chest Tube/Decompression

XXX CPR

XXX Femoral Line (Venous)

XXX Defibrillation

XXX EKG

XXX Foley

XXX Peripheral IV

XXX Peritoneal Lavage

XXX Gastric Tube

XXX Catheter

XXX Thoracotomy

XXX Tracheostomy

XXX Venous Cut-Down

XXX Closed Reduction

XXX Sutures/Staples

XXX Control Bleeding

XXX Assist Ventilation

XXX CT Scan

XXX X-Ray

XXX Angiography

XXX VP

XXX Echocardiogram

XXX FAST

XXX Spinal Immobilization

XXX Suctioning

XXX Ultrasound

XXX MRI

XXX Combi-Tube

XXX Blood Products Given in ED

XXX Thoracentesis

XXX Central Line

XXX Refused Care

XXX None

Uses

- Allows data to be used to characterize procedures used to treat specific injury types.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

LXII. ED DISCHARGE DISPOSITION

Data Format [combo] single-choice

National Element



Definition

The disposition of the patient at the time of discharge from the ED.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *EdDischargeDisposition*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values

5335 Floor bed (general admission, non specialty unit bed)	XXX Operating room
XXX Observation unit (unit that provides < 24 hour stays)	5340 Intensive Care Unit
XXX Telemetry/step-down unit (less acuity than ICU)	XXX Home without services
XXX Home with services	XXX Left against medical advice
5345 Died	5360 Transferred to another hospital
XXX Other (jail, institution, etc)	

Additional Information

- Fields based upon UB-92 disposition coding.
- *If reported as "expired", complete variable "Death in ED".*

Uses

- Can be used to roughly characterize functional status at hospital discharge.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- ED Discharge Date and Time

LXIII. ED DEATH

Data Format [combo] single-choice

National Element



Definition

The type of death incurred while the patient was in the ED.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *DeathInED*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values

XXX DOA : Dead on Arrival

XXX Died in ED (other than failed resuscitation attempt)

XXX Death after resuscitation attempt (failure to respond within 15 minutes)

Additional Information

- Fields based upon UB-92 disposition coding.
- *Only completed when ED Discharge Disposition is calculated as "Expired"*

Uses

- Can be used to roughly characterize functional status at hospital discharge.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- ED Discharge Disposition
- ED Discharge Date and Time

LXIV. ED DISCHARGE DATE AND TIME

Data Format [date/time]

National Element



Definition

The date and time the patient was discharged from the ED.

XSD Data Type *xs:dateTime*

XSD Domain (Simple Type) *EdDischargeDateTime*

Multiple Entry Configuration No

Accepts Null Value Yes, but null value is blank or empty

Required in XSD Yes

Minimum Constraint 1,990 **Maximum Constraint** 2,030

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD HH:MM.
- HH:MM should be collected as military time.
- If the date/time is electronically stored within a database or transmitted via XML as a “tick”, the referenced variables may also be used.
- Used to auto-generate an additional calculated field: Total ED Time: (elapsed time from ED admit to ED discharge).

Uses

- Allows data to be sorted based upon total length of ED stay.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- ED Discharge Disposition

Hospital Procedure Information

LXV. HOSPITAL PROCEDURES

Data Format [combo] multiple-choice

National Element



Definition

Operative and essential procedures conducted during hospital stay.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *HospitaProcedures*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

- Common Null Values
- Major and minor procedure (ICD-9-CM) codes as defined by CMS
<http://www.cms.hhs.gov/providers/pufdownload/#icd>

Uses

- Allows data to be used to characterize procedures used to treat specific injury types.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Procedure Date and Time

LXVI. PROCEDURE DATE AND TIME

Data Format [date/time]

National Element



Definition

The date and time operative and essential procedures were performed.

XSD Data Type *xs:dateTime*

XSD Domain (Simple Type) *ProcedureDateTime*

Multiple Entry Configuration No

Accepts Null Value Yes, but null value is blank or empty

Required in XSD Yes

Minimum Constraint 1,990 **Maximum Constraint** 2,030

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD HH.
- HH:MM should be collected as military time.
- If the date/time is electronically stored within a database or transmitted via XML as a “tick”, the referenced variables may also be used.

Uses

- Allows data to be stratified by time until operative and essential procedures were performed.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Hospital Procedures

Diagnoses Information

LXVII. COMORBID CONDITIONS

Data Format [combo] multiple-choice

National Element



Definition

Pre-existing comorbid factors present at patient arrive to ED/hospital.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *ComorbidConditions*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

Comorbid conditions defined by (ICD-9-CM) codes

XXX None

XXX Cancer

XXX GI

XXX Cirrhosis

XXX Cardiac

XXX Alcohol Abuse

XXX Collagen

XXX Alcohol Abuse

XXX Obesity

XXX CVA

XXX Drug Abuse

XXX Hypertension

XXX Tobacco

XXX Psychiatric

XXX Seizures

XXX OBS

XXX Diabetes

XXX Respiratory

Uses

- Allows data to be used to characterize patients and hospital outcomes based upon the presence (and type) of comorbid condition.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Injury Diagnosis

LXVIII. INJURY DIAGNOSIS

Data Format [combo] multiple-choice

National Element



Definition

Diagnoses related to all identified injuries.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *InjuryDiagnosis*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

- Common Null Values
- Injury diagnoses defined by (ICD-9-CM) codes.

Additional Information

- Used to auto-generate eight additional calculated fields: Abbreviated Injury Scale (six body regions), Injury Severity Score and the Functional Capacity Index.

Uses

- Allows data to be used to characterize patients and hospital outcomes based upon the presence (and type of) injury.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Injury Diagnosis

Outcome Information

LXIX. TOTAL ICU LENGTH OF STAY

Data Format [number]

National Element



Definition

The total number of patient days in any ICU (including all episodes).

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *TotalICULOS*

Multiple Entry Configuration Yes, via structure

Accepts Null Value Yes, but null is blank or empty

Required in XSD No

Minimum Constraint 0 **Maximum Constraint** 100

Field Values

- Relevant value for data element.

Additional Information

- Recorded in full day increments with any partial day listed as a full day.
- Field allows for multiple admission and discharge dates and autofills with total ICU LOS. If a patient is admitted and discharged on the same date, the LOS is one day.

Uses

- Provides a rough estimate of severity of injury and resource utilization.

Data Collector

- Hospital personnel or electronically through linkage with medical record.

LXX. HOSPITAL DISCHARGE DATE AND TIME

Data Format [date/time]

National Element



Definition

The date and time the patient was discharged from the hospital.

XSD Data Type *xs:dateTime*

XSD Domain (Simple Type) *HospitalDischargeDateTime*

Multiple Entry Configuration No

Accepts Null Value Yes, but null value is blank or empty

Required in XSD Yes

Minimum Constraint 1,990 **Maximum Constraint** 2,030

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD HH:MM.
- HH:MM should be collected as military time.
- If the date/time is electronically stored within a database or transmitted via XML as a “tick”, the referenced variables may also be used.
- Used to auto-generate an additional calculated field: Total Hospital Length of Stay (elapsed time from ED/hospital arrival to hospital discharge).

Uses

- Provides a rough estimate of severity of injury and resource utilization.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- ED/Hospital Admission Date and Time

LXXI. HOSPITAL DISCHARGE DISPOSITION

Data Format [combo] single-choice

National Element



Definition

The disposition of the patient when discharged from the hospital.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *HospitalDischargeDisposition*

Multiple Entry Configuration No

Accepts Null Value Yes, common null values

Required in XSD No

Field Values

Common Null Values

XXX Discharged/Transferred to a short-term general hospital	5370 Discharged home or self care
XXX Discharged/Transferred to an Intermediate Care Facility	5380 Discharged/Transferred to Skilled Nursing Facility
XXX Discharge/Transferred to home under care of Home Health Agency	XXX Discharged to hospice care
XXX Discharged/Transferred to a Federal Hospital	XXX Discharged/Transferred to another type of institution
5365 Expired	XXX Left against medical advice

Additional Information

- Fields based upon UB-92 disposition coding.

Uses

- Can be used to roughly characterize functional status at hospital discharge.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- ED Discharge Date and Time

Financial Information

LXXII. PRIMARY METHOD OF PAYMENT

Data Format [combo] single-choice

National Element



Definition

Primary source of payment for hospital care.

XSD Data Type <i>xs:string</i>	XSD Domain (Simple Type) <i>PrimaryMethodPayment</i>
Multiple Entry Configuration No	Accepts Null Value Yes, common null values
Required in XSD No	Minimum Constraint 2 Maximum Constraint 3

Field Values

Common Null Values	720 Insurance (add fidelity)
725 Medicaid	730 Medicare
735 Not Billed (for any reason)	740 Other Government
745 Self Pay	750 Workers Compensation

Uses

- Allows data to be sorted based upon payer mix.
- (ensure these came from CMS)

Data Collector

- EMS or hospital personnel or electronically through linkage with the medical record.

References to Other Databases

- NHTSA 2.1 - E07_01

Quality Assurance Information

LXXIII. HOSPITAL COMPLICATIONS

Data Format [combo] multiple-choice

National Element



Definition

Diagnoses related to all identified injuries.

XSD Data Type *xs:integer*

XSD Domain (Simple Type) *HospitalComplications*

Multiple Entry Configuration Yes

Accepts Null Value Yes, common null values

Required in XSD Yes

Field Values

Common Null Values

Injury diagnoses defined by (ICD-9-CM) codes

XXX Acute Respiratory Distress Syndrome (ARDS)

XXX Aspiration Pneumonia

XXX Bacteremia

XXX Cardiac Arrest

XXX Coagulopathy

XXX Compartment Syndrome

XXX Deep Vein Thrombosis (DVT)

XXX Disseminated Fungal Infection

XXX Dehiscence/evisceration

XXX Empyema

XXX Esophageal Intubation

XXX Hypothermia

XXX Intraabdominal Abscess

XXX Jaundice

XXX Failure of fracture fixation

XXX Wound Infection

XXX Myocardial Infarction

XXX Urinary Tract Infection

XXX Pancreatitis

XXX Pneumonia

XXX Pneumothorax

XXX Skin Breakdown

XXX Progression of original neurological insult

XXX Pulmonary Embolus

XXX Renal Failure

XXX Sepsis-like syndrome

XXX Liver Failure

XXX Stroke

XXX Pleural Effusion

XXX Reintubation

Uses

- Allows data to be used to characterize patients and hospital outcomes based upon the presence (and type) of hospital complication.

Data Collector

- Hospital personnel or electronically through linkage with the medical record.

Other Associated Elements

- Injury Diagnosis

Appendix 1: National Trauma Registry Data Elements List

LXXIV. Demographic Variables

1. **Patient's Home Zip Code:** The patient's home ZIP code of primary residence.
Autocalculates: FIPS Code

If Patient's Home Zip Code is unavailable, the following four variables will be collected to generate a FIPS Code:

- a. **Patient's Home Country:** The patient's home country where he/she resides.
- b. **Patient's Home State:** The patient's home state (territory, province, or District of Columbia) where the patient resides.
- c. **Patient's Home County:** The patient's home county (or parish) of residence.
- d. **Patient's Home City:** The patient's home city (or township) of residence.

If Patient's Home Zip Code is no applicable (i.e. no home residence), the following variable will be collected.

- e. **Alternate Home Residence:** Documentation of the type of patient without a home Zip Code.

2. **Date of Birth:** The patient's date of birth.

If Date of Birth is unavailable, the following two variables will be collected to determine the patient's age:

- a. **Age:** The patient's age at the time of injury (best approximation)
- b. **Age Units:** The units used to document the patient's age (Years, Months, Days, Hours)

3. **Race:** The patient's race.
4. **Ethnicity:** The patient's ethnicity.
5. **Sex:** The patient's sex.

If sex is reported as transgender, the following variable is collected:

- a. ***Transgender Assignment.*** The patient's currently assigned sex

LXXV. Injury Variables

6. ***Injury Incident Date/Time***: The date/time the injury occurred.
7. ***Work-Related***: Indication of whether the injury occurred during paid employment.

If the injury is determined to be “work-related”, the following two variables will be collected:

- a. ***Patient’s Occupational Industry***: The occupational industry associated with the patient’s work environment.
 - b. ***Patient’s Occupation***: The occupation of the patient.
8. ***Primary E-code***: E-code used to describe the mechanism (or external factor) that caused the injury event. Autocalculates: Trauma Type & Injury Intentionality
 9. ***Secondary E-code***: E-code used to describe the place/site/location of the injury event (E 849.X).
 10. ***Additional E-code***: Additional E-code used to describe, for example, a mass causality event, or other external cause.
 11. ***Incident Location Zip Code***: The ZIP code of the incident location. Autocalculates: FIPS Code

If the Incident Location Home Zip Code is unavailable, the following three variables will be collected to generate a FIPS Code:

- a. ***Incident State***: The state, territory, or province where the patient was found or to which the unit responded (or best approximation)
 - b. ***Incident County***: The county or parish where the patient was found or to which the unit responded (or best approximation)
 - c. ***Incident City***: The city or township (if applicable) where the patient was found or to which the unit responded (or best approximation)
12. ***Protective Devices***: Protective devices (safety equipment) in use by the patient at the time of the injury.

If specific protective devices are associated with the injury, the appropriate additional variable will be collected as outlined below:

- a. ***Child Specific Restraint***: Protective child restraint devices used by patient at the time of injury.

- b. ***Airbag Deployment***: Indication of an airbag deployment during a motor vehicle crash.

LXXVI. Prehospital Variables

13. **EMS Dispatch Date and Time:** The date and time the unit transporting to the hospital was notified by dispatch. Autocalculates: Total EMS Response Time
14. **EMS Unit Arrival on Scene Date and Time:** The date and time the unit transporting to the hospital arrived on the scene (the date/time the vehicle stopped moving). Autocalculates: Total EMS Scene Time
15. **EMS Unit Scene Departure Date and Time:** The date and time the unit transporting to the hospital left the scene (started moving).
16. **Transport Mode:** The mode of transport delivering the patient to the hospital.
17. **Other Transport Mode:** All other modes of transport used during patient care event, except the mode delivering the patient to the hospital.
18. **Initial Field Systolic Blood Pressure:** First recorded systolic blood pressure in the prehospital setting.
19. **Initial Field Pulse Rate:** First recorded pulse in the prehospital setting (palpated or auscultated, expressed as a number per minute).
20. **Initial Field Respiratory Rate:** First recorded respiratory rate in the prehospital setting (expressed as a number per minute).
21. **Initial Field Oxygen Saturation:** First recorded oxygen saturation in the prehospital setting (expressed as a percentage).
22. **Initial Field GCS – Eye:** First recorded Glasgow Coma Score (Eye) in the prehospital setting.
23. **Initial Field GCS – Verbal:** First recorded Glasgow Coma Score (Verbal) in the prehospital setting.
24. **Initial Field GCS – Motor:** First recorded Glasgow Coma Score (Motor) in the prehospital setting.
25. **Initial Field GCS – Total:** First recorded Glasgow Coma Score (total) in the Prehospital setting.

26. ***Inter-Facility Transfer***. Determination if the patient was transferred from another acute care facility.

LXXVII. Emergency Department Variables

27. **AHA Hospital Number:** The number assigned to the admitting hospital by the American Hospital Association
28. **Hospital Trauma Verification/Designation:** Determination of whether the hospital has been verified and/or designated as a trauma center.
29. **Level of Trauma Center:** Determination of trauma center level at which the hospital is verified and/or designated.
30. **Trauma Center Authority:** Identification of the organization of governing body designating/verifying the trauma center
31. **ED/Hospital Arrival Date and Time:** The date and time the patient arrived to the ED/Hospital. Autocalculates: Total EMS Time
32. **Initial ED/Hospital Systolic Blood Pressure:** First recorded systolic blood pressure in the ED/hospital.
33. **Initial ED/Hospital Pulse Rate:** First recorded pulse in the ED/hospital (palpated or auscultated, expressed as a number per minute).
34. **Initial ED/Hospital Temperature:** First recorded temperature (in degrees celsius/centigrade) in the ED/hospital
35. **Initial ED/Hospital Respiratory Rate:** First recorded respiratory rate in the ED/hospital (expressed as a number per minute).

If an ED/hospital Respiratory Rate is recorded, the field below is provided to assess for the presence of respiratory assistance:

- a. **Initial ED/Hospital Respiratory Assistance:** Determination of respiratory assistance associated with the initial ED/hospital respiratory rate.

36. **Initial ED/Hospital Oxygen Saturation:** First recorded oxygen saturation in the ED/hospital (expressed as a percentage).

If an ED/hospital Oxygen Saturation is recorded, the field below is provided to assess for the presence of supplemental oxygen:

- a. **Initial ED/Hospital Supplemental Oxygen:** Determination of the presence of supplemental oxygen during assessment of initial ED oxygen saturation level.

37. **Initial ED/Hospital GCS – Eye:** First recorded Glasgow Coma Score (Eye) in the ED/hospital.

38. **Initial ED/Hospital GCS – Verbal:** First recorded Glasgow Coma Score (Verbal) in the ED/hospital.

39. **Initial ED GCS/Hospital – Motor:** First recorded Glasgow Coma Score (Motor) in the ED/hospital.

40. **Initial ED GCS/Hospital – Total:** First recorded Glasgow Coma Score (total) in the ED/hospital.

41. **Initial ED GCS/Hospital Assessment Qualifiers:** Documentation of factors potentially affecting the first assessment of GCS upon arrival in the ED/hospital.

42. **Alcohol Use Indicator:** Use of alcohol by the patient.

43. **Drug Use Indicator:** Use of Drugs by the patient.

44. **ED Procedures:** Operative and essential procedures conducted during ED admission.

45. **ED Discharge Disposition:** The disposition of the patient at the time of discharge from the ED.

If the ED Discharge Disposition is recorded as “expired”, the field below documents under what circumstances the death occurred:

- a. **ED Death:** The type of death incurred while the patient was in the ED.

46. **ED Discharge Date and Time:** The date and time the patient was discharged from the ED. Autocalculates: Total ED Time

LXXVIII. Hospital Procedure Information

47. **Hospital Procedures:** Operative and essential procedures conducted during hospital stay.

48. ***Procedure Date and Time***: The date and time operative and essential procedures were performed.

LXXIX. Diagnosis Information

49. ***Comorbid Conditions***: Pre-existing comorbid factors present at patient arrive to ED/hospital.

50. ***Injury Diagnosis***: Diagnoses related to all identified injuries. Autocalculates: Abbreviated Injury Score (six body regions), Injury Severity Score and Functional Capacity Index.

LXXX. Outcome Information

51. **Total ICU Length of Stay:** The total number of patient days in any ICU (including all episodes).
52. **Hospital Discharge Date and Time:** The date and time the patient was discharged from the hospital. Autocalculates: Total Length of Hospital Stay
53. **Hospital Discharge Disposition:** The disposition of the patient at the time of discharge from the ED.
54. **Primary Method of Payment:** Primary source of payment for hospital care.
55. **Hospital Complications:** Diagnoses related to all identified injuries.

LXXXI. Variables Auto-Generated based on Existing Data Elements

1. *FIPS code (location code)*
2. *Trauma Type (blunt, penetrating, burn)*
3. *Injury Intentionality (using CDC matrix)*
4. *Total EMS Response Time (elapsed time from EMS dispatch to scene arrival)*
5. *Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).*
6. *Total EMS Time (elapsed time from EMS dispatch to hospital arrival)*
7. *Revised Trauma Score in the Prehospital Setting (adult and pediatric)*
8. *Revised Trauma Score in ED (adult and pediatric)*
9. *Abbreviated Injury Scale (six body regions)*
10. *Injury Severity Score*
11. *Functional Capacity Index*
12. *Total ED Time*

13. *Total Length of Hospital Stay*

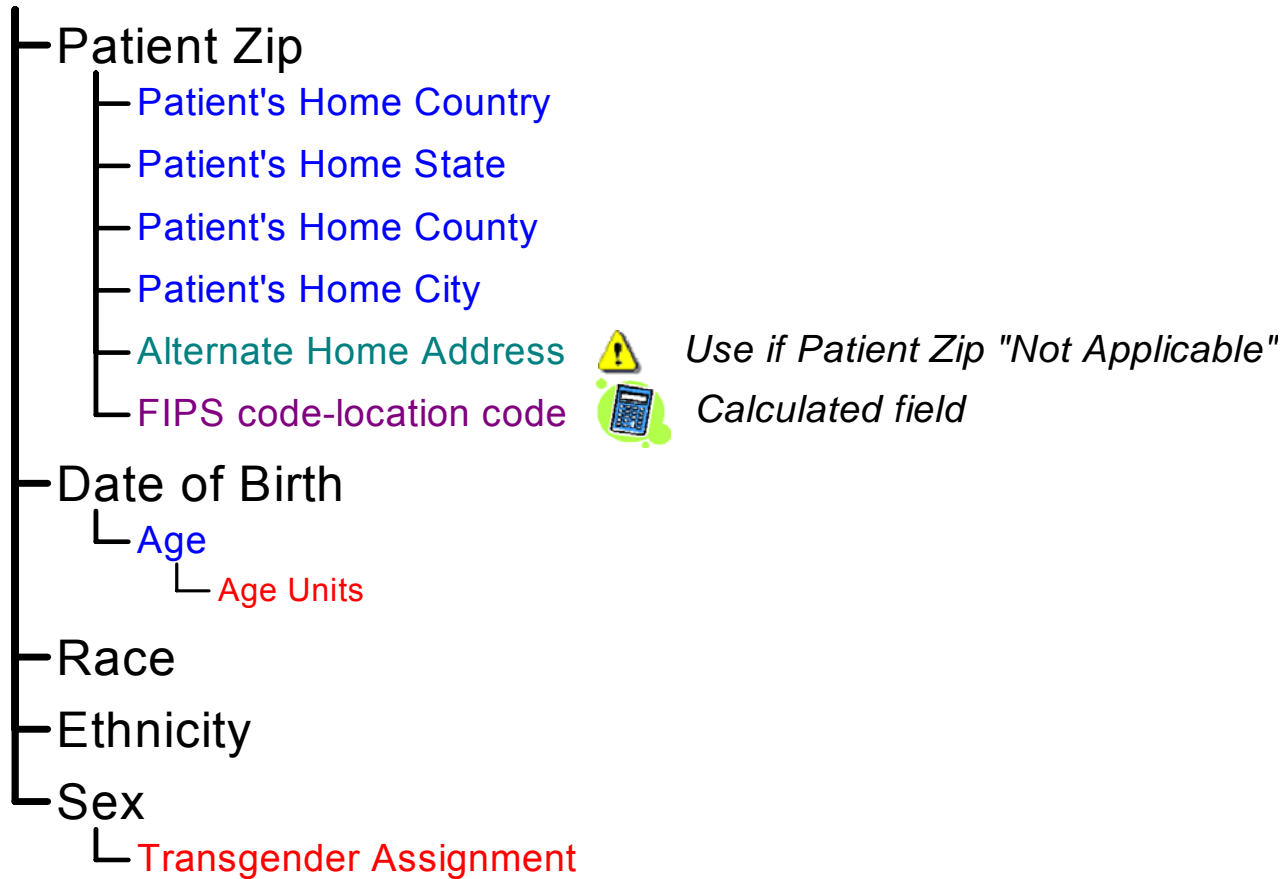
Appendix 2: National Trauma Registry Data Tree

Graphical Scheme of the National Trauma Registry Data Elements

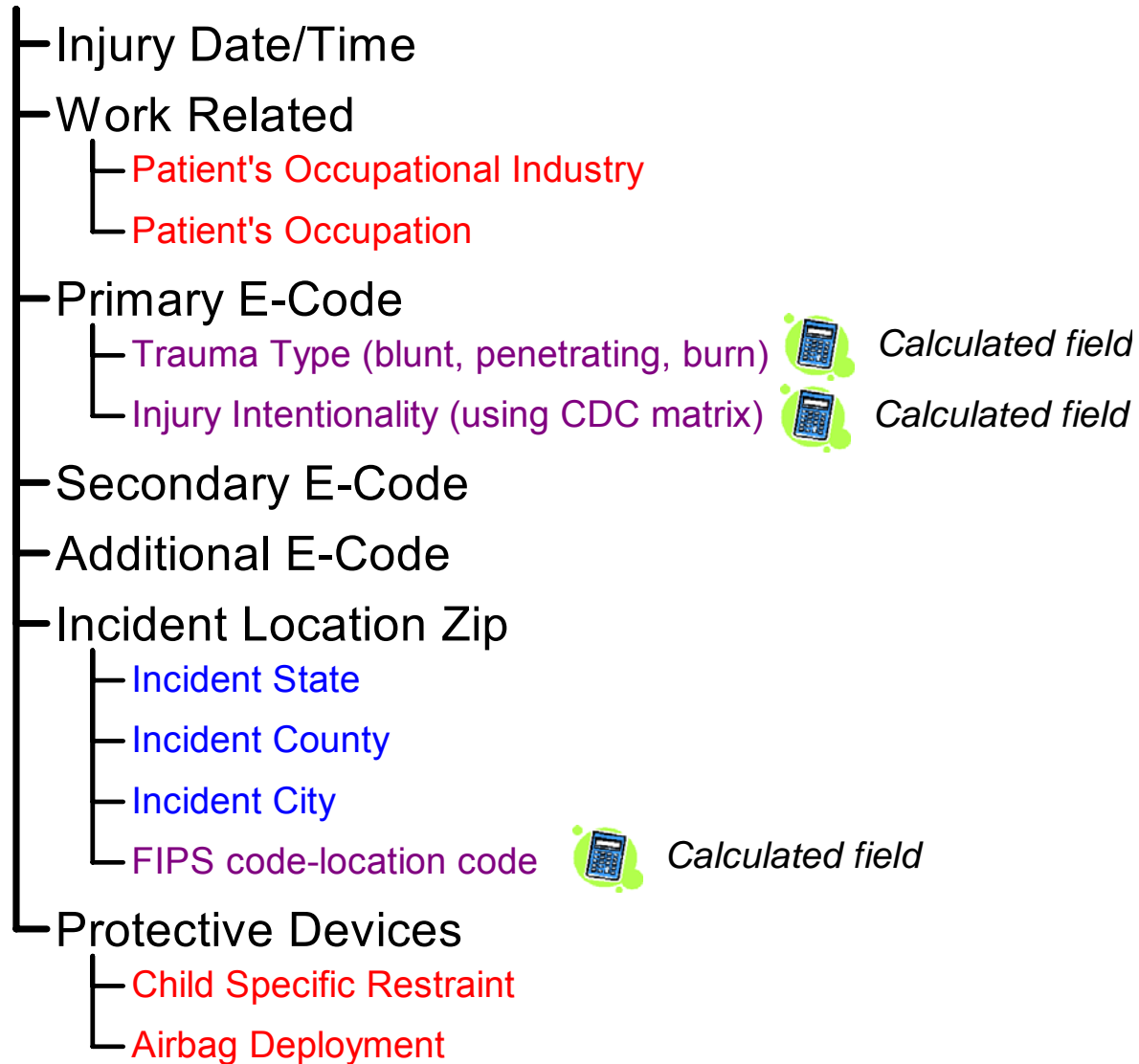
Variable Types

- Black – primary variables included in the National Trauma Registry Dataset.
- Blue – variables accessible only if primary variable is “unknown”.
- Green – variables accessible only if primary variable is “not applicable”.
- Red – variables that further characterize the primary variable.
- Purple – variables auto-generated based upon information provided by primary variables.




Demographic Information







Injury Information



Prehospital Information

- EMS Dispatch Date and Time
 - └ Total EMS Response Time-elapsed time from EMS dispatch to scene arrival  Calculated field
- EMS Unit Arrival on Scene Date and Time
 - └ Total EMS Scene Time-elapsed time from EMS scene arrival to scene departure  Calculated field
- EMS Unit Scene Departure Date and Time
- Transport Mode
- Other Transport Mode
- Initial Field Systolic Blood Pressure
- Initial Field Pulse Rate
- Initial Field Respiratory Rate
- Initial Field Oxygen Saturation
- Initial Field GCS-Eye
- Initial Field GCS-Verbal
- Initial Field GCS-Motor
- Initial Field GCS-Total  Use only if total score is available without component scores
- Inter-facility Transfer

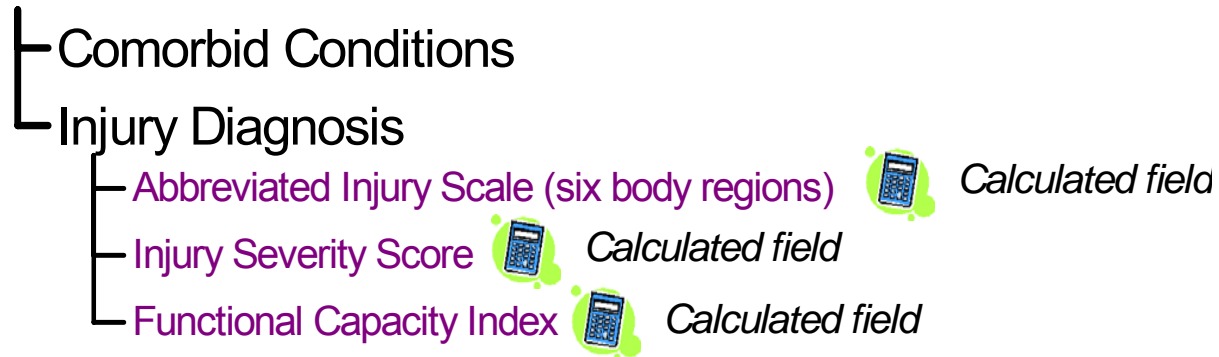
Emergency Department Information

- AHA Hospital Number
- Hospital Trauma Verification/Designation
 - Level of Trauma Center
 - Trauma Center Authority
- ED/Hospital Arrival Date and Time
 - Total EMS Time-elapsed time from EMS scene arrival to scene departure  Calculated field
- Initial ED/Hospital Systolic Blood Pressure
 - Revised Trauma Score in ED (adult and pediatric)  Calculated field
- Initial ED/Hospital Pulse Rate
- Initial ED/Hospital Temperature
- Initial ED/Hospital Respiratory Rate
 - Initial ED/Hospital Respiratory Assistance
- Initial ED/Hospital Oxygen Saturation
 - Initial ED/Hospital Supplemental Oxygen
- Initial ED/Hospital GCS-Eye
- Initial ED/Hospital GCS-Verbal
- Initial ED/Hospital GCS-Motor
- Initial ED/Hospital GCS-Total  Use only if total score is available without component scores
- Alcohol Use Indicator
- Drug Use Indicator
- ED Procedures
- ED Discharge Disposition
 - ED Death
- ED Discharge Date and Time
 - Total ED Time  Calculated field


Hospital Procedure Information

- └ Hospital Procedures
 - └ Procedure Date and Time

Diagnosis Information



Outcome Information

- └ Total ICU Length of Stay
- └ Hospital Discharge Date and Time
 - └ Total Length of Hospital Stay  *Calculated field*
- └ Hospital Discharge Disposition
- └ Primary Method of Payment
- └ Hospital Complications

