

ACS NTDB

NATIONAL TRAUMA

DATA STANDARD:

Data Dictionary

2014 ADMISSIONS



AMERICAN COLLEGE OF SURGEONS

*Inspiring Quality:  
Highest Standards, Better Outcomes*



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## Introduction

Traumatic injury, both unintentional and intentional, is the leading cause of death in the first four decades of life, according to the National Center for Health Statistics.<sup>1</sup> Trauma typically involves young adults and results in the loss of more productive work years than both cancer and heart disease combined.<sup>2</sup> Each year, more than 140,000 Americans die and approximately 80,000 are permanently disabled as a result of injury.<sup>3</sup> The loss of productivity and health care costs account for 100 billion dollars annually.<sup>4</sup>

Research provides evidence of the effectiveness of trauma and EMS systems in reducing mortality, morbidity, and lost productivity from traumatic injuries. Almost three decades of research consistently suggests that in-hospital (and post-discharge) mortality rates are reduced by 20 to 25% among severely injured patients treated in trauma centers organized into a regional or statewide trauma system.<sup>5-9</sup> Nevertheless, much of the work investigating the effectiveness of trauma system (center) development has been hampered by the lack of consistent, quality data to demonstrate differences in mortality over time or between hospitals, regions, or states.

Hospital-based trauma registries are the basis for much of the research and quality assessment work that has informed clinicians and policy makers about methods to optimize the care of injured patients. Yet, the actual data points contained in independent hospital registries are often so different in content and structure that comparison across registries is nearly impossible.<sup>10</sup> Database construction for trauma registries is often completed in isolation with no nationally recognized standard data dictionary to ensure consistency across registries. Efforts to standardize hospital registry content have been published<sup>11,12</sup>, yet studies continue to document serious variation and misclassification between hospital-based registries.<sup>13,14</sup>

Recently, federal agencies have made investments to fortify the establishment of a national trauma registry.<sup>15,16</sup> Much of this funding has focused on the National Trauma Data Standard™(NTDS), which represents a concerted and sustained effort by the American College of Surgeons Committee on Trauma (ACSCOT) to provide an extensive collection of trauma registry data provided primarily by accredited/designated trauma centers across the U.S.<sup>17</sup> Members of ACSCOT and staff associated with the NTDB have long recognized that the NTDB inherits the individual weaknesses of each contributing registry.<sup>18</sup>

During 2004 through 2006, the ACSCOT Subcommittee on Trauma Registry Programs was supported by the U.S. Health Resources and Services Administration (HRSA) to devise a uniform set of trauma registry variables and associated variable definitions. The ACSCOT Subcommittee also characterized a core set of trauma registry inclusion criteria that would maximize participation by all state, regional and local trauma registries. This data dictionary represents the culmination of this work. Institutionalizing the basic standards provided in this document will greatly increase the likelihood that a national trauma registry would provide clinical information beneficial in characterizing traumatic injury and enhancing our ability to improve trauma care in the United States.

To realize this objective, it is important that this subset of uniform registry variables are incorporated into all trauma registries, regardless of trauma center accreditation/designation (or lack

thereof). Local, regional or state registries are then encouraged to provide a yearly download of these uniform variables to the NTDB for all patients satisfying the inclusion criteria described in this document. This subset of variables, for all registries, will represent the contents of the new National Trauma Data Bank (NTDB) in the future.

#### Technical Notes Regarding NTDS Implementation

The NTDS Dictionary is designed to establish a national standard for the exchange of trauma registry data, and to serve as the operational definitions for the National Trauma Data Bank (NTDB). It is expected (and encouraged) that local and state trauma registry committees will move towards extending and/or modifying their registries to adopt NTDS-based definitions. However, it is also recognized that many local and state trauma registry data sets will contain additional data points as well as additional response codes beyond those captured in NTDS. It is important to note that systems that deviate from NTDS can be fully compliant with NTDS via the development of a "mapping" process provided by their vendor which maps each variable (and response code) in the registry to the appropriate NTDS variable (and response code).

There are numerous ways in which mapping may allow variations in hospital or state data sets to conform to the NTDS data fields:

1. Additional response codes for a variable (for example, source of payment) may be collected, but then collapsed (i.e., mapped) into existing NTDS response codes when data are submitted to the NTDB.
2. A local or state registry may collect both a "patient's home city" and "patient's home ZIP code," but the NTDS requires one or the other. A mapping program may ensure only one variable is submitted to the NTDB.

In sum, the NTDS Data Dictionary provides the exact standard for submission of trauma registry data to the NTDB. This standard may be accomplished through abstraction precisely as described in this document, or through mapping provided by a vendor. *If variables are mapped, trauma managers/registrars should consult with their vendor to ensure that the mapping is accurate.* In addition, if variables are mapped, it is important that a registrar abstract data as described by the vendor to ensure the vendor-supplied NTDS mapping works properly to enforce the exact rules outlined in the NTDS data dictionary.

The benefits of having a national trauma registry standard that can support comparative analyses across all facilities are enormous. The combination of having the NTDS standard as well as vendor-supplied mappings (to support that standard) will allow local and state registry data sets to include individualized detail while still maintaining compatibility with the NTDS national standard.

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## National Trauma Data Standard Patient Inclusion Criteria

### Definition:

To ensure consistent data collection across States into the National Trauma Data Standard, 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 as follows:

**International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM):  
800–959.9**

**International Classification of Diseases, Tenth Revision (ICD-10-CM):**

**S00-S99 with 7<sup>th</sup> character modifiers of A, B, or C ONLY.** (*Injuries to specific body parts – initial encounter*)

**T07** (*unspecified multiple injuries*)

**T14** (*injury of unspecified body region*)

**T20-T28 with 7<sup>th</sup> character modifier of A ONLY** (*burns by specific body parts – initial encounter*)

**T30-T32** (*burn by TBSA percentages*)

**T79.A1-T79.A9 with 7<sup>th</sup> character modifier of A ONLY** (*Traumatic Compartment Syndrome – initial encounter*)

**Excluding the following isolated injuries:**

**ICD-9-CM:**

905–909.9 (*late effects of injury*)

910–924.9 (*superficial injuries, including blisters, contusions, abrasions, and insect bites*)

930–939.9 (*foreign bodies*)

**ICD-10-CM:**

**S00** (*Superficial injuries of the head*)

**S10** (*Superficial injuries of the neck*)

**S20** (*Superficial injuries of the thorax*)

**S30** (*Superficial injuries of the abdomen, pelvis, lower back and external genitals*)

**S40** (*Superficial injuries of shoulder and upper arm*)

**S50** (*Superficial injuries of elbow and forearm*)

**S60** (*Superficial injuries of wrist, hand and fingers*)

**S70** (*Superficial injuries of hip and thigh*)

**S80** (*Superficial injuries of knee and lower leg*)

**S90** (*Superficial injuries of ankle, foot and toes*)

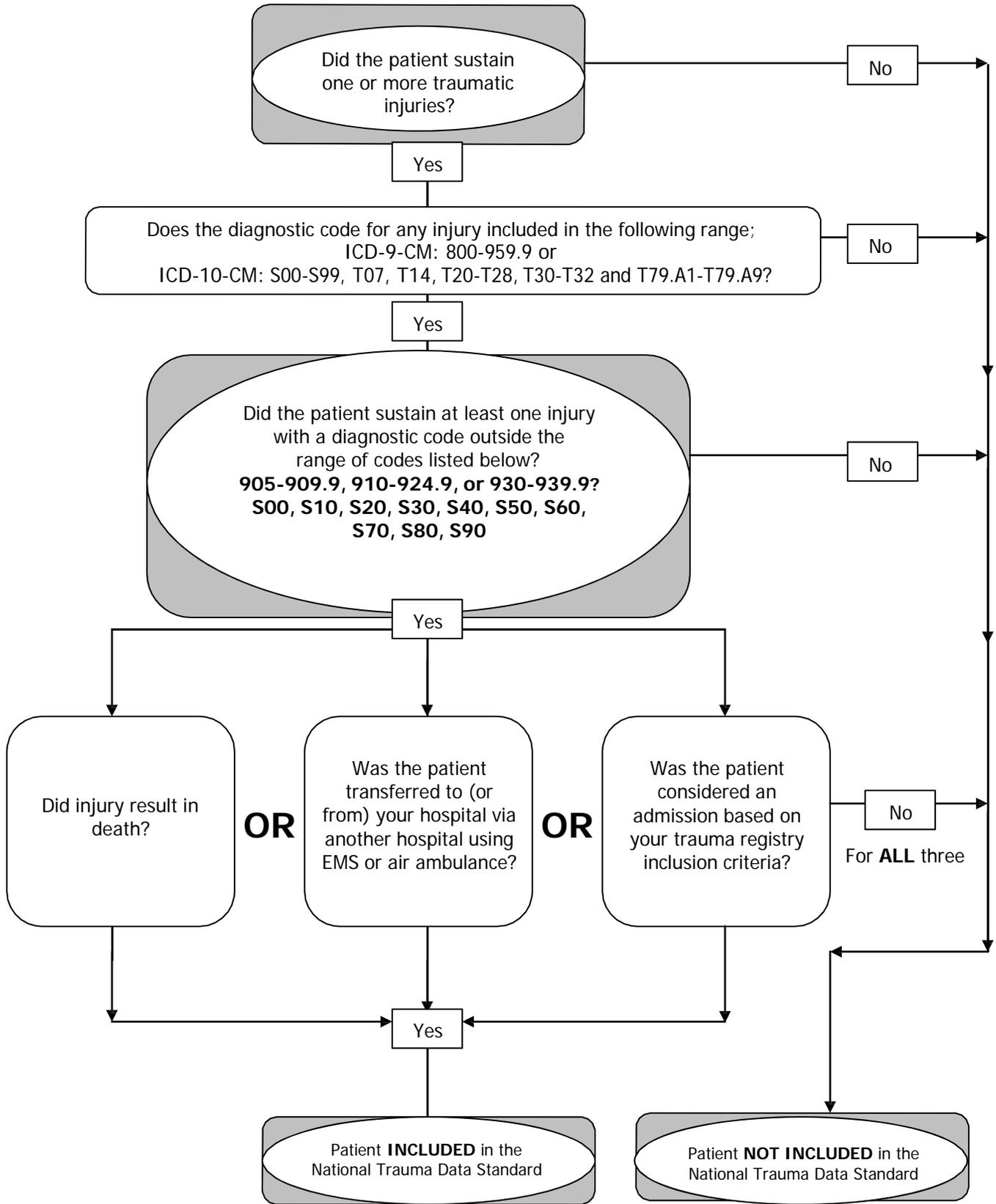
**Late effect codes, which are represented using the same range of injury diagnosis codes but with the 7<sup>th</sup> digit modifier code of D through S, are also excluded.**

**AND MUST INCLUDE ONE OF THE FOLLOWING IN ADDITION TO**

**(ICD-9-CM 800–959.9 OR ICD-10-CM S00-S99, T07, T14, T20-T28, T30-T32 and T79.A1-T79.A9):**

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

## National Trauma Data Standard Inclusion Criteria



## COMMON NULL VALUES

---

### Definition

These values are to be used with each of the National Trauma Data Standard Data Elements described in this document which have been defined to accept the Null Values.

### Field Values

1 Not Applicable

2 Not Known/Not Recorded

### 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 Data Standard 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 (NA)*: This null value code applies if, at the time of patient care documentation, the information requested was “Not Applicable” to the patient, the hospitalization or the patient care event. For example, variables documenting EMS care would be “Not Applicable” if a patient self- transports to the hospital.
- *Not Known/Not Recorded (NK/NR)*: This null value applies if, at the time of patient care documentation, information was “Not Known” (to the patient, family, health care provider) or no value for the element was recorded for the patient. This documents that there was an attempt to obtain information but it was unknown by all parties or the information was missing at the time of documentation. For example, injury date and time may be documented in the hospital patient care report as “Unknown.” Another example, Not Known/Not Recorded should also be coded when documentation was expected, but none was provided (i.e., no EMS run sheet in the hospital record for patient transported by EMS).

### References to Other Databases

- Compare with NHTSA V.2.10 - E00

## Demographic Information

## PATIENT'S HOME ZIP CODE

### Definition

The patient's home ZIP code of primary residence.

### Field 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.
- If zip code is "Not Applicable," complete variable: Alternate Home Residence.
- If zip code is "Not Recorded/Not Known," complete variables: Patient's Home Country, Patient's Home State, Patient's Home County and Patient's Home City.

### Data Source Hierarchy

1. Billing Sheet / Medical Records Coding Summary Sheet
2. ED Admission Form
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0001	1	Invalid value
0002	4	Blank, required field
0003	5	Not Applicable, complete variable: Alternate Home Residence
0005	5	Not Known/Not Recorded, complete variables: Patient's Home Country, Patient's Home State, Patient's Home County and Patient's Home City

## PATIENT'S HOME COUNTRY

### Definition

The country where the patient resides.

### Field Values

- Relevant value for data element (two digit alpha country code)

### Additional Information

- Only completed when ZIP code is "Not Recorded/Not Known."
- Values are two character fields representing a country (e.g., US).

### Data Source Hierarchy

1. Billing Sheet / Medical Records Coding Summary Sheet
2. ED Admission Form
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0101	1	Invalid value
0102	4	Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded
0103	5	Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence

## PATIENT'S HOME STATE

### Definition

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

### Field Values

- Relevant value for data element (two digit numeric FIPS code)

### Additional Information

- Only completed when ZIP code is "Not Recorded/Not Known."
- Used to calculate FIPS code.

### Data Source Hierarchy

1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0201	1	Invalid value
0202	4	Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded
0203	5	Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence

## PATIENT'S HOME COUNTY

### Definition

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

### Field Values

- Relevant value for data element (three digit FIPS code)

### Additional Information

- Only completed when ZIP code is "Not Recorded/Not Known."
- Used to calculate FIPS code.

### Data Source Hierarchy

1. Billing Sheet / Medical Records Coding Summary Sheet
2. ED Admission Form
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0301	1	Invalid value
0302	4	Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded
0303	5	Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence

## PATIENT'S HOME CITY

### Definition

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

### Field Values

- Relevant value for data element (five digit FIPS code)

### Additional Information

- Only completed when ZIP code is "Not Recorded/Not Known."
- Used to calculate FIPS code.

### Data Source Hierarchy

1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0401	1	Invalid value
0402	4	Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded
0403	5	Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence

## ALTERNATE HOME RESIDENCE

### Definition

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

### Field Values

- |                         |                    |
|-------------------------|--------------------|
| 1. Homeless             | 3. Migrant Worker  |
| 2. Undocumented Citizen | 4. Foreign Visitor |

### Additional Information

- Only completed when ZIP code is "Not Applicable."
- Homeless is defined as a person who lacks housing. The definition also includes a person living in transitional housing or a supervised public or private facility providing temporary living quarters.
- Undocumented Citizen is defined as a national of another country who has entered or stayed in another country without permission.
- Migrant Worker is defined as a person who temporarily leaves his/her principal place of residence within a country in order to accept seasonal employment in the same or different country.
- Foreign Visitor is defined as any person legally visiting a country other than his/her usual place of residence for any reason.

### Data Source Hierarchy

1. Billing Sheet / Medical Records Coding Summary Sheet
2. ED Admission Form
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0501	1	Invalid value
0502	4	Blank, required to complete when Patients Home Zip Code is Not Applicable
0503	5	Blank, required to complete variables: Patients Home Zip Code or (Patients Home Country, Patients Home State, Patients Home County and Patients Home City)

## DATE OF BIRTH

### Definition

The patient's date of birth.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- If Date of Birth is "Not Known/Not Recorded", complete variables: Age and Age Units.
- If Date of Birth equals ED/Hospital Arrival Date, then the Age and Age Units variables must be completed.
- Used to calculate patient age in days, months, or years.

### Data Source Hierarchy

1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0601	1	Invalid value
0602	1	Date out of range
0603	2	Blank, required field
0605	3	Not Known/Not Recorded, complete variables: Age and Age Units
0606	2	Date of Birth cannot be later than EMS Dispatch Date
0607	2	Date of Birth cannot be later than EMS Unit Arrival on Scene Date
0608	2	Date of Birth cannot be later than EMS Unit Scene Departure Date
0609	2	Date of Birth cannot be later than ED/Hospital Arrival Date
0610	2	Date of Birth cannot be later than ED Discharge Date
0611	2	Date of Birth cannot be later than Hospital Discharge Date
0612	2	Date of Birth + 120 years must be less than ED/Hospital Arrival Date
0613	2	Field cannot be Not Applicable

## AGE

### Definition

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

### Field Values

- Relevant value for data element

### Additional Information

- Used to calculate patient age in hours, days, months, or years.
- If Date of Birth is "Not Known/Not Recorded", complete variables: Age and Age Units.
- If Date of Birth equals ED/Hospital Arrival Date, then the Age and Age Units variables must be completed.
- Must also complete variable: Age Units.

### Data Source Hierarchy

1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0701	1	Invalid value
0702	5	Blank, required to complete variable: Date of Birth
0703	2	Blank, required to complete when (1) Date of Birth equals ED/Hospital Arrival date or (2) Date of Birth is Not Known/Not Recorded
0704	3	Ed/Hospital Arrival Date minus Date of Birth must equal submitted Age.
0705	4	Age is > 110. Please verify this is correct.
0706	2	Field cannot be blank when Age Units is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded
0707	2	Field cannot be Not Applicable when Age Units is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded
0708	2	Field cannot be Not Known/Not Recorded when Age Units is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded

## AGE UNITS

### Definition

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

### Field Values

- |          |           |
|----------|-----------|
| 1. Hours | 3. Months |
| 2. Days  | 4. Years  |

### Additional Information

- Used to calculate patient age in hours, days, months, or years.
- If Date of Birth is "Not Known/Not Recorded", complete variables: Age and Age Units.
- If Date of Birth equals ED/Hospital Arrival Date, then the Age and Age Units variables must be completed.
- Must also complete variable: Age

### Data Source Hierarchy

1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Triage Form / Trauma Flow Sheet
4. EMS Run Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0801	1	Invalid value
0802	5	Blank, required to complete variable: Date of Birth
0803	2	Blank, required to complete when (1) Date of Birth equals ED/Hospital Arrival date or (2) Date of Birth is Not Known/Not Recorded
0804	2	Field cannot be blank when Age is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded
0805	2	Field cannot be Not Applicable when Age is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded
0806	2	Field cannot be Not Known/Not Recorded when Age is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded

## RACE

### Definition

The patient's race.

### Field Values

- |  |                              |
|--|------------------------------|
| 1. Asian                                     | 4. American Indian           |
| 2. Native Hawaiian or Other Pacific Islander | 5. Black or African American |
| 3. Other Race                                | 6. White                     |

### Additional Information

- Patient race should be based upon self-report or identified by a family member.
- The maximum number of races that may be reported for an individual patient is 2.

### Data Source Hierarchy

1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Triage Form / Trauma Flow Sheet
4. EMS Run Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
0901	1	Invalid value
0902	4	Blank, required field

## ETHNICITY

### Definition

The patient's ethnicity.

### Field Values

1. Hispanic or Latino

2. Not Hispanic or Latino

### Additional Information

- Patient ethnicity should be based upon self-report or identified by a family member.
- The maximum number of ethnicities that may be reported for an individual patient is 1.

### Data Source Hierarchy

1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Triage Form / Trauma Flow Sheet
4. EMS Run Sheet
5. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1001	1	Invalid value
1002	4	Blank, required field

**SEX****Definition**

The patient's sex.

**Field Values**

1. Male

2. Female

**Additional Information**

- Patients who have undergone a surgical and/or hormonal sex reassignment should be coded using the current assignment.

**Data Source Hierarchy**

1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. EMS Run Sheet
4. Triage Form / Trauma Flow Sheet
5. ED Nurses' Notes

**Associated Edit Checks**

Rule ID	Level	Message
1101	1	Invalid value
1102	2	Blank, required field
1103	2	Not Applicable, required Inclusion Criterion

## **Injury Information**

## INJURY INCIDENT DATE

### Definition

The date the injury occurred.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- Estimates of date 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.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1201	1	Invalid Value
1202	1	Date out of range
1203	4	Blank, required field
1204	4	Injury Incident Date cannot be earlier than Date of Birth
1205	4	Injury Incident Date cannot be later than EMS Dispatch Date
1206	4	Injury Incident Date cannot be later than EMS Unit Arrival on Scene Date
1207	4	Injury Incident Date cannot be later than EMS Unit Scene Departure Date
1208	4	Injury Incident Date cannot be later than ED/Hospital Arrival Date
1209	4	Injury Incident Date cannot be later than ED Discharge Date
1210	4	Injury Incident Date cannot be later than Hospital Discharge Date

## INJURY INCIDENT TIME

### Definition

The time the injury occurred.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- Estimates of 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.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1301	1	Invalid value
1302	1	Time out of range
1303	4	Blank, required field
1304	4	If Injury Incident Date and EMS Dispatch Date are the same, the Injury Incident Time cannot be later than the EMS Dispatch Time
1305	4	If Injury Incident Date and EMS Unit Arrival on Scene Date are the same, the Injury Incident Time cannot be later than the EMS Unit Arrival on Scene Time
1306	4	If Injury Incident Date and EMS Unit Scene Departure Date are the same, the Injury Incident Time cannot be later than the EMS Unit Scene Departure Time
1307	4	If Injury Incident Date and ED/Hospital Arrival Date are the same, the Injury Incident Time cannot be later than the ED/Hospital Arrival Time
1308	4	If Injury Incident Date and ED Discharge Date are the same, the Injury Incident Time cannot be later than the ED Discharge Time
1309	4	If Injury Incident Date and Hospital Discharge Date are the same, the Injury Incident Time cannot be later than the Hospital Discharge Time

## WORK-RELATED

### Definition

Indication of whether the injury occurred during paid employment.

### Field Values

1. Yes 2. No

### Additional Information

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

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1401	1	Invalid value
1402	4	Blank, required field
1403	5	If completed, then Patients Occupational Industry must be completed
1404	5	If completed, then Patient Occupation must be completed

## PATIENT'S OCCUPATIONAL INDUSTRY

### Definition

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

### Field Values

- |  |                                  |
|--|----------------------------------|
| 1. Finance, Insurance, and Real Estate | 8. Construction                  |
| 2. Manufacturing                       | 9. Government                    |
| 3. Retail Trade                        | 10. Natural Resources and Mining |
| 4. Transportation and Public Utilities | 11. Information Services         |
| 5. Agriculture, Forestry, Fishing      | 12. Wholesale Trade              |
| 6. Professional and Business Services  | 13. Leisure and Hospitality      |
| 7. Education and Health Services       | 14. Other Services               |

### Additional Information

- If work related, also complete Patient's Occupation.
- Based upon US Bureau of Labor Statistics Industry Classification.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. EMS Run Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1501	1	Invalid value
1502	4	If completed, then Work-Related must be 1 Yes
1503	5	If completed, then Patient Occupation must be completed
1504	4	Blank, required to complete when Work-Related is 1 (Yes)

## PATIENT'S OCCUPATION

### Definition

The occupation of the patient.

### Field Values

- |   |  |
|---|--|
| 1. Business and Financial Operations Occupations      | 13. Computer and Mathematical Occupations          |
| 2. Architecture and Engineering Occupations           | 14. Life, Physical, and Social Science Occupations |
| 3. Community and Social Services Occupations          | 15. Legal Occupations                              |
| 4. Education, Training, and Library Occupations       | 16. Arts, Design, Entertainment, Sports, and Media |
| 5. Healthcare Practitioners and Technical Occupations | 17. Healthcare Support Occupations                 |
| 6. Protective Service Occupations                     | 18. Food Preparation and Serving Related           |
| 7. Building and Grounds Cleaning and Maintenance      | 19. Personal Care and Service Occupations          |
| 8. Sales and Related Occupations                      | 20. Office and Administrative Support Occupations  |
| 9. Farming, Fishing, and Forestry Occupations         | 21. Construction and Extraction Occupations        |
| 10. Installation, Maintenance, and Repair Occupations | 22. Production Occupations                         |
| 11. Transportation and Material Moving Occupations    | 23. Military Specific Occupations                  |
| 12. Management Occupations                            |  |

### Additional Information

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

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. EMS Run Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1601	1	Invalid value
1602	4	If completed, then Work-Related must be 1 Yes
1603	5	If completed, then Patients Occupational Industry must be completed
1604	4	Blank, required to complete when Work-Related is 1 (Yes)

## ICD-9 PRIMARY EXTERNAL CAUSE CODE

### Definition

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

### Field Values

- Relevant ICD-9-CM code value for injury event

### Additional Information

- The primary external cause code should describe the main reason a patient is admitted to the hospital.
- External cause codes are used to auto-generate two calculated fields: Trauma Type (Blunt, Penetrating, Burn) and Intentionality (based upon CDC matrix).
- ICD-9-CM codes will be accepted for this data element. Activity codes should not be reported in this field.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. Billing Sheet / Medical Records Coding Summary Sheet
4. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1701	1	Invalid, out of range
1702	2	Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)
1703	4	External Cause Code should not be = (810.0, 811.0, 812.0, 813.0, 814.0, 815.0, 816.0, 817.0, 818.0, 819.0) and Age < 15
1704	2	Should not be 849.x
1705	3	External Cause Code should not be an activity code. Primary External Cause Code must be within the range of E800-999.9

## ICD-10 PRIMARY EXTERNAL CAUSE CODE

### Definition

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

### Field Values

- Relevant ICD-10-CM code value for injury event

### Additional Information

- The primary external cause code should describe the main reason a patient is admitted to the hospital.
- External cause codes are used to auto-generate two calculated fields: Trauma Type (Blunt, Penetrating, Burn) and Intentionality (based upon CDC matrix).
- ICD-10-CM codes will be accepted for this data element. Activity codes should not be reported in this field.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. Billing Sheet / Medical Records Coding Summary Sheet
4. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
8901	1	Invalid, out of range
8902	2	Blank, required field (at least one ICD-9 or ICD-10 trauma code must be entered)
8904	2	Should not be Y92.X/Y92.XX/Y92.XXX (where X is A-Z or 0-9)
8905	3	ICD-10 External Cause Code must not be Y93.X/Y93.XX (where X is A-Z or 0-9)

## ICD-9 PLACE OF OCCURRENCE EXTERNAL CAUSE CODE

I\_08

### Definition

Place of occurrence external cause code used to describe the place/site/location of the injury event (E 849.X).

### Field Values

- |               |                            |
|---------------|----------------------------|
| 0. Home       | 5. Street                  |
| 1. Farm       | 6. Public Building         |
| 2. Mine       | 7. Residential Institution |
| 3. Industry   | 8. Other                   |
| 4. Recreation | 9. Unspecified             |

### Additional Information

- Only ICD-9-CM codes will be accepted for ICD-9 Place of Occurrence External Cause Code.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. Billing Sheet / Medical Records Coding Summary Sheet
4. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1801	1	Invalid value
1802	4	Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)

## ICD-10 PLACE OF OCCURRENCE EXTERNAL CAUSE CODE

### Definition

Place of occurrence external cause code used to describe the place/site/location of the injury event (Y92.x).

### Field Values

- Relevant ICD-10-CM code value for injury event

### Additional Information

- Only ICD-10-CM codes will be accepted for ICD-10 Place of Occurrence External Cause Code.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. Billing Sheet / Medical Records Coding Summary Sheet
4. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
9001	1	Invalid value
9002	4	Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)
9003	3	Place of Injury code must be Y92.X/Y92.XX/Y92.XXX (where X is A-Z [excluding I,O] or 0-9)

## ICD-9 ADDITIONAL EXTERNAL CAUSE CODE

### Definition

Additional External Cause Code used in conjunction with the Primary External Cause Code if multiple external cause codes are required to describe the injury event.

### Field Values

- Relevant ICD-9-CM code value for injury event

### Additional Information

- External cause codes are used to auto-generate two calculated fields: Trauma Type: (Blunt, Penetrating, Burn) and Intentionality (based upon CDC matrix).
- Only ICD-9-CM codes will be accepted for ICD-9 Additional External Cause Code.
- Activity codes should not be reported in this field.
- Refer to Appendix 3: Glossary of Terms for multiple cause coding hierarchy.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. Billing Sheet / Medical Records Coding Summary Sheet
4. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
1901	1	Invalid, out of range
1902	4	If completed, Additional External Cause Code cannot be equal to Primary External Cause Code.

## ICD-10 ADDITIONAL EXTERNAL CAUSE CODE

### Definition

Additional External Cause Code used in conjunction with the Primary External Cause Code if multiple external cause codes are required to describe the injury event.

### Field Values

- Relevant ICD-10-CM code value for injury event

### Additional Information

- External cause codes are used to auto-generate two calculated fields: Trauma Type: (Blunt, Penetrating, Burn) and Intentionality (based upon CDC matrix).
- Only ICD-10-CM codes will be accepted for ICD-10 Additional External Cause Code.
- Activity codes should not be reported in this field.
- Refer to Appendix 3: Glossary of Terms for multiple cause coding hierarchy.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. Billing Sheet / Medical Records Coding Summary Sheet
4. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
9101	1	Invalid, out of range
9102	4	If completed, Additional External Cause Code ICD-10 cannot be equal to Primary External Cause Code ICD-10

## INCIDENT LOCATION ZIP CODE

### Definition

The ZIP code of the incident location.

### Field Values

- Relevant value for data element

### Additional Information

- Can be stored as a 5 or 9 digit code (XXXXX-XXXX).
- If "Not Applicable" or "Not Recorded/Not Known," complete variables: Incident State, Incident County, Incident City and Incident Country.
- May require adherence to HIPAA regulations.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
2001	1	Invalid value
2002	4	Blank, required field
2004	5	Not Known/Not Recorded, complete variables: Incident State, Incident County and Incident City
2005	5	Not Applicable, complete variables: Incident State, Incident County and Incident City

## INCIDENT COUNTRY

### Definition

The country where the patient was found or to which the unit responded (or best approximation).

### Field Values

- Relevant value for data element (two digit alpha country code)

### Additional Information

- Only completed when Incident Location ZIP code is "Not Applicable" or "Not Recorded/Not Known."
- Values are two character fields representing a country (e.g., US).

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
2101	1	Invalid value
2102	4	Blank, required to complete when Incident Location Zip Code is Not Applicable or Not Known/Not Recorded
2103	5	Blank, required to complete variable: Incident Location Zip Code

## INCIDENT STATE

### Definition

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

### Field Values

- Relevant value for data element (two digit numeric FIPS code)

### Additional Information

- Only completed when Incident Location ZIP code is "Not Applicable" or "Not Recorded/Not Known."
- Used to calculate FIPS code.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
2201	1	Invalid value
2202	5	Blank, required to complete variable: Incident Location Zip Code
2203	4	Blank, required to complete when Incident Location Zip Code is Not Applicable or Not Known/Not Recorded

## INCIDENT COUNTY

### Definition

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

### Field Values

- Relevant value for data element (three digit FIPS code)

### Additional Information

- Only completed when Incident Location ZIP code is "Not Applicable" or "Not Recorded/Not Known."
- Used to calculate FIPS code.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
2301	1	Invalid value
2302	5	Blank, required to complete variable: Incident Location Zip Code
2303	4	Blank, required to complete when Incident Location Zip Code is Not Applicable or Not Known/Not Recorded

## INCIDENT CITY

### Definition

The city or township where the patient was found or to which the unit responded.

### Field Values

- Relevant value for data element (five digit FIPS code)

### Additional Information

- Only completed when Incident Location ZIP code is "Not Applicable" or "Not Recorded/Not Known."
- Used to calculate FIPS code.
- If incident location resides outside of formal city boundaries, report nearest city/town.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
2401	1	Invalid value
2402	5	Blank, required to complete variable: Incident Location Zip Code
2403	4	Blank, required to complete when Incident Location Zip Code is Not Applicable or Not Known/Not Recorded

## PROTECTIVE DEVICES

### Definition

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

### Field Values

- |   |   |
|---|---|
| 1. None   | 7. Helmet (e.g., bicycle, skiing, motorcycle)       |
| 2. Lap Belt   | 8. Airbag Present                                   |
| 3. Personal Floatation Device                       | 9. Protective Clothing (e.g., padded leather pants) |
| 4. Protective Non-Clothing Gear (e.g., shin guard)  | 10. Shoulder Belt                                   |
| 5. Eye Protection                                   | 11. Other   |
| 6. Child Restraint (booster seat or child car seat) |   |

### Additional Information

- Check all that apply.
- If "Child Restraint" is present, complete variable "Child Specific Restraint."
- If "Airbag" is present, complete variable "Airbag Deployment."
- Evidence of the use of safety equipment may be reported or observed.
- Lap Belt should be used to include those patients that are restrained, but not further specified.
- If chart indicates "3-point-restraint" choose 2 and 10.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
2501	1	Invalid value
2502	4	Blank, required field
2503	5	If Protective Device = 6 (Child Restraint) then Child Specific Restraint must be completed
2504	5	If Protective Device = 8 (Airbag Present) then Airbag Deployment must be completed

## CHILD SPECIFIC RESTRAINT

### Definition

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

### Field Values

- |                    |                       |
|--------------------|-----------------------|
| 1. Child Car Seat  | 3. Child Booster Seat |
| 2. Infant Car Seat |                       |

### Additional Information

- Evidence of the use of child restraint may be reported or observed.
- Only completed when Protective Devices include "Child Restraint."

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
2601	1	Invalid value
2602	3	If completed, then Protective Device must be 6 (Child Restraint).
2603	4	Blank, required to complete when Protective Device is 6 (Child Restraint)

## AIRBAG DEPLOYMENT

### Definition

Indication of airbag deployment during a motor vehicle crash.

### Field Values

- |                          |   |
|--------------------------|---|
| 1. Airbag Not Deployed   | 3. Airbag Deployed Side                                 |
| 2. Airbag Deployed Front | 4. Airbag Deployed Other (knee, airbelt, curtain, 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."
- Airbag Deployed Front should be used for patients with documented airbag deployments, but are not further specified.

### Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
2701	1	Invalid value
2702	3	If completed, then Protective Device must be 8 (Airbag Present).
2703	4	Blank, required to complete when Protective Device is 8 (Airbag Present)

## REPORT OF PHYSICAL ABUSE

### Definition

A report of suspected physical abuse was made to law enforcement and/or protective services.

### Field Values

1. Yes 2. No

### Additional Information

- This includes, but is not limited to, a report of child, elder, spouse or intimate partner physical abuse.

### Data Source Hierarchy

1. EMS Run Sheet
2. ED Records
3. H and P
4. Nursing Notes
5. Case Manager / Social Services' Notes
6. Physician Discharge Summary

### Associated Edit Checks

Rule ID	Level	Message
9201	1	Invalid value
9202	2	Field cannot be Not Applicable

## INVESTIGATION OF PHYSICAL ABUSE

### Definition

An investigation by law enforcement and/or protective services was initiated because of the suspected physical abuse.

### Field Values

1. Yes 2. No

### Additional Information

- This includes, but is not limited to, a report of child, elder, spouse or intimate partner physical abuse.
- Only complete when Report of Physical Abuse is Yes.
- The null value "Not Applicable" should be used for patients where Report of Physical Abuse is No.

### Data Source Hierarchy

1. EMS Run Sheet
2. ED Records
3. Case Manager / Social Services' Notes
4. H and P
5. Nursing Notes
6. Physician Discharge Summary

### Associated Edit Checks

Rule ID	Level	Message
9301	1	Invalid value
9302	3	Field cannot be blank when Report of Physical Abuse = 1 (Yes)
9303	3	Field cannot be Not Applicable when Report of Physical Abuse = 1 (Yes)

## CAREGIVER AT DISCHARGE

### Definition

The patient was discharged to a caregiver different than the caregiver at admission due to suspected physical abuse.

### Field Values

1. Yes 2. No

### Additional Information

- Only complete when Report of Physical Abuse is Yes.
- Only complete for minors as determined by state/local definition, excluding emancipated minors.
- The null value "Not Applicable" should be used for patients where Report of Physical Abuse is No or where older than the state/local age definition of a minor.

### Data Source Hierarchy

1. Case Manager / Social Services' Notes
2. Physician Discharge Summary
3. Nursing Notes
4. Progress Notes

### Associated Edit Checks

Rule ID	Level	Message
9401	1	Invalid value
9402	3	Field cannot be blank when Report of Physical Abuse = 1 (Yes)
9403	3	Field cannot be Not Applicable when Report of Physical Abuse = 1 (Yes)

## Pre-hospital Information

## EMS DISPATCH DATE

### Definition

The date the unit transporting to your hospital was notified by dispatch.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- Used to auto-generate an additional calculated field: Total EMS Time (elapsed time from EMS dispatch to hospital arrival).
- For inter facility transfer patients, this is the date on which the unit transporting the patient to your facility from the transferring facility was notified by dispatch or assigned to this transport.
- For patients transported from the scene of injury to your hospital, this is the date on which the unit transporting the patient to your facility from the scene was dispatched.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
2801	1	Invalid value
2802	1	Date out of range
2803	3	EMS Dispatch Date cannot be earlier than Date of Birth
2804	4	EMS Dispatch Date cannot be later than EMS Unit Arrival on Scene Date
2805	4	EMS Dispatch Date cannot be later than EMS Unit Scene Departure Date
2806	3	EMS Dispatch Date cannot be later than ED/Hospital Arrival Date
2807	4	EMS Dispatch Date cannot be later than ED Discharge Date
2808	3	EMS Dispatch Date cannot be later than Hospital Discharge Date

## EMS DISPATCH TIME

### Definition

The time the unit transporting to your hospital was notified by dispatch.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- Used to auto-generate an additional calculated field: Total EMS Time (elapsed time from EMS dispatch to hospital arrival).
- For inter facility transfer patients, this is the time at which the unit transporting the patient to your facility from the transferring facility was notified by dispatch.
- For patients transported from the scene of injury to your hospital, this is the time at which the unit transporting the patient to your facility from the scene was dispatched.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
2901	1	Invalid value
2902	1	Time out of range
2903	4	If EMS Dispatch Date and EMS Unit Arrival on Scene Date are the same, the EMS Dispatch Time cannot be later than the EMS Unit Arrival on Scene Time
2904	4	If EMS Dispatch Date and EMS Unit Scene Departure Date are the same, the EMS Dispatch Time cannot be later than the EMS Unit Scene Departure Time
2905	4	If EMS Dispatch Date and ED/Hospital Arrival Date are the same, the EMS Dispatch Time cannot be later than the ED/Hospital Arrival Time
2906	4	If EMS Dispatch Date and ED Discharge Date are the same, the EMS Dispatch Time cannot be later than the ED Discharge Time
2907	4	If EMS Dispatch Date and Hospital Discharge Date are the same, the EMS Dispatch Time cannot be later than the Hospital Discharge Time

## EMS UNIT ARRIVAL DATE AT SCENE OR TRANSFERRING FACILITY

### Definition

The date the unit transporting to your hospital arrived on the scene/transferring facility.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- Used to auto-generate two additional calculated fields: Total EMS Response Time (elapsed time from EMS dispatch to scene arrival) and Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).
- For inter facility transfer patients, this is the date on which the unit transporting the patient to your facility from the transferring facility arrived at the transferring facility (arrival is defined at date/time when the vehicle stopped moving).
- For patients transported from the scene of injury to your hospital, this is the date on which the unit transporting the patient to your facility from the scene arrived at the scene (arrival is defined at date/time when the vehicle stopped moving).

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3001	1	Invalid value
3002	1	Date out of range
3003	3	EMS Unit Arrival on Scene Date cannot be earlier than Date of Birth
3004	4	EMS Unit Arrival on Scene Date cannot be earlier than EMS Dispatch Date
3005	4	EMS Unit Arrival on Scene Date cannot be later than EMS Unit Scene Departure Date
3006	3	EMS Unit Arrival on Scene Date cannot be later than ED/Hospital Arrival Date
3007	4	EMS Unit Arrival on Scene Date cannot be later than ED Discharge Date
3008	3	EMS Unit Arrival on Scene Date and cannot be later than Hospital Discharge Date
3009	3	EMS Unit Arrival on Scene Date minus EMS Dispatch Date cannot be greater than 7 days

## EMS UNIT ARRIVAL TIME AT SCENE OR TRANSFERRING FACILITY

### Definition

The time the unit transporting to your hospital arrived on the scene.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- Used to auto-generate two additional calculated fields: Total EMS Response Time (elapsed time from EMS dispatch to scene arrival) and Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).
- For inter facility transfer patients, this is the time at which the unit transporting the patient to your facility from the transferring facility arrived at the transferring facility (arrival is defined at date/time when the vehicle stopped moving).
- For patients transported from the scene of injury to your hospital, this is the time at which the unit transporting the patient to your facility from the scene arrived at the scene (arrival is defined at date/time when the vehicle stopped moving).

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3101	1	Invalid value
3102	1	Time out of range
3103	4	If EMS Unit Arrival on Scene Date and EMS Dispatch Date are the same, the EMS Unit Arrival on Scene Time cannot be earlier than the EMS Dispatch Time
3104	4	If EMS Unit Arrival on Scene Date and EMS Unit Scene Departure Date are the same, the EMS Unit Arrival on Scene Time cannot be later than the EMS Unit Scene Departure Time
3105	4	If EMS Unit Arrival on Scene Date and ED/Hospital Arrival Date are the same, the EMS Unit Arrival on Scene Time cannot be later than the ED/Hospital Arrival Time
3106	4	If EMS Unit Arrival on Scene Date and ED Discharge Date are the same, the EMS Unit Arrival on Scene Time cannot be later than the ED Discharge Time
3107	4	if EMS Unit Arrival on Scene Date and Hospital Discharge Date are the same, the EMS Unit Arrival on Scene Time cannot be later than the Hospital Discharge Time

## EMS UNIT DEPARTURE DATE FROM SCENE OR TRANSFERRING FACILITY

P\_05

### Definition

The date the unit transporting to your hospital left the scene.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- Used to auto-generate an additional calculated field: Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).
- For inter facility transfer patients, this is the date on which the unit transporting the patient to your facility from the transferring facility departed from the transferring facility (departure is defined at date/time when the vehicle started moving).
- For patients transported from the scene of injury to your hospital, this is the date on which the unit transporting the patient to your facility from the scene departed from the scene (departure is defined at date/time when the vehicle started moving).

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3201	1	Invalid value
3202	1	Date out of range
3203	3	EMS Unit Scene Departure Date cannot be earlier than Date of Birth
3204	4	EMS Unit Scene Departure Date cannot be earlier than EMS Dispatch Date
3205	4	EMS Unit Scene Departure Date cannot be earlier than EMS Unit Arrival on Scene Date
3206	3	EMS Unit Scene Departure Date cannot be later than ED/Hospital Arrival Date
3207	4	EMS Unit Scene Departure Date cannot be later than ED Discharge Date
3208	3	EMS Unit Scene Departure Date cannot be later than Hospital Discharge Date
3209	3	EMS Unit Scene Departure Date minus EMS Unit Arrival on Scene Date cannot be greater than 7 days

**Definition**

The time the unit transporting to your hospital left the scene.

**Field Values**

- Relevant value for data element

**Additional Information**

- Collected as HH:MM military time.
- Used to auto-generate an additional calculated field: Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).
- For inter facility transfer patients, this is the time at which the unit transporting the patient to your facility from the transferring facility departed from the transferring facility (departure is defined at date/time when the vehicle started moving).
- For patients transported from the scene of injury to your hospital, this is the time at which the unit transporting the patient to your facility from the scene departed from the scene (departure is defined at date/time when the vehicle started moving).

**Data Source Hierarchy**

1. EMS Run Sheet

**Associated Edit Checks**

Rule ID	Level	Message
3301	1	Invalid value
3302	1	Time out of range
3303	4	If EMS Unit Scene Departure Date and EMS Dispatch Date are the same, the EMS Unit Scene Departure Time cannot be earlier than the EMS Dispatch Time
3304	4	If EMS Unit Scene Departure Date and EMS Unit Arrival on Scene Date are the same, the EMS Unit Scene Departure Time cannot be earlier than the EMS Unit Arrival on Scene Time
3305	4	if EMS Unit Scene Departure Date and ED/Hospital Arrival Date are the same, the EMS Unit Scene Departure Time cannot be later than the ED/Hospital Arrival Time
3306	4	If EMS Unit Scene Departure Date and ED Discharge Date are the same, the EMS Unit Scene Departure Time cannot be later than the ED Discharge Time
3307	4	If EMS Unit Scene Departure Date and Hospital Discharge Date are the same, the EMS Unit Scene Departure Time cannot be later than the Hospital Discharge Time

## TRANSPORT MODE

### Definition

The mode of transport delivering the patient to your hospital.

### Field Values

- |                         |                                   |
|-------------------------|-----------------------------------|
| 1. Ground Ambulance     | 4. Private/Public Vehicle/Walk-in |
| 2. Helicopter Ambulance | 5. Police                         |
| 3. Fixed-wing Ambulance | 6. Other                          |

### Additional Information

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3401	1	Invalid value
3402	4	Blank, required field
3403	4	If EMS response times are provided, Transport Mode cannot be 4 (Private/Public Vehicle/Walk-in)

## OTHER TRANSPORT MODE

### Definition

All other modes of transport used during patient care event (prior to arrival at your hospital), except the mode delivering the patient to the hospital.

### Field Values

- |                         |                                   |
|-------------------------|-----------------------------------|
| 1. Ground Ambulance     | 4. Private/Public Vehicle/Walk-in |
| 2. Helicopter Ambulance | 5. Police                         |
| 3. Fixed-wing Ambulance | 6. Other                          |

### Additional Information

- Include in "Other" unspecified modes of transport.
- The null value "Not Applicable" is used to indicate that a patient had a single mode of transport and therefore this field does not apply to the patient.
- Check all that apply with a maximum of 5.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3501	1	Invalid value
3502	4	Blank, required field

## INITIAL FIELD SYSTOLIC BLOOD PRESSURE

### Definition

First recorded systolic blood pressure measured at the scene of injury.

### Field Values

- Relevant value for data element

### Additional Information

- The null value "Not Known/Not Recorded" is used if the patient is transferred to your facility with no EMS run sheet from the scene of injury.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3601	1	Invalid value
3602	4	Blank, required field
3603	3	Invalid, out of range

## INITIAL FIELD PULSE RATE

### Definition

First recorded pulse measured at the scene of injury (palpated or auscultated), expressed as a number per minute.

### Field Values

- Relevant value for data element

### Additional Information

- The null value "Not Known/Not Recorded" is used if the patient is transferred to your facility with no EMS run sheet from the scene of injury.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3701	1	Invalid value
3702	4	Blank, required field
3703	3	Invalid, out of range

## INITIAL FIELD RESPIRATORY RATE

### Definition

First recorded respiratory rate measured at the scene of injury (expressed as a number per minute).

### Field Values

- Relevant value for data element.

### Additional Information

- The null value "Not Known/Not Recorded" is used if the patient is transferred to your facility with no EMS run sheet from the scene of injury.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3801	1	Invalid value
3802	4	Blank, required field
3803	3	Invalid, out of range

## INITIAL FIELD OXYGEN SATURATION

### Definition

First recorded oxygen saturation measured at the scene of injury (expressed as a percentage).

### Field Values

- Relevant value for data element

### Additional Information

- The null value "Not Known/Not Recorded" is used if the patient is transferred to your facility with no EMS run sheet from the scene of injury.
- Value should be based upon assessment before administration of supplemental oxygen.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
3901	1	Invalid value
3902	4	Blank, required field

## INITIAL FIELD GCS - EYE

### Definition

First recorded Glasgow Coma Score (Eye) measured at the scene of injury.

### Field Values

- |  |   |
|--|---|
| 1. No eye movement when assessed                 | 3. Opens eyes in response to verbal stimulation |
| 2. Opens eyes in response to painful stimulation | 4. Opens eyes spontaneously                     |

### Additional Information

- Used to calculate Overall GCS - EMS Score.
- The null value "Not Known/Not Recorded" is used if the patient is transferred to your facility with no EMS run sheet from the scene of injury.
- If a patient does not have a numeric GCS score recorded, but written documentation closely (or directly) relates to verbiage describing a specific level of functioning within the GCS scale, the appropriate numeric score may be listed. E.g. the chart indicates: "patient withdraws from a painful stimulus," a Motor GCS of 4 may be recorded, IF there is no other contradicting documentation.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
4001	1	Invalid value
4002	5	Blank, required to complete variable: Initial Field GCS -Total

## INITIAL FIELD GCS - VERBAL

### Definition

First recorded Glasgow Coma Score (Verbal) measured at the scene of injury.

### Field Values

#### Pediatric (≤ 2 years):

- |                                       |   |
|---------------------------------------|---|
| 1. No vocal response                  | 4. Cries but is consolable, inappropriate interactions    |
| 2. Inconsolable, agitated             | 5. Smiles, oriented to sounds, follows objects, interacts |
| 3. Inconsistently consolable, moaning |   |

#### Adult

- |                            |             |
|----------------------------|-------------|
| 1. No verbal response      | 4. Confused |
| 2. Incomprehensible sounds | 5. Oriented |
| 3. Inappropriate words     |             |

### Additional Information

- Used to calculate Overall GCS - EMS Score.
- The null value "Not Known/Not Recorded" is used if the patient is transferred to your facility with no EMS run sheet from the scene of injury.
- If patient is intubated then the GCS Verbal score is equal to 1.
- If a patient does not have a numeric GCS score recorded, but written documentation closely (or directly) relates to verbiage describing a specific level of functioning within the GCS scale, the appropriate numeric score may be listed. E.g. the chart indicates: "patient withdraws from a painful stimulus," a Motor GCS of 4 may be recorded, IF there is no other contradicting documentation.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
4101	1	Invalid value
4102	5	Blank, required to complete variable: Initial Field GCS -Total

## INITIAL FIELD GCS - MOTOR

### Definition

First recorded Glasgow Coma Score (Motor) measured at the scene of injury.

### Field Values

#### Pediatric ( $\leq 2$ years):

- |                      |  |
|----------------------|--|
| 1. No motor response | 4. Withdrawal from pain                |
| 2. Extension to pain | 5. Localizing pain                     |
| 3. Flexion to pain   | 6. Appropriate response to stimulation |

#### Adult

- |                      |                         |
|----------------------|-------------------------|
| 1. No motor response | 4. Withdrawal from pain |
| 2. Extension to pain | 5. Localizing pain      |
| 3. Flexion to pain   | 6. Obeys commands       |

### Additional Information

- Used to calculate Overall GCS - EMS Score.
- The null value "Not Known/Not Recorded" is used if the patient is transferred to your facility with no EMS run sheet from the scene of injury.
- If a patient does not have a numeric GCS score recorded, but written documentation closely (or directly) relates to verbiage describing a specific level of functioning within the GCS scale, the appropriate numeric score may be listed. E.g. the chart indicates: "patient withdraws from a painful stimulus," a Motor GCS of 4 may be recorded, IF there is no other contradicting documentation.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
4201	1	Invalid value
4202	5	Blank, required to complete variable: Initial Field GCS -Total

## INITIAL FIELD GCS - TOTAL

### Definition

First recorded Glasgow Coma Score (total) measured at the scene of injury.

### Field Values

- Relevant value for data element

### Additional Information

- Utilize only if total score is available without component scores.
- The null value "Not Known/Not Recorded" is used if the patient is transferred to your facility with no EMS run sheet from the scene of injury.
- If a patient does not have a numeric GCS recorded, but there is documentation related to their level of consciousness such as "AAOx3," "awake alert and oriented," or "patient with normal mental status," interpret this as GCS of 15 IF there is no other contradicting documentation.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
4301	1	Invalid, out of range
4302	5	Blank, required to complete variables: Initial Field GCS -Eye, Initial Field GCS -Verbal, and Initial Field GCS -Motor
4303	4	Initial Field GCS -Total does not equal the sum of Initial Field GCS -Eye, Initial Field GCS -Verbal, and Initial Field GCS -Motor

## INTER-FACILITY TRANSFER

### Definition

Was the patient transferred to your facility from another acute care facility?

### Field Values

1. Yes

2. No

### 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 are not considered an inter-facility transfers.
- Outlying facilities purporting to provide emergency care services or utilized to stabilize a patient are considered acute care facilities.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
4401	2	Blank, required field
4402	1	Invalid value
4404	3	Not Known/Not Recorded, required Inclusion Criterion
4405	2	Not Applicable, required Inclusion Criterion

## TRAUMA CENTER CRITERIA

### Definition

Physiologic and anatomic EMS trauma triage criteria for transport to a trauma center as defined by the Centers for Disease Control and Prevention and the American College of Surgeons-Committee on Trauma. This information must be found on the scene of injury EMS run sheet.

### Field Values

- |  |   |
|--|---|
| 1. Glasgow Coma Score < 14   | 7. Crushed, degloved, mangled, or pulseless extremity |
| 2. Systolic blood pressure < 90 mmHg   | 8. Amputation proximal to wrist or ankle              |
| 3. Respiratory rate <10 or > 29 breaths per minute (<20 in infants aged <1 year) or need for ventilatory support | 9. Pelvic fracture                                    |
| 4. All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee                      | 10. Open or depressed skull fracture                  |
| 5. Chest wall instability or deformity (e.g., flail chest)   | 11. Paralysis   |
| 6. Two or more proximal long-bone fractures  |   |

### Additional Information

- The null value "Not Applicable" should be used to indicate that the patient did not arrive by EMS.
- The null value "Not Applicable" should be used if EMS Run Sheet indicates patient did not meet any Trauma Center Criteria.
- The null value "Not Known/Not Recorded" should be used if this information is not indicated on the EMS Run Sheet or if the EMS Run Sheet is not available.
- Check all that apply.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
9501	1	Invalid value

## VEHICULAR, PEDESTRIAN, OTHER RISK INJURY

### Definition

EMS trauma triage mechanism of injury criteria for transport to a trauma center as defined by the Centers for Disease Control and Prevention and the American College of Surgeons-Committee on Trauma. This information must be found on the scene of injury EMS run sheet.

### Field Values

- |   |   |
|---|---|
| 1. Fall adults: > 20 ft. (one story is equal to 10 ft.)                       | 5. Crash death in same passenger compartment                            |
| 2. Fall children: > 10 ft. or 2-3 times the height of the child               | 6. Crash vehicle telemetry data (AACN) consistent with high risk injury |
| 3. Crash intrusion, including roof: > 12 in. occupant site; > 18 in. any site | 7. Auto v. pedestrian/bicyclist thrown, run over, or > 20 MPH impact    |
| 4. Crash ejection (partial or complete) from vehicle                          | 8. Motorcycle crash > 20 mph  |

### Additional Information

- The null value "Not Applicable" should be used to indicate that the patient did not arrive by EMS.
- The null value "Not Applicable" should be used if EMS Run Sheet indicates patient did not meet any Vehicular, Pedestrian, Other Risk Injury criteria.
- The null value "Not Known/Not Recorded" should be used if this information is not indicated on the EMS Run Sheet or if the EMS Run Sheet is not available.
- Check all that apply.

### Data Source Hierarchy

1. EMS Run Sheet

### Associated Edit Checks

Rule ID	Level	Message
9601	1	Invalid value

## Emergency Department Information

## ED/HOSPITAL ARRIVAL DATE

### Definition

The date the patient arrived to the ED/hospital.

### Field Values

- Relevant value for data element

### Additional Information

- If the patient was brought to the ED, enter date patient arrived at ED. If patient was directly admitted to the hospital, enter date patient was admitted to the hospital.
- Collected as YYYY-MM-DD.
- 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).

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Billing Sheet / Medical Records Coding Summary Sheet
4. Hospital Discharge Summary

### Associated Edit Checks

Rule ID	Level	Message
4501	1	Invalid value
4502	1	Date out of range
4503	2	Blank, required field
4505	2	Not Known/Not Recorded, required Inclusion Criterion
4506	3	ED/Hospital Arrival Date cannot be earlier than EMS Dispatch Date
4507	3	ED/Hospital Arrival Date cannot be earlier than EMS Unit Arrival on Scene Date
4508	3	ED/Hospital Arrival Date cannot be earlier than EMS Unit Scene Departure Date
4509	2	ED/Hospital Arrival Date cannot be later than ED Discharge Date
4510	2	ED/Hospital Arrival Date cannot be later than Hospital Discharge Date
4511	3	ED/Hospital Arrival Date cannot be earlier than Date of Birth
4512	3	Ed/Hospital Arrival Date must be after 1993
4513	3	Ed/Hospital Arrival Date minus Injury Incident Date must be less than 30 days
4514	3	ED/Hospital Arrival Date minus EMS Dispatch Date cannot be greater than 7 days
4515	2	Not Applicable, required Inclusion Criterion

## ED/HOSPITAL ARRIVAL TIME

### Definition

The time the patient arrived to the ED/hospital.

### Field Values

- Relevant value for data element

### Additional Information

- If the patient was brought to the ED, enter time patient arrived at ED. If patient was directly admitted to the hospital, enter time patient was admitted to the hospital.
- Collected as HH:MM military time.
- 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).

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Billing Sheet / Medical Records Coding Summary Sheet
4. Hospital Discharge Summary

### Associated Edit Checks

Rule ID	Level	Message
4601	1	Invalid value
4602	1	Time out of range
4603	4	Blank, required field
4604	4	If ED/Hospital Arrival Date and EMS Dispatch Date are the same, the ED/Hospital Arrival Time cannot be earlier than the EMS Dispatch Time
4605	4	If ED/Hospital Arrival Date and EMS Unit Arrival on Scene Date are the same, the ED/Hospital Arrival Time cannot be earlier than the EMS Unit Arrival on Scene Time
4606	4	If ED/Hospital Arrival Date and EMS Unit Scene Departure Date are the same, the ED/Hospital Arrival Time cannot be earlier than the EMS Unit Scene Departure Time
4607	4	if ED/Hospital Arrival Date and ED Discharge Date are the same, the ED/Hospital Arrival Time cannot be later than the ED Discharge Time
4608	4	if ED/Hospital Arrival Date and Hospital Discharge Date are the same, the ED/Hospital Arrival Time cannot be later than the Hospital Discharge Time

## INITIAL ED/HOSPITAL SYSTOLIC BLOOD PRESSURE

### Definition

First recorded systolic blood pressure in the ED/hospital, within 30 minutes or less of ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
4701	1	Invalid value
4702	2	Blank, required field
4704	2	Invalid, out of range

## INITIAL ED/HOSPITAL PULSE RATE

### Definition

First recorded pulse in the ED/hospital (palpated or auscultated) within 30 minutes or less of ED/hospital arrival (expressed as a number per minute).

### Field Values

- Relevant value for data element

### Additional Information

- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
4801	1	Invalid value
4802	2	Blank, required field
4804	2	Invalid, out of range

## INITIAL ED/HOSPITAL TEMPERATURE

### Definition

First recorded temperature (in degrees Celsius [centigrade]) in the ED/hospital within 30 minutes or less of ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
4901	1	Invalid value
4902	4	Blank, required field
4903	3	Invalid, out of range

## INITIAL ED/HOSPITAL RESPIRATORY RATE

### Definition

First recorded respiratory rate in the ED/hospital within 30 minutes or less of ED/hospital arrival (expressed as a number per minute).

### Field Values

- Relevant value for data element

### Additional Information

- If available, complete additional field: "Initial ED/Hospital Respiratory Assistance."
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5001	1	Invalid value
5002	2	Blank, required field
5004	5	If completed, then Initial Ed/Hospital Respiratory Assistance must be completed.
5005	2	Invalid, out of range

## INITIAL ED/HOSPITAL RESPIRATORY ASSISTANCE

### Definition

Determination of respiratory assistance associated with the initial ED/hospital respiratory rate within 30 minutes or less of ED/hospital arrival.

### Field Values

1. Unassisted Respiratory Rate

2. Assisted Respiratory Rate

### Additional Information

- Only completed if a value is provided for "Initial ED/Hospital Respiratory Rate."
- Respiratory Assistance is defined as mechanical and/or external support of respiration.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5101	1	Invalid value
5102	2	Blank, required field
5103	2	Blank, required to complete when Initial ED/Hospital Respiratory Rate is complete

## INITIAL ED/HOSPITAL OXYGEN SATURATION

### Definition

First recorded oxygen saturation in the ED/hospital within 30 minutes or less of ED/hospital arrival (expressed as a percentage).

### Field Values

- Relevant value for data element

### Additional Information

- If available, complete additional field: "Initial ED/Hospital Supplemental Oxygen."
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5201	1	Invalid value
5202	4	Blank, required field
5203	5	If completed, then Initial Ed/Hospital Supplemental Oxygen must be completed

## INITIAL ED/HOSPITAL SUPPLEMENTAL OXYGEN

### Definition

Determination of the presence of supplemental oxygen during assessment of initial ED/hospital oxygen saturation level within 30 minutes or less of ED/hospital arrival.

### Field Values

1. No Supplemental Oxygen
2. Supplemental Oxygen

### Additional Information

- Only completed if a value is provided for "Initial ED/Hospital Oxygen Saturation."
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5301	1	Invalid value
5303	4	Blank, required to complete when Initial ED/Hospital Oxygen Saturation is complete

## INITIAL ED/HOSPITAL GCS - EYE

### Definition

First recorded Glasgow Coma Score (Eye) in the ED/hospital within 30 minutes or less of ED/hospital arrival.

### Field Values

1. No eye movement when assessed
2. Opens eyes in response to painful stimulation
3. Opens eyes in response to verbal stimulation
4. Opens eyes spontaneously

### Additional Information

- Used to calculate Overall GCS - ED Score.
- If a patient does not have a numeric GCS score recorded, but written documentation closely (or directly) relates to verbiage describing a specific level of functioning within the GCS scale, the appropriate numeric score may be listed. E.g. the chart indicates: "patient withdraws from a painful stimulus," a Motor GCS of 4 may be recorded, IF there is no other contradicting documentation.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5401	1	Invalid value
5402	5	Blank, required to complete variable: Initial ED/Hospital GCS -Total

## INITIAL ED/HOSPITAL GCS - VERBAL

### Definition

First recorded Glasgow Coma Score (Verbal) within 30 minutes or less of ED/hospital arrival.

### Field Values

#### Pediatric (≤ 2 years):

- |                                       |   |
|---------------------------------------|---|
| 1. No vocal response                  | 4. Cries but is consolable, inappropriate interactions    |
| 2. Inconsolable, agitated             | 5. Smiles, oriented to sounds, follows objects, interacts |
| 3. Inconsistently consolable, moaning |   |

#### Adult

- |                            |             |
|----------------------------|-------------|
| 1. No verbal response      | 4. Confused |
| 2. Incomprehensible sounds | 5. Oriented |
| 3. Inappropriate words     |             |

### Additional Information

- Used to calculate Overall GCS - ED Score.
- If patient is intubated then the GCS Verbal score is equal to 1.
- If a patient does not have a numeric GCS score recorded, but written documentation closely (or directly) relates to verbiage describing a specific level of functioning within the GCS scale, the appropriate numeric score may be listed. E.g. the chart indicates: "patient withdraws from a painful stimulus," a Motor GCS of 4 may be recorded, IF there is no other contradicting documentation.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5501	1	Invalid value
5502	5	Blank, required to complete variable: Initial ED/Hospital GCS -Total

## INITIAL ED/HOSPITAL GCS - MOTOR

### Definition

First recorded Glasgow Coma Score (Motor) within 30 minutes or less of ED/hospital arrival.

### Field Values

#### Pediatric (≤ 2 years):

- |                      |  |
|----------------------|--|
| 1. No motor response | 4. Withdrawal from pain                |
| 2. Extension to pain | 5. Localizing pain                     |
| 3. Flexion to pain   | 6. Appropriate response to stimulation |

#### Adult

- |                      |                         |
|----------------------|-------------------------|
| 1. No motor response | 4. Withdrawal from pain |
| 2. Extension to pain | 5. Localizing pain      |
| 3. Flexion to pain   | 6. Obeys commands       |

### Additional Information

- Used to calculate Overall GCS – ED Score.
- If a patient does not have a numeric GCS score recorded, but written documentation closely (or directly) relates to verbiage describing a specific level of functioning within the GCS scale, the appropriate numeric score may be listed. E.g. the chart indicates: "patient withdraws from a painful stimulus," a Motor GCS of 4 may be recorded, IF there is no other contradicting documentation.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5601	1	Invalid value
5602	5	Blank, required to complete variable: Initial ED/Hospital GCS -Total

## INITIAL ED/HOSPITAL GCS - TOTAL

### Definition

First recorded Glasgow Coma Score (total) within 30 minutes or less of ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Utilize only if total score is available without component scores.
- If a patient does not have a numeric GCS recorded, but there is documentation related to their level of consciousness such as "AAOx3," "awake alert and oriented," or "patient with normal mental status," interpret this as GCS of 15 IF there is no other contradicting documentation.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5701	1	Invalid, out of range
5702	5	Blank, required to complete if Initial ED/Hospital GCS -Eye, Initial ED/Hospital GCS -Verbal, and Initial ED/Hospital GCS -Motor are Not Applicable or Not Known/Not Recorded
5703	4	Initial ED/Hospital GCS -Total does not equal the sum of Initial ED/Hospital GCS -Eye, Initial ED/Hospital GCS -Verbal, and Initial ED/Hospital GCS -Motor
5704	4	ONE of the following: Initial ED/Hospital GCS -Eye, Initial ED/Hospital GCS -Verbal, or Initial ED/Hospital GCS -Motor is blank but Initial ED/Hospital GCS -Total is completed

## INITIAL ED/HOSPITAL GCS ASSESSMENT QUALIFIERS

### Definition

Documentation of factors potentially affecting the first assessment of GCS within 30 minutes or less of ED/hospital arrival.

### Field Values

- |  |   |
|--|---|
| 1. Patient Chemically Sedated or Paralysed | 3. Patient Intubated  |
| 2. Obstruction to the Patient's Eye        | 4. Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to the eye |

### Additional Information

- Identifies treatments given to the patient that may affect the first assessment of GCS. This field does not apply to self-medications the patient may administer (i.e., ETOH, prescriptions, etc.).
- If an intubated patient has recently received an agent that results in neuromuscular blockade such that a motor or eye response is not possible, then the patient should be considered to have an exam that is not reflective of their neurologic status and the chemical sedation modifier should be selected.
- Neuromuscular blockade is typically induced following the administration of agent like succinylcholine, mivacurium, rocuronium, (cis)atracurium, vecuronium, or pancuronium. While these are the most common agents, please review what might be typically used in your center so it can be identified in the medical record.
- Each of these agents has a slightly different duration of action, so their effect on the GCS depends on when they were given. For example, succinylcholine's effects last for only 5-10 minutes.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.
- Check all that apply.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. EMS Run Sheet
4. Nurses notes

### Associated Edit Checks

Rule ID	Level	Message
5801	1	Invalid value
5802	2	Blank, required field

## INITIAL ED/HOSPITAL HEIGHT

### Definition

First recorded height upon ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Recorded in centimeters.
- May be based on family or self-report.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. EMS Run Sheet
4. Nurses notes
5. Self-report
6. Family report

### Associated Edit Checks

Rule ID	Level	Message
8501	1	Invalid value
8502	2	Blank, required field
8503	3	Invalid, out of range

## INITIAL ED/HOSPITAL WEIGHT

### Definition

Measured or estimated baseline weight.

### Field Values

- Relevant value for data element

### Additional Information

- Recorded in kilograms.
- May be based on family or self-report.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record
3. EMS Run Sheet
4. Nurses notes
5. Self-report
6. Family report

### Associated Edit Checks

Rule ID	Level	Message
8601	1	Invalid value
8602	2	Blank, required field
8603	3	Invalid, out of range

## ALCOHOL USE INDICATOR

### Definition

Use of alcohol by the patient.

### Field Values

- |                           |   |
|---------------------------|---|
| 1. No (not tested)        | 3. Yes (confirmed by test [trace levels])       |
| 2. No (confirmed by test) | 4. Yes (confirmed by test [beyond legal limit]) |

### Additional Information

- Blood alcohol concentration (BAC) may be documented at any facility (or setting) treating this patient event.
- "Trace levels" is defined as any alcohol level below the legal limit, but not zero.
- "Beyond legal limit" is defined as a blood alcohol concentration above the legal limit for the state in which the treating institution is located. Above any legal limit, DUI, DWI or DWAI, would apply here.
- If alcohol use is suspected, but not confirmed by test, record null value "Not Known/Not Recorded."

### Data Source Hierarchy

1. Lab Results
2. ED Physician Notes

### Associated Edit Checks

Rule ID	Level	Message
5901	1	Invalid value
5902	4	Blank, required field

## DRUG USE INDICATOR

### Definition

Use of drugs by the patient.

### Field Values

- |                           |  |
|---------------------------|--|
| 1. No (not tested)        | 3. Yes (confirmed by test [prescription drug]) |
| 2. No (confirmed by test) | 4. Yes (confirmed by test [illegal use drug])  |

### Additional Information

- Drug use may be documented at any facility (or setting) treating this patient event.
- "Illegal use drug" includes illegal use of prescription drugs.
- If drug use is suspected, but not confirmed by test, record null value "Not Known/Not Recorded."
- This data element refers to drug use by the patient and does not include medical treatment.
- Check all that apply.

### Data Source Hierarchy

1. Lab Results
2. ED Physician Notes

### Associated Edit Checks

Rule ID	Level	Message
6001	1	Invalid value
6002	4	Blank, required field

## ED DISCHARGE DISPOSITION

### Definition

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

### Field Values

- |  |                                     |
|--|-------------------------------------|
| 1. Floor bed (general admission, non-specialty unit bed) | 7. Operating Room                   |
| 2. Observation unit (unit that provides < 24 hour stays) | 8. Intensive Care Unit (ICU)        |
| 3. Telemetry/step-down unit (less acuity than ICU)       | 9. Home without services            |
| 4. Home with services                                    | 10. Left against medical advice     |
| 5. Died/Expired  | 11. Transferred to another hospital |
| 6. Other (jail, institutional care, mental health, etc.) |                                     |

### Additional Information

- The null value "Not Applicable" is used if the patient is directly admitted to the hospital.
- If ED Discharge Disposition is 4, 5, 6, 9, 10, 11, then Hospital Discharge Date, Time, and Disposition should be "Not Applicable".

### Data Source Hierarchy

1. Discharge Sheet
2. Nursing Progress Notes
3. Social Worker Notes

### Associated Edit Checks

Rule ID	Level	Message
6101	1	Invalid value
6102	2	Blank, required field
6104	2	Not Known/Not Recorded, required Inclusion Criterion
6105	3	Not Applicable, required Inclusion Criterion

## SIGNS OF LIFE

### Definition

Indication of whether patient arrived at ED/Hospital with signs of life.

### Field Values

1. Arrived with NO signs of life
2. Arrived with signs of life

### Additional Information

- A patient with no signs of life is defined as having none of the following: organized EKG activity, pupillary responses, spontaneous respiratory attempts or movement, and unassisted blood pressure. This usually implies the patient was brought to the ED with CPR in progress.

### Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. Physician's Progress Notes
3. ED Nurses' Notes

### Associated Edit Checks

Rule ID	Level	Message
6201	1	Invalid value
6202	2	Blank, required field
6206	3	Not Known/Not Recorded, required Inclusion Criterion
6207	2	Field cannot be Not Applicable

## ED DISCHARGE DATE

### Definition

The date the patient was discharged from the ED.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- Used to auto-generate an additional calculated field: Total ED Time: (elapsed time from ED admit to ED discharge).
- The null value "Not Applicable" is used if the patient is directly admitted to the hospital.

### Data Source Hierarchy

1. Hospital Discharge Summary
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Physician's Progress Notes

### Associated Edit Checks

Rule ID	Level	Message
6301	1	Invalid value
6302	1	Date out of range
6303	4	Blank, required field
6304	4	ED Discharge Date cannot be earlier than EMS Dispatch Date
6305	4	ED Discharge Date cannot be earlier than EMS Unit Arrival on Scene Date
6306	4	ED Discharge Date cannot be earlier than EMS Unit Scene Departure Date
6307	2	ED Discharge Date cannot be earlier than ED/Hospital Arrival Date
6308	2	ED Discharge Date cannot be later than Hospital Discharge Date
6309	3	ED Discharge Date cannot be earlier than Date of Birth
6310	3	ED Discharge Date minus ED/Hospital Arrival Date cannot be greater than 365 days

## ED DISCHARGE TIME

### Definition

The time the patient was discharged from the ED.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- Used to auto-generate an additional calculated field: Total ED Time (elapsed time from ED admit to ED discharge).
- The null value "Not Applicable" is used if the patient is directly admitted to the hospital.

### Data Source Hierarchy

1. Hospital Record
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Physician's Progress Notes

### Associated Edit Checks

Rule ID	Level	Message
6401	1	Invalid value
6402	1	Time out of range
6403	4	Blank, required field
6404	4	If ED Discharge Date and EMS Dispatch Date are the same, the ED Discharge Time cannot be earlier than the EMS Dispatch Time
6405	4	If ED Discharge Date and EMS Unit Arrival on Scene Date are the same, the ED Discharge Time cannot be earlier than the EMS Unit Arrival on Scene Time
6406	4	If ED Discharge Date and EMS Unit Scene Departure Date are the same, the ED Discharge Time cannot be earlier than the EMS Unit Scene Departure Time
6407	4	If ED Discharge Date and ED/Hospital Arrival Date are the same, the ED Discharge Time cannot be earlier than the ED/Hospital Arrival Time
6408	4	If ED Discharge Date and Hospital Discharge Date are the same, the ED Discharge Time cannot be later than the Hospital Discharge Time

## Hospital Procedure Information

**Definition**

Operative and selected non-operative procedures conducted during hospital stay. Operative and selected non-operative procedures are those that were essential to the diagnosis, stabilization, or treatment of the patient's specific injuries or complications. The list of procedures below should be used as a guide to non-operative procedures that should be provided to NTDB. This list is based on procedures sent to NTDB with a high frequency. Not all hospitals capture all procedures listed below. Please transmit those procedures that you capture to NTDB.

**Field Values**

- Major and minor procedure ICD-9-CM procedure codes.
- The maximum number of procedures that may be reported for a patient is 200.

**Additional Information**

- The null value "Not Applicable" is used if the patient did not have procedures.
- Include only procedures performed at your institution.
- Capture all procedures performed in the operating room.
- Capture all procedures in the ED, ICU, ward, or radiology department that were essential to the diagnosis, stabilization, or treatment of the patient's specific injuries or their complications.
- Procedures with an asterisk have the potential to be performed multiple times during one episode of hospitalization. In this case, capture only the first event. If there is no asterisk, capture each event even if there is more than one.
- Note that the hospital may capture additional procedures.
- The null value "Not Known/Not Recorded" is used if not coding ICD-9.

**Diagnostic and Therapeutic Imaging**

Computerized tomographic studies \*  
 Diagnostic ultrasound (includes FAST) \*  
 Doppler ultrasound of extremities \*  
 Angiography  
 Angioembolization  
  
 Echocardiography  
 Cystogram  
 IVC filter  
 Urethrogram

**Genitourinary**

Ureteric catheterization (i.e. Ureteric stent)  
 Suprapubic cystostomy

**Transfusion**

The following blood products should be captured over first 24 hours after hospital arrival:  
 Transfusion of red cells \*  
 Transfusion of platelets \*  
 Transfusion of plasma \*  
 In addition to coding the individual blood products listed above assign the 99.01 ICD-9 procedure code on patients that receive > 10 units of blood products over first 24 hours following hospital arrival \*  
 For pediatric patients (age 14 and under), assign 99.01 ICD-9 procedure code on patients that receive 40cc/kg of blood products over first 24 hours

following hospital arrival\*

**Cardiovascular**

- Central venous catheter \*
- Pulmonary artery catheter \*
- Cardiac output monitoring \*
- Open cardiac massage
- CPR

**CNS**

- Insertion of ICP monitor \*
- Ventriculostomy \*
  
- Cerebral oxygen monitoring \*

**Musculoskeletal**

- Soft tissue/bony debridements \*
- Closed reduction of fractures
- Skeletal and halo traction
- Fasciotomy

**Respiratory**

- Insertion of endotracheal tube\*
- Continuous mechanical ventilation \*
- Chest tube \*
- Bronchoscopy \*
- Tracheostomy

**Gastrointestinal**

- Endoscopy (includes gastroscopy, sigmoidoscopy, colonoscopy)
- Gastrostomy/jejunostomy (percutaneous or endoscopic)
- Percutaneous (endoscopic) gastrojejunoscopy

**Other**

- Hyperbaric oxygen
- Decompression chamber
- TPN \*

**Data Source Hierarchy**

1. Operative Reports
2. ER and ICU Records
3. Trauma Flow Sheet
4. Anesthesia Record
5. Billing Sheet / Medical Records Coding Summary Sheet
6. Hospital Discharge Summary

**Associated Edit Checks**

Rule ID	Level	Message
6501	1	Invalid value
6502	1	Procedures with the same code cannot have the same Hospital Procedure Start Date and Time.
6503	4	Blank, must either (1) contain a valid ICD-9 code or (2) be Not Known/Not Recorded if not coding ICD-9
6504	4	Not Applicable, must either (1) contain a valid ICD-9 code or (2) be Not Known/Not Recorded if not coding ICD-9

## ICD-10 HOSPITAL PROCEDURES

### Definition

Operative and selected non-operative procedures conducted during hospital stay. Operative and selected non-operative procedures are those that were essential to the diagnosis, stabilization, or treatment of the patient's specific injuries or complications. The list of procedures below should be used as a guide to non-operative procedures that should be provided to NTDB. This list is based on procedures sent to NTDB with a high frequency. Not all hospitals capture all procedures listed below. Please transmit those procedures that you capture to NTDB.

### Field Values

- Major and minor procedure ICD-10-CM procedure codes.
- The maximum number of procedures that may be reported for a patient is 200.

### Additional Information

- The null value "Not Applicable" is used if the patient did not have procedures.
- Include only procedures performed at your institution.
- Capture all procedures performed in the operating room.
- Capture all procedures in the ED, ICU, ward, or radiology department that were essential to the diagnosis, stabilization, or treatment of the patient's specific injuries or their complications.
- Procedures with an asterisk have the potential to be performed multiple times during one episode of hospitalization. In this case, capture only the first event. If there is no asterisk, capture each event even if there is more than one.
- Note that the hospital may capture additional procedures.
- The null value "Not Known/Not Recorded" is used if not coding ICD-10.

### Diagnostic and Therapeutic Imaging

Computerized tomographic studies \*

Diagnostic ultrasound (includes FAST) \*

Doppler ultrasound of extremities \*

Angiography

Angioembolization

Echocardiography

Cystogram

IVC filter

Urethrogram

### Genitourinary

Ureteric catheterization (i.e. Ureteric stent)

Suprapubic cystostomy

### Transfusion

The following blood products should be captured over first 24 hours after hospital arrival:

Transfusion of red cells \*

Transfusion of platelets \*

Transfusion of plasma \*

In addition to coding the individual blood products listed above assign the appropriate procedure code on patients that receive > 10 units of blood products over first 24 hours following hospital arrival \*

For pediatric patients (age 14 and under), assign the appropriate procedure code on patients that receive 40cc/kg of blood products over first 24 hours

following hospital arrival\*

**Cardiovascular**

- Central venous catheter \*
- Pulmonary artery catheter \*
- Cardiac output monitoring \*
- Open cardiac massage
- CPR

**CNS**

- Insertion of ICP monitor \*
- Ventriculostomy \*
  
- Cerebral oxygen monitoring \*

**Musculoskeletal**

- Soft tissue/bony debridements \*
- Closed reduction of fractures
- Skeletal and halo traction
- Fasciotomy

**Respiratory**

- Insertion of endotracheal tube\*
- Continuous mechanical ventilation \*
- Chest tube \*
- Bronchoscopy \*
- Tracheostomy

**Gastrointestinal**

- Endoscopy (includes gastroscopy, sigmoidoscopy, colonoscopy)
- Gastrostomy/jejunostomy (percutaneous or endoscopic)
- Percutaneous (endoscopic) gastrojejunoscopy

**Other**

- Hyperbaric oxygen
- Decompression chamber
- TPN \*

**Data Source Hierarchy**

1. Operative Reports
2. ER and ICU Records
3. Trauma Flow Sheet
4. Anesthesia Record
5. Billing Sheet / Medical Records Coding Summary Sheet
6. Hospital Discharge Summary

**Associated Edit Checks**

Rule ID	Level	Message
8801	1	Invalid value
8802	1	Procedures with the same code cannot have the same Hospital Procedure Start Date and Time
8803	4	Blank, must either (1) contain a valid ICD-10 code or (2) be Not Known/Not Recorded if not coding ICD-10
8804	4	Not Applicable, must either (1) contain a valid ICD-10 code or (2) be Not Known/Not Recorded if not coding ICD-10

## HOSPITAL PROCEDURE START DATE

### Definition

The date operative and selected non-operative procedures were performed.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.

### Data Source Hierarchy

1. OR Nurses' Notes
2. Operative Reports
3. Anesthesia Record

### Associated Edit Checks

Rule ID	Level	Message
6601	1	Invalid value
6602	1	Date out of range
6603	4	Hospital Procedure Start Date cannot be earlier than EMS Dispatch Date
6604	4	Hospital Procedure Start Date cannot be earlier than EMS Unit Arrival on Scene Date
6605	4	Hospital Procedure Start Date cannot be earlier than EMS Unit Scene Departure Date
6606	4	Hospital Procedure Start Date cannot be earlier than ED/Hospital Arrival Date
6607	4	Hospital Procedure Start Date cannot be later than Hospital Discharge Date
6608	4	Hospital Procedure Start Date cannot be earlier than Date of Birth
6609	4	Blank, required field

## HOSPITAL PROCEDURE START TIME

### Definition

The time operative and selected non-operative procedures were performed.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- Procedure start time is defined as the time the incision was made (or the procedure started).
- If distinct procedures with the same procedure code are performed, their start times must be different.

### Data Source Hierarchy

1. OR Nurses' Notes
2. Operative Reports
3. Anesthesia Record

### Associated Edit Checks

Rule ID	Level	Message
6701	1	Invalid value
6702	1	Time out of range
6703	4	If Hospital Procedure Start Date and EMS Dispatch Date are the same, the Hospital Procedure Start Time cannot be earlier than the EMS Dispatch Time
6704	4	If Hospital Procedure Start Date and EMS Unit Arrival on Scene Date are the same, the Hospital Procedure Start Time cannot be earlier than the EMS Unit Arrival on Scene Time
6705	4	if Hospital Procedure Start Date and EMS Unit Scene Departure Date are the same, the Hospital Procedure Start Time cannot be earlier than the EMS Unit Scene Departure Time
6706	4	If Hospital Procedure Start Date and ED/Hospital Arrival Date are the same, the Hospital Procedure Start Time cannot be earlier than the ED/Hospital Arrival Time
6707	4	If Hospital Procedure Start Date and Hospital Discharge Date are the same, the Hospital Procedure Start Time cannot be later than the Hospital Discharge Time
6708	4	Blank, required field

## Diagnosis Information

## CO-MORBID CONDITIONS

### Definition

Pre-existing co-morbid factors present before patient arrival at the ED/hospital.

### Field Values

- |  |   |
|--|---|
| 1. Other                                       | 16. History of angina within 30 days  |
| 2. Alcoholism                                  | 17. History of myocardial infarction  |
| 3. Ascites within 30 days                      | 18. History of PVD  |
| 4. Bleeding disorder                           | 19. Hypertension requiring medication   |
| 5. Currently receiving chemotherapy for cancer | <del>20. RETIRED 2012 Impaired sensorium</del>                                    |
| 6. Congenital anomalies                        | 21. Prematurity   |
| 7. Congestive heart failure                    | 22. Obesity   |
| 8. Current smoker                              | 23. Respiratory disease   |
| 9. Chronic renal failure                       | 24. Steroid use   |
| 10. CVA/residual neurological deficit          | 25. Cirrhosis   |
| 11. Diabetes mellitus                          | 26. Dementia  |
| 12. Disseminated cancer                        | 27. Major psychiatric illness   |
| 13. Advanced directive limiting care           | 28. Drug or dependence  |
| 14. Esophageal varices                         | 29. Pre-hospital cardiac arrest with resuscitative efforts by healthcare provider |
| 15. Functionally dependent health status       |   |

### Additional Information

- The null value "Not Applicable" is used for patients with no known co-morbid conditions.
- Refer to Appendix 3: Glossary of Terms for definition of Co-Morbid Conditions.
- Check all that apply.

### Data Source Hierarchy

1. History and Physical
2. Discharge Sheet
3. Billing Sheet

### Associated Edit Checks

Rule ID	Level	Message
6801	1	Invalid value
6802	2	Blank, required field

## ICD-9 INJURY DIAGNOSES

### Definition

Diagnoses related to all identified injuries.

### Field Values

- Injury diagnoses as defined by ICD-9-CM code range: 800-959.9, except for 905 – 909.9, 910 – 924.9, 930 – 939.9. The maximum number of diagnoses that may be reported for an individual patient is 50.

### Additional Information

- ICD-9-CM codes pertaining to other medical conditions (e.g., CVA, MI, co-morbidities, etc.) may also be included in this field.
- Used to auto-generate additional calculated fields: Abbreviated Injury Scale (six body regions) and Injury Severity Score.
- The null value "Not Applicable" is used if not coding ICD-9.

### Data Source Hierarchy

1. Hospital Discharge Summary
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Trauma Flow Sheet
4. ER and ICU Records

### Associated Edit Checks

Rule ID	Level	Message
6901	1	Invalid value
6902	4	Blank, must either (1) contain a valid ICD-9 code or (2) be Not Applicable if not coding ICD-9
6903	2	If coding with ICD-9, then at least one diagnosis must be provided and meet inclusion criteria (800 -959.9, except for 905 -909.9, 910 -924.9, 930 -939.9)
6904	4	Not Known/Not Recorded, required Inclusion Criterion

## ICD-10 INJURY DIAGNOSES

### Definition

Diagnoses related to all identified injuries.

### Field Values

- Injury diagnoses as defined by ICD-10-CM code range S00-S99, T07, T14, T20-T28, T30-T32 and T79.A1-T79.A9.
- The maximum number of diagnoses that may be reported for an individual patient is 50.

### Additional Information

- ICD-10-CM codes pertaining to other medical conditions (e.g., CVA, MI, co-morbidities, etc.) may also be included in this field.
- Used to auto-generate additional calculated fields: Abbreviated Injury Scale (six body regions) and Injury Severity Score.
- The null value "Not Applicable" is used if not coding ICD-10.

### Data Source Hierarchy

1. Hospital Discharge Summary
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Trauma Flow Sheet
4. ER and ICU Records

### Associated Edit Checks

Rule ID	Level	Message
8701	1	Invalid value
8702	4	Blank, must either (1) contain a valid ICD-10 code or (2) be Not Applicable if not coding ICD-10
8703	2	If coding with ICD-10, then at least one diagnosis must be provided and meet inclusion criteria
8704	4	Not Known/Not Recorded, required Inclusion Criterion

## **Injury Severity Information**

## AIS PREDOT CODE

### Definition

The Abbreviated Injury Scale (AIS) PreDot codes that reflect the patient's injuries.

### Field Values

- The predot code is the 6 digits preceding the decimal point in an associated AIS code

### Additional Information

- This variable is considered optional and is not required as part of the NTDS dataset.

### Data Source Hierarchy

### Associated Edit Checks

Rule ID	Level	Message
7001	1	Invalid value
7002	5	If completed, then AIS Severity must be completed.
7003	5	If completed, then AIS Version must be completed.
7004	3	AIS PreDot codes are version AIS 2005 but do not match the AIS Version used
7005	3	AIS PreDot codes are version AIS 1998 but do not match the AIS Version used
7006	4	Both AIS 2005 and AIS 1998 versions have been detected in the same record

## AIS SEVERITY

### Definition

The Abbreviated Injury Scale (AIS) severity codes that reflect the patient's injuries.

### Field Values

- |                    |   |
|--------------------|---|
| 1. Minor Injury    | 5. Critical Injury                        |
| 2. Moderate Injury | 6. Maximum Injury, Virtually Unsurvivable |
| 3. Serious Injury  | 9. Not Possible to Assign                 |
| 4. Severe Injury   |   |

### Additional Information

- This variable is considered optional and is not required as part of the NTDS dataset.
- The field value (9) "Not Possible to Assign" would be chosen if it is not possible to assign a severity to an injury.

### Data Source Hierarchy

### Associated Edit Checks

Rule ID	Level	Message
7101	1	Invalid value
7102	5	If completed, then AIS Version must be completed.
7103	4	Blank, required to complete when AIS PreDot Code is complete

## ISS BODY REGION

### Definition

The Injury Severity Score (ISS) body region codes that reflect the patient's injuries.

### Field Values

- |                 |                                 |
|-----------------|---------------------------------|
| 1. Head or Neck | 4. Abdominal or pelvic contents |
| 2. Face         | 5. Extremities or pelvic girdle |
| 3. Chest        | 6. External                     |

### Additional Information

- This variable is considered optional and is not required as part of the NTDS dataset.
- Head or neck injuries include injury to the brain or cervical spine, skull or cervical spine fractures.
- Facial injuries include those involving mouth, ears, nose and facial bones.
- Chest injuries include all lesions to internal organs. Chest injuries also include those to the diaphragm, rib cage, and thoracic spine.
- Abdominal or pelvic contents injuries include all lesions to internal organs. Lumbar spine lesions are included in the abdominal or pelvic region.
- Injuries to the extremities or to the pelvic or shoulder girdle include sprains, fractures, dislocations, and amputations, except for the spinal column, skull and rib cage.
- External injuries include lacerations, contusions, abrasions, and burns, independent of their location on the body surface.

### Data Source Hierarchy

### Associated Edit Checks

Rule ID	Level	Message
7201	1	Invalid value
7202	5	If completed, then AIS Severity must be completed.
7203	5	If completed, then AIS Version must be completed.

## AIS VERSION

### Definition

The software (and version) used to calculate Abbreviated Injury Scale (AIS) severity codes.

### Field Values

- |           |           |
|-----------|-----------|
| 1. AIS 80 | 4. AIS 95 |
| 2. AIS 85 | 5. AIS 98 |
| 3. AIS 90 | 6. AIS 05 |

### Additional Information

- This variable is considered optional and is not required as part of the NTDS dataset.

### Data Source Hierarchy

### Associated Edit Checks

Rule ID	Level	Message
7301	1	Invalid value
7302	4	Blank, required to complete when AIS PreDot Code, AIS Severity, or ISS Body Region are provided.

## LOCALLY CALCULATED ISS

### Definition

The Injury Severity Score (ISS) that reflects the patient's injuries.

### Field Values

- Relevant ISS value for the constellation of injuries

### Additional Information

- This variable is considered optional and is not required as part of the NTDS dataset.

### Data Source Hierarchy

### Associated Edit Checks

Rule ID	Level	Message
7401	1	Invalid value
7402	3	Must be the sum of three squares

## Outcome Information

## TOTAL ICU LENGTH OF STAY

### Definition

The cumulative amount of time spent in the ICU. Each partial or full day should be measured as one calendar day.

### Field Values

- Relevant value for data element

### Additional Information

- Recorded in full day increments with any partial calendar day counted as a full calendar day.
- The calculation assumes that the date and time of starting and stopping an ICU episode are recorded in the patient's chart.
- If any dates are missing then a LOS cannot be calculated.
- If patient has multiple ICU episodes on the same calendar day, count that day as one calendar day.
- At no time should the ICU LOS exceed the Hospital LOS.
- The null value "Not Applicable" is used if the patient had no ICU days according to the above definition.

Example #	Start Date	Start Time	Stop Date	Stop Time	LOS
A.	01/01/11	01:00	01/01/11	04:00	1 day (one calendar day)
B.	01/01/11	01:00	01/01/11	04:00	
	01/01/11	16:00	01/01/11	18:00	1 day (2 episodes within one calendar day)
C.	01/01/11	01:00	01/01/11	04:00	
	01/02/11	16:00	01/02/11	18:00	2 days (episodes on 2 separate calendar days)
D.	01/01/11	01:00	01/01/11	16:00	
	01/02/11	09:00	01/02/11	18:00	2 days (episodes on 2 separate calendar days)
E.	01/01/11	01:00	01/01/11	16:00	
	01/02/11	09:00	01/02/11	21:00	2 days (episodes on 2 separate calendar days)
F.	01/01/11	Unknown	01/01/11	16:00	1 day
G.	01/01/11	Unknown	01/02/11	16:00	2 days (patient was in ICU on 2 separate calendar days)
H.	01/01/11	Unknown	01/02/11	16:00	
	01/02/11	18:00	01/02/11	Unknown	2 days (patient was in ICU on 2 separate calendar days)
I.	01/01/11	Unknown	01/02/11	16:00	
	01/02/11	18:00	01/02/11	20:00	2 days (patient was in ICU on 2 separate calendar days)
J.	01/01/11	Unknown	01/02/11	16:00	
	01/03/11	18:00	01/03/11	20:00	3 days (patient was in ICU on 3 separate calendar days)
K.	Unknown	Unknown	01/02/11	16:00	
	01/03/11	18:00	01/03/11	20:00	Unknown (can't compute total)

### Data Source Hierarchy

1. ICU Nursing Flow Sheet
2. Calculate Based on Admission Form and Discharge Sheet
3. Nursing Progress Notes

### Associated Edit Checks

Rule ID	Level	Message
7501	1	Invalid, out of range
7502	3	Blank, required field
7503	3	Total ICU Length of Stay should not be greater than the difference between ED/Hospital Arrival Date and Hospital Discharge Date
7504	3	Should not be greater than 365

## TOTAL VENTILATOR DAYS

### Definition

The cumulative amount of time spent on the ventilator. Each partial or full day should be measured as one calendar day.

### Field Values

- Relevant value for data element

### Additional Information

- Excludes mechanical ventilation time associated with OR procedures.
- Non-invasive means of ventilatory support (CPAP or BIPAP) should not be considered in the calculation of ventilator days.
- Recorded in full day increments with any partial calendar day counted as a full calendar day.
- The calculation assumes that the date and time of starting and stopping Ventilator episode are recorded in the patient's chart.
- If any dates are missing then a Total Vent Days cannot be calculated.
- At no time should the Total Vent Days exceed the Hospital LOS.
- The null value "Not Applicable" is used if the patient was not on the ventilator according to the above definition.

Example #	Start Date	Start Time	Stop Date	Stop Time	LOS
A.	01/01/11	01:00	01/01/11	04:00	1 day (one calendar day)
B.	01/01/11	01:00	01/01/11	04:00	
	01/01/11	16:00	01/01/11	18:00	1 day (2 episodes within one calendar day)
C.	01/01/11	01:00	01/01/11	04:00	
	01/02/11	16:00	01/02/11	18:00	2 days (episodes on 2 separate calendar days)
D.	01/01/11	01:00	01/01/11	16:00	
	01/02/11	09:00	01/02/11	18:00	2 days (episodes on 2 separate calendar days)
E.	01/01/11	01:00	01/01/11	16:00	
	01/02/11	09:00	01/02/11	21:00	2 days (episodes on 2 separate calendar days)
F.	01/01/11	Unknown	01/01/11	16:00	1 day
G.	01/01/11	Unknown	01/02/11	16:00	2 days (patient was on Vent on 2 separate calendar days)
H.	01/01/11	Unknown	01/02/11	16:00	
	01/02/11	18:00	01/02/11	Unknown	2 days (patient was on Vent on 2 separate calendar days)
I.	01/01/11	Unknown	01/02/11	16:00	
	01/02/11	18:00	01/02/11	20:00	2 days (patient was in on Vent on 2 separate calendar days)

J.	01/01/11	Unknown	01/02/11	16:00	
	01/03/11	18:00	01/03/11	20:00	3 days (patient was on Vent on 3 separate calendar days)

### Data Source Hierarchy

1. ICU Respiratory Therapy Flowsheet
2. ICU Nursing Flow Sheet
3. Physician's Daily Progress Notes
4. Calculate Based on Admission Form and Discharge Sheet

### Associated Edit Checks

Rule ID	Level	Message
7601	1	Invalid, out of range
7602	4	Blank, required field
7603	4	Total Ventilator Days should not be greater than the difference between ED/Hospital Arrival Date and Hospital Discharge Date
7604	4	Should not be greater than 365

## HOSPITAL DISCHARGE DATE

### Definition

The date the patient was discharged from the hospital.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- Used to auto-generate an additional calculated field: Total Length of Hospital Stay (elapsed time from ED/hospital arrival to hospital discharge).
- The null value "Not Applicable" is used if ED Discharge Disposition = 5 (Died).
- The null value "Not Applicable" is used if If ED Discharge Disposition = 4,6,9,10, or 11.

### Data Source Hierarchy

1. Hospital Record
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Physician Discharge Summary

### Associated Edit Checks

Rule ID	Level	Message
7701	1	Invalid value
7702	1	Date out of range
7703	3	Blank, required field
7704	3	Hospital Discharge Date cannot be earlier than EMS Dispatch Date
7705	3	Hospital Discharge Date cannot be earlier than EMS Unit Arrival on Scene Date
7706	3	Hospital Discharge Date cannot be earlier than EMS Unit Scene Departure Date
7707	2	Hospital Discharge Date cannot be earlier than ED/Hospital Arrival Date
7708	2	Hospital Discharge Date cannot be earlier than ED Discharge Date
7709	3	Hospital DischargeDate cannot be earlier than Date of Birth
7710	3	Hospital Discharge Date minus Injury Incident Date cannot be greater than 365 days
7711	3	Hospital Discharge Date minus ED/Hospital Arrival Date cannot be greater than 365 days
7712	2	If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Date must be NA (BIU = 1)
7713	2	If ED Discharge Disposition = 5 (Died) then Hospital Discharge Date should be NA (BIU=1)

## HOSPITAL DISCHARGE TIME

### Definition

The time the patient was discharged from the hospital.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- Used to auto-generate an additional calculated field: Total Length of Hospital Stay (elapsed time from ED/hospital arrival to hospital discharge).
- The null value "Not Applicable" is used if ED Discharge Disposition = 5 (Died).
- The null value "Not Applicable" is used if If ED Discharge Disposition = 4,6,9,10, or 11.

### Data Source Hierarchy

1. Hospital Record
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Physician Discharge Summary

### Associated Edit Checks

Rule ID	Level	Message
7801	1	Invalid value
7802	1	Time out of range
7803	4	Blank, required field
7804	4	If Hospital Discharge Date and EMS Dispatch Date are the same, the Hospital Discharge Time cannot be earlier than the EMS Dispatch Time
7805	4	If Hospital Discharge Date and EMS Unit Arrival on Scene Date are the same, the Hospital Discharge Time cannot be earlier than the EMS Unit Arrival on Scene Time
7806	4	If Hospital Discharge Date and EMS Unit Scene Departure Date are the same, the Hospital Discharge Time cannot be earlier than the EMS Unit Scene Departure Time
7807	4	If Hospital Discharge Date and ED/Hospital Arrival Date are the same, the Hospital Discharge Time cannot be earlier than the ED/Hospital Arrival Time
7808	4	If Hospital Discharge Date and ED Discharge Date are the same, the Hospital Discharge Time cannot be earlier than the ED Discharge Time
7809	2	If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Time must be NA (BIU = 1)
7810	2	If ED Discharge Disposition = 5 (Died) then Hospital Discharge Time should be NA (BIU=1)

## HOSPITAL DISCHARGE DISPOSITION

### Definition

The disposition of the patient when discharged from the hospital.

### Field Values

1. Discharged/Transferred to a short-term general hospital for inpatient care	8. Discharged/ Transferred to hospice care
2. Discharged/Transferred to an Intermediate Care Facility (ICF)	9. <del>RETIRED 2014 Discharged/Transferred to another type of rehabilitation or long term care facility</del>
3. Discharge/Transferred to home under care of organized home health service	10. Discharged/Transferred to court/law enforcement.
4. Left against medical advice or discontinued care	11. Discharged/Transferred to inpatient rehab or designated unit
5. Expired	12. Discharged/Transferred to Long Term Care Hospital (LTCH)
6. Discharged home with no home services	13. Discharged/Transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital
7. Discharged/Transferred to Skilled Nursing Facility (SNF)	14. Discharged/Transferred to another type of institution not defined elsewhere

### Additional Information

- Field value = 6, "home" refers to the patient's current place of residence (e.g., prison, Child Protective Services etc.)
- Field values based upon UB-04 disposition coding.
- Disposition to any other non-medical facility should be coded as 6.
- Disposition to any other medical facility should be coded as 14.
- The null value "Not Applicable" is used if ED Discharge Disposition = 5 (Died).
- The null value "Not Applicable" is used if If ED Discharge Disposition = 4,6,9,10, or 11.

### Data Source Hierarchy

1. Hospital Discharge Summary Sheet
2. Nurses' notes
3. Case Manager / Social Services' Notes

### Associated Edit Checks

Rule ID	Level	Message
7901	1	Invalid value
7902	2	Blank, required field
7903	2	If ED Discharge Disposition = 5 (Died) then Hospital Discharge Disposition should be NA (BIU=1)

- 7906 2 If ED Discharge Disposition = 1,2,3,7, or 8 then Hospital Discharge Disposition cannot be blank
- 7907 2 If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Disposition must be NA (BIU = 1)
- 7908 2 Not Applicable, required Inclusion Criterion
- 7909 2 If Hospital Arrival Date and Hospital Discharge Date are valued, the Hospital Discharge Disposition cannot be Not Known/Not Recorded

## Financial Information

## PRIMARY METHOD OF PAYMENT

### Definition

Primary source of payment for hospital care.

### Field Values

- |                                 |                           |
|---------------------------------|---------------------------|
| 1. Medicaid                     | 6. Medicare               |
| 2. Not Billed (for any reason)  | 7. Other Government       |
| 3. Self Pay                     | 8. Workers Compensation   |
| 4. Private/Commercial Insurance | 9. Blue Cross/Blue Shield |
| 5. No Fault Automobile          | 10. Other                 |

### Additional Information

### Data Source Hierarchy

1. Billing Sheet / Medical Records Coding Summary Sheet
2. Hospital Admission Form

### Associated Edit Checks

Rule ID	Level	Message
8001	1	Invalid value
8002	4	Blank, required field

## Quality Assurance Information

## HOSPITAL COMPLICATIONS

### Definition

Any medical complication that occurred during the patient's stay at your hospital.

### Field Values

- |   |  |
|---|--|
| 1. Other  | 17. <del>RETIRE</del> 2011 Intracranial pressure |
| 2. <del>RETIRE</del> 2011 Abdominal compartment syndrome            | 18. Myocardial infarction                        |
| 3. <del>RETIRE</del> 2011 Abdominal fascia left open                | 19. Organ/space surgical site infection          |
| 4. Acute kidney injury  | 20. Pneumonia                                    |
| 5. Acute lung injury/Acute respiratory distress syndrome (ARDS)     | 21. Pulmonary embolism                           |
| 6. <del>RETIRE</del> 2011 Base deficit                              | 22. Stroke / CVA                                 |
| 7. <del>RETIRE</del> 2011 Bleeding                                  | 23. Superficial surgical site infection          |
| 8. Cardiac arrest with resuscitative efforts by healthcare provider | 24. <del>RETIRE</del> 2011 Systemic sepsis       |
| 9. <del>RETIRE</del> 2011 Coagulopathy                              | 25. Unplanned intubation                         |
| 10. <del>RETIRE</del> 2011 Coma                                     | 26. <del>RETIRE</del> 2011 Wound disruption      |
| 11. Decubitus ulcer   | 27. Urinary tract infection                      |
| 12. Deep surgical site infection                                    | 28. Catheter-related blood stream infection      |
| 13. Drug or alcohol withdrawal syndrome                             | 29. Osteomyelitis                                |
| 14. Deep Vein Thrombosis (DVT) / thrombophlebitis                   | 30. Unplanned return to the OR                   |
| 15. Extremity compartment syndrome                                  | 31. Unplanned return to the ICU                  |
| 16. Graft/prosthesis/flap failure                                   | 32. Severe sepsis                                |

### Additional Information

- The null value "Not Applicable" should be used for patients with no complications.
- Refer to Appendix 3: Glossary of Terms for definitions of Complications.
- Check all that apply.

### Data Source Hierarchy

1. Discharge Sheet
2. History and Physical
3. Billing Sheet

### Associated Edit Checks

Rule ID	Level	Message
8101	1	Invalid value
8102	2	Blank, required field

## **TRAUMA QUALITY IMPROVEMENT PROGRAM**

### **Measures for Processes of Care**

\*\*The fields in this section should be collected and transmitted by TQIP participating centers only. Please contact us at [tqip@facs.org](mailto:tqip@facs.org) for information about joining TQIP.\*\*

## HIGHEST GCS TOTAL

Collection Criterion: Collect on patients with at least one injury in AIS head region

### Definition

Highest total GCS within 24 hours of ED/Hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to highest total GCS within 24 hours after ED Hospital/Arrival to index hospital, where index hospital is the hospital abstracting the data.
- Requires review of all data sources to obtain the highest GCS total. In many cases, the highest GCS may occur after ED discharge.
- If patient is intubated then the GCS Verbal score is equal to 1.
- Best obtained when sedatives or paralytics are withheld as part of sedation holiday.
- If a patient does not have a numeric GCS recorded, but there is documentation related to their level of consciousness such as "AAOx3," "awake alert and oriented," or "patient with normal mental status," interpret this as GCS of 15 IF there is no other contradicting documentation.
- The null value "Not Applicable" is used for patients that do not meet collection criteria.

### Data Source Hierarchy

1. Physician (NS) notes
2. Nursing Unit / ICU Flow Sheet
3. Trauma Flow Sheet

### Associated Edit Checks

Rule ID	Level	Message
10001	1	Invalid, out of range
10002	2	Blank, required field
10003	2	Highest GCS Total cannot be less than GCS Motor Component of Highest GCS Total

## HIGHEST GCS MOTOR

Collection Criterion: Collect on patients with at least one injury in AIS head region

### Definition

Highest motor GCS within 24 hours of ED/Hospital arrival.

### Field Values

#### Pediatric ( $\leq 2$ years):

- |                      |  |
|----------------------|--|
| 1. No motor response | 4. Withdrawal from pain                |
| 2. Extension to pain | 5. Localizing pain                     |
| 3. Flexion to pain   | 6. Appropriate response to stimulation |

#### Adult

- |                      |                         |
|----------------------|-------------------------|
| 1. No motor response | 4. Withdrawal from pain |
| 2. Extension to pain | 5. Localizing pain      |
| 3. Flexion to pain   | 6. Obeys commands       |

### Additional Information

- Refers to highest GCS motor score within 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Requires review of all data sources to obtain the highest GCS motor score. In many cases, the highest GCS motor score might occur after ED discharge.
- Best obtained when sedatives or paralytics are withheld as part of sedation holiday.
- If a patient does not have a numeric GCS score recorded, but written documentation closely (or directly) relates to verbiage describing a specific level of functioning within the GCS scale, the appropriate numeric score may be listed. E.g. the chart indicates: "patient withdraws from a painful stimulus," a Motor GCS of 4 may be recorded, IF there is no other contradicting documentation.

### Data Source Hierarchy

1. Physician (NS) notes
2. Nursing Unit / ICU Flow Sheet
3. Trauma Flow Sheet

### Associated Edit Checks

Rule ID	Level	Message
10101	1	Invalid value
10102	2	Blank, required field

## GCS ASSESSMENT QUALIFIER COMPONENT OF HIGHEST GCS TOTAL

Collection Criterion: Collect on patients with at least one injury in AIS head region

### Definition

Documentation of factors potentially affecting the highest GCS within 24 hours of ED/hospital arrival.

### Field Values

- |  |   |
|--|---|
| 1. Patient chemically sedated or paralyzed | 3. Patient intubated  |
| 2. Obstruction to the patient's eye        | 4. Valid GCS: patient was not sedated, not intubated, and did not have obstruction to the eye |

### Additional Information

- Refers to highest GCS assessment qualifier score after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Requires review of all data sources to obtain the highest GCS motor score which might occur after the ED phase of care.
- Identifies medical treatments given to the patient that may affect the best assessment of GCS. This field does not apply to self-medication the patient may have administered (i.e. ETOH, prescriptions, etc.).
- Must be the assessment qualifier for the Highest GCS Total.
- If an intubated patient has recently received an agent that results in neuromuscular blockade such that a motor or eye response is not possible, then the patient should be considered to have an exam that is not reflective of their neurologic status and the chemical sedation modifier should be selected.
- Neuromuscular blockade is typically induced following the administration of agent like succinylcholine, mivacurium, rocuronium, (cis)atracurium, vecuronium, or pancuronium. While these are the most common agents, please review what might be typically used in your center so it can be identified in the medical record.
- Each of these agents has a slightly different duration of action, so their effect on the GCS depends on when they were given. For example, succinylcholine's effects last for only 5-10minutes.
- Check all that apply.

### Data Source Hierarchy

1. Trauma Flow Sheet
2. Nursing Unit / ICU Flow Sheet
3. Physician / Progress Notes

### Associated Edit Checks

Rule ID	Level	Message
10201	1	Invalid value
10202	2	Blank, required field

## CEREBRAL MONITOR

Collection Criterion: Collect on patients with at least one injury in AIS head region

### Definition

Indicate all cerebral monitors that were placed, including any of the following: ventriculostomy, subarachnoid bolt, camino bolt, external ventricular drain (EVD), licox monitor, jugular venous bulb.

### Field Values

1. Intraventricular drain/catheter (e.g. ventriculostomy, external ventricular drain)
2. Intraparenchymal pressure monitor (e.g. Camino bolt, subarachnoid bolt, intraparenchymal catheter)
3. Intraparenchymal oxygen monitor (e.g. Licox)
4. Jugular venous bulb

### Additional Information

- Refers to insertion of an intracranial pressure (ICP) monitor (or other measures of cerebral perfusion) for the purposes of managing severe TBI.
- The null value "Not Applicable" is used if the patient did not have a cerebral monitor.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Check all that apply.

### Data Source Hierarchy

1. Procedure note
2. Nursing Unit Flow Sheet
3. Operative Note
4. Physician / Progress notes
5. Anesthesia Record

### Associated Edit Checks

Rule ID	Level	Message
10301	1	Invalid value
10302	2	Blank, required field

## CEREBRAL MONITOR DATE

### Definition

Date of first cerebral monitor placement.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- The null value "Not Applicable" is used if the patient did not have a cerebral monitor.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Procedure note
2. Anesthesia record
3. Nursing unit Flow sheet
4. Operation Note
5. Physician / Progress note

### Associated Edit Checks

Rule ID	Level	Message
10401	1	Invalid value
10402	2	Blank, required field
10403	1	Date out of range
10404	2	If Cerebral Monitor is complete, Cerebral Monitor Date cannot be blank or NA
10405	3	If Cerebral Monitor is complete, Cerebral Monitor Date cannot be Not Known/Not Recorded
10407	4	Cerebral Monitor Date cannot be earlier than ED/Hospital Arrival
10408	4	Cerebral Monitor Date cannot be later than Hospital Discharge Date
10409	2	If Cerebral Monitor is NA, then Cerebral Monitor Date should be NA.

## CEREBRAL MONITOR TIME

Collection Criterion: Collect on patients with at least one injury in AIS head region

### Definition

Time of first cerebral monitor placement.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- The null value "Not Applicable" is used if the patient did not have a cerebral monitor.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Procedure note
2. Anesthesia record
3. Nursing unit Flow sheet
4. Operation Note
5. Physician / Progress note

### Associated Edit Checks

Rule ID	Level	Message
10501	1	Invalid value
10502	1	Time out of range
10503	2	Blank, required field
10504	2	If Cerebral Monitor is complete, Cerebral Monitor Time cannot be blank or NA
10505	3	If Cerebral Monitor is complete, Cerebral Monitor Time cannot be Not Known/Not Recorded
10506	4	If ED/Hospital Arrival Date and Cerebral Monitor Date are the same then Cerebral Monitor Time cannot be earlier than ED/Hospital Arrival Time
10507	4	If Hospital Discharge Date and Cerebral Monitor Date are the same then Cerebral Monitor Time cannot be later than Hospital Discharge Time
10508	2	If Cerebral Monitor is NA, then Cerebral Monitor Time should be NA.

**VENOUS THROMBOEMBOLISM PROPHYLAXIS TYPE**

Collection Criterion: Collect on all patients

**Definition**

Type of first dose of VTE prophylaxis administered to patient.

**Field Values**

- |  |   |
|--|---|
| 1. Heparin   | 6. LMWH (Dalteparin, Enoxaparin, etc.)          |
| 2. <del>RETIRED 2013 Lovenox (Enoxaparin)</del>  | 7. Direct Thrombin Inhibitor (Dabigatran, etc.) |
| 3. <del>RETIRED 2013 Fragmin (Dalteparin)</del>  | 8. Oral Xa Inhibitor (Rivaroxaban, etc.)        |
| 4. <del>RETIRED 2013 Other low molecular weight heparins (including but not limited to Tinzaparin (Innohep, Logiparin); Nadroparin (Fraxiparin).</del> | 9. Coumadin                                     |
| 5. None  | 10. Other                                       |

**Additional Information****Data Source Hierarchy**

1. Pharmacy Record
2. Charted Medications

**Associated Edit Checks**

Rule ID	Level	Message
10601	1	Invalid value
10602	2	Blank, required field
10603	2	Field cannot be Not Applicable

## VENOUS THROMBOEMBOLISM PROPHYLAXIS DATE

Collection Criterion: Collect on all patients

### Definition

Date of administration to patient of first prophylactic dose of heparin or other anticoagulants.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- Refers to date upon which patient first received the prophylactic agent indicated in VTE Prophylaxis Type field.
- The null value "Not Applicable" is used if VENOUS THROMBOEMBOLISM PROPHYLAXIS TYPE = "5 None".

### Data Source Hierarchy

1. Pharmacy Record
2. Charted Medications

### Associated Edit Checks

Rule ID	Level	Message
10701	1	Invalid value
10702	1	Date out of range
10703	2	Blank, required field
10704	2	If VTE Prophylaxis is valued, then VTE Prophylaxis Date cannot be blank
10705	2	If VTE Prophylaxis is valued and not 'None', then VTE Prophylaxis Date cannot be NA
10706	4	VTE Prophylaxis Date cannot be earlier than ED/Hospital Arrival Date
10707	4	VTE Prophylaxis Date cannot be later than Hospital Discharge Date
10708	2	If VTE Prophylaxis is 'None', then VTE Prophylaxis Date should be NA

## VENOUS THROMBOEMBOLISM PROPHYLAXIS TIME

Collection Criterion: Collect on all patients

### Definition

Time of administration to patient of first prophylactic dose of heparin or other anticoagulants.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- Refers to time at which patient first received the prophylactic agent indicated in VTE TYPE field.
- The null value "Not Applicable" is used if VENOUS THROMBOEMBOLISM PROPHYLAXIS TYPE = "5 None".

### Data Source Hierarchy

1. Pharmacy Record
2. Charted Medications

### Associated Edit Checks

Rule ID	Level	Message
10801	1	Invalid value
10802	1	Time out of range
10803	2	Blank, required field
10804	2	If VTE Prophylaxis is valued, then VTE Prophylaxis Time cannot be blank
10805	2	If VTE Prophylaxis is valued and not 'None', then VTE Prophylaxis Time cannot be NA
10806	4	If ED Hospital/Arrival Date and VTE Prophylaxis Date are the same, VTE Prophylaxis Time cannot be earlier than ED/Hospital Arrival Time
10807	4	If Hospital Discharge Date and VTE Prophylaxis Date are the same, VTE Prophylaxis Time cannot be later than Hospital Discharge Time
10808	2	If VTE Prophylaxis is 'None', then VTE Prophylaxis Time should be NA

## TRANSFUSION BLOOD (4 HOURS)

Collection Criterion: Collect on all patients

### Definition

Volume of packed red blood cells transfused (units or CCs) within first 4 hours after ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to amount of transfused packed red blood cells (units or CCs) within first 4 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- If no blood given, then volume should be 0 (zero).
- Must also complete the fields Transfusion Blood Measurement and Transfusion Blood Conversion

### Data Source Hierarchy

1. ED flow sheet
2. Nursing unit sheet
3. Anesthesia records
4. Transfusion records

### Associated Edit Checks

Rule ID	Level	Message
11001	1	Invalid value
11002	2	Blank, required field
11003	2	Not Applicable, required field
11004	3	Invalid, out of range

## TRANSFUSION BLOOD (24 HOURS)

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Volume of packed red blood cell transfusion (units or CCs) within first 24 hours after ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to amount of transfused packed red blood cells (units or CCs) within first 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used if no blood was given
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Must also complete the fields Transfusion Blood Measurement and Transfusion Blood Conversion.

### Data Source Hierarchy

1. ED flow sheet
2. Nursing unit sheet
3. Anesthesia records
4. Transfusion records

### Associated Edit Checks

Rule ID	Level	Message
11401	1	Invalid value
11402	2	Blank, required field
11404	3	Invalid, out of range

## TRANSFUSION BLOOD MEASUREMENT

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

The measurement used to document the patient's blood transfusion (Units, CCs [MLs]).

### Field Values

1. Units

2. CCs (MLs)

### Additional Information

- Complete if fields Transfusion Blood (4 Hours) or Transfusion Blood (24 Hours) are valued.
- Must also complete field Transfusion Blood Conversion.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Blood Bank Records

### Associated Edit Checks

Rule ID	Level	Message
12801	1	Invalid value
12802	3	Field cannot be blank when Transfusion Blood (4 Hours) or Transfusion Blood (24 Hours) is valued.

## TRANSFUSION BLOOD CONVERSION

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

The quantity of CCs [MLs] constituting a 'unit' for blood transfusions at your hospital.

### Field Values

- Relevant value for data element

### Additional Information

- Complete if fields Transfusion Blood (4 Hours) or Transfusion Blood (24 Hours) are valued.
- Must also complete field Transfusion Blood Measurement.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Blood Bank Records

### Associated Edit Checks

Rule ID	Level	Message
12901	1	Invalid value
12902	3	Invalid, out of range
12903	3	Field cannot be blank when Transfusion Blood Measurement is valued.

## TRANSFUSION PLASMA (4 HOURS)

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Volume of fresh frozen or thawed plasma (units or CCs) transfused within first 4 hours after ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to amount of transfused fresh frozen or thawed plasma (units or CCs) within first 4 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Must also complete the fields Transfusion Plasma Measurement and Transfusion Plasma Conversion.

### Data Source Hierarchy

1. ED flow sheet
2. Nursing unit sheet
3. Anesthesia records
4. Transfusion records

### Associated Edit Checks

Rule ID	Level	Message
11101	1	Invalid value
11102	2	Blank, required field
11104	3	Invalid, out of range

## TRANSFUSION PLASMA (24 HOURS)

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Volume of fresh frozen or thawed plasma (units or CCs) transfused within first 24 hours after ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to amount of transfused fresh frozen or thawed plasma (units or CCs) within first 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Must also complete the fields Transfusion Plasma Measurement and Transfusion Plasma Conversion.

### Data Source Hierarchy

1. ED flow sheet
2. Nursing unit sheet
3. Anesthesia records
4. Transfusion records

### Associated Edit Checks

Rule ID	Level	Message
11501	1	Invalid value
11502	2	Blank, required field
11504	3	Invalid, out of range

## TRANSFUSION PLASMA MEASUREMENT

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

The measurement used to document the patient's plasma transfusion (Units, CCs [MLs]).

### Field Values

1. Units

2. CCs (MLs)

### Additional Information

- Complete if fields Transfusion Plasma (4 Hours) or Transfusion Plasma (24 Hours) are valued.
- Must also complete field Transfusion Plasma Conversion.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Blood Bank Records

### Associated Edit Checks

Rule ID	Level	Message
13001	1	Invalid value
13002	3	Field cannot be blank when Transfusion Plasma (4 Hours) or Transfusion Plasma (24 Hours) is valued.

## TRANSFUSION PLASMA CONVERSION

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

The quantity of CCs [MLs] constituting a 'unit' for plasma transfusions at your hospital.

### Field Values

- Relevant value for data element

### Additional Information

- Complete if fields Transfusion Plasma (4 Hours) or Transfusion Plasma (24 Hours) are valued.
- Must also complete field Transfusion Plasma Measurement.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Blood Bank Records

### Associated Edit Checks

Rule ID	Level	Message
13101	1	Invalid value
13102	3	Invalid, out of range
13103	3	Field cannot be blank when Transfusion Plasma Measurement is valued.

## TRANSFUSION PLATELETS (4 HOURS)

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Volume of platelets (units or CCs) transfused within first 4 hours after ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to amount of transfused platelets (units or CCs) within first 4 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Must also complete the fields Transfusion Platelets Measurement and Transfusion Platelets Conversion.

### Data Source Hierarchy

1. ED flow sheet
2. Nursing unit sheet
3. Anesthesia records
4. Transfusion records

### Associated Edit Checks

Rule ID	Level	Message
11201	1	Invalid value
11202	2	Blank, required field
11204	3	Invalid, out of range

## TRANSFUSION PLATELETS (24 HOURS)

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Volume of platelets (units or CCs) transfused within first 24 hours after ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to amount of transfused platelets (units or CCs) within first 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Must also complete the fields Transfusion Platelets Measurement and Transfusion Platelets Conversion.

### Data Source Hierarchy

1. ED flow sheet
2. Nursing unit sheet
3. Anesthesia records
4. Transfusion records

### Associated Edit Checks

Rule ID	Level	Message
11601	1	Invalid value
11602	2	Blank, required field
11604	3	Invalid, out of range

## TRANSFUSION PLATELETS MEASUREMENT

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

The measurement used to document the patient's platelets transfusion (Units, CCs [MLs]).

### Field Values

1. Units

2. CCs (MLs)

### Additional Information

- Complete if fields Transfusion Platelets (4 Hours) or Transfusion Platelets (24 Hours) are valued.
- Must also complete field Transfusion Platelets Conversion.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Blood Bank Records

### Associated Edit Checks

Rule ID	Level	Message
13201	1	Invalid value
13202	3	Field cannot be blank when Transfusion Platelets (4 Hours) or Transfusion Platelets (24 Hours) is valued.

## TRANSFUSION PLATELETS CONVERSION

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

The quantity of CCs [MLs] constituting a 'unit' for platelets transfusions at your hospital.

### Field Values

- Relevant value for data element

### Additional Information

- Complete if fields Transfusion Platelets (4 Hours) or Transfusion Platelets (24 Hours) are valued.
- Must also complete field Transfusion Platelets Measurement.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Blood Bank Records

### Associated Edit Checks

Rule ID	Level	Message
13301	1	Invalid value
13302	3	Invalid, out of range
13303	3	Field cannot be blank when Transfusion Platelets Measurement is valued.

**CRYOPRECIPITATE (4 HOURS)**

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

**Definition**

Volume of solution enriched with clotting factors transfused (units or CCs) within first 4 hours after ED/hospital arrival.

**Field Values**

- Relevant value for data element

**Additional Information**

- Refers to amount of transfused cryoprecipitate (units or CCs) within first 4 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Must also complete the fields Cryoprecipitate Measurement and Cryoprecipitate Conversion.

**Data Source Hierarchy**

1. ED flow sheet
2. Nursing unit sheet
3. Anesthesia records
4. Transfusion records

**Associated Edit Checks**

Rule ID	Level	Message
11301	1	Invalid value
11302	2	Blank, required field
11304	3	Invalid, out of range

## CRYOPRECIPITATE (24 HOURS)

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Volume of solution enriched with clotting factors transfused (units or CCs) within first 24 hours after ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to amount of transfused cryoprecipitate (units or CCs) within first 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Must also complete the fields Cryoprecipitate Measurement and Cryoprecipitate Conversion.

### Data Source Hierarchy

1. ED flow sheet
2. Nursing unit sheet
3. Anesthesia records
4. Transfusion records

### Associated Edit Checks

Rule ID	Level	Message
12701	1	Invalid value
12702	2	Blank, required field
12704	3	Invalid, out of range

## CRYOPRECIPITATE MEASUREMENT

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

The measurement used to document the patient's cryoprecipitate transfusion (Units, CCs [MLs]).

### Field Values

1. Units

2. CCs (MLs)

### Additional Information

- Complete if fields Cryoprecipitate (4 Hours) or Cryoprecipitate (24 Hours) are valued.
- Must also complete field Cryoprecipitate Conversion.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Blood Bank Records

### Associated Edit Checks

Rule ID	Level	Message
13401	1	Invalid value
13402	3	Field cannot be blank when Cryoprecipitate (4 Hours) or Cryoprecipitate (24 Hours) is valued.

## CRYOPRECIPITATE CONVERSION

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

The quantity of CCs [MLs] constituting a 'unit' for cryoprecipitate transfusions at your hospital.

### Field Values

- Relevant value for data element

### Additional Information

- Complete if fields Cryoprecipitate (4 Hours) or Cryoprecipitate (24 Hours) are valued.
- Must also complete field Cryoprecipitate Measurement.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Blood Bank Records

### Associated Edit Checks

Rule ID	Level	Message
13501	1	Invalid value
13502	3	Invalid, out of range
13503	3	Field cannot be blank when Transfusion Cryoprecipitate Measurement is valued.

## LOWEST ED/HOSPITAL SYSTOLIC BLOOD PRESSURE

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Lowest sustained (>5 min) systolic blood pressure measured within the first hour of ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Refers to lowest sustained (>5 min) SBP in the ED/hospital of the index hospital, where index hospital is the hospital abstracting the data.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Trauma Flow Sheet
2. Medical records

### Associated Edit Checks

Rule ID	Level	Message
10901	1	Invalid value
10902	2	Blank, required field
10903	2	Invalid, out of range

## ANGIOGRAPHY

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

First interventional angiogram with or without embolization within first 48 hours of ED/Hospital arrival.

### Field Values

1. None
2. Angiogram only
3. Angiogram with embolization

### Additional Information

- Limit collection of angiography data to first 48 hours following ED/hospital arrival.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Excludes CTA.

### Data Source Hierarchy

1. Procedure (radiology) notes
2. Trauma Flow Sheet
3. Nursing Unit Flow Sheet
4. Physician / Progress notes

### Associated Edit Checks

Rule ID	Level	Message
11701	1	Invalid value
11702	2	Blank, required field

## EMBOLIZATION SITE

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Organ / site of embolization for hemorrhage control.

### Field Values

- |                                       |  |
|---------------------------------------|--|
| 1. Liver                              | 5. Retroperitoneum (lumbar, sacral)        |
| 2. Spleen                             | 6. Peripheral vascular (neck, extremities) |
| 3. Kidneys                            | 7. Aorta (thoracic or abdominal)           |
| 4. Pelvic (iliac, gluteal, obturator) | 8. Other                                   |

### Additional Information

- The null value "Not Applicable" is used if the data field ANGIOGRAPHY = "1 None" or "2 Angiogram Only".
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- Check all that apply.

### Data Source Hierarchy

1. Procedure (radiology) notes
2. Nursing Unit / ICU Flow Sheet
3. Physician / Progress notes
4. Trauma Flow Sheet

### Associated Edit Checks

Rule ID	Level	Message
11801	1	Invalid value
11802	2	Blank, required field
11803	2	If Angiography is 'Angiogram with embolization', then Embolization site cannot be NA
11804	2	If Angiography is 'None' or 'Angiogram only', then Embolization site should be NA

## ANGIOGRAPHY DATE

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Date the first angiogram with or without embolization was performed.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- The null value "Not Applicable" is used if the data field ANGIOGRAPHY = "1 None".
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Radiology / Procedure notes
2. Nursing Unit / ICU flow sheets
3. Trauma Flow Sheet
4. Physician / Progress notes

### Associated Edit Checks

Rule ID	Level	Message
11901	1	Invalid value
11902	1	Date out of range
11903	2	If Angiography is valued, then Angiography Date cannot be Blank
11904	2	If Angiography is 'Angiogram only' or 'Angiogram with embolization', then Angiography Date cannot be NA
11905	2	If Angiography is 'None', then Angiography Date should be NA

## ANGIOGRAPHY TIME

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Time the first angiogram with or without embolization was performed.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- The null value "Not Applicable" is used if the data field ANGIOGRAPHY = "1 None".
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. Radiology / Procedure notes
2. Nursing Unit / ICU Flow sheet
3. Trauma Flow Sheet
4. Physician / Progress notes

### Associated Edit Checks

Rule ID	Level	Message
12001	1	Invalid value
12002	1	Time out of range
12003	2	If Angiography is valued, then Angiography Time cannot be Blank
12004	2	If Angiography is 'Angiogram only' or 'Angiogram with embolization', then Angiography Time cannot be NA
12005	2	If Angiography is 'None', then Angiography Time should be NA

## SURGERY FOR HEMORRHAGE CONTROL TYPE

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

First type of surgery for hemorrhage control within the first 24 hours of ED/hospital arrival.

### Field Values

- |                |   |
|----------------|---|
| 1. None        | 5. Extremity (peripheral vascular)        |
| 2. Laparotomy  | 6. Neck                                   |
| 3. Thoracotomy | 7. Mangled extremity/traumatic amputation |
| 4. Sternotomy  |   |

### Additional Information

- If unclear if surgery was for hemorrhage control, then consult TMD or operating/consulting/relevant surgeon.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

### Data Source Hierarchy

1. OR records
2. Anesthesia records
3. Procedures notes
4. Physician / Progress notes
5. Nursing records

### Associated Edit Checks

Rule ID	Level	Message
12101	1	Invalid value
12102	2	Blank, required field

## SURGERY FOR HEMORRHAGE CONTROL DATE

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Date of first surgery for hemorrhage control within first 24 hours of ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- If unclear if surgery was for hemorrhage control, then consult TMD or operating/consulting/relevant surgeon.
- The null value "Not Applicable" is used if the data field SURGERY FOR HEMORRHAGE CONTROL TYPE = "1 None".
- The null value "Not Applicable" is used for patients that do not meet the collection criteria.

### Data Source Hierarchy

1. OR records
2. Anesthesia records
3. Procedures notes
4. Physician / Progress notes
5. Nursing records

### Associated Edit Checks

Rule ID	Level	Message
12201	1	Invalid value
12202	1	Date out of range
12203	2	Surgery For Hemorrhage Control Date cannot be earlier than ED/Hospital Arrival Date
12204	2	Surgery For Hemorrhage Control Date cannot be later than Hospital Discharge Date
12205	2	If Hemorrhage Control Surgery Type is valued and not 'None', then Hemorrhage Control Surgery Date cannot be NA
12206	2	If Hemorrhage Control Surgery Type is 'None', then Hemorrhage Control Surgery Date should be NA

## SURGERY FOR HEMORRHAGE CONTROL TIME

Collection Criterion: Collect on all patients with transfused packed red blood cells within first 4 hours after ED/hospital arrival

### Definition

Time of first surgery for hemorrhage control within first 24 hours of ED/hospital arrival.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- If unclear if surgery was for hemorrhage control, then consult TMD or operating/consulting/relevant surgeon.
- The null value "Not Applicable" is used if the data field SURGERY FOR HEMORRHAGE CONTROL TYPE = "1 None".
- The null value "Not Applicable" is used for patients that do not meet the collection criteria.

### Data Source Hierarchy

1. OR records
2. Anesthesia records
3. Procedures notes
4. Physician / Progress notes
5. Nursing records

### Associated Edit Checks

Rule ID	Level	Message
12301	1	Invalid value
12302	1	Time out of range
12303	2	If Surgery For Hemorrhage Control Date and ED/Hospital Arrival Date are the same, the Surgery For Hemorrhage Control Time cannot be earlier than the ED/Hospital Arrival Time
12304	2	If Surgery For Hemorrhage Control Date and Hospital Discharge Date are the same, the Surgery For Hemorrhage Control Time cannot be later than the Hospital Discharge Time
12305	2	If Hemorrhage Control Surgery Type is valued and not 'None', then Hemorrhage Control Surgery Time cannot be NA
12306	2	If Hemorrhage Control Surgery Type is 'None', then Hemorrhage Control Surgery Time should be NA

## WITHDRAWAL OF CARE

Collection Criterion: Collect on all patients

### Definition

Care was withdrawn based on a decision to either remove or withhold further life sustaining intervention. This decision must be documented in the medical record and is often, but not always associated with a discussion with the legal next of kin.

### Field Values

1. Yes 2. No

### Additional Information

- DNR not a requirement.
- A note to limit escalation of care qualifies as a withdrawal of care. These interventions are limited to: ventilator support (with or without extubation), dialysis or other forms of renal support, institution of medications to support blood pressure or cardiac function, or a specific surgical, interventional or radiological procedure (e.g. decompressive craniectomy, operation for hemorrhage control, angiography). Note that this definition provides equal weight to the withdrawal of an intervention already in place (e.g. extubation) and a decision not to proceed with a life-saving intervention (e.g. intubation).
- Excludes the discontinuation of CPR and typically involves prior planning.
- DNR order is not the same as withdrawal of care.

### Data Source Hierarchy

1. Hospital Discharge Summary Sheet
2. Nurses' Notes
3. Case Manager / Social Services' Notes

### Associated Edit Checks

Rule ID	Level	Message
12401	1	Invalid value
12402	2	Blank, required field
12403	2	Field cannot be Not Applicable

## WITHDRAWAL OF CARE DATE

Collection Criterion: Collect on all patients

### Definition

The date care was withdrawn.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as YYYY-MM-DD.
- The null value "Not Applicable" is used for patients where Withdrawal of Care is 'No'.
- Record the time the first of any existing life-sustaining intervention(s) is withdrawn (e.g. extubation). If no intervention(s) is in place, record the time the decision not to proceed with a life-saving intervention(s) occurs (e.g. intubation).

### Data Source Hierarchy

1. Hospital Record
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Physician Discharge Summary

### Associated Edit Checks

Rule ID	Level	Message
12501	1	Invalid value
12502	1	Date out of range
12503	2	Withdrawal of Care Date cannot be earlier than ED/Hospital Arrival Date
12504	2	Withdrawal of Care Date cannot be later than Hospital Discharge Date
12505	2	If Withdrawal of Care is 'Yes', then Withdrawal of Care Date cannot be NA
12506	2	If Withdrawal of Care is 'No', then Withdrawal of Care Date should be NA

## WITHDRAWAL OF CARE TIME

Collection Criterion: Collect on all patients

### Definition

The time care was withdrawn.

### Field Values

- Relevant value for data element

### Additional Information

- Collected as HH:MM military time.
- The null value "Not Applicable" is used for patients where Withdrawal of Care is 'No'.
- Record the time the first of any existing life-sustaining intervention(s) is withdrawn (e.g. extubation). If no intervention(s) is in place, record the time the decision not to proceed with a life-saving intervention(s) occurs (e.g. intubation).

### Data Source Hierarchy

1. Hospital Record
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Physician Discharge Summary

### Associated Edit Checks

Rule ID	Level	Message
12601	1	Invalid value
12602	1	Time out of range
12603	2	If Withdrawal of Care Date and ED/Hospital Arrival Date are the same, the Withdrawal of Care Time cannot be earlier than the ED/Hospital Arrival Time
12604	2	If Withdrawal of Care Date and Hospital Discharge Date are the same, the Withdrawal of Care Time cannot be later than the Hospital Discharge Time
12605	2	If Withdrawal of Care is 'Yes', then Withdrawal of Care Time cannot be NA
12606	2	If Withdrawal of Care is 'No', then Withdrawal of Care Time should be NA

### Appendix 1: Facility Dataset

Variables	Values
<b>Hospital Information</b>	
Facility Name	
Department Name	
Address	<i>Street; City; State; Country; ZIP</i>
Country Specification	<i>USA, Other</i>
Phone/Fax Number	<i>xxx-xxx-xxxx</i>
Phone Extension	<i>xxxx</i>
TQIP/NSP	<i>Yes/No</i>
Registry Type	<i>Hospital; Third Party; Both</i>
<b>Other Registries</b>	
Other Registries Submitted	<i>State; County; Regional; Other; None</i>
<b>Contacts</b>	
Primary Contact Name	
Primary Contact Title	
Primary Contact Email Address	
Primary Contact Country Specification	<i>USA; Other</i>
Primary Contact Address	<i>Street; City; State; Other (Province); Country; ZIP</i>
Primary Contact Phone	<i>xxx-xxx-xxxx; Extension</i>
Primary Contact Fax	<i>xxx-xxx-xxxx</i>
Trauma Program Manager/Coordinator Contact Name	
TPM/Coord. Contact Title	
TPM/Coord. Contact Email Address	
TPM/Coord. Contact Country Specification	<i>USA; Other</i>
TPM/Coord. Contact Address	<i>Street; City; State; Other (Province); Country; ZIP</i>
TPM/Coord. Contact Phone	<i>xxx-xxx-xxxx; Extension</i>
TPM/Coord. Contact Fax	<i>xxx-xxx-xxxx</i>
Trauma Medical Director Contact Name	
TMD Contact Title	
TMD Contact Email Address	
TMD Contact Country Specification	<i>USA; Other</i>
TMD Contact Address	<i>Street; City; State; Other (Province); Country; ZIP</i>
TMD Contact Phone	<i>xxx-xxx-xxxx; Extension</i>
TMD Contact Fax	<i>xxx-xxx-xxxx</i>
Other Contact Name	
Other Contact Title	
Other Contact Email Address	
Other Contact Country Specification	<i>USA; Other</i>
Other Contact Address	<i>Street; City; State; Other (Province); Country; ZIP</i>
Other Contact Phone	<i>xxx-xxx-xxxx; Extension</i>
Other Contact Fax	<i>xxx-xxx-xxxx</i>
<b>Facility Characteristics</b>	
ACS Verification Level	<i>I; II; III; IV; Not applicable – for review. To modify, contact ACS</i>
ACS Pediatric Verification Level	<i>I; II; Not applicable– for review. To modify, contact ACS</i>
State Designation/Accreditation	<i>I; II; III; IV; V; Other; Not applicable</i>
State Pediatric Designation/Accreditation	<i>I; II; III; IV; Other; Not applicable</i>
Other Non-US Designation/Accreditation	<i>Specify using provided text box</i>

Number of Beds (for)	<i>Adult; Pediatric; Burn; ICU for trauma patients; ICU for burn patients</i>
Hospital Teaching Status	<i>University; Community; Non-teaching</i>
Hospital Type	<i>For Profit; Non-profit</i>
Number of Staff	<i>Core Trauma Surgeons; Neurosurgeons, Orthopaedic Surgeons; Trauma Registrars/Data Abstractors (FTEs); Certified Registrars</i>
Comorbidity Recording	<i>Derived from ICD-9/ICD-10 coding; Chart abstraction by trauma registrar; Calculated by software registry program; Not Collected</i>
Complication Recording	<i>Derived from ICD-9/ICD-10 coding; Chart abstraction by trauma registrar; Calculated by software registry program; Not Collected</i>
Registry Software Type	<i>DI Collector; DI (ACS) NTRACS; Inspirionix Trauma Data Pro; DI (formerly Cales)Trauma!; Lancet / Trauma One; CDM Trauma Base; ImageTrend TraumaBridge; TriAnalytics Collector; Midas+; Hospital Mainframe; The San Diego Registry; Other</i>
Other Registry Software	<i>Specify using provided text box</i>
Trauma Registry Version Number	<i>Specify using provided text box</i>
<b>AIS Coding</b>	
AIS Coding (Please indicate the version of AIS you record in your registry (if applicable))	<i>AIS 80; AIS 85; AIS 90; AIS 95; AIS 98; AIS 05; Other; Not Applicable</i>
<b>Patient Inclusion/Exclusion Criteria</b>	
Length of Stay Included	<i>23 Hour Holds; &gt; = 24 hours; &gt; = 48 hours; &gt; = 72 hours; All Admissions</i>
Hip Fractures Included	<i>None; Patients &lt;=18 years; Patients &lt;=50 years; Patients &lt;=55 years; Patients &lt;=60 years; Patients &lt;=65 years; Patients &lt;=70 years; All</i>
DOA's In ED Included	<i>Yes/No</i>
Deaths after receiving any evaluation/treatment (including died in ED) Included	<i>Yes/No</i>
Transfers Into Your Facility Included	<i>All transfers; within 4 hours; within 8 hours; within 12 hours; within 24 hours; within 48 hours; within 72 hours; none</i>
Transfers Out of Your Facilities Included	<i>Yes/No</i>
AIS Code Inclusion Range	<i>All AIS codes included (none excluded); Range 1 (_ to _); Range 2 (_ to _); Range 3 (_ to _)</i>
AIS Code Exclusion Range	<i>Range 1 (_ to _); Range 2 (_ to _); Range 3 (_ to _)</i>
Do you have inclusion/exclusion criteria that are not fully described by your responses in this section?	<i>Yes/No</i>
ICD-9 Diagnosis Code Inclusion Range	<i>Same ICD-9 code ranges as NTDB criteria; Range 1 (_ to _); Range 2 (_ to _); ...; Range 10 (_ to _)</i>
ICD-9 Diagnosis Code Exclusion Range	<i>Same ICD-9 code ranges as NTDB criteria; Range 1 (_ to _); Range 2 (_ to _); ...; Range 10 (_ to _)</i>
ICD-10 Diagnosis Code Inclusion Range	<i>Same ICD-10 code ranges as NTDB criteria; Range 1 (_ to _); Range 2 (_ to _); ...; Range 10 (_ to _)</i>
ICD-10 Diagnosis Code Exclusion Range	<i>Same ICD-10 code ranges as NTDB criteria; Range 1 (_ to _); Range 2 (_ to _); ...; Range 10 (_ to _)</i>
<b>Pediatric Care</b>	
Are you associated with a pediatric hospital?	<i>Yes/No</i>
Do you have a pediatric ward?	<i>Yes/No</i>

Do you have a pediatric ICU?	Yes/No
Do you transfer the most severely injured children to other specialty centers?	Yes/No
If you transfer pediatric patients, how far is the closest verified pediatric trauma facility?	Yes/No
Do you have a separate ED staffed by Pediatric trained ED physicians?	Yes/No
How do you provide care to injured children?	<i>No Children (not applicable); Provide all acute care services; Shared role with another center</i>
What is the oldest age for pediatric patients in your facility?	<i>10, 11, 12, ..., 21, none</i>
<b>State/System Characteristics (Only for Third Parties)</b>	
<b>Lead Agencies and Funding</b>	
Does the lead agency for trauma in your state have authority to designate trauma centers?	Yes/No
<b>Prehospital Care</b>	
Do you have statewide EMS field triage criteria?	<i>No; Yes, we have implemented the <u>CDC/ACS</u> criteria; Yes, we use a modified version of the CDC/ACS criteria; Yes, we have implemented criteria that are largely different from the CDC/ACS's;</i>
Do you have statewide inter-facility transfer criteria?	Yes/No
<b>Definitive Care Facilities</b>	
Number of Adult Facilities Designated by State	<i>Level I, II, III, IV, V, Other</i>
Number of Adult Facilities Verified by ACS	<i>Level I, II, III</i>
Number of Pediatric Facilities Designated by State	<i>Level I; II; III; IV; V; Other</i>
Number of Pediatric Facilities Verified by ACS	<i>Level I; II</i>
Do you have a state trauma registry	Yes/No
Who contributes to state trauma registry?	<i>All hospitals; Trauma Centers only; Some other combination of hospitals</i>
If all hospitals, is reporting required by law?	Yes/No
If trauma centers only, is reporting required by law?	Yes/No
If some other combination, Is their participation voluntary?	Yes/No
<b>Performance Improvement</b>	
Do you have a system wide performance improvement program?	Yes/No
<b>Authorization</b>	
I hereby certify that the Facility information contained here is an accurate representation my Facility for this year's data submission:	
Name of user at the Facility who verified this information:	

## Appendix 2: Edit Checks for the National Trauma Data Standard Data Elements

The flags described in this Appendix are those that are produced by the Validator when an NTDS XML file is checked. Each rule ID is assigned a flag level 1 – 4. Level 1 and 2 flags must be resolved or the entire file cannot be submitted to NTDB. Level 3 and 4 flags serve as recommendations to check data elements associated with the flags. However, level 3 and 4 flags do not necessarily indicate that data are incorrect. Also listed in this appendix are level 5 flags. Level 5 flags are suggested “warnings” that software developers should consider incorporating into software to display during data entry.

The Flag Levels are defined as follows:

- **Level 1: Format / schema\*** – any element that does not conform to the “rules” of the XSD. That is, these are errors that arise from XML data that cannot be parsed or would otherwise not be legal XML. Some errors in this Level do not have a Rule ID – for example: illegal tag, commingling of null values and actual data, out of range errors, etc.
- **Level 2: Inclusion criteria and/or critical to analyses\*** – this level affects the fields needed to determine if the record meets the inclusion criteria for NTDB, or are required for critical analyses.
- **Level 3: Major logic** – data consistency checks related to variables commonly used for reporting. Examples include Arrival Date, E-code, etc.
- **Level 4: Minor logic** – data consistency checks (e.g. dates) and blank fields that are acceptable to create a “valid” XML record but may cause certain parts of the record to be excluded from analysis.
- **Level 5: Data Entry Flags** – Software developers are encouraged to incorporate these flags into software, to display during data entry.

### Important Notes:

- Any XML file submitted to NTDB that contains one or more Level 1 or 2 Flags will result in the entire file being rejected. These kinds of flags must be resolved before a submission will be accepted.
- *Facility ID, Patient ID and Last Modified Date/Time* are not described in the data dictionary and are only required in the XML file as control information for back-end NTDB processing. However, these fields are mandatory to provide in every XML record. Consult your Registry Vendor if one of these flags occurs.

## Demographic Information

### PATIENT'S HOME ZIP CODE

Rule ID	Level	Message
0001	1	Invalid value
0002	4	Blank, required field
0003	5	Not Applicable, complete variable: Alternate Home Residence
0005	5	Not Known/Not Recorded, complete variables: Patient's Home Country, Patient's Home State, Patient's Home County and Patient's Home City

### PATIENT'S HOME COUNTRY

Rule ID	Level	Message
0101	1	Invalid value
0102	4	Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded
0103	5	Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence

### PATIENT'S HOME STATE

Rule ID	Level	Message
0201	1	Invalid value
0202	4	Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded
0203	5	Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence

### PATIENT'S HOME COUNTY

Rule ID	Level	Message
0301	1	Invalid value
0302	4	Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded
0303	5	Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence

### PATIENT'S HOME CITY

Rule ID	Level	Message
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0401	1	Invalid value
0402	4	Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded
0403	5	Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence

#### ALTERNATE HOME RESIDENCE

Rule ID	Level	Message
0501	1	Invalid value
0502	4	Blank, required to complete when Patients Home Zip Code is Not Applicable
0503	5	Blank, required to complete variables: Patients Home Zip Code or (Patients Home Country, Patients Home State, Patients Home County and Patients Home City)

#### DATE OF BIRTH

Rule ID	Level	Message
0601	1	Invalid value
0602	1	Date out of range
0603	2	Blank, required field
0605	3	Not Known/Not Recorded, complete variables: Age and Age Units
0606	2	Date of Birth cannot be later than EMS Dispatch Date
0607	2	Date of Birth cannot be later than EMS Unit Arrival on Scene Date
0608	2	Date of Birth cannot be later than EMS Unit Scene Departure Date
0609	2	Date of Birth cannot be later than ED/Hospital Arrival Date
0610	2	Date of Birth cannot be later than ED Discharge Date
0611	2	Date of Birth cannot be later than Hospital Discharge Date
0612	2	Date of Birth + 120 years must be less than ED/Hospital Arrival Date
0613	2	Field cannot be Not Applicable

#### AGE

Rule ID	Level	Message
0701	1	Invalid value
0702	5	Blank, required to complete variable: Date of Birth
0703	2	Blank, required to complete when (1) Date of Birth equals ED/Hospital Arrival date or (2) Date of Birth is Not Known/Not Recorded
0704	3	Ed/Hospital Arrival Date minus Date of Birth must equal submitted Age.
0705	4	Age is > 110. Please verify this is correct.
0706	2	Field cannot be blank when Age Units is not: (1) blank, (2) Not Applicable, or (3)

		Not Known/Not Recorded
0707	2	Field cannot be Not Applicable when Age Units is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded
0708	2	Field cannot be Not Known/Not Recorded when Age Units is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded

#### AGE UNITS

Rule ID	Level	Message
0801	1	Invalid value
0802	5	Blank, required to complete variable: Date of Birth
0803	2	Blank, required to complete when (1) Date of Birth equals ED/Hospital Arrival date or (2) Date of Birth is Not Known/Not Recorded
0804	2	Field cannot be blank when Age is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded
0805	2	Field cannot be Not Applicable when Age is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded
0806	2	Field cannot be Not Known/Not Recorded when Age is not: (1) blank, (2) Not Applicable, or (3) Not Known/Not Recorded

#### RACE

Rule ID	Level	Message
0901	1	Invalid value
0902	4	Blank, required field

#### ETHNICITY

Rule ID	Level	Message
1001	1	Invalid value
1002	4	Blank, required field

#### SEX

Rule ID	Level	Message
1101	1	Invalid value
1102	2	Blank, required field
1103	2	Not Applicable, required Inclusion Criterion

## Injury Information

### INJURY INCIDENT DATE

Rule ID	Level	Message
1201	1	Invalid Value
1202	1	Date out of range
1203	4	Blank, required field
1204	4	Injury Incident Date cannot be earlier than Date of Birth
1205	4	Injury Incident Date cannot be later than EMS Dispatch Date
1206	4	Injury Incident Date cannot be later than EMS Unit Arrival on Scene Date
1207	4	Injury Incident Date cannot be later than EMS Unit Scene Departure Date
1208	4	Injury Incident Date cannot be later than ED/Hospital Arrival Date
1209	4	Injury Incident Date cannot be later than ED Discharge Date
1210	4	Injury Incident Date cannot be later than Hospital Discharge Date

### INJURY INCIDENT TIME

Rule ID	Level	Message
1301	1	Invalid value
1302	1	Time out of range
1303	4	Blank, required field
1304	4	If Injury Incident Date and EMS Dispatch Date are the same, the Injury Incident Time cannot be later than the EMS Dispatch Time
1305	4	If Injury Incident Date and EMS Unit Arrival on Scene Date are the same, the Injury Incident Time cannot be later than the EMS Unit Arrival on Scene Time
1306	4	If Injury Incident Date and EMS Unit Scene Departure Date are the same, the Injury Incident Time cannot be later than the EMS Unit Scene Departure Time
1307	4	If Injury Incident Date and ED/Hospital Arrival Date are the same, the Injury Incident Time cannot be later than the ED/Hospital Arrival Time
1308	4	If Injury Incident Date and ED Discharge Date are the same, the Injury Incident Time cannot be later than the ED Discharge Time
1309	4	If Injury Incident Date and Hospital Discharge Date are the same, the Injury Incident Time cannot be later than the Hospital Discharge Time

### WORK-RELATED

Rule ID	Level	Message
1401	1	Invalid value
1402	4	Blank, required field
1403	5	If completed, then Patients Occupational Industry must be completed

1404 5 If completed, then Patient Occupation must be completed

#### PATIENT'S OCCUPATIONAL INDUSTRY

Rule ID	Level	Message
1501	1	Invalid value
1502	4	If completed, then Work-Related must be 1 Yes
1503	5	If completed, then Patient Occupation must be completed
1504	4	Blank, required to complete when Work-Related is 1 (Yes)

#### PATIENT'S OCCUPATION

Rule ID	Level	Message
1601	1	Invalid value
1602	4	If completed, then Work-Related must be 1 Yes
1603	5	If completed, then Patients Occupational Industry must be completed
1604	4	Blank, required to complete when Work-Related is 1 (Yes)

#### ICD-9 PRIMARY EXTERNAL CAUSE CODE

Rule ID	Level	Message
1701	1	Invalid, out of range
1702	2	Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)
1703	4	External Cause Code should not be = (810.0, 811.0, 812.0, 813.0, 814.0, 815.0, 816.0, 817.0, 818.0, 819.0) and Age < 15
1704	2	Should not be 849.x
1705	3	External Cause Code should not be an activity code. Primary External Cause Code must be within the range of E800-999.9

#### ICD-10 PRIMARY EXTERNAL CAUSE CODE

Rule ID	Level	Message
8901	1	Invalid, out of range
8902	2	Blank, required field (at least one ICD-9 or ICD-10 trauma code must be entered)
8904	2	Should not be Y92.X/Y92.XX/Y92.XXX (where X is A-Z or 0-9)
8905	3	ICD-10 External Cause Code must not be Y93.X/Y93.XX (where X is A-Z or 0-9)

#### ICD-9 PLACE OF OCCURRENCE EXTERNAL CAUSE CODE

Rule ID	Level	Message
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1801	1	Invalid value
1802	4	Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)

#### ICD-10 PLACE OF OCCURRENCE EXTERNAL CAUSE CODE

Rule ID	Level	Message
9001	1	Invalid value
9002	4	Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)
9003	3	Place of Injury code must be Y92.X/Y92.XX/Y92.XXX (where X is A-Z [excluding I,O] or 0-9)

#### ICD-9 ADDITIONAL EXTERNAL CAUSE CODE

Rule ID	Level	Message
1901	1	Invalid, out of range
1902	4	If completed, Additional External Cause Code cannot be equal to Primary External Cause Code.

#### ICD-10 ADDITIONAL EXTERNAL CAUSE CODE

Rule ID	Level	Message
9101	1	Invalid, out of range
9102	4	If completed, Additional External Cause Code ICD-10 cannot be equal to Primary External Cause Code ICD-10

#### INCIDENT LOCATION ZIP CODE

Rule ID	Level	Message
2001	1	Invalid value
2002	4	Blank, required field
2004	5	Not Known/Not Recorded, complete variables: Incident State, Incident County and Incident City
2005	5	Not Applicable, complete variables: Incident State, Incident County and Incident City

#### INCIDENT COUNTRY

Rule ID	Level	Message
2101	1	Invalid value
2102	4	Blank, required to complete when Incident Location Zip Code is Not Applicable or

		Not Known/Not Recorded
2103	5	Blank, required to complete variable: Incident Location Zip Code

#### INCIDENT STATE

Rule ID	Level	Message
2201	1	Invalid value
2202	5	Blank, required to complete variable: Incident Location Zip Code
2203	4	Blank, required to complete when Incident Location Zip Code is Not Applicable or Not Known/Not Recorded

#### INCIDENT COUNTY

Rule ID	Level	Message
2301	1	Invalid value
2302	5	Blank, required to complete variable: Incident Location Zip Code
2303	4	Blank, required to complete when Incident Location Zip Code is Not Applicable or Not Known/Not Recorded

#### INCIDENT CITY

Rule ID	Level	Message
2401	1	Invalid value
2402	5	Blank, required to complete variable: Incident Location Zip Code
2403	4	Blank, required to complete when Incident Location Zip Code is Not Applicable or Not Known/Not Recorded

#### PROTECTIVE DEVICES

Rule ID	Level	Message
2501	1	Invalid value
2502	4	Blank, required field
2503	5	If Protective Device = 6 (Child Restraint) then Child Specific Restraint must be completed
2504	5	If Protective Device = 8 (Airbag Present) then Airbag Deployment must be completed

#### CHILD SPECIFIC RESTRAINT

Rule ID	Level	Message
2601	1	Invalid value
2602	3	If completed, then Protective Device must be 6 (Child Restraint).

2603 4 Blank, required to complete when Protective Device is 6 (Child Restraint)

#### AIRBAG DEPLOYMENT

Rule ID	Level	Message
2701	1	Invalid value
2702	3	If completed, then Protective Device must be 8 (Airbag Present).
2703	4	Blank, required to complete when Protective Device is 8 (Airbag Present)

#### REPORT OF PHYSICAL ABUSE

Rule ID	Level	Message
9201	1	Invalid value
9202	2	Field cannot be Not Applicable

#### INVESTIGATION OF PHYSICAL ABUSE

Rule ID	Level	Message
9301	1	Invalid value
9302	3	Field cannot be blank when Report of Physical Abuse = 1 (Yes)
9303	3	Field cannot be Not Applicable when Report of Physical Abuse = 1 (Yes)

#### CAREGIVER AT DISCHARGE

Rule ID	Level	Message
9401	1	Invalid value
9402	3	Field cannot be blank when Report of Physical Abuse = 1 (Yes)
9403	3	Field cannot be Not Applicable when Report of Physical Abuse = 1 (Yes)

### Pre-hospital Information

#### EMS DISPATCH DATE

Rule ID	Level	Message
2801	1	Invalid value
2802	1	Date out of range
2803	3	EMS Dispatch Date cannot be earlier than Date of Birth
2804	4	EMS Dispatch Date cannot be later than EMS Unit Arrival on Scene Date
2805	4	EMS Dispatch Date cannot be later than EMS Unit Scene Departure Date
2806	3	EMS Dispatch Date cannot be later than ED/Hospital Arrival Date
2807	4	EMS Dispatch Date cannot be later than ED Discharge Date

2808 3 EMS Dispatch Date cannot be later than Hospital Discharge Date

#### EMS DISPATCH TIME

Rule ID	Level	Message
2901	1	Invalid value
2902	1	Time out of range
2903	4	If EMS Dispatch Date and EMS Unit Arrival on Scene Date are the same, the EMS Dispatch Time cannot be later than the EMS Unit Arrival on Scene Time
2904	4	If EMS Dispatch Date and EMS Unit Scene Departure Date are the same, the EMS Dispatch Time cannot be later than the EMS Unit Scene Departure Time
2905	4	If EMS Dispatch Date and ED/Hospital Arrival Date are the same, the EMS Dispatch Time cannot be later than the ED/Hospital Arrival Time
2906	4	If EMS Dispatch Date and ED Discharge Date are the same, the EMS Dispatch Time cannot be later than the ED Discharge Time
2907	4	If EMS Dispatch Date and Hospital Discharge Date are the same, the EMS Dispatch Time cannot be later than the Hospital Discharge Time

#### EMS UNIT ARRIVAL DATE AT SCENE OR TRANSFERRING FACILITY

Rule ID	Level	Message
3001	1	Invalid value
3002	1	Date out of range
3003	3	EMS Unit Arrival on Scene Date cannot be earlier than Date of Birth
3004	4	EMS Unit Arrival on Scene Date cannot be earlier than EMS Dispatch Date
3005	4	EMS Unit Arrival on Scene Date cannot be later than EMS Unit Scene Departure Date
3006	3	EMS Unit Arrival on Scene Date cannot be later than ED/Hospital Arrival Date
3007	4	EMS Unit Arrival on Scene Date cannot be later than ED Discharge Date
3008	3	EMS Unit Arrival on Scene Date and cannot be later than Hospital Discharge Date
3009	3	EMS Unit Arrival on Scene Date minus EMS Dispatch Date cannot be greater than 7 days

#### EMS UNIT ARRIVAL TIME AT SCENE OR TRANSFERRING FACILITY

Rule ID	Level	Message
3101	1	Invalid value
3102	1	Time out of range
3103	4	If EMS Unit Arrival on Scene Date and EMS Dispatch Date are the same, the EMS Unit Arrival on Scene Time cannot be earlier than the EMS Dispatch Time
3104	4	If EMS Unit Arrival on Scene Date and EMS Unit Scene Departure Date are the

same, the EMS Unit Arrival on Scene Time cannot be later than the EMS Unit Scene Departure Time

- 3105 4 If EMS Unit Arrival on Scene Date and ED/Hospital Arrival Date are the same, the EMS Unit Arrival on Scene Time cannot be later than the ED/Hospital Arrival Time
- 3106 4 If EMS Unit Arrival on Scene Date and ED Discharge Date are the same, the EMS Unit Arrival on Scene Time cannot be later than the ED Discharge Time
- 3107 4 if EMS Unit Arrival on Scene Date and Hospital Discharge Date are the same, the EMS Unit Arrival on Scene Time cannot be later than the Hospital Discharge Time

#### EMS UNIT DEPARTURE DATE FROM SCENE OR TRANSFERRING FACILITY

Rule ID	Level	Message
3201	1	Invalid value
3202	1	Date out of range
3203	3	EMS Unit Scene Departure Date cannot be earlier than Date of Birth
3204	4	EMS Unit Scene Departure Date cannot be earlier than EMS Dispatch Date
3205	4	EMS Unit Scene Departure Date cannot be earlier than EMS Unit Arrival on Scene Date
3206	3	EMS Unit Scene Departure Date cannot be later than ED/Hospital Arrival Date
3207	4	EMS Unit Scene Departure Date cannot be later than ED Discharge Date
3208	3	EMS Unit Scene Departure Date cannot be later than Hospital Discharge Date
3209	3	EMS Unit Scene Departure Date minus EMS Unit Arrival on Scene Date cannot be greater than 7 days

#### EMS UNIT DEPARTURE TIME FROM SCENE OR TRANSFERRING FACILITY

Rule ID	Level	Message
3301	1	Invalid value
3302	1	Time out of range
3303	4	If EMS Unit Scene Departure Date and EMS Dispatch Date are the same, the EMS Unit Scene Departure Time cannot be earlier than the EMS Dispatch Time
3304	4	If EMS Unit Scene Departure Date and EMS Unit Arrival on Scene Date are the same, the EMS Unit Scene Departure Time cannot be earlier than the EMS Unit Arrival on Scene Time
3305	4	if EMS Unit Scene Departure Date and ED/Hospital Arrival Date are the same, the EMS Unit Scene Departure Time cannot be later than the ED/Hospital Arrival Time
3306	4	If EMS Unit Scene Departure Date and ED Discharge Date are the same, the EMS Unit Scene Departure Time cannot be later than the ED Discharge Time
3307	4	If EMS Unit Scene Departure Date and Hospital Discharge Date are the same, the EMS Unit Scene Departure Time cannot be later than the Hospital Discharge Time

## TRANSPORT MODE

Rule ID	Level	Message
3401	1	Invalid value
3402	4	Blank, required field
3403	4	If EMS response times are provided, Transport Mode cannot be 4 (Private/Public Vehicle/Walk-in)

## OTHER TRANSPORT MODE

Rule ID	Level	Message
3501	1	Invalid value
3502	4	Blank, required field

## INITIAL FIELD SYSTOLIC BLOOD PRESSURE

Rule ID	Level	Message
3601	1	Invalid value
3602	4	Blank, required field
3603	3	Invalid, out of range

## INITIAL FIELD PULSE RATE

Rule ID	Level	Message
3701	1	Invalid value
3702	4	Blank, required field
3703	3	Invalid, out of range

## INITIAL FIELD RESPIRATORY RATE

Rule ID	Level	Message
3801	1	Invalid value
3802	4	Blank, required field
3803	3	Invalid, out of range

## INITIAL FIELD OXYGEN SATURATION

Rule ID	Level	Message
3901	1	Invalid value
3902	4	Blank, required field

### INITIAL FIELD GCS - EYE

Rule ID	Level	Message
4001	1	Invalid value
4002	5	Blank, required to complete variable: Initial Field GCS -Total

### INITIAL FIELD GCS - VERBAL

Rule ID	Level	Message
4101	1	Invalid value
4102	5	Blank, required to complete variable: Initial Field GCS -Total

### INITIAL FIELD GCS - MOTOR

Rule ID	Level	Message
4201	1	Invalid value
4202	5	Blank, required to complete variable: Initial Field GCS -Total

### INITIAL FIELD GCS - TOTAL

Rule ID	Level	Message
4301	1	Invalid, out of range
4302	5	Blank, required to complete variables: Initial Field GCS -Eye, Initial Field GCS -Verbal, and Initial Field GCS -Motor
4303	4	Initial Field GCS -Total does not equal the sum of Initial Field GCS -Eye, Initial Field GCS -Verbal, and Initial Field GCS -Motor

### INTER-FACILITY TRANSFER

Rule ID	Level	Message
4401	2	Blank, required field
4402	1	Invalid value
4404	3	Not Known/Not Recorded, required Inclusion Criterion
4405	2	Not Applicable, required Inclusion Criterion

### TRAUMA CENTER CRITERIA

Rule ID	Level	Message
9501	1	Invalid value

### VEHICULAR, PEDESTRIAN, OTHER RISK INJURY

Rule ID	Level	Message
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9601 1 Invalid value

## Emergency Department Information

### ED/HOSPITAL ARRIVAL DATE

Rule ID	Level	Message
4501	1	Invalid value
4502	1	Date out of range
4503	2	Blank, required field
4505	2	Not Known/Not Recorded, required Inclusion Criterion
4506	3	ED/Hospital Arrival Date cannot be earlier than EMS Dispatch Date
4507	3	ED/Hospital Arrival Date cannot be earlier than EMS Unit Arrival on Scene Date
4508	3	ED/Hospital Arrival Date cannot be earlier than EMS Unit Scene Departure Date
4509	2	ED/Hospital Arrival Date cannot be later than ED Discharge Date
4510	2	ED/Hospital Arrival Date cannot be later than Hospital Discharge Date
4511	3	ED/Hospital Arrival Date cannot be earlier than Date of Birth
4512	3	Ed/Hospital Arrival Date must be after 1993
4513	3	Ed/Hospital Arrival Date minus Injury Incident Date must be less than 30 days
4514	3	ED/Hospital Arrival Date minus EMS Dispatch Date cannot be greater than 7 days
4515	2	Not Applicable, required Inclusion Criterion

### ED/HOSPITAL ARRIVAL TIME

Rule ID	Level	Message
4601	1	Invalid value
4602	1	Time out of range
4603	4	Blank, required field
4604	4	If ED/Hospital Arrival Date and EMS Dispatch Date are the same, the ED/Hospital Arrival Time cannot be earlier than the EMS Dispatch Time
4605	4	If ED/Hospital Arrival Date and EMS Unit Arrival on Scene Date are the same, the ED/Hospital Arrival Time cannot be earlier than the EMS Unit Arrival on Scene Time
4606	4	If ED/Hospital Arrival Date and EMS Unit Scene Departure Date are the same, the ED/Hospital Arrival Time cannot be earlier than the EMS Unit Scene Departure Time
4607	4	if ED/Hospital Arrival Date and ED Discharge Date are the same, the ED/Hospital Arrival Time cannot be later than the ED Discharge Time
4608	4	if ED/Hospital Arrival Date and Hospital Discharge Date are the same, the ED/Hospital Arrival Time cannot be later than the Hospital Discharge Time

#### INITIAL ED/HOSPITAL SYSTOLIC BLOOD PRESSURE

Rule ID	Level	Message
4701	1	Invalid value
4702	2	Blank, required field
4704	2	Invalid, out of range

#### INITIAL ED/HOSPITAL PULSE RATE

Rule ID	Level	Message
4801	1	Invalid value
4802	2	Blank, required field
4804	2	Invalid, out of range

#### INITIAL ED/HOSPITAL TEMPERATURE

Rule ID	Level	Message
4901	1	Invalid value
4902	4	Blank, required field
4903	3	Invalid, out of range

#### INITIAL ED/HOSPITAL RESPIRATORY RATE

Rule ID	Level	Message
5001	1	Invalid value
5002	2	Blank, required field
5004	5	If completed, then Initial Ed/Hospital Respiratory Assistance must be completed.
5005	2	Invalid, out of range

#### INITIAL ED/HOSPITAL RESPIRATORY ASSISTANCE

Rule ID	Level	Message
5101	1	Invalid value
5102	2	Blank, required field
5103	2	Blank, required to complete when Initial ED/Hospital Respiratory Rate is complete

#### INITIAL ED/HOSPITAL OXYGEN SATURATION

Rule ID	Level	Message
5201	1	Invalid value
5202	4	Blank, required field

5203 5 If completed, then Initial Ed/Hospital Supplemental Oxygen must be completed

#### INITIAL ED/HOSPITAL SUPPLEMENTAL OXYGEN

Rule ID	Level	Message
5301	1	Invalid value
5303	4	Blank, required to complete when Initial ED/Hospital Oxygen Saturation is complete

#### INITIAL ED/HOSPITAL GCS - EYE

Rule ID	Level	Message
5401	1	Invalid value
5402	5	Blank, required to complete variable: Initial ED/Hospital GCS -Total

#### INITIAL ED/HOSPITAL GCS - VERBAL

Rule ID	Level	Message
5501	1	Invalid value
5502	5	Blank, required to complete variable: Initial ED/Hospital GCS -Total

#### INITIAL ED/HOSPITAL GCS - MOTOR

Rule ID	Level	Message
5601	1	Invalid value
5602	5	Blank, required to complete variable: Initial ED/Hospital GCS -Total

#### INITIAL ED/HOSPITAL GCS - TOTAL

Rule ID	Level	Message
5701	1	Invalid, out of range
5702	5	Blank, required to complete if Initial ED/Hospital GCS -Eye, Initial ED/Hospital GCS -Verbal, and Initial ED/Hospital GCS -Motor are Not Applicable or Not Known/Not Recorded
5703	4	Initial ED/Hospital GCS -Total does not equal the sum of Initial ED/Hospital GCS -Eye, Initial ED/Hospital GCS -Verbal, and Initial ED/Hospital GCS -Motor
5704	4	ONE of the following: Initial ED/Hospital GCS -Eye, Initial ED/Hospital GCS -Verbal, or Initial ED/Hospital GCS -Motor is blank but Initial ED/Hospital GCS -Total is completed

#### INITIAL ED/HOSPITAL GCS ASSESSMENT QUALIFIERS

Rule ID	Level	Message
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5801	1	Invalid value
5802	2	Blank, required field

#### INITIAL ED/HOSPITAL HEIGHT

Rule ID	Level	Message
8501	1	Invalid value
8502	2	Blank, required field
8503	3	Invalid, out of range

#### INITIAL ED/HOSPITAL WEIGHT

Rule ID	Level	Message
8601	1	Invalid value
8602	2	Blank, required field
8603	3	Invalid, out of range

#### ALCOHOL USE INDICATOR

Rule ID	Level	Message
5901	1	Invalid value
5902	4	Blank, required field

#### DRUG USE INDICATOR

Rule ID	Level	Message
6001	1	Invalid value
6002	4	Blank, required field

#### ED DISCHARGE DISPOSITION

Rule ID	Level	Message
6101	1	Invalid value
6102	2	Blank, required field
6104	2	Not Known/Not Recorded, required Inclusion Criterion
6105	3	Not Applicable, required Inclusion Criterion

#### SIGNS OF LIFE

Rule ID	Level	Message
6201	1	Invalid value

6202	2	Blank, required field
6206	3	Not Known/Not Recorded, required Inclusion Criterion
6207	2	Field cannot be Not Applicable

#### ED DISCHARGE DATE

Rule ID	Level	Message
6301	1	Invalid value
6302	1	Date out of range
6303	4	Blank, required field
6304	4	ED Discharge Date cannot be earlier than EMS Dispatch Date
6305	4	ED Discharge Date cannot be earlier than EMS Unit Arrival on Scene Date
6306	4	ED Discharge Date cannot be earlier than EMS Unit Scene Departure Date
6307	2	ED Discharge Date cannot be earlier than ED/Hospital Arrival Date
6308	2	ED Discharge Date cannot be later than Hospital Discharge Date
6309	3	ED Discharge Date cannot be earlier than Date of Birth
6310	3	ED Discharge Date minus ED/Hospital Arrival Date cannot be greater than 365 days

#### ED DISCHARGE TIME

Rule ID	Level	Message
6401	1	Invalid value
6402	1	Time out of range
6403	4	Blank, required field
6404	4	If ED Discharge Date and EMS Dispatch Date are the same, the ED Discharge Time cannot be earlier than the EMS Dispatch Time
6405	4	If ED Discharge Date and EMS Unit Arrival on Scene Date are the same, the ED Discharge Time cannot be earlier than the EMS Unit Arrival on Scene Time
6406	4	If ED Discharge Date and EMS Unit Scene Departure Date are the same, the ED Discharge Time cannot be earlier than the EMS Unit Scene Departure Time
6407	4	If ED Discharge Date and ED/Hospital Arrival Date are the same, the ED Discharge Time cannot be earlier than the ED/Hospital Arrival Time
6408	4	If ED Discharge Date and Hospital Discharge Date are the same, the ED Discharge Time cannot be later than the Hospital Discharge Time

## Hospital Procedure Information

### ICD-9 HOSPITAL PROCEDURES

Rule ID	Level	Message
6501	1	Invalid value
6502	1	Procedures with the same code cannot have the same Hospital Procedure Start Date and Time.
6503	4	Blank, must either (1) contain a valid ICD-9 code or (2) be Not Known/Not Recorded if not coding ICD-9
6504	4	Not Applicable, must either (1) contain a valid ICD-9 code or (2) be Not Known/Not Recorded if not coding ICD-9

### ICD-10 HOSPITAL PROCEDURES

Rule ID	Level	Message
8801	1	Invalid value
8802	1	Procedures with the same code cannot have the same Hospital Procedure Start Date and Time
8803	4	Blank, must either (1) contain a valid ICD-10 code or (2) be Not Known/Not Recorded if not coding ICD-10
8804	4	Not Applicable, must either (1) contain a valid ICD-10 code or (2) be Not Known/Not Recorded if not coding ICD-10

### HOSPITAL PROCEDURE START DATE

Rule ID	Level	Message
6601	1	Invalid value
6602	1	Date out of range
6603	4	Hospital Procedure Start Date cannot be earlier than EMS Dispatch Date
6604	4	Hospital Procedure Start Date cannot be earlier than EMS Unit Arrival on Scene Date
6605	4	Hospital Procedure Start Date cannot be earlier than EMS Unit Scene Departure Date
6606	4	Hospital Procedure Start Date cannot be earlier than ED/Hospital Arrival Date
6607	4	Hospital Procedure Start Date cannot be later than Hospital Discharge Date
6608	4	Hospital Procedure Start Date cannot be earlier than Date of Birth
6609	4	Blank, required field

### HOSPITAL PROCEDURE START TIME

Rule ID	Level	Message
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6701	1	Invalid value
6702	1	Time out of range
6703	4	If Hospital Procedure Start Date and EMS Dispatch Date are the same, the Hospital Procedure Start Time cannot be earlier than the EMS Dispatch Time
6704	4	If Hospital Procedure Start Date and EMS Unit Arrival on Scene Date are the same, the Hospital Procedure Start Time cannot be earlier than the EMS Unit Arrival on Scene Time
6705	4	if Hospital Procedure Start Date and EMS Unit Scene Departure Date are the same, the Hospital Procedure Start Time cannot be earlier than the EMS Unit Scene Departure Time
6706	4	If Hospital Procedure Start Date and ED/Hospital Arrival Date are the same, the Hospital Procedure Start Time cannot be earlier than the ED/Hospital Arrival Time
6707	4	If Hospital Procedure Start Date and Hospital Discharge Date are the same, the Hospital Procedure Start Time cannot be later than the Hospital Discharge Time
6708	4	Blank, required field

### Diagnosis Information

#### CO-MORBID CONDITIONS

Rule ID	Level	Message
6801	1	Invalid value
6802	2	Blank, required field

#### ICD-9 INJURY DIAGNOSES

Rule ID	Level	Message
6901	1	Invalid value
6902	4	Blank, must either (1) contain a valid ICD-9 code or (2) be Not Applicable if not coding ICD-9
6903	2	If coding with ICD-9, then at least one diagnosis must be provided and meet inclusion criteria (800 -959.9, except for 905 -909.9, 910 -924.9, 930 -939.9)
6904	4	Not Known/Not Recorded, required Inclusion Criterion

#### ICD-10 INJURY DIAGNOSES

Rule ID	Level	Message
8701	1	Invalid value
8702	4	Blank, must either (1) contain a valid ICD-10 code or (2) be Not Applicable if not coding ICD-10
8703	2	If coding with ICD-10, then at least one diagnosis must be provided and meet inclusion criteria.

8704 4 Not Known/Not Recorded, required Inclusion Criterion

## Injury Severity Information

### AIS PREDOT CODE

Rule ID	Level	Message
7001	1	Invalid value
7002	5	If completed, then AIS Severity must be completed.
7003	5	If completed, then AIS Version must be completed.
7004	3	AIS PreDot codes are version AIS 2005 but do not match the AIS Version used
7005	3	AIS PreDot codes are version AIS 1998 but do not match the AIS Version used
7006	4	Both AIS 2005 and AIS 1998 versions have been detected in the same record

### AIS SEVERITY

Rule ID	Level	Message
7101	1	Invalid value
7102	5	If completed, then AIS Version must be completed.
7103	4	Blank, required to complete when AIS PreDot Code is complete

### ISS BODY REGION

Rule ID	Level	Message
7201	1	Invalid value
7202	5	If completed, then AIS Severity must be completed.
7203	5	If completed, then AIS Version must be completed.

### AIS VERSION

Rule ID	Level	Message
7301	1	Invalid value
7302	4	Blank, required to complete when AIS PreDot Code, AIS Severity, or ISS Body Region are provided.

### LOCALLY CALCULATED ISS

Rule ID	Level	Message
7401	1	Invalid value
7402	3	Must be the sum of three squares

## Outcome Information

### TOTAL ICU LENGTH OF STAY

Rule ID	Level	Message
7501	1	Invalid, out of range
7502	3	Blank, required field
7503	3	Total ICU Length of Stay should not be greater than the difference between ED/Hospital Arrival Date and Hospital Discharge Date
7504	3	Should not be greater than 365

### TOTAL VENTILATOR DAYS

Rule ID	Level	Message
7601	1	Invalid, out of range
7602	4	Blank, required field
7603	4	Total Ventilator Days should not be greater than the difference between ED/Hospital Arrival Date and Hospital Discharge Date
7604	4	Should not be greater than 365

### HOSPITAL DISCHARGE DATE

Rule ID	Level	Message
7701	1	Invalid value
7702	1	Date out of range
7703	3	Blank, required field
7704	3	Hospital Discharge Date cannot be earlier than EMS Dispatch Date
7705	3	Hospital Discharge Date cannot be earlier than EMS Unit Arrival on Scene Date
7706	3	Hospital Discharge Date cannot be earlier than EMS Unit Scene Departure Date
7707	2	Hospital Discharge Date cannot be earlier than ED/Hospital Arrival Date
7708	2	Hospital Discharge Date cannot be earlier than ED Discharge Date
7709	3	Hospital DischargeDate cannot be earlier than Date of Birth
7710	3	Hospital Discharge Date minus Injury Incident Date cannot be greater than 365 days
7711	3	Hospital Discharge Date minus ED/Hospital Arrival Date cannot be greater than 365 days
7712	2	If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Date must be NA (BIU = 1)
7713	2	If ED Discharge Disposition = 5 (Died) then Hospital Discharge Date should be NA (BIU=1)

## HOSPITAL DISCHARGE TIME

Rule ID	Level	Message
7801	1	Invalid value
7802	1	Time out of range
7803	4	Blank, required field
7804	4	If Hospital Discharge Date and EMS Dispatch Date are the same, the Hospital Discharge Time cannot be earlier than the EMS Dispatch Time
7805	4	If Hospital Discharge Date and EMS Unit Arrival on Scene Date are the same, the Hospital Discharge Time cannot be earlier than the EMS Unit Arrival on Scene Time
7806	4	If Hospital Discharge Date and EMS Unit Scene Departure Date are the same, the Hospital Discharge Time cannot be earlier than the EMS Unit Scene Departure Time
7807	4	If Hospital Discharge Date and ED/Hospital Arrival Date are the same, the Hospital Discharge Time cannot be earlier than the ED/Hospital Arrival Time
7808	4	If Hospital Discharge Date and ED Discharge Date are the same, the Hospital Discharge Time cannot be earlier than the ED Discharge Time
7809	2	If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Time must be NA (BIU = 1)
7810	2	If ED Discharge Disposition = 5 (Died) then Hospital Discharge Time should be NA (BIU=1)

## HOSPITAL DISCHARGE DISPOSITION

Rule ID	Level	Message
7901	1	Invalid value
7902	2	Blank, required field
7903	2	If ED Discharge Disposition = 5 (Died) then Hospital Discharge Disposition should be NA (BIU=1)
7906	2	If ED Discharge Disposition = 1,2,3,7, or 8 then Hospital Discharge Disposition cannot be blank
7907	2	If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Disposition must be NA (BIU = 1)
7908	2	Not Applicable, required Inclusion Criterion
7909	2	If Hospital Arrival Date and Hospital Discharge Date are valued, the Hospital Discharge Disposition cannot be Not Known/Not Recorded

## Financial Information

## PRIMARY METHOD OF PAYMENT

Rule ID	Level	Message
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8001	1	Invalid value
8002	4	Blank, required field

### Quality Assurance Information

#### HOSPITAL COMPLICATIONS

Rule ID	Level	Message
8101	1	Invalid value
8102	2	Blank, required field

### TQIP Measures for Processes of Care

#### HIGHEST GCS TOTAL

Rule ID	Level	Message
10001	1	Invalid, out of range
10002	2	Blank, required field
10003	2	Highest GCS Total cannot be less than GCS Motor Component of Highest GCS Total

#### HIGHEST GCS MOTOR

Rule ID	Level	Message
10101	1	Invalid value
10102	2	Blank, required field

#### GCS ASSESSMENT QUALIFIER COMPONENT OF HIGHEST GCS TOTAL

Rule ID	Level	Message
10201	1	Invalid value
10202	2	Blank, required field

#### CEREBRAL MONITOR

Rule ID	Level	Message
10301	1	Invalid value
10302	2	Blank, required field

#### CEREBRAL MONITOR DATE

Rule ID	Level	Message
10401	1	Invalid value

10402	2	Blank, required field
10403	1	Date out of range
10404	2	If Cerebral Monitor is complete, Cerebral Monitor Date cannot be blank or NA
10405	3	If Cerebral Monitor is complete, Cerebral Monitor Date cannot be Not Known/Not Recorded
10407	4	Cerebral Monitor Date cannot be earlier than ED/Hospital Arrival
10408	4	Cerebral Monitor Date cannot be later than Hospital Discharge Date
10409	2	If Cerebral Monitor is NA, then Cerebral Monitor Date should be NA.

### CEREBRAL MONITOR TIME

Rule ID	Level	Message
10501	1	Invalid value
10502	1	Time out of range
10503	2	Blank, required field
10504	2	If Cerebral Monitor is complete, Cerebral Monitor Time cannot be blank or NA
10505	3	If Cerebral Monitor is complete, Cerebral Monitor Time cannot be Not Known/Not Recorded
10506	4	If ED/Hospital Arrival Date and Cerebral Monitor Date are the same then Cerebral Monitor Time cannot be earlier than ED/Hospital Arrival Time
10507	4	If Hospital Discharge Date and Cerebral Monitor Date are the same then Cerebral Monitor Time cannot be later than Hospital Discharge Time
10508	2	If Cerebral Monitor is NA, then Cerebral Monitor Time should be NA.

### VENOUS THROMBOEMBOLISM PROPHYLAXIS TYPE

Rule ID	Level	Message
10601	1	Invalid value
10602	2	Blank, required field
10603	2	Field cannot be Not Applicable

### VENOUS THROMBOEMBOLISM PROPHYLAXIS DATE

Rule ID	Level	Message
10701	1	Invalid value
10702	1	Date out of range
10703	2	Blank, required field
10704	2	If VTE Prophylaxis is valued, then VTE Prophylaxis Date cannot be blank
10705	2	If VTE Prophylaxis is valued and not 'None', then VTE Prophylaxis Date cannot be NA

10706	4	VTE Prophylaxis Date cannot be earlier than ED/Hospital Arrival Date
10707	4	VTE Prophylaxis Date cannot be later than Hospital Discharge Date
10708	2	If VTE Prophylaxis is 'None', then VTE Prophylaxis Date should be NA

#### VENOUS THROMBOEMBOLISM PROPHYLAXIS TIME

Rule ID	Level	Message
10801	1	Invalid value
10802	1	Time out of range
10803	2	Blank, required field
10804	2	If VTE Prophylaxis is valued, then VTE Prophylaxis Time cannot be blank
10805	2	If VTE Prophylaxis is valued and not 'None', then VTE Prophylaxis Time cannot be NA
10806	4	If ED Hospital/Arrival Date and VTE Prophylaxis Date are the same, VTE Prophylaxis Time cannot be earlier than ED/Hospital Arrival Time
10807	4	If Hospital Discharge Date and VTE Prophylaxis Date are the same, VTE Prophylaxis Time cannot be later than Hospital Discharge Time
10808	2	If VTE Prophylaxis is 'None', then VTE Prophylaxis Time should be NA

#### TRANSFUSION BLOOD (4 HOURS)

Rule ID	Level	Message
11001	1	Invalid value
11002	2	Blank, required field
11003	2	Not Applicable, required field
11004	3	Invalid, out of range

#### TRANSFUSION BLOOD (24 HOURS)

Rule ID	Level	Message
11401	1	Invalid value
11402	2	Blank, required field
11404	3	Invalid, out of range

#### TRANSFUSION BLOOD MEASUREMENT

Rule ID	Level	Message
12801	1	Invalid value
12802	3	Field cannot be blank when Transfusion Blood (4 Hours) or Transfusion Blood (24 Hours) is valued.

## TRANSFUSION BLOOD CONVERSION

Rule ID	Level	Message
12901	1	Invalid value
12902	3	Invalid, out of range
12903	3	Field cannot be blank when Transfusion Blood Measurement is valued.

## TRANSFUSION PLASMA (4 HOURS)

Rule ID	Level	Message
11101	1	Invalid value
11102	2	Blank, required field
11104	3	Invalid, out of range

## TRANSFUSION PLASMA (24 HOURS)

Rule ID	Level	Message
11501	1	Invalid value
11502	2	Blank, required field
11504	3	Invalid, out of range

## TRANSFUSION PLASMA MEASUREMENT

Rule ID	Level	Message
13001	1	Invalid value
13002	3	Field cannot be blank when Transfusion Plasma (4 Hours) or Transfusion Plasma (24 Hours) is valued.

## TRANSFUSION PLASMA CONVERSION

Rule ID	Level	Message
13101	1	Invalid value
13102	3	Invalid, out of range
13103	3	Field cannot be blank when Transfusion Plasma Measurement is valued.

## TRANSFUSION PLATELETS (4 HOURS)

Rule ID	Level	Message
11201	1	Invalid value
11202	2	Blank, required field
11204	3	Invalid, out of range

### TRANSFUSION PLATELETS (24 HOURS)

Rule ID	Level	Message
11601	1	Invalid value
11602	2	Blank, required field
11604	3	Invalid, out of range

### TRANSFUSION PLATELETS MEASUREMENT

Rule ID	Level	Message
13201	1	Invalid value
13202	3	Field cannot be blank when Transfusion Platelets (4 Hours) or Transfusion Platelets (24 Hours) is valued.

### TRANSFUSION PLATELETS CONVERSION

Rule ID	Level	Message
13301	1	Invalid value
13302	3	Invalid, out of range
13303	3	Field cannot be blank when Transfusion Platelets Measurement is valued.

### CRYOPRECIPITATE (4 HOURS)

Rule ID	Level	Message
11301	1	Invalid value
11302	2	Blank, required field
11304	3	Invalid, out of range

### CRYOPRECIPITATE (24 HOURS)

Rule ID	Level	Message
12701	1	Invalid value
12702	2	Blank, required field
12704	3	Invalid, out of range

### CRYOPRECIPITATE MEASUREMENT

Rule ID	Level	Message
13401	1	Invalid value
13402	3	Field cannot be blank when Cryoprecipitate (4 Hours) or Cryoprecipitate (24 Hours) is valued.

## CRYOPRECIPITATE CONVERSION

Rule ID	Level	Message
13501	1	Invalid value
13502	3	Invalid, out of range
13503	3	Field cannot be blank when Transfusion Cryoprecipitate Measurement is valued.

## LOWEST ED/HOSPITAL SYSTOLIC BLOOD PRESSURE

Rule ID	Level	Message
10901	1	Invalid value
10902	2	Blank, required field
10903	2	Invalid, out of range

## ANGIOGRAPHY

Rule ID	Level	Message
11701	1	Invalid value
11702	2	Blank, required field

## EMBOLIZATION SITE

Rule ID	Level	Message
11801	1	Invalid value
11802	2	Blank, required field
11803	2	If Angiography is 'Angiogram with embolization', then Embolization site cannot be NA
11804	2	If Angiography is 'None' or 'Angiogram only', then Embolization site should be NA

## ANGIOGRAPHY DATE

Rule ID	Level	Message
11901	1	Invalid value
11902	1	Date out of range
11903	2	If Angiography is valued, then Angiography Date cannot be Blank
11904	2	If Angiography is 'Angiogram only' or 'Angiogram with embolization', then Angiography Date cannot be NA
11905	2	If Angiography is 'None', then Angiography Date should be NA

## ANGIOGRAPHY TIME

Rule ID	Level	Message
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12001	1	Invalid value
12002	1	Time out of range
12003	2	If Angiography is valued, then Angiography Time cannot be Blank
12004	2	If Angiography is 'Angiogram only' or 'Angiogram with embolization', then Angiography Time cannot be NA
12005	2	If Angiography is 'None', then Angiography Time should be NA

#### SURGERY FOR HEMORRHAGE CONTROL TYPE

Rule ID	Level	Message
12101	1	Invalid value
12102	2	Blank, required field

#### SURGERY FOR HEMORRHAGE CONTROL DATE

Rule ID	Level	Message
12201	1	Invalid value
12202	1	Date out of range
12203	2	Surgery For Hemorrhage Control Date cannot be earlier than ED/Hospital Arrival Date
12204	2	Surgery For Hemorrhage Control Date cannot be later than Hospital Discharge Date
12205	2	If Hemorrhage Control Surgery Type is valued and not 'None', then Hemorrhage Control Surgery Date cannot be NA
12206	2	If Hemorrhage Control Surgery Type is 'None', then Hemorrhage Control Surgery Date should be NA

#### SURGERY FOR HEMORRHAGE CONTROL TIME

Rule ID	Level	Message
12301	1	Invalid value
12302	1	Time out of range
12303	2	If Surgery For Hemorrhage Control Date and ED/Hospital Arrival Date are the same, the Surgery For Hemorrhage Control Time cannot be earlier than the ED/Hospital Arrival Time
12304	2	If Surgery For Hemorrhage Control Date and Hospital Discharge Date are the same, the Surgery For Hemorrhage Control Time cannot be later than the Hospital Discharge Time
12305	2	If Hemorrhage Control Surgery Type is valued and not 'None', then Hemorrhage Control Surgery Time cannot be NA
12306	2	If Hemorrhage Control Surgery Type is 'None', then Hemorrhage Control Surgery Time should be NA

## WITHDRAWAL OF CARE

Rule ID	Level	Message
12401	1	Invalid value
12402	2	Blank, required field
12403	2	Field cannot be Not Applicable

## WITHDRAWAL OF CARE DATE

Rule ID	Level	Message
12501	1	Invalid value
12502	1	Date out of range
12503	2	Withdrawal of Care Date cannot be earlier than ED/Hospital Arrival Date
12504	2	Withdrawal of Care Date cannot be later than Hospital Discharge Date
12505	2	If Withdrawal of Care is 'Yes', then Withdrawal of Care Date cannot be NA
12506	2	If Withdrawal of Care is 'No', then Withdrawal of Care Date should be NA

## WITHDRAWAL OF CARE TIME

Rule ID	Level	Message
12601	1	Invalid value
12602	1	Time out of range
12603	2	If Withdrawal of Care Date and ED/Hospital Arrival Date are the same, the Withdrawal of Care Time cannot be earlier than the ED/Hospital Arrival Time
12604	2	If Withdrawal of Care Date and Hospital Discharge Date are the same, the Withdrawal of Care Time cannot be later than the Hospital Discharge Time
12605	2	If Withdrawal of Care is 'Yes', then Withdrawal of Care Time cannot be NA
12606	2	If Withdrawal of Care is 'No', then Withdrawal of Care Time should be NA

## Control Information

### LastModifiedDateTime

Rule ID	Level	Message
8201	1	Invalid value
8202	2	Blank, required field

### PatientId

Rule ID	Level	Message
8301	1	Invalid value
8302	2	Blank, required field

## FacilityId

Rule ID	Level	Message
8401	1	Invalid value
8402	2	Blank, required field

## Aggregate Information

Rule ID	Level	Message
9901	1	The Facility ID must be consistent throughout the file -- that is, only one Facility ID per file.
9902	1	The Ed/Hospital Arrival Date year must be consistent throughout the file -that is, only one arrival year per file.
9903	1	There can only be one unique Facility ID / Patient ID / Last Modified Date combination per file.
9904	4	More than one AIS Version has been used in the submission file
9905	3	More than one version of AIS coding has been detected in the submission file
9906	3	The version of AIS codes entered in the submission file have been identified as 05. However, the AisVersion(s) submitted throughout the file do NOT contain 05 Full Code.
9907	3	The version of AIS codes entered in the submission file have been identified as 90/95/98. However, the only AisVersion submitted throughout the file is 05 Full Code.

## Appendix 3: Glossary of Terms

### CO-MORBID CONDITIONS

**Alcoholism:** Evidence of chronic use, such as withdrawal episodes. Exclude isolated elevated blood alcohol level in absence of history of abuse.

**Ascites within 30 days:** The presence of fluid accumulation (other than blood) in the peritoneal cavity noted on physical examination, abdominal ultrasound, or abdominal CT/MRI.

**Bleeding disorder:** Any condition that places the patient at risk for excessive bleeding due to a deficiency of blood clotting elements (e.g., vitamin K deficiency, hemophilia, thrombocytopenia, chronic anticoagulation therapy with Coumadin, Plavix, or similar medications.) Do not include patients on chronic aspirin therapy.

**Currently receiving chemotherapy for cancer:** A patient who is currently receiving any chemotherapy treatment for cancer prior to admission. Chemotherapy may include, but is not restricted to, oral and parenteral treatment with chemotherapeutic agents for malignancies such as colon, breast, lung, head and neck, and gastrointestinal solid tumors as well as lymphatic and hematopoietic malignancies such as lymphoma, leukemia, and multiple myeloma.

**Congenital Anomalies:** Documentation of a cardiac, pulmonary, body wall, CNS/spinal, GI, renal, orthopaedic, or metabolic congenital anomaly.

**Congestive Heart Failure:** The inability of the heart to pump a sufficient quantity of blood to meet the metabolic needs of the body or can do so only at an increased ventricular filling pressure. To be included, this condition must be noted in the medical record as CHF, congestive heart failure, or pulmonary edema with onset of increasing symptoms within 30 days prior to injury. Common manifestations are:

- Abnormal limitation in exercise tolerance due to dyspnea or fatigue
- Orthopnea (dyspnea on lying supine)
- Paroxysmal nocturnal dyspnea (awakening from sleep with dyspnea)
- Increased jugular venous pressure
- Pulmonary rales on physical examination
- Cardiomegaly
- Pulmonary vascular engorgement

**Current Smoker:** A patient who reports smoking cigarettes every day or some days. Excludes patients who smoke cigars or pipes or use smokeless tobacco (chewing tobacco or snuff.)

**Chronic renal failure:** Acute or chronic renal failure prior to injury that was requiring periodic peritoneal dialysis, hemodialysis, hemofiltration, or hemodiafiltration.

**CVA/residual neurological deficit:** A history prior to injury of a cerebrovascular accident (embolic, thrombotic, or hemorrhagic) with persistent residual motor sensory or cognitive dysfunction (e.g., hemiplegia, hemiparesis, aphasia, sensory deficit, impaired memory.)

**Diabetes mellitus:** Diabetes mellitus prior to injury that required exogenous parenteral insulin or an oral hypoglycemic agent.

**Disseminated cancer:** Patients who have cancer that has spread to one site or more sites in addition to the primary site, AND in whom the presence of multiple metastases indicates the cancer is widespread, fulminant, or near terminal.

Other terms describing disseminated cancer include: “diffuse,” “widely metastatic,” “widespread,” or “carcinomatosis.” Common sites of metastases include major organs, (e.g., brain, lung, liver, meninges, abdomen, peritoneum, pleura, bone.)

**Advanced directive limiting care:** The patient had a Do Not Resuscitate (DNR) document or similar advanced directive recorded prior to injury.

**Esophageal varices:** Esophageal varices are engorged collateral veins in the esophagus which bypass a scarred liver to carry portal blood to the superior vena cava. A sustained increase in portal pressure results in esophageal varices which are most frequently demonstrated by direct visualization at esophagoscopy.

**Functionally dependent health status:** Pre-injury functional status may be represented by the ability of the patient to complete activities of daily living (ADL) including: bathing, feeding, dressing, toileting, and walking. This item is marked YES if the patient, prior to injury, was partially dependent or completely dependent upon equipment, devices or another person to complete some or all activities of daily living. Formal definitions of dependency are listed below:

*Partially dependent:* The patient requires the use of equipment or devices coupled with assistance from another person for some activities of daily living. Any patient coming from a nursing home setting who is not totally dependent would fall into this category, as would any patient who requires kidney dialysis or home ventilator support that requires chronic oxygen therapy yet maintains some independent functions.

*Totally dependent:* The patient cannot perform any activities of daily living for himself/herself. This would include a patient who is totally dependent upon nursing care, or a dependent nursing home patient. All patients with psychiatric illness should be evaluated for their ability to function with or without assistance with ADLs just as the non-psychiatric patient.

**History of angina within past 1 month:** Pain or discomfort between the diaphragm and the mandible resulting from myocardial ischemia. Typically angina is a dull, diffuse (fist sized or larger) sub sternal chest discomfort precipitated by exertion or emotion and relieved by rest or nitroglycerine. Radiation often occurs to the arms and shoulders and occasionally to the neck, jaw (mandible, not maxilla), or interscapular region. For patients on anti-angina medications, enter yes only if the patient has had angina within one month prior to admission.

**History of myocardial infarction:** The history of a non-Q wave, or a Q wave infarction in the six months prior to injury and diagnosed in the patient’s medical record.

**History of Peripheral Vascular disease (PVD):** Any type of operative (open) or interventional radiology angioplasty or revascularization procedure for atherosclerotic PVD (e.g., aorta-femoral, femoral-femoral, femoral-popliteal, balloon angioplasty, stenting, etc.) Patients who have had amputation from trauma or resection/repair of abdominal aortic aneurysms, including Endovascular Repair of Abdominal Aortic Aneurysm (EVAR,) would not be included.

**Hypertension requiring medication:** History of a persistent elevation of systolic blood pressure >140mm Hg and a diastolic blood pressure >90mm Hg requiring an antihypertensive treatment (e.g., diuretics, beta blockers, angiotensin-converting enzyme (ACE) inhibitors, calcium channel blockers.)

**Prematurity:** Documentation of premature birth, a history of bronchopulmonary dysplasia, or ventilator support for greater than 7 days after birth. Premature birth is defined as infants delivered before 37 weeks from the first day of the last menstrual period.

**Obesity:** A Body Mass Index of 30 or greater.

**Respiratory Disease:** Severe chronic lung disease, chronic obstructive pulmonary disease (COPD) such as emphysema and/or chronic bronchitis resulting in any one of more of the following:

- Functional disability from COPD (e.g., dyspnea, inability to perform activities of daily living [ADLs].)
- Hospitalization in the past for treatment of COPD.
- Requires chronic bronchodilator therapy with oral or inhaled agents.
- A Forced Expiratory Volume in 1 second (FEV1) of <75% of predicted on pulmonary function testing.
- Do not include patients whose only pulmonary disease is acute asthma. Do not include patients with diffuse interstitial fibrosis or sarcoidosis.

**Steroid use:** Patients that required the regular administration of oral or parenteral corticosteroid medications (e.g., prednisone, dexamethasone in the 30 days prior to injury for a chronic medical condition (e.g., COPD, asthma, rheumatologic disease, rheumatoid arthritis, inflammatory bowel disease.) Do not include topical corticosteroids applied to the skin or corticosteroids administered by inhalation or rectally.

**Cirrhosis:** Documentation in the medical record of cirrhosis, which might also be referred to as end stage liver disease. If there is documentation of prior or present esophageal or gastric varices, portal hypertension, previous hepatic encephalopathy, or ascites with notation of liver disease, then cirrhosis should be considered present. Cirrhosis should also be considered present if documented by diagnostic imaging studies or a laparotomy/laparoscopy.

**Dementia:** With particular attention to senile or vascular dementia (e.g., Alzheimer's.)

**Major psychiatric illness:** Documentation of the presence of pre-injury major depressive disorder, bipolar disorder, schizophrenia, anxiety/panic disorder, borderline or antisocial personality disorder, and/or adjustment disorder/post-traumatic stress disorder.

**Drug abuse or dependency:** With particular attention to opioid, sedative, amphetamine, cocaine, diazepam, alprazolam, or lorazepam dependence (excludes ADD/ADHD or chronic pain with medication use as prescribed.)

**Pre-hospital cardiac arrest with CPR:** A sudden, abrupt loss of cardiac function which occurs outside of the hospital, prior to admission at the center in which the registry is maintained, that results in loss of consciousness requiring the initiation of any component of basic and/or advanced cardiac life support by a health care provider.

## **COMPLICATIONS**

**Acute kidney injury:** A patient who did not require chronic renal replacement therapy prior to injury, who has worsening renal dysfunction after injury requiring renal replacement therapy. If the patient or family refuses treatment (e.g., dialysis,) the condition is still considered to be present if a combination of oliguria and creatinine are present.

- *GFR criteria:* Increase creatinine x3 or GFR decrease >75%
- *Urine output criteria:* UO <0.3ml/kg/h x 24 hr or Anuria x 12 hrs

**ALI/ARDS Acute Lung Injury/Adult (Acute) Respiratory Distress Syndrome:** ALI/ARDS occurs in conjunction with catastrophic medical conditions, such as pneumonia, shock, sepsis (or severe infection throughout the body, sometimes also referred to as systemic infection, and may include or also be called a blood or blood-borne infection,) and trauma. It is a form of sudden and often severe lung failure that is usually characterized by a PaO<sub>2</sub>/FiO<sub>2</sub> ratio of <300 mmHg, bilateral fluffy infiltrates seen on a frontal chest radiograph, and an absence of clearly demonstrable volume overload (as signified by pulmonary wedge pressure , 18mmHg, if measured, or other similar surrogates such as echocardiography which do not demonstrate analogous findings.)

**Cardiac arrest with CPR:** The sudden abrupt loss of cardiac function that results in loss of consciousness requiring the initiation of any component of basic and/or advanced cardiac life support. EXCLUDE patients that arrive at the hospital in full arrest.

**Decubitus ulcer:** Any partial or full thickness loss of dermis resulting from pressure exerted by the patient's weight against a surface. Deeper tissues may or may not be involved. Equivalent to NPUAP Stages II – IV and NPUAP “unstageable” ulcers. EXCLUDES intact skin with non-blanching redness (NPUAP Stage I,) which is considered reversible tissue injury.

**Deep surgical site infection:** A deep incisional SSI must meet one of the following criteria:

Infection occurs within 30 days after the operative procedure if no implant is left in place or within one year if implant is in place and the infection appears to be related to the operative procedure and involves deep soft tissues (e.g., fascial and muscle layers) of the incision; AND patient has at least one of the following:

- Purulent drainage from the deep incision but not from the organ/space component of the surgical site of the following:
- A deep incision spontaneously dehisces or is deliberately opened by a surgeon and is culture-positive or not cultured when the patient has at least one of the following signs or symptoms: fever (>38C,) or localized pain or tenderness. A culture negative finding does not meet this criterion.
- An abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination.
- Diagnosis of a deep incisional SSI by a surgeon or attending physician.

NOTE: There are two specific types of deep incisional SSIs:

- Deep Incisional Primary (DIP): a deep incisional SSI that is identified in a primary incision in a patient that has had an operation with one or more incisions (e.g., C-section incision or chest incision for CBGB)
- Deep Incisional Secondary (DIS): a deep incisional SSI that is identified in the secondary incision in a patient that has had an operation with more than one incision (e.g., donor site [leg] incision for CBGB.)

**REPORTING INSTRUCTION:** Classify infection that involves both superficial and deep incision sites as deep incisional SSI.

**Drug or alcohol withdrawal syndrome:** A set of symptoms that may occur when a person who has been habitually drinking too much alcohol or habitually using certain drugs (e.g., narcotics, benzodiazepine) experiences physical symptoms upon suddenly stopping consumption. Symptoms may include: activation syndrome (i.e., tremulousness, agitation, rapid heartbeat and high blood pressure,) seizures, hallucinations or delirium tremens.

**Deep Vein Thrombosis (DVT):** The formation, development, or existence of a blood clot or thrombus within the vascular system, which may be coupled with inflammation. This diagnosis may be confirmed by a venogram, ultrasound, or CT. The patient must be treated with anticoagulation therapy and/or placement of a vena cava filter or clipping of the vena cava.

**Extremity compartment syndrome:** A condition not present at admission in which there is documentation of tense muscular compartments of an extremity through clinical assessment or direct measurement of intracompartmental pressure requiring fasciotomy. Compartment syndromes usually involve the leg but can also occur in the forearm, arm, thigh, and shoulder. Record as a complication if it is originally missed, leading to late recognition, a need for late intervention, and has threatened limb viability.

**Graft/prosthesis/flap failure:** Mechanical failure of an extracardiac vascular graft or prosthesis including myocutaneous flaps and skin grafts requiring return to the operating room or a balloon angioplasty.

**Myocardial infarction:** A new acute myocardial infarction occurring during hospitalization (within 30 days of injury.)

**Organ/space surgical site infection:** An infection that occurs within 30 days after an operation and infection involves any part of the anatomy (e.g., organs or spaces) other than the incision, which was opened or manipulated during a procedure; and at least one of the following, including:

- Purulent drainage from a drain that is placed through a stab wound or puncture into the organ/space.
- Organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space.
- An abscess or other evidence of infection involving the organ/space that is found on direct examination, during reoperation, or by histopathologic or radiologic examination
- Diagnosis of an organ/space SSI by a surgeon or attending physician.

**Pneumonia:** Patients with evidence of pneumonia that develops during the hospitalization and meets at least one of the following two criteria:

- **Criterion #1:** Rales or dullness to percussion on physical examination of chest AND any of the following:
  - New onset of purulent sputum or change in character of sputum.
  - Organism isolated from blood culture.
  - Isolation of pathogen from specimen obtained by transtracheal aspirate, bronchial brushing, or biopsy.
- **Criterion #2:** Chest radiographic examination shows new or progressive infiltrate, consolidation, cavitation, or pleural effusion AND any of the following:
  - New onset of purulent sputum or change in character of sputum.
  - Organism isolated from the blood.

- Isolation of pathogen from specimen obtained by transtracheal aspirate, bronchial brushing, or biopsy
- Isolation of virus or detection of viral antigen in respiratory secretions
- Diagnostic single antibody titer (IgM) or fourfold increase in paired serum samples (IgG) for pathogen
- Histopathologic evidence of pneumonia

**Pulmonary embolism:** A lodging of a blood clot in a pulmonary artery with subsequent obstruction of blood supply to the lung parenchyma. The blood clots usually originate from the deep leg veins or the pelvic venous system. Consider the condition present if the patient has a V-Q scan interpreted as high probability of pulmonary embolism or a positive pulmonary arteriogram or positive CT angiogram.

**Stroke/CVA:** A focal or global neurological deficit of rapid onset and NOT present on admission. The patient must have at least one of the following symptoms:

- Change in level of consciousness
- Hemiplegia
- Hemiparesis
- Numbness or sensory loss affecting on side of the body
- Dysphasia or aphasia
- Hemianopia
- Amaurosis fugax
- Other neurological signs or symptoms consistent with stroke

AND:

- Duration of neurological deficit  $\geq 24$  h

OR:

- Duration of deficit  $< 24$  h, if neuroimaging (MR, CT, or cerebral angiography) documents a new hemorrhage or infarct consistent with stroke, or therapeutic intervention(s) were performed for stroke, or the neurological deficit results in death

AND:

- No other readily identifiable non-stroke cause, e.g., progression of existing traumatic brain injury, seizure, tumor, metabolic or pharmacologic etiologies, is identified

AND:

- Diagnosis is confirmed by neurology or neurosurgical specialist or neuroimaging procedure (MR, CT, angiography,) or lumbar puncture (CSF demonstrating intracranial hemorrhage that was not present on admission.)

Although the neurologic deficit must not present on admission, risk factors predisposing to stroke (e.g., blunt cerebrovascular injury, dysrhythmia) may be present on admission.

**Superficial surgical site infection:** An infection that occurs within 30 days after an operation and infection involves only skin or subcutaneous tissue of the incision and at least one of the following:

- Purulent drainage, with or without laboratory confirmation, from the superficial incision.

- Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.
- At least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat and superficial incision is deliberately opened by the surgeon, unless incision is culture-negative.
- Diagnosis of superficial incisional surgical site infection by the surgeon or attending physician.

Do not report the following conditions as superficial surgical site infection:

- Stitch abscess (minimal inflammation and discharge confined to the points of suture penetration.)
- Infected burn wound.
- Incisional SSI that extends into the fascial and muscle layers (see deep surgical site infection.)

**Unplanned intubation:** Patient requires placement of an endotracheal tube and mechanical or assisted ventilation because of the onset of respiratory or cardiac failure manifested by severe respiratory distress, hypoxia, hypercarbia, or respiratory acidosis. In patients who were intubated in the field or Emergency Department, or those intubated for surgery, unplanned intubation occurs if they require reintubation > 24 hours after extubation.

**Urinary Tract Infection:** An infection anywhere along the urinary tract with clinical evidence of infection, which includes at least one of the following symptoms with no other recognized cause:

- Fever  $\geq 38^{\circ}$  C
- WBC > 10,000 or < 3,000 per cubic millimeter
- Urgency
- Frequency
- Dysuria
- Suprapubic tenderness

AND:

- Positive urine culture ( $\geq 100,000$  microorganisms per cm<sup>3</sup> of urine with no more than two species of microorganisms)

OR:

- At least two of the following signs or symptoms with no other recognized cause:
  - Fever  $\geq 38^{\circ}$  C
  - WBC >10,000 or <3,000 per cubic millimeter
  - Urgency
  - Frequency
  - Dysuria
  - Suprapubic tenderness

AND at least one of the following:

- Positive dipstick for leukocyte esterase and/or nitrate
- Pyuria (urine specimen with >10 WBC/mm<sup>3</sup> or >3 WBC/high power field or unspun urine)
- Organisms seen on Gram stain of unspun urine

- At least two urine cultures with repeated isolation of the same uropathogen (gram-negative bacteria or *S. saprophyticus*) with  $\geq 10^2$  colonies/ml in non-voided specimens
- $\leq 10^5$  colonies/ml of a single uropathogen (gram-negative bacteria or *S. saprophyticus*) in a patient being treated with an effective antimicrobial agent for a urinary tract infection
- Physician diagnosis of a urinary tract infection
- Physician institutes appropriate therapy for a urinary tract infection

Excludes asymptomatic bacteriuria and “other” UTIs that are more like deep space infections of the urinary tract.

**Catheter-Related Blood Stream Infection:** An organism cultured from the bloodstream that is not related to an infection at another site but is attributed to a central venous catheter. Patients must have evidence of infection including at least one of the following:

- *Criterion #1:* Patient has a recognized pathogen cultured from one or more blood cultures and organism cultured from blood is not related to an infection at another site.

OR:

- *Criterion #2:* Patient has at least one of the following signs or symptoms:
  - Fever  $\geq 38^{\circ}$  C
  - Chills
  - WBC  $> 10,000$  or  $< 3,000$  per cubic millimeter
  - Hypotension (SBP $<90$ ) or  $>25\%$  drop in systolic blood pressure
  - Signs and symptoms and positive laboratory results are not related to an infection at another site AND common skin contaminant (i.e., diphtheroids [*Corynebacterium* spp.], *Bacillus* [not *B. anthracis*] spp., *Propionibacterium* spp., coagulase-negative staphylococci [including *S. epidermidis*,] viridans group streptococci, *Aerococcus* spp., *Micrococcus* spp.) is cultured from two or more blood cultures drawn on separate occasions.

OR:

- *Criterion #3:* Patient  $<1$  year of age has at least one of the following signs or symptoms:
  - Fever  $> 38^{\circ}$  C
  - Hypothermia  $< 36^{\circ}$  C
  - Apnea, or bradycardia
  - Signs and symptoms and positive laboratory results are not related to an infection at another site and common skin contaminant (i.e., diphtheroids [*Corynebacterium* sup.] *Bacillus* [not *B. anthracis*] spp., *Propionibacterium* spp., coagulase-negative staphylococci [including *S. epidermidis*], viridans group streptococci, *Aerococcus* spp., *Micrococcus* spp.) is cultured from two or more blood cultures drawn on separate occasions.

Erythema at the entry site of the central line or positive cultures on the tip of the line in the absence of positive blood cultures is not considered a CRBSI.

**Osteomyelitis:** Defined as meeting at least one of the following criteria:

- Organisms cultured from bone.
- Evidence of osteomyelitis on direct examination of the bone during a surgical operation or histopathologic examination.
- At least two of the following signs or symptoms with no other recognized cause:
  - Fever (38<sup>0</sup> C)
  - Localized swelling at suspected site of bone infection
  - Tenderness at suspected site of bone infection
  - Heat at suspected site of bone infection
  - Drainage at suspected site of bone infection

AND at least one of the following:

- Organisms cultured from blood positive blood antigen test (e.g., H. influenza, S. pneumonia)
- Radiographic evidence of infection, e.g., abnormal findings on x-ray, CT scan, magnetic resonance imaging (MRI,) radiolabel scan (gallium, technetium, etc.)

**Unplanned return to the OR:** Unplanned return to the operating room after initial operation management for a similar or related previous procedure.

**Unplanned return to the ICU:** Unplanned return to the intensive care unit after initial ICU discharge. Does not apply if ICU care is required for postoperative care of a planned surgical procedure.

**Severe sepsis:** Sepsis and/or Severe Sepsis defined as an obvious source of infection with bacteremia and two or more of the following:

- Temp >38<sup>0</sup> C or <36<sup>0</sup> C
- WBC count >12,000/mm<sup>3</sup>, or > 20%immature (source of infection)
- Hypotension – (Severe Sepsis)
- Evidence of hypo perfusion: (Severe Sepsis)
- Anion gap or lactic acidosis or Oliguria, or Altered mental status.

**PATIENT'S OCCUPATIONAL INDUSTRY:** The occupational history associated with the patient's work environment.

*Field Value Definitions:*

**Finance and Insurance** - The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions. Three principal types of activities are identified:

1. Raising funds by taking deposits and/or issuing securities and, in the process, incurring liabilities.
2. Pooling of risk by underwriting insurance and annuities.
3. Providing specialized services facilitating or supporting financial intermediation, insurance, and employee benefit programs.

**Real Estate** - Industries in the Real Estate subsector group establishments that are primarily engaged in renting or leasing real estate to others; managing real estate for others; selling, buying, or renting real estate for others; and providing other real estate related services, such as appraisal services.

**Manufacturing** - The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. Establishments in the Manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. However, establishments that make new products by hand, such as bakeries, candy stores, and custom tailors, may also be included in this sector.

**Retail Trade** - The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The retailing process is the final step in the distribution of merchandise; retailers are, therefore, organized to sell merchandise in small quantities to the general public. This sector comprises two main types of retailers:

1. Store retailers operate fixed point-of-sale locations, located and designed to attract a high volume of walk-in customers.
2. Non-store retailers, like store retailers, are organized to serve the general public, but their retailing methods differ.

**Transportation and Public Utilities** - The Transportation and Warehousing sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. The Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal.

**Agriculture, Forestry, Fishing,-** The Agriculture, Forestry, Fishing and Hunting sector comprises establishments primarily engaged in growing crops, raising animals, harvesting timber, and harvesting fish and other animals from a farm, ranch, or their natural habitats. The establishments in this sector are often described as farms, ranches, dairies, greenhouses, nurseries, orchards, or hatcheries.

**Professional and Business Services,-** The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. The establishments in this sector specialize according to expertise and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services.

**Education and Health Services,-** The Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects. This instruction and training is provided by specialized establishments, such as schools, colleges, universities, and training

centers. These establishments may be privately owned and operated for profit or not for profit, or they may be publicly owned and operated. They may also offer food and/or accommodation services to their students.

The Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities.

**Construction** - The construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems). Establishments primarily engaged in the preparation of sites for new construction and establishments primarily engaged in subdividing land for sale as building sites also are included in this sector. Construction work done may include new work, additions, alterations, or maintenance and repairs.

**Government** – Civil service employees, often called civil servants or public employees, work in a variety of fields such as teaching, sanitation, health care, management, and administration for the federal, state, or local government. Legislatures establish basic prerequisites for employment such as compliance with minimal age and educational requirements and residency laws.

**Natural Resources and Mining** - The Mining sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The term mining is used in the broad sense to include quarrying, well operations, beneficiating (e.g., crushing, screening, washing, and flotation), and other preparation customarily performed at the mine site, or as a part of mining activity.

**Information Services** - The Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.

**Wholesale Trade** - The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The merchandise described in this sector includes the outputs of agriculture, mining, manufacturing, and certain information industries, such as publishing.

**Leisure and Hospitality** - The Arts, Entertainment, and Recreation sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons. This sector comprises (1) establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing; (2) establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and (3) establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure-time interests. The Accommodation and Food Services sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption. The sector includes both accommodation and food services establishments because the two activities are often combined at the same establishment.

**Other Services** - The Other Services sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system. Establishments in this sector are primarily engaged in activities, such as equipment and machinery repairing, promoting or administering religious activities, grant-making, advocacy, and providing dry-cleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services.

**PATIENT'S OCCUPATION:** The occupation of the patient.

*Field Value Definitions:*

**Business and Financial Operations Occupations:**

Buyers and Purchasing Agents  
Accountants and Auditors  
Claims Adjusters, Appraisers, Examiners, and Investigators  
Human Resources Workers  
Market Research Analysts and Marketing Specialists  
Business Operations Specialists, All Other

**Architecture and Engineering Occupations**

Landscape Architects  
Surveyors, Cartographers, and Photogrammetrists  
Agricultural Engineers  
Chemical Engineers Civil  
Engineers Electrical Engineers

**Community and Social Services Occupations**

Marriage and Family Therapists  
Substance Abuse and Behavioral Disorder Counselors  
Healthcare Social Workers  
Probation Officers and Correctional Treatment Specialists  
Clergy

**Education, Training, and Library Occupations**

Engineering and Architecture Teachers, Postsecondary Math and  
Computer Teachers, Postsecondary  
Nursing Instructors and Teachers, Postsecondary  
Law, Criminal Justice, and Social Work Teachers, Postsecondary  
Preschool and Kindergarten Teachers  
Librarians

**Healthcare Practitioners and Technical Occupations**

Dentists, All Other Specialists Dietitians and Nutritionists Physicians and Surgeons Nurse  
Practitioners Cardiovascular Technologists and Technicians  
Emergency Medical Technicians and Paramedics

**Protective Service Occupations**

Firefighters  
Police Officers  
Animal Control Workers Security Guards  
Lifeguards, Ski Patrol, and Other Recreational Protective Service

**Building and Grounds Cleaning and Maintenance**

Building Cleaning Workers  
Landscaping and Groundskeeping Workers  
Pest Control Workers  
Pesticide Handlers, Sprayers, and Applicators, Vegetation  
Tree Trimmers and Pruners

**Sales and Related Occupations**

Advertising Sales Agents

Retail Salespersons  
Counter and Rental Clerks  
Door-to-Door Sales Workers, News and Street Vendors, and Related Workers  
Real Estate Brokers

### **Farming, Fishing, and Forestry Occupations**

Animal Breeders  
Fishers and Related Fishing Workers Agricultural Equipment Operators Hunters and Trappers  
Forest and Conservation Workers  
Logging Workers

### **Installation, Maintenance, and Repair Occupations**

Electric Motor, Power Tool, and Related Repairers Aircraft Mechanics and Service Technicians Automotive Glass Installers and Repairers  
Heating, Air Conditioning, and Refrigeration Mechanics and Installers  
Maintenance Workers, Machinery Industrial Machinery Installation, Repair, and Maintenance Workers

### **Transportation and Material Moving Occupations**

Rail Transportation Workers, All Other Subway and Streetcar Operators Packers and Packers, Hand Refuse and Recyclable Material Collectors Material Moving Workers, All Other Driver/Sales Workers

### **Management Occupations**

Public Relations and Fundraising Managers Marketing and Sales Managers Administrative Services Managers  
Transportation, Storage, and Distribution Managers Food Service Managers

### **Computer and Mathematical Occupations**

Web Developers  
Software Developers and Programmers  
Database Administrators  
Statisticians  
Computer Occupations, All Other

### **Life, Physical, and Social Science Occupations**

Psychologists  
Economists Foresters  
Zoologists and Wildlife Biologists  
Political Scientists  
Agricultural and Food Science Technicians

### **Legal Occupations**

Lawyers and Judicial Law Clerks Paralegals and Legal Assistants Court Reporters  
Administrative Law Judges, Adjudicators, and Hearing Officers  
Arbitrators, Mediators, and Conciliators  
Title Examiners, Abstractors, and Searchers

**Arts, Design, Entertainment, Sports, and Media**

Artists and Related Workers, All Other Athletes, Coaches, Umpires, and Related Workers  
Dancers and Choreographers  
Reporters and Correspondents  
Interpreters and Translators  
Photographers

**Healthcare Support Occupations**

Nursing, Psychiatric, and Home Health Aides  
Physical Therapist Assistants and Aides  
Veterinary Assistants and Laboratory Animal Caretakers  
Healthcare Support Workers, All Other  
Medical Assistants

**Food Preparation and Serving Related**

Bartenders, Cooks, Institution and Cafeteria  
Cooks, Fast Food  
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop  
Waiters and Waitresses, Dishwashers

**Personal Care and Service Occupations**

Animal Trainers  
Amusement and Recreation Attendants  
Barbers, Hairdressers, Hairstylists and Cosmetologists  
Baggage Porters, Bellhops, and Concierges  
Tour Guides and Escorts  
Recreation and Fitness Workers

**Office and Administrative Support Occupations**

Bill and Account Collectors  
Gaming Cage Workers  
Payroll and Timekeeping Clerks, Tellers  
Court, Municipal, and License Clerks  
Hotel, Motel, and Resort Desk Clerks

**Construction and Extraction Occupations**

Brickmasons, Blockmasons, and Stonemasons  
Carpet, Floor, and Tile Installers and Finishers  
Construction Laborers, Electricians  
Pipelayers, Plumbers, Pipefitters, Steamfitters and Roofers

**Production Occupations**

Electrical, Electronics, and Electromechanical Assemblers  
Engine and Other Machine Assemblers  
Structural Metal Fabricators and Fitters  
Butchers and Meat Cutters  
Machine Tool Cutting Setters, Operators, and Tenders, Metal and Plastic  
Welding, Soldering, and Brazing Workers

**Military Specific Occupations**

Air Crew Officers  
Armored Assault Vehicle Officers  
Artillery and Missile Officers Infantry  
Officers  
Military Officer Special and Tactical Operations Leaders, All Other

**Multiple Cause Coding Hierarchy:** If two or more events cause separate injuries, an external cause code should be assigned for each cause. The first-listed external cause code will be selected in the following order:

1. External cause codes for child and adult abuse take priority over all other external cause codes
2. External cause codes for terrorism events take priority over all other external cause codes except child and adult abuse.
3. External cause codes for cataclysmic events take priority over all other external cause codes except child and adult abuse, and terrorism.
4. External cause codes for transport accidents take priority over all other external cause codes except cataclysmic events, and child and adult abuse, and terrorism.
5. The first listed external cause code should correspond to the cause of the most serious diagnosis due to an assault, accident or self-harm, following the order of hierarchy listed above.

## **Appendix 4: Acknowledgements**

### **ACS Committee on Trauma**

All participating board members

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