National Trauma Data Standard

DATA DICTIONARY

2012 Admissions

July 2011

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.[1] Trauma typically involves young adults and results in the loss of more productive work years than both cancer and heart disease combined.[2] Each year, more than 140,000 Americans die and approximately 80,000 are permanently disabled as a result of injury.[3] The loss of productivity and health care costs account for 100 billion dollars annually.[4]

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.[5-9] 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.[10] 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[11,12], yet studies continue to document serious variation and misclassification between hospital-based registries.[13,14]

Recently, federal agencies have made investments to fortify the establishment of a national trauma registry.[15,16] 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.[17] Members of ACSCOT and staff associated with the NTDB have long recognized that the NTDB inherits the individual weaknesses of each contributing registry.[18]

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

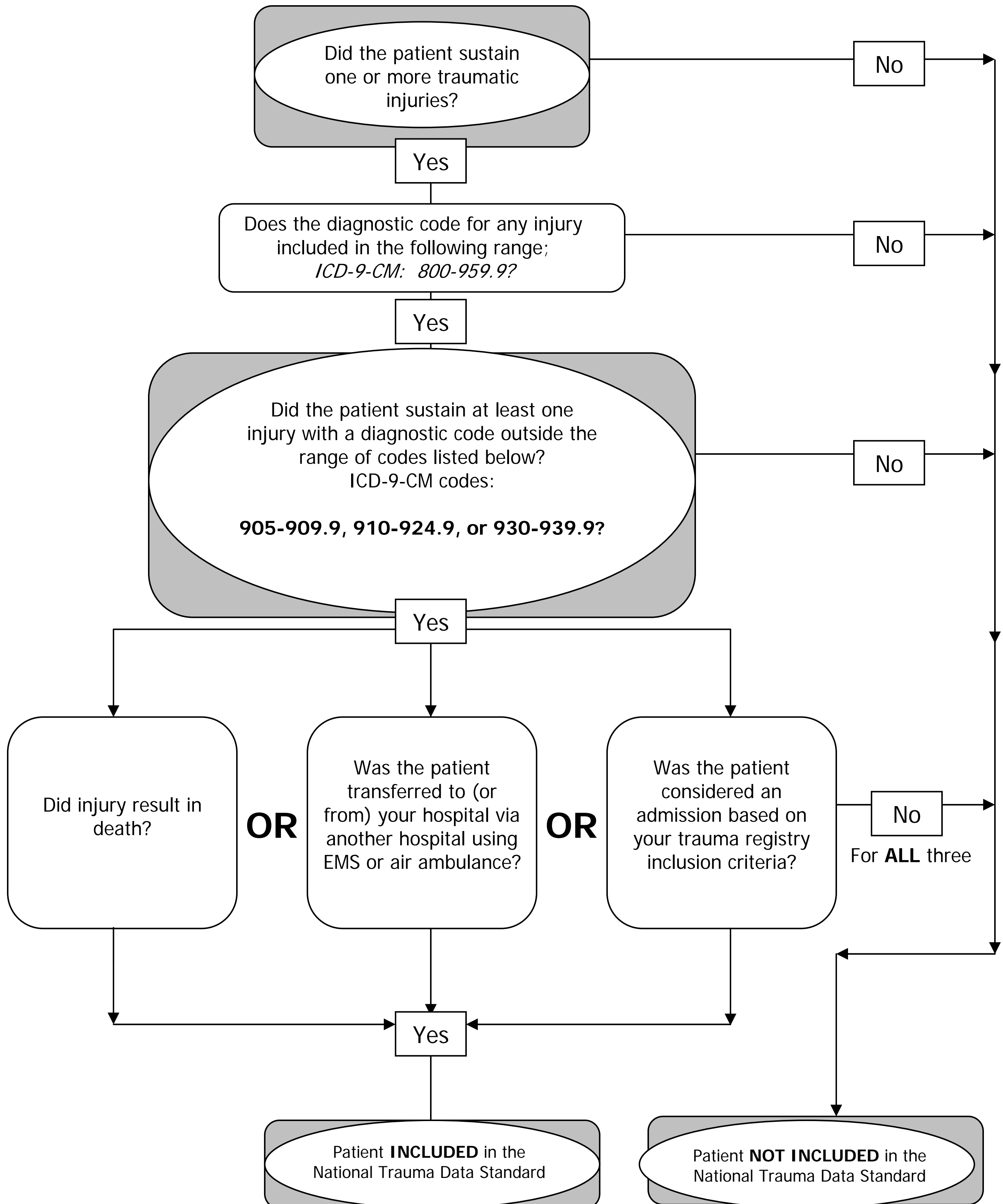
Excluding the following isolated injuries:

905–909.9 (late effects of injury)
910–924.9 (superficial injuries, including blisters, contusions, abrasions, and insect bites)
930–939.9 (foreign bodies)

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

- 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

Data Format [combo] single-choice **_National Element_**

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

D_01

PATIENT'S HOME ZIP CODE

Data Format [text] ***National Element***

Definition

The patient's home ZIP code of primary residence.

XSD Data Type *xs:zip*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *HomeZip*
Accepts Null Value Yes, common null values

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

References to Other Databases

- NHTSA V.2.2 - E06_08

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*

D_02

PATIENT'S HOME COUNTRY

Data Format [combo] single-choice ***National Element***

Definition

The country where the patient resides.

XSD Data Type *xs:string*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *HomeCountry*
Accepts Null Value Yes, common null values

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

References to Other Databases

- NHTSA 2.2 - E06_09

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: *Patient's Home Zip Code* or *Alternate Home Residence*

D_03

PATIENT'S HOME STATE

Data Format [combo] single-choice **_National Element_**

Definition

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

XSD Data Type *xs:string*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *HomeState*
Accepts Null Value Yes, common null values

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

References to Other Databases

- NHTSA 2.2 - E06_07

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: *Patient's Home Zip Code* or *Alternate Home Residence*

PATIENT'S HOME COUNTY

Data Format [combo] single-choice **_National Element_** **D_04**

Definition

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

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

XSD Element / Domain (Simple Type) *HomeCounty*
Accepts Null Value Yes, common null values

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

References to Other Databases

- NHTSA 2.2 - E06_06

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: *Patient's Home Zip Code* or *Alternate Home Residence*

PATIENT'S HOME CITY D_05

Data Format [combo] single-choice **_National Element_**

Definition

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

XSD Data Type *xs:string* **XSD Element / Domain (Simple Type)** *HomeCity*
Multiple Entry Configuration No **Accepts Null Value** Yes, common null values
Required in NTDS Yes

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

References to Other Databases

- NHTSA V.2.2 - E06_05

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: *Patient's Home Zip Code* or *Alternate Home Residence*

ALTERNATE HOME RESIDENCE

D_06

Data Format [combo] single-choice **_National Element_**

Definition

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

XSD Data Type *xs:integer*
XSD Element / Domain (Simple Type) *HomeResidence*
Multiple Entry Configuration No
Accepts Null Value Yes, common null values
Required in NTDS Yes

Field Values

1 Homeless

2 Undocumented Citizen

3 Migrant Worker

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 *Patient's Home Zip Code* is Not Applicable
0503	5	Blank, required to complete variables: *Patient's Home Zip Code* or (*Patient's Home Country*, *Patient's Home State*, *Patient's Home County* and *Patient's Home City*)

D_07

DATE OF BIRTH

Data Format [date] ***National Element***

Definition

The patient's date of birth.

XSD Data Type *xs:date*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *DateOfBirth*
Accepts Null Value Yes, common null values
Minimum Constraint 1890 **Maximum Constraint** 2030

Field Values

- Relevant value for data element

Additional Information

- Collected as YYYY-MM-DD.
- *If age is less than 24 hours, complete variables: Age and Age Units.*
- *If "Not Recorded/Not Known" complete variables: Age and Age Units.*
- 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

References to Other Databases

- NHTSA V.2.2 - E06_16

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 Date at Scene*
0608	2	*Date of Birth* cannot be later than *EMS Unit Departure Date From Scene*
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	Not Applicable, complete variables: *Age* and *Age Units* if less than 24 hours

D_08

AGE

Data Format [number] ***National Element***

Definition

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

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

XSD Element / Domain (Simple Type) *Age*
Accepts Null Value Yes, common null values
Minimum Constraint 0 **Maximum Constraint** 120

Field Values

- Relevant value for data element

Additional Information

- Used to calculate patient age in hours, days, months, or years.
- *Only completed when Date of Birth is "Not Recorded/Not Known" or age is less than 24 hours.*
- *Must also complete variable: Age Units*

Data Source Hierarchy

6. ED Admission Form
7. Billing Sheet / Medical Records Coding Summary Sheet
8. EMS Run Sheet
9. Triage Form / Trauma Flow Sheet
10. ED Nurses' Notes

References to Other Databases

- NHTSA V.2.2 - E06_14

Associated Edit Checks

Rule ID	Level	Message
0701	1	Invalid value
0702	5	Blank, required to complete variable: *Date of Birth*
0703	4	Blank, required to complete when *Date of Birth* is less than 24 hours or Not Known/Not Recorded
0704	3	*ED/Hospital Arrival Date* minus *Date of Birth* must equal submitted *Age*.

AGE UNITS

Data Format [combo] single-choice ***National Element***

D_09

Definition

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

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

XSD Element / Domain (Simple Type) *AgeUnits*
Accepts Null Value Yes, common null values

Field Values

1 Hours
2 Days
3 Months
4 Years

Additional Information

- Used to calculate patient age in hours, days, months, or years.
- *Only completed when age is less than 24 hours or "Not Recorded/Not Known."*
- *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

References to Other Databases

NHTSA V.2.2 - E06_15

Associated Edit Checks

Rule ID	Level	Message
0801	1	Invalid value
0802	5	Blank, required to complete variable: *Date of Birth*
0803	4	Blank, required to complete when *Date of Birth* is less than 24 hours or Not Known/Not Recorded

RACE
Data Format [combo] multiple-choice

National Element

D_10

Definition
The patient's race.

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 2
Required in NTDS Yes

XSD Element / Domain (Simple Type) *Race*
Accepts Null Value Yes, common null values

Field Values

1 Asian

2 Native Hawaiian or Other Pacific Islander

3 Other Race

4 American Indian

5 Black or African American

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

6. ED Admission Form
7. Billing Sheet / Medical Records Coding Summary Sheet
8. Triage Form / Trauma Flow Sheet
9. EMS Run Sheet
10. ED Nurses' Notes

References to Other Databases

NHTSA V.2.2 - E06_12

Associated Edit Checks

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

ETHNICITY

Data Format [combo] single-choice **_National Element_** D_11

Definition

The patient's ethnicity.

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *Ethnicity*
Accepts Null Value Yes, common null values

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

References to Other Databases

- NHTSA V.2.2 - E06_13

Associated Edit Checks

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

SEX

Data Format [combo] single-choice **_National Element_**

Definition

The patient's sex.

XSD Data Type *xs:integer*
XSD Element / Domain (Simple Type) *Sex*
Multiple Entry Configuration No
Accepts Null Value Yes, common null values
Required in NTDS Yes

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

References to Other Databases

- NHTSA V.2.2 - E06_11

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 | **I_01**

Data Format [date] | ***National Element***

Definition

The date the injury occurred.

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

XSD Element / Domain (Simple Type) *IncidentDate*
Accepts Null Value Yes, common null values
Minimum Constraint 1,990 **Maximum Constraint** 2,030

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

References to Other Databases

NHTSA V.2.2 - E05_01

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 Date at Scene*
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*

I_02

INJURY INCIDENT TIME

Data Format [time] ***National Element***

Definition

The time the injury occurred.

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

XSD Element / Domain (Simple Type) *IncidentTime*
Accepts Null Value Yes, common null values

Field Values

- Relevant value for data element.

Additional Information

- Collected as HH:MM.
- HH:MM should be collected as 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

References to Other Databases

- NHTSA V.2.2 - E05_01

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 Date at Scene* 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 Departure Date From Scene* 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*

I_03

WORK-RELATED

Data Format [combo] single-choice *National Element*

Definition

Indication of whether the injury occurred during paid employment.

XSD Data Type *xs:integer*
XSD Element / Domain (Simple Type) *WorkRelated*
Multiple Entry Configuration No
Accepts Null Value Yes, common null values
Required in NTDS Yes

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

References to Other Databases

- NHTSA V.2.2 - E07_15

Associated Edit Checks

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

I_04

PATIENT'S OCCUPATIONAL INDUSTRY

Data Format [combo] single-choice ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *PatientsOccupationalIndustry*
Accepts Null Value Yes, common null values

Field Values

1 Finance, Insurance, and Real Estate

2 Manufacturing

3 Retail Trade

4 Transportation and Public Utilities

5 Agriculture, Forestry, Fishing

6 Professional and Business Services

7 Education and Health Services

8 Construction

9 Government

10 Natural Resources and Mining

11 Information Services

12 Wholesale Trade

13 Leisure and Hospitality

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

References to Other Databases

NHTSA V.2.2 - E07_16

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)

I_05

PATIENT'S OCCUPATION

Data Format [combo] single-choice — ***National Element***

Definition

The occupation of the patient.

XSD Data Type *xs:integer*	**XSD Element / Domain (Simple Type)** *PatientsOccupation*
Multiple Entry Configuration No	**Accepts Null Value** Yes, common null values
Required in NTDS Yes	

Field Values

1 Business and Financial Operations Occupations

2 Architecture and Engineering Occupations

3 Community and Social Services Occupations

4 Education, Training, and Library Occupations

5 Healthcare Practitioners and Technical Occupations

6 Protective Service Occupations

7 Building and Grounds Cleaning and Maintenance

8 Sales and Related Occupations

9 Farming, Fishing, and Forestry Occupations

10 Installation, Maintenance, and Repair Occupations

11 Transportation and Material Moving Occupations

12 Management Occupations

13 Computer and Mathematical Occupations

14 Life, Physical, and Social Science Occupations

15 Legal Occupations

16 Arts, Design, Entertainment, Sports, and Media

17 Healthcare Support Occupations

18 Food Preparation and Serving Related

19 Personal Care and Service Occupations

20 Office and Administrative Support Occupations

21 Construction and Extraction Occupations

22 Production Occupations

23 Military Specific 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

References to Other Databases

- NHTSA V.2.2 - E07_17

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 *Patient's Occupational Industry* must be completed
1604	4	Blank, required to complete when *Work-Related* is 1 (Yes)

I_06

PRIMARY E-CODE

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:string*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *PrimaryECode*
Accepts Null Value Yes, common null values

Field Values

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

Additional Information

- The Primary E-code should describe the main reason a patient is admitted to the hospital.
- E-codes are used to auto-generate two calculated fields: Trauma Type (Blunt, Penetrating, Burn) and Intentionality (based upon CDC matrix).
- ICD-9-CM codes were retained over ICD-10 due to CMS's continued use of ICD-9.
- 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

Other Associated Elements

1. Location E-code
2. Additional E-code

Associated Edit Checks

Rule ID	Level	Message
1701	1	Invalid, out of range
1702	2	Blank, required field (at least one ICD-9-CM trauma code must be entered)
1703	4	*E-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	E-code should not be an activity code. Primary E-Code must be within the range of E800-999.9

LOCATION E-CODE

Data Format [number] ***National Element***

I_07

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *LocationECode*
Accepts Null Value Yes, common null values
Minimum Constraint 0 **Maximum Constraint** 9

Field Values

- Relevant ICD-9-CM code value for injury location.

Additional Information

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

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, out of range
1802	4	Blank, required field

ADDITIONAL E-CODE

Data Format [number] ***National Element***

I_08

Definition

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

XSD Data Type *xs:string*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *AdditionalECode*
Accepts Null Value Yes, common null values

Field Values

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

Additional Information

- E-codes are used to auto-generate two calculated fields: Trauma Type: (Blunt, Penetrating, Burn) and Intentionality (based upon CDC matrix).
- ICD-9-CM Codes were retained over ICD-10 due to CMS's continued use of ICD-9.
- 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
1901	1	Invalid, out of range
1902	4	If completed, *Additional E-Code* cannot be equal to *Primary E-Code*

INCIDENT LOCATION ZIP CODE

I_09

Data Format [text] ***National Element***

Definition

The ZIP code of the incident location.

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

XSD Element / Domain (Simple Type) *InjuryZip / Zip*
Accepts Null Value Yes, common null values

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

References to Other Databases

NHTSA V.2.2 - E08_15

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

I_10

Data Format [combo] single-choice **_National Element_**

Definition

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

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

XSD Element / Domain (Simple Type) *IncidentCountry*
Accepts Null Value Yes, common null values

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

I_11

Data Format [combo] single-choice ***National Element***

Definition

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

XSD Data Type *xs:string*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *IncidentState*
Accepts Null Value Yes, common null values

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

- EMS Run Sheet
- Triage Form / Trauma Flow Sheet
- ED Nurses' Notes

References to Other Databases

- NHTSA 2.2 - E08_14

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

Data Format [combo] single-choice ***National Element***

I_12

Definition

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

XSD Data Type *xs:string*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *IncidentCounty*
Accepts Null Value Yes, common null values

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

References to Other Databases

NHTSA 2.2 - E08_13

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

I_13

Data Format [combo] single-choice ***National Element***

Definition

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

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

XSD Element / Domain (Simple Type) *IncidentCity*
Accepts Null Value Yes, common null values

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

References to Other Databases

- NHTSA V.2.2 - E08_12

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

Data Format [combo] multiple-choice ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 10
Required in NTDS Yes
XSD Element / Domain (Simple Type) *ProtectiveDevice*
Accepts Null Value Yes, common null values

Field Values

1 None

2 Lap Belt

3 Personal Floatation Device

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

5 Eye Protection

6 Child Restraint (booster seat or child car seat)

7 Helmet (e.g., bicycle, skiing, motorcycle)

8 Airbag Present

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

10 Shoulder Belt

11 Other

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

References to Other Databases

Compare to NHTSA V.2.2 – E10_08

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 — **I_15**

Data Format [combo] single-choice — ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *ChildSpecificRestraint*
Accepts Null Value Yes, common null values

Field Values

1 Child Car Seat

2 Infant Car Seat

3 Child Booster 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

I_16

Data Format [combo] multiple-choice **_National Element_**

Definition

Indication of airbag deployment during a motor vehicle crash.

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 4
Required in NTDS Yes
XSD Element / Domain (Simple Type) *AirbagDeployment*
Accepts Null Value Yes, common null values

Field Values

1 Airbag Not Deployed

2 Airbag Deployed Front

3 Airbag Deployed Side

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

References to Other Databases

- NHTSA V.2.2 – E10_09

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)

Pre-hospital Information

P_01

EMS DISPATCH DATE

Data Format [date] ***National Element***

Definition

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

- 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.

XSD Data Type *xs:date*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EmsNotifyDate*
Accepts Null Value Yes, common null values
Minimum Constraint 1990 **Maximum Constraint** 2030

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).

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- NHTSA V.2.2 - E05_04

Associated Edit Checks

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

EMS DISPATCH TIME P_02

Data Format [time] ***National Element***

Definition

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

- 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.

XSD Data Type *xs:time*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EmsNotifyTime*
Accepts Null Value Yes, common null values

Field Values

- Relevant value for data element.

Additional Information

- Collected as HH:MM.
- HH:MM should be collected as military time.
- Used to auto-generate an additional calculated field: Total EMS Time (elapsed time from EMS dispatch to hospital arrival).

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- NHTSA V.2.2 - E05_04

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 Date at Scene* 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 Departure Date from Scene* are the same, the *EMS Dispatch Time* cannot be later than the *EMS Unit Time from Scene*
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

Data Format [date/time] ***National Element***

Definition

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

- 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).

XSD Data Type *xs:date*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EmsArrivalDate*
Accepts Null Value Yes, common null values
Minimum Constraint 1990 **Maximum Constraint** 2030

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) & Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- NHTSA V.2.2 - E05_06

Associated Edit Checks

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

EMS UNIT ARRIVAL TIME AT SCENE OR TRANSFERRING FACILITY

Data Format [date/time] ***National Element***

Definition

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

- 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).

XSD Data Type *xs:time*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EmsArrivalTime*
Accepts Null Value Yes, common null values

Field Values

- Relevant value for data element.

Additional Information

- Collected as HH:MM.
- HH:MM should be collected as military time.
- Used to auto-generate two additional calculated fields: Total EMS Response Time (elapsed time from EMS dispatch to scene arrival) & Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- NHTSA V.2.2 - E05_06

Associated Edit Checks

Rule ID	Level	Message
3101	1	Invalid value
3102	1	Time out of range
3103	4	If *EMS Unit Arrival Date at Scene* 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 Date at Scene* and *EMS Unit Departure Date From Scene 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 Date at Scene* 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 Date at Scene* 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 Date at Scene* 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

Data Format [date/time] ***National Element***

Definition

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

- 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 (arrival is defined at date/time when the vehicle started moving).

XSD Data Type *xs:date*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EmsLeftDate*
Accepts Null Value Yes, common null values
Minimum Constraint 1990 **Maximum Constraint** 2030

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).

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- NHTSA V.2.2 - E05_09

Associated Edit Checks

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

EMS UNIT DEPARTURE TIME FROM SCENE OR TRANSFERRING FACILITY

Data Format [time] ***National Element***

Definition

The time the unit *transporting to your hospital* left the scene (the time the vehicle started moving).

- 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 (arrival is defined at date/time when the vehicle started moving).

XSD Data Type *xs:time*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EmsLeftTime*
Accepts Null Value Yes, common null values

Field Values

- Relevant value for data element.

Additional Information

- Collected as HH:MM.
- HH:MM should be collected as military time.
- Used to auto-generate an additional calculated field: Total EMS Scene Time (elapsed time from EMS scene arrival to scene departure).

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- NHTSA V.2.2 - E05_09

Associated Edit Checks

Rule ID	Level	Message
3301	1	Invalid value
3302	1	Time out of range
3303	4	If *EMS Unit Departure Date From Scene* 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 Departure Date From Scene* and *EMS Unit Arrival Date at Scene* 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 Departure Date From Scene* 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 Departure Date From Scene* 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 Departure Date From Scene* and *Hospital Discharge Date* are the same, the *EMS Unit Scene Departure Time* cannot be later than the *Hospital Discharge Time*

TRANSPORT MODE

Data Format [combo] single-choice **_National Element_** **P_07**

Definition

The mode of transport delivering the patient to your hospital.

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

XSD Element / Domain (Simple Type) *TransportMode*
Accepts Null Value Yes, common null values

Field Values

1 Ground Ambulance

2 Helicopter Ambulance

3 Fixed-wing Ambulance

4 Private/Public Vehicle/Walk-in

5 Police

6 Other

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

Data Format [combo] multiple-choice ***National Element***

P_08

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.

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 5
Required in NTDS Yes
XSD Element / Domain (Simple Type) *OtherTransportMode*
Accepts Null Value Yes, common null values

Field Values

1 Ground Ambulance

2 Helicopter Ambulance

3 Fixed-wing Ambulance

4 Private/Public Vehicle/Walk-in

5 Police

6 Other

Additional Information

- Include in “other” unspecified modes of transport.
- “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.

Data Source Hierarchy

1. EMS Run Sheet

Associated Edit Checks

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

P_09

INITIAL FIELD SYSTOLIC BLOOD PRESSURE

Data Format [number] ***National Element***

Definition

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

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

XSD Element / Domain (Simple Type) *EmsSbp*
Accepts Null Value Yes, common null values
Minimum Constraint 0 **Maximum Constraint** 300

Field Values

- Relevant value for data element.

Additional Information

- If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as *Not Known/Not Recorded*.

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- Compare to NHTSA 2.2 – E14_04

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

P_10

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:integer*	**XSD Element / Domain (Simple Type)** *EmsPulseRate*
Multiple Entry Configuration No	**Accepts Null Value** Yes, common null values
Required in NTDS Yes	**Minimum Constraint** 0 **Maximum Constraint** 299

Field Values

- Relevant value for data element.

Additional Information

- If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as *Not Known/Not Recorded*.

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- Compare to NHTSA 2.2 – E14_07

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

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EmsRespiratoryRate*
Accepts Null Value Yes, common null values
Minimum Constraint 0 **Maximum Constraint** 120

Field Values

- Relevant value for data element.

Additional Information

- If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as *Not Known/Not Recorded*.

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- Compare to NHTSA 2.2 – E14_11

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

P_12

Data Format [number] ***National Element***

Definition

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

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

XSD Element / Domain (Simple Type) *EmsPulseOximetry*
Accepts Null Value Yes, common null values
Minimum Constraint 0 **Maximum Constraint** 100

Field Values

- Relevant value for data element.

Additional Information

- If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as *Not Known/Not Recorded*.
- Value should be based upon assessment before administration of supplemental oxygen.

Data Source Hierarchy

1. EMS Run Sheet

References to Other Databases

- Compare to NHTSA 2.2 – E14_09

Associated Edit Checks

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

P_13

INITIAL FIELD GCS - EYE

Data Format [number] ***National Element***

Definition

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

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

XSD Element / Domain (Simple Type) *EmsGcsEye*
Accepts Null Value Yes, common null values
Minimum Constraint 1 **Maximum Constraint** 4

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 - EMS Score.
- If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as *Not Known/Not Recorded*.
- 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

References to Other Databases

- NHTSA 2.2 – E14_15

Associated Edit Checks

Rule ID	Level	Message
4001	1	Invalid, out of range
4002	5	Blank, required to complete variable: *Initial Field GCS – Total*

P_14

INITIAL FIELD GCS - VERBAL

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:integer*	**XSD Element / Domain (Simple Type)** *EmsGcsVerbal*
Multiple Entry Configuration No	**Accepts Null Value** Yes, common null values
Required in NTDS Yes	**Minimum Constraint** 1 **Maximum Constraint** 5

Field Values

Pediatric (≤ 2 years):

1 No vocal response

2 Inconsolable, agitated

3 Inconsistently consolable, moaning

4 Cries but is consolable, inappropriate interactions

5 Smiles, oriented to sounds, follows objects, interacts

Adult:

1 No verbal response

2 Incomprehensible sounds

3 Inappropriate words

4 Confused

5 Oriented

Additional Information

- Used to calculate Overall GCS - EMS Score.
- If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as *Not Known/Not Recorded*.
- 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

References to Other Databases

- NHTSA 2.2 – E14_16

Associated Edit Checks

Rule ID	Level	Message
4101	1	Invalid, out of range
4102	5	Blank, required to complete variable: *Initial Field GCS – Total*

INITIAL FIELD GCS - MOTOR

P_15

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:integer* **XSD Element / Domain (Simple Type)** *EmsGcsMotor*
Multiple Entry Configuration No **Accepts Null Value** Yes, common null values
Required in NTDS Yes **Minimum Constraint** 1 **Maximum Constraint** 6

Field Values

Pediatric (≤ 2 years):

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

Adult:

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

Additional Information

- Used to calculate Overall GCS - EMS Score.
- If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as *Not Known/Not Recorded*.
- 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

- EMS Run Sheet

References to Other Databases

- NHTSA 2.2 – E14_17

Associated Edit Checks

Rule ID	Level	Message
4201	1	Invalid, out of range
4202	5	Blank, required to complete variable: *Initial Field GCS – Total*

INITIAL FIELD GCS - TOTAL

Data Format [number] ***National Element***

P_16

Definition

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

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

XSD Element / Domain (Simple Type) *EmsTotalGcs*
Accepts Null Value Yes, common null values
Minimum Constraint 3 **Maximum Constraint** 15

Field Values

- Relevant value for data element.

Additional Information

- *Utilize only if total score is available without component scores.*
- If the patient is transferred to your facility with no EMS run sheet from the scene of injury, record as *Not Known/Not Recorded*.
- 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 not other contradicting documentation.

Data Source Hierarchy

- EMS Run Sheet

References to Other Databases

- Compare to NHTSA 2.2 – E14_19

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 **P_17**

Data Format [combo] single-choice ***National Element***

Definition

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

XSD Data Type *xs:integer*
XSD Element / Domain (Simple Type) *InterFacilityTransfer*
Multiple Entry Configuration No
Accepts Null Value Yes, common null values
Required in NTDS Yes

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

Other Associated Elements

- Transport Mode
- Other Transport Mode

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

Emergency Department Information

ED/HOSPITAL ARRIVAL DATE

Data Format [date] ***National Element***

ED_01

Definition

The date the patient arrived to the ED/hospital.

XSD Data Type *xs:date*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *HospitalArrivalDate*
Accepts Null Value Yes, common null values
Minimum Constraint 1990 **Maximum Constraint** 2030

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 Date at Scene*
4508	3	*ED/Hospital Arrival Date* cannot be earlier than *EMS Unit Scene Departure Date*
4509	3	*ED/Hospital Arrival Date* cannot be later than *ED Discharge Date*
4510	3	*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

Data Format [time] ***National Element*** **ED_02**

Definition

The time the patient arrived to the ED/hospital.

XSD Data Type *xs:time*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *HospitalArrivalTime*
Accepts Null Value Yes, common null values

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.
- HH:MM should be collected as 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 Date at Scene* 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 Departure Date From Scene* 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*

ED_03

INITIAL ED/HOSPITAL SYSTOLIC BLOOD PRESSURE

Data Format [number] ***National Element***

Definition

First recorded systolic blood pressure in the ED/hospital.

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

XSD Element / Domain (Simple Type) *Sbp*
Accepts Null Value Yes, common null values
Minimum Constraint 0 **Maximum Constraint** 300

Field Values

- Relevant value for data element.

Additional Information

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

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 | **ED_04**

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *PulseRate*
Accepts Null Value Yes, common null values
Minimum Constraint 0 **Maximum Constraint** 299

Field Values

- Relevant value for data element.

Additional Information

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

Associated Edit Checks

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

ED_05

INITIAL ED/HOSPITAL TEMPERATURE

Data Format [number] ***National Element***

Definition

First recorded temperature (in degrees Celsius [centigrade]) in the ED/hospital.

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

XSD Element / Domain (Simple Type) *Temperature*
Accepts Null Value Yes, common null values
Minimum Constraint 0.0 **Maximum Constraint** 45.0

Field Values

- Relevant value for data element.

Additional Information

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

Associated Edit Checks

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

ED_06

INITIAL ED/HOSPITAL RESPIRATORY RATE

Data Format [number] ***National Element***

Definition

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

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

XSD Element / Domain (Simple Type) *RespiratoryRate*
Accepts Null Value Yes, common null values
Minimum Constraint 0 **Maximum Constraint** 120

Field Values

- Relevant value for data element.

Additional Information

- *If available, complete additional field: "Initial ED/Hospital Respiratory Assistance."*

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

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

ED_07

INITIAL ED/HOSPITAL RESPIRATORY ASSISTANCE
Data Format [combo] single-choice ***National Element***

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

XSD Data Type *xs:integer*
XSD Element / Domain (Simple Type) *RespiratoryAssistance*
Multiple Entry Configuration No
Accepts Null Value Yes, common null values
Required in NTDS Yes

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.

Data Source Hierarchy
1. Triage Form / Trauma Flow Sheet
2. ED Record

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

ED_08

INITIAL ED/HOSPITAL OXYGEN SATURATION

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:integer*
XSD Element / Domain (Simple Type) *PulseOximetry*
Multiple Entry Configuration No
Accepts Null Value Yes, common null values
Required in NTDS Yes
Minimum Constraint 0 **Maximum Constraint** 100

Field Values

- Relevant value for data element.

Additional Information

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

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

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

ED_09

INITIAL ED/HOSPITAL SUPPLEMENTAL OXYGEN

Data Format [combo] single-choice ***National Element***

Definition

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

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

Field Values

1 No Supplemental Oxygen
2 Supplemental Oxygen

Additional Information

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

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

Associated Edit Checks

Rule ID	Level	Message
5301	1	Invalid value
5302	4	Blank, required field
5303	4	Blank, required to complete when *Initial ED/Hospital Oxygen Saturation* is complete

INITIAL ED/HOSPITAL GCS - EYE

ED_10

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:integer*	**XSD Element / Domain (Simple Type)** *GcsEye*
Multiple Entry Configuration No	**Accepts Null Value** Yes, common null values
Required in NTDS Yes	**Minimum Constraint** 1 **Maximum Constraint** 4

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.

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

Associated Edit Checks

Rule ID	Level	Message
5401	1	Invalid, out of range
5402	5	Blank, required to complete variable: *Initial ED/Hospital GCS – Total*

ED_11

INITIAL ED/HOSPITAL GCS - VERBAL

Data Format [number] ***National Element***

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *GcsVerbal*
Accepts Null Value Yes, common null values
Minimum Constraint 1 **Maximum Constraint** 5

Field Values

Pediatric (≤ 2 years):

1 No vocal response

2 Inconsolable, agitated

3 Inconsistently consolable, moaning

4 Cries but is consolable, inappropriate interactions

5 Smiles, oriented to sounds, follows objects, interacts

Adult:

1 No verbal response

2 Incomprehensible sounds

3 Inappropriate words

4 Confused

5 Oriented

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.

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

Associated Edit Checks

Rule ID	Level	Message
5501	1	Invalid, out of range
5502	5	Blank, required to complete variable: *Initial ED/Hospital GCS – Total*

ED_12

INITIAL ED/HOSPITAL GCS - MOTOR

Data Format [number] ***National Element***

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

XSD Data Type *xs:integer*	**XSD Element / Domain (Simple Type)** *GcsMotor*
Multiple Entry Configuration No	**Accepts Null Value** Yes, common null values
Required in NTDS Yes	**Minimum Constraint** 1 **Maximum Constraint** 6

Field Values

Pediatric (≤ 2 years):

1 No motor response

2 Extension to pain

3 Flexion to pain

4 Withdrawal from pain

5 Localizing pain

6 Appropriate response to stimulation

Adult:

1 No motor response

2 Extension to pain

3 Flexion to pain

4 Withdrawal from pain

5 Localizing 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.

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

Associated Edit Checks

Rule ID	Level	Message
5601	1	Invalid, out of range
5602	5	Blank, required to complete variable: *Initial ED/Hospital GCS – Total*

INITIAL ED/HOSPITAL GCS - TOTAL

ED_13

Data Format [number] ***National Element***

Definition

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

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

XSD Element / Domain (Simple Type) *TotalGcs*
Accepts Null Value Yes, common null values
Minimum Constraint 3 **Maximum Constraint** 15

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 not other contradicting documentation.

Data Source Hierarchy

1. Triage Form / Trauma Flow Sheet
2. ED Record

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 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	*Initial ED/Hospital GCS – Total* is valued but components are blank

ED_14

INITIAL ED/HOSPITAL GCS ASSESSMENT QUALIFIERS

Data Format [combo] multiple-choice ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 4
Required in NTDS Yes
XSD Element / Domain (Simple Type) *GcsQualifier*
Accepts Null Value Yes, common null values

Field Values

1 Patient Chemically Sedated or Paralysed

2 Obstruction to the Patient's Eye

3 Patient Intubated

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.

Data Source Hierarchy

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

Associated Edit Checks

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

ED_15

ALCOHOL USE INDICATOR

Data Format [combo] single-choice **_National Element_**

Definition

Use of alcohol by the patient.

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

XSD Element / Domain (Simple Type) *AlcoholUseIndicators*
Accepts Null Value Yes, common null values

Field Values

1 No (not tested)

2 No (confirmed by test)

3 Yes (confirmed by test [trace levels])

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

ED_16

Data Format [combo] multiple-choice *National Element*

Definition

Use of drugs by the patient.

XSD Data Type *xs:integer*
XSD Element / Domain (Simple Type) *DrugUseIndicator*
Multiple Entry Configuration Yes, max 2
Accepts Null Value Yes, common null values
Required in NTDS Yes

Field Values

1 No (not tested)

2 No (confirmed by test)

3 Yes (confirmed by test [prescription drug])

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.

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_17

ED DISCHARGE DISPOSITION

Data Format [combo] single-choice **_National Element_**

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EdDischargeDisposition*
Accepts Null Value *Yes, common null values*

Field Values

1 Floor bed (general admission, non specialty unit bed)

2 Observation unit (unit that provides < 24 hour stays)

3 Telemetry/step-down unit (less acuity than ICU)

4 Home with services

5 Died

6 Other (jail, institutional care, mental health, etc.)

7 Operating Room

8 Intensive Care Unit (ICU)

9 Home without services

10 Left against medical advice

11 Transferred to another hospital

Additional Information

- Based upon UB-04 disposition coding.
- If the patient is directly admitted to the hospital, code as NA.
- If ED Discharge Disposition is 4, 5, 6, 9, 10, 11, then Hospital Discharge Date, Time, and Disposition should be NA.

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.

ED_18

SIGNS OF LIFE

Data Format [combo] single-choice ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *DeathInEd*
Accepts Null Value Yes, common null values

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

ED_19

ED DISCHARGE DATE

Data Format [date] ***National Element***

Definition

The date the patient was discharged from the ED.

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

XSD Element / Domain (Simple Type) *EdDischargeDate*
Accepts Null Value Yes, common null values
Minimum Constraint 1990 **Maximum Constraint** 2030

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).
- If the patient is directly admitted to the hospital, code as “Not Applicable”.

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 Date at Scene*
6306	4	*ED Discharge Date* cannot be earlier than *EMS Unit Scene Departure Date*
6307	4	*ED Discharge Date* cannot be earlier than *ED/Hospital Arrival Date*
6308	4	*ED Discharge Date* cannot be later than *Hospital Discharge Date*
6309	4	*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_20

ED DISCHARGE TIME

Data Format [time] ***National Element***

Definition

The time the patient was discharged from the ED.

XSD Data Type *xs:time*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *EdDischargeTime*
Accepts Null Value Yes, common null values

Field Values

- Relevant value for data element.

Additional Information

- Collected as HH:MM.
- HH:MM should be collected as military time.
- Used to auto-generate an additional calculated field: Total ED Time (elapsed time from ED admit to ED discharge).
- If the patient is directly admitted to the hospital, code as “Not Applicable”.

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 Date at Scene* 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 Departure Date From Scene* 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

HOSPITAL PROCEDURES **HP_01**

Data Format [combo] multiple-choice ***National Element***

Definition

Operative and essential procedures conducted during hospital stay. Operative and essential 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.

XSD Data Type *xs: string*
Multiple Entry Configuration Yes, max 200
Required in NTDS Yes
XSD Element / Domain (Simple Type) *HospitalProcedure*
Accepts Null Value Yes, common null values

Field Values

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

Additional Information

- Code the field as Not Applicable if 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.

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

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

CNS
Insertion of ICP monitor *
Ventriculostomy *
Cerebral oxygen monitoring *

Musculoskeletal

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*

Respiratory
Insertion of endotracheal tube*
Continuous mechanical ventilation *
Chest tube *
Bronchoscopy *

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

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, required field

HOSPITAL PROCEDURE START DATE

HP_02

Data Format [date] ***National Element***

Definition

The date operative and essential procedures were performed.

XSD Data Type *xs:date*	**XSD Element / Domain (Simple Type)** *HospitalProcedureStartDate*
Multiple Entry Configuration Yes, max 200	**Accepts Null Value** Yes, common null values
Required in NTDS Yes	**Minimum Constraint** 1990 **Maximum Constraint** 2030

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 Date at Scene*
6605	4	*Hospital Procedure Start Date* cannot be earlier than *EMS Unit Departure Date from Scene*
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

HP_03

Data Format [time] ***National Element***

Definition

The time operative and essential procedures were performed.

XSD Data Type *xs:time*

XSD Element / Domain (Simple Type) *HospitalProcedureStartTime*

Multiple Entry Configuration Yes, max 200

Accepts Null Value Yes, common null values

Required in NTDS Yes

Field Values

- Relevant value for data element.

Additional Information

- Collected as HH:MM.
- HH:MM should be collected as 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 Date at Scene* 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 Departure Date From Scene* 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

Diagnoses Information

CO-MORBID CONDITIONS

DG_01

Data Format [combo] multiple-choice ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 28
Required in NTDS Yes
XSD Element / Domain (Simple Type) *ComorbidCondition*
Accepts Null Value Yes, common null values

Field Values

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

Additional Information

- The value "Not Applicable" should be used for patients with no known co-morbid conditions.

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

INJURY DIAGNOSES

DG_02

Data Format [combo] multiple-choice ***National Element***

Definition

Diagnoses related to all identified injuries.

XSD Data Type *xs:string*
XSD Element / Domain (Simple Type) *InjuryDiagnosis*
Multiple Entry Configuration Yes, max 50
Accepts Null Value Yes, common null values
Required in NTDS Yes

Field Values

- Injury diagnoses as defined by (ICD-9-CM) codes (code range: 800-959.9).
- 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.

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, required field
6903	2	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)

Injury Severity Information

IS_01

AIS PREDOT CODE

Data Format [combo] multiple choice — ***Optional Element***

Definition

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

XSD Data Type *xs:string*
XSD Element / Domain (Simple Type) *AisPredot*
Multiple Entry Configuration Yes, max 50
Accepts Null Value Yes, common null values
Required in NTDS Yes

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.

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

IS_02

AIS SEVERITY

Data Format [combo] multiple choice **_Optional Element_**

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 50
Required in NTDS Yes
XSD Element / Domain (Simple Type) *AisSeverity*
Accepts Null Value Yes, common null values
Minimum Constraint 1 **Maximum Constraint** 6

Field Values

1 Minor Injury

2 Moderate Injury

3 Serious Injury

4 Severe Injury

5 Critical Injury

6 Maximum Injury, Virtually Unsurvivable

9 Not Possible to Assign

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.

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

IS_03

ISS BODY REGION

Data Format [combo] multiple choice ***Optional Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 50
Required in NTDS Yes
XSD Element / Domain (Simple Type) *IssRegion*
Accepts Null Value Yes, common null values
Minimum Constraint 1 **Maximum Constraint** 6

Field Values

1 Head or Neck

2 Face

3 Chest

4 Abdominal or pelvic contents

5 Extremities or pelvic girdle

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.

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

IS_04

AIS VERSION

Data Format [combo] single-choice **_Optional Element_**

Definition

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

XSD Data Type *xs:integer*
XSD Element / Domain (Simple Type) *AisVersion*
Multiple Entry Configuration No
Accepts Null Value Yes, common null values
Required in NTDS Yes

Field Values

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

Additional Information

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

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.

IS_05

LOCALLY CALCULATED ISS

Data Format [combo] single-choice **_Optional Element_**

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *IssLocal*
Accepts Null Value Yes, common null values
Minimum Constraint 1 **Maximum Constraint** 75

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.

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

O_01

Data Format [number] ***National Element***

Definition

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

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

XSD Element / Domain (Simple Type) *TotalICuLos*
Accepts Null Value Yes, common null values
Minimum Constraint 1 **Maximum Constraint** 400

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.
- If the patient had no ICU days according to the above definition, code as 'Not applicable.'

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 value
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

O_02

Data Format [number] ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *TotalVentDays*
Accepts Null Value Yes, common null values
Minimum Constraint 1 **Maximum Constraint** 400

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.
- If the patient was not on the ventilator according to the above definition, code as 'Not applicable.'

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

Example #	Start Date	Start Time	Stop Date	Stop Time	LOS
					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 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 value
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*

O_03

HOSPITAL DISCHARGE DATE

Data Format [date/time] ***National Element***

Definition

The date the patient was discharged from the hospital.

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

XSD Element / Domain (Simple Type) *HospitalDischargeDate*
Accepts Null Value Yes, common null values
Minimum Constraint 1990 **Maximum Constraint** 2030

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).
- If ED Discharge Disposition = 5 (Died) then Hospital Discharge Date should be NA (BIU=1).
- If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Date must be NA (BIU = 1).

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 Date at Scene*
7706	3	*Hospital Discharge Date* cannot be earlier than *EMS Unit Scene Departure Date*
7707	3	*Hospital Discharge Date* cannot be earlier than *ED/Hospital Arrival Date*
7708	3	*Hospital Discharge Date* cannot be earlier than *ED Discharge Date*
7709	3	*Hospital Discharge Date* 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)

O_04

HOSPITAL DISCHARGE TIME

Data Format [time] ***National Element***

Definition

The time the patient was discharged from the hospital.

XSD Data Type *xs:time*
XSD Element / Domain (Simple Type) *HospitalDischargeTime*
Multiple Entry Configuration No
Accepts Null Value Yes, common null values
Required in NTDS Yes

Field Values

- Relevant value for data element.

Additional Information

- Collected as HH:MM.
- HH:MM should be collected as military time.
- Used to auto-generate an additional calculated field: Total Length of Hospital Stay (elapsed time from ED/hospital arrival to hospital discharge).
- If ED Discharge Disposition = 5 (Died) then Hospital Discharge Time should be NA (BIU=1).
- If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Time must be NA (BIU = 1).

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 Date at Scene* 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 Departure Date From Scene* 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

Data Format [combo] single-choice **_National Element_** **O_05**

Definition

The disposition of the patient when discharged from the hospital.

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *HospitalDischargeDisposition*
Accepts Null Value Yes, common null values

Field Values

1 Discharged/Transferred to a short-term general hospital for inpatient care

2 Discharged/Transferred to an Intermediate Care Facility (ICF)

3 Discharge/Transferred to home under care of organized home health service

4 Left against medical advice or discontinued care

5 Expired

6 Discharged home with no home services

7 Discharged/Transferred to Skilled Nursing Facility

8 Discharged/ Transferred to hospice care

9 Discharged/Transferred to another type of rehabilitation or long-term care facility

Additional Information

- Field value = 6, "home" refers to the patient's current place of residence (e.g., prison, 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 9.
- Refer to the glossary for definitions of facility types.
- If ED Discharge Disposition = 5 (Died) then Hospital Discharge Disposition should be NA (BIU=1).
- If ED Discharge Disposition = 4,6,9,10, or 11 then Hospital Discharge Disposition must be NA (BIU = 1).

Data Source Hierarchy

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

Uses

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

Data Collection

- Hospital records or electronically through linkage with the EMS/medical record.

Other Associated Elements

- ED Discharge Date
- ED Discharge Time

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

F_01

PRIMARY METHOD OF PAYMENT

Data Format [combo] single-choice **_National Element_**

Definition
Primary source of payment for hospital care.

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in NTDS Yes
XSD Element / Domain (Simple Type) *PrimaryMethodPayment*
Accepts Null Value Yes, common null values

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

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

Q_01

HOSPITAL COMPLICATIONS

Data Format [combo] multiple-choice ***National Element***

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 23
Required in NTDS Yes
XSD Element / Domain (Simple Type) *HospitalComplication*
Accepts Null Value Yes, common null values

Field Values

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

Additional Information

- The value "NA" should be used for patients with no complications.

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 for information about joining TQIP.

Traumatic Brain Injury
HIGHEST GCS TOTAL

PM_01

Data Format [number]

Definition

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

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

XSD Element / Domain (Simple Type) *TbiHighestTotalGcs*
Accepts Null Value *Yes, common null values*
Minimum Constraint 3 **Maximum Constraint** 15

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 not other contradicting documentation.

Data Source Hierarchy

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

Uses

- Significant indicator of degree of head injury. Provides estimate of GCS used to guide interventions. As an example, a persistently low GCS might lead to intervention, but a GCS that has improved might lead to continued observation.

Associated Edit Checks

Highest GCS Total in First 24 Hours

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*

Traumatic Brain Injury
GCS MOTOR COMPONENT OF HIGHEST GCS TOTAL

PM_02

Data Format [number]

Definition

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

XSD Data Type *xs:integer*	**XSD Element / Domain (Simple Type)** *TbiGcsMotor*
Multiple Entry Configuration No	**Accepts Null Value** *Yes, common null values*
Required in XSD Yes	

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

- Refers to highest GCS motor score within 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.
- 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.
- Must be the motor component of Highest GCS Total.
- 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

Uses

- Significant indicator of degree of head injury. Provides estimate of GCS used to guide interventions. As an example, a persistently low GCS might lead to intervention, but a GCS that has improved might lead to continued observation.

Associated Edit Checks

GCS Motor Component of Highest GCS Total

Rule ID	Level	Message
10101	1	Invalid, out of range
10102	2	Blank, required field
10103	2	Blank, required to complete variable: *Highest GCS Total*

Traumatic Brain Injury
GCS ASSESSMENT QUALIFIER COMPONENT OF HIGHEST GCS TOTAL

PM_03

Data Format [number]

Definition

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

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 3
Required in XSD Yes

XSD Element / Domain (Simple Type) *TbiGcsQualifier*
Accepts Null Value *Yes, common null values*

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.
- 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 5-10 minutes.

Data Source Hierarchy

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

Uses

- Provides documentation of assessment and care
- Used to determine validity of GCS total or motor component

Associated Edit Checks

GCS Assessment Qualifier Component of Highest GCS Total

Rule ID	Level	Message
10201	1	Invalid, out of range
10202	2	*Blank, required field*

CEREBRAL MONITOR

PM_04

Data Format [combo] multiple-choice

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.

XSD Data Type *xs:integer*
Multiple Entry Configuration Yes, max 4
Required in XSD Yes
XSD Element / Domain (Simple Type) *TbiCerebralMonitor*
Accepts Null Value *Yes, common null values*

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.
- Choose not applicable if patient did not have a cerebral monitor.
- 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

Uses

- Evaluate process of care for patients with severe TBI.

Associated Edit Checks

Cerebral Monitor

Rule ID	Level	Message
10301	1	Invalid, out of range
10302	2	Blank, required field
10303	2	If *Highest GCS Total* ≤ 8 within the first 24 hours OR Highest GCS Motor score ≤3 within the first 24 hrs of ED/hospital arrival, AND at least one injury is in AIS head region, then Cerebral Monitor cannot be NK/NR

Traumatic Brain Injury
CEREBRAL MONITOR DATE

PM_05

Data Format [date]

Definition

Date of first cerebral monitor placement.

XSD Data Type *xs:date*
Multiple Entry Configuration No
Required in XSD Yes
XSD Element / Domain (Simple Type) *TbiCerebralMonitorDate*
Accepts Null Value *Yes, common null values*
Minimum Constraint 2010 **Maximum Constraint** 2030

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD.
- If no cerebral monitor then code as NA.

Data Source Hierarchy

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

Uses

- Documents when cerebral monitor was placed.

Associated Edit Checks

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*

Traumatic Brain Injury
CEREBRAL MONITOR TIME

PM_06

Data Format [time]

Definition

Time of first cerebral monitor placement.

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

XSD Element / Domain (Simple Type) *TbiCerebralMonitorTime*
Accepts Null Value *Yes, common null values*
Minimum Constraint 00:00 **Maximum Constraint** 24:00

Field Values

Relevant value for data element.

Additional Information

- Collected as HH:MM military time.
- If no cerebral monitor then code as NA.

Data Source Hierarchy

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

Uses

- Documents when cerebral monitor was placed.

Associated Edit Checks

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*

PM_07

Data Format [combo] single-choice

Definition

Type of first dose of VTE prophylaxis administered to patient.

XSD Data Type *xs:integer*
Multiple Entry Configuration No
Required in XSD Yes
XSD Element / Domain (Simple Type) *VteProphylaxisType*
Accepts Null Value *Yes, common null values*
Minimum Constraint 1 **Maximum Constraint** 5

Field Values

1 Heparin	4 Other low molecular weight heparins (including but not limited to Tinzaparin (Innohep, Logiparin); Nadroparin (Fraxiparin).
2 Lovenox (Enoxaparin)	5 None
3 Fragmin (Dalteparin)	

Additional Information

Data Source Hierarchy

1. Pharmacy Record
2. Charted Medications

Uses

Associated Edit Checks

Venous Thromboembolism Prophylaxis Type

Rule ID	Level	Message
10601	1	Invalid value, out of range

Venous Thromboembolism Prophylaxis
VENOUS THROMBOEMBOLISM PROPHYLAXIS DATE

Data Format [date]

Definition

Date of administration to patient of first prophylactic dose of Heparin, Lovenox (Enoxaparin) or Fragmin (Dalteparin) or other low molecular weight heparins.

XSD Data Type *xs:date*
Multiple Entry Configuration No
Required in XSD Yes
XSD Element / Domain (Simple Type) *VteProphylaxisDate*
Accepts Null Value *Yes, common null values*
Minimum Constraint 2010 **Maximum Constraint** 2030

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.
- Choose NA if never received prophylaxis.

Data Source Hierarchy

3. Pharmacy Record
4. Charted Medications

Uses

- Used to determine reason for withholding pharmacologic prophylaxis.

Associated Edit Checks

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 (values 1-4), 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 (5), then *VTE Prophylaxis Date* should be NA

Venous Thromboembolism Prophylaxis
VENOUS THROMBOEMBOLISM PROPHYLAXIS TIME

Data Format [time]

Definition

Time of administration to patient of first prophylactic dose of Heparin, Lovenox (Enoxaparin) or Fragmin (Dalteparin) or other low molecular weight heparins.

XSD Data Type *xs:time*	**XSD Element / Domain (Simple Type)** *VteProphylaxisTime*
Multiple Entry Configuration No	**Accepts Null Value** *Yes, common null values*
Required in XSD Yes	**Minimum Constraint** 00:00 **Maximum Constraint** 24:00

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.
- Choose NA if never received prophylaxis.

Data Source Hierarchy

5. Pharmacy Record
6. Charted Medications

Uses

- Used to determine reason for withholding pharmacologic prophylaxis.

Associated Edit Checks

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 (values 1-4), 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 (5), then *VTE Prophylaxis Time* should be NA

Appendix 1: NTDB Facility Dataset

This appendix defines variables which are collected at the time of hospital/third party registration (and data submission) that are "attached" to each submitted trauma registry case. The purpose of these variables is to allow researchers, state entities and others (in accordance with HIPAA and ACS policy) to stratify data analyses in ways that allow the efficacy of trauma care to be evaluated for different levels of care. Variables will allow both trauma *center* performance and trauma *system* performance to be evaluated and benchmarked. It is important to note that the anonymity of hospitals will be safeguarded in accordance with current ACS policy and specific requirements contained within existing Business Associate Agreements maintained between hospitals and the ACS.

Examples of the type of national and state assessments that can be conducted using these variables include:

1. Injury severity/type by admitting hospital designation (i.e., an assessment of over-under triage).
2. The prevalence of injury severity/type presenting to frontier, rural, suburban and urban hospitals by bed size and available resources.
3. Procedure types by admitting hospital designation.
4. Length of stay by injury type and hospital designation.
5. Resource utilization by injury characteristics (e.g., procedures, ICU LOS, insurance, etc.) and hospital size and designation.
6. Frequency of inter-facility transfer after hospitalization by injury severity and hospital trauma designation.
7. Hospital complications by injury characteristics, hospital designation and patient age.

Variables describing hospital/third party characteristics are completed by personnel at each hospital on an annual basis (at the time of data submission to the NTDB). Responses to each variable are stored and automatically attached to each record sent to the National Trauma Data Bank. The description of the variables attached to each record is categorized into three sections (Hospital Characteristics, Patient Inclusion Criteria, and Pediatric Care) Variables and the associated value labels are provided below:

Variables	Values
Hospital Information	
Facility Name	
Department Name	
Address	*Street; City; State; Country; ZIP*
Country Specification	*USA, Other*
Phone/Fax Number	*xxx-xxx-xxxx*
Phone Extension	*xxxx*
TQIP/NSP	*Yes/No*
Registry Type	*Hospital; Third Party; Both*
Other Registries	
Other Registries Submitted	*State; County; Regional; Other; None*
Contacts	
Primary Contact Name	
Primary Contact Title	
Primary Contact Email Address	
Primary Contact Country Specification	*USA; Other*
Primary Contact Address	*Street; City; State; Other (Province); Country; ZIP*
Primary Contact Phone	*xxx-xxx-xxxx; Extension*
Primary Contact Fax	*xxx-xxx-xxxx*
Trauma Program Manager/Coordinator Contact Name	
TPM/Coord. Contact Title	
TPM/Coord. Contact Email Address	
TPM/Coord. Contact Country Specification	*USA; Other*
TPM/Coord. Contact Address	*Street; City; State; Other (Province); Country; ZIP*
TPM/Coord. Contact Phone	*xxx-xxx-xxxx; Extension*
TPM/Coord. Contact Fax	*xxx-xxx-xxxx*
Trauma Medical Director Contact Name	

TMD Contact Title	
TMD Contact Email Address	
TMD Contact Country Specification	*USA; Other*
TMD Contact Address	*Street; City; State; Other (Province); Country; ZIP*
TMD Contact Phone	*xxx-xxx-xxxx; Extension*
TMD Contact Fax	*xxx-xxx-xxxx*
Other Contact Name	
Other Contact Title	
Other Contact Email Address	
Other Contact Country Specification	*USA; Other*
Other Contact Address	*Street; City; State; Other (Province); Country; ZIP*
Other Contact Phone	*xxx-xxx-xxxx; Extension*
Other Contact Fax	*xxx-xxx-xxxx*
Facility Characteristics	
ACS Verification Level	*I; II; III; IV; Not applicable*
ACS Pediatric Verification Level	*I; II; Not applicable*
State Designation/Accreditation	*I; II; III; IV; V; Other; Not applicable*
State Pediatric Designation/Accreditation	*I; II; III; IV; Other; Not applicable*
Other Non-US Designation/Accreditation	*Specify using provided text box*
Number of Beds (for)	*Adult; Pediatric; Burn; ICU for trauma patients; ICU for burn patients*
Hospital Teaching Status	*University; Community; Non-teaching*
Hospital Type	*For Profit; Non-profit*
Number of Staff	*Core Trauma Surgeons; Neurosurgeons, Orthopaedic Surgeons; Trauma Registrars/Data Abstractors (FTEs); Certified Registrars*
Comorbidity Recording	*Derived from ICD-9 coding; Chart abstraction by trauma registrar; Calculated by software registry program; Not Collected*
Complication Recording	*Derived from ICD-9 coding; Chart abstraction by trauma registrar; Calculated by software registry program; Not Collected*
Registry Software Type	*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*
Other Registry Software	*Specify using provided text box*
Trauma Registry Version Number	
AIS Coding	
AIS Coding (Please indicate the version of AIS you record in your registry (if applicable))	*AIS 80; AIS 85; AIS 90; AIS 95; AIS 98; AIS 05; Other; Not Applicable*
Patient Inclusion/Exclusion Criteria	
Length of Stay Included	*23 Hour Holds; > = 24 hours; > = 48 hours; > = 72 hours; All Admissions*
Hip Fractures Included	*None; Patients <=18 years; Patients <=50 years; Patients <=55 years; Patients <=60 years; Patients <=65 years; Patients <=70 years; All*
DOA's In ED Included	*Yes/No*
Deaths after receiving any evaluation/treatment (including died in ED) Included	*Yes/No*
Transfers Into Your Facility Included	*All transfers; within 4 hours; within 8 hours; within 12 hours; within 24 hours; within 48 hours; within 72 hours; none*
Transfers Out of Your Facilities Included	*Yes/No*
AIS Code Inclusion Range	*All AIS codes included (none excluded); Range 1 (_ to _); Range 2 (_ to _); Range 3 (_ to _)*
AIS Code Exclusion Range	*Range 1 (_ to _); Range 2 (_ to _); Range 3 (_ to _)*
Do you have inclusion/exclusion criteria that are	*Yes/No*

not fully described by your responses in this section?	
ICD-9 Diagnosis Code Inclusion Range	*Same ICD-9 code ranges as NTDB criteria; Range 1 (_ to _); Range 2 (_ to _); …; Range 10 (_ to _)*
ICD-9 Diagnosis Code Exclusion Range	*Range 1 (_ to _); Range 2 (_ to _); …; Range 10 (_ to _)*
Pediatric Care	
Are you associated with a pediatric hospital?	*Yes/No*
Do you have a pediatric ward?	*Yes/No*
Do you have a pediatric ICU?	*Yes/No*
Do you transfer the most severely injured children to other specialty centers?	*Yes/No*
How do you provide care to injured children?	*No Children (not applicable); Provide all acute care services; Shared role with another center*
What is the oldest age for pediatric patients in your facility?	*10, 11, 12, …, 21, none*
State/System Characteristics (Only for Third Parties)	
Lead Agencies and Funding	
Does the lead agency for trauma in your state have authority to designate trauma centers?	*Yes/No*
Prehospital Care	
Do you have statewide EMS field triage criteria?	*No; Yes, we have implemented the CDC/ACS 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;*
Do you have statewide inter-facility transfer criteria?	*Yes/No*
Definitive Care Facilities	
Number of Adult Facilities Designated by State	*Level I, II, III, IV, V, Other*
Number of Adult Facilities Verified by ACS	*Level I, II, III*
Number of Pediatric Facilities Designated by State	*Level I; II; III; IV; V; Other*
Number of Pediatric Facilities Verified by ACS	*Level I; II*
Do you have a state trauma registry	*Yes/No*
Who contributes to state trauma registry?	*All hospitals; Trauma Centers only; Some other combination of hospitals*
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*
Performance Improvement	
Do you have a system wide performance improvement program?	*Yes/No*
Authorization	
I hereby certify that the Facility information contained here is an accurate representation of 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. These fields currently include:

- Date of Birth
- Sex
- ED/Hospital Arrival Date
- ED Discharge Disposition
- Signs of Life
- Injury Diagnoses
- Hospital Discharge Disposition
- Hospital Discharge Date
- Hospital Discharge Time
- Inter-Facility Transfer
- Facility ID^
- Patient ID^
- Last modified Date/Time^
- Initial ED/Hospital Systolic Blood Pressure
- Initial ED/Hospital Pulse Rate
- Primary E-Code
- Hospital Complications
- Comorbid Conditions
- Initial ED/Hospital GCS Assessment Qualifier
- Initial ED/Hospital Respiratory Rate
- Initial ED/Hospital Respiratory Assistance

- **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: *Patient's 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: *Patient's 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: *Patient's Home Zip Code* or *Alternate Home Residence*

Patient's Home City

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: *Patient's 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 *Patient's Home Zip Code* is Not Applicable
0503	5	Blank, required to complete variables: *Patient's Home Zip Code* or (*Patient's Home Country*, *Patient's Home State*, *Patient's Home County* and *Patient's 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 Date at Scene*
0608	2	*Date of Birth* cannot be later than *EMS Unit Departure Date From Scene*
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	Not Applicable, complete variables: *Age* and *Age Units* if less than 24 hours

Age

Rule ID	Level	Message
0701	1	Invalid value
0702	5	Blank, required to complete variable: *Date of Birth*
0703	4	Blank, required to complete when *Date of Birth* is less than 24 hours or Not Known/Not Recorded
0704	3	*ED/Hospital Arrival Date* minus *Date of Birth* must equal submitted *Age*.

Age Units

Rule ID	Level	Message
0801	1	Invalid value
0802	5	Blank, required to complete variable: *Date of Birth*
0803	4	Blank, required to complete when *Date of Birth* is less than 24 hours or 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 Date at Scene*
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 Date at Scene* 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 Departure Date From Scene* 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 Yes, then *Patient's Occupational Industry* must be completed
1404	5	If Yes, 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 *Patient's Occupational Industry* must be completed
1604	4	Blank, required to complete when *Work-Related* is 1 (Yes)

Primary E-Code

Rule ID	Level	Message
1701	1	Invalid, out of range
1702	2	Blank, required field (at least one ICD-9-CM trauma code must be entered)
1703	4	*E-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	E-code should not be an activity code. Primary E-Code must be within the range of E800-999.9

Location E-Code

Rule ID	Level	Message
1801	1	Invalid, out of range
1802	4	Blank, required field

Additional E-Code

Rule ID	Level	Message
1901	1	Invalid, out of range
1902	4	If completed, *Additional E-Code* cannot be equal to *Primary E-Code*

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)

Pre-hospital Information

EMS Dispatch Date

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

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

EMS Unit Arrival on Scene Time

Rule ID	Level	Message
3101	1	Invalid value
3102	1	Time out of range
3103	4	If *EMS Unit Arrival Date at Scene* 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 Date at Scene* and *EMS Unit Departure Date From Scene 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 Date at Scene* 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 Date at Scene* 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 Date at Scene* and *Hospital Discharge Date* are the same, the *EMS Unit Arrival on Scene Time* cannot be later than the *Hospital Discharge Time*

EMS Unit Scene Departure Date

Rule ID	Level	Message
3201	1	Invalid value
3202	1	Date out of range
3203	4	*EMS Unit Departure Date From Scene* cannot be earlier than *Date of Birth*
3204	4	*EMS Unit Departure Date From Scene* cannot be earlier than *EMS Dispatch Date*
3205	4	*EMS Unit Departure Date From Scene* cannot be earlier than *EMS Unit Arrival Date at Scene*
3206	4	*EMS Unit Departure Date From Scene* cannot be later than *ED/Hospital Arrival Date*

3207	4	*EMS Unit Departure Date From Scene* cannot be later than *ED Discharge Date*
3208	4	*EMS Unit Departure Date From Scene* cannot be later than *Hospital Discharge Date*
3209	3	*EMS Unit Departure Date From Scene minus EMS Unit Arrival Date at Scene* cannot be greater than 7 days

EMS Unit Scene Departure Time

Rule ID	Level	Message
3301	1	Invalid value
3302	1	Time out of range
3303	4	If *EMS Unit Departure Date From Scene* 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 Departure Date From Scene* and *EMS Unit Arrival Date at Scene* 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 Departure Date From Scene* 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 Departure Date From Scene* 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 Departure Date From Scene* 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, out of range
4002	5	Blank, required to complete variable: *Initial Field GCS – Total*

Initial Field GCS – Verbal

Rule ID	Level	Message
4101	1	Invalid, out of range
4102	5	Blank, required to complete variable: *Initial Field GCS – Total*

Initial Field GCS – Motor

Rule ID	Level	Message
4201	1	Invalid, out of range
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

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 Date at Scene*
4508	3	*ED/Hospital Arrival Date* cannot be earlier than *EMS Unit Scene*

		Departure Date
4509	3	*ED/Hospital Arrival Date* cannot be later than *ED Discharge Date*
4510	3	*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 Date at Scene* 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 Departure Date From Scene* 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
5302	4	Blank, required field
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, out of range
5402	5	Blank, required to complete variable: *Initial ED/Hospital GCS – Total*

Initial ED/Hospital GCS – Verbal

Rule ID	Level	Message
5501	1	Invalid, out of range
5502	5	Blank, required to complete variable: *Initial ED/Hospital GCS – Total*

Initial ED/Hospital GCS – Motor

Rule ID	Level	Message
5601	1	Invalid, out of range
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 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 follow: *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
5801	1	Invalid value
5802	2	Blank, required field

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

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 Date at Scene*
6306	4	*ED Discharge Date* cannot be earlier than *EMS Unit Scene Departure Date*
6307	4	*ED Discharge Date* cannot be earlier than *ED/Hospital Arrival Date*
6308	4	*ED Discharge Date* cannot be later than *Hospital Discharge Date*
6309	4	*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 Date at Scene* 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 Departure Date From Scene* 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

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, required field

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 Date at Scene*
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
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 Date at Scene* 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 Departure Date From Scene* 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

Diagnoses Information

Co-Morbid Conditions

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

Injury Diagnoses

Rule ID	Level	Message
6901	1	Invalid value
6902	4	Blank, required field
6903	2	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)

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 value
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 value
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 Date at Scene*
7706	3	*Hospital Discharge Date* cannot be earlier than *EMS Unit Scene Departure Date*
7707	3	*Hospital Discharge Date* cannot be earlier than *ED/Hospital Arrival Date*
7708	3	*Hospital Discharge Date* cannot be earlier than *ED Discharge Date*
7709	3	*Hospital Discharge Date* 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 Date at Scene* 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 Departure Date From Scene* 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
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

Control Information

Last Modified Date Time

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

Patient ID

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

Facility ID

Rule ID	Level	Message
8401	1	Invalid value

8402	2	Blank, required field

Aggregate Rules

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(s) of AIS codes entered in the file do not match any of those specified in *AIS Version*

*Inclusion criterion

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*

GCS Motor Component of Highest GCS Total

Rule ID	Level	Message
10101	1	Invalid, out of range
10102	2	Blank, required field
10103	2	Blank, required to complete variable: *Highest GCS Total*

GCS Assessment Qualifier Component of Highest GCS Total

Rule ID	Level	Message
10201	1	Invalid, out of range
10202	2	*Blank, required field*

Cerebral Monitor

Rule ID	Level	Message
10301	1	Invalid, out of range
10302	2	Blank, required field
10303	2	If *Highest GCS Total* ≤ 8 within the first 24 hours OR Highest GCS Motor score ≤3 within the first 24 hrs of ED/hospital arrival, AND at least one injury is in AIS head region, then Cerebral Monitor cannot be NK/NR

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*

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*

Venous Thromboembolism Prophylaxis Type

Rule ID	Level	Message
10601	1	Invalid value, out of range

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 (values 1-4), 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 (5), 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 (values 1-4), then *VTE Prophylaxis Time* cannot be NA
10806	4	If *ED Hospital/Arrival 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 (5), then *VTE Prophylaxis Time* should be NA

Appendix 3: National Trauma Data Standard Data Scheme

Demographic Variables

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

   If Patient's Home Zip Code is "Not Recorded," or "Not Known," the following four variables will be collected to generate a FIPS Code:

   a. ***Patient's Home Country***: The patient's home country where he/she resides.

   b. ***Patient's Home State***: The patient's home state (territory, province, or District of Columbia) where the patient resides.

   c. ***Patient's Home County***: The patient's home county (or parish) of residence.

   d. ***Patient's Home City***: The patient's home city (or township, village) of residence.

   If Patient's Home Zip Code is "Not Applicable," the following variable will be collected.

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

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

   If Date of Birth is "Not Recorded," "Not Known," or less than 24 hours, the following two variables will be collected to determine the patient's age:

   a. ***Age***: The patient's age at the time of injury (best approximation).

   b. ***Age Units***: The units used to document the patient's age (Years, Months, Days, Hours).

3. ***Race***: The patient's race.

4. ***Ethnicity***: The patient's ethnicity.

5. ***Sex***: The patient's sex.

Injury Information

6. ***Injury Incident Date***: The date the injury occurred.

7. ***Injury Incident Time***: The time the injury occurred.

8. ***Work-Related***: Indication of whether the injury occurred during paid employment.

   If the injury is determined to be "Work-Related," the following two variables will be collected:

   a. ***Patient's Occupational Industry***: The occupational industry associated with the patient's work environment.

   b. ***Patient's Occupation***: The occupation of the patient.

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

   Autocalculates: Trauma Type and Intentionality

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

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

12. ***Incident Location Zip Code***: The ZIP code of the incident location.

    If the Incident Location Zip Code is "Not Applicable," "Not Recorded," or "Not Known," the following three variables will be collected to generate a FIPS Code:

    a. ***Incident Country***: The country where the patient was found or to which the unit responded (or best approximation).

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

    c. ***Incident County***: The county or parish where the patient was found or to which the unit responded (or best approximation).

    d. ***Incident City***: The city or township where the patient was found or to which the unit responded (or best approximation).

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

    If "Child Restraint" is present, complete variable "Child Specific Restraint."

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

    If "Protective Devices" include "Airbag" complete variable "Airbag Deployment."

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

Pre-hospital Information

14. ***EMS Dispatch Date***: The date the unit *transporting to your hospital* was notified by dispatch.

    Autocalculates: Total EMS Time

15. ***EMS Dispatch Time***: The time the unit *transporting to your hospital* was notified by dispatch.

    Autocalculates: Total EMS Time

16. ***EMS Unit Arrival on Scene/Transferring Facility Date***: The date the unit *transporting to your hospital* arrived on the scene.

    Autocalculates: Total EMS Response Time and Total EMS Scene Time

17. ***EMS Unit Arrival on Scene/Transferring Facility Time***: The time the unit *transporting to your hospital* arrived on the scene (the time the vehicle stopped moving).

    Autocalculates: Total EMS Response Time and Total EMS Scene Time

18. ***EMS Unit Scene/Transferring Facility Departure Date***: The date the unit *transporting to your hospital* left the scene.

    Autocalculates: Total EMS Scene Time

19. ***EMS Unit Scene/transferring Facility Departure Time***: The time the unit *transporting to your hospital* left the scene (the time the vehicle started moving).

    Autocalculates: Total EMS Scene Time

20. ***Transport Mode***: The mode of transport delivering the patient to your hospital.

21. ***Other Transport Mode***: All other modes of transport used during patient care event, except the mode delivering the patient to the hospital.

22. ***Initial Field Systolic Blood Pressure***: First recorded systolic blood pressure in the pre-hospital setting.

23. ***Initial Field Pulse Rate***: First recorded pulse in the pre-hospital setting (palpated or auscultated, expressed as a number per minute).

24. ***Initial Field Respiratory Rate***: First recorded respiratory rate in the pre-hospital setting (expressed as a number per minute).

25. ***Initial Field Oxygen Saturation***: First recorded oxygen saturation in the pre-hospital setting (expressed as a percentage).

26. ***Initial Field GCS – Eye***: First recorded Glasgow Coma Score (Eye) in the pre-hospital setting.

    Autocalculates: Overall GCS - EMS Score (adult and pediatric)

27. ***Initial Field GCS – Verbal***: First recorded Glasgow Coma Score (Verbal) in the pre-hospital setting.

    Autocalculates: Overall GCS – EMS Score (adult and pediatric)

28. ***Initial Field GCS – Motor***: First recorded Glasgow Coma Score (Motor) in the pre-hospital setting.

    Autocalculates: Overall GCS – EMS Score (adult and pediatric)

29. ***Initial Field GCS – Total***: First recorded Glasgow Coma Score (total) in the Pre-hospital setting.

    Utilize only if total score is available without component scores.

30. ***Inter-Facility Transfer***: Was the patient transferred to your facility from another acute care facility?

Emergency Department Information

31. ***ED/Hospital Arrival Date***: The date the patient arrived to the ED/Hospital.

    Autocalculates: Total EMS Time and Total Length of Hospital Stay

32. ***ED/Hospital Arrival Time***: The time the patient arrived to the ED/Hospital.

    Autocalculates: Total EMS Time and Total Length of Hospital Stay

33. ***Initial ED/Hospital Systolic Blood Pressure***: First recorded systolic blood pressure in the ED/hospital.

    Autocalculates: Revised Trauma Score - ED (adult and pediatric)

34. ***Initial ED/Hospital Pulse Rate***: First recorded pulse in the ED/hospital (palpated or auscultated, expressed as a number per minute).

35. ***Initial ED/Hospital Temperature***: First recorded temperature (in degrees Celsius/centigrade) in the ED/hospital.

36. ***Initial ED/Hospital Respiratory Rate***: First recorded respiratory rate in the ED/hospital (expressed as a number per minute).

    Autocalculates: Revised Trauma Score - ED (adult and pediatric)

If a value is provided for "Initial ED/Hospital Respiratory Rate," then complete "Initial ED/Hospital Respiratory Assistance."

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

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

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

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

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

Autocalculates: Overall GCS - ED (adult and pediatric)

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

Autocalculates: Overall GCS - ED (adult and pediatric)

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

Autocalculates: Overall GCS - ED (adult and pediatric)

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

Utilize only if total score is available without component scores.

Autocalculates: Revised Trauma Score - ED (adult and pediatric)

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

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

44. ***Drug Use Indicator***: Use of drugs by the patient.

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

46. ***Signs of Life***: Whether the patient arrived at the ED with signs of life.

47. ***ED Discharge Date***: The date the patient was discharged from the ED.

Autocalculates: Total ED Time

48. ***ED Discharge Time***: The time the patient was discharged from the ED.

Autocalculates: Total ED Time

Hospital Procedure Information

49. ***Hospital Procedures***: Operative or essential procedures conducted during hospital stay.

50. ***Hospital Procedure Start Date***: The date operative and essential procedures were performed.

51. ***Hospital Procedure Start Time***: The time operative and essential procedures were performed.

Diagnosis Information

52. ***Comorbid Conditions***: Pre-existing comorbid factors present prior to patient arrival at the ED/hospital.

53. ***Injury Diagnosis***: Diagnoses related to all identified injuries.

Injury Severity Information

54. ***AIS Predot Code***: The Abbreviated Injury Scale (AIS) Predot codes that reflect the patient's injuries.

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

56. ***ISS Body Region***: The Injury Severity Score (ISS) body region codes that reflect the patient's injuries.

57. ***AIS Version***: The version used to calculate Abbreviated Injury Scale (AIS) severity codes.

58. ***Locally Calculated ISS***: The Injury Severity Score (ISS) that reflects the patient's injuries.

Outcome Information

59. ***Total ICU Length of Stay***: The total number of patient days in any ICU (including all episodes).

60. ***Total Ventilator Days***: The total number of patient days spent on a mechanical ventilator (including all episodes).

61. ***Hospital Discharge Date***: The date the patient was discharged from the hospital.

    Autocalculates: Total Length of Hospital Stay

62. ***Hospital Discharge Time***: The time the patient was discharged from the hospital.

    Autocalculates: Total Length of Hospital Stay

63. ***Hospital Discharge Disposition***: The disposition of the patient when discharged from the hospital.

Financial Information

64. ***Primary Method of Payment***: Primary source of payment for hospital care.

Quality Assurance Information

65. ***Hospital Complications***: Any medical complication that occurred during the patient's stay at your hospital.

TQIP Measures for Processes of Care

66. ***Highest GCS Total***: Highest total GCS within 24 hours of ED/Hospital Arrival.

67. ***GCS Motor Component of Highest GCS Total***: Highest motor GCS within 24 hours of ED/hospital arrival.

68. ***GCS Assessment Qualifier Component of Highest GCS Total***: Documentation of factors potentially affecting the highest GCS within 24 hours of ED/hospital arrival.

69. ***Cerebral Monitor***: 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.

70. ***Cerebral Monitor Date***: Date of first cerebral monitor placement.

71. ***Cerebral Monitor Time***: Time of first cerebral monitor placement.

72. ***Venous Thromboembolism Prophylaxis Type***: Type of first dose of VTE prophylaxis administered to patient.

73. ***Venous Thromboembolism Prophylaxis Date***: Date of administration to patient of first prophylactic dose of Heparin, Lovenox (Enoxaparin) or Fragmin (Dalteparin) or other low molecular weight heparins.

74. ***Venous Thromboembolism Prophylaxis Time***: Time of administration to patient of first prophylactic dose of Heparin, Lovenox (Enoxaparin) or Fragmin (Dalteparin) or other low molecular weight heparins.

Appendix 4: 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.

ICD-9 Code Range: 291.0 -291.3, 291.81, 291.9, 303.90-303.93, V11.3

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.

ICD-9 Code Range: 789.51, 789.59

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.

ICD-9 Code Range: 286.0-286.9; 287.1-287.49; V58.61; V58.63

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: Defined as documentation of a cardiac, pulmonary, body wall, CNS/spinal, GI, renal, orthopaedic, or metabolic congenital anomaly.

ICD-9 Code Range: 740.0 through 759.89

Congestive heart failure: Defined as 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 or increasing symptoms within 30 days prior to injury. Common manifestations are:

1. Abnormal limitation in exercise tolerance due to dyspnea or fatigue
2. Orthopnea (dyspnea on lying supine)
3. Paroxysmal nocturnal dyspnea (awakening from sleep with dyspnea)
4. Increased jugular venous pressure
5. Pulmonary rales on physical examination
6. Cardiomegaly
7. Pulmonary vascular engorgement

ICD-9 Code Range: 398.91, 428.0 - 428.9, 402.01, 402.11, 402.91, 404.11, 404.13, 404.91, 425.0-425.4

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.

ICD-9 Code Range: 403.01, 403.11, 403.91, 404.02, 404.12, 404.03, 404.13, 404.92, 404.93

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).

ICD-9 Code Range: 434.01, 434.11, 434.91, 433.01-433.91, 438.0-438.9

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

ICD-9 Code Range: 250.00-250.93

Disseminated cancer: Patients who have cancer that:

1. Has spread to one site or more sites in addition to the primary site AND
2. 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).

ICD-9 Code Range: 196.0-199.1

Advanced directive limiting care: The patient had a Do Not Resuscitate (DNR) document or similar advance 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.

ICD-9 Code Range: 456.0-456.21

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:

1. 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.

2. 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 illnesses 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) substernal 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-anginal medications, enter yes only if the patient has had angina within one month prior to admission.

ICD-9 Code Range: 413.0-413.9

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

ICD-9 Code Range: 410.00, 410.01, 410.10, 410.11, 410.20, 410.21, 410.30, 410.31, 410.40, 410.41, 410.50, 410.51, 410.60, 410.61, 410.70, 410.71, 410.80, 410.81, 410.90, 410.91

History of PVD (History of peripheral vascular disease): 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 for trauma or resection/repair of abdominal aortic aneurysms, including Endovascular Repair of Abdominal Aortic Aneurysm (EVAR), would not be included.

ICD-9 Code Range: 440.20-440.29, 440.30-440.32 and 443.9

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

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ICD-9 Code Range 401.0, 401.1, 401.9, 642.00-642.04 642.20-642.24 642.30-642.34, 402.0-402.91; 403.00-403.91; 404.00-404.93; 405.01-405.99;

Prematurity*:* Defined as 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.

ICD-9 Code Range: 765.00-765.19, 765.20-765.29, 770.7

Obesity: Defined as a Body Mass Index of 30 or greater.

ICD-9 Code Range: 278.00-278.01,V85.3-V85.4

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

1. Functional disability from COPD (e.g., dyspnea, inability to perform *activities of daily living [ADLs]*)
2. Hospitalization in the past for treatment of COPD
3. Requires chronic bronchodilator therapy with oral or inhaled agents
4. *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.

ICD-9 Code Range: 011.00-011.66, 011.8-011.99, 012.0-012.9, 277.02, 491.0-491.9, 492.0-492.8, 493.00-493.92, 494.0-494.1, 495.0-495.9, 496, 518.2, 518.83-518.89

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.

ICD-9 Code Range: V58.65

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.

ICD-9 Code Range: 571.2, 571.5, 571.6, 571.8, 571.9, 572.2, 572.3, 572.4, 572.8

Dementia: With particular attention to senile or vascular dementia (eg Alzheimer's).

ICD-9 Code range: 290.0-290.43, 294.0-294.11, 331.0-331.2, 331.82-331.89, 332.0-332.1, 333.0, 333.4,

Major psychiatric illness: Defined as 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.

ICD-9 Code range: 295.00-297.9, 300.0-300.09, 301.0-301.7, 301.83, 309.81, 311, V11.0-V11.2, V11.4-V11.8

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

ICD-9 Code Range: 304.00-304.8, 305.2-305.9

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.

Hospital 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

ICD-9 Code Range: 584.5-584.9; 588.0-588.9 585.1, 585.89, 585.9, 593.9, 958.5

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 PaO2 / FiO2 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 < 18 mmHg, if measured, or other similar surrogates such as echocardiography which do not demonstrate analogous findings).

ICD-9 Code Range: 518.5, 518.82

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. Excludes patients that arrive at the hospital in full arrest.

ICD-9 Code Range: 427.5 in conjunction with 99.60-99.69, 427.5 with 37.91; V12.53

Decubitus ulcer: Defined as 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 nonblanching redness (NPUAP Stage I), which is considered reversible tissue injury.

ICD-9 Code Range: 707.00 through 707.09 with one code from 707.22-707.25 to indicate the stage using the highest stage documented

Deep surgical site infection: Defined as a deep incisional SSI must meet one of the following criteria:

1. 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:

1. purulent drainage from the deep incision but not from the organ/space component of the surgical site of the following:
2. 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 (>38°C), or localized pain or tenderness. A culture-negative finding does not meet this criterion.
3. an abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination
4. diagnosis of a deep incisional SSI by a surgeon or attending physician.

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

1. 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)

2. 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 INSTRUCTIONS:

• Classify infection that involves both superficial and deep incision sites as deep incisional SSI.

ICD9 Code Range: 674.30, 674.32, 674.34, 996.60-996.63; 996.66-996.69, 998.59

Drug or alcohol withdrawal syndrome: Defined as 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 heart beat and high blood pressure), seizures, hallucinations or delirium tremens.

ICD-9 Code Range: 291.0, 291.3, 291.81, 292.0

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.

ICD-9 Code Range: 451.0, 451.11, 451.19, 451.2, 451.81- 451.84, 451.89, 451.9, 453.40, 459.10-459.19, 997.2, 999.2

Extremity compartment syndrome: Defined as 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.

ICD-9 Code Range: 729.71, 729.72, 998.89, 958.91, 958.92, 958.90

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.

ICD-9 Code Range: 996.00, 996.1, 996.52, 996.55, 996.61, 996.62, 996.72

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

ICD-9 Code Range: 414.8, 412

Organ/space surgical site infection: Defined as 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:

1. Purulent drainage from a drain that is placed through a stab wound or puncture into the organ/space;
2. Organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space;
3. 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; or
4. Diagnosis of an organ/space SSI by a surgeon or attending physician.

ICD9 Code Range: 998.59

Pneumonia: Patients with evidence of pneumonia that develops during the hospitalization. Patients with pneumonia must meet 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:

a. New onset of purulent sputum or change in character of sputum
b. Organism isolated from blood culture
c. 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:

a. New onset of purulent sputum or change in character of sputum
b. Organism isolated from the blood
c. Isolation of pathogen from specimen obtained by transtracheal aspirate, bronchial brushing, or biopsy
d. Isolation of virus or detection of viral antigen in respiratory secretions
e. Diagnostic single antibody titer (IgM) or fourfold increase in paired serum samples (IgG) for pathogen
f. Histopathologic evidence of pneumonia

ICD-9 Code Range: 480.0-480.9, 481, 482.0-482.3, 482.30-483.39, 482.40-482.49, 482.81-48.89, 482.9, 483.0-483.8, 484.1-484.8, 485, 486, 997.31

Pulmonary embolism: Defined as 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.

ICD-9 Code Range 415.11; 415.12; 415.19; 416.2

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:

1. Change in level of consciousness,
2. Hemiplegia,
3. Hemiparesis,
4. Numbness or sensory loss affecting one side of the body,
5. Dysphasia or aphasia,
6. Hemianopia
7. Amaurosis fugax,
8. Or other neurological signs or symptoms consistent with stroke

AND

- Duration of neurological deficit ≥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 nonstroke 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.

ICD-9 Code Range: 434.01, 434.11, 434.91, 433.01-433.91, 997.02

Superficial surgical site infection: Defined as 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:

1. Purulent drainage, with or without laboratory confirmation, from the superficial incision.
2. Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.
3. 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.
4. Diagnosis of superficial incisional surgical site infection by the surgeon or attending physician.

Do not report the following conditions as superficial surgical site infection:

1. Stitch abscess (minimal inflammation and discharge confined to the points of suture penetration).
2. Infected burn wound.
3. Incisional SSI that extends into the fascial and muscle layers (see deep surgical site infection).

ICD9 Code Range: 998.59

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: Defined as 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:

1. Fever≥38 C
2. WBC> 100,000 or < 3000 per cubic millimeter
3. Urgency
4. Frequency
5. Dysuria
6. Suprapubic tenderness

AND positive urine culture (≥100,000 microorganisms per cm^3 of urine with no more than two species of microorganisms)

OR at least <u>two</u> of the following signs or symptoms with no other recognized cause:

1. Fever≥38 C
2. WBC> 100,000 or < 3000 per cubic millimeter
3. Urgency
4. Frequency
5. Dysuria
6. Suprapubic tenderness

AND at least <u>one</u> of the following:

1. Positive dipstick for leukocyte esterase and/or nitrate
2. Pyuria (urine specimen with >10 WBC/mm^3 or >3 WBC/high power field of unspun urine)
3. Organisms seen on Gram stain of unspun urine
4. 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 nonvoided specimens
5. $\leq 10^5$ 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
6. Physician diagnosis of a urinary tract infection
7. 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.

ICD9 Code Range: 595.0-595.9 or 599.0

Catheter-Related Blood Stream Infection: Defined as 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:

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.

Criterion 2: Patient has at least one of the following signs or symptoms:

1. Fever>38 C
2. Chills
3. WBC> 100,000 or < 3000 per cubic millimeter
4. Hypotension (SBP<90) or >25% drop in systolic blood pressure
5. Signs and symptoms and positive laboratory results are not related to an infection at another site AND
6. 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.

Criterion 3:

1. Patient < 1 year of age has at least one of the following signs or symptoms:
    a. Fever (>38°C core)
    b. Hypothermia (<36°C core),
    c. Apnea, or bradycardia
    d. 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.

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

ICD-9 Code Range: 993.1, 790.7, 038.0, 038.1, 038.10, 038.11, 038.19, 038.3, 038.4-038.43, 038.49, 038.8, 038.9,

Osteomyelitis: Defined as meeting at least one of the following criteria:

1. Organisms cultured from bone.
2. Evidence of osteomyelitis on direct examination of the bone during a surgical operation or histopathologic examination.
3. At least two of the following signs or symptoms with no other recognized cause: fever (38° C), localized swelling, tenderness, heat, or drainage at suspected site of bone infection and at least one of the following:
    a. Organisms cultured from blood
    b. Positive blood antigen test (e.g., H. influenzae, S. pneumoniae)
    c. Radiographic evidence of infection, e.g., abnormal findings on x-ray, CT scan, magnetic resonance imaging (MRI), radiolabel scan (gallium, technetium, etc.).

ICD-9 Code Range: 730.00-730.29

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:

1. Temp > 38 degrees C or < 36 degrees C
2. White Blood Cell count > 12,000/mm³, or >20% immature (Source of Infection)
3. Hypotension – (Severe Sepsis)
4. Evidence of hypoperfusion: (Severe Sepsis)
   A. Anion gap or lactic acidosis or
   B. Oliguria, or
   C. Altered mental status

ICD-9 Code Range: 785.52, 995.92

Other Terms

Foreign Visitor is defined as any person visiting a country other than his/her usual place of residence for any reason.

Intermediate care facility: A facility providing a level of medical care that is less than the degree of care and treatment that a hospital or skilled nursing facility is designed to provide but greater than the level of room and board.

Home Health Service: A certified service approved to provide care received at home as part-time skilled nursing care, speech therapy, physical or occupational therapy or part-time services of home health aides.

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.

Hospice: An organization which is primarily designed to provide pain relief, symptom management and supportive services for the terminally ill and their families.

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.

Operative and/or essential procedures is defined as procedures performed in the Operating Room, Emergency Department, or Intensive Care Unit that were essential to the diagnoses, stabilization, or treatment of the patient's specific injuries. Repeated diagnostic procedures (e.g., repeated CT scan) should not be recorded (record only the first procedure).

Skilled Nursing Care: Daily nursing and rehabilitative care that is performed only by or under the supervision of skilled professional or technical personnel. Skilled care includes administering medication, medical diagnosis and minor surgery.

Undocumented Citizen is defined as a national of another country who has entered or stayed in another country without permission.

Appendix 5: NTDS Data Dictionary Revision Cycle

Each year, the COT considers revisions for the National Trauma Data Standard data dictionary. We receive suggestions from NTDB participants, researchers, committee members, and others. The NTDB reviews suggestions and determines whether changes are required on an annual basis. At the beginning of each calendar, we will begin the cycle to determine data dictionary revisions for the year after next. For example, in January 2010, we will begin considering revisions for the 2012 data dictionary (i.e. the definitions applied to 2012 admissions) This approximately 14 month interval from consideration to implementation is required to allow for proper vetting of any changes, as well as the integration of changes into software products and registries.

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