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INTRODUCTION

Organizations providing health care to the public maintain summary records or a registry of the patients they treat. These are helpful to the organization by documenting their experience and helping them plan for and adjust resource and personnel allocation. In addition, summary data can be used by the organization to examine the outcomes of the care that they provided and to identify areas in which patient care practice might be modified to improve those outcomes. This effort is greatly enhanced if the organization can compare or ‘benchmark’ its experience and outcomes with those of other similar organizations. Thus, regional, national, and even international patient registries have been developed.

Burns comprise a unique subset of traumatic injuries. Burns are highly morbid with long-lasting sequelae and, in some cases, fatal. Burn care can be prolonged and costly. Burns are also much less common than other kinds of injuries, so that it can be difficult within a single organization to develop expertise or to find efficiencies that can make the fiscal demands feasible to meet.

Specialized Burn Centers have developed in certain hospitals throughout the world to address the specific and specialized needs of people who sustain burn injuries. Burn centers are dedicated to caring for patients with burns and other skin and soft tissue injuries and disorders. They also typically serve patients from a much wider region than the city in which the hospital is located. For these Burn Centers to compare or ‘benchmark’ their experience and outcomes with other burn centers, they must be part of a broad, national or international burn registry.

The burn community recognized this challenge with the formation of the National Burn Information Exchange (NBIE) at the University of Michigan in 1964. Individual hospitals that cared for burn patients submitted data to the NBIE, and summary reports were prepared. Although differences in outcomes between centers were observed, it was difficult to interpret them. The simple collating of individual hospital registries was problematic.

Similar difficulties also had frustrated the efforts of the American College of Surgeons (ACS) and its Committee on Trauma (COT), when they tried to assemble a National Trauma Data Bank (NTDB) by combining contributions from individual hospital trauma registries. The data content and structure were so variable that comparison was almost impossible. Not only were there independent local clinical definitions and interpretations of the variables at different trauma centers, but different software packages structured and configured the data elements differently. The solution was the development of a National Trauma Data Standard (NTDS). This served not only as the data dictionary for the NTDB, but also as a reference for developers of trauma registry software, so that they could either use the same data structure in their programs as that described in the NTDS, or provide a mapping program that would translate the data in their registries into a form compatible with the NTDS.

The NBIE evolved over the years into the National Burn Repository (NBR). That database is now managed by the American Burn Association (ABA). The ABA formed a Burn Registry Committee and an NBR Committee in order to improve the quality of the data in the NBR, so that it is as accurate, valid, and reliable as possible. An initial problem was the large amount of missing data elements in the database, and that has improved markedly. There remains substantial variability, however, in the consistency of the data as recorded and submitted by individual centers. In addition, there is considerable variability among Burn Centers in the definitions for several data elements that are critical for characterizing burn injury. This significantly compromises the value of the data as a clinical, research, and benchmarking tool. The National Burn Data Standard (NBDS) is an attempt to bring uniformity to that process and further strengthen the National Burn Repository.

The NBDS seeks to establish a national standard for the collection and exchange of burn data. It also serves to specify the operational definitions of the data elements for the NBR. It is our hope that regional and state or provincial entities interested in burn patient data as well as commercial developers of registry software will modify or extend their registries to adopt NBDS-based definitions. We also acknowledge that local and state
burn data sets may contain additional data points than those described here. It is important to note that the data in those registries can still be fully compliant with the NBDS via development of a mapping process.

The data elements described in this document make up a set of data that captures the nature, treatment, and outcome of a specific burn injury in an individual patient at a specific institution. That collection of data comprises a single record in a burn registry (or the NBR). For Burn registries of the past, the fundamental defining event for a record in a registry was admission to a health care facility, in particular a burn center. In the past, most of the acute care for the injury occurred in that setting, so that it made sense that the organizing event was admission to the hospital.

However, contemporary burn care no longer fits that model as many patients have a portion or the entirety of their care outside of the hospital walls. Care that was once provided over a long hospital stay, is now provided in part as an outpatient with short periods of hospitalization for specific purposes. For example, some patients may be discharged before wound closure and with some uncertainty about the potential for spontaneous closure. The NBDS attempts to account for these contemporary practices. It views a single record as all the data relating to treatment for a given injury in an individual patient at a single center. The data elements in this document are organized in accordance with that case definition. The first groups of variables are those describing the injury and the patient, pages 11 - 105. These would not vary from one admission to another. The variables that relate to a specific admission are listed on pages 106 – 141. Any subsequent admission or re-admission to the same Burn Center for treatment of the same injury would be described by different values of these same variables. This is a fundamental change in how the records in a given registry or the NBR are organized. It is important to note this first version of the NBDS only captures inpatient admissions and activities although we expect this too will appropriately evolve.

We believe the NBDS may an important step in the continued maturation of the American Burn Association’s data collection efforts. We are extremely grateful for the contributions of the members of the Burn Registry and NBR Committees and to the unflagging dedication of the ABA Central Office staff to see this project to fruition. The ABA has enjoyed a long and productive relationship with the ACS and its Committee on Trauma (COT), and we gratefully acknowledge the help and advice of David B. Hoyt, MD FACS, Executive Director, and Howard Tanzman, Director of Information Technology, on the development of the NBDS. Finally, we thank John Kutcher, Julie Violante, and Lauren Stallings of Digital Innovation, Inc. for their technical expertise and guidance.

Matthew B. Klein, MD, FACS
Palmer Q. Bessey, MD, FACS
Editors
NATIONAL BURN DATA STANDARD

DATASET PATIENT INCLUSION CRITERIA

DEFINITION:
To assure consistent data collection, the National Burn Data Standard should apply to all patients who are cared for in a burn care facility for treatment of a burn or some other injury or acute condition that affects the integrity of the skin or for an injury related to a fire.

Such conditions would usually include at least one of the following diagnosis codes.

The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) is the current reference for diagnosis coding. Patients to whom the National Burn Data Standard applies most commonly would be assigned one or more of the following ICD9 codes:

940.0 – 949.5 AND / OR 986 AND / OR 987.9
OR 910.0 – 929.9
OR 695.13 – 695.15 AND 695.50 – 695.59
OR 728.86 OR 286.6

Some patients may have other ICD9 codes that could be associated with an acute skin injury and be treated in a burn care facility. The National Burn Data Standard should apply to them also.

In October 2015, it is anticipated that the accepted reference for diagnosis codes will be ICD10. Comparable codes in that reference would include:

T26 – T30 AND / OR T58 AND / OR T59
OR S00, S20, S40, S50, S60, S80, S70, S90,
S07, S17, S28, S38, S47, S57, S67, S77, S87, or S97
OR L51, L12
OR M72.6 OR D65

The patients MUST also meet one of the following in addition to the diagnosis codes above:

Hospital admission as defined by your burn or trauma registry inclusion criteria
OR Patient transfer via EMS transport (including air ambulance) from one hospital to another hospital
OR Death resulting from the burn injury (independent of hospital admission or hospital transfer status)
NATIONAL BURN DATA STANDARD INCLUSION SCHEMA

Did the patient sustain one or more injuries affecting the skin? 

No → Did the patient inhale smoke or some other product of combustion? 

Yes

Was the patient treated in your Burn Care Facility? 

No

Did the injury or condition result in death? 

OR

Was the patient transferred to (or from) your hospital via another hospital using EMS or air ambulance? 

OR

Was the patient considered an admission based on your burn or trauma registry inclusion criteria? 

No → National Burn Data Standard DOES NOT APPLY to this Patient

Yes

Yes → National Burn Data Standard APPLIES to this Patient

For ALL three
COMMON NULL VALUES

Data Format [combo] single-choice

National Element

Definition

These values are to be used with each of the National Burn 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 Burn 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: 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: 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).
DEMOGRAPHIC INFORMATION
The patient’s home ZIP or Postal code of primary residence.

**Field Values**
- Relevant value for data element

**Additional Information**
- Can be stored as an alpha and/or numeric digit code, to include spacing or dashes as allowable characters (accepts both U.S. and International zip and postal codes).
- 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
6. Patient Interview / Report

**Uses**
Allows data to be sorted based upon the geographic location of the patient’s home.

**Data Collection**
- EMS or hospital records or electronically through linkage with the EMS/medical record.

**Other Associated Elements**
- Common Null Values
- Patient’s Home Country
- Patient’s Home State
- Patient’s Home County
- Patient’s Home City
- Alternate Home Residence
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<td>Not Known/Not Recorded, complete variables: Patient's Home Country,</td>
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<td></td>
<td></td>
<td>Patient's Home State, Patient's Home County and Patient's Home City</td>
</tr>
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</table>
PATIENT’S HOME COUNTRY

Data Format [combo] single-choice

National Element

Definition

The country where the patient resides.

XSD Element / Domain (Simple Type) HomeCountry

Field Values

- Relevant value for data element (two digit alpha country code). Pick List from ABA TRACS.

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
6. Patient Report

Uses

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

Data Collection

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

Other Associated Elements

- Common Null Values
- Patient’s Home State
- Patient’s Home County
- Patient’s Home City
- Alternate Home Residence
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<td>Blank, required to complete when Patient's Home Zip Code is Not Known/Not Recorded</td>
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<td>5</td>
<td>Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence</td>
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</table>
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 Element / Domain (Simple Type) HomeState

Field Values

- Relevant value for data element

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
6. Patient Report

Uses

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

Data Collection

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

Other Associated Elements

- Common Null Values
- Patient's Home Country
- Patient's Home County
- Patient's Home City
- Alternate Home Residence
### ASSOCIATED EDIT CHECKS

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<td>Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence</td>
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PATIENT’S HOME COUNTY

Data Format [combo] single-choice

National Element

Definition

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

XSD Element / Domain (Simple Type) HomeCounty

Field Values

- Relevant value for data element

Additional Information

- Only completed when ZIP code is “Not Recorded/Not Known”.

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
6. Patient Report

Uses

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

Data Collection

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

Other Associated Elements

- Common Null Values
- Patient’s Home Country
- Patient’s Home State
- Patient’s Home City
- Alternate Home Residence
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PATIENT’S HOME CITY

Data Format [combo] single-choice

National Element

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

**XSD Element / Domain (Simple Type)** \textit{HomeCity}

Field Values
- Relevant value for data element

Additional Information
- \textit{Only completed when ZIP code is “Not Recorded/Not Known”}.

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
6. Patient Report

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

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.

Other Associated Elements
- Common Null Values
- Patient’s Home Country
- Patient’s Home State
- Patient’s Home County
- Alternate Home Residence
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<td>5</td>
<td>Blank, required to complete variables: Patients Home Zip Code or Alternate Home Residence</td>
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</table>
ALTERNATE HOME RESIDENCE

Data Format [combo] single-choice

National Element

Definition

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

XSD Element / Domain (Simple Type) HomeResidence

Field Values

1. Undocumented Citizen
2. Migrant Worker
3. Foreign visitor

Additional Information

- Only completed when ZIP code is "Not Applicable".
- 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 country.
- Foreign Visitor is defined as any person visiting a country other than his/her usual place of residence for any reason without intending to receive earnings in the visited country.

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

Uses

- Allows data to be sorted based upon type of residence

Data Collection

- EMS or hospital records or electronically through linkage with the EMS/medical record.
Other Associated Elements

- Patient’s Home Country
- Patient’s Home State
- Patient’s Home County
- Patient’s Home City

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<td>5</td>
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</tr>
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</table>
DATE OF BIRTH

Data Format [date] National Element

Definition

The patient’s date of birth.

XSD Element / Domain (Simple Type) DateOfBirth

Field Values

- Relevant value for data element

Additional Information

- Collected as YYYY-MM-DD
- If age is less than 36 months, 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
- All patients 90 years of age and greater are combined into a single ≥ 90 year age group.
  - For patients 90 years of age and greater, send DOB as N/A in order to not further identify the patient.

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

Uses

- Allows data to be sorted based on age.

Data Collection

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

Other Associated Elements

- Patient Age
- Age Units
ASSOCIATED EDIT CHECKS

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<td>Blank, required field</td>
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<tr>
<td>10.07.04</td>
<td>2</td>
<td>Date of Birth cannot be later than Hospital Discharge Date</td>
</tr>
<tr>
<td>10.07.05</td>
<td>2</td>
<td>Date of Birth cannot be later than Hospital Arrival Date</td>
</tr>
<tr>
<td>10.07.06</td>
<td>2</td>
<td>Date of Birth + 120 years must be less than Hospital Arrival Date</td>
</tr>
<tr>
<td>10.07.07</td>
<td>2</td>
<td>Field cannot be Not Applicable</td>
</tr>
<tr>
<td>10.07.08</td>
<td>3</td>
<td>Not Known/Not Recorded, complete variables: Age and Age Units</td>
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</table>
AGE

**Data Format** [number]

**National Element**

**Definition**

The patient’s age at the time of injury (or best approximation). For patients ≥ 3 years of age provide only years; for patients ≥ 1 month but < 3 years, provide units in months; for patients < 1 month of age provide days; for patients < 1 day provide hours.

| XSD Element / Domain (Simple Type) | Age |

**Field Values**

- Relevant value for data element

**Additional Information**

- Used to specify patient age in hours, days, months, or years.
- *Only completed when Date of Birth is “Not Recorded/Not Known” or age is less than 36 months*.
- *Must also complete variable: Age Units*
- All patients 90 years of age and greater are combined into a single ≥ 90 year age group.
- For patients that are 89 years old or less, you must send the DOB with the age.

**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

**Uses**

- Allows data to be sorted based on age.

**Data Collection**

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

**Other Associated Elements**

- Date of Birth
- Age Units
<table>
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<th>Level</th>
<th>Message</th>
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<tr>
<td>10.08.02</td>
<td>2</td>
<td>Blank, required to complete when (1) Date of Birth equals Hospital Arrival date or (2) Date of Birth is Not Known/Not Recorded</td>
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</tr>
<tr>
<td>10.08.06</td>
<td>3</td>
<td>Hospital Arrival Date minus Date of Birth must equal submitted Age.</td>
</tr>
<tr>
<td>10.08.07</td>
<td>4</td>
<td>Age is &gt; 110. Please verify this is correct.</td>
</tr>
<tr>
<td>10.08.08</td>
<td>5</td>
<td>Blank, required to complete variable: Date of Birth</td>
</tr>
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</table>
**AGE UNITS**

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

**National Element**

---

**Definition**

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

---

**XSD Element / Domain (Simple Type)** AgeUnits

---

**Field Values**

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

---

**Additional Information**

- Used to specify patient age in hours, days, months, or years.
- *Only completed when age is less than 36 months 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

---

**Uses**

- Allows data to be sorted based upon age.

---

**Data Collection**

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

---

**Other Associated Elements**

- Date of Birth
- Age
## ASSOCIATED EDIT CHECKS

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</table>
**Definition**

The patient’s race.

**XSD Element / Domain (Simple Type) Race**

**Field Values**

1. Asian
2. Native Hawaiian or Other Pacific Islander
3. Other Race
4. American Indian/Alaska Native
5. Black or African American
6. Caucasian

**Additional Information**

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

**Data Source Hierarchy**

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

**Uses**

- Allows data to be sorted based upon race.

**Data Collection**

- EMS or hospital records or electronically through linkage with the EMS/medical record.
### ASSOCIATED EDIT CHECKS

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ETHNICITY

Data Format [combo] single-choice

National Element

Definition
The patient’s ethnicity.

XSD Element / Domain (Simple Type) Ethnicity

Field Values
1. Hispanic or Latino
2. Not Hispanic or Latino

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

Data Source Hierarchy
1. ED Admission Form
2. Billing Sheet / Medical Records Coding Summary Sheet
3. Triage Form / Trauma Flow Sheet
4. EMS Run Sheet
5. ED Nurses Notes
6. Self-Report

Uses
- Allows data to be sorted based upon ethnicity.

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.

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SEX

Data Format [combo] single-choice

National Element

Definition
The patient’s sex.

XSD Element / Domain (Simple Type) Sex

Field Values
1. Male
2. Female

Additional Information
- Patients who have undergone a surgical and/or hormonal sex reassignment should be coded using his or her 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
6. Self-Report

Uses
- Allows data to be sorted based upon gender.

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.
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PATIENT’S OCCUPATION PRIMARY

Data Format [combo] single-choice

National Element

Definition
The primary occupation of the patient at the time of injury. Patient’s primary occupation is defined as the role where most time is spent. Please refer to the appendix for additional information about the occupation fields.

<table>
<thead>
<tr>
<th>XSD Element / Domain (Simple Type)</th>
<th>PatientsOccupation</th>
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</table>

**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. Fire Fighter
7. Protective Service Occupations (Non-Fire Fighter)
8. Building and Grounds Cleaning and Maintenance
9. Sales and Related Occupations
10. Farming, Fishing, and Forestry Occupations
11. Installation, Maintenance, and Repair Occupations
12. Transportation and Material Moving Occupations
13. Management Occupations
14. Computer and Mathematical Occupations
15. Life, Physical, and Social Science Occupations
16. Legal Occupations
17. Arts, Design, Entertainment, Sports, and Media
18. Healthcare Support Occupations
19. Food Preparation and Serving Related
20. Personal Care and Service Occupations
21. Office and Administrative Support Occupations
22. Construction and Extraction Occupations
23. Production Occupations
24. Military Specific Occupations
25. Homemaker
26. Student
27. Unemployed

**Additional Information**

**Data Source Hierarchy**
1. Triage Form / Trauma Flow Sheet
2. EMS Run Sheet
3. ED Nurses Notes
4. Self-report
5. Social Work Notes
Uses
- Can be used to better describe injuries associated with work environments.

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.

Other Associated Elements
- Work-related

ASSOCIATED EDIT CHECKS

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PATIENT’S OCCUPATION SECONDARY

Data Format [combo] single-choice

National Element

Definition

The secondary occupation of the patient at the time of injury. Patient’s secondary occupation is defined as the role where the next level of time is spent. Please refer to the appendix for additional information about the occupation fields.

XSD Element / Domain (Simple Type) PatientsOccupation

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. Fire Fighter
7. Protective Service Occupations (Non-Fire Fighter)
8. Building and Grounds Cleaning and Maintenance
9. Sales and Related Occupations
10. Farming, Fishing, and Forestry Occupations
11. Installation, Maintenance, and Repair Occupations
12. Transportation and Material Moving Occupations
13. Management Occupations
14. Computer and Mathematical Occupations
15. Life, Physical, and Social Science Occupations
16. Legal Occupations
17. Arts, Design, Entertainment, Sports, and Media
18. Healthcare Support Occupations
19. Food Preparation and Serving Related
20. Personal Care and Service Occupations
21. Office and Administrative Support Occupations
22. Construction and Extraction Occupations
23. Office and Administrative Support Occupations
24. Military Specific Occupations
25. Homemaker
26. Student
27. Unemployed

Additional Information


Data Source Hierarchy

6. Triage Form / Trauma Flow Sheet
7. EMS Run Sheet
8. ED Nurses Notes
9. Self-report
10. Social Work Notes

Uses

- Can be used to better describe injuries associated with work environments.
Data Collection
  • EMS or hospital records or electronically through linkage with the EMS/medical record.

Other Associated Elements
  • Work-related

ASSOCIATED EDIT CHECKS

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MARITAL STATUS

Data Format [combo] single-choice

Definition

The marital status of the patient at the time of injury.

XSD Element / Domain (Simple Type) MaritalStatus

Field Values

1. Single
2. Married
3. Domestic partnership
4. Separated
5. Divorced
6. Widowed

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
6. Self-Report
7. Social Work Notes

ASSOCIATED EDIT CHECKS

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LIVING WITH AT TIME OF INJURY

Data Format [combo] single-choice

Definition
The living situation of the patient at the time the injury occurred in terms of whether the patient is living alone or with others.

XSD Element / Domain (Simple Type) LivingWithStatus

Field Values
1. Alone
2. With Spouse/Partner/Significant Other
3. With Parents
4. With Other Family Member
5. With Other, Not Listed

Additional Information
- This information pertains to the time that injury occurred.

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
6. Self-Report
7. Social Work Notes

Uses
- Provides information on patient’s living situation at the time of injury and can be compared to the living situation at the time of discharge as part of an assessment of level of independence following injury.

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LIVING SITUATION

Data Format [combo] single-choice

National Element

Definition

The living situation at the time of injury with regards to the type of housing the patient has.

XSD Element / Domain (Simple Type) LivingSituation

Field Values

1. House/Apartment
2. School Dormitory
3. Skilled Nursing Facility
4. Adult Group Home
5. Institution/Prison
6. Homeless

Additional Information

- This information pertains to the time that injury occurred.

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
6. Self-Report
7. Social Work Notes

Uses

- Provides information on patient’s living situation at the time of injury and can be compared to the living situation at the time of discharge as part of an assessment of level of independence following injury.
ASSOCIATED EDIT CHECKS

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INJURY INFORMATION
INJURY INCIDENT DATE

Data Format [date]  National Element

Definition
The date the injury occurred. If specific day is not known estimate the day as best as possible based on medical record or patient recollection.

XSD Element / Domain (Simple Type) IncidentDate

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

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

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.

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20.01.04  4  Injury Incident Date cannot be earlier than Date of Birth
20.01.05  4  Injury Incident Date cannot be later than Hospital Arrival Date
20.01.06  4  Injury Incident Date cannot be later than Hospital Discharge Date
INJURY INCIDENT TIME

Data Format [time]  National Element

Definition
The time the injury occurred.

XSD Element / Domain (Simple Type) IncidentTime

Field Values
- Relevant value for data element.

Additional Information
- Collected as HH:MM.
- HH:MM should be collected as military time (24 hours).
- 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

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

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.
### ASSOCIATED EDIT CHECKS

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<td>If Injury Incident Date and Hospital Arrival Date are the same, the Injury Incident Time cannot be later than the Hospital Arrival Time</td>
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WORK-RELATED

Data Format [combo] single-choice

National Element

Definition

Indication of whether the injury occurred during paid employment.

XSD Element / Domain (Simple Type) WorkRelated

Field Values

1. Yes, related to Primary Occupation
2. Yes, related to Secondary Occupation
3. Not Work-Related

Additional Information

- An additional data field must be completed for all patients: Patient's Occupation (See Demographic Information).

Data Source Hierarchy

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

Uses

- Allows one to characterize injuries associated with job environments.

Data Collection

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

Other Associated Elements

- Patient’s Occupational Industry
- Patient’s Occupation
## ASSOCIATED EDIT CHECKS

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</table>
INCIDENT LOCATION ZIP OR POSTALCODE

Data Format [text]  National Element

Definition
The ZIP or POSTAL code of the incident location.

XSD Element / Domain (Simple Type) InjuryZip

Field Values
- Relevant value for data element

Additional Information
- Can be stored as an alpha and/or numeric digit code, to include spacing or dashes as allowable characters (accepts both U.S. and International zip and postal codes).
- 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
4. Patient report.

Uses
- Allows data to be sorted based upon the geographic location of the injury event.

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.

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20.04.03  5  Not Known/Not Recorded, complete variables: Incident State, Incident County and Incident City

20.04.04  5  Not Applicable, complete variables: Incident State, Incident County and Incident City
INCIDENT COUNTRY

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 Element / Domain (Simple Type) IncidentCountry**

**Field Values**

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

**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
4. Patient report.

**Uses**

- Allows data to be sorted based upon the geographic location of the injury event.

**Data Collection**

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

**Other Associated Elements**

- Incident State
- Incident County
- Incident City
### ASSOCIATED EDIT CHECKS

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INCIDENT STATE

Data Format [combo] single-choice

National Element

Definition

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

Field Values

- Relevant value for data element (State Abbreviation – two characters)

Additional Information

- Only completed when Incident Location ZIP code is “Not Applicable” or, “Not Recorded/Not Known”.

Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses Notes
4. Patient report.

Uses

- Allows data to be sorted based upon the geographic location of the injury event.

Data Collection

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

Other Associated Elements

- Incident Country
- Incident County
- Incident City
## ASSOCIATED EDIT CHECKS

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<td>20.06.03</td>
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INCIDENT COUNTY

Definition

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

Field Values

- Relevant value for data element.

Additional Information

- Only completed when Incident Location ZIP code is “Not Applicable” or, “Not Recorded/Not Known”.

Data Source Hierarchy

1. EMS Run Sheet
2. Triage Form / Trauma Flow Sheet
3. ED Nurses Notes
4. Patient report.

Uses

- Allows data to be sorted based upon the geographic location of the injury event.

Data Collection

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

Other Associated Elements

- Incident Country
- Incident State
- Incident City
## ASSOCIATED EDIT CHECKS

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INCIDENT CITY

Data Format [combo] single-choice

National Element

Definition

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

XSD Element / Domain (Simple Type) IncidentCity

Field Values

- Relevant value for data element.

Additional Information

- Only completed when Incident Location ZIP code is "Not Applicable" or, "Not Recorded/Not Known".
- 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
4. Patient report.

Uses

- Allows data to be sorted based upon the geographic location of the injury event.

Data Collection

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

Other Associated Elements

- Incident Country
- Incident State
- Incident County
## ASSOCIATED EDIT CHECKS

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ALCOHOL USE INDICATOR

Data Format [combo] single-choice

National Element

Definition
Use of alcohol by the patient at the time of injury.

XSD Element / Domain (Simple Type) AlcoholUseIndicators

Field Values
1. No (Not Tested)
2. No (Confirmed by Test)
3. Yes (Confirmed by Test [Below Legal Limit])
4. Yes (Confirmed by Test [Beyond Legal Limit])
5. Yes, Based on Clinical Assessment or Patient Report but Not Tested

Additional Information

- Blood alcohol concentration (BAC) may be documented at any facility (or setting) treating this patient event.
- “Below Legal Limit” 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.

Data Source Hierarchy
1. Lab Results
2. ED Physician Notes
3. Patient report.

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

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.

Other Associated Elements
- Drug Use Indicator
## ASSOCIATED EDIT CHECKS

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*Section C  Injury Information*
**Definition**

This field is used to indicate if any drug use occurred prior to the burn injury. Laboratory test used to detect the presence of drugs in the patient’s blood or urine.

**XSD Element / Domain (Simple Type) DrugUseIndicator**

**Field Values**

1. Not Tested
2. No Drug Use, Confirmed by Test
3. Yes- Prescription Drug Use Confirmed by Test
4. Yes- Illegal Drug Use Confirmed by Test

**Additional Information**

- Drug use may be documented at any facility (or setting) treating this patient event. *Use earliest known test result.*
- 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.
- Do not include drugs given to the patient during any phase of resuscitation or stabilization.

**Data Source Hierarchy**

1. Lab Results
2. ED Physician Notes

**Uses**

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

**Data Collection**

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

**Other Associated Elements**

- Alcohol Use Indicator
## ASSOCIATED EDIT CHECKS

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<thead>
<tr>
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<tbody>
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</table>
DRUG USE TEST RESULTS

Data Format [combo] multiple-choice

National Element

Definition

This field is used to indicate the type of drug that was present in the patient’s blood or urine prior to the burn injury based off of laboratory tests performed after admission.

<table>
<thead>
<tr>
<th>XSD Element / Domain (Simple Type) DrugTestResults</th>
</tr>
</thead>
</table>

Field Values

1. Barbiturates (Diazepam, Meprobamate)
2. Cannabis (Marijuana)
3. Dissociative Agents (LSD, PCP)
4. Opiates (Heroin, Morphine, Codeine)
5. Sedatives (Hypnotics)
6. Stimulants (Cocaine, Amphetamines)
7. Tricyclic Antidepressants
8. Other drugs

Additional Information

- Drug use may be documented at any facility (or setting) treating this patient event. Use earliest known test result.
- This data element refers to drug use by the patient and does not include medical treatment.
- Do not include drugs given to the patient during any phase of resuscitation or stabilization.

Data Source Hierarchy

1. Lab Results
2. ED Physician Notes

Uses

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

Data Collection

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

Other Associated Elements

- Drug Use Indicator
- Alcohol Use Indicator
### ASSOCIATED EDIT CHECKS

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<tr>
<td>20.11.02</td>
<td>2</td>
<td>If Drug Use Test results are valued, Drug Use Indicator must be valued as 3, Yes- Prescription Drug Use Confirmed by Test or 4, Yes- Illegal Drug Use Confirmed by Test.</td>
</tr>
</tbody>
</table>
CIRCUMSTANCES OF INJURY

Definition
This field is used to indicate the circumstances of injury. Choose the term that most closely approximates the circumstances, as you know them.

Field Values
1. Accidental Injury: Employment related
2. Accidental Injury: Non-Employment Related
3. Accidental Injury: Recreation
4. Accidental Injury: Unknown Circumstances
5. Suspected Arson
6. Suspected Assault/Abuse
7. Suspected self-inflicted
8. Other

Additional Information
- It is often difficult to determine the intentionality of an injury. It is up to the user (and treating MD) to determine whether the injury should be reported as such or as Suspected Abuse. The ABA has intentionally listed this choice as Suspected Abuse to avoid legal problems with proof. Note that the term “arson” refers specifically to the “malicious burning of property.” If an individual sets the patient’s house on fire, that is arson. If an individual sets the patient on fire, that is Suspected Assault.

Data Source Hierarchy
1. Medical Record.
2. EMS documentation.

Uses
- This data element can be used for clinical research purposes or for prevention programs.

Data Collection
- EMS or hospital records.
## ASSOCIATED EDIT CHECKS

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

Field Values
1. Yes
2. No

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

Data Source Hierarchy
1. Medical Record.
2. EMS documentation.

Data Collection
- EMS or hospital records.

ASSOCIATED EDIT CHECKS

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ETIOLOGY OF BURN INJURY

Data Format [combo] multiple-choice

National Element

Definition

This field should characterize as completely as possible the etiology of the burn injury. Choose the term that most closely approximates the circumstances, as you know them.

XSD Element / Domain (Simple Type) EtiologyActivityCode

Field Values

- From Drop down pick list. See following page.
- In cases of non-burn (i.e. SJS) use the non-burn injury field.
- When possible, select the most specific etiology. For example, if the patient sustains a burn from hydrofluoric acid, this should be collected rather than acid.

Additional Information

Data Source Hierarchy

1. Medical Record.
2. EMS documentation.

Uses

- This data element can be used for clinical research purposes or for prevention programs.

Data Collection

- EMS or hospital records.

Other Associated Elements
Use generic keywords so that the field may be readily used for research purposes.

<table>
<thead>
<tr>
<th>Scald</th>
<th>Flame</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.01 Boiling Water</td>
<td>2.01 Open Flame</td>
<td>3.01 Iron/Clothing</td>
</tr>
<tr>
<td>1.02 Hot Tea</td>
<td>2.02 Burning Clothing</td>
<td>3.02 Iron/Hair Appliance</td>
</tr>
<tr>
<td>1.03 Hot Coffee</td>
<td>2.03 Burning Bedding</td>
<td>3.03 Iron, Curling</td>
</tr>
<tr>
<td>1.04 Hot Soup</td>
<td>2.04 Kerosene</td>
<td>3.04 Iron, Branding</td>
</tr>
<tr>
<td>1.05 Hot Food</td>
<td>2.05 Gunpowder</td>
<td>3.05 Radiator</td>
</tr>
<tr>
<td>1.06 Hot Tap Water</td>
<td>2.06 Paint &amp; Paint Thinner</td>
<td>3.06 Muffler/Tailpipe</td>
</tr>
<tr>
<td>1.07 Steam</td>
<td>2.07 Matches</td>
<td>3.07 Cooking Surface</td>
</tr>
<tr>
<td>1.08 Radiator/Coolant</td>
<td>2.08 Fireworks</td>
<td>3.08 Ashes/Hot Coals</td>
</tr>
<tr>
<td>1.09 Hot Cooking Oil</td>
<td>2.09 Lighter</td>
<td>3.09 Tar/Asphalt</td>
</tr>
<tr>
<td>1.10 Hot Grease</td>
<td>2.10 Aerosol Can</td>
<td>3.10 Molten Plastic</td>
</tr>
<tr>
<td>1.11 Cookware</td>
<td>2.11 Accelerant/Gel</td>
<td>3.11 Molten Metal</td>
</tr>
<tr>
<td></td>
<td>2.12 Medical Related</td>
<td>3.12 Radiant Heater</td>
</tr>
<tr>
<td></td>
<td>2.13 Vehicle Fire</td>
<td>3.13 Cigarettes/Smoking Material</td>
</tr>
<tr>
<td></td>
<td>2.14 Gasoline</td>
<td>3.14 Stove/Oven</td>
</tr>
<tr>
<td></td>
<td>2.15 Structural</td>
<td>3.15 Barbecue</td>
</tr>
<tr>
<td></td>
<td>2.16 Wild land/Brush</td>
<td>3.16 Cookware</td>
</tr>
<tr>
<td></td>
<td>2.17 Hazardous Materials</td>
<td>3.17 Toaster</td>
</tr>
<tr>
<td></td>
<td>2.18 Electrical</td>
<td></td>
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</table>

<table>
<thead>
<tr>
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<th>Chemical/Corrosion</th>
<th>Flash</th>
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<tbody>
<tr>
<td>4.01 House Current/A/C&lt;220 V</td>
<td>5.01 Acid</td>
<td>6.01 Open Flame</td>
</tr>
<tr>
<td>4.02 A/C 220-1,000 V</td>
<td>5.02 Alkali</td>
<td>6.02 Kerosene</td>
</tr>
<tr>
<td>4.03 A/C&gt; 1,000 V</td>
<td>5.03 Organic Solvent</td>
<td>6.03 Gunpowder</td>
</tr>
<tr>
<td>4.04 D/C</td>
<td>5.04 Battery</td>
<td>6.04 Paint &amp; Paint Thinner</td>
</tr>
<tr>
<td>4.05 Battery</td>
<td>5.05 Drain Cleaner</td>
<td>6.05 Fireworks</td>
</tr>
<tr>
<td>4.06 Electrical Cord</td>
<td>5.06 Cement</td>
<td>6.06 Lighter</td>
</tr>
<tr>
<td>4.07 Lightning</td>
<td>5.07 Floor Stripper</td>
<td>6.07 Aerosol Can</td>
</tr>
<tr>
<td>4.08 Transformer</td>
<td>5.08 Paint Removed</td>
<td>6.08 Medical Related</td>
</tr>
<tr>
<td></td>
<td>5.09 IV Extravasation</td>
<td>6.09 Electrical</td>
</tr>
<tr>
<td></td>
<td>5.10 Hydrofouric Acid</td>
<td>6.10 Gasoline</td>
</tr>
<tr>
<td></td>
<td>5.11 Bleach</td>
<td>6.11 Propane</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.01 Radiant Burn/Sun</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.02 Radiant Burn/UV Light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.03 Radiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.04 Laser</td>
<td></td>
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<tr>
<td>7.05 Cold Injury</td>
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**ASSOCIATED EDIT CHECKS**

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</table>
ICD-9 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 Element / Domain (Simple Type)** `PrimaryEcode`

---

**Field Values**

- Relevant ICD-9-CM code value for injury event.
- Abbreviated Pick list.

---

**Additional Information**

- The Primary E-code should describe the main reason a patient is admitted to the hospital.
- ICD-9-CM Codes used since that is still the accepted reference in the US in 2011.

---

**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.
5. Patient report.

---

**Uses**

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

---

**Data Collection**

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

---

**Other Associated Elements**

- Location E-code
- Additional E-code
### ASSOCIATED EDIT CHECKS

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<td>Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)</td>
</tr>
<tr>
<td>20.15.03</td>
<td>2</td>
<td>Should not be 849.x</td>
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<tr>
<td>20.15.04</td>
<td>3</td>
<td>External Cause Code should not be an activity code. Primary External Cause Code must be within the range of E800-999.9</td>
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<tr>
<td>20.15.05</td>
<td>4</td>
<td>External Cause Code should not be = (810.0, 811.0, 812.0, 813.0, 814.0, 815.0, 816.0, 817.0, 818.0, 819.0) and Age &lt; 15</td>
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ICD-10 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 Element / Domain (Simple Type) PrimaryECodelcd10

Field Values

- Relevant ICD-10-CM code value for injury event.
- Abbreviated Pick list.

Additional Information

- The Primary E-code should describe the main reason a patient is admitted to the hospital.
- ICD-10-CM Codes used since that is still the accepted reference in the US in 2011.

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.
5. Patient report.

Uses

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

Data Collection

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

Other Associated Elements

- Location E-code
- Additional E-code
### ASSOCIATED EDIT CHECKS

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<td>Blank, required field (at least one ICD-9 or ICD-10 trauma code must be entered)</td>
</tr>
<tr>
<td>20.16.03</td>
<td>2</td>
<td>Should not be Y92.X/Y92.XX/Y92.XXX (where X is A-Z or 0-9)</td>
</tr>
<tr>
<td>20.16.04</td>
<td>3</td>
<td>ICD-10 External Cause Code must not be Y93.X/Y93.XX (where X is A-Z or 0-9)</td>
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</tbody>
</table>
ICD-9 LOCATION E-CODE

Data Format [number] National Element

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

XSD Element / Domain (Simple Type) LocationEcode

Field Values
- Relevant ICD-9-CM code value for injury location.
- Abbreviated Pick list

Additional Information
- ICD-9-CM Codes used since that is still the accepted reference in the US in 2011.

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
5. Patient report.

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

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.

Other Associated Elements
- Primary E-code
- Additional E-code
## ASSOCIATED EDIT CHECKS

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<td>20.17.02</td>
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<td>Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)</td>
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</tbody>
</table>
ICD-10 LOCATION E-CODE

**Data Format** [number]  

**National Element**

---

**Definition**

E-code used to describe the place/site/location of the injury event (E Y92.X). Where the injury occurred.

**XSD Element / Domain (Simple Type)** PlaceOfInjuryCode

---

**Field Values**

- Relevant ICD-10-CM code value for injury location.
- Abbreviated Pick list

**Additional Information**

- ICD-10-CM Codes used since that is still the accepted reference in the US in 2011.

**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
5. Patient report.

**Uses**

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

**Data Collection**

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

**Other Associated Elements**

- Primary E-code
- Additional E-code
## ASSOCIATED EDIT CHECKS

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<td>20.18.02</td>
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<td>Place of Injury code must be Y92.X/Y92.XX/Y92.XXX (where X is A-Z [excluding I,O] or 0-9)</td>
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<tr>
<td>20.18.03</td>
<td>4</td>
<td>Blank, required field (at least one ICD-9-CM or ICD-10 trauma code must be entered)</td>
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</tbody>
</table>
ICD-9 ADDITIONAL E-CODE

Data Format [number]  National Element

Definition

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

XSD Element / Domain (Simple Type)  AdditionalEcode

Field Values

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

Additional Information

- ICD-9-CM Codes used since that is still the accepted reference in the US in 2011

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

Uses

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

Data Collection

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

Other Associated Elements

- Primary E-code
- Location E-code
<table>
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<th>Message</th>
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<tr>
<td>20.19.02</td>
<td>4</td>
<td>If completed, Additional External Cause Code cannot be equal to Primary External Cause Code.</td>
</tr>
</tbody>
</table>
ICD-10 ADDITIONAL E-CODE

Data Format [number] National Element

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

XSD Element / Domain (Simple Type) AdditionalECodeIcd10

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

Additional Information
- ICD-10-CM Codes used since that is still the accepted reference in the US in 2011

Data Source Hierarchy
6. EMS Run Sheet
7. Triage Form / Trauma Flow Sheet
8. Billing Sheet / Medical Records Coding Summary Sheet
9. ED Nurses Notes

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

Data Collection
- EMS or hospital records or electronically through linkage with the EMS/medical record.

Other Associated Elements
- Primary E-code
- Location E-code
## ASSOCIATED EDIT CHECKS

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<tr>
<td>20.20.02</td>
<td>4</td>
<td>If completed, Additional External Cause Code ICD-10 cannot be equal to Primary External Cause Code ICD-10</td>
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</tbody>
</table>
INJURY SEVERITY
TOTAL BURN SIZE (2\textsuperscript{ND} DEGREE)

**Definition**

Total burn size second degree refers to the total body surface area burned which is determined to be second degree (partial thickness). This value should be based on the patient’s recorded TBSA at discharge in either the medical record discharge summary, or final burn diagram.

Second degree burn is defined as:

- Burn involving a portion of the dermis.
- Burn that heals spontaneously and does not require grafting for closure, and
- Burn that did not develop granulation tissue.

**Field Values**

Numeric

**Data Source Hierarchy**

1. Medical Record

**Uses**

- Total burn size second degree provides information regarding injury severity and can be used to evaluate risk of post-injury adverse outcome.

**ASSOCIATED EDIT CHECKS**

<table>
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<th>Rule ID</th>
<th>Level</th>
<th>Message</th>
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<td>The sum of 2\textsuperscript{nd} degree and 3\textsuperscript{rd} degree can’t be &gt;100.</td>
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</tbody>
</table>
TOTAL BURN SIZE (3\textsuperscript{RD} DEGREE)

Data Format [text]   National Element

Definition

Total burn size 3\textsuperscript{rd} degree refers to the total body surface area burned that is full thickness. This value should be based on the patient’s recorded TBSA at discharge in either the medical record discharge summary, or final burn diagram.

Third degree is defined as:

• Burn involving the entirety of the dermis.
• Burn requiring closure by excision and grafting, or
• Burn that developed granulation tissue.

XSD Element / Domain (Simple Type) \textit{TotalBurnSize3rdDegree}

Field Values

Numeric

Data Source Hierarchy

1. Medical Record

Uses

• Total burn size 3\textsuperscript{rd} degree provides information regarding injury severity and can be used to evaluate risk of post-injury adverse outcome.

ASSOCIATED EDIT CHECKS

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</table>

Section D  Injury Severity  Page 84 of 159
**Definition**

Burn location refers to the anatomic areas involved in the burn injury. The following definitions for anatomic areas are provided:

**Head:** Lower margin of the mandible to its posterior border, thence to tip of mastoid process and in a straight line to the external occipital protuberance.

**Neck:** The line of demarcation between the neck and the trunk is the shortest line from the supraclavicular notch to the spinous process of the 7\textsuperscript{th} cervical vertebra.

**Anterior and Posterior Trunk:** Lateral to the neck, as had been defined, the anterior and posterior halves of the trunk are divided by a line along the anterior edge of the trapezius muscle. Below the axilla they are divided by a vertical line from the mid-axilla.

**Buttocks:** Defined as included by a line vertical from the upper posterior corner of the trochanter to the point where it meets the crest of the ilium, then posteriorly to the midline of the sacrum and down the sacrum to the perineal point.

**Genitalia:** The areas defined as genitalia are the penis and scrotum in males, and the labia in females, the latter are considered to extend from the perineal point to the upper edge of the pubic bone.

**Upper Arm:** From the acromion process anteriorly to the upper border of the axilla. The arm is separated from the forearm by a line drawn from the upper edge of the olecranon around to the antecubital fold.

**Lower Arm:** From the upper edge of olecranon around to the antecubital fold to the tip of the ulna.

**Hand:** Line at right angles to long axis of forearm drawn at level of tip of ulna.

**Thigh:** From the perineal point going posteriorly in the natal fold to the upper border of the great trochanter, thence medially in a straight line to the perineal point.

**Leg:** Line at level of lower border of patella.

**Foot:** Line at level of tip of lateral malleolus.

**XSD Element / Domain (Simple Type)** LundBrowderCharts

**Data Source Hierarchy**

1. Medical Record

**Uses**

**Data Collection**
### ASSOCIATED EDIT CHECKS

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</tr>
</tbody>
</table>
Definition

Burn location refers to the anatomic areas involved in the burn injury. The following definitions for anatomic areas are provided:

**Head**: Lower margin of the mandible to its posterior border, thence to tip of mastoid process and in a straight line to the external occipital protuberance.

**Neck**: The line of demarcation between the neck and the trunk is the shortest line from the supraclavicular notch to the spinous process of the 7th cervical vertebra.

**Anterior and Posterior Trunk**: Lateral to the neck, as had been defined, the anterior and posterior halves of the trunk are divided by a line along the anterior edge of the trapezius muscle. Below the axilla they are divided by a vertical line from the mid-axilla.

**Buttocks**: Defined as included by a line vertical from the upper posterior corner of the trochanter to the point where it meets the crest of the ilium, then posteriorly to the midline of the sacrum and down the sacrum to the perineal point.

**Genitalia**: The areas defined as genitalia are the penis and scrotum in males, and the labia in females, the latter are considered to extend from the perineal point to the upper edge of the pubic bone.

**Upper Arm**: From the acromion process anteriorly to the upper border of the axilla. The arm is separated from the forearm by a line drawn from the upper edge of the olecranon around to the antecubital fold.

**Lower Arm**: From the upper edge of olecranon around to the antecubital fold to the tip of the ulna.

**Hand**: Line at right angles to long axis of forearm drawn at level of tip of ulna.

**Thigh**: From the perineal point going posteriorly in the natal fold to the upper border of the great trochanter, thence medially in a straight line to the perineal point.

**Leg**: Line at level of lower border of patella.

**Foot**: Line at level of tip of lateral malleolus.

---

**XSD Element / Domain (Simple Type)** LundBrowderCharts

**Data Source Hierarchy**

1. Medical Record

**Uses**

**Data Collection**
ASSOCIATED EDIT CHECKS

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</table>
INHALATION INJURY

Definition

This field is used to indicate the presence of inhalation injury.

Field Values

1. No
2. Yes with Cutaneous Burn Injury
3. Yes without Cutaneous Burn Injury

Additional Information

• Inhalation injury diagnosis should be confirmed by bronchoscopy. If bronchoscopy cannot be performed then the diagnosis should be based on the presence of soot in the oral cavity and upper airways, or presence of carbonaceous material on tracheal aspirate.
• If inhalation injury is present then the diagnosis code of 987.9 (toxic effects of other gases, fumes or vapors) should be added to the diagnosis list.

Data Source Hierarchy

1. Medical records

Uses

• Inhalation injury provides information regarding injury severity and risk of adverse outcome.

ASSOCIATED EDIT CHECKS

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</table>
CARBOXYHEMOGLOBIN LEVEL

**Definition**

This field is used to indicate the Carboxyhemoglobin level of patients that have sustained inhalation injury.

**XSD Element / Domain (Simple Type) Carboxyhemoglobin**

**Field Values**

Numeric (0-100)

**Additional Information**

- Enter the patient’s CO:Hb level, if available.
- Use the earliest known result (could be from referring hospital ED).
- If not tested, send N/A value.
- If carbon monoxide poisoning is present, the program will automatically assign the diagnosis code of “986=toxic effects of carbon monoxide.”

**Data Source Hierarchy**

1. Medical record

**Uses**

- Carbon monoxide levels provide information regarding injury severity and risk for adverse outcomes

**ASSOCIATED EDIT CHECKS**

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INITIAL GCS (TOTAL)

Data Format [number]

Definition

First known recorded Glasgow Coma Score (total) measured at the scene of injury or admission to emergency department or burn center.

XSD Element / Domain (Simple Type) InitialTotalGcs

Field Values

- Relevant value for data element.

Additional Information

- If a patient does not have a numeric GCS recorded, but with documentation related to their level of consciousness such as “AAOx3”, “awake alert and oriented”, or “patient with normal mental status”, interpret this as GCS of 15 IF there is no other contraindicating documentation.

Data Source Hierarchy

1. EMS Run Sheet or hospital records

Uses

- Provides documentation of assessment and care.

Data Collection

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

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INITIAL ED / HOSPITAL TEMPERATURE

Data Format [number] National Element

Definition

First recorded temperature (in degrees Celsius [centigrade]) in the ED/hospital where the burn center is located.

<table>
<thead>
<tr>
<th>XSD Element / Domain (Simple Type)</th>
<th>Temperature</th>
</tr>
</thead>
</table>

Field Values

- Relevant value for data element.

Data Source Hierarchy

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

Uses

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

Data Collection

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

Other Associated Elements

- Alcohol Use Indicator

ASSOCIATED EDIT CHECKS

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DIAGNOSES
DIAGNOSIS ICD-9 CODE

Data Format [character]  National Element

Definition

The burn diagnoses are indicated via ICD-9 (International Classification of Disease, 9th Revision) codes or D Codes. These codes contain terms referring to diseases (categories 001-799), injuries (categories 800-899), excluding poisoning by drugs and chemicals (categories 960-989O, the Supplementary Classification of Factors Influencing Health Status and Contact with Health Services (categories V01-V82), and morphology of neoplasms (M codes).

XSD Element / Domain (Simple Type) InjuryDiagnoses

Field Values

Additional Information

- ICD-9 is the official version of the World Health Organization’s classification of morbidity and mortality information for statistical purposes and for the indexing of hospital records by disease and operations for data storage and retrieval. ICD-9-CM is a clinical modification of ICD-9 to describe the clinical picture of the patient for morbidity data, medical care review, ambulatory care programs and basic health statistics specifically for use in the USA.

- Burn-related codes (i.e. those in the 940-947 series) that are in addition to the one auto-generated diagnosis code must be manually entered. Users should conform to current coding guidelines by providing a fifth digit descriptor. Additional diagnosis codes should be added based upon the medical records department’s DRG attestation sheet or final coding document.

- Burn injuries caused by exposure to sunlight should be coded as sunburns (692.71) while those injuries caused by exposure to artificial ultraviolet light such as tanning beds should be coded as such (692.82).

Data Source Hierarchy

1. Medical record

Uses

- Data on diagnoses can be used for comparison of morbidity and mortality statistics at national and international levels.

ASSOCIATED EDIT CHECKS

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Section E  Diagnosis  Page 95 of 159
The burn diagnoses are indicated via ICD-10 (International Classification of Disease, 10th Revision) codes or D Codes. These codes contain terms referring to diseases (categories 001-799), injuries (categories 800-899), excluding poisoning by drugs and chemicals (categories 960-989O), the Supplementary Classification of Factors Influencing Health Status and Contact with Health Services (categories V01-V82), and morphology of neoplasms (M codes).

ICD-10 is the official version of the World Health Organization’s classification of morbidity and mortality information for statistical purposes and for the indexing of hospital records by disease and operations for data storage and retrieval. ICD-10CM is a clinical modification of ICD-10 to describe the clinical picture of the patient for morbidity data, medical care review, ambulatory care programs and basic health statistics specifically for use in the USA.

Burn injuries caused by exposure to sunlight should be coded as sunburns (L55.9) while those injuries caused by exposure to artificial ultraviolet light such as tanning beds should be coded as such (L58.9).

Data on diagnoses can be used for comparison of morbidity and mortality statistics at national and international levels.

**ASSOCIATED EDIT CHECKS**

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CO-MORBID CONDITIONS

Data Format [combo] multiple-choice

National Element

Definition

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

XSD Element / Domain (Simple Type) ComorbidCondition

Field Values (See Appendix XX for Definitions)

1. Other
2. Alcoholism
3. Arthritis
4. Ascites within 30 Days
5. Bleeding Disorder
6. Chemotherapy for Cancer within 30 Days
7. Congenital Anomalies
8. Congestive Heart Failure
9. Current Smoker
10. Currently Requiring or On Dialysis
11. CVA/residual Neurological Deficit
12. Diabetes Mellitus
13. Disseminated Cancer
14. Do Not Resuscitate (DNR) Status
15. Esophageal Varices
16. Functionally Dependent Health Status
17. History of Angina within Past 1 Month
18. History of Myocardial Infarction within Past 6 Months
19. History of Revascularization / Amputation for PVD
20. Hypertension Requiring Medication
21. Prematurity
22. Obesity
23. Respiratory Disease
24. Steroid use
25. Cirrhosis
26. Dementia
27. Major Psychiatric Illness
28. Drug Dependence
29. Pre-Hospital Cardiac Arrest with Resuscitative Efforts by Healthcare Provider
30. Wheel Chair Dependent

Additional Information

- The field value (1) “No NBDS co-morbidities are present” would be chosen if none of the pre-existing co-morbid factors listed above are present in the patient. This particular field value is available since individual state or hospital registries may track additional co-morbid factors not listed here.
- The value "N/A" should be used for patients with no known co-morbid conditions coded by your registry or defined in the NBDS Data Dictionary.

Data Source Hierarchy

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

Uses

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

Data Collection

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

- Injury Diagnosis

ASSOCIATED EDIT CHECKS

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</table>
CONCOMITANT INJURY DIAGNOSES ICD-9

Data Format [combo] multiple-choice

National Element

Definition

Diagnoses related to all identified injuries.

XSD Element / Domain (Simple Type) InjuryDiagnosis

Field Values

- 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

Data Source Hierarchy

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

Uses

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

Data Collection

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

Other Associated Elements

- Co-morbid Condition
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<tr>
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<td>If coding with ICD-9, then at least one diagnosis must be provided and meet inclusion criteria (800 -959.9, except for 905 -909.9, 910 -924.9, 930 -939.9)</td>
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<tr>
<td>40.04.03</td>
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<td>40.04.04</td>
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<td>Not Known/Not Recorded, required Inclusion Criterion</td>
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</table>
CONCOMITANT INJURY DIAGNOSES ICD-10

Data Format [combo] multiple-choice

National Element

Definition

Diagnoses related to all identified injuries.

XSD Element / Domain (Simple Type) DiagnosisIcd10

Field Values

- The maximum number of diagnoses that may be reported for an individual patient is 50.

Additional Information

- ICD-10-CM codes pertaining to other medical conditions (e.g., CVA, MI, co-morbidities, etc.) may also be included in this field

Data Source Hierarchy

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

Uses

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

Data Collection

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

Other Associated Elements

- Co-morbid Conditions
<table>
<thead>
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<th>Rule ID</th>
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<td>If coding with ICD-10, then at least one diagnosis must be provided and meet inclusion criteria (800 -959.9, except for 905 -909.9, 910 -924.9, 930 -939.9)</td>
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<tr>
<td>40.05.04</td>
<td>4</td>
<td>Not Known/Not Recorded, required Inclusion Criterion</td>
</tr>
</tbody>
</table>
NON-BURN INJURY

Data Format [combo] single-choice

National Element

Definition

Non-burn injury indicates that a patient has a cutaneous injury related to TENS, SJS, Purpura Fulminans or some other non-burn related cutaneous injury for which a total body surface area should be calculated.

XSD Element / Domain (Simple Type) NoCutaneousInjuryDiagnoses

Field Values

1. Toxic Epidermal Necrolysis/Stevens-Johnson Syndrome
2. Purpura Fulminans
3. Necrotizing Soft Tissue Infection
4. Soft Tissue Degloving
5. Friction Burn/Crush (i.e. Road Rash)

Data Source Hierarchy

1. ED Admission Form
2. Medical Record

ASSOCIATED EDIT CHECKS

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<tr>
<th>Rule ID</th>
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<tbody>
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<td>40.06.01</td>
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</table>
BURN CENTER ADMISSION INFORMATION
HOSPITAL ADMISSION – INTRODUCTION

The National Burn Data Standard applies to all patients admitted to a hospital for treatment of a burn or other soft tissue wound. Contemporary Burn practice often includes periods of both inpatient and outpatient care. This current version of the NBDS DOES NOT apply to patients who only received care in the Emergency Department and were discharged alive. It also DOES NOT apply to patients that were only treated in an outpatient setting. It DOES apply to patients who received care in the Emergency Department and who died in the Emergency Department before they could be admitted.

The NBDS envisions that a single patient record would include data about the patient, the injury, and the details of treatment for that injury and its sequelae at the reporting facility. Admission to a hospital may be inconsistently defined in different health care settings. That could introduce some unavoidable inconsistency in the data in a burn registry. The following attempts to promote consistency and demonstrate how a given admission might be categorized within the NBDS.

There are two TYPES of an admission for a given injury at a single facility. One is the first admission to the reporting hospital for any treatment of a given injury. All other admissions to the reporting facility for additional treatment of the same injury, should be considered to be ‘related admissions’ or ‘re-admissions.’

The STATUS of a given admission refers to whether or not it might have been anticipated. For several individual burns, the need for later admission and in-hospital treatment might be a possibility but not obvious in the early post-burn period. For example, the need for skin grafting cannot always be determined on initial presentation but becomes obvious only after a period of wound care and observation. Thus, an admission for excision and grafting of a wound that remains open after several days could be considered to be ‘anticipated.’ Admission for a complication would be an unanticipated admission. Admission for cellulitis, breakdown of healed burn or graft, inability to provide consistent wound or self-care would be examples of an ‘unanticipated’ admission.

Admissions for treatment of a given injury fall into one of two CATEGORIES. One includes all admissions for a given wound before it is reliably closed. Any admission within this time period, would be considered ‘acute.’ All admissions to address any complications after the wound from a given injury is closed, are ‘non-acute.’

The following are some examples of how these three variables would be applied in various situations:

- 60% Burn in car wreck. Taken directly to burn center. Initial. Unanticipated. Acute.
- 3% burn on leg remains open after outpatient care. Admit for same day surgery. Initial. Anticipated. Acute.
ADMISSION DATE

Data Format [date]  National Element

Definition
The date on which the patient was admitted to your facility.

XSD Element / Domain (Simple Type) AdmissionDate

Field Values
• Relevant value for data element.

Additional Information
• Collected as YYYY-MM-DD
• Estimates of date of admission should be based upon documentation in medical record.
• Only the year of admission will be accepted by the NBR.

Data Source Hierarchy
1. Admitting Department Face sheet
2. Triage Form / Trauma Flow Sheet
3. Nurses Notes
4. Medical Record.

Uses
• The date in this field will be used along with the date of discharge to calculate the patient’s length of hospital stay.
• The date of admission can also be useful in calculating the number of days from injury/illness to burn center admission and can be used for research studies and performance improvement projects.

Data Collection
• Hospital records.
• Date should be entered in the following format: mm/dd/yyyy. The program will not accept months larger than 12, or days larger than 31.
• Do not use the date of admission to some other hospital.
## ASSOCIATED EDIT CHECKS

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<td>50.01.07</td>
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<td>Hospital Arrival Date cannot be earlier than Date of Birth</td>
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ADMISSION TIME

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

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<tr>
<td>The time the patient was admitted to your hospital.</td>
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**XSD Element / Domain (Simple Type)** AdmissionTime

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<td>• Collected as HH:MM.</td>
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<tr>
<td>• HH:MM should be collected as military time (24 hours).</td>
</tr>
<tr>
<td>• Options: 00:00 (midnight) through 23:59 (11:59 p.m.) = valid military time</td>
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<table>
<thead>
<tr>
<th>Data Source Hierarchy</th>
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<tr>
<td>1. EMS Run Sheet</td>
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<td>2. Triage Form / Trauma Flow Sheet</td>
</tr>
<tr>
<td>3. ED Nurses Notes</td>
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<table>
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<tr>
<th>Uses</th>
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<tbody>
<tr>
<td>• The time of admission is useful in calculating the time from injury/illness to burn center admission and can be used for research studies and performance improvement projects.</td>
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<td>• Admitting department record, nursing admission evaluation, or physician documentation.</td>
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**ADMISSION TYPE**

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

**National Element**

**Definition**

There are two types of admission for a given injury at a single facility. One is the first or initial admission to the reporting hospital for any treatment of a given injury. All other admissions to the same reporting facility for additional treatment of the same injury, should be considered to be a 'related admission' or 're-admission'.

<table>
<thead>
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<th>AdmissionType</th>
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</table>

**Field Values**

1. Initial Admission
2. Related Admission or Readmission

**Additional Information**

- All patients should have an initial admission.
- Not all patients will have a related readmission.
- Some patients may have more than one related readmission.

**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
6. Self-Report

**Uses**

- Allows data to be sorted based upon initial or repeat admissions.

**ASSOCIATED EDIT CHECKS**

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ADMISSION STATUS
Data Format [combo] single-choice

National Element

Definition

The Admission Status indicates whether or not the admission was planned or anticipated.

This definition of Admission Status is corresponds better to contemporary burn practice than definitions in earlier versions of registry software platforms, e.g. Burn TRACS. Patients today not infrequently have more than one admission for a given injury as part of a staged and anticipated course of care. In the past, readmissions have often been considered to reflect a complication or failure of treatment.

Thus, the status of a given admission refers to whether or not it might have been anticipated. For several patients, the need for later admission and in-hospital treatment might be recognized as a possibility at the initial admission but not be so obvious as to warrant continued inpatient care. For example, the need for skin grafting cannot always be determined on initial presentation and only becomes obvious after a period of wound care and observation. Thus, an admission for excision and grafting of a wound that remains open after several days could be considered to be ‘anticipated’ or ‘planned.’ Readmission for a complication, however, would be an ‘unanticipated’ or ‘unplanned’ admission. Admission for cellulitis, breakdown of healed burn or graft, inability to provide consistent wound or self-care would be examples of an ‘unanticipated’ admission.

Field Values

1. Unanticipated or Unplanned Admission
2. Anticipated or Planned Admission

Additional Information

- Only one admission status is possible per admission.

Uses

- Provides information about the circumstances surrounding the admission.

ASSOCIATED EDIT CHECKS

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ADMISSION SOURCE

Data Format [combo] single-choice

National Element

Definition

The Admission Source is the clinical setting prior to admission to the Burn Center.

XSD Element / Domain (Simple Type) BurnCenterAdmissionSource

Field Values

1. Direct from Scene of Injury: This category includes all patients who present to the Burn Center hospital directly from the scene or for whom the Burn Center hospital is the first health care facility to evaluate and treat the injury. This includes patients transported by EMS or other types of pre-hospital transport, as well as 'walk-ins'.

2. Transfer from an Emergency Department or Ambulatory Care Center: This Category includes patients who initially presented to some other hospital and were transferred or referred to the Burn Center without being admitted as an inpatient to that facility.

3. Transfer from Another Acute Care Facility: This category refers to patients who were inpatients at another acute care facility and then transferred to the Burn Center.

4. Admissions from Burn Center Outpatient Office/Clinic: This category includes those who were admitted after being seen and evaluated at the Outpatient office or clinic operated in conjunction with the Burn Center. This also would apply to patients who had received outpatient care and then were admitted for an operation and discharged, even if they were not categorized as an inpatient.

Additional Information

- Only one admission source is possible per admission.

Uses

- Allows one to identify patient referral sources.

ASSOCIATED EDIT CHECKS

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ADMISSION CATEGORY
Data Format [combo] single-choice

Definition
The Admission Category indicates whether or not the admission is for treatment of the index or initial injury or wound, i.e. before it has been reliably closed.

All Admissions for a given injury or wound before it is reliably closed are considered ‘acute.’ All admissions to address any complications after the wound from a given injury is closed are ‘non-acute.’

Field Values
1. Acute
2. Non Acute

Additional Information
- Only one admission category is possible per admission.

Uses
- Provides information as to whether or not the admission is for treatment of the original injury.

ASSOCIATED EDIT CHECKS

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TRANSPORT MODE

Data Format [combo] single-choice

National Element

Definition

The primary mode by which the patient arrived at your institution for the initial admission.

XSD Element / Domain (Simple Type) TransportMode

Field Values

1. Ground Ambulance
2. Police or Fire Department (Non Ambulance)
3. Helicopter Ambulance
4. Fixed Wing Ambulance
5. Public/Private Vehicle/Walk-In
6. Other

Additional Information

- Should capture the primary means of transport. For example, if a patient arrived via fixed wing aircraft and then a taxi, the air transport would be captured.

Data Source Hierarchy

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

Uses

- Allows one to characterize methods of transport to burn center.

Data Collection

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

Other Associated Elements

- Patient’s Occupation
## ASSOCIATED EDIT CHECKS

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*Section F Burn Center Admission Page 117 of 159*
HOSPITAL TRANSFER / REFERRAL

Data Format [combo] single-choice

National Element

Definition

Indication of whether the patient was transferred or referred from another hospital.

XSD Element / Domain (Simple Type) RfFacilityId

Field Values

1. Local in City/County Referral
2. In State but Outside of City/County
3. Out of State
4. Out of Country
5. Not Referred/Transferred From Another Facility

Additional Information

Data Source Hierarchy

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

Uses

- Sort admissions by referral source.

Data Collection

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

Other Associated Elements

- Transport
- Admission source.
### ASSOCIATED EDIT CHECKS

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HOSPITAL PROCEDURE INFORMATION
Definition

The date operative and essential procedures were performed.

Field Values

- Relevant value for data element.

Additional Information

- Collected as YYYY-MM-DD.

Data Source Hierarchy

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

Uses

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

Data Collection

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

Other Associated Elements

- Hospital Procedures
ASSOCIATED EDIT CHECKS

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<td>4</td>
<td>Hospital Procedure Start Date cannot be earlier than Date of Birth</td>
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</table>
ICD-9 HOSPITAL PROCEDURES

Data Format [combo] multiple-choice National Element

Definition
Operative or essential procedures conducted during hospital stay.

XSD Element / Domain (Simple Type) HospitalProcedures

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
- Any procedure that would normally or preferably be performed in an operating room, which is accompanied by an operative report, should be coded and entered in the field. (For example, if a patient is too sick to go to the operating room to have a tracheostomy and it is performed bedside, it should be included. Procedures performed by consultant services (i.e. orthopedic surgery) but related to burn injury should be included.
- Any procedure that is done at the patient’s bedside which does not require an operative report should NOT be included in this section (i.e. dressing change, debridement)
- Any procedure performed in interventional radiology, the treatment room, etc. for which an operative report is generated should be listed.
- Escharotomies and Fasciotomies (including decompressive laparotomies) should be included in this section. Gastrostomy tube placement and tracheostomy should also be included.
- Bedside central line placement, bronchoscopy and tube thoracostomy are NOT included.
- Each procedure should be listed once if performed on the same day and/or same time (i.e. if a skin graft is performed on the arm and thigh); it should only be listed once.
- Reconstructive procedures performed on subsequent admissions should be collected in this section as well.
- Include only procedures performed at your institution.

Data Source Hierarchy
2. Operative Reports
3. ER and ICU Records
4. Anesthesia Record
5. Billing Sheet / Medical Records Coding Summary Sheet
6. Hospital Discharge Summary
Uses
- Allows data to be used to characterize procedures used to treat specific injury types.

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

Other Associated Elements
- Procedure Date

ASSOCIATED EDIT CHECKS

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ICD-10 HOSPITAL PROCEDURES

Data Format [combo] multiple-choice

Definition
Operative or essential procedures conducted during hospital stay.

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

Additional Information
- Any procedure that would normally or preferably be performed in an operating room, which is
  accompanied by an operative report, should be coded and entered in the field. (For example, if a patient
  is too sick to go to the operating room to have a tracheostomy and it is performed bedside, it should be
  included. Procedures performed by consultant services (i.e. orthopedic surgery) but related to burn
  injury should be included.
- Any procedure that is done at the patient’s bedside which does not require an operative report should
  NOT be included in this section (i.e. dressing change, debridement)
- Any procedure performed in interventional radiology, the treatment room, etc. for which an operative
  report is generated should be listed.
- Escharotomies and fasciotomies (including decompressive laparotomies) should be included in this
  section. Gastrostomy tube placement and tracheostomy should also be included.
- Bedside central line placement, bronchoscopy and tube thoracostomy are NOT included.
- Each procedure should be listed once if performed on the same day and/or same time (i.e. if a skin graft
  is performed on the arm and thigh, it should only be listed once.
- Reconstructive procedures performed on subsequent admissions should be collected in this section as
  well.
- Include only procedures performed at your institution.

Data Source Hierarchy
7. Operative Reports
8. ER and ICU Records
9. Anesthesia Record
10. Billing Sheet / Medical Records Coding Summary Sheet
11. Hospital Discharge Summary
Uses
- Allows data to be used to characterize procedures used to treat specific injury types.

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

Other Associated Elements
- Procedure Date

ASSOCIATED EDIT CHECKS

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OUTCOME INFORMATION
HOSPITAL DISCHARGE DATE

Data Format [date/time]

National Element

Definition
The date the patient was discharged from the hospital.

XSD Element / Domain (Simple Type) HospitalDischargeDate

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 hospital admission to hospital discharge).

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

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

Data Collection
- Hospital records.

Other Associated Elements
- Hospital Admission Date
- Hospital Admission Time
## ASSOCIATED EDIT CHECKS

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<td>70.01.03</td>
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<td>Hospital Discharge Date cannot be earlier than Hospital Arrival Date</td>
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<td>70.01.04</td>
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<tr>
<td>70.01.06</td>
<td>3</td>
<td>Hospital Discharge Date cannot be earlier than Date of Birth</td>
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TOTAL ICU LENGTH OF STAY

Data Format [number] National Element

Definition
The total number of days that the patient received ICU level care (including all episodes).

XSD Element / Domain (Simple Type) TotalICuLos

Field Values
- Relevant value for data element.

Additional Information
- ICU level care usually requires nurse to patient ratio of 1:1 or 1:2 and/or bed designated as ICU level care in your hospital.
- Recorded in full day increments with any partial day (< 24 hours) listed as a full day.

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

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

Data Collection
- Hospital records.

ASSOCIATED EDIT CHECKS

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TOTAL VENTILATOR DAYS

Definition

The total number of patient days spent on a mechanical ventilator (excluding time in the Operating Room).

Field Values

- Relevant value for data element.

Additional Information

- Recorded in full day increments with any partial day listed as a full day.
- Field allows for multiple “start” and “stop” dates and calculates total days spent on a mechanical ventilator. If a patient begins and ends mechanical ventilation on the same date, the total ventilator days is one day.
- Excludes mechanical ventilation time associated with OR procedures and up to 4 hours post-op.
- Includes positive pressure, mechanical ventilatory assistance via an artificial airway (endotracheal tube or tracheostomy tube).
- Non-invasive means of ventilatory support (mask CPAP or BIPAP) should not be considered in the calculation of ventilator days.
- Patients with artificial airways but with no positive pressure assistance (flow by or T-piece) should not be considered in the calculation of ventilator days.

Data Source Hierarchy

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

Uses

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

Data Collection

- Hospital records.
### ASSOCIATED EDIT CHECKS

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<td>Total Ventilator Days should not be greater than the difference between Hospital Arrival Date and Hospital Discharge Date</td>
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</table>
HOSPITAL DISCHARGE DISPOSITION

Data Format [combo] single-choice

National Element

Definition
The place to which the patient was discharged from the burn center or burn service. If patient leaves against medical advice and it is unclear to where the patient will be going then select discharged against medical advice. If patient leaves against medical advice but discharge location is known, select the discharge location.

Field Values
1. Discharged home (prior living situation or with family members) with no home services.
2. Discharged Home with home services
3. Discharged/Transferred to Skilled Nursing Facility (SNF)/Nursing Home
4. Discharged/Transferred to Long-Term Care Facility (e.g. Ventilator Weaning/Custodial Care)
5. Discharged to Foster Care
6. Discharged to Alternate Caregiver. Refers to Person in Whose Custody the Patient is Discharged if Different From Pre-Admission Living Arrangements
7. Transferred as Inpatient to Another Acute Burn Facility
8. Transferred as Inpatient to Another Hospital (Non Burn)
9. Transferred to Inpatient Psychiatry Unit
10. Transferred to Inpatient Rehabilitation Facility
11. Discharged to Jail or Prison
12. Discharged to Street (Patient Without Home)
13. Died in Hospital
14. Transferred to hospice care
15. Left against medical advice or discontinued care

Additional Information
• “Home” refers to the patient’s pre-admission place of residence (e.g. private home, nursing home, prison, etc.)
• Refer to the glossary for definitions of facility types.

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.

XSD Element / Domain (Simple Type) HospitalDischargeDisposition
Data Collection

• Hospital records.

Other Associated Elements

• Hospital Discharge Date

ASSOCIATED EDIT CHECKS

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CARE DIRECTIVES

Data Format [choice] National Element

Definition
These fields are used to indicate the circumstances of death within hospital.

XSD Element / Domain (Simple Type) CareDirective

Field Values
1. Treatment Withheld
2. Treatment Withdrawn
3. Not Applicable

Additional Information
- This field will only appear if the user has indicated that the patient died. In many instances this selection will require the attending physician's judgment.
- Treatment Withheld should be reserved for instances where initiation of treatment is withheld (i.e. anoxic brain injury, non-survivable injury).

Uses
- Provides information on circumstances surrounding death

ASSOCIATED EDIT CHECKS

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</table>
HOSPITAL COMPLICATIONS

Definition

Any medical complication that occurred during the patient’s stay at your hospital. Specific definitions for complications are provided on following pages.

XSD Element / Domain (Simple Type) HospitalComplications

Field Values

1. Other
2. Acute Renal Failure Requiring Renal Replacement Therapy
3. Acute Respiratory Distress Syndrome (ARDS)
4. Acute Stress Disorder
5. Adrenal Insufficiency
6. Aspiration
7. Brain Death
8. Cardiac Arrest with CPR
9. Catheter Related Bloodstream Infection
10. C. Difficile Infection
11. Cholecystitis
12. Compartment Syndrome, Abdominal
13. Compartment Syndrome, Extremity
14. Decubitus Ulcer-Stage 1
15. Decubitus Ulcer-Stage 2
16. Decubitus Ulcer-Stage 3
17. Decubitus Ulcer-Stage 4
18. Dermal Matrix Loss / Infection Requiring Unplanned Procedure
19. Deep Venous Thrombosis
20. Fall
21. GI Bleed, Lower
22. GI Bleed, Upper
23. Graft or Flap loss Requiring Repeat Procedure
24. Heterotopic Ossification
25. HIT or HITT
26. ICU Delirium Requiring Pharmacologic Treatment
27. Meningitis
28. Multiple Organ Failure (MOF)
29. Pancreatitis
30. Pneumonia, Ventilator Associated
31. Pneumonia, Not Ventilator Associated
32. Seizure
33. Stoke/CVA
34. Systemic Sepsis, Bacterial
35. Systemic Sepsis, Fungal
36. Ulcer, Duodenal or Gastric
37. Urinary Tract Infection, Catheter Related
38. Urinary Tract Infection, Not Catheter Related
39. Ventricular Fibrillation or Tachycardia

Additional Information

- The field value (1) “No NBDS listed medical complications occurred” would be chosen if none of the hospital complications listed above are present in the patient. This particular field value is available since individual state or hospital registries may track additional hospital complications not listed here.
Data Source Hierarchy

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

Uses

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

Data Collection

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

Other Associated Elements

- Injury Diagnosis

ASSOCIATED EDIT CHECKS

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MS-DRG CODE ICD 9

Data Format [number]

Definition

This field is used to indicate the Centers for Medicare and Medicaid Services (CMS) Diagnostic Related Groups (DRG) and Medical Severity Diagnostic Related Groups (MS-DRG) for the patient's admission.

XSD Element / Domain (Simple Type)  MsDrg

Field Values

• Alphanumeric

Uses

• Provides information on resource utilization

ASSOCIATED EDIT CHECKS

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Definition

This field is used to indicate the Centers for Medicare and Medicaid Services (CMS) Diagnostic Related Groups (DRG) and Medical Severity Diagnostic Related Groups (MS-DRG) for the patient’s admission.

XSD Element / Domain (Simple Type)  icd10Drg

Field Values

• Alphanumeric

Uses

• Provides information on resource utilization

ASSOCIATED EDIT CHECKS

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PRIMARY METHOD OF PAYMENT

Data Format [combo] single-choice

National Element

Definition

Primary source of payment for hospital care.

XSD Element / Domain (Simple Type) PrimaryMethodPayment

Field Values

1. Medicaid
2. Not Billed (for any reason)
3. Self-Pay/Uninsured
4. Private/Commercial Insurance
5. No Fault Automobile
6. Medicare
7. Other Government
8. Workers Compensation
9. Charity (i.e. Shriners)
10. Pending or Uncovered

Data Source Hierarchy

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

Uses

- Allows data to be sorted based upon payer mix.

Data Collection

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

ASSOCIATED EDIT CHECKS

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HOSPITAL CHARGES

Data Format [number]  National Element

Definition

The total amount charged for the admission at the acute care facility, expressed in whole dollars.

XSD Element / Domain (Simple Type) TotalHospitalCharges

Field Values

- Relevant value for data element.

Additional Information

- This should be the TOTAL AMOUNT BILLED excluding write-offs and adjustments.

Uses

- Provides information on resource utilization

ASSOCIATED EDIT CHECKS

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RELATED ADMISSIONS
**RELATED ADMISSIONS**

*National Element*

**Definition**

The following data elements will be included in a Related Admission record. All related admissions will need to be associated with an initial admission record. For all definitions and associated edit checks, please refer to the page the data element is listed.

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<th>Data Format</th>
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<td>Section C: Injury Information: pg. 109</td>
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<td>Admission Time</td>
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<td>Section C: Injury Information: pg. 111</td>
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<td>Section B: Demographic Information: pg. 113</td>
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<td>Section C: Injury Information: pg. 118</td>
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APPENDICES
APPENDIX I: GLOSSARY OF TERMS

CO-MORBID CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

Disseminated cancer: Patients who have cancer that has spread to one site or more sites in addition to the primary site, AND in whom the presence of multiple metastases indicates the cancer is widespread, fulminant, or near terminal. Other terms describing disseminated cancer include: “diffuse,” “widely metastatic,” “widespread,” or “carcinomatosis.” Common sites of metastases include major organs, (e.g., brain, lung, liver, meninges, abdomen, peritoneum, pleura, bone.)

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

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

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

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

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

**History of angina within past 1 month:** Pain or discomfort between the diaphragm and the mandible resulting from myocardial ischemia. Typically angina is a dull, diffuse (fist sized or larger) 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-angina medications, enter yes only if the patient has had angina within one month prior to admission.

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

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

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

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

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

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

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

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

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

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

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

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

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

COMPLICATIONS

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

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

ALI/ARDS Acute Lung Injury/Adult (Acute) Respiratory Distress Syndrome: ALI/ARDS occurs in conjunction with catastrophic medical conditions, such as pneumonia, shock, sepsis (or severe infection throughout the body, sometimes also referred to as systemic infection, and may include or also be called a blood or blood-borne infection,) and trauma. It is a form of sudden and often severe lung failure that is usually characterized by a 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, > 18mmHg, if measured, or other similar surrogates such as echocardiography which do not demonstrate analogous findings.)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- **Criterion #1:** Rales or dullness to percussion on physical examination of chest

AND any of the following:

- New onset of purulent sputum or change in character of sputum.
- Organism isolated from blood culture.
- Isolation of pathogen from specimen obtained by transtracheal aspirate, bronchial brushing, or biopsy.

- **Criterion #2:** Chest radiographic examination shows new or progressive infiltrate, consolidation, cavitation, or pleural effusion AND any of the following:

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

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

**Stroke/CVA:** A focal or global neurological deficit of rapid onset and NOT present on admission. The patient must have at least one of the following symptoms:

- Change in level of consciousness
- Hemiplegia
- Hemiparesis
- Numbness or sensory loss affecting on side of the body
- Dysphasia or aphasia
- Hemianopia
- Amaurosis fugax
- Other neurological signs or symptoms consistent with stroke

**AND:**

- Duration of neurological deficit ≥24 h

**OR:**

- Duration of deficit <24 h, if neuroimaging (MR, CT, or cerebral angiography) documents a new hemorrhage or infarct consistent with stroke, or therapeutic intervention(s) were performed for stroke, or the neurological deficit results in death

**AND:**

- No other readily identifiable non-stroke cause, e.g., progression of existing traumatic brain injury, seizure, tumor, metabolic or pharmacologic etiologies, is identified

**AND:**

- Diagnosis is confirmed by neurology or neurosurgical specialist or neuroimaging procedure (MR, CT, angiography,) or lumbar puncture (CSF demonstrating intracranial hemorrhage that was not present on admission.)

Although the neurologic deficit must not present on admission, risk factors predisposing to stroke (e.g., blunt cerebrovascular injury, dysrhythmia) may be present on admission.

**Superficial surgical site infection:** An infection that occurs within 30 days after an operation and infection involves only skin or subcutaneous tissue of the incision and at least one of the following:

- Purulent drainage, with or without laboratory confirmation, from the superficial incision.
- Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.
- At least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat and superficial incision is deliberately opened by the surgeon, unless incision is culture-negative.
- Diagnosis of superficial incisional surgical site infection by the surgeon or attending physician.

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

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

**Unplanned intubation:** Patient requires placement of an endotracheal tube and mechanical or assisted ventilation because of the onset of respiratory or cardiac failure manifested by severe respiratory distress, hypoxia, hypercarbia, or respiratory acidosis. In patients who were intubated in the field or Emergency Department, or those intubated for surgery, unplanned intubation occurs if they require reintubation > 24 hours after extubation.

**Urinary Tract Infection:** An infection anywhere along the urinary tract with clinical evidence of infection, which includes at least one of the following symptoms with no other recognized cause:

- Fever ≥ 38°C
- WBC > 10,000 or <3,000 per cubic millimeter
- Urgency
- Frequency
- Dysuria
- Suprapubic tenderness

AND:

- Positive urine culture (≥ 100,000 microorganisms per cm3 of urine with no more than two species of microorganisms)

OR:

- At least two of the following signs or symptoms with no other recognized cause:
  - Fever ≥ 38°C
  - WBC >10,000 or <3,000 per cubic millimeter
  - Urgency
  - Frequency
  - Dysuria
  - Suprapubic tenderness

AND at least one of the following:

- Positive dipstick for leukocyte esterase and/or nitrate
- Pyuria (urine specimen with >10 WBC/mm3 or >3 WBC/high power field or unspun urine
- Organisms seen on Gram stain of unspun urine
- At least two urine cultures with repeated isolation of the same unopathogen (gram-negative bacteria or S. saprophyticus) with ≥102 colonies/ml in nonvoided specimens
- ≤105 colonies/ml of a single uropathogen (gram-negative bacteria or S. saprophyticus) in a patient being treated with an effective antimicrobial agent for a urinary tract infection
- Physician diagnosis of a urinary tract infection
- Physician institutes appropriate therapy for a urinary tract infection

Excludes asymptomatic bacteriuria and "other" UTIs that are more like deep space infections of the urinary tract.

**Catheter-Related Blood Stream Infection:** An organism cultured from the bloodstream that is not related to an infection at another site but is attributed to a central venous catheter. Patients must have evidence of infection including at least one of the following:

- **Criterion #1:** Patient has a recognized pathogen cultured from one or more blood cultures and organism cultured from blood is not related to an infection at
OR:

• **Criterion #2**: Patient has at least one of the following signs or symptoms:
  - Fever $\geq 38^\circ$ C
  - Chills
  - WBC > 10,000 or <3,000 per cubic millimeter
  - Hypotension (SBP<90) or >25% drop in systolic blood pressure
  - Signs and symptoms and positive laboratory results are not related to an infection at another site AND common skin contaminant (i.e., diphtheroids [Corynebacterium spp., Bacillus [not B. anthracis] spp., Propionibacterium spp., coagulase-negative staphylococci [including S. epidermidis], viridans group streptococci, Aerococcus spp., Micrococcus spp.) is cultured from two or more blood cultures drawn on separate occasions.

OR:

• **Criterion #3**: Patient <1 year of age has at least one of the following signs or symptoms:
  - Fever $> 38^\circ$ C
  - Hypothermia $< 36^\circ$ C
  - Apnea, or bradycardia
  - Signs and symptoms and positive laboratory results are not related to an infection at another site and common skin contaminant (i.e., diphtheroids [Corynebacterium 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.

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

- Organisms cultured from bone.
- Evidence of osteomyelitis on direct examination of the bone during a surgical operation or histopathologic examination.
- At least two of the following signs or symptoms with no other recognized cause:
  - Fever (38$^\circ$ C)
  - Localized swelling at suspected site of bone infection
  - Tenderness at suspected site of bone infection
  - Heat at suspected site of bone infection
  - Drainage at suspected site of bone infection

AND at least one of the following:

- Organisms cultured from blood positive blood antigen test (e.g., H. influenza, S. pneumonia)
- Radiographic evidence of infection, e.g., abnormal findings on x-ray, CT scan, magnetic resonance imaging (MRI), radiolabel scan (gallium, technetium, etc.)

**Unplanned return to the OR**: Unplanned return to the operating room after initial operation
management for a similar or related previous procedure.

**Unplanned return to the ICU:** Unplanned return to the intensive care unit after initial ICU discharge. Does not apply if ICU care is required for postoperative care of a planned surgical procedure.

**Severe sepsis:** Sepsis and/or Severe Sepsis defined as an obvious source of infection with bacteremia and two or more of the following:

- Temp >38°C or <36°C
- WBC count >12,000/mm³, or > 20%immature (source of infection)
- Hypotension – (Severe Sepsis)
- Evidence of hypo perfusion: (Severe Sepsis)
- Anion gap or lactic acidosis or Oliguria, or Altered mental status.
APPENDIX III: GLOSSARY OF TERMS

PATIENT’S OCCUPATION: The occupation of the patient.

Field Value Definitions:

Business and Financial Operations Occupations:
- Buyers and Purchasing Agents
- Accountants and Auditors
- Claims Adjusters, Appraisers, Examiners, and Investigators
- Human Resources Workers
- Market Research Analysts and Marketing Specialists
- Business Operations Specialists, All Other

Architecture and Engineering Occupations
- Landscape Architects
- Surveyors, Cartographers, and Photogrammetrists
- Agricultural Engineers
- Chemical Engineers Civil
- Engineers Electrical Engineers

Community and Social Services Occupations
- Marriage and Family Therapists
- Substance Abuse and Behavioral Disorder Counselors
- Healthcare Social Workers
- Probation Officers and Correctional Treatment Specialists
- Clergy

Education, Training, and Library Occupations
- Engineering and Architecture Teachers, Postsecondary Math and
- Computer Teachers, Postsecondary
- Nursing Instructors and Teachers, Postsecondary
- Law, Criminal Justice, and Social Work Teachers, Postsecondary
- Preschool and Kindergarten Teachers
- Librarians

Healthcare Practitioners and Technical Occupations
- Dentists, All Other Specialists Dietitians and Nutritionists Physicians and Surgeons Nurse Practitioners Cardiovascular Technologists and Technicians
- Emergency Medical Technicians and Paramedics

Protective Service Occupations
- Fire Fighters
- Police Officers
- Animal Control Workers Security Guards
- Lifeguards, Ski Patrol, and Other Recreational Protective Service

Building and Grounds Cleaning and Maintenance
- Building Cleaning Workers
- Landscaping and Grounds keeping Workers
- Pest Control Workers
- Pesticide Handlers, Sprayers, and Applicators, Vegetation
- Tree Trimmers and Pruners

Sales and Related Occupations
- Advertising Sales Agents
- Retail Salespersons
- Counter and Rental Clerks
- Door-to-Door Sales Workers, News and Street Vendors, and Related Workers
Real Estate Brokers

**Farming, Fishing, and Forestry Occupations**
- Animal Breeders
- Fishers and Related Fishing Workers
- Agricultural Equipment Operators
- Hunters and Trappers
- Forest and Conservation Workers
- Logging Workers

**Installation, Maintenance, and Repair Occupations**
- Electric Motor, Power Tool, and Related Repairers
- Aircraft Mechanics and Service Technicians
- Automotive Glass Installers and Repairers
- Heating, Air Conditioning, and Refrigeration Mechanics and Installers
- Maintenance Workers, Machinery
- Industrial Machinery Installation, Repair, and Maintenance Workers

**Transportation and Material Moving Occupations**
- Rail Transportation Workers, All Other
- Subway and Streetcar Operators
- Packers and Packagers, Hand
- Refuse and Recyclable Material Collectors
- Material Moving Workers, All Other
- Driver/Sales Workers

**Management Occupations**
- Public Relations and Fundraising Managers
- Marketing and Sales Managers
- Administrative Services Managers
- Transportation, Storage, and Distribution Managers
- Food Service Managers

**Computer and Mathematical Occupations**
- Web Developers
- Software Developers and Programmers
- Database Administrators
- Statisticians
- Computer Occupations, All Other

**Life, Physical, and Social Science Occupations**
- Psychologists
- Economists
- Foresters
- Zoologists and Wildlife Biologists
- Political Scientists
- Agricultural and Food Science Technicians

**Legal Occupations**
- Lawyers and Judicial Law Clerks
- Paralegals and Legal Assistants
- Court Reporters
- Administrative Law Judges, Adjudicators, and Hearing Officers
- Arbitrators, Mediators, and Conciliators
- Title Examiners, Abstractors, and Searchers

**Arts, Design, Entertainment, Sports, and Media**
- Artists and Related Workers, All Other
- Athletes, Coaches, Umpires, and Related Workers
- Dancers and Choreographers
- Reporters and Correspondents
- Interpreters and Translators
- Photographers

**Healthcare Support Occupations**
- Nursing, Psychiatric, and Home Health Aides
- Physical Therapist Assistants and Aides
- Veterinary Assistant and Laboratory Animal Caretakers
- Healthcare Support Workers, All Other
- Medical Assistants
Food Preparation and Serving Related
  Bartenders, Cooks, Institution and Cafeteria
  Cooks, Fast Food
  Counter Attendants, Cafeteria, Food Concession, and Coffee Shop
  Waiters and Waitresses, Dishwashers

Personal Care and Service Occupations
  Animal Trainers
  Amusement and Recreation Attendants
  Barbers, Hairdressers, Hairstylists and Cosmetologists
  Baggage Porters, Bellhops, and Concierges
  Tour Guides and Escorts
  Recreation and Fitness Workers

Office and Administrative Support Occupations
  Bill and Account Collectors
  Gaming Cage Workers
  Payroll and Timekeeping Clerks, Tellers
  Court, Municipal, and License Clerks
  Hotel, Motel, and Resort Desk Clerks

Construction and Extraction Occupations
  Brick masons, Block masons, and Stonemasons
  Carpet, Floor, and Tile Installers and Finishers
  Construction Laborers, Electricians
  Pipe layers, Plumbers, Pipefitters, Steamfitters and Roofers

Production Occupations
  Electrical, Electronics, and Electromechanical Assemblers
  Engine and Other Machine Assemblers
  Structural Metal Fabricators and Fitters
  Butchers and Meat Cutters
  Machine Tool Cutting Setters, Operators, and Tenders, Metal and Plastic
  Welding, Soldering, and Brazing Workers

Military Specific Occupations
  Air Crew Officers
  Armored Assault Vehicle Officers
  Artillery and Missile Officers Infantry
  Officers
  Military Officer Special and Tactical Operations Leaders, All Other

Multiple Cause Coding Hierarchy: If two or more events cause separate injuries, an external cause code should be assigned for each cause. The first-listed external cause code will be selected in the following order:
  1. External cause codes for child and adult abuse take priority over all other external cause codes
  2. External cause codes for terrorism events take priority over all other external cause codes except child and adult abuse.
  3. External cause codes for cataclysmic events take priority over all other external cause codes except child and adult abuse, and terrorism.
  4. External cause codes for transport accidents take priority over all other external cause codes except cataclysmic events, and child and adult abuse, and terrorism.
  5. The first listed external cause code should correspond to the cause of the most serious diagnosis due to an assault, accident or self-harm, following the order of hierarchy listed above.