Trauma Quality Programs (TQP)

Participant Use File (PUF)

User Manual

Admission Years 2007-2016

Last Revised: June 2019

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UPDATES

<u>June 2019 Update</u>: The National Trauma Data Bank (NTDB) Research Dataset (RDS) and the Trauma Quality Improvement Program (TQIP) Participant Use File (PUF) have been combined into a single dataset – the Trauma Quality Programs (TQP) PUF. This change was applied to previously available datasets from 2010 – 2016 and will be applied to all datasets going forward. Titles and documentation have been changed throughout to reflect this transition.

Additionally, all available datasets from 2007 – 2016, and all datasets going forward, do **not** contain elements allowing records to be linked together by trauma center. A reduced set of trauma center characteristics is provided at the record level.

TERMS OF USE

The American College of Surgeons established the Trauma Quality Programs (TQP) as a public service to be a repository of trauma related data voluntarily reported by participating trauma centers.

The American College of Surgeons Committee on Trauma collects and maintains the TQP. Therefore, use of any information from the TQP must include a prominent citation. The citation is to read as follows, filling in the version number and year as:

Committee on Trauma, American College of Surgeons. TQP PUF Version X.X Chicago, IL, 20XX
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Specific Terms of Agreement:
Limited license is granted to use said information from the TQP PUF from the American College of Surgeons, Committee on Trauma, provided the Requester agrees to the following provisions:

1. Treat the information received from The American College of Surgeons, Committee on Trauma as non-public health data. The data may never be used by Requester as a basis for legal, administrative or other actions that can directly affect an individual whose medical or personal information is included in a case in the data.
2. Use the information received under the provisions of this Agreement only for the following not-for-profit purposes: research, advocacy, medical education, patient education, or other trauma care-related activities supported by not-for-profit organizations.
3. All Information derived from the TQP PUF from The American College of Surgeons, Committee on Trauma shall remain the full and copyrighted property of The American College of Surgeons, Committee on Trauma and shall be so noted in educational material, website presentations, and publications.
4. Warrant that The American College of Surgeons, Committee on Trauma is not responsible for any claims arising from works based on the original data, text, tables, or figures.
5. Indemnify the American College of Surgeons, its Committee on Trauma and their employees and agents from any and all liability, loss, or damage suffered as a result of claims, demands, costs, or judgments arising out of use of TQP PUF information.
6. Requestor may not sublease or permit other parties to use TQP PUF data without advance written approval of ACS COT.

The Requester's obligations hereunder shall remain in full force and effect and survive the completion of the Requester's defined project described herein above. The terms of this Agreement shall be binding upon the Requester and the organization through which his/her project is conducted.

TABLE DESCRIPTION LIST

The PUF is a set of relational tables containing elements as defined by the National Trauma Data Standard (NTDS) for each respective admission year. It is *strongly recommended* that anyone using this PUF consults the NTDS for each admission year involved in their research to ensure familiarity with data definitions and to understand how those definitions may have shifted across years.

These tables are provided in ASCII-CSV (comma separated value) format and standard SAS (*.sas7bdat) data tables. The relational tables are generally too large to be analyzed in Excel, but have been used in SAS, STATA, SPSS, Access, and Tableau.

Two different classes of tables exist in the data set:

- **Clinical record tables**
    - Table with information related to each clinical record, either one-to-one in design or many-to-one in design.
    - These tables include a unique record identifier (INC_KEY) for merging tables together.
- **Lookup tables**
    - The remaining tables are lookup tables with descriptions of relevant code sets.
    - These tables can be merged with clinical record tables using the code from the relevant coding standard (e.g. AIS).

Table Name	Admission Years	Description
PUF_AIS05TO98_CROSSWALK	2016	Crosswalk from AIS 05 codes to AIS 98 codes
PUF_AIS98PCODE	2009 - 2015	The AIS (Abbreviated Injury Scale) code globally represented (submitted or mapped) to AIS version 1998. This table is no longer provided in 2016 however AIS 05 codes can be mapped to AIS 98 codes using the PUF_AIS05TO98_CROSSWALK table to crosswalk AIS 05 codes to AIS 98 codes.
PUF_AISCCODE	2007 - 2015	The AIS (Abbreviated Injury Scale) code globally calculated from ICD-9 diagnosis codes.
PUF_AISDES	2007 - 2016	AIS injury descriptors. AIS 98 exclusively until 2015 and then AIS 05 exclusively in 2016.
PUF_AISP05CODE	2007 - 2015	The AIS version 2005 (Abbreviated Injury Scale) code as submitted by the hospital. Note that this dataset does not contain AIS descriptors for AIS05 until 2016.
PUF_AISPCODE	2007 - 2016	The AIS (Abbreviated Injury Scale) code submitted by the hospital. • 2007 - 2015: excluding AIS version 2005 • 2016: AIS version 2005 only
PUF_COMORBID	2007 - 2016	Comorbid conditions
PUF_COMPLIC	2007 - 2016	Hospital complications
PUF_DEMO	2007 - 2016	Demographic information
PUF_DCODE	2007 - 2016	ICD-9-CM diagnosis codes
PUF_DCODEDES	2007 - 2016	Lookup table of the description of the ICD-9-CM diagnosis codes
PUF_DISCHARGE	2007 - 2016	Includes discharge and outcome information
PUF_ECODE	2007 - 2016	Includes the ICD-9-CM external cause of injury code
PUF_ECODEDES	2007 - 2016	Lookup table of the description of the ICD-9-CM E-Codes
PUF_ED	2007 - 2016	Emergency department information
PUF_ICD10_DCODE	2015 - 2016	ICD-10-CM diagnosis codes
PUF_ICD10_DCODEDES	2015 - 2016	Lookup table of the description of the ICD-10-CM diagnosis codes
PUF_ICD10_ECODE	2015 - 2016	Includes the ICD-10-CM external cause of injury codes
PUF_ICD10_ECODEDES	2015 - 2016	Lookup table of the description of the ICD-10-CM E-Codes
PUF_ICD10_LOC	2015 - 2016	ICD-10-CM injury location codes
PUF_ICD10_LOCDES	2015 - 2016	Lookup table of the description of the ICD-10-CM location codes
PUF_ICD10_PROCDES	2015 - 2016	Lookup table of the description of the ICD-10-CM procedure codes
PUF_PCODE	2007 - 2016	ICD-9-CM and ICD-10-CM procedure codes (Pre-2015: ICD-9-CM only)
PUF_PCODEDES	2007 - 2016	Lookup table of the description of the ICD-9-CM procedure codes

Table Name	Admission Years	Description
PUF_PM	2013 - 2016	Information about the TQIP Processes of Care Measures elements. These elements are required from Level I and II TQIP centers only.
PUF_PM_EMBOLIZE_SITE	2013 - 2016	Information about the TQIP Processes of Care Measure element for embolization site. This element is required from Level I and II TQIP centers only.
PUF_PM_TBI_CM	2013 - 2016	Information about the TQIP Processes of Care Measure element for cerebral monitor. This element is required from Level I and II TQIP centers only.
PUF_PM_TBI_GCS_Q	2013 - 2016	Information about the TQIP Processes of Care Measure element for GCS assessment qualifiers. This element is required from Level I and II TQIP centers only.
PUF_PROTDEV	2007 - 2016	Protective devices
PUF_TRANSPORT	2007 - 2016	Transport information
PUF_VITALS	2007 - 2016	Vital signs from EMS and ED
TQP_INCLUSION	2010 - 2016	Information about a record's affiliation with a Trauma Quality Improvement Program (TQIP) institution, and whether that incident also met TQIP inclusion criteria for any of our reporting products

ELEMENT DESCRIPTION LIST

This section includes the definition, addition year, retirement year, and notes about each element. For more detail related to data formats, length, etc., please refer to the included Excel PUF Dictionary document.

***NOTE**:* All data elements have Common Null Values (blank inappropriate values, here forth known as BIU Values) as valid values unless specified.

Element Values

- 1 Not Applicable (-1)
- 2 Not Known/Not Recorded (-2)
  - Originally "Not Known" and changed Admission Year 2009.
- 3 Not Recorded (-3)
  - Retired in 2009. This has been removed from all datasets and combined as Not Known/Not Recorded.

Elements Value Definitions

- *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, elements 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, or health care provider. This documents that there was an attempt to obtain information, but it was unknown by all parties involved at the time of documentation. For example, injury date and time may be documented in the hospital patient care report as "Unknown."

Table Name: PUF_ AIS05TO98_CROSSWALK
Definition: Crosswalk from AIS 05 codes to AIS 98 codes. This crosswalk is not meant as a bidirectional crosswalk.
Frequency: One record per AIS code

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
AIS05 Pre-dot (AIS05_PREDOT)	The pre-dot of the AIS 05 source code	2016	none	
AIS05 Severity (AIS05_SEVERITY)	The severity of the AIS 05 source code	2016	none	
AIS98 Pre-dot (AIS98_PREDOT)	The pre-dot of the AIS 98 destination code	2016	none	
AIS98 Severity (AIS98_SEVERITY)	The severity of the AIS 98 destination code	2016	none	
AIS98 Description (AIS98_DESCRIPTION)	The description of the AIS 98 destination code	2016	none	

Table Name: PUF_AIS98PCODE
Definition: The crosswalked AIS© (Abbreviated Injury Scale) code. AIS 2005 codes are back-coded to AIS 98, AIS 98 codes remain the same and all other codes are mapped to AIS 90. Retired in 2015 and replaced with PUF_AIS05TO98_CROSSWALK
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2009	2016	
AIS Version (AISVER)	The version of AIS used to code the incident.	2009	2016	
AIS Pre-dot Code (PREDOT)	The Abbreviated Injury Scale (AIS) pre-dot codes that reflect the patient’s injuries.	2009	2016	
AIS Severity (SEVERITY)	This represents the Abbreviated Injury Scale severity code that reflects the patient’s injuries.	2009	2016	

Table Name PUF_AISCCODE
Definition: The AIS (Abbreviated Injury Scale) codes calculated from ICDMAP-90 for the trauma diagnosis
Frequency Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	2016	
AIS Version (AISVER)	The version of AIS used to code the incident.	2007	2016	
AIS Pre-dot Code (PREDOT)	The Abbreviated Injury Scale (AIS) pre-dot codes that reflect the patient's injuries.	2007	2016	
AIS Severity (SEVERITY)	This represents the Abbreviated Injury Scale severity code that reflects the patient's injuries.	2007	2016	

Table Name PUF_AISDES
Definition: Lookup table of AIS 05/08 injury codes
Frequency: One record per AIS code

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
AIS Version (AISVER)	The version of AIS used to code the incident.	2007	None	AIS 98 exclusively until 2015 and then AIS 05 exclusively in 2016.
AIS Pre-dot Code (PREDOT)	The Abbreviated Injury Scale (AIS) predot codes that reflect the patient's injuries.	2007	None	AIS 98 exclusively until 2015 and then AIS 05 exclusively in 2016.
AIS Severity (SEVERITY)	This represents the Abbreviated Injury Scale severity code that reflects the patient's injuries.	2007	None	AIS 98 exclusively until 2015 and then AIS 05 exclusively in 2016.
AIS Description (AISDESC)	Description of AIS Injury code	2007	None	AIS 98 exclusively until 2015 and then AIS 05 exclusively in 2016.

Table Name: PUF_AISP05CODE
Definition: The AIS© (Abbreviated Injury Scale) code version 2005 submitted by the hospital for the trauma diagnosis. Retired in 2015.
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	2016	
AIS Version (AISVER)	The version of AIS used to code the incident.	2007	2016	
AIS Pre-dot Code (PREDOT)	The Abbreviated Injury Scale (AIS) pre-dot codes that reflect the patient's injuries.	2007	2016	
AIS Severity (SEVERITY)	This represents the Abbreviated Injury Scale severity code that reflects the patient's injuries.	2007	2016	

Table Name: PUF_AISPCODE
Definition: The AIS© (Abbreviated Injury Scale) code version 1980, 1985, 1990, and 1998 submitted by the hospital for the trauma diagnosis. Excluding AIS 05 codes until 2016. Exclusively AIS 05 codes starting in 2016.
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	none	
AIS Version (AISVER)	The version of AIS used to code the incident.	2007	none	
AIS Pre-dot Code (PREDOT)	The Abbreviated Injury Scale (AIS) pre-dot codes that reflect the patient's injuries.	2007	none	
AIS Severity (SEVERITY)	This represents the Abbreviated Injury Scale severity code that reflects the patient's injuries.	2007	none	

Table Name: PUF_COMORBID
Definition: Information about comorbid conditions upon arrival in the ED/hospital
Frequency Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Comorbidity Code (COMORKEY)	NTDS comorbid conditions	2007	None	
Comorbidity	Description of comorbid	2007	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Description (COMORDES)	conditions			

Table Name: PUF_COMPLIC
Definition: Information about complications during patient treatment
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Complication Code (COMPLKEY)	NTDS hospital complications	2010	None	
Complication Description (COMPLDES)	Description of complications.	2010	None	

Table Name: PUF_DEMO
Definition: Includes information about the patient and incident demographics
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Year of Birth (YOBIRTH)	The patient's birth year.	2007	None	
Age (AGE)	The patient's age at time of injury	2007	None	Age values less than 1 and greater than 89 are censored to '-99'
Sex (GENDER)	The patient's gender at admission	2007	None	
Race1 (RACE1)	The patient's race	2007	None	
Race2 (RACE2)	The patient's race (additional)	2007	None	
Ethnicity (ETHNIC)	The patient's ethnicity	2010	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Hospital Type (HOSPITALTYPE)	Facility Tax Status	2007	None	
Teaching Status (TEACHSTATUS)	Hospital teaching status	2007	None	
ACS Verification Level (ADULTVERIFICATIONLEVEL)	ACS Verification Level	2007	None	
ACS Pediatric Verification Level (PEDIATRICVERIFICATIONLEVEL)	ACS Pediatric Verification Level	2007	None	
State Designation (STATEDESIGNATION)	State Designation	2007	None	
State Pediatric Designation (PEDIATRICSTATEDESIGNATION)	State Pediatric Designation	2007	None	
Bedsize (BEDSIZE)	Number of licensed beds in facility	2007	None	

Table Name: PUF_DCODE
Definition: Includes the ICD-9-CM diagnosis codes
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
ICD-9-CM Diagnosis (DCODE)	ICD-9-CM Diagnosis Code	2007	None	

Table Name: PUF_DCODEDES
Definition: Lookup table ICD-9-CM diagnoses codes
Frequency: One record per ICD-9-CM diagnoses codes DCODE

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Diagnosis Code (DCODE)	Unique ICD-9-CM diagnosis code	2007	None	Includes non-trauma diagnoses
Diagnosis Code Description (DCODEDES)	Description for ICD-9-CM diagnosis codes	2007	None	
Nature of Injury (DXTYPE)	Nature of injury as defined by the Barell Injury Diagnosis Matrix	2007	None	See Barell Matrix
Body Region 1 (REGION1)	ICD-9 body region as defined by the Barell Injury Diagnosis Matrix	2007	None	See Barell Matrix
Body Region 2 (REGION2)	Second ICD-9 body region as defined by the Barell Injury Diagnosis Matrix	2007	None	See Barell Matrix
Body Region 3 (REGION3)	Third ICD-9 body region as defined by the Barell Injury Diagnosis Matrix	2007	None	See Barell Matrix

Table Name: PUF_DISCHARGE
Definition: Includes discharge information
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Discharge Year (YODISCH)	Year the patient was discharged from the facility	2007	None	
Hospital	The disposition of the patient at	2007	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Discharge Disposition (HOSPDISP)	hospital discharge			
Length of Stay (Minutes) (LOSMIN)	Total Length of Stay in minutes	2007	None	
Length of Stay in Days (LOSDAYS)	Total Length of Stay in days	2007	None	
Intensive Care Unit Days (ICUDAYS)	Total number of days spent in the Intensive Care Unit	2007	None	
Ventilator Days (VENTDAYS)	Total number of days spent on the Ventilator	2007	None	
Primary Payment Method (PAYMENT)	The patient's primary method of payment	2007	None	

Table Name: PUF_ECODE
Definition: Includes ICD-9-CM E-Codes (Mechanism of Injury)
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Primary E-Code (ECODE)	ICD-9-CM External Cause of Injury Code	2007	None	
ICD-9-CM Additional E-Code (ECODE2)	Additional ICD-9-CM External Cause of Injury Code	2007	None	

Table Name: PUF_ECODEDES
Definition: Look-up table for ICD-9-CM E-Codes
Frequency: One record per ICD-9-CM E-Code ECODE

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
E-Code (ECODE)	Unique ICD-9-CM E-Code	2007	None	To merge ECODE2 with descriptions, must change this element name to ECODE2
Primary E-Code Description (ECODEDES)	Description of each ICD-9-CM E-Code	2007	None	
Trauma Type (INJTYPE)	Indication of the type (nature) of trauma produced by an injury	2007	None	See Injury Intentionality/Trauma Type Matrix for more information.
Injury Intent (INTENT)	Injury Intentionality as defined by the CDC Injury Intentionality Matrix	2007	None	See Injury Intentionality/Trauma Type Matrix for more information.
Mechanism of Injury (MECHANISM)	ICD-9-CM Mechanism of Injury E-Code	2007	None	See Injury Intentionality/Trauma Type Matrix for more information.

Table Name: PUF_ED
Definition: ED and Injury information
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Year of Injury (YOINJ)	The year when the patient was injured	2007	None	
Admission Year (YOADMIT)	The year when the patient was admitted	2007	None	
Work-Related (WORKREL)	Work-relatedness of the injury	2007	None	
Industry of Work (INDUSTRY)	Occupational industry associated with the patient's work environment	2007	None	
Occupation (OCCUPATION)	Occupation of the patient	2007	None	
Location E-	ICD9-CM External Cause of Injury	2007	None	Value is *x* in 849.x code

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Code (LECODE)	code			
Location Description (LOCATION)	Location where injury occurred	2007	None	
Inter-hospital Transfer (TRANSFER)	Inter-hospital transfer	2007	None	
Alcohol Use (ALCOHOL)	Whether patient used alcohol	2007	None	
Drug Use (DRUG1)	Whether patient used drugs	2007	None	
Drug Use (DRUG2)	Whether patient used drugs	2007	None	
Emergency Department Disposition (EDDISP)	Disposition of the patient at the time of discharge from the ED	2007	None	
Death in ED (EDDEATH)	Whether or not the patient died in the ED	2007	2010	
Signs of Life (SIGNSOFLIFE)	Whether or not the patient presented with signs of life	2011	None	Replaced EDDEATH in 2011.
EMS Response Minutes (EMSRESP)	Total elapsed minutes from dispatch of the EMS transporting unit to scene arrival of the EMS transporting unit	2007	None	Calculated by ACS from submitted dates/times
EMS Scene Time (EMSSCENE)	Total elapsed minutes from dispatch of the EMS transporting unit to departure from the scene.	2007	None	Calculated by ACS from submitted dates/times
Total Number of EMS Days (EMSDAYS)	Total elapsed days from dispatch of the EMS transporting unit to hospital arrival of the EMS transporting unit.	2007	None	Calculated by ACS from submitted dates/times
Total Number of EMS Minutes (EMSMINS)	Total elapsed minutes from dispatch of the EMS transporting unit to hospital arrival of the EMS transporting unit.	2007	None	Calculated by ACS from submitted dates/times
Total Number of Minutes in the ED (EDMIN)	Total elapsed minutes the patient was in the emergency department	2007	None	Calculated by ACS from submitted dates/times

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Total Number Days in the ED (EDDAYS)	Total elapsed days the patient was in the emergency department	2007	None	Calculated by ACS from submitted dates/times
Local ISS (ISSLOC)	The Injury Severity Score reflecting the patient's injuries directly submitted by the facility regardless of the method of calculation	2007	2016	Retired in 2016 to standardize ISS from submitted AIS. Use ISSAIS.
Calculated ISS (ISSAIS)	The Injury Severity Score as calculated from AIS submitted directly by hospitals	2007	None	
ICDMAP-90 derived ISS (ISSICD)	The Injury Severity Score as derived by converting ICD-9 codes to AIS using the ICD 90 Mapping program and then calculating ISS with the resulting AIS severity scores	2007	2016	
AIS 98 crosswalked ISS (ISS98)	The Injury Severity Score as derived from a mapping of existing AIS codes to AIS98 for consistency of AIS scores.	2010	2016	AIS 98 codes remain the same, AIS 2005 codes are mapped to AIS 98 and others are mapped to AIS 90.

Table Name: PUF_ICD10_DCODE
Definition: Includes the ICD-10-CM diagnosis codes
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2015	None	
ICD-10-CM Diagnosis (DCODE)	ICD-10-CM Diagnosis Code	2015	None	

Table Name: PUF_ICD10_DCODEDES
Definition: Lookup table ICD-10-CM diagnoses codes
Frequency: One record per ICD-10-CM diagnoses codes DCODE

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Diagnosis Code (ICD10_DCODE)	Unique ICD-10-CM diagnosis code	2015	None	Includes non-trauma diagnoses
Diagnosis Code Description (ICD10_DCODEDES)	Description for ICD-10-CM diagnosis codes	2015	None	
Level 1 (LEVEL1)	The chapter of the ICD-10 code	2015	None	
Level 2 (LEVEL2)	Subcategory representing general injury/disease and body area	2015	None	
Level 3 (LEVEL3)	Subcategory representing intermediate description of injury/disease and body area	2015	None	
Level 4 (LEVEL4)	Subcategory representation specific injury/disease and body area	2015	None	
ICD10 Version (ICD10_Version)	The version of ICD10 code	2015	None	

Table Name: PUF_ICD10_ECODE
Definition: Includes ICD-10-CM E-Codes (Mechanism of Injury)
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2015	None	
ICD10 Primary E-Code (ICD10_ECODE)	ICD-10-CM External Cause of Injury Code	2015	None	

Table Name: PUF_ICD10_ECODEDES
Definition: Look-up table for ICD-10-CM E-Codes
Frequency: One record per ICD-10-CM E-Code ICD10_ECODE

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
ICD10 E-Code (ECODE)	Unique ICD-10-CM E-Code	2015	None	
ICD10 E-Code Description (ECODEDES)	Description of each ICD-10-CM E-Code	2015	None	
Injury Intent (INTENT)	Injury Intentionality as defined by the CDC Injury Intentionality Matrix	2015	None	
Mechanism of Injury (MECHANISM)	ICD-10-CM Mechanism of Injury E-Code	2015	None	
Trauma Type (TRAUMA_TYPE)	Indication of the type (nature) of trauma produced by an injury	2015	None	

Table Name: PUF_ICD10_LOC
Definition: Includes ICD-10-CM Location Codes
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2015	None	
ICD10 Location Code (ICD10_LOC)	ICD-10-CM Injury Location Code	2015	None	

Table Name: PUF_ICD10_LOCDES
Definition: Lookup table ICD-10-CM location codes
Frequency: One record per ICD-10-CM location code ICD10_LOC

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Location Code (ICD10_LOC)	Unique ICD-10-CM location code	2015	None	Includes non-trauma diagnoses
Location Code Description (ICD10_LOC_DESCRIPTION)	Description for ICD-10-CM location codes	2015	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Level 1 (LEVEL1)	The chapter of the ICD-10 code	2015	None	
Level 2 (LEVEL2)	Subcategory representing general location type	2015	None	
ICD10 Version (ICD10_Version)	The version of ICD10 code	2015	None	

Table Name: PUF_ICD10_PCODEDES
Definition: Lookup table ICD-10-CM procedure codes
Frequency: One record per ICD-10-CM procedure code PCODE

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Procedure Code (ICD10_PROC)	Unique ICD-10-CM procedure code	2015	None	
Procedure Code Description (ICD10_PROC_DESCRIPTION)	Description for ICD-10-CM diagnosis codes	2015	None	
ICD10 Version (ICD10_Version)	The version of ICD10 code	2015	None	

Table Name: PUF_PCODE
Definition: ICD-9-CM and ICD-10-CM procedure codes
Frequency: Multiple records per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
ICD-9-CM Procedure Code (PCODE)	ICD-9-CM Procedure Code	2007	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
ICD-10-CM Procedure Code (ICD10_PCODE)	ICD-10-CM Procedure Code	2015	None	
Year of Procedure (YOPROC)	Year in which the procedure occurred	2007	None	
Days to Procedure (DAYTOPROC)	Number of days from ED/hospital arrival until the beginning of procedure	2007	None	Calculated by ACS from submitted dates/times
Hours to Procedure (HOURTOPRO)	Number of hours from ED/hospital arrival until the beginning of procedure	2007	None	Calculated by ACS from submitted dates/times

Table Name: PUF_PCODEDES
Definition: Look-up table for ICD-9-CM Procedure Codes
Frequency: One record per ICD-9 procedure code PCODE

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
ICD-9-CM Procedure Code (PCODE)	ICD-9-CM Procedure Code	2007	None	
Procedure Description (PCODEDESCR)	Descriptor for procedure codes	2007	None	

Table Name: PUF_PM
Definition: Information about the TQIP Processes of Care Measures elements. These elements are only required by Level I and II TQIP centers. **Note** that these elements adhere to collection criteria as described in the NTDS and are therefore not collected on all records at Level I and II TQIP centers.
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2013	None	
Highest GCS	Highest recorded Glasgow Coma	2013	None	See

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Total (TBI_HIGHEST_TOTAL_GCS)	Score (total)			PUF_PM_TBI_GCS_Q table for GCS assessment qualifier.
Highest CS Motor (TBI_GCS_MOTOR)	Highest recorded Glasgow Coma Score (motor)	2013	None	
VTE Prophylaxis Type Value Code (VTE_PROPHYLAXIS_TYPE_CODE)	Type of VTE prophylaxis administered	2013	None	NTDS collection code – see associated description for detail
VTE Prophylaxis Type Value Description (VTE_PROPHYLAXIS_TYPE_DESC)	Type of VTE prophylaxis administered	2013	None	
Minutes to VTE Prophylaxis (VTEMINS)	Number of minutes from ED/hospital arrival until VTE prophylaxis	2013	None	Calculated by ACS from submitted dates/times
Days to VTE Prophylaxis (VTEDAYS)	Number of minutes from ED/hospital arrival until VTE prophylaxis	2013	None	Calculated by ACS from submitted dates/times
Lowest ED/Hospital SBP (LOWEST_SBP)	Lowest systolic blood pressure	2013	None	
Blood Transfusion Volume in 4 Hours (TRANS_BLOOD_4HOURS)	Volume of transfused blood within 4 hours of ED/hospital arrival	2013	None	Collected in *units* only in 2013. Measurement type added in 2014.
Blood Transfusion Volume in 24 Hours (TRANS_BLOOD_24HOURS)	Volume of transfused blood within 24 hours of ED/hospital arrival	2013	None	Collected in *units* only in 2013. Measurement type added in 2014.
Blood Transfusion	Measurement type of blood	2014	None	NTDS collection code

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Measurement Code (TRANS_BLOOD_MEASURE_CODE)	transfusion volume			– see associated description for detail
Blood Transfusion Measurement Description (TRANS_BLOOD_MEASURE_DESC)	Measurement type of blood transfusion volume	2014	None	
Blood Transfusion Conversion (TRANS_BLOOD_CONV)	Average volume of CCs (MLs) in a unit at trauma center	2014	None	
Plasma Transfusion Volume in 4 Hours (TRANS_PLASMA_4HOURS)	Volume of transfused plasma within 4 hours of ED/hospital arrival	2013	None	Collected in *units* only in 2013. Measurement type added in 2014.
Plasma Transfusion Volume in 24 Hours (TRANS_PLASMA_24HOURS)	Volume of transfused plasma within 24 hours of ED/hospital arrival	2013	None	Collected in *units* only in 2013. Measurement type added in 2014.
Plasma Transfusion Measurement Code (TRANS_PLASMA_MEASURE_CODE)	Measurement type of plasma transfusion volume	2014	None	NTDS collection code – see associated description for detail
Plasma Transfusion Measurement Description (TRANS_PLASMA_MEASURE_DESC)	Measurement type of plasma transfusion volume	2014	None	
Plasma Transfusion Conversion (TRANS_PLASMA_CONV)	Average volume of CCs (MLs) in a unit at trauma center	2014	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Platelets Transfusion Volume in 4 Hours (TRANS_PLATELETS_4HOURS)	Volume of transfused platelets within 4 hours of ED/hospital arrival	2013	None	Collected in *units* only in 2013. Measurement type added in 2014.
Platelets Transfusion Volume in 24 Hours (TRANS_PLATELETS_24HOURS)	Volume of transfused platelets within 24 hours of ED/hospital arrival	2013	None	Collected in *units* only in 2013. Measurement type added in 2014.
Platelets Transfusion Measurement Code (TRANS_PLATELETS_MEASURE_CODE)	Measurement type of platelets transfusion volume	2014	None	NTDS collection code – see associated description for detail
Platelets Transfusion Measurement Description (TRANS_PLATELETS_MEASURE_DESC)	Measurement type of platelets transfusion volume	2014	None	
Platelets Transfusion Conversion (TRANS_PLATELETS_CONV)	Average volume of CCs (MLs) in a unit at trauma center	2014	None	
Cryoprecipitate Transfusion Volume in 4 Hours (CRYOPRECIPITATE_4HOURS)	Volume of transfused cryoprecipitate within 4 hours of ED/hospital arrival	2013	None	Collected in *units* only in 2013. Measurement type added in 2014.
Cryoprecipitate Transfusion Volume in 24 Hours (CRYOPRECIPITATE_24HOURS)	Volume of transfused cryoprecipitate within 24 hours of ED/hospital arrival	2013	None	Collected in *units* only in 2013. Measurement type added in 2014.
Cryoprecipitate Transfusion Measurement Code (CRYOPRECIPIT	Measurement type of cryoprecipitate transfusion volume	2014	None	NTDS collection code – see associated description for detail

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
ATE_MEASURE _CODE)				
Cryoprecipitate Transfusion Measurement Description (CRYOPRECIPIT ATE_MEASURE _DESC)	Measurement type of cryoprecipitate transfusion volume	2014	None	
Cryoprecipitate Transfusion Conversion (CRYOPRECIPIT ATE_CONV)	Average volume of CCs (MLs) in a unit at trauma center	2014	None	
Angiography Value Code (ANGIOGRAPH Y_CODE)	First angiogram type	2013	None	NTDS collection code – see associated description for detail. See PUF_PM_EMBOLIZE table for embolization site, when relevant.
Angiography Value Description (ANGIOGRAPH Y_DESC)	First angiogram type	2013	None	
Minutes to Angiography (ANGIOGRAPH YMINS)	Number of minutes from ED/hospital arrival until angiography	2013	None	Calculated by ACS from submitted dates/times.
Days to Angiography (ANGIOGRAPH YDAYS)	Number of days from ED/hospital arrival until angiography	2013	None	Calculated by ACS from submitted dates/times.
Surgery for Hemorrhage Control Value Code (HEMORRHAGE _CTRL_STYPE_ CODE)	Type of surgery for hemorrhage control	2013	None	NTDS collection code – see associated description for detail
Surgery for Hemorrhage Control Value Description (HEMORRHAGE _CTRL_STYPE_ DESC)	Type of surgery for hemorrhage control	2013	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Minutes to Surgery for Hemorrhage Control (HEMORRHAGECTRLMINS)	Number of minutes from ED/hospital arrival until surgery for hemorrhage control	2013	None	Calculated by ACS from submitted dates/times.
Days to Surgery for Hemorrhage Control (HEMORRHAGECTRLDAYS)	Number of minutes from ED/hospital arrival until surgery for hemorrhage control	2013	None	Calculated by ACS from submitted dates/times.
Withdrawal of Life Supporting Treatment Value Code (WITHDRAWAL_OF_CARE_CODE)	Whether care was withdrawn or not	2013	None	NTDS collection code – see associated description for detail
Withdrawal of Life Supporting Treatment Value Description (WITHDRAWAL_OF_CARE_DESC)	Whether care was withdrawn or not	2013	None	
Minutes to Withdrawal of Life Supporting Treatment (WITHDRAWALOFCAREMINS)	Number of minutes from ED/hospital arrival until withdrawal of life supporting treatment	2013	None	Calculated by ACS from submitted dates/times.
Days to Withdrawal of Life Supporting Treatment (WITHDRAWALOFCAREDAYS)	Number of days from ED/hospital arrival until withdrawal of life supporting treatment	2014	None	Calculated by ACS from submitted dates/times.
Pupillary Response Value Code (PUPILLARY_RESPONSE_CODE)	Pupillary response	2016	None	NTDS collection code – see associated description for detail
Pupillary Response Value Description (PUPILLARY_RE	Pupillary response	2016	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
SPONSE_DESC)				
Midline Shift Value Code (MIDLINE_SHIFT_CODE)	Midline shift	2016	None	NTDS collection code – see associated description for detail
Midline Shift Value Description (MIDLINE_SHIFT_DESC)	Midline shift	2016	None	
Minutes to Cerebral Monitoring (CEREBRALMONITORMINS)	Number of minutes from ED/hospital arrival until the beginning of cerebral monitoring	2013	None	Calculated by ACS from submitted dates/times. See PUF_PM_TBI_CM table for cerebral monitor type(s).
Days to Cerebral Monitoring (CEREBRALMONITORDAYS)	Number of days from ED/hospital arrival until the beginning of cerebral monitoring	2013	None	Calculated by ACS from submitted dates/times. See PUF_PM_TBI_CM table for cerebral monitor type(s).

Table Name: PUF_PM_EMBOLIZE_SITE
Definition: Information about the TQIP Processes of Care Measures element Embolization Site. This element is only required by Level I and II TQIP centers. **Note** that this element adheres to collection criteria as described in the NTDS and are therefore is not collected on all records at Level I and II TQIP centers.
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2013	None	
Embolization Site Value Code (EMBOLIZATION_SITE_CODE)	Embolization site for angiography with embolization.	2013	None	NTDS collection code – see associated description for detail
Embolization Site Value Description (EMBOLIZATION_SITE_DES	Embolization site for angiography with embolization.	2013	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
C)				

Table Name: PUF_PM_TBI_CM
Definition: Information about the TQIP Processes of Care Measures element Cerebral Monitor. This element is only required by Level I and II TQIP centers. **Note** that this element adheres to collection criteria as described in the NTDS and are therefore is not collected on all records at Level I and II TQIP centers.
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2013	None	
Cerebral Monitor Value Code (TBI_CEREBRAL_MONITOR_CODE)	Cerebral monitor type.	2013	None	NTDS collection code – see associated description for detail
Cerebral Monitor Value Description (TBI_CEREBRAL_MONITOR_DESC)	Cerebral monitor type.	2013	None	

Table Name: PUF_PM_TBI_GCS_Q
Definition: Information about the TQIP Processes of Care Measures element GCS Assessment Qualifier Component of Highest GCS Total. This element is only required by Level I and II TQIP centers. **Note** that this element adheres to collection criteria as described in the NTDS and are therefore is not collected on all records at Level I and II TQIP centers.
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2013	None	
GCS Assessment Qualifier Value Code (TBI_GCS_QUALIFIER_CODE)	GCS assessment qualifier of highest GCS total.	2013	None	NTDS collection code – see associated description for detail
GCS	GCS assessment qualifier of	2013	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Assessment Qualifier Value Description (TBI_GCS_QUALIFIER_DESC)	highest GCS total.			

Table Name: PUF_PROTDEV
Definition: Information on protective devices
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Protective Device Description (PROTDEV)	Descriptor for protective devices	2007	None	
Airbag Description (AIRBAG)	Descriptor for airbags	2007	None	
Child Restraint Description (CHILDRES)	Descriptor for child restraints	2007	None	

Table Name: PUF_ TRANSPORT
Definition: Information on mode of transportation to the ED
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Transport Type (TRANTYPE)	Type of Transportation	2007	None	Indicates either primary or other mode of transportation
Transportation Mode (TMODE)	Mode of Transportation	2007	None	

Table Name: PUF_VITALS
Definition: Information on patient vital signs for both EMS and ED
Frequency: Multiple records per incident possible

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2007	None	
Vital Type (VSTYPE)	Type of vital sign: EMS or ED	2007	None	Important element to distinguish vital signs collected by both EMS and ED
Systolic Blood Pressure (SBP)	Systolic blood pressure	2007	None	
Pulse Rate (PULSE)	The patient's pulse rate	2007	None	
Respiratory Rate (RR)	The patient's respiratory rate	2007	None	
Pulse Oximetry/Oxygen Saturation (OXYSAT)	First recorded oxygen saturation in the ED or hospital	2007	None	
Supplemental Oxygen (SUPPOXY)	Determination of the presence of supplemental oxygen during assessment of ED/hospital saturation	2007	None	
Temperature (TEMP)	The patient's temperature in Centigrade	2007	None	
Glasgow Coma Scale: Eye (GCSEYE)	First recorded Glasgow Coma Score (Eye)	2007	None	
Glasgow Coma Scale: Verbal (GCSVERB)	First recorded Glasgow Coma Score (Verbal)	2007	None	
Glasgow Coma Scale: Motor (GCSMOT)	First recorded Glasgow Coma Score (Motor)	2007	None	

Glasgow Coma Scale Total (GCSTOT)	First recorded Glasgow Coma Score (total)	2007	None	
Glasgow Coma Scale Assessment Qualifier 1 (GCS_Q1)	Assessment Qualifier for Total GCS Score 1	2007	None	
Glasgow Coma Scale Assessment Qualifier 1 (GCS_Q2)	Assessment Qualifier for Total GCS Score 1	2007	None	
Glasgow Coma Scale Assessment Qualifier 1 (GCS_Q3)	Assessment Qualifier for Total GCS Score 1	2007	None	
Respiratory Assistance Description (RRAQ)	Respiratory assistance assessment qualifier	2007	None	

Table Name: TQP_INCLUSION
Definition: Information about TQP enrollment and TQIP inclusion criteria application.
Frequency: One record per incident

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident Key (INC_KEY)	Unique identifier for each record	2010	None	
TQIP Participating Site (TQIPSITE)	Incident at a trauma center participating in the TQP	2010	None	
Adult TQIP Incident (ADULTTQIP)	Incident meeting Adult TQIP inclusion criteria from a participating site. See FAQ for details.	2010	None	
Pediatric TQIP Incident (PEDSTQIP)	Incident meeting Pediatric TQIP inclusion criteria from a participating site. See FAQ for details.	2013	None	
Level III TQIP	Incident meeting Level III TQIP	2016	None	

Element Name	Definition	Admission Year Added	Admission Year Retired	Notes
Incident (L3TQIP)	inclusion criteria from a participating site. See FAQ for details.			

FREQUENTLY ASKED QUESTIONS

What are the system requirements of downloading these datasets?

- Minimum of 1.5 GB of hard drive space for each admission year (CSV or SAS)
- Minimum of 1GB of RAM strongly recommended

Is the data set HIPAA compliant or confidential?

- Yes, the data set is de-identified and no protected health information is provided.
- To further limit possible identification of hospitals or patients, facilities that have patient counts of less than 30 have been removed from the dataset and certain facility characteristics are grouped.
- TQP PUF data are maintained in a secure database with limited internal access. External users must gain permission to the database and data; users are then supplied data at the aggregate level only. Use of TQP PUF data is in strict compliance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA). TQP does not distribute or report hospital information in any manner that allows the reporting hospital to be identified without the express written permission of the hospital. The dataset collected by TQP is considered a limited dataset under HIPAA.

Can I estimate the number of trauma patients in the US based on the TQP PUF?

- The TQP PUF is an incident-based database derived from a voluntary subset of trauma centers, and there are no linkable patient identifiers in the database. If a patient has more than one trauma incident during an admission year, this patient will be in the database twice.

How can I merge the tables in TQP PUF?

- The TQP PUF tables can be merged by using the unique incident key for each incident (INC_KEY).

What are the differences between the file types (CSV vs. SAS)

- SAS files are standard SAS data tables.
- CSV files are comma separated value files. We are aware that SAS handles CSVs inconsistently when using PROC IMPORT. Please use caution and check your datasets prior to analysis, including checking elements values against the element list.
  - The inconsistencies include: truncation of values and changing of element type (numeric to character).

What are the patient inclusion criteria for the TQP?

- Please see the NTDS Data Dictionary for each admission year to understand the yearly NTDS inclusion criteria. These criteria define which records are submitted to the TQP from participating facilities.
- TQIP inclusion criteria, used for the AY 2016 TQP_INCLUSION table, are as follows:

Adult TQIP:

- Age greater than or equal to 16 years
- Blunt or penetrating trauma, or abuse of any trauma type (derived from submitted External Cause Code)
- At least one AIS 05/08 injury with severity between 3 - 6 in AIS body regions 1 – 8
- Admitted patients (Hospital Discharge Disposition other than Not Known/Not Recorded or Not Applicable), or patients who died in the ED (ED Discharge Disposition = Deceased/Expired)

- *Exclude* patients with a pre-existing advanced directive to withhold life sustaining interventions
- *Exclude* patients with the following combinations of Initial ED/Hospital vitals:
  - SBP=0, and pulse=0, and GCS motor=1
  - SBP=NK/NR, and pulse=0, and GCS motor=1
  - SBP=0, and pulse=0, and GCS motor=NK/NR
  - SBP=0, and pulse=NK/NR, and GCS motor=1
  - SBP=NK/NR, and pulse=0, and GCS motor=NK/NR
- *Exclude* patients with severe burns (as defined in TQIP Reporting Code Sets)

Pediatric TQIP:

- Age less than or equal to 18 years
- Blunt or penetrating trauma, or abuse of any trauma type (derived from submitted External Cause Code)
- At least one AIS 05/08 injury with severity between 2 - 6 in AIS body regions 1 – 8
- Admitted patients (Hospital Discharge Disposition other than Not Known/Not Recorded or Not Applicable), or patients who died in the ED (ED Discharge Disposition = Deceased/Expired)

- *Exclude* patients with pre-existing advanced directive to withhold life sustaining interventions
- *Exclude* patients with the following combinations of ED vitals:
  - SBP=0, and pulse=0, and GCS motor=1
  - SBP=NK/NR, and pulse=0, and GCS motor=1
  - SBP=0, and pulse=0, and GCS motor=NK/NR
  - SBP=0, and pulse=NK/NR, and GCS motor=1
  - SBP=NK/NR, and pulse=0, and GCS motor=NK/NR
- *Exclude* patients with severe burns (as defined in TQIP Reporting Code Sets)

Level III TQIP:

- Age greater than or equal to 0
- Blunt or penetrating trauma, or abuse of any trauma type (derived from submitted External Cause Code)
- At least one AIS 05/08 injury with severity between 2 - 6 in AIS body regions 1 - 8
  - Patients transferred from the ED are not required to meet this criterion
- Admitted patients (Hospital Discharge Disposition other than Not Known/Not Recorded or Not Applicable), or patients who either died in the ED (ED Discharge Disposition = Deceased/Expired) or were transferred from the ED (ED Discharge Disposition = Transferred to Another Hospital)

- *Exclude* patients with a pre-existing advanced directive to withhold life sustaining interventions
- *Exclude* patients with the following combinations of Initial ED/Hospital vitals:
  - SBP=0, and pulse=0, and GCS motor=1
  - SBP=NK/NR, and pulse=0, and GCS motor=1
  - SBP=0, and pulse=0, and GCS motor=NK/NR
  - SBP=0, and pulse=NK/NR, and GCS motor=1
  - SBP=NK/NR, and pulse=0, and GCS motor=NK/NR
- *Exclude* patients with severe burns (as defined in TQIP Reporting Code Sets)

Why are there negative values for certain elements when there should not be any?

- Negative values represent BIU (Blank, Inappropriate, Unintentional) values and represent null values. The BIU values for numerical values are coded with the numbers -2 and -1 and are represented in text for character fields. It is recommended to either exclude or set these values to missing before doing any statistical analyses of these values.

There are multiple types of Injury Severity Scores (ISS) in this dataset, which one do I use?
There are four different Injury Severity Scores (ISS) in the TQP PUF:

- **ISSLOC** is the ISS submitted by the hospital to the TQP and no further changes are made to this value.
- **ISSAIS** is the ISS score that is derived from the AIS scores submitted by the hospitals.
- **ISS98** is the ISS score that has been derived from a mapping of existing AIS codes to AIS98 for consistency.
- **ISSICD** is derived from the AIS score that is calculated from the ICD/AIS map, ICDMAP-90, 1995 update (computer program: ICODERI.DLL, Windows version. Johns Hopkins University, 1997.) Each injury is allocated to one of six body regions based on the Abbreviated Injury Scale (AIS) score according to:

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

The 3 most severely injured body regions have their AIS severity score squared and added together to produce the ISS score. Only the highest AIS score in each body region is used.

If you can apply the calculation of ISS independently, you can use the AIS tables, and descriptions below, to decide on the best source.

There are multiple types of Abbreviated Injury Scale (AIS) score tables in the dataset. Which one do I use?
Three Abbreviated Injury Scale scores are included in TQP PUF.

- PUF_AISPCODE (2007 – 2016) contains AIS codes submitted to the TQP.
- PUF_AISCCODE (2007 – 2015) contains AIS codes calculated from the ICDMAP90 crosswalk.
- PUF_AIS98PCODE (2009 – 2015) contains AIS codes mapped or "crosswalked" to AIS 98 for consistency. This table can be replicated in 2016 data using the PUF_AIS05TO98_CROSSWALK table.
- PUF_AISP05CODE (2007 – 2015) contains only AIS 05 codes submitted to the TQP. This table was provided in addition to AISPCODE table from 20017 – 2015 due to licensing concerns. In 2016, AIS 05 codes were moved to the AISPCODE table and that table contains AIS 05 codes exclusively.

Depending upon the timelines of your project, it is best to use either the AIS98PCODE, because it applies a common standard across time, or a combination of AISP05CODE and AISPCODE if you can use AIS 05 codes exclusively. Note that AIS 05 was not mandatory as an exclusive standard for the TQP until 2016.

PUBLICATIONS

In addition to the studies specifically cited above, we are pleased to note the increasing number of publications utilizing the TQP PUF, a listing of which we try to keep updated on our website. We recognize that the quality of these studies is variable, and that some of them fail to acknowledge the limitations we have described above. We request that researchers using TQP PUF notify us of any publications and hope that the criticism of these studies will also help us find ways to improve the quality of the database. Authors should be aware that the following recommendations have been provided to the editors of journals most likely to publish articles based upon TQP PUF data:

Recommendations for Peer Review of Studies using the TQP PUF
(From the NTDB Subcommittee, ACS Committee on Trauma, March 2007)

The ACS Committee on Trauma does not presume or desire to involve itself directly in the editorial process by which manuscripts are selected for publication. However, we do wish to inform this process and maximize the quality of these publications by making editors and reviewers aware of the obligations of licensees to the Trauma Quality Programs, as well as some of the technical issues posed by research involving this database.

Licensees have agreed to include a statement in their manuscripts acknowledging that “the TQP remains the full and exclusive copyrighted property of the American College of Surgeons. The American College of Surgeons is not responsible for any claims arising from works based on the original Data, Text, Tables, or Figures.”

Licensees have further agreed to include language indicating which version of the TQP PUF (e.g., Version 6.1) they are using. This is important since the database is updated frequently, and other researchers should be provided with enough information to allow replication of the findings using the same data set.

The TQP PUF tables provide only general information about contributing institutions, such as trauma center verification status and categorical number of beds. We and our licensees are committed to maintaining the confidentiality of contributing institutions and patients as mandated by federal law. Studies claiming to add information about hospitals or patients from sources outside the TQP PUF should therefore be evaluated with great caution. Reviewers may wish to verify assertions about the characteristics of contributing hospitals against the characteristics available in the PUF.

Like any large database, the TQP PUF does not have complete data for all cases; therefore authors should be expected to state how they dealt with missing data (exclusion, imputation, etc.). Similarly, the TQP PUF is not a population-based dataset; therefore statements about the incidence of specific conditions are inappropriate if based only on NTDB data. A User Manual, which describes these and other sources of potential bias inherent to the TQP PUF, has been provided to all researchers with the database tables. Reviewers are advised to look for explicit discussion of these biases and their possible effects on the analysis.