2015
DATA DICTIONARY

M·TQIP

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PATIENT INCLUSION CRITERIA

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

At least one of the following injury diagnostic codes defined as follows:

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

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

S00-S99 with 7th character modifiers of A, B, or C ONLY. *(Injuries to specific body parts – initial encounter)*
T07 *(unspecified multiple injuries)*
T14 *(injury of unspecified body region)*
T20-T28 with 7th character modifier of A ONLY *(burns by specific body parts – initial encounter)*
T30-T32 *(burn by TBSA percentages)*
T79.A1-T79.A9 with 7th character modifier of A ONLY *(Traumatic Compartment Syndrome – initial encounter)*

Excluding the following isolated injuries:

ICD-9-CM:

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

ICD-10-CM:

S00 *(Superficial injuries of the head)*
S10 *(Superficial injuries of the neck)*
S20 *(Superficial injuries of the thorax)*
S30 *(Superficial injuries of the abdomen, pelvis, lower back and external genitals)*
S40 *(Superficial injuries of shoulder and upper arm)*
S50 *(Superficial injuries of elbow and forearm)*
S60 *(Superficial injuries of wrist, hand and fingers)*
S70 *(Superficial injuries of hip and thigh)*
S80 *(Superficial injuries of knee and lower leg)*
S90 *(Superficial injuries of ankle, foot and toes)*

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

AND MUST INCLUDE ONE OF THE FOLLOWING IN ADDITION TO (ICD-9-CM 800–959.9 OR ICD-10-CM S00-S99, T07, T14, T20-T28,T30-T-32 and T79.A1-T79.A9):

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

Patients entered into the trauma registry will then be selected for analysis using TQIP and/or MTQIP inclusion and exclusion criteria.

Def. Source: NTDS

Def. Source:

CASE NUMBER

Registry # from NTRACS or other commercial registry software. This number (six digit number in NTRACS) is automatically assigned by the registry program. We will use only the initial admission (xxxxxx.000) record.

Def. Source: NTRACS

Data Base Column Name: TRAUMA_NUM
Type of Field: Numeric
Length: 10

Report: #1

TRAUMA CENTER

A two letter code that identifies each trauma center. Assigned by the data coordinating center.

WB = Beaumont Health System
BO = Borgess Health
BF = Botsford Hospital
BM = Bronson Methodist Hospital
CO = Covenant HealthCare
DR = Detroit Receiving Hospital
GH = Genesys Health System
HF = Henry Ford Hospital
HM = Henry Ford Macomb Hospital
HU = Hurley Medical Center
MG = Marquette General Health System
MC = McLaren Macomb (Mount Clemens)
MI = MidMichigan Medical Center - Midland
MU = Munson Medical Center
OW = Oakwood Hospital & Medical Center
OS = Oakwood Southshore Medical Center
ML = McLaren Lapeer Regional Medical Center
PO = McLaren Oakland (Pontiac)
MM = Saint Mary's Health Care
SG = Sinai-Grace Hospital
SP = Sparrow Hospital
SH = Spectrum Health
JO = St. John Providence Health System
SJ = St. Joseph Mercy Hospital Ann Arbor
SO = St. Joseph Mercy Oakland
SM = St. Mary's of Michigan
UM = University of Michigan Health System

Def. Source: MTQIP

Report: None

DEMOGRAPHIC INFORMATION

AGE

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

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

Def. Source: NTDS

Data Base Column Name: CALCULATED_AGE
Type of Field: Numeric
Length: 5

Report: #1

RACE
The patient's race.

• 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.

(1) Asian, (A)
(2) Native Hawaiian, or Other Pacific Islander (P)
(3) Other Race (O)
(4) American Indian (I)
(5) Black or African American (B)
(6) White (W)

Def. Source: NTRACS, NTDS

Data Base Column Name: RACE
Type of Field: Character
Length: 2

Report: #1

SEX
The patient's sex.

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

(1) Male (M)
(2) Female (F)

Def. Source: NTRACS, NTDS

Data Base Column Name: SEX
Type of Field: Character
Length: 1

Report: #1

INJURY INFORMATION

INJURY INCIDENT DATE
The date the injury occurred.

• 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 times) should not be used.

Def. Source: NTRACS, NTDS

Data Base Column Name: INJ_DT
Type of Field: Date
Length: 8

Report: #1

INJURY INCIDENT TIME
The time the injury occurred.

• Collected as HH:MM military time.
• Estimates of time of injury should be based upon report by patient, witness, family, or health care provider. Other proxy measures (e.g., 911 call times) should not be used.

Def. Source: NTRACS, NTDS

Data Base Column Name: INJ_TM
Type of Field: Character (Time Format)
Length: 5

Report: #1

ICD-9 PRIMARY EXTERNAL CAUSE CODE
External cause code used to describe the mechanism (or external factor) that caused the injury event.

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

Def. Source: NTRACS, NTDS

Data Base Column Name: ECODE
Type of Field: Character (Alphanumeric)
Length: 5

Report: #1

ICD-10 PRIMARY EXTERNAL CAUSE CODE
External cause code used to describe the mechanism (or external factor) that caused the injury event.

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

Def. Source: NTRACS, NTDS

Data Base Column Name: ECODE
Type of Field: Character (Alphanumeric)
Length: 5

Report: #1

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

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

(1) None
(2) Lap Belt

(3) Personal Floatation Device
(4) Protective Non-Clothing Gear (e.g., shin guard)
(5) Eye Protection
(6) Child Restraint (booster seat or child car seat)
(7) Helmet (e.g., bicycle, skiing, motorcycle)
(8) Airbag Present
(9) Protective Clothing (e.g., padded leather pants)
(10) Shoulder Belt
(11) Other

Def. Source: NTDS

Data Base Column Name: SAFETY01, SAFETY02, SAFETY03
Type of Field:
Length:

Report: #7

MECHANISM
Enter the mechanism that caused the injury event. Blunt injuries are the result of an external force exerted onto the body. Penetrating injuries result from the puncturing of the skin creating a wound.

(1) Blunt
(2) Penetrating

Def. Source: NTRACS

Data Base Column Name: INJ_TYPE
Type of Field: Character
Length: 15

Report: #1

PRE-HOSPITAL INFORMATION

INTER-FACILITY TRANSFER
Was the patient transferred to your facility from another acute care facility?

- Patients transferred from a private doctor's office, stand-alone ambulatory surgery center, or delivered to your hospital by a non-EMS transport are not considered an inter-facility transfers.
- Outlying facilities purporting to provide emergency care services or utilized to stabilize a patient are considered acute care facilities.

(1) Yes
(2) No

Def. Source: NTRACS

Data Base Column Name:
Type of Field: Character
Length: 1

Report: #1

PRE-HOSPITAL CARDIAC ARREST
Indication of whether patient experienced cardiac arrest prior to ED/Hospital arrival.

- A patient who experienced a sudden cessation of cardiac activity. The patient was unresponsive with no normal breathing and no signs of circulation.
- The event must have occurred outside of the reporting hospital, prior to admission at the center in which the registry is maintained. Pre-hospital cardiac arrest could occur at a transferring institution.
- Any component of basic and/or advanced cardiac life support must have been initiated by a health care provider.

(1) Yes
(2) No

Def. Source: NTDS

Data Base Column Name:
Type of Field: Character
Length: 1

EMERGENCY DEPARTMENT INFORMATION

ACTIVATION LEVEL

Enter the highest level of activation identified by index hospital activation criteria.

Def. Source:

Data Base Column Name: ED_TTA_TYPE
Type of Field:
Length: 8

Report: #1

ED/HOSPITAL ARRIVAL DATE

The date the patient arrived to the ED/hospital.

- If the patient was brought to the ED, enter date patient arrived at ED. If patient was directly admitted to the hospital, enter date patient was admitted to the hospital.
- Collected as YYYY-MM-DD.
- Used to auto-generate two additional calculated fields: Total EMS Time: (elapsed time from EMS dispatch to hospital arrival) and Total Length of Hospital Stay (elapsed time from ED/Hospital Arrival to ED/Hospital Discharge).

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_ARRDT
Type of Field: Date
Length: 8

Report: #1

ED/HOSPITAL ARRIVAL TIME

The time that the patient arrived to the ED/hospital.

- If the patient was brought to the ED, enter time patient arrived at ED. If patient was directly admitted to the hospital, enter time patient was admitted to the hospital.
- Collected as HH:MM military time.
- Used to auto-generate two additional calculated fields: Total EMS Time (elapsed time from EMS dispatch to hospital arrival) and Total Length of Hospital Stay (elapsed time from ED/Hospital Arrival to ED/Hospital Discharge).

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_ARRTM

Type of Field: Character
Length: 5

Report: #1

INITIAL ED/HOSPITAL SYSTOLIC BLOOD PRESSURE
First recorded systolic blood pressure in the ED/hospital within 30 minutes or less of ED/hospital arrival.

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

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_BP
Type of Field: Numeric
Length: 3

Report: #1

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

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

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_PULSE
Type of Field: Numeric
Length: 3

Report: #1

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

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

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_TEMP
Type of Field: Numeric
Length: 5

Report: #1

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

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

(1) No eye movement when assessed
(2) Opens eyes in response to painful stimulation
(3) Opens eyes in response to verbal stimulation

(4) Opens eyes spontaneously

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_EYE
Type of Field: Numeric
Length: 2

Report: #1

INITIAL ED/HOSPITAL GCS-VERBAL
First recorded Glasgow Coma Score (Verbal) within 30 minutes or less of ED/hospital arrival.

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

(1) No verbal response
(2) Incomprehensible sounds
(3) Inappropriate words
(4) Confused
(5) Oriented

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_VRB
Type of Field: Numeric
Length: 2

Report: #1

INITIAL ED/HOSPITAL GCS-MOTOR
First recorded Glasgow Coma Score (Motor) within 30 minutes or less of ED/hospital arrival.

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

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

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_MTR
Type of Field: Numeric
Length: 2

Report: #1

INITIAL ED/HOSPITAL GCS-TOTAL
First recorded Glasgow Coma Score (total) within 30 minutes or less of ED/hospital arrival.

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

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_GCS
Type of Field: Numeric
Length: 2

Report: #1

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

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

(1) S=Patient Chemically Sedated
(2) T=Patient Intubated
(3) TP=Patient Intubated and Chemically Paralyzed
(4) L=Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to eye
(5) V=Unknown
(6) X=Not Available
(7) Z=Inappropriate

Neuromuscular Blockers	
Trade Name	**Generic Name**
Anectine	succinylcholine
Tracrium	atracurium
Mivacron	mivacurium
Nimbex	cisatracurium
Pavulon	pancuronium
Norcuron	vecuronium
Zemuron	rocuronium

Def. Source: NTRACS

Data Base Column Name: ED_CALCAQ
Type of Field: Character
Length: 2

Report: #1

INITIAL ED/HOSPITAL HEIGHT
First recorded height upon ED/hospital arrival.

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

Def. Source: NTDS

Data Base Column Name: EDAS_HGT
Type of Field: Character
Length:

Report: #1

INITIAL ED/HOSPITAL WEIGHT
Measured or estimated baseline weight.

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

Def. Source: NTDS

Data Base Column Name: EDAS_WGT
Type of Field: Character
Length:

Report: #1

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

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

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

Def. Source: NTRACS, NTDS

Data Base Column Name: ED_DISP
Type of Field: Character
Length: 15

Report: #1

ED DISCHARGE DATE
The date the patient was discharged from the ED.

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

Def. Source: NTDS

Data Base Column Name: EDD_DATE
Type of Field: Character
Length: 1

Report: #1

ED DISCHARGE TIME
The time the patient was discharged from the ED.

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

Def. Source: NTDS

Data Base Column Name: EDD_TIME
Type of Field: Character
Length: 1

Report: #1

DIRECT ADMIT
Enter whether patient was directly admitted to MTQIP accepting facility without ED evaluation (i.e. direct admit to floor or ICU).

(1) Yes (Y)
(2) No (N)

Def. Source: NTRACS

Data Base Column Name: DIR_ADMIT
Type of Field: Character
Length: 1

Report: #1

ARRIVED FROM
The location where patient arrived from.

(1) Scene of Injury (Scene)
(2) Home (Home)
(3) Transfer from referring hospital ED (Refer Hospital)

Def. Source: NTRACS

Data Base Column Name: ARRIV_FROM
Type of Field: Character
Length: 15

Report: #1

COMPLAINT

The description of event that caused the injury. If a matching description is not available choose “other”.

(1) Fall (Fall)
(2) Motor Vehicle Collision/Crash (MVC)
(3) Motor Cycle Collision/Crash (MCC)
(4) ATV Collision/Crash (ATV)
(5) Stab with object (Stab)
(6) Gunshot wound (GSW)
(7) Pedestrian vs. Motor Vehicle Collision (MPC)
(8) Bicycle (Injured while riding) (Bicycle)
(9) Other

Def. Source: NTRACS

Data Base Column Name: CHIEFCOMP
Type of Field: Character
Length: 15

Report: #1

INTUBATION STATUS

The location of first intubation. LMA, King or Combitube airways count as an intubation.

(1) Never
(2) Field/Scene/En route
(3) ED
(4) OR
(5) ICU
(6) Other (Floor, Radiology, etc.)

Def. Source: MTQIP

Data Base Column Name: MTQIP_INT_STAT
Type of Field: Custom, Character
Length: 20

Report: #1

CPR

CPR performed in the ED of OSH or MTQIP hospital. Check yes if patient received chest compressions or external/internal cardioversion (defibrillation) in ED. Do not include respiratory arrest requiring rescue breathing or intubation.

(1) ED CPR (CPR Performed in ED)
(2) Not Performed (Not Performed)

Def. Source: NTRACS

Data Base Column Name: CPR
Type of Field: Character
Length: 15

Report: #1

ETOH

Initial blood alcohol level in mg/dL in MTQIP ED/hospital. Default is -5.00.

Def. Source: NTRACS

Data Base Column Name: ETOH
Type of Field: Numeric
Length: 7

Report: #1

HEMATOCRIT
First measured hematocrit at MTQIP hospital.

Def. Source: NTRACS

Data Base Column Name: HCT
Type of Field: Numeric
Length: 4

Report: #1

ADMIT SERVICE
The service that the patient was admitted to.

(1) Trauma
(2) Others

Def. Source: NTRACS

Data Base Column Name: ADMSERVICE
Type of Field: Character
Length: 15

Report: #1

TRAUMA SURGEON
Enter the name and local identification number of the trauma surgeon providing initial care to the patient in the ED or on admission if transferred.

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: TSPHCODE, TSPHCODE_AS_TEXT
Type of Field: Character
Length:

Report: #1

HOSPITAL PROCEDURE INFORMATION

OPERATION
Surgical procedure performed in the operating room. Also answer “YES” if the patient had a procedure performed elsewhere that is normally performed in the OR (e.g. bedside tracheostomy or IR PEG placement). May use presence of an operative note as guide to determine if case was an operation for cases performed outside of OR. Do not include simple laceration repairs, closed reductions performed under GETA, or cath lab procedures.

(1) Yes
(2) No

Def. Source: MTQIP

Data Base Column Name: MTQIP_OPERATE
Custom
Type of Field: Yes/No
Length: 1

Report: #1

EMERGENCY OPERATION

An emergency case is commonly performed as soon as possible after the patient sustained an injury. This is identified as emergent by the American Society of Anesthesiologists (ASA) Class. The presence of an “E” after ASA Class indicates an emergent operation. Answer “YES” if the surgeon and/or anesthesiologist report the case as emergent

(1) Yes
(2) No

Def. Source: MTQIP

Data Base Column Name: MTQIP_E_OPERATE
Custom
Type of Field: Yes/No
Length: 1

Report: #1

ICD-9 HOSPITAL PROCEDURES

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

- Major and minor procedure ICD-9-CM procedure codes.
- The maximum number of procedures that may be reported for a patient is 200.
- The null value "Not Applicable" is used if the patient did not have procedures.
- The null value "Not Known/Not Recorded" is used if not coding ICD-9.
- Include only procedures performed at your institution.
- Capture all procedures performed in the operating room.
- Capture all procedures in the ED, ICU, ward, or radiology department that were essential to the diagnosis, stabilization, or treatment of the patient's specific injuries or their complications.
- Procedures with an asterisk have the potential to be performed multiple times during one episode of hospitalization. In this case, capture only the first event. If there is no asterisk, capture each event even if there is more than one.
- Note that the hospital may capture additional procedures.

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

Cardiovascular
Central venous catheter *
Pulmonary artery catheter *
Cardiac output monitoring *

Open cardiac massage
CPR

CNS
Insertion of ICP monitor * (MTQIP process measure)
Ventriculostomy * (MTQIP process measure)
Cerebral oxygen monitoring * (MTQIP process measure)

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

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

Transfusion
The following blood products should be captured over first 24 hours after hospital arrival:
Transfusion of red cells *
Transfusion of platelets *
Transfusion of plasma *

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

Gastrointestinal
Endoscopy (includes gastroscopy, sigmoidoscopy, colonoscopy)
Gastrostomy/jejunostomy (percutaneous or endoscopic)
Percutaneous (endoscopic) gastrojejunostomy

Other
Hyperbaric oxygen
Decompression chamber
TPN *

Def. Source: NTDS

Data Base Column Name: OPCODE
Type of Field: Character
Length: 5

Report: #5

ICD-10 HOSPITAL PROCEDURES
Operative and essential procedures conducted during hospital stay. Operative and procedures are those that were essential to the diagnosis, stabilization, or treatment of the patient's specific injuries or complications. The list of procedures below should be used as a guide to desired non-operative procedures that should be provided to NTDB. This list is based on procedures sent to NTDB with a high frequency. Not all hospitals capture all procedures listed below. Please transmit those procedures that you capture to NTDB

• Major and minor procedure ICD-10-CM procedure codes.
• The maximum number of procedures that may be reported for a patient is 200.
• The null value "Not Applicable" is used if the patient did not have procedures.

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

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

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

CNS
Insertion of ICP monitor * (MTQIP process measure)
Ventriculostomy * (MTQIP process measure)
Cerebral oxygen monitoring * (MTQIP process measure)

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

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

Transfusion
The following blood products should be captured over first 24 hours after hospital arrival:
Transfusion of red cells *
Transfusion of platelets *
Transfusion of plasma *

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

Gastrointestinal
Endoscopy (includes gastroscopy, sigmoidoscopy, colonoscopy)
Gastrostomy/jejunostomy (percutaneous or endoscopic)
Percutaneous (endoscopic) gastrojejunostomy

Other
Hyperbaric oxygen
Decompression chamber
TPN *

Def. Source: NTDS

Data Base Column Name: OPCODE
Type of Field: Character
Length: 5

Report: #5

HOSPITAL PROCEDURE START DATE
The date operative and essential procedures were performed.

• Collected as YYYY-MM-DD.

Def. Source: NTRACS, NTDS

Data Base Column Name: A_OPDT
Type of Field: Date
Length: 8

Report: #5 (Include RECORDNO, OPNUMBER, OPDATE, OPTIME, OPCODE, OPSDESCR)

HOSPITAL PROCEDURE START TIME
The time operative and essential procedures were performed.

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

Def. Source: NTRACS, NTDS

Data Base Column Name: A_OPTM
Type of Field: Character (Time Format)
Length: 5

Report: #5 (Include RECORDNO, OPNUMBER, OPDATE, OPTIME, OPCODE, OPSDESCR)

DIAGNOSES INFORMATION

COMORBID CONDITIONS

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

• The null value "Not Applicable" is used for patients with no known co-morbid conditions.
• Check all that apply.

Def. Source: NTDS

Data Base Column Name: A_COMORCODE
Type of Field: Character
Length: 4

Report: #4 (Include TRAUMA_NUM, COMORBIDITIES_ITEM, A_COMORCODE, A_COMORCODE_AS_TEXT)

GENERAL

ADVANCED DIRECTIVE LIMITING CARE
The patient had a Do Not Resuscitate (DNR) document or similar advance directive recorded prior to injury. If the DNR order as defined above was rescinded immediately upon arrival to the MTQIP institution in order to emergently care for the patient, enter "YES". Answer "NO" if DNR discussions are documented in prior documentation, but no official DNR order has been written.

Z.01 Do Not Resuscitate (DNR) Status (NTDS 13)

Def. Source: NSQIP, NTDS

ALCOHOL USE DISORDER
Evidence of chronic use, such as withdrawal episodes or the patient admits to drinking > 2 ounces of hard liquor or > two 12 oz. cans of beer or > two 6 oz. glasses of wine per day in the two weeks prior to admission. If the patient is a binge drinker, divide out the numbers of drinks during the binge by seven days, then apply the definition. Include evidence of chronic use, such as withdrawal episodes. Determine inclusion based on the brief screening tool used at your institution. Exclude isolated elevated blood alcohol level in absence of history of abuse.

N.02 Alcoholism (NTDS 2)

Def. Source: NSQIP, NTDS

CURRENT SMOKER
A patient who reports smoking cigarettes every day or some days. Excludes patients who smoke cigars, pipes, use smokeless tobacco (chewing tobacco or snuff), or e-cigarettes.

X.xx Current Smoker (NTDS 8)

Def. Source: NSQIP, NTDS

DRUG USE DISORDER
With particular attention to opioid, sedative, amphetamine, cocaine, diazepam, alprazolam, or lorazepam dependence (excludes ADD/ADHD or chronic pain with medication use as prescribed). Include patients who have a positive drug screen for cannabinoids or report marijuana use (excludes cases where medical marijuana is reported by patient or surrogate).

X.xx Drug Abuse or Dependence (NTDS 28)

Def. Source: NTDS

FUNCTIONALLY DEPENDENT HEALTH STATUS
Pre-injury functional status may be represented by the ability of the patient to complete age appropriate activities of daily living (ADL) including: bathing, feeding, dressing, toileting, and walking. This item is marked YES if the patient, prior to injury, and as a result of cognitive or physical limitations relating to a pre-existing medical condition, was partially dependent or completely dependent upon equipment, devices or another person to complete some or all activities of daily living.

X.xx Functionally Dependent Health Status (NTDS 15)

Def. Source: NSQIP, NTDS

PULMONARY

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
Severe chronic lung disease, chronic asthma; cystic fibrosis; or chronic obstructive pulmonary disease (COPD) such as emphysema and /or chronic bronchitis resulting in any one or more of the following:

1. Functional disability from COPD (e.g., dyspnea, inability to perform activities of daily living [ADLs])
2. Hospitalization in the past for treatment of COPD
3. Requires chronic bronchodilator therapy with oral or inhaled agents
4. A Forced Expiratory Volume in 1 second (FEV1) of <75% of predicted on pulmonary function testing

Do not include patients whose only pulmonary disease is acute asthma. Do not include patients with diffuse interstitial fibrosis or sarcoidosis.

L.03 Respiratory Disease (NTDS 23)

Def. Source: NSQIP, NTDS

HEPATOBILIARY

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 at laparotomy/laparoscopy.

G.02 Cirrhosis (NTDS 25)

Def. Source: NSQIP, Up-to-date, NTDS

CARDIAC

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 or increasing symptoms 30 days prior to injury.

Common manifestations are:

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

A.03 Congestive Heart Failure (NTDS 7)

Def. Source: NSQIP, NTDS

HISTORY OF ANGINA WITHIN 30 DAYS
Documentation of chest pain or pressure, jaw pain, arm pain, or other equivalent discomfort suggestive of cardiac ischemia present within the last 30 days from hospital arrival date.

X.xx Angina (NTDS 16)

Def. Source: NSQIP, NTDS 2012

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.

A.05 Myocardial Infarction (NTDS 17)

Def. Source: NSQIP, NTDS

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

X.xx History of Revasc/Amp for PVD (NTDS 18)

Def. Source: NSQIP, NTDS

HYPERTENSION REQUIRING MEDICATION
History of a persistent elevation of systolic blood pressure > 140 mm Hg or diastolic blood pressure > 90 mm Hg that requires antihypertensive treatment (e.g., diuretics, beta blockers, angiotensin-converting enzyme (ACE) inhibitors, calcium channel blockers) prior to the time of injury. History of hypertension prior to injury must be documented in the patient's chart.

A.06 Hypertension (NTDS 19)

Def. Source: NSQIP, NTDS

RENAL

CHRONIC RENAL FAILURE
Acute or chronic renal failure prior to injury that was requiring treatment with peritoneal dialysis, hemodialysis, hemofiltration, or hemodiafiltration.

M.02 Dialysis (Excludes Transplant Patients) (NTDS 9)

Def. Source: NSQIP, NTDS

CENTRAL NERVOUS SYSTEM

CEREBROVASCULAR ACCIDENT (CVA)
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).

J.09 CVA/Hemiparesis (Stroke with Residual) (NTDS 10)

Def. Source: NSQIP, NTDS

DEMENTIA
With particular attention to senile or vascular dementia (e.g. Alzheimer's).

X.xx Dementia (NTDS 26)

Def. Source NTDS

PSYCHIATRIC

ATTENTION DEFICIT DISORDER/ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADD/ADHD)
History of a disorder involving inattention, hyperactivity or impulsivity requiring medication for treatment.

X.xx Attention deficit disorder/attention deficit hyperactivity disorder (NTDS 30)

Def. Source NTDS

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.

• ICD-9 CM Code Range: 295.00-297.9, 300.0-300.09,301.0-301.7, 301.83, 309.81,311, V11.0-V11.2, V11.4-V11.8
• ICD-10 CM Code Range: F20.0 – F29 (Schizophrenia and non-mood psychotic disorders) F30.0 – F39 (Mood [affective] disorders) F44.0 – F44.9 (Dissociative and conversion disorders) F60.0 (Paranoid personality disorder) F60.1 (Schizoid personality disorder) F60.2 (Anti-social personality disorder) F60.3 (Borderline personality disorder) F60.4 (Histrionic personality disorder) F60.5 (Obsessive-compulsive disorder) F60.7 (Dependent personality disorder) F43.10 – F43.12 (PTSD) Z86.51(PH of combat and operational stress reaction) Z86.59 (PH of other mental & behavioral disorders)

X.xx Major Psychiatric Illness (NTDS 27)

Def. Source NTDS

NUTRITIONAL/IMMUNE/OTHER

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

X.xx Congenital Anomalies (NTDS 6)

Def. Source: NTDS

DISSEMINATED CANCER
Patients who have cancer that:

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

AND

2) In whom the presence of multiple metastases indicates the cancer is widespread, fulminant, or near terminal. Other terms describing disseminated cancer include "diffuse," "widely metastatic," "widespread," "carcinomatosis". Common sites of metastases include major organs (e.g., brain, lung, liver, meninges, abdomen, peritoneum, pleura, bone).

Report Acute Lymphocytic Leukemia (ALL), Acute Myelogenous Leukemia (AML), and Stage IV Lymphoma under this variable.

Do not report Chronic Lymphocytic Leukemia (CLL), Chronic Myelogenous Leukemia (CML), Stages I through III Lymphoma, or Multiple Myeloma as disseminated cancer.

Example: A patient with a primary breast cancer with positive nodes in the axilla does NOT qualify for this definition. She has spread of the tumor to a site other than the primary site, but does not have widespread metastases. A patient with primary breast cancer with positive nodes in the axilla AND liver metastases does qualify, because she has both spread of the tumor to the axilla and other major organs.

Example: A patient with colon cancer and no positive nodes or distant metastases does NOT qualify. A patient with colon cancer and several local lymph nodes positive for tumor, but no other evidence of metastatic disease does NOT qualify. A patient with colon cancer with liver metastases and/or peritoneal seeding with tumor does qualify.

Example: A patient with adenocarcinoma of the prostate confined to the capsule does NOT qualify. A patient with prostate cancer that extends through the capsule of the prostate only does NOT qualify. A patient with prostate cancer with bony metastases DOES qualify.

H.02 Concurrent or Existence of Metastasis (NTDS 12)

Def. Source: NSQIP, NTDS

STEROID USE
Patients that required the regular administration of oral or parenteral corticosteroid medications (e.g., prednisone, Decadron) 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.

F.02 Routine Steroid Use (NTDS 24)

Def. Source: NSQIP, NTDS

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, hemophilias, thrombocytopenia, chronic anticoagulation therapy with Coumadin, Plavix, or similar medications). Do not include patients on chronic aspirin therapy or coagulopathy of cirrhosis.

The following is a list of medications that impact the patient's risk for bleeding. Please utilize the associated time frames for discontinuation of medication to determine your answer to this variable.

Medication	Time Frame
Coumadin (warfarin)	5 days
Heparin (IV only)	4 hours
Plavix (clopidogrel)	10 days
Effient (prasugrel)	10 days
Ticlid (ticlopidine)	14 days
Lovenox (enoxaparin)	12 hours
Reopro (abciximab)	9 days
Integrilin (eptifibatide)	2 days
Agrylin (anagrelide)	3 days
Fragmin (dalteparin)	24 hours
Aggrastat (tirofiban)	4 hours
Pradaxa (dabigatran etexilate)	2 days
Xarelto (rivaroxaban)	2 days

D.01 Acquired Coagulopathy (NTDS 4)

Def. Source: NSQIP, NTDS

CHEMOTHERAPY FOR CANCER
A patient who is currently receiving 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 lymphomas, leukemia, and multiple myeloma. Do not include if treatment consists solely of hormonal therapy.

F.04 Active Chemotherapy (NTDS 5)

Def. Source: NSQIP, NTDS 2012

DIABETES MELLITUS
Diabetes mellitus prior to injury that required exogenous parenteral insulin or an oral hypoglycemic agent. Do not include a patient if diabetes is controlled by diet alone.

X.xx Diabetes Mellitus (NTDS 11)

Def. Source: NSQIP, NTDS

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

X.xx Prematurity (NTDS 21)

Def. Source: NTDS

OTHER
Enter other chronic co-morbid conditions present prior to injury.

X.xx Other (NTDS 1)

Def. Source: NTDS

MEDICATIONS

ASPIRIN
Enter "YES" for patients who report use of aspirin for minimum interval of 7 days prior to injury.

D.05 Aspirin

Def. Source: MTQIP

PLAVIX
Enter "YES" for patients who report use of Plavix (clopidogrel) for minimum interval of 10 days prior to injury. Include any similar antiplatelet subclass agent with the mechanism of action via irreversibly binding to the P2Y12 adenosine diphosphate receptors, reducing platelet activation and aggregation, such as Effient (prasugrel) or Pletal (cilostazol).

D.06 Plavix

Def. Source: MTQIP

WARFARIN
Enter "YES" for patients who report use of Coumadin (warfarin) for a minimum interval of 5 days prior to injury.

D.02 Coumadin Therapy

Def. Source: MTQIP

BETA BLOCKER
Enter "YES" for patients who report use of parenteral beta blocker medication for minimum interval of 2 weeks prior to injury.

Beta Blockers	
Trade Names	**Generic Names**
Sectral	acebutolol
Tenormin, Tenoretic	atenolol
Betapace AF	sotalol AF
Kerlone	betaxolol
Zebeta, Ziac	bisoprolol
Brevibloc	esmolol
Bystolic	nebivolol
Coreg	carvedilol
Corgard	nadolol

Inderal, InnoPran XL	propranolol
Trandate	labetalol
Levatol	penbutolol
Lopressor, Toprol XL	metoprolol
	pindolol
	sotalol
Timolide	timolol

Z.02 Beta Blocker

Def. Source: MTQIP

STATIN

Enter “YES” for patients who report use of statin-class medication for minimum interval of 2 weeks prior to injury.

Statins	
Trade Names	**Generic Names**
Advicor, Altoprev, Mevacor	lovastatin
Caduet	atorvastatin
Crestor	rosuvastatin
Lescol	fluvastatin
Lipitor	atorvastatin
Pravachol	pravastatin
Simcor, Vytorin, Zocor	simvastatin

Z.03 Statin

Def. Source: MTQIP

DIRECT THROMBIN INHIBITOR

Enter “YES” for patients who report use of direct thrombin inhibitor class medication for minimum interval of 2 days prior to injury.

Direct Thrombin Inhibitors	
Trade Names	**Generic Names**
Argatroban	argatroban
Pradaxa	dabigatran etexilate

Z.04 Direct Thrombin Inhibitor

Def. Source: MTQIP

FACTOR XA INHIBITOR

Enter “YES” for patients who report use of a factor Xa inhibitor class medication for minimum interval of 2 days prior to injury.

Factor Xa Inhibitors	
Trade Names	**Generic Names**
Arixtra	fondaparinux
Eliquis	apixaban
Xarelto	rivaroxaban

Z.05 Factor Xa Inhibitor

Def. Source: MTQIP

ICD-9 INJURY DIAGNOSES

Diagnoses related to all identified injuries.

- Injury diagnoses as defined by ICD-9-CM code range: 800-959.9, except for 905 – 909.9, 910 – 924.9, 930 – 939.9. The maximum number of diagnoses that may be reported for an individual patient is 50.
- ICD-9-CM codes pertaining to other medical conditions (e.g., CVA, MI, co-morbidities, etc.) may also be included in this field.
- Used to auto-generate additional calculated fields: Abbreviated Injury Scale (six body regions) and Injury Severity Score.
- The null value "Not Applicable" is used if not coding ICD-9.

Def. Source: NTDS 2014

Data Base Column Name: A_DCODE
Type of Field: Character
Length: 6

Report: #2 (Include TRAUMA_NUM, DX_ITEM, A_DCODE, A_DCODE_AS_TEXT)

ICD-10 INJURY DIAGNOSES
Diagnoses related to all identified injuries.

- Injury diagnoses as defined by ICD-10-CM code range S00-S99, T07, T14, T20-T28 and T30-T32.
- The maximum number of diagnoses that may be reported for an individual patient is 50.
- ICD-10-CM codes pertaining to other medical conditions (e.g., CVA, MI, co-morbidities, etc.) may also be included in this field.
- Used to auto-generate additional calculated fields: Abbreviated Injury Scale (six body regions) and Injury Severity Score.
- The null value "Not Applicable" is used if not coding ICD-10.

Def. Source: NTDS 2014

Data Base Column Name: A_DCODE
Type of Field: Character
Length: 6

Report: #2 (Include TRAUMA_NUM, DX_ITEM, A_DCODE, A_DCODE_AS_TEXT)

INJURY SEVERITY INFORMATION

AIS SEVERITY

The Abbreviated Injury Scale (AIS) severity codes that reflect the patient's injuries. The required resource is AIS 2005. AIS code field output should be in the XXXXXX.X format with the predot and postdot codes in a single cell.

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

Def. Source: NTDS

Data Base Column Name: A_AISCODES
Type of Field: Character
Length: 8

Report: #3 (Include TRAUMA_NUM, DX_ITEM, A_AISCODES, A_AISCODE_AS_TEXT)

ISS

Calculated injury severity score from the trauma registry. Each injury is assigned an Abbreviated Injury Scale (AIS) score and is allocated to one of six body regions (Head, Face, Chest, Abdomen, Extremities (including Pelvis) and External). The 3 most severely injured body regions have their AIS score squared and added together to produce the ISS. Only the highest AIS score in each body region is used. The ISS takes values from 0 to 75. If an injury is assigned an AIS of 6 (unsurvivable injury), the ISS is automatically assigned to 75.

Def. Source: NTRACS

Data Base Column Name: USRAIS_ISS
Type of Field: Numeric
Length: 2

Report: #1

NISS

Calculated new injury severity score from the trauma registry. Each injury is assigned an Abbreviated Injury Scale (AIS) score and is allocated to one of six body regions (Head, Face, Chest, Abdomen, Extremities (including Pelvis) and External). The 3 highest AIS scores regardless of regions are squared and added together to produce the nISS. The nISS takes values from 0 to 75. If an injury is assigned an AIS of 6 (unsurvivable injury), the nISS is automatically assigned to 75.

Def. Source: NTRACS

Data Base Column Name: NISS
Type of Field: Numeric
Length: 2

Report: #1

MAX HEAD/NECK AIS

Maximum severity value of AIS from 0-6 of individual injuries as defined by Abbreviated Injury Scale for all injuries in the head/neck region. Head or neck injuries include injury to the brain or cervical spine, skull or cervical spine fractures.

Data Base Column Name: USRAIS_HN
Type of Field: Numeric
Length: 2

Report: #1

MAX FACE AIS

Maximum severity value of AIS from 0-6 of individual injuries as defined by Abbreviated Injury Scale for all injuries in the face region. Facial injuries include those involving mouth, ears, nose and facial bones.

Data Base Column Name: USRAIS_FAC
Type of Field: Numeric
Length: 2

Report: #1

MAX CHEST AIS

Maximum severity value of AIS from 0-6 of individual injuries as defined by Abbreviated Injury Scale for all injuries in the chest region. Chest injuries include all lesions to internal organs. Chest injuries also include those to the diaphragm, rib cage, and thoracic spine.

Data Base Column Name: USRAIS_CHS
Type of Field: Numeric
Length: 2

Report: #1

MAX ABDOMEN OR PELVIC CONTENTS AIS

Maximum severity value of AIS from 0-6 of individual injuries as defined by Abbreviated Injury Scale for all injuries in the abdomen region. Abdominal or pelvic contents injuries include all lesions to internal organs. Lumbar spine lesions are included in the abdominal or pelvic region.

Data Base Column Name: USRAIS_ABD
Type of Field: Numeric
Length: 2

Report: #1

MAX EXTREMITY OR PELVIC GIRDLE AIS

Maximum severity value of AIS from 0-6 of individual injuries as defined by Abbreviated Injury Scale for all injuries in the extremity region. Injuries to the extremities or to the pelvic or shoulder girdle include sprains, fractures, dislocations, and amputations, except for the spinal column, skull and rib cage.

Data Base Column Name: USRAIS_EXT
Type of Field: Numeric
Length: 2

Report: #1

MAX EXTERNAL AIS

Maximum severity value of AIS from 0-6 of individual injuries as defined by Abbreviated Injury Scale for all injuries in the external region. External injuries include lacerations, contusions, abrasions, and burns, independent of their locations on the body surface.

Data Base Column Name: USRAIS_ST
Type of Field: Numeric
Length: 2

Report: #1

OUTCOME INFORMATION

TOTAL ICU LENGTH OF STAY

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

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

Example #	Start Date	Start Time	Stop Date	Stop Time	LOS
A.	01/01/11	01:00	01/01/11	04:00	1 day (one calendar day)
B.	01/01/11	01:00	01/01/11	04:00	
	01/01/11	16:00	01/01/11	18:00	1 day (2 episodes within one calendar day)
C.	01/01/11	01:00	01/01/11	04:00	
	01/02/11	16:00	01/02/11	18:00	2 days (episodes on 2 separate calendar days)
D.	01/01/11	01:00	01/01/11	16:00	
	01/02/11	09:00	01/02/11	18:00	2 days (episodes on 2 separate

					calendar days)
E.	01/01/11	01:00	01/01/11	16:00	
	01/02/11	09:00	01/02/11	21:00	2 days (episodes on 2 separate calendar days)
F.	01/01/11	Unknown	01/01/11	16:00	1 day
G.	01/01/11	Unknown	01/02/11	16:00	2 days (patient was in ICU on 2 separate calendar days)
H.	01/01/11	Unknown	01/02/11	16:00	
	01/02/11	18:00	01/02/11	Unknown	2 days (patient was in ICU on 2 separate calendar days)
I.	01/01/11	Unknown	01/02/11	16:00	
	01/02/11	18:00	01/02/11	20:00	2 days (patient was in ICU on 2 separate calendar days)
J.	01/01/11	Unknown	01/02/11	16:00	
	01/03/11	18:00	01/03/11	20:00	3 days (patient was in ICU on 3 separate calendar days)
K.	Unknown	Unknown	01/02/11	16:00	
	01/03/11	18:00	01/03/11	20:00	Unknown (can't compute total)

Def. Source: NTRACS, NTDS

Data Base Column Name: ICUDAYS
Type of Field: Numeric
Length: 6

Report: #1

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

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

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

Example #	Start Date	Start Time	Stop Date	Stop Time	LOS
G.	01/01/11	Unknown	01/02/11	16:00	2 days (patient was on Vent on 2 separate calendar days)
H.	01/01/11	Unknown	01/02/11	16:00	
	01/02/11	18:00	01/02/11	Unknown	2 days (patient was on Vent on 2 separate calendar days)
I.	01/01/11	Unknown	01/02/11	16:00	
	01/02/11	18:00	01/02/11	20:00	2 days (patient was on Vent on 2 separate calendar days)
J.	01/01/11	Unknown	01/02/11	16:00	
	01/03/11	18:00	01/03/11	20:00	3 days (patient was on Vent on 3 separate calendar days)

Def. Source: NTRACS, NTDS

Data Base Column Name: VSUP_DAYS
Type of Field: Numeric
Length: 3

Report: #1

HOSPITAL DISCHARGE DATE
The date the patient was discharged from the hospital.

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

Def. Source: NTDS

Data Base Column Name: DCDT
Type of Field: Date
Length: 8

Report: #1

HOSPITAL DISCHARGE TIME
The time the patient was discharged from the hospital.

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

Def. Source: NTRACS, NTDS

Data Base Column Name: DCTM
Type of Field: Character (Time Format)
Length: 5

Report: #1

HOSPITAL DISCHARGE DISPOSITION
The disposition of the patient when discharged from the hospital.

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

(1) Discharged/Transferred to a short-term general hospital for inpatient care
(2) Discharged/Transferred to an Intermediate Care Facility (ICF)
Intermediate Care Facility: A facility providing a level of medical care that is less than the degree of care and treatment that a hospital or skilled nursing facility is designed to provide, but greater than the level of room and board.
(3) Discharged/Transferred to home under care of organized home health service
Home Health Service: A certified service approved to provide care received at home as part-time skilled nursing care, speech therapy, physical or occupational therapy or part-time services of home health aides.
(4) Left against medical advice or discontinued care
(5) Deceased/Expired
(6) Discharged home with no home services (routine discharge)
(7) Discharged/Transferred to Skilled Nursing Facility
Skilled Nursing Care: Daily nursing and rehabilitative care that is performed only by or under the supervision of skilled professional or technical personnel. Skilled care includes administering medication, medical diagnosis and minor surgery.
(8) Discharged/Transferred to hospice care
Hospice: An organization which is primarily designed to provide pain relief, symptom management and supportive services for the terminally ill and their families.
(10) Discharged/Transferred to court/law enforcement
(11) Discharged/Transferred to inpatient rehab or designated unit
(12) Discharged/Transferred to Long Term Care Hospital (LTCH)
(13) Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital
(14) Discharged/Transferred to another type of institution not defined elsewhere

Def. Source: NTRACS, NTDS

Data Base Column Name: HOSPDISP
Type of Field: Character
Length: 30

Report: #1

DISCHARGE SERVICE
Choose the service that the patient was discharged from.

(1) Trauma
(2) Others

Def. Source: NTRACS

Data Base Column Name: HOSDISSERV
Type of Field: Character
Length: 15

Report: #1

DEATH LOCATION
Record location of patient death if death in hospital occurred.

(1) ED (Emergency Department)
(2) Floor (Floor)
(3) ICU (Intensive Care Unit)
(4) OR (Operating Room)
(5) Radiology (Radiology)

Def. Source: NTRACS

Data Base Column Name: HODEATHLOC
Type of Field: Character
Length:

Report: #1

DEATH IN FIRST OR
Record as "YES" if patient expired during first OR (emergent). OR start time (incision) must be within 12 hours of injury.

(1) Yes
(2) No

Def. Source: MTQIP

Data Base Column Name: MTQIP_DEATH_FIRST_OR
Type of Field: Custom, Yes/No
Length: 1

Report: #1

TOTAL DAYS IN HOSPITAL
Total number of days spent in hospital (calculate from admit and discharge date).

Def. Source: NTRACS
Data Base Column Name: HOSPDAYS
Type of Field: Numeric
Length: 4

Report: #1

FINANCIAL INFORMATION

PRIMARY METHOD OF PAYMENT
Primary source of payment for hospital care.

• No Fault Automobile, Workers Compensation, and Blue Cross/Blue Shield should NOT be captured as Private/Commercial Insurance. These entities will remain available in your registry and will map to Private/Commercial for non-MTQIP submissions.

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

(9) Blue Cross/Blue Shield
(10) Other

Def. Source: NTDS

Data Base Column Name: INSUR
Type of Field: Character
Length: 15 C

HOSPITAL COMPLICATIONS

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

• The patient's stay begins on arrival to the emergency department.
• Do not include captured complications that are present prior to arrival. For example, a patient arrives with a urinary tract infection as indicated by symptoms present in documentation obtained on arrival and a culture obtained on arrival.
• The null value "Not Applicable" should be used for patients with no complications.
• Check all that apply.

COMPLICATION CODE
Enter all corresponding 2-digit codes (NTDS) or 4-digit codes (NTRACS) for complications collected in the outcomes section as you would normally within this field. NTDS codes preferred.

Def. Source: NTRACS, NTDS

Data Base Column Name: TCODE
Type of Field: Character
Length: 4

Report: #6 (Include TRAUMA_NUM, TCODE, COMP_DESC, COMPOCDATE)

COMPLICATION DATE
For all outcomes, enter the corresponding date when the complication was first recognized. Recognition of the condition is based on satisfying the criteria listed below. The specific term describing the condition does not necessarily have to be identified in the progress notes.

> Example: A progress note states that the patient's incision was red with purulent drainage necessitating opening of the incision by staple removal. This is a positive result for superficial incisional SSI regardless if the note specifically mentions a wound infection.

Def. Source: NTRACS

Data Base Column Name: COMPOCDATE
Type of Field: Date
Length: 8

Report: #6 (Include RECORDNO, TRAUMACTR, A_TCODE, A_TCODE_AS _TEXT, A_COMPOCDT)

WOUND OCCURENCES

SUPERFICIAL INCISIONAL SURGICAL SITE INFECTION
An infection that occurs within 30 days after the operation and infection involves only skin or subcutaneous tissue of the incision AND at least one of the following:

1. Purulent drainage, with or without laboratory confirmation, from the superficial incision.
2. Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.

3. At least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat AND superficial incision is deliberately opened by the surgeon, unless incision is culture-negative.
4. Diagnosis of superficial incisional SSI by the surgeon or attending physician.

Do not report the following conditions as SSI:

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

Def. Source: NSQIP, NTDS

NTRACS Code: 5509 NTDS: 23

DEEP INCISIONAL SURGICAL SITE INFECTION
Defined as a deep incisional SSI must meet one of the following criteria:

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

AND patient has at least one of the following:

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

Reporting Instructions:

Classify infection that involves both superficial and deep incision sites as deep incisional SSI.
Report an organ/space SSI that drains through the incision as a deep incisional SSI.
If an incision spontaneously opens as a result of infection, code for deep incisional SSI.

Def. Source: NSQIP, NTDS

NTRACS Code: 5509 NTDS: 12

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 an operation and at least one of the following:

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

Site-Specific Classifications of Organ/Space Surgical Site Infection	
Arterial or venous infection	Mediastinitis
Breast abscess or mastitis	Meningitis or ventriculitis
Disc space	Myocarditis or pericarditis
Ear, mastoid	Oral cavity (mouth, tongue, or gums)
Endocarditis	Osteomyelitis
Endometritis	Other infections of the lower respiratory tract (e.g. abscess or empyema)

Eye, other than conjunctivitis	Other male or female reproductive tract
Gastrointestinal tract	Sinusitis
Intra-abdominal, not specified elsewhere	Spinal abscess without meningitis
Intracranial, brain abscess or dura	Upper respiratory tract
Joint or bursa	Vaginal cuff

An empyema is the result of accumulation or undrained fluid within the pleural cavity that becomes purulent. Enter "YES" for patients that require chest tube for empyema, empyema tube, VATS drainage, or thoracentesis with positive culture.

Def. Source: NSQIP, NTDS, MTQIP

NTRACS Code: 5503 NTDS: 19

The figure below may help to clarify the anatomic distinctions of these infections.

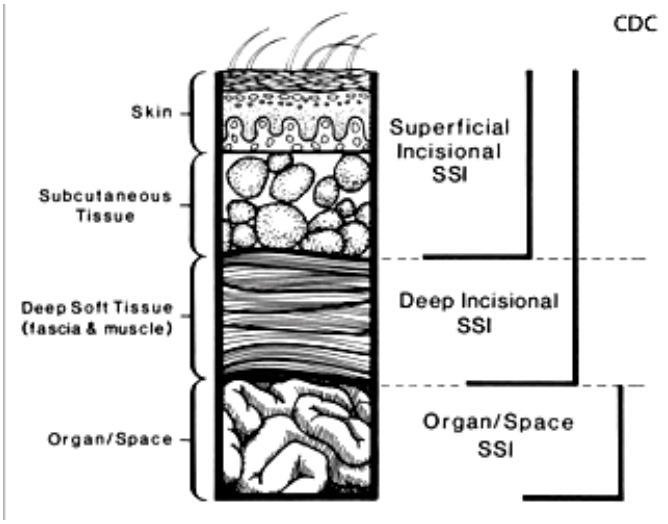

Figure 1: Cross-section of abdominal wall depicting classifications of surgical site infection.

WOUND DISRUPTION

Separation of the layers of a surgical wound, which may be partial or complete, with disruption of the fascia.

Def. Source: NSQIP, MTQIP

NTRACS Code: 4003 NTDS: 26

ABDOMINAL FASCIA LEFT OPEN

Record as "YES" if the abdominal wall fascia was left open for any reason following exploratory laparotomy. No primary surgical closure of the fascia or intra-abdominal packs left at conclusion of primary laparotomy (damage control).

Def. Source: MTQIP, MSQIP

NTRACS Code: NTDS: 3

RESPIRATORY OCCURRENCES

ADULT RESPIRATORY DISTRESS SYNDROME (ARDS)

• Timing: Within 1 week of known clinical insult or new or worsening respiratory symptoms.
• Chest imaging: Bilateral opacities – not fully explained by effusions, lobar/lung collage, or nodules
• Origin of edema: Respiratory failure not fully explained by cardiac failure of fluid overload. Need objective assessment (e.g., echocardiography) to exclude hydrostatic edema if no risk factor present.
• Oxygenation: 200<Pa02/Fi02 ≤ 300 (at a minimum) With PEEP or CPAP ≥ 5 cmH20c

Def. Source: NTDS

NTRACS Code: 3002 NTDS: 5

PNEUMONIA
Patients with evidence of pneumonia that develops during hospitalization. Patients with pneumonia must meet at least one of the following two criteria:

Criterion 1:
Rales or dullness to percussion on physical examination of chest **AND** any of the following:

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

OR

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

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

Def. Source: NSQIP, NTDS

NTRACS Code: 3008, 3003 NTDS: 20

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, emergency department, or those intubated for surgery, unplanned intubation occurs if they require reintubation >24 hours after extubation.

Def. Source: NSQIP, NTDS

NTRACS Code: None NTDS: 25

PULMONARY EMBOLISM
A lodging of a blood clot in the 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 spiral CT or CT angiogram.

Def. Source: NSQIP, NTDS

NTRACS Code: 3014 NTDS: 21

URINARY TRACT OCCURRENCES

ACUTE RENAL INSUFFICIENCY
The reduced capacity of the kidney to perform its function as evidenced by a rise in creatinine of >2 mg/dl from baseline value, but with no requirement for dialysis. Assume a baseline value of 1.0 mg/dl in the absence of additional information regarding the patient's pre-injury renal function. If continued decline in renal function meeting definition for acute kidney injury with dialysis only capture acute kidney injury with dialysis.

Def. Source: NSQIP

NTRACS Code: NTDS: MTQIP: 101

ACUTE KIDNEY INJURY (with DIALYSIS)
Acute kidney injury, AKI (stage 3), is an abrupt (within 48 hours) reduction of kidney function defined as:

Increase in serum creatinine (SCr) of more than or equal to 3x baseline
OR
Increase in SCr to ≥ 4mg/dl (≥ 353.3µmol/l)
OR
Patients >18 years with a decrease in $_e$ GFR to < 35 ml/min per 1.73 m^2
OR
Reduction in urine output of < 0.3 ml/kg/hr for ≥ 24 hrs.
OR
Anuria for ≥ 12 hrs.
OR
Requiring renal replacement therapy (e.g. continuous renal replacement therapy (CRRT) or periodic peritoneal dialysis, hemodialysis, hemofiltration, or hemodiafiltration).

NOTE: 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.
EXCLUDE patients with renal failure that were requiring chronic renal replacement therapy such as periodic peritoneal dialysis, hemodialysis, hemofiltration, or hemodiafiltration prior to injury.

Def. Source: NSQIP, NTDS

NTRACS Code: 6001 NTDS: 4

URINARY TRACT INFECTION
Defined as an infection anywhere along the urinary tract with clinical evidence of infection, which includes at least one of the following symptoms with no other recognized cause:

1. Fever ≥38 °C
2. WBC >10,000 or <3000 per cubic millimeter
3. Urgency
4. Frequency
5. Dysuria
6. Suprapubic tenderness

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

OR at least two of the following signs or symptoms with no other recognized cause:
1. Fever ≥38 °C
2. WBC >10,000 or <3000 per cubic millimeter
3. Urgency
4. Frequency
5. Dysuria
6. Suprapubic tenderness

AND at least one of the following:
1. Positive dipstick for leukocyte esterase and/or nitrate
2. Pyuria (urine specimen with >10 WBC/mm^3 or >3 WBC/high power field of unspun urine)
3. Organisms seen on Gram stain of unspun urine
4. At least two urine cultures with repeated isolation of the same uropathogen (gram-negative bacteria or S. saprophyticus) with ≥10^2 colonies/ml in non-voided specimens
5. ≤10^5 colonies/ml of a single uropathogen (gram-negative bacteria or S. saprophyticus) in a patient being treated with an effective antimicrobial agent for a urinary tract infection

6. Physician diagnosis of a urinary tract infection
7. Physician institutes appropriate therapy for a urinary tract infection

Excludes asymptomatic bacteriuria and “other” UTI’s that are more like deep space infections of the urinary tract.

Def. Source: CDC, NSQIP, NTDS

NTRACS Code: 6005, 6003, 6004 NTDS: 27

CNS OCCURRENCES

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

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

AND

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

AND

- No other readily identifiable 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.

Def. Source: NSQIP, NTDS

NTRACS Code: 7011 NTDS: 22

CARDIAC OCCURRENCES

CARDIAC ARREST WITH CPR
Cardiac arrest is the sudden cessation of cardiac activity after hospital arrival. The patient becomes unresponsive with no normal breathing and no signs of circulation. If corrective measures are not taken rapidly, this condition progresses to sudden death. Enter date and location of CPR or similar advanced measures e.g. open cardiac massage (in the procedures section.

INCLUDE patients who have had an episode of cardiac arrest evaluated by hospital personnel and

Received compressions or defibrillation or cardioversion or cardiac pacing to restore circulation.

Def. Source: NSQIP, NTDS

NTRACS Code: 3502 NTDS: 8

MYOCARDIAL INFARCTION
A new acute myocardial infarction occurring during hospitalization (within 30 days following injury).

Def. Source: NSQIP, NTDS

NTRACS Code: 3505 NTDS: 18

OTHER OCCURRENCES

CATHETER-RELATED BLOOD STREAM INFECTION
An organism cultured from the bloodstream that is not related to an infection at another site and attributed to a central venous catheter. Patients must have evidence of infection including at least one of the following:

Criterion 1: Patient has a recognized pathogen cultured from one or more blood cultures and organism cultured from blood is not related to an infection at another site.

OR

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

1. Fever >38 deg C
2. Chills
3. WBC >10,000 or <3000 per cubic millimeter
4. Hypotension (SBP<90) or > 25% drop in systolic blood pressure

AND

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

Def. Source: CDC, NTDS 2012

NTRACS Code: 5504 NTDS: 28

DEEP VEIN THROMBOSIS (DVT) / THROBOPHLEBITIS
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 venogram, ultrasound, or CT scan. The patient should be treated with anticoagulation therapy and/or placement of a vena cava filter or clipping of the vena cava. Also include as a positive result, patients with deep vein thrombosis where the attending physician documents therapeutic anticoagulation contraindication due to bleeding risk. Do not include as a positive result, thrombosis of superficial veins of the upper or lower extremities, such as the cephalic or greater saphenous vein.

Def. Source: NSQIP, NTDS

NTRACS Code: 7502 (LE), 7503 (UE) NTDS: 14

DRUG OR ALCOHOL WITHDRAWL SYNDROME
A set of symptoms that may occur when a person who has been 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.

Def. Source: NTDS

NTRACS Code: NTDS: 13

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 syndrome usually involves 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. Answer "NO" if a fasciotomy is performed prophylactically without evidence of elevated compartment pressures (> 25mmHg).

Def. Source: NTDS, MTQIP

NTRACS Code: 6501 NTDS: 15

ABDMOMINAL COMPARTMENT SYNDROME
Defined as a condition in which there is swelling and sudden increase in pressure within the abdominal space (a fascial compartment) that presses on and compromises blood vessels and end organ function. Alterations typically occur to the respiratory mechanism, hemodynamic parameters, and renal perfusion. Answer "YES" if the abdomen must be opened or a percutaneous drain placed to lower the intraabdominal pressure and relieve end organ dysfunction.

Def. Source: MTQIP

NTRACS Code: NTDS: 2

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.

Def. Source: NSQIP, NTDS 2012

NTRACS Code: NTDS: 16

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

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

Def. Source: NTDS

NTRACS Code: 6508 NTDS: 29

OTHER
Enter other complications post-injury present in physician documentation and requiring treatment, but not on NTDS list. The entry "Not applicable" indicates no complications present at all.

Def. Source: NTDS 2012

NTRACS Code: NTDS: 1

SEVERE SEPSIS
Defined as an obvious source of infection with bacteremia and two or more of the following:

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

Def. Source: NSQIP, NTDS

NTRACS Code: 5507, 5511, 5502, 5512 NTDS: 32

DECUBITUS ULCER
Any partial or full thickness loss of dermis resulting from pressure exerted by the patient's weight against a surface. 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.

Def. Source: NTDS NTDS: 11

ENTEROCUTANEOUS FISTULA OR GI LEAK
Defined as a fistula of the gastrointestinal tract (stomach, duodenum, small bowel, or large bowel) to the skin, open wound, or body cavity resulting from injury, break down/leak of GI anastomosis. This is typically documented in the patient physical exam or by radiologic study with presence of leakage of gastrointestinal contents or contrast.

Def. Source: MTQIP

NTRACS Code: 4005, 4001

C. DIFF COLITIS
Defined as one of the following:

1. Diarrhea plus stool test positive for presence of toxigenic C.difficile or its toxins
2. Colonoscopic findings demonstrating pseudomembranous colitis
3. Histopathologic findings demonstrating pseudomembranous colitis

(1) Yes
(2) No

Def. Source: MTQIP

Data Base Column Name: MTQIP_C_DIFF
Custom
Type of Field: Yes/No*
Length:

Report: #1

UNPLANNED RETURN TO OR
Unplanned return to the operating room after initial operation management for a similar or related previous procedure.

Def. Source: NTDS

NTRACS Code: NTDS: 30

UNPLANNED ADMISSION TO ICU
INCLUDE:
• Patients admitted to the ICU after initial transfer to the floor.
• Patients with an unplanned return to the ICU after initial ICU discharge.

EXCLUDE:
• Patients in which ICU care was required for postoperative care of a planned surgical procedure.

Def. Source: NTDS

NTRACS Code: NTDS: 31

MEASURES FOR PROCESSES OF CARE

TRAUMATIC BRAIN INJURY

HIGHEST GCS TOTAL
Highest total GCS within 24 hours of ED/hospital arrival.

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

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

Def. Source: TQIP

Data Base Column Name: MTQIP_TBI_GCS_H
Type of Field: Custom, Numeric
Length: 2

Report: #1

GCS MOTOR COMPONENT OF HIGHEST GCS TOTAL
Highest motor GCS within 24 hours of ED/hospital arrival.

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

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

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

Def. Source: TQIP

Data Base Column Name: MTQIP_TBI_GCS_MR
Type of Field: Custom, Numeric
Length: 2

Report: #1

GCS ASSESSMENT QUALIFIER COMPONENT OF HIGHEST GCS TOTAL
Documentation of factors potentially affecting the Highest GCS Total within 24 hours of ED/hospital arrival.

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

L Legitimate without intervention
E Obstruction to eye
S Chemically sedated
T Intubated
TP Intubated and chemically paralyzed
/ Not applicable

Neuromuscular Blockers	
Trade Name	**Generic Name**
Anectine	Succinylcholine
Tracrium	Atracurium
Mivacron	Mivacurium
Nimbex	Cisatracurium
Pavulon	Pancuronium
Norcuron	Vecuronium
Zemuron	Rocuronium

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

Def. Source: TQIP

Data Base Column Name: MTQIP_TBI_GCS_Q
Type of Field: Custom, Character
Length: 2

Report: #1

CEREBRAL MONITOR

Enter the first (TBIMON1), and if applicable second (TBIMON2), and third (TBIMON3) cerebral monitors placed.

- Indicate all cerebral monitors that were placed, including any of the following: ventriculostomy, subarachnoid bolt, Camino bolt, external ventricular drain (EVD), Licox monitor, jugular venous bulb.
- Cerebral monitor placed at a referring facility would be acceptable if such a monitor was used by receiving facility to monitor the patient.
- Must also document under procedures if ICD9/ICD 10 code available.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.

(1) Intraventricular monitor/catheter (e.g. ventriculostomy, external ventricular drain)
(2) Intraparenchymal pressure monitor (e.g. Camino bolt, subarachnoid bolt, intraparenchymal catheter)
(3) Parenchymal oxygen monitor (e.g. Licox monitor)
(4) Jugular venous bulb
(5) None

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

Def. Source: TQIP

Data Base Column Name: MTQIP_TBI_CMON1, MTQIP_TBI_CMON2, MTQIP_TBI_CMON3
Type of Field: Custom, Character (Numeric Output)
Length: 1

Report: #1

CEREBRAL MONITOR DATE

Date of first (MON1DATE), and if applicable, second (MON2DATE) and third (MON3DATE) cerebral monitors placed.

- Collected as YYYY-MM-DD.
- The null value "Not Applicable" is used if the patient did not have a cerebral monitor.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- If the cerebral monitor was placed at the referring facility, cerebral monitor date must be the date of insertion at the referring facility.

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

Def. Source: TQIP

Data Base Column Name: MTQIP_TBI_CMON1_DT, MTQIP_TBI_CMON2_DT, MTQIP_TBI_CMON3_DT
Type of Field: Custom, Date
Length: 8

Report: #1

CEREBRAL MONITOR TIME

Time of first (MON1TIME), and if applicable, second (MON2TIME) and third (MON3TIME) cerebral monitors placed.

- Collected as HH:MM military time.
- The null value "Not Applicable" is used if the patient did not have a cerebral monitor.
- The null value "Not Applicable" is used for patients that do not meet the collection criterion.
- If the cerebral monitor was placed at the referring facility, cerebral monitor time must be the time of insertion at the referring facility.

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

Def. Source: TQIP

Data Base Column Name: MTQIP_TBI_CMON1_TM, MTQIP_TBI_CMON2_TM, MTQIP_TBI_CMON3_TM
Type of Field: Custom, Character (Time Format)

Length: 5

Report: #1

REASON CEREBRAL MONITOR WITHHELD

Reason for withholding cerebral monitor placement.
• Coagulopathy refers to an elevated INR or low platelet count that might occur as a result of the injury or pre-existing conditions (e.g. Coumadin).
• Requires documentation in the medical record as to why cerebral monitor was withheld by a physician.
• If no reason documented, indicate Not Known/Not Recorded.
• If cerebral monitor was placed within 8 hours of ED/hospital arrival then code as NA.

(0) Not Known/Not Recorded
(1) Decision to withhold life sustaining measures
(2) Death prior to correction of coagulopathy
(3) Expected to improve within 8 hours due to effects of alcohol and/or drugs
(4) Operative evacuation with improvement post-op
(5) No ICP because of coagulopathy
(6) Attempt made, but unsuccessful due to technical issues
(7) Neurosurgical discretion

Collection Criterion: Collect on patients with at least one injury in AIS head region AND highest total GCS $\leq$ 8.

Def. Source: MTQIP

Data Base Column Name: MTQIP_TBI_CWITH
Type of Field: Custom, Character (Numeric Output)
Length: 1

Report: #1

BETA BLOCKER TREATMENT

Enter "YES" for patients who receive scheduled administration of parenteral or oral beta blocker medication within 48 hours of admission time to the MTQIP institution. Do not include patients who receive prn or intermittent administration of beta blocker treatment.

Beta Blockers	
Trade Names	**Generic Names**
Sectral	acebutolol
Tenormin, Tenoretic	atenolol
Betapace AF	sotalol AF
Kerlone	betaxolol
Zebeta, Ziac	bisoprolol
Brevibloc	esmolol
Bystolic	nebivolol
Coreg	carvedilol
Corgard	nadolol
Inderal, InnoPran XL	propranolol
Trandate	labetalol
Levatol	penbutolol
Lopressor, Toprol XL	metoprolol
	pindolol
	sotalol
Timolide	timolol

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

Def. Source: MTQIP

Data Base Column Name: MTQIP_TBI_BETA
Type of Field: Custom, Logical (True/False Output)
Length:

Report: #1

INFECTIOUS DISEASE

ANTIBIOTIC DAYS

The cumulative amount of days the patient received antibiotics administered intravenously. Each partial or full day of drug or multiple drugs should be measured as one calendar day. Recorded in full days increments with any partial day listed as a full day regardless of purpose of administration.

Collection Criterion: Collect on all patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_ABX_DAYS
Type of Field: Custom, Character (Numeric Output)
Length: 1

Report: #1

VENOUS THROMBOEMBOLISM

VENOUS THROMBOEMBOLISM PROPHYLAXIS TYPE
Type of first dose of VTE prophylaxis administered to patient at your hospital. Must be given, not just ordered.

(1) Heparin
(6) LMWH (Dalteparin, Enoxaparin, etc.)
(7) Direct Thrombin Inhibitor (Dabigatran, etc.)
(8) Xa Inhibitor (Rivaroxaban, etc.)
(9) Coumadin
(10) Other
(5) None

Collection Criterion: Collect on all patients.

Def. Source: TQIP

Data Base Column Name: MTQIP_VTE_PROP_TYPE
Type of Field: Custom, Character (Numeric Output)
Length: 1

Report: #1

VENOUS THROMBOEMBOLISM PROPHYLAXIS DATE
Date of administration to patient of first prophylactic dose of heparin or other anticoagulants at your hospital.

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

Collection Criterion: Collect on all patients

Def. Source: TQIP

Data Base Column Name: MTQIP_VTE_PROP_DT
Type of Field: Custom, Date
Length: 8

Report: #1

VENOUS THROMBOEMBOLISM PROPHYLAXIS TIME
Time of administration to patient of first prophylactic dose of heparin or other anticoagulants at your hospital.

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

Collection Criterion: Collect on all patients

Def. Source: TQIP

Data Base Column Name: MTQIP_VTE_PROP_TM
Type of Field: Custom, Character (Time Format)
Length: 5

Report: #1

HEMORRHAGE CONTROL

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

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

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

Def. Source: TQIP

Data Base Column Name:
Type of Field: Numeric
Length: 2

Report: #1

TRANSFUSION BLOOD UNITS (0-4 HOURS)
Enter the total number of units of packed red blood cells administered within first 4 hours after ED/hospital arrival. Refers to amount of transfused packed red blood cells within first 4 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.

• 1 unit PRBC = 350 mL.
• Count all units spiked and hung, even if not completely given.
• For Cell Saver blood, every 500mL of blood re-infused into the patient will equal 1 unit of packed cells. If less than 250mL of Cell Saver blood is re-infused, enter 0.
• For autotransfuser blood, add the total volume administered during the variable time period and divide in half. For autotransfuser, every 350 mL of blood re-infused into the patient will equal 1 unit of packed cells the other half should be accounted for in plasma volume. If less than 175 mL of autotransfuser blood is re-infused, enter 0.

• If no blood was given, then units should be 0 (zero).

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_PR_BC_4
Type of Field: Custom, Numeric
Length: 2

Report: #1

TRANSFUSION PLASMA UNITS (0-4 HOURS)

Enter the total number units of fresh-frozen plasma transfused within first 4 hours after ED/hospital arrival. Refers to amount of transfused fresh frozen or thawed plasma in units within first 4 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.

• 1 unit FFP = 150-250 mL.
• Count all units spiked and hung, even if not completely given .
• If no plasma was given, then the units should be 0 (zero).
• For autotransfuser blood, add the total volume administered during the variable time period and divide in half. For autotransfuser, every 200 mL of blood re-infused into the patient will equal 1 unit of plasma the other half should be accounted for in red blood cell volume. If less than 100 mL of autotransfuser blood is re-infused, enter 0.

Collection Criterion: All patients.

Def. Source: MTQIP
Data Base Column Name: MTQIP_FFP_4
Type of Field: Custom, Numeric
Length: 2

Report: #1

TRANSFUSION PLATELETS UNITS (0-4 HOURS)

Enter the total number of packs of platelets administered within first 4 hours after ED/hospital arrival. Refers to amount of transfused platelets in units within first 4 hours after arrival to index hospital where index hospital is the hospital abstracting the data.

• 1 pack PLT = 50 mL.
• Count all units spiked and hung, even if not completely given.
• If no platelets were given, then the units should be 0 (zero).

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_PLT_4
Type of Field: Custom, Numeric
Length: 2

Report: #1

CRYOPRECIPITATE UNITS (0-4 HOURS)

Solution enriched with clotting factors (units). Enter the total number of units administered within first 4 hours after ED/hospital arrival. Refers to amount of transfused cryoprecipitate in units within first 4 hours after arrival to index hospital, where index hospital is the hospital abstracting the data.

• 1 unit = 10ml.
• Count all units spiked and hung, even if not completely given.
• This blood product can be pooled (grouped in batch with multiple single units).
• Report each unit when a pooled unit is listed.
• If no cryoprecipitate was given, then the units should be 0 (zero).

Collection Criterion: All patients.

Def. Source: TQIP

Data Base Column Name: MTQIP_CRYO_4
Type of Field: Numeric
Length: 2

Report: #1

IV FLUID LITERS PRE-HOSPITAL and FIRST 4 HOURS (0-4 HOURS)

Enter the total number of liters of IV fluid administered starting from the time of injury through 4 hours after documented arrival time of first ED. Count all bags spiked and hung, even if not completely given. Exclude fluids provided for medication administration.

Calculation steps
1. Combine similar fluid types together (i.e. albumin combined with starch, and NS combined with LR)
2. Add the total mL administered for each fluid type over 4 hours
3. Round each total to the nearest one hundred
4. Covert mL to L (see table below)
5. Add the rounded total of each fluid type together to obtain final total volume for all fluids given

Crystalloid: Crystalloid IV fluids are solutions of mineral salts or other water-soluble molecules. Common crystalloid IV fluids include: normal saline and Lactated Ringer's. Examples provided in table below for rounding to the nearest 1,000.

Colloid: Colloid IV fluids contain insoluble molecules. Common colloids include: albumin, hydroxyethyl starch (Hespan, Voluven), gelofusine. Examples provided in table below for rounding.

Colloid		Crystalloid	
Hypertonic Saline (mL)	Albumin, Hydroxyethyl Starch, Other (mL)	Normal saline, Lactated Ringer's (mL)	MTQIP Volume (L)
0-124	0-249	0-499	0
125-249	250-499	500-999	1
250-374	500-749	1000-1499	1
375-499	750-999	1500-1999	2
500-624	1000-1249	2000-2499	2
625-749	1250-1499	2500-2999	3
750-874	1500-1749	3000-3499	3
875-999	1750-1999	3500-3999	4
1000-1124	2000-2249	4000-4499	4
1125-1249	2250-2499	4500-4999	5
1250-1374	2500-2749	5000-5499	5
1375-1499	2750-2999	5500-5999	6
1500-1624	3000-3249	6000-6499	6

Collection Criterion: Collect on all patients transfused with ≥ 5 units packed red blood cells within first 4 hours after ED/hospital arrival.

Def. Source: MTQIP

Data Base Column Name: MTQIP_IVF_4
Type of Field: Custom, Numeric
Length: 2

Report: #1

TRANEXAMIC ACID ADMINISTRATION (0-24 HOURS)

Tranexamic acid (Cyklokapron, Lysteda) is a drug that prevents clot breakdown (antifibrinolytic). Enter “YES” if patient received tranexamic acid administration within 0-24 hrs after arrival to index hospital, where index hospital is the hospital absctracting the data.

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_TXA
Type of Field: Yes/No
Length:

Report: #1

TRANEXAMIC ACID DATE (0-24 HOURS)

The date tranexamic acid was administered.

• Collected as MM/DD/YYYY.

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_TXA_DT
Type of Field: Date
Length:

Report: #1

TRANEXAMIC ACID TIME (0-24 HOURS)

The time tranexamic acid was administered.

• Collected as HH:MM.
• HH:MM should be collected as military time.

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_TXA_TM
Type of Field: Time
Length:

Report: #1

TRANSFUSION BLOOD UNITS (0-24 HOURS)

Enter the total number of units of packed red blood cells administered within first 24 hours after ED/hospital arrival. Refers to amount of transfused packed red blood cells in units within first 24 hours after arrival to index hospital, where index

hospital is the hospital abstracting the data. Total for 24 hours includes packed red blood cells given during the first 4 hours.

- Count all units spiked and hung, even if not completely given. 1 unit PRBC = 350 mL.
- For Cell Saver blood, every 500mL of blood re-infused into the patient will equal 1 unit of packed cells. If less than 250mL of Cell Saver blood is re-infused, enter 0.
- For autotransfuser blood, add the total volume administered during the variable time period and divide in half. For autotransfuser, every 350 mL of blood re-infused into the patient will equal 1 unit of packed cells the other half should be accounted for in plasma volume. If less than 175 mL of autotransfuser blood is re-infused, enter 0.
- If no blood was given, then units should be 0 (zero).

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_PR_BC_24
Type of Field: Custom, Numeric
Length: 2

Report: #1

TRANSFUSION PLASMA UNITS (0-24 HOURS)

Enter the total number units of fresh-frozen plasma administered within first 24 hours after ED/hospital arrival. Refers to amount of transfused fresh frozen or thawed plasma in units within first 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data. Total for 24 hours includes plasma given during the first 4 hours.

- 1 unit FFP = 150-250 mL.
- Count all units spiked and hung, even if not completely given.
- If no plasma was given, then the units should be 0 (zero).
- For autotransfuser blood, add the total volume administered during the variable time period and divide in half. For autotransfuser, every 200 mL of blood re-infused into the patient will equal 1 unit of plasma the other half should be accounted for in red blood cell volume. If less than 100 mL of autotransfuser blood is re-infused, enter 0.

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_FFP_24
Type of Field: Custom, Numeric
Length: 2

Report: #1

TRANSFUSION PLATELETS UNITS (0-24 HOURS)

Enter the total number of packs of platelets administered within first 24 hours after ED/hospital arrival. Refers to amount of transfused platelets in milliliters (ml) within first 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data. Total for 24 hours includes platelets given during the first 4 hours.

- 1 pack PLT = 50 mL.
- Count all units spiked and hung, even if not completely given.
- If no platelets were given, then the units should be 0 (zero).

Collection Criterion: All patients.

Def. Source: MTQIP

Data Base Column Name: MTQIP_PLT_24
Type of Field: Custom, Numeric

Length: 2

Report: #1

CRYOPRECIPITATE UNITS (0-24 HOURS)

Solution enriched with clotting factors (units). Enter the total number of units administered within first 24 hours after ED/hospital arrival. Refers to amount of transfused cryoprecipitate in units within first 24 hours after arrival to index hospital, where index hospital is the hospital abstracting the data. Total for 24 hours includes cryoprecipitate given during the first 4 hours.

- 1 unit = 10ml.
- Count all units spiked and hung, even if not completely given.
- This blood product can be pooled (grouped in batch with multiple single units).
- Report each unit when a pooled unit is listed.
- If no cryoprecipitate was given, then the units should be 0 (zero).

Collection Criterion: All patients.

Def. Source: TQIP

Data Base Column Name: MTQIP_CRYO_24
Type of Field: Numeric
Length: 2

Report: #1

IV FLUID LITERS IN FIRST 24 HOURS (0-24 HOURS)

Enter the total number of liters of IV fluid administered starting from the time of injury through 24 hours after documented arrival time of first ED. Count all bags spiked and hung, even if not completely given. Exclude fluids provided for medication administration.

Calculation steps
1. Combine similar fluid types together (i.e. albumin combined with starch, and NS combined with LR)
2. Add the total mL administered for each fluid type over 24 hours
3. Round each total to the nearest one hundred
4. Covert mL to L (see table below)
5. Add the rounded total of each fluid type together to obtain final total volume for all fluids given

Crystalloid: Crystalloid IV fluids are solutions of mineral salts or other water-soluble molecules. Common crystalloid IV fluids include: normal saline and Lactated Ringer's. Examples provided in table below for rounding to the nearest 1,000.

Colloid: Colloid IV fluids contain insoluble molecules. Common colloids include: albumin, hydroxyethyl starch (Hespan, Voluven), gelofusine. Examples provided in table below for rounding.

Colloid		Crystalloid	
Hypertonic Saline (mL)	Albumin, Hydroxyethyl Starch, Other (mL)	Normal saline, Lactated Ringer's (mL)	MTQIP Volume (L)
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125-249	250-499	500-999	1
250-374	500-749	1000-1499	1
375-499	750-999	1500-1999	2
500-624	1000-1249	2000-2499	2
625-749	1250-1499	2500-2999	3
750-874	1500-1749	3000-3499	3

875-999	1750-1999	3500-3999	4
1000-1124	2000-2249	4000-4499	4
1125-1249	2250-2499	4500-4999	5
1250-1374	2500-2749	5000-5499	5
1375-1499	2750-2999	5500-5999	6
1500-1624	3000-3249	6000-6499	6

Collection Criterion: Collect on all patients transfused with ≥ 5 units packed red blood cells within first 4 hours after ED/hospital arrival.

Def. Source: MTQIP
Data Base Column Name: MTQIP_IVF_24
Type of Field: Custom, Numeric
Length: 2

Report: #1

ANGIOGRAPHY

First angiogram with or without embolization within first 24 hours of ED/Hospital Arrival.

• Limit collection of angiography data to first 24 hours following ED/hospital arrival.
• The null value "Not Applicable" is used for patients that do not meet the collection criterion.
• Excludes CTA.

(1) None
(2) Angiogram only
(3) Angiogram with embolization

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

Def. Source: TQIP

Data Base Column Name:
Type of Field: Custom, Numeric
Length: 2

Report: #1

EMBOLIZATION SITE

Organ / site of embolization for hemorrhage control.

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

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

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

Def. Source: TQIP

Data Base Column Name:
Type of Field: Custom, Logic for each region
Length: 2

Report: #1

ANGIOGRAPHY DATE

Date the first angiogram with or without embolization was performed.

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

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

Data Base Column Name:
Type of Field: Custom, Numeric
Length: 2

Report: #1

ANGIOGRAPHY TIME

Time the first angiogram with or without embolization was performed.

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

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

Data Base Column Name:
Type of Field: Custom, Numeric
Length: 2

Report: #1

SURGERY FOR HEMORRHAGE CONTROL TYPE

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

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

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

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

Data Base Column Name:
Type of Field: Custom, Logic for each operation
Length: 2

Report: #1

SURGERY FOR HEMORRHAGE CONTROL DATE

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

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

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

Def. Source: TQIP

Data Base Column Name:
Type of Field: Custom, Numeric
Length: 2

Report: #1

SURGERY FOR HEMORRHAGE CONTROL TIME

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

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

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

Def. Source: TQIP

Data Base Column Name:
Type of Field: Custom, Numeric
Length: 2

Report: #1

WITHDRAWAL OF CARE

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

- DNR not a requirement.
- A note to limit escalation of care qualifies as a withdrawal of care. These interventions are limited to: ventilator support (with or without extubation), dialysis or other forms of renal support, institution of medications to support blood pressure or cardiac function, or a specific surgical, interventional or radiological procedure (e.g. decompressive craniectomy, operation for hemorrhage control, angiography). Note that this definition provides equal weight to the withdrawal of an

intervention already in place (e.g. extubation) and a decision not to proceed with a life-saving intervention (e.g. intubation).
• Excludes the discontinuation of CPR and typically involves prior planning.
• DNR order is not the same as withdrawal of care.
• The field value 'No' should be used for patients whose time of death, according to your hospitals definition, was prior to the removal of any interventions or escalation of care.

(1) Yes
(2) No

Collection Criterion: Collect on all patients.

Def. Source: TQIP

Data Base Column Name: MTQIP_WD_CARE
Type of Field: Custom, Yes/No*
Length: 1

Report: #1

WITHDRAWAL OF CARE DATE

The date care was withdrawn

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

Collection Criterion: Collect on all patients.

Def. Source: TQIP

Data Base Column Name: MTQIP_WD_CARE_DT
Type of Field: Date
Length:

Report: #1

WITHDRAWAL OF CARE TIME

The time care was withdrawn.

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

Collection Criterion: Collect on all patients.

Def. Source: TQIP

Data Base Column Name: MTQIP_WD_CARE_TM
Type of Field: Time
Length:

Report: #1

CHANGE HISTORY

3/16/10	Unplanned Intubation
4/28/10	First ED Temperature – Celsius from Fahrenheit.
4/28/10	First ED/Hospital GCS Eye (Eye) – Allow chart verbiage to be used in assigning GCS values.
4/28/10	First ED/Hospital GCS Verbal (Verbal) – Allow chart verbiage to be used in assigning GCS values.
4/28/10	First ED/Hospital GCS Motor (Motor) – Allow chart verbiage to be used in assigning GCS values.
4/28/10	ED/Hospital GCS Total (Cal'c GCS) – Allow chart verbiage to be used in assigning GCS values.
4/28/10	AIS – Preferred resource is AIS 2005.
4/28/10	Comorbidity - If no co-morbid conditions are present enter "No NTDS comorbidities are present". (NTDS 1)
4/28/10	Alcoholism – Determine based on brief screening tool.
4/28/10	Complication – Two digit NTDS code allowed.
4/28/10	Complication – Enter date complication recognized.
4/28/10	Deep Incisional SSI - If wound spontaneously opens as a result of infection, code for deep incisional SSI and wound disruption.
4/28/10	Unplanned Intubation - In patients who were intubated in the field, Emergency Department or other Hospital, or those intubated for their surgery, unplanned intubation occurs if they require reintubation after being extubated.
4/28/10	Cardiac Arrest Requiring CPR - Excludes patients that arrive at the hospital in full arrest.
4/28/10	Systemic Sepsis – Deleted anion gap information. Added: Sepsis with hypotension despite adequate fluid resuscitation combined with perfusion abnormalities that may include, but are not limited to, lactic acidosis, oliguria, or an acute alteration in mental status. Patients who are on inotropic or vasopressor agents may not be hypotensive at the time that perfusion abnormalities are measured.
8/9/10	Complication UTI – Deleted "postoperative" from definition description.
9/19/10	Complication Pneumonia – "Postoperative" changed to "pre-injury" in definition description.
9/19/10	Complication ARF – Deleted "postoperative". Changed "preoperative" to "pre-injury".
9/19/10	Acquired bleeding disorders – Added exclusion for coagulopathy of cirrhosis.
10/31/10	Complication DVT – Changed wording (should instead of must) and added clarification about what patients have a DVT. The patient should be treated with anticoagulation therapy and/or placement of a vena cava filter or clipping of the vena cava. Also include as a positive result, patients with deep vein thrombosis where the attending physician documents therapeutic anticoagulation contraindication due to bleeding risk. Do not include as a positive result, thrombosis of superficial veins of the upper or lower extremities, such as the cephalic or greater saphenous vein.
10/31/10	Complication Date – Variable and definition added.
12/12/10	Trauma Registry Inclusion Criteria – Added inclusion criteria and definition.
12/12/10	Trauma Center – Added codes and facility name for Detroit Receiving Hospital, Sparrow Hospital, Botsford Hospital, Covenant Hospital, Mount Clemons Regional Medical Center, Munson Hospital, Oakwood Hospital and Medical Center, Saint Mary's of Michigan, Saint Mary's Mercy Medical Center, and St. John Hospital and Medical Center
12/12/10	Age– Removed "Calculated age field from NTRACS" and added "Patient's age at the time of injury (best approximation). "
12/12/10	Gender – Variable name changed from gender to sex. Deleted "Gender**:** Report the patient's gender as either:" and added "Sex**:** The patient's sex. "
12/12/10	Race – Removed "Report the patient's race as" and added "The patient's race. 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." Deleted Hispanic and not available.
12/12/10	Injury Date – Added "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."
12/12/10	Injury Time – Added "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."
12/12/10	Primary E-code – Deleted "Relevant ICD-9-CM E-code value for the injury event." and added "The Primary E-code should describe the main reason a patient is admitted to the hospital. E-codes are used to auto-generate two calculated fields: Trauma Type (Blunt, Penetrating, Burn) and Intentionality (based upon CDC matrix). ICD-9-CM Codes were retained over ICD-10 due to CMS's continued use of ICD-9. Activity codes should not be reported in this field."

12/12/10 First ED HR – Deleted “Enter first recorded systolic blood pressure in the TQIP accepting ED/hospital.” and added “First recorded pulse in the TQIP ED/hospital (palpated or auscultated), expressed as a number per minute.”

12/12/10 GCS Assess Qualifier – Deleted “Document factors potentially affecting the first assessment of GCS upon arrival to TQIP center.” and “(1) Legitimate value, (2) Chemically sedated, (4) Intubated and chemically paralyzed.” Added “Documentation of factors potentially affecting the first assessment of GCS upon arrival in the ED/hospital. Identifies treatments given to the patient that may affect the first assessment of GCS. This field does not apply to self-medications the patient may administer (i.e., ETOH, prescriptions, etc.).” “(1) Patient Chemically Sedated, (2) Obstruction to the Patient’s Eye, (4) Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to eye”

12/12/10 ED Discharge Disposition – Added definition “The disposition of the patient at the time of discharge from the ED.” Deleted the choice “DOA”. Added the following choices: Observation unit, Telemetry/step-down unit, Home with services, Other, Home without services, Left against medical advice, and Transferred to another hospital.

12/12/10 Signs of Life – Added variable. Added definition “Indication of whether patient arrived at ED/Hospital with signs of life. A patient with no signs of life is defined as having none of the following: organized EKG activity, pupillary responses, spontaneous respiratory attempts or movement, and unassisted blood pressure. This usually implies the patient was brought to the ED with CPR in progress.” Added the following choices: arrived with NO signs of life or arrive with signs of life.

12/12/10 ICD-9-CM Code – Added definition “Diagnoses related to all identified injuries. Injury diagnoses as defined by (ICD-9-CM) codes (code range: 800-959.9). The maximum number of diagnoses that may be reported for an individual patient is 50.”

12/12/10 AIS – Added definition “The Abbreviated Injury Scale (AIS) severity codes that reflect the patient’s injuries.” AIS 2005 became required resource. Added list of severity codes.

12/13/10 Comorbidy – Added “The value "Not Applicable" should be used for patients with no known co-morbid conditions”

12/13/10 Current Smoker – Added variable and definition.

12/13/10 Diabetes Mellitus – Combined variable diabetes mellitus requiring therapy with insulin and diabetes mellitus requiring therapy with oral hypoglycemic to one variable.

12/13/10 Functionally Dependent Health Status – Added variable and definition.

12/13/10 Obesity – Added variable, definition, and chart.

12/13/10 Respiratory Disease – Deleted “History of Severe COPD” component of variable. Added diffuse interstitial fibrosis and sarcoidosis to definition.

12/13/10 Ascites within 30 Days – Added variable and definition.

12/13/10 Cirrhosis – Changed variable name from “Docmented History of Cirrhosis/Ascites.”

12/13/10 Esophageal Varices – Removed “gastric” from variable and definition.

12/13/10 History of Angina within past 1 month – Added variable and definition.

12/13/10 History of MI within past 6 months – Added “within 6 months” to variable and definition.

12/13/10 History of Revascularization / Amputation for PVD – Added variable and definition.

12/13/10 History of atrial fibrillation – Deleted variable.

12/13/10 Currently Requiring or on Dialysis – Changed variable name from chronic renal failure requiring dialysis.

12/13/10 History of Seizure Disorder – Deleted variable.

12/13/10 Pregnancy – Deleted variable.

12/13/10 Congenital Anomalies – Added variable and definition.

12/13/10 Prematurity – Added variable and definition.

12/13/10 Other – Added variable and definition.

12/13/10 Hospital Procedures / Operation ICD-9 Code – Expanded definition of procedures to be captured and provided list.

12/13/10 Laboratory Data – Deleted variables for admission platelet count, PTT, and INR.

12/13/10 Primary Method of Payment – Added variable and definition.

12/13/10 Wound Disruption – Deleted variable and definition.

12/13/10 Abdominal Fascia Left Open – Deleted variable and definition.

12/13/10 Abdominal Compartment Syndrome – Deleted variable and definition.

12/13/10 Enterocutaneous Fistula/ GI Leak – Deleted variable and definition.

12/13/10 C.Diff Colitis – Deleted variable and definition.

12/19/10 Drug or Alcohol Withdrawal Syndrome – Added variable and definition.

12/19/10 Systemic Sepsis – Variable name change to Severe Sepsis.

12/19/10 Graft/Prosthesis/Flap Failure - Added variable and definition.

12/19/10 Catheter-Related Blood Stream Infection - Added variable and definition.

12/19/10	Osteomyelitis - Added variable and definition.
12/19/10	Unplanned Return to the OR - Added variable and definition.
12/19/10	Unplanned Returb to the ICU - Added variable and definition.
12/19/10	Other - Added variable and definition.
12/19/10	UTI – Deleted criteria 2.
12/19/10	UTI – Deleted frequency from criteria 1 and added WBC > 100,000 or < 3000 per cubic millimeter.
12/19/10	Myocardial Infarction – Deleted “transmural”.
1/19/11	Functionally Dependent Health Status – Deleted phrasing with “or” referring to equipment, devices or another person.
1/19/11	Complication Other – Definition of when to use “Not applicable” added.
1/31/11	Obesity – Changed from BMI 30 or > to BMI 40 or > per NTDS 2011
1/31/11	Signs of Life – Option instructions added for software that have not added this variable.
2/15/11	Procedures – Deleted procedures to coincide with NTDS 2011.
2/28/11	UTI – Word symptomatic removed.
3/6/11	Abd Fascia Left Open, Wound Disruption, C.difficle Colitis, Enterocutaneous Fistula, Abdominal Compartment Syndrome – Returned to definitions.
3/13/11	Process Measures – Added variables for TBI and VTE.
3/15/11	Primary Method of Payment updated
3/15/11	Marquette code changed from MA to MG
4/1/11	Respiratory Disease – Changed to NTDS 2011 for consistency.
5/1/11	Process Measures – Revised for TBI.
12/31/11	Pre-hospital cardiac arrest with CPR – Deleted from pre-hospital section. Added to comorbidities section.
12/31/11	Hospital Procedures – Added asterisk to Diagnostic ultrasound (includes FAST), Insertion of ICP monitor, Ventriculostomy
12/31/11	Hospital Procedure Start Time – Add sentence ” If distinct procedures with the same procedure code are performed, their start times must be different.”
12/31/11	Congestive Heart Failure – Added requirement for associated symptoms documented 30 days prior to injury
12/31/11	Current Smoker – Removed the 1 year history of use requirement
12/31/11	Currently Requiring or on Dialysis – Variable name change to Chronic Renal Failure and removal of inclusion of ultrafiltration
12/31/11	DNR Status – Variable name change to Advanced Directive Limiting Care
12/31/11	Esophageal Varices – Removed phrasing requiring identification prior to injury
12/31/11	Obesity – BMI criteria decreased from 40 to 30
12/31/11	Steroid Use – Deleted exclusion of patients who receive short course steroids (< 10 day course)
12/31/11	Dementia – Variable and definition added
12/31/11	Major Psychiatric Illness – Variable and definition added
12/31/11	Drug Abuse or Dependence – Variable and definition added
12/31/11	Total ICU Length of Stay – Add example table and clause that LOS unable to be calculated if data missing
12/31/11	Total Ventilator Days – Add example table and clause that LOS unable to be calculated if data missing
12/31/11	Discharge Date – Name change to Hospital Discharge Date and added if ED Disposition = 4, 5, 6, 9, 10, 11 then output should be NA
12/31/11	Discharge Time – Name change to Hospital Discharge Time and added if ED Disposition = 4, 5, 6, 9, 10, 11 then output should be NA
12/31/11	Hospital Discharge Disposition – Added definitions for ICF, Home Health Services, Hospice, and Skilled Nursing Care
12/31/11	Acute Renal Failure Requiring Dialysis – Name change to Acute Kidney Injury
12/31/11	ARDS – Name changed to ALI/ARDS. Parameters increased from PaO2/FiO2 of $\leq$ 200 to < 300. Removed 36 hour requirement for persistence.
12/31/11	Extremity Compartment Syndrome – Definition changed to capture only cases where late diagnosis/threat to limb
12/31/11	Myocardial Infarction – Deleted requirement for manifestation of Q waves post MI
12/31/11	Unplanned Intubation – Added “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”
12/31/11	UTI – Criteria 1: frequency returned to definition and temperature requirement decreased from 38.5C to 38. Criteria 2: entire option added back for consistency.

12/31/11	Catheter-Related Blood Stream Infection: Deleted 48 culture requirement. Added criterion 3 for patients < 1 year.
12/31/11	Severe Sepsis – Deleted criterion for tachycardia and tachypnea. Increased requirement for immature bands from 10% to 20%.
12/31/11	Process Measures – Output for measures not received changed from “leave blank” to “code as NA”
12/31/11	VTE Thromboembolism Prophylaxis Type: changed from 1: Heparin, 2:LMWH, 3:None to 1: Heparin, 2: Lovenox, 3: Fragmin, 4: Other LMWH, 5: None
12/31/11	GCS Assessment Qualifier Component of Highest GCS Total: Previously 1. S=Patient chemically sedated or paralyzed, 2. T=Obstruction to the patient’s eye, 3. TP=Patient is intubated, 4. L=Valid GCS” patient was note sedated, not intubated, and did not have obstruction to eye.
12/31/11	Traumactr: Deleted column for reports 1,2,3,4,5,6. Continue to use as center file name identifier
12/31/11	Factor 7a Total – Variable deleted
12/31/11	CRBSI – Added “and” before signs and symptoms component. Add “or” between each of the criteria options.
12/31/11	C.difficile – Deleted incorrect NTDS complication code 11. Added identifier as a custom data point (NTRACS).
12/31/11	Direct Thrombin Inhibitor – Added to medications.
12/31/11	Bleeding Disorder – Added Pradaxa to medication list.
12/31/11	GCS Assessment Qualifier Component of Highest GCS Total: Added options available on upcoming new MTQIP tab anticipated early 2012.
2/22/12	Factor Xa Inhibitor – Added to medications
2/22/12	Bleeding Disorder – Added Xarelto to medication list.
2/22/12	TBI Process Measures: Highest GCS Total, GCS Motor Highest, GCS Assessment Qualifier of Highest GCS Total, Cerebral Monitor, Cerebral Monitor Date/Time – Deleted capture criteria. Pg 41-44
1/1/13	Trauma Registry Inclusion Criteria – Addition of ICD 10 code injuries
1/1/13	Race – Hispanic option returned
1/1/13	Sex – Deleted option 3 for not available/not known/not recorded
1/1/13	Primary E-Code – Deleted “ICD-9 codes retained over ICD-10 codes” verbiage and addition of “ICD-9 and ICD-10 codes will be accepted”
1/1/13	Protective Devices – Variable and definition added to MTQIP
1/1/13	Initial ED/Hospital Systolic Blood Pressure, Pulse, Temperature, and all GCS elements – Addition of phase “within 30 min or less” and addition of phrase “vitals do not need to be from the same assessment”
1/1/13	GCS Qualifiers – One to many outputs deleted and one to one outputs, which are current registry options kept
1/1/13	Signs of Life – Removed variable for MTQIP data dictionary
1/1/13	Operation – Definition returned to dictionary
1/1/13	Emergency Operation – Addition of ASA criteria as option for capture
1/1/13	Hospital Procedures – Addition of ICD-10 as option and addition of Transfusions
1/1/13	Pre-Hospital CPR – Addition of “with resuscitative efforts by healthcare provider” to definition name
1/1/13	ICD-9-CM Code – Addition of “or ICD-10-CM code” phrase
1/1/13	AIS Severity – Addition of format example with pre-dot and post-dot in a single field
1/1/13	Deep Surgical Site Infection – Addition of Phrase under #2 “A culture-negative finding does not meet this criterion”
1/1/13	Unplanned Intubation – Deleted phrase “intubation followed by extubation the same day for a planned operative intervention is not considered an unplanned intubation”
1/1/13	Acute Kidney Injury – Addition of GFR and urine output to criteria
1/1/13	Urinary Tract Infection – Criteria #1 temperature changed from >38 to $\geq$38 degrees, WBC changed from >100,000 to >10,000
1/1/13	C. Diff – Deleted WBC criteria and added options for histopathologic or colonoscopic findings
1/1/13	Catheter Related Blood Stream Infection – Change criteria #2 from WBC > 100,000 to WBC > 10,000 and addition of phase that criteria 1 & 2 can be used for patients of any age
1/1/13	Deep Vein Thrombosis – Delete thrombophlebitis from variable name
1/1/13	TBI Process Measures (All) – Addition of capture criteria of “Collect on patients with at least one injury in AIS head region”
1/1/13	Reason Cerebral Monitor Withheld – Deleted 8 hour criteria from decision to withhold life sustaining measures
1/1/13	VTE Type – Regrouped agents based on class
1/1/13	VTE Date – Change verbiage to include all VTE agents captured under VTE type

1/1/13	Lowest ED Systolic Blood Pressure, Transfusion Blood Units (4 hours), Transfusion Plasma Units (4 hours), Transfusion Platelets Units (4 hours), Cryoprecipitate Units, (4 hours), Angiography, Embolization Site, Angiography Date, Angiography Time, Surgery for Hemorrhage Control Type, Surgery for Hemorrhage Control Date, Surgery for Hemorrhage Control Time, Withdrawal of Care Date, Withdrawal of Care Time - Addition of variables and definitions. Note blood for TQIP is captured in measure of volume. Enter blood in measure of units and this can be converted to volume measure.
1/1/13	ED/Transport PRBC, PRBC Total, FFP Total, Platelets Total – Variables removed
1/1/13	Reason Cerebral Monitor Withheld, Beta Blocker for TBI Process Measure – Changed capture criterion to of "Collect on patients with at least one injury in AIS head region"
1/1/13	Tranexamic Acid Administration, Date, Time – Added variables and definitions
1/1/13	Case Number – Changed column name for reports to TRAUMA_NUM for all reports
1/1/13	Trauma Center – removed from reports
1/1/13	C.diff – Changed variable requirement for diarrhea to be present on path and colonoscopy.
1/14/13	Surgery for Hemorrhage Control Type – Deleted phrase "Multiple sites are possible." Deleted phrase "No choice should be duplicated." Added word "first" before type to allow for only one selection.
3/15/13	Hemorrhage Control Process Measures Blood (Blood 4hrs, Plasma 4hrs, Platelets 4hrs, Cryo 4hrs, TXA 24hr, TXA Date, TXA Time, Blood 24hrs, Plasma 24hrs, Platelets 24hrs, Cryo 24hrs) – Deleted "Collection Criterion: Collect on all patients with transfusion blood within first 4 hours after ED/hospital arrival. Added "Collection Criterion: All patients."
4/18/13	GCS Motor Component of Highest GCS Total: Added phrase "Please code as 'Not Applicable' if patient does not meet collection criterion." to be consistent with TQIP change.
4/18/13	Cerebral Monitor: Added phrase "Please code as 'Not Applicable' if patient does not meet collection criterion." to be consistent with TQIP change.
4/18/13	Cerebral Monitor Date: Added phrase "Please code as 'Not Applicable' if patient does not meet collection criterion."
4/18/13	Cerebral Monitor Time: Added phase "Please code as 'Not Applicable' if patient does not meet collection criterion."
4/18/13	Lowest ED/Hospital Systolic Blood Pressure: Added requirement for measurement within first hour.
4/18/13	Angio/Hemorrhage Control Measures: Added phrase to code as 'Not Applicable'.
1/1/14	Hematocrit – Changed from first measured at MTQIP ED/hospital to first measured at MTQIP hospital
1/1/14	Trauma Surgeon – Variable added
1/1/14	Acute Renal Insufficiency – Variable added
1/1/14	IV Fluid 0-4 Hours – Variable added
1/1/14	IV Fluid 0-24 Hours – Variable added
1/1/14	Reason Cerebral Monitor Withheld – Added options #6 and #7 to pick list. Added "AND highest total GCS $\leq$ 8" to collection criteria
3/1/14	VTE Type – Deleted "oral" from "oral Xa inhibitor"
3/1/14	IV Fluid (0-4) and (0-24) – Removed previous verbiage indicating clock starting at first ED. Added verbiage indicating capture time from time of injury through 4 and 24 hours after first ED arrival time.
1/1/15	Formatting – Blue font added to identify MTQIP specific variables, verbiage, or clarifications.
1/1/15	Patient Inclusion Criteria – Change to title from "Trauma Registry Inclusion Criteria." Addition of ICD-10 character modifiers.
1/1/15	Trauma Center – Addition of MidMichigan two letter identifier of MI.
1/1/15	Activation Level – Variable and definition added.
1/1/15	Date Arrival/Admit TQIP Institution – Variable name change to "ED/Hospital Arrival Date"
1/1/15	Time Arrival/Admit TQIP Insitution – Variable name change to "ED/Hospital Arrival Time"
1/1/15	Initial ED/Hospital Height – Variable and definition added.
1/1/15	Initial ED/Hospital Weight – Variable and definition added.
1/1/15	ED Discharge Date - Variable and definition added.
1/1/15	ED Discharge Time - Variable and definition added.
1/1/15	Intubation Status – Definition updated to include King airway capture.
1/1/15	Operation – Verbiage updated to clarify meaning "Also answer "YES" if"
1/1/15	Emergency Operation – Retired 12 hour criteria for capture. Capture deferred to ASA criteria.
1/1/15	Procedures – NTDS removed criteria for coding capture for transfusion of greater than 10 units of blood.
1/1/15	Alcohol Use Disorder – Variable name changed.
1/1/15	Drug Use Disorder – Variable name changed. Added clarification for marijuana.
1/1/15	Current Smoker – Added clarification for exclusion of e-cigarettes.
1/1/15	Functionally Dependent Health Status – Definition updated removing verbiage describing partially and totally dependent. This removed the "and" operator. Current definition dependent upon equipment,

devices “or” another person.

1/1/15 Esophageal Varices – Retired.

1/1/15 Obesity – Retired.

1/1/15 Ascites within 30 Days – Retired.

1/1/15 Pre-Hospital Cardiac Arrest – Retired in co-morbid. Added to Pre-Hospital. Definition verbiage change.

1/1/15 Respiratory Disease – Variable name changed to Chronic Obstructive Pulmonary Disease (COPD).

1/1/15 History of Angina within 1 Month – Variable name changed to History of Angina within 30 Days. Description of angina updated.

1/1/15 CVA with Neuro Deficit – Variable name changed to Cerebrovascular Accident (CVA).

1/1/15 Plavix – Definition clarified to include Pletal (cilostazol).

1/1/15 ADD/ADHD – Variable and definition added.

1/1/15 Major Psychiatric Illness - Addition of ICD-9 and ICD-10 CM Code Ranges for clarification.

1/1/15 Primary Method of Payment – Verbiage added continuing current capture method. Clarification regarding vendor mapping for non-MTQIP submissions added.

1/1/15 Complications – Definition of “stay” clarified. Example added.

1/1/15 ALI/ARDS – Variable name changed to ARDS. Definition criteria changed.

1/1/15 Acute Kidney Injury – Definition criteria changed.

1/1/15 Cardiac Arrest with CPR – Definition and criteria updated to including capture of date and location.

1/1/15 DVT – Variable name changed to DVT/thrombophlebitis.

1/1/15 Abdominal Compartment Syndrome – Retired verbiage “Answer “NO” if abdomen was left open and did not require reopening for revision of the temporary closure for abdominal compartment syndrome.

1/1/15 ECF/GI Leak – Variable name clarified to ECF or GI leak and verbiage updated to remove open abdominal fascia option.

1/1/15 Unplanned Return to ICU – Definition criteria clarified for patient’s location history.

1/1/15 Cerebral Monitor, Date, Time – Added verbiage for capture when placed at referring facility. Added option for (5) None.

1/1/15 Antibiotic Days – Variable and definition added.

1/1/15 Lowest ED SBP – Addition of verbiage for clarification of the word sustained to include “that you consider valid” to avoid capture of clearly aberrant values

1/1/15 Blood, Plasma (0-4), (0-24) – Added verbiage to account for autotransfuser blood.

1/1/15 IV Fluid (0-4), (0-24) – Added verbiage for capture of all units spiked and hung.

1/1/15 TXA Date – Updated format for current submission format being received.

1/1/15 Antibiotic Days – Clarified route of administration

1/1/15 Angiograph – Changed interval from 48 hours to 24 hours for capture

1/1/15 Unplanned Return to ICU – Variable name change to Unplanned Admission to ICU. Changed verbiage from “readmitted” to “admitted” in first line.

4/3/15 Cardiac Arrest with CPR – Removed verbiage that indicated “Were pulseless but did not receive defibrillation attempts or CPR by hospital personnel.

7/1/15 Antibiotic Days – All routes deleted except IV administration

7/1/15 IV Fluid 0-4, 0-24 hours – Capture criteria updated to only capture this variable on patients who receive $\geq$ 5 units PRBC within 4 hours of ED/Hospital arrival. Definition clarified to exclude fluids provided for medication administration.