

| Michigan Trauma Quality Improvement Program (MTQIP) | | | |
|---|--------|---|--------|
| 2023 Performance Index | | | |
| January 1 to December 31, 2023 | | | |
| Measure | Weight | Measure Description | Points |
| #1 | 10 | Data Submission | |
| | | On-time and complete 3 of 3 times | 10 |
| | | On-time and complete 2 of 3 times | 5 |
| | | On-time and complete 1 of 3 times | 0 |
| #2 | 10 | Meeting Participation | 0-10 |
| | | Surgeon and TPM or MCR participate in 3 of 3 Collaborative meetings | 9 |
| | | Surgeon and TPM or MCR participate in 2 of 3 Collaborative meetings | 6 |
| | | Surgeon and TPM or MCR participate in 0-1 of 3 Collaborative meetings | 0 |
| | | Registrar or MCR participate in the annual June Data Abstractor meeting | 1 |
| #3 | 10 | Data Validation Error Rate | |
| | | 0.0-3.0% | 10 |
| | | 3.1-4.0% | 8 |
| | | 4.1-5.0% | 5 |
| | | > 5.0% | 0 |
| #4 | 5 | PI Death Determination Documentation (12 mo: 7/1/22-6/30/23) | |
| | | 0-2 Deceased patients missing documentation | 5 |
| | | 3-4 Deceased patients Missing documentation | 3 |
| | | > 4 Deceased patients Missing documentation | 0 |
| #5 | 10 | Timely LMWH VTE Prophylaxis in Trauma Admits (18 mo: 1/1/22-6/30/23) | |
| | | ≥ 52.5 % of patients (≤ 48 hr) | 10 |
| | | ≥ 50.0 % of patients (≤ 48 hr) | 8 |
| | | ≥ 45.0 % of patients (≤ 48 hr) | 5 |
| | | < 45.0 % of patients (≤ 48 hr) | 0 |
| #6 | 10 | Timely Surgical Repair in Geriatric (Age ≥ 65) Isolated Hip Fxs (12 mo: 7/1/22-6/30/23) | |
| | | ≥ 92.0 % of patients (≤ 48 hr) | 10 |
| | | ≥ 87.0 % of patients (≤ 48 hr) | 8 |
| | | ≥ 85.0 % of patients (≤ 48 hr) | 5 |
| | | < 85.0 % of patients (≤ 48 hr) | 0 |
| #7 | 10 | RBC to Plasma Ratio in Massive Transfusion (18 mo: 1/1/22-6/30/23) | 0-10 |
| | | Weighted Mean Points in Patients Transfused ≥ 5 Units 1st 4 hr | |
| #8 | 10 | Serious Complication Z-Score Trend in Trauma Admits (3 yr: 7/1/20-6/30/23) | |
| | | < -1 (major improvement) | 10 |
| | | -1 to 1 or serious complications low outlier (average or better rate) | 7 |
| | | > 1 (rates of serious complications increased) | 5 |
| #9 | 10 | Mortality Z-Score Trend in Trauma Admits (3 yr: 7/1/20-6/30/23) | |
| | | < -1 (major improvement) | 10 |
| | | -1 to 1 or mortality low outlier (average or better) | 7 |
| | | > 1 (rates of mortality increased) | 5 |
| #10 | 5 | Timely Head CT in TBI Patients on Anticoagulation Pre-Injury (12 mo: 7/1/22-6/30/23) | |
| | | ≥ 90% patients (≤ 120 min) | 5 |
| | | ≥ 80% patients (≤ 120 min) | 4 |
| | | ≥ 70% patients (≤ 120 min) | 3 |
| | | < 70% patients (≤ 120 min) | 0 |
| #11 | 10 | Timely Antibiotic in Femur/Tibia Open Fractures - COLLABORATIVE WIDE MEASURE (12 mo: 7/1/22-6/30/23) | |
| | | ≥ 85% patients (≤ 90 min) | 10 |
| | | < 85% patients (≤ 90 min) | 0 |
| Total (Max Points) = | | | 100 |

PARTICIPATION (30%)

PERFORMANCE (70%)

Additional Information

Measure 1: Data Submission: Partial/incomplete submissions receive no points. Complete data submission is defined as all cases submitted for the requested interval. To be considered complete, cohort 1 cases should have a missing rate of <10% for first name, last name, and MRN variables for 1/1/20 cases forward.

Measure 2: Meeting Participation: Surgeon represents one center only; Alternate must be an attending level equivalent.

Measure 3: Data Validation Error Rate: Centers not selected for validation this year will receive full points. Centers that are selected but do not schedule a visit will receive 0 points for the validation measure.

Measure 7: RBC to Plasma Ratio in Massive Transfusion

Step 1: Assign (weight) to each MTP patients 4 hr PRBC/FFP ratio to designated tier and points using the chart below.

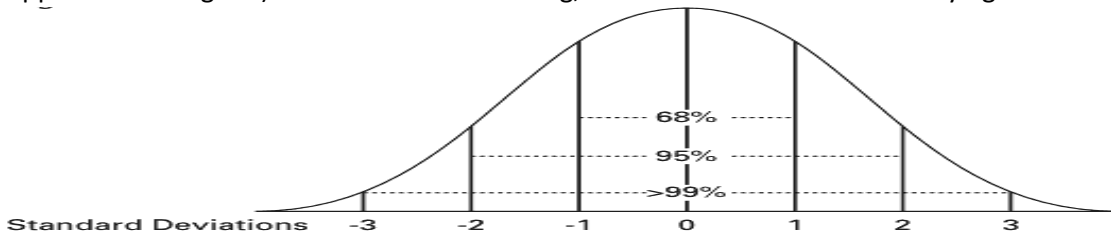
Step 2: Add the points and divide by the number of patients (weighted average) See the example below:

| Step One | | |
|----------------------|------|--------|
| PRBC to Plasma Ratio | Tier | Points |
| ≤1.5 | 1 | 10 |
| 1.6 – 2.0 | 2 | 10 |
| 2.1 – 2.5 | 3 | 5 |
| >2.5 | 4 | 0 |

| Step Two (Example) | | | | | |
|---|------|-----|----------|------|----------|
| Patient | PRBC | FFP | PRBC/FFP | Tier | Points |
| 1 | 10 | 10 | 1.0 | 1 | 10 |
| 2 | 5 | 2 | 2.5 | 3 | 5 |
| 3 | 9 | 2 | 4.5 | 4 | 0 |
| | | | | | Total 15 |
| Total Points/Total #Patients = 15/3 = 5 points earned | | | | | |

Measure 8 and 9: Z-Score Trend Calculation

The z-score is a measure of a hospital’s trend in [serious complications, mortality] over the three-year time period. The z-score is an estimate of the slope of a hospital’s own linear trend line over time, standardized by the error estimate. The score indicates whether the hospital’s performance is flat or trending upwards or downwards. If the z-score is one standard deviation away (either >1 or <-1), there is evidence that the hospital’s performance has a trend in one of these directions (as opposed to being flat). Scores >1 are worsening, scores between 1 to -1 are staying the same, and scores < -1 are improving.



Measure 8: Serious Complication is Any Complication with a Severity Grade of 2 or 3 (Defined Below)

Complication Severity Grade 2

Definition: Potentially life-threatening complications

Complications: catheter-related bloodstream infection, central line-associated bloodstream infection, clostridium difficile, decubitus ulcer, deep vein thrombosis, enterocutaneous fistula, pneumonia, pulmonary embolism, unplanned return to ICU, unplanned return to OR

Complication Severity Grade 3

Definition: Life-threatening complications with a residual or lasting disability

Complications: acute renal failure, acute respiratory distress syndrome, cardiac arrest, myocardial infarction, renal insufficiency, stroke/CVA, systemic sepsis, unplanned intubation, ventilator-associated pneumonia.

Collaborative Wide Measure:

Points awarded based on the total collaborative result, not individual hospital result

Scoring When Center Has No Patients Meeting Measure Criteria

When a center has no patients to score for a measure, that measure will be excluded from their performance index denominator. Example: A center with no massive transfusion patients will have the measure (worth 10 points) excluded, and their maximum total numerator will be 90 points, the denominator will be 90 points, and a new % (points) calculated by dividing the numerator by the denominator

Filters

#4 PI Death Determination

Cohort: 2 (Admit Trauma Services)

No Signs of Life: Exclude DOAs

Default Period: Custom (7/1/22 to 6/30/23)

#5: Timely LMWH VTE Prophylaxis in Trauma Service Admits

Practices > VTE Prophylaxis Metric

LMWH \leq 48 hr

Cohort: 2 (Admit to Trauma Service) > 2-day LOS

No Signs of Life: Exclude DOAs

Transfers Out: Exclude Transfers Out

Default Period: Custom (1/1/22 to 6/30/23)

#6: Timely Surgical Repair in Geriatric (Age \geq 65) Isolated Hip Fracture

Cohort: 8 (Isolated hip fracture)

Age: \geq 65

No Signs of Life: Exclude DOAs

Exclude: Transfers out, non-operative isolated hip fractures

Default Period: Custom (7/1/22 to 6/30/23)

#7: Red Blood Cell to Plasma Ratio in Massive Transfusion

Hemorrhage

Cohort: 1 (All)

No Signs of Life: Include DOAs

Transfers Out: Include Transfers Out

Default Period: Custom (1/1/22 to 6/30/23)

#8: Serious Complication

Cohort: 2 (Admit to Trauma Service)

No Signs of Life: Exclude DOA

Transfers Out: Exclude Transfers Out

Default Period: Custom (7/1/20 to 6/30/23)

#9: Mortality

Cohort: 2 (Admit to Trauma Service)

No Signs of Life: Exclude DOA

Transfers Out: Exclude Transfers Out

Default Period: Custom (7/1/20 to 6/30/23)

#10: Timely Head CT in Anticoagulated TBI

First Head CT performed during hospital stay: date, time from procedures data. Patients who receive a head CT prior to arrival, such as those ordered by a PCP, enter under the ICD-10 Hospital Procedures, with the exact Date and Time.

Eligible: Presence of prehospital anticoagulant use. One or more of the following variables captured as yes: Warfarin, direct thrombin inhibitor, factor Xa inhibitor. Presence of blunt head injury based on AIS codes (available on mtqip.org)

Cohort: 1 (All)

No Signs of Life: Exclude DOAs

Exclude: Transfers in and Direct Admissions

Transfers Out: Include Transfers Out

Default Period: Custom (7/1/22 to 6/30/23)

#11: Timely Antibiotic in Femur/Tibia Open Fractures - COLLABORATIVE WIDE MEASURE

Points awarded based on the total collaborative result, not the individual hospital result.

Type of antibiotic administered along with date and time for open fracture of femur or tibia.

Eligible: Presence of acute open femur or tibia fracture based on AIS or ICD-10 codes (available on mtqip.org)

Exclude: Direct admissions, Transfers in, and Death in ED

Cohort: 1 (All)

No Signs of Life: Exclude DOAs

Transfers Out: Include Transfers Out

Default Period: Custom (7/1/22 to 6/30/23)

Abbreviations Key

AIS – abbreviated injury score

CT- computed tomography

CVA - cerebral vascular accident

DOA - dead on arrival

ED - emergency department

FFP – fresh frozen plasma

FX – fracture

HR – hour

ICD – international classification of diseases

ICU - intensive care unit

LMWH – low molecular weight heparin

LOS – length of stay

MCR – MTQIP clinical reviewer

MIN - minute

MO - month

OR - operating room

PCP - primary care physician

PI – performance improvement

RBC – red blood cell

TBI – traumatic brain injury

TPM – trauma program manager

VTE – venous thromboembolism

YR - year