

Michigan Trauma Quality Improvement Program (MTQIP)
2025 Performance Index
January 1 to December 31, 2025

| Measure | Weight | Measure Description | Points | |
|----------------------|--------|---|--------|----------------------------|
| #1 | 10 | Data Submission | | PARTICIPATION (30%) |
| | | On-time and complete 3 of 3 times | 10 | |
| | | On-time and complete 2 of 3 times | 5 | |
| #2 | 10 | Meeting Participation | | |
| | | Surgeon and Trauma Program Manager or MTQIP Clinical Reviewer attend 3 of 3 meetings | 0-10 | |
| | | Surgeon and Trauma Program Manager or MTQIP Clinical Reviewer attend 2 of 3 meetings | 9 | |
| | | Surgeon and Trauma Program Manager or MTQIP Clinical Reviewer attend 0-1 of 3 meetings | 6 | |
| #3 | 10 | Data Validation Error Rate | | |
| | | 0.0-3.0% | 0 | |
| | | 3.1-4.0% | 10 | |
| | | 4.1-5.0% | 8 | |
| #4 | 5 | Performance Improvement Death Determination Documentation | | |
| | | (12 months: 7/1/24-6/30/25) | 5 | |
| | | 0-2 Cases missing documentation | 3 | |
| | | 3-4 Cases missing documentation | 0 | |
| #5A | 8 | Timely Low Molecular Weight Heparin Venous Thromboembolism Prophylaxis | | |
| | | (18 months: 1/1/24-6/30/25) | | |
| | | ≥ 52.5 % of patients (≤ 48 hours) | 8 | |
| | | ≥ 50.0 % of patients (≤ 48 hours) | 6 | |
| #5B | 2 | Weight-Based Low Molecular Weight Heparin Protocol Use (12mo: 7/1/24-6/30/25) | | |
| | | Yes | 2 | |
| | | No | 0 | |
| #6 | 10 | Timely Surgical Repair (Age ≥ 65) Isolated Hip Fractures (12 months: 7/1/24-6/30/25) | | |
| | | ≥ 92.0 % of patients (≤ 42 hours) | 10 | |
| | | ≥ 87.0 % of patients (≤ 42 hours) | 8 | |
| | | ≥ 85.0 % of patients (≤ 42 hours) | 5 | |
| #7 | 10 | Massive Transfusion Blood Ratio (18 months: 1/1/24-6/30/25) | | |
| | | Weighted Mean Points in Patients Transfused ≥ 5 Units 1st 4 hours | 0-10 | |
| | | | | |
| | | | | |
| #8 | 10 | Serious Complication Z-Score Trend (3 years: 7/1/22-6/30/25) | | |
| | | < -1 (major improvement) | 10 | |
| | | -1 to 1 or serious complications low outlier (average or better rate) | 7 | |
| #9 | 10 | Mortality Z-Score Trend (3 years: 7/1/22-6/30/25) | | |
| | | < -1 (major improvement) | 10 | |
| | | -1 to 1 or mortality low outlier (average or better) | 7 | |
| #10 | 5 | Patient Reported Outcomes Participation (12 months: 7/1/24-6/30/25) | | |
| | | Signed agreement and ≥90% of patients contact information submitted | 5 | |
| | | No agreement Or Signed agreement, and <90% of patients contact information submitted | 0 | |
| #11 | 10 | Timely Antibiotics Open Femur/Tibia Fractures - COLLABORATIVE WIDE MEASURE | | |
| | | (12 months: 7/1/24-6/30/25) | | |
| | | ≥ 85% patients (≤ 90 minutes) | 10 | |
| | | < 85% patients (≤ 90 minutes) | 0 | |
| MACS Bonus | | | 0-10 | |
| Total (Max Points) = | | | 100 | |

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 medical record number variables for 1/1/20 cases forward.

Measure 2: Meeting Participation: A surgeon may represent one trauma center only. Alternate surgeons are allowed but must be consistent (not rotating). The alternate surgeon must be an attending-level equivalent from the trauma call panel.

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: Massive Transfusion Blood Ratio of Packed Red Blood Cells (PRBC) to Plasma

Step 1: Assign (weighted points) to each massive transfusion patient’s 1st 4 hours PRBC/Plasma ratio via the tier shown below.

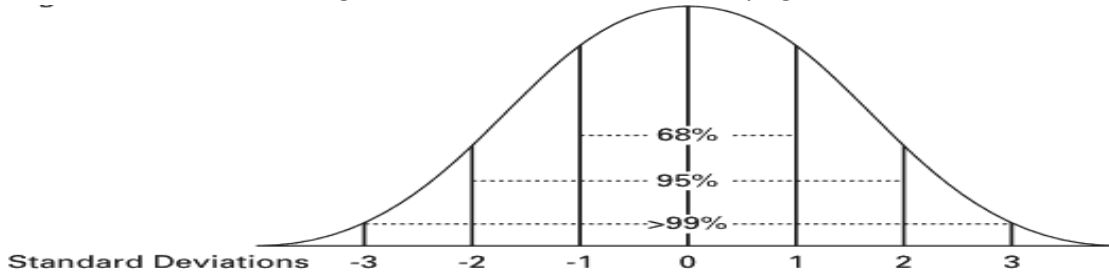
Step 2: Add the points and divide by the number of patients (weighted average). See the example below.

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

| Step 2 (Example) | | | | | |
|---|------|--------|-------------|------|----------|
| Patient | PRBC | Plasma | PRBC/Plasma | 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 measures a hospital’s trend in #8 serious complications and #9 mortality over a three-year period. The z-score estimates 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 is trending in one of these directions as opposed to being flat. Scores >1 are worsening, scores between 1 and -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 intensive care unit, unplanned return to the operating room

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/cerebral vascular accident, systemic sepsis, unplanned intubation, ventilator-associated pneumonia

Collaborative Wide Measure:

Points are 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 its 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 Performance Improvement Death Determination

Cohort: 2 (Admit Trauma Services)

No Signs of Life: Exclude dead on arrival

Default Period: Custom (7/1/24 to 6/30/25)

#5a: Timely Low Molecular Weight Heparin (LMWH) Venous Thromboembolism (VTE) Prophylaxis

Practices > VTE Prophylaxis Metric

LMWH \leq 48 hours

Cohort: 2 (Admit to Trauma Service) > 2-day length of stay

No Signs of Life: Exclude dead on arrival

Transfers Out: Exclude transfers out

Default Period: Custom (1/1/24 to 6/30/25)

#5b: Weight-Based Low Molecular Weight Heparin (LMWH) Protocol Use

Points are awarded based on the submission of the following:

Screenshot of the center's protocol with the weight-based criteria visible in the image AND

Screenshots of 5 patients using the protocol with the date and dosage visible in the image.

Submit screenshots to the MTQIP submission portal. For further instruction, see [Video demonstration](#).

Default Period: Submit by 12/5/25.

#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 dead on arrival

Exclude: Transfers out, non-operative isolated hip fractures

Default Period: Custom (7/1/24 to 6/30/25)

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

Hemorrhage

Cohort: 1 (All)

No Signs of Life: Include dead on arrival

Transfers Out: Include transfers out

Default Period: Custom (1/1/24 to 6/30/25)

#8: Serious Complication

Cohort: 2 (Admit to Trauma Service)

No Signs of Life: Exclude dead on arrival

Transfers Out: Exclude transfers out

Default Period: Custom (7/1/22 to 6/30/25)

#9: Mortality

Cohort: 2 (Admit to Trauma Service)

No Signs of Life: Exclude dead on arrival

Transfers Out: Exclude transfers out

Default Period: Custom (7/1/22 to 6/30/25)

#10: Patient-Reported Outcomes Participation

Points are awarded based on a signed agreement, and \geq 90% of patients submit contact information defined as a validly formatted email or telephone number.

Cohort: 1 (All)

No Signs of Life: Exclude dead on arrival and all Deaths/Discharge to Hospice

Transfers Out: Include transfers out

Default Period: Custom (7/1/24 to 6/30/25)

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

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

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

Eligible: Presence of acute open femur or tibia fracture based on Abbreviated Injury Score (AIS) or International Classifications of Disease (ICD-10) codes (available on mtqip.org)

Exclude: Direct admissions, Transfers in, and Deaths in the emergency department

Cohort: 1 (All)

No Signs of Life: Exclude dead on arrival

Transfers Out: Include transfers out

Default Period: Custom (7/1/24 to 6/30/25)

| Michigan Acute Care Surgery (MACS) 2025 Optional Bonus for MACS Participants | | | | |
|---|-----|---|----------------------------|---------------------|
| Optional | 1 | MACS Data Submission | | PARTICIPATION (30%) |
| | | On-time and complete 3 of 3 times | 1.0 | |
| | | On-time and complete 2 of 3 times | 0.5 | |
| Optional | 1 | On-time and complete 1 of 3 times | 0.0 | |
| Optional | 1 | MACS Meeting Participation | | PARTICIPATION (30%) |
| | | Surgeon and Quality Administrator/Manager/Data Abstractor attends 3 of 3 meetings | 1.0 | |
| | | Surgeon and Quality Administrator/Manager/Data Abstractor attends 2 of 3 meetings | 0.5 | |
| Optional | 1 | Surgeon and Quality Administrator/Manager/Data Abstractor attends 0-1 of 3 | 0.0 | |
| Optional | 1 | MACS Data Validation Error Rate | | PARTICIPATION (30%) |
| | | 0.0-3.0% | 1.0 | |
| | | 3.1-4.0% | 0.8 | |
| | | 4.1-5.0% | 0.5 | |
| Optional | 1 | > 5.0% | 0.0 | |
| Optional | 1.5 | MACS Evidence-Based Opioid Prescribing in Appendectomy | | PARTICIPATION (30%) |
| | | (12 months:8/1/24-7/31/25) | | |
| | | ≥ 80% patients (≤ 60 discharge oral morphine equivalents, oxycodone 5 mg = 8 pills) | 1.5 | |
| | | ≥ 70% patients (≤ 60 discharge oral morphine equivalents) | 0.7 | |
| Optional | 1.5 | < 70% patients (≤ 60 discharge oral morphine equivalents) | 0.0 | |
| Optional | 1.5 | MACS Evidence-Based Opioid Prescribing in Cholecystectomy (Laparoscopic or Robotic) | | PARTICIPATION (30%) |
| | | (12 months:8/1/24-7/31/25) | | |
| | | ≥ 80% patients (≤ 60 discharge oral morphine equivalents, oxycodone 5 mg = 8 pills) | 1.5 | |
| | | ≥ 70% patients (≤ 60 discharge oral morphine equivalents) | 0.7 | |
| Optional | 1.5 | < 70% patients (≤ 60 discharge oral morphine equivalents) | 0.0 | |
| Optional | 1 | Appendectomy Performed in Uncomplicated Appendicitis with Appendicolith on Computed Tomography | | PARTICIPATION (30%) |
| | | (12 months:8/1/24-7/31/25) | | |
| | | ≥ 95% patients | 1.0 | |
| Optional | 1 | ≥ 90% patients | 0.5 | |
| Optional | 1 | | 0.0 | |
| Optional | 1.5 | Readmission Z-Score Trend in Appendicitis | | PARTICIPATION (30%) |
| | | (3 years: 8/1/22-7/31/25) | | |
| | | < -1 (major improvement in readmissions) | 1.5 | |
| | | -1 to 1 or readmissions low outlier (average or better rate of readmissions) | 0.7 | |
| Optional | 1.5 | > 1 (rates of readmissions increased) | 0.5 | |
| Optional | 1.5 | MACS Meeting Presentation on Performance Index Metric Improvement Work | | PARTICIPATION (30%) |
| | | (MACS Meetings: Sep 2024, Dec 2025, Apr 2025) | | |
| | | 30-minute presentation provided | 1.5 | |
| Optional | 1.5 | No presentation provided | 0.0 | |
| | | | Total (Max Bonus Points) = | 0-10 |

Optional Bonus for MACS Participants

The total possible points, including bonus points, cannot exceed 100. For MACS participants from an enterprise that are not MTQIP members, total bonus points are averaged and then added to the MTQIP Performance Index.

MACS Data Submission

Partial or incomplete submissions receive no points. A complete data submission is defined as all cases submitted for the requested interval for the required data submissions.

MACS Meeting Participation

A surgeon may represent only one center. Alternate surgeons are allowed but must be consistent (not rotating). The alternate surgeon must be an attending-level equivalent from the call panel. The minimum center personnel required to receive points is two (e.g., one Surgeon and one Quality Administrator, Manager, or Data Abstractor).

MACS 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.

MACS Evidence-Based Opioid Prescribing

OME calculation = opioid strength x opioid quantity x conversion factor

Opioid strength and opioid quantity required to earn points.

MACS Evidence-Based Opioid Prescribing Laparoscopic Appendectomy

Inclusion

- Appendicitis index encounter
- Procedure CPT Code 1 = 44970 (Laparoscopy, surgical, appendectomy)
- Conversion = Laparoscopic or Robotic
- Discharge Disposition = Home or Home Care

Exclusion

- Prior Opioid Use = Yes
- Procedure CPT Code 2-8 with value present

MACS Evidence-Based Opioid Prescribing in Laparoscopic Cholecystectomy

Inclusion

- Gallbladder index encounter
- Procedure CPT Code 1 = 47562 (Laparoscopy, surgical; cholecystectomy), 47563 (Laparoscopy, surgical; cholecystectomy, cholecystectomy with cholangiography), or 47564 (Laparoscopy, surgical; cholecystectomy, cholecystectomy with exploration of common duct)
- Conversion = Laparoscopic or Robotic
- Discharge Disposition = Home or Home Care

Exclusion

- Prior Opioid Use = Yes
- Procedure CPT Code 2-8 with value present

Appendectomy Performed in Uncomplicated Appendicitis with Appendicolith on CT

Inclusion

- Appendicitis index encounter
- CT Findings = Fecalith

Exclusion

- CT Findings = Abscess, Cecum or Terminal Ileum Inflammation, Free Air, Free Fluid, or Phlegmon

Readmission Z-Score Trend in Appendicitis

Refer to the above information for Z-score calculation.

Inclusion

- Appendicitis index encounter
- Readmission interval 90 calendar days post discharge from index encounter

MACS Meeting Presentation on Performance Index Metric Improvement Work

Points issued for a 30-min presentation at MACS meeting. The presentation topic should provide information on work being done at the center on one of the bonus point metrics. The use of data and interventions with high effectiveness is encouraged.