

Michigan Trauma Quality Improvement Program (MTQIP)			
2023 Performance Index			
January 1 to December 31, 2023			
Measure	Weight	Measure Description	Points
#1	10	<b>Data Submission</b>	
		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	<b>Meeting Participation</b>	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	<b>Data Validation Error Rate</b>	
		0.0-3.0%	10
		3.1-4.0%	8
		4.1-5.0%	5
		> 5.0%	0
#4	5	<b>PI Death Determination Documentation</b>	
		0-2 Deceased patients missing documentation	5
		3-4 Deceased patients Missing documentation	3
		> 4 Deceased patients Missing documentation	0
#5	10	<b>Timely LMWH VTE Prophylaxis in Trauma Admits (18 mo: 1/1/22-6/30/23)</b>	
		≥ 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	<b>Timely Surgical Repair in Geriatric (Age ≥ 65) Isolated Hip Fxs (12 mo: 7/1/22-6/30/23)</b>	
		≥ 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	<b>RBC to Plasma Ratio in Massive Transfusion (18 mo: 1/1/22-6/30/23)</b>	0-10
		Weighted Mean Points in Patients Transfused ≥ 5 Units 1st 4 hr	
#8	10	<b>Serious Complication Z-Score Trend in Trauma Admits (3 yr: 7/1/20-6/30/23)</b>	
		< -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	<b>Mortality Z-Score Trend in Trauma Admits (3 yr: 7/1/20-6/30/23)</b>	
		< -1 (major improvement)	10
		-1 to 1 or mortality low outlier (average or better)	7
		> 1 (rates of mortality increased)	5
#10	5	<b>Timely Head CT in TBI Patients on Anticoagulation Pre-Injury (12 mo: 7/1/22-6/30/23)</b>	
		≥ 90% patients (≤ 120 min)	5
		≥ 80% patients (≤ 120 min)	4
		≥ 70% patients (≤ 120 min)	3
		< 70% patients (≤ 120 min)	0
#11	10	<b>Timely Antibiotic in Femur/Tibia Open Fractures - COLLABORATIVE WIDE MEASURE (12 mo: 7/1/22-6/30/23)</b>	
		≥ 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/FPP ratio to designated tier and points using the chart below.

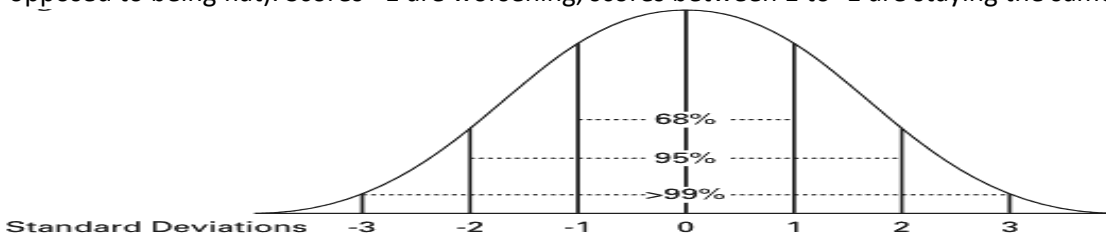
Step 2: Add the points and divide by the number of patients (weighted average) See the example below:

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