

Michigan Trauma Quality Improvement Program (MTQIP)

2020 Performance Index

January 1, 2020 to December 31, 2020

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	0-10	
		Surgeon and (TPM or MCR) participate in 3 of 3 Collaborative meetings (9 pt)		
		Surgeon and (TPM or MCR) participate in 2 of 3 Collaborative meetings (6 pt)		
		Surgeon and (TPM or MCR) participate in 0-1 of 3 Collaborative meetings (0 pt)		
#3	10	Data Validation Error Rate		
		0-4.0%	10	
		4.1-5.0%	8	
		5.1-6.0%	5	
		6.1-7.0%	3	
#4	10	Timely LMWH VTE Prophylaxis in Trauma Service Admits (18 mo: 1/1/19-6/30/20)		
		≥ 50% of patients (≤ 48 hr)	10	
		≥ 45% of patients (≤ 48 hr)	8	
		≥ 40% of patients (≤ 48 hr)	5	
#5	10	Timely Surgical Repair in Geriatric (Age ≥ 65) Isolated Hip Fxs (12 mo: 7/1/19-6/30/20)		
		≥ 90% of patients (≤ 48 hr)	10	
		≥ 85% of patients (≤ 48 hr)	8	
		≥ 80% of patients (≤ 48 hr)	5	
#6	10	RBC to Plasma Ratio in Massive Transfusion (18 mo: 1/1/19-6/30/20)	0-10	
		Weighted Mean Points in Patients Transfused ≥ 5 Units 1st 4 hr		
#7	10	Serious Complication Z-Score Trend in Trauma Service Admits (3 yr: 7/1/17-6/30/20)		
		< -1 (major improvement)	10	
		-1 to 1 or serious complications low-outlier (average or better rate)	7	
#8	10	Mortality Z-Score Trend in Trauma Service Admits (3 yr: 7/1/17-6/30/20)		
		< -1 (major improvement)	10	
		-1 to 1 or mortality low-outlier (average or better)	7	
#9	10	Timely Head CT in TBI Patients on Anticoagulation Pre-Injury (12 mo: 7/1/19-6/30/20)		
		≥ 90% patients (≤ 120 min)	10	
		≥ 80% patients (≤ 120 min)	7	
		≥ 70% patients (≤ 120 min)	5	
#10	10	Timely Antibiotic in Femur/Tibia Open Fractures - Collaborative Wide Measure (12 mo: 7/1/19-6/30/20)		
		≥ 85% patients (≤ 120 min)	10	
		< 85% patients (≤ 120 min)	0	
Total (Max Points) =			100	PERFORMANCE (70%)

Additional Information

Measure 1: Data Submission: Partial/incomplete submissions receive no points

Measure 2: Meeting Participation: Surgeon represents 1 center only, Alternate must be equivalent attending level

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

Measure 6: RBC to Plasma Ratio in Massive Transfusion

Step 1: Assign (weight) to each individual patient's 4 hr PRBC/FPP ratio to designated tier/points using chart below

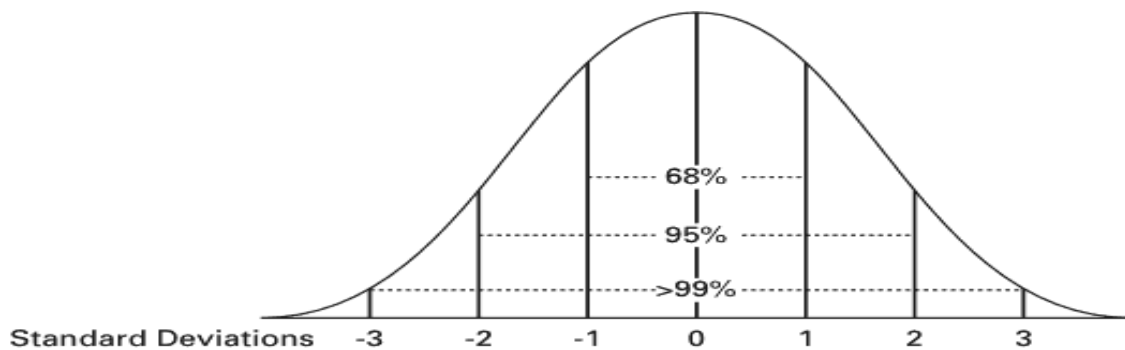
Step 2: Add the points and divide by number of patients (weighted average) See example below:

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 7 & 8: 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. For each hospital, we fit a linear regression model with [serious complications, mortality] as the outcome, and time period and patient characteristics as the explanatory variables. 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 more evidence that the hospital's performance has a linear 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 7: Serious Complication is Any Complication with Severity Grade of 2 or 3 (Defined Below)

Complication Severity Grade 2

Definition: Potentially life-threatening complications

Complications: C. difficile colitis, decubitus ulcer, DVT, enterocutaneous fistula, extremity compartment syndrome, pneumonia, pulmonary embolism, unplanned admission to ICU, unplanned return to OR

Complication Severity Grade 3

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

Complications: ARDS, acute renal failure, cardiac arrest, myocardial infarction, renal insufficiency, stroke/CVA, systemic sepsis, unplanned intubation

Collaborative Wide Measure:

Points awarded based on 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: Timely LMWH VTE Prophylaxis in Trauma Service Admits

Practices > VTE Prophylaxis Metric

LMWH ≤ 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 (1/1/19 to 6/30/20)

#5: Timely Surgical Repair in Geriatric (Age ≥ 65) Isolated Hip Fracture

Cohort: 8 (Isolated hip fracture)

Age: ≥ 65

No Signs of Life: Exclude DOAs

Transfers out: Exclude Transfers Out

Default Period: Custom (7/1/19 to 6/30/20)

#6: 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 (1/1/19 to 6/30/20)

#7: Serious Complication

Cohort: 2 (Admit to Trauma Service)

No Signs of Life: Exclude DOA

Transfers Out: Exclude Transfers Out

Default Period: Custom (7/1/17 to 6/30/20)

#8: Mortality

Cohort: 2 (Admit to Trauma Service)

No Signs of Life: Exclude DOA

Transfers Out: Exclude Transfers Out

Default Period: Custom (7/1/17 to 6/30/20)

#9: Timely Head CT in Anticoagulated TBI

Head CT scan done in ED, date, time from procedures data

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 a head injury with blunt mechanism based on AIS codes (list available on request)

Cohort: 1 (All)

Exclude: Direct admissions and Transfers in

No Signs of Life: Exclude DOAs

Transfers Out: Include Transfers Out

Default Period: Custom (7/1/19 to 6/30/20)

#10: Timely Antibiotic in Femur/Tibia Open Fractures - Collaborative Wide Measure

Points awarded based on total collaborative result, not 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 ICD10 codes (available on MTQIP.org)

Exclude: Direct admissions and Transfers in

Cohort: 1 (All)

No Signs of Life: Exclude DOAs

Transfers Out: Include Transfers Out

Default Period: Custom (7/1/19 to 6/30/20)