

# **The Michigan Trauma Quality Improvement Program**

**Ypsilanti, MI  
February 12, 2019**



# Michigan Trauma Quality Improvement Program (MTQIP) Collaborative Meeting Feb 2019

## Lecture(s):

**2018 Hospital Scoring Index Results 2018 VBR Results**

*Mark Hemmila, MD*

**New 2019 Hospital Scoring Index New 2019 VBR Measures Future 2020 Measure Discussion**

*Judy Mikhail, PhD, MBA, MSN, RN Mark Hemmila, MD*

**Sharing CQI Data Project (ASPIRE) MTQIP Research Update**

*Jill Jakubus, PA*

**MTQIP New CME Process MTQIP Metrics Bibliography BCBMS MTQIP 2018 Evaluation Results**

*Judy Mikhail, PhD, MBA, MSN, RN*

## Financial Disclosure Information:

*There are no relevant financial relationships with ACCME-defined commercial interests to disclose for this activity.*

## Accreditation and Credit Designation:

The University of Michigan Medical School is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The University of Michigan Medical School designates this live activity for a maximum of 2.00 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

# Disclosures

- ◆ Salary Support for MTQIP from BCBSM/BCN
  - Mark Hemmila
  - Judy Mikhail
  - Jill Jakubus
  - Anne Cain-Nielsen

**No Photos Please**



# Evaluations

- ◆ Link will be emailed to you following meeting
- ◆ You have up to 7 days to submit
- ◆ Please answer the evaluation questions
- ◆ Physicians/Nurses/Advanced Practitioners:
  - E-mail certificate for 4.0 Category 1 CME

# **New MTQIP Trauma Center**

- ◆ Providence Novi
  - Ehssan Zare, MD, TMD
  - Wendi Brown, TPM
- ◆ Metrohealth
  - Eric Mitchell, MD, TMD
  - Yvonne Prowant, TPM

# **New Trauma Center Medical Directors**

- ◆ Mid-Michigan
  - Asha Shah, MD
- ◆ Henry Ford Detroit
  - Nadia Obeid, MD
- ◆ McLaren Oakland
  - Jason Pasley, DO
- ◆ Beaumont Dearborn
  - Sam Kais, MD

# Data Submission

- ◆ Data submitted December 7, 2018
  - This report
  - 4 week turnaround
- ◆ Data submitted February 1, 2019
  - Pending
- ◆ Next data submission
  - April 5, 2019



# Future Meetings

- ◆ Spring (MCOT)
  - Wednesday May 8, 2019
  - Grand Rapids, Amway Grand Plaza
- ◆ Spring (Registrars and MCR's)
  - Tuesday June 4, 2019
  - Ypsilanti, EMU Marriott

# State of Michigan

- ◆ FY 2019

- Level 3's
- Data Validation (5 Level 3's)

- ◆ FY 2020

- Submitting proposal
- Level 3's
- Expanded Level 3 data validation
- State and region reporting (Level 1,2,3)

## Center X

- ◆ Reviewed data submission and found that gender was missing on some patients
- ◆ Information fed back to Center X for correction
- ◆ Concern expressed that these were not MTQIP patients
- ◆ Reviewed data again and some patients met MTQIP criteria for analysis
- ◆ Fed back again to be transparent so that validation would not be affected

## System X

- ◆ Staff X, Sr. Director External Quality Measures
- ◆ Concern about trauma registry data transfer without filters
- ◆ E mails, phone calls, information provided
  - Jill
  - Judy
  - Mark

# System X

- ◆ Phone call with Mark Hemmila
- ◆ Request to refer to Michigan Medicine Legal
- ◆ No, because this method has been in place since the program began
- ◆ MTQIP suggestions
  - Transfer of trauma registry – must continue for program integrity
  - Tell us wording that would be clear to you
  - Changing DUA anyways

## **System X Email 2/11/2019**

- ◆ Staff X, Sr. Director External Quality Measures
  - Data Transfer to MTQIP
  - Data Use Agreement
- ◆ System X centers unaware that no filters are applied to trauma registry for data transfer
- ◆ Claim that data/patients are filtered out and not used in analytics
- ◆ Other health systems also unaware

## System X

- ◆ Other DI supported trauma centers not entering non-MTQIP cases
  - Claim
  - No data to substantiate

# System X

- ◆ System X response
  - Meet
  - Webinar
  - Work with DI to implement filters
  - Not change DUA



# MTQIP

- ◆ Participation is voluntary
- ◆ You choose to be in
- ◆ By choosing you agree to participation expectations
- ◆ One DUA for everyone
- ◆ No negotiation of separate DUA's, clause's, etc.
- ◆ Same standards for all
  - Integrity
  - Transparency
  - Equipoise

# Integrity, Transparency, Equipoise

- ◆ MTQIP data transfer process
  - U of M experience (pilot pre 2011)
  - Excel spreadsheets (Jill, each center)
  - Move to DI and CDM server based data transfer
- ◆ Trauma registry data
- ◆ Stata code to assign cohorts
  - ICD inclusion, exclusion criteria (drop)
  - Age (drop if missing)
  - Cohort 0
  - Apply MTQIP criteria
  - Cohort 1

# Integrity, Transparency, Equipoise

- ◆ MTQIP analytics
  - Cohort 1 - Risk-adjusted outcomes, reports
  - Cohort 0 - PRQ: Triage, ED LOS
- ◆ MDHHS analytics
  - Cohort 0 + Level 3 data
  - Region
  - State
  - Level 3 reports
  - Data transfer

**Integrity, Transparency, Equipoise**

**1/31/2011**

# Integrity, Transparency, Equipoise

## Michigan Trauma Quality Improvement Program Manual



Version 1.0

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## 2.1 Member Trauma Centers

- Borgess Medical Center - Kalamazoo
- Botsford Hospital - Farmington
- Bronson Methodist Hospital - Kalamazoo
- Covenant HealthCare - Saginaw
- Detroit Receiving Hospital - Detroit
- Genesys Regional Medical Center – Grand Blanc
- Henry Ford Hospital – Detroit
- Hurley Medical Center - Flint
- Marquette General Health System – Marquette
- Mt. Clemens Regional Medical Center – Mt. Clemons
- Munson Medical Center – Traverse City
- Oakwood Hospital and Medical Center - Dearborn
- POH Regional Medical Center - Pontiac
- Sinai-Grace Hospital – Detroit
- Sparrow Hospital - Lansing
- Spectrum Health, Butterworth Hospital – Grand Rapids
- St. John's Hospital and Medical Center – Detroit
- St. Joseph Mercy Hospital – Ypsilanti
- St. Mary's of Michigan – Saginaw
- University of Michigan Health System – Ann Arbor
- William Beaumont Hospital - Royal Oak

# Integrity, Transparency, Equipoise

## 3.1 Overview

- Based on existing NTDS and NSQIP definitions wherever possible

## 3.2 Main Cohort Formation

- Blunt or penetrating mechanism of injury
- Age  $\geq 18$  years old
- ISS  $\geq 5$
- All deaths
- Length of stay  $> 1$  day who are discharged alive

Above listed criteria provided for information purposes only. Centers are asked not to apply any filters to reports except for the requested admission timeframe. MTQIP statisticians will perform any filtering if necessary for equitable analysis for all centers.

# Integrity, Transparency, Equipoise

## 3.3 Variables and Definitions

**Trauma Registry Inclusion Criteria:** To ensure consistent data collection across all MTQIP centers and according to the NTDS, 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 in the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM): **800-959.9**

**Excluding the following isolated injuries:**

905-909.9 (late effects of injury)

910-924.9 (superficial injuries, including blisters, contusions, abrasions, and insect bites)

930-939.9 (foreign bodies)

**And must include one of the following in addition to (ICD-9-CM 800-959.9)**

- 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 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 2011

# **Integrity, Transparency, Equipoise**

- ◆ Same statement is in every data dictionary since 2012



# **Integrity, Transparency, Equipoise**



*Digital Innovation, Inc.*

MTQIP Central Site Web Portal  
And  
Data Transfer User Guide  
For  
MI v5 Users who participate in MTQIP

# Integrity, Transparency, Equipoise

- b. The transfer functionality will only recognize records with an admit date of 2015 or greater for inclusion in any submission file. Therefore, this new centralized data collection process will not take into account any records prior to 2015. This date was discussed and agreed upon with the staff at the MTQIP Central Site.
- c. Any record that is left with a <Record Status> of “Active” will not be considered for transfer in any submission to the MTQIP Central Site Web Portal.
- d. It is imperative that records be successfully validated and closed to ensure the timely transfer of data to the MTQIP Central Site.
- e. Submission timeframes are defined by the MTQIP Central Site but it should be noted that records can be transferred as often as desired by the user.

*Note: In summary, records with a closed record status that also have a patient arrival/admit date of 1-1-2015 will be included in submissions to the MTQIP Central Site. Both criteria must be met.*

# **Integrity, Transparency, Equipoise**

## ◆ Data

- 274,661 patients
- 451 with ISS of 0 after recalculation
- All of this data is used on your behalf

# Integrity, Transparency, Equipoise

traumactr	cohort1		Total			
	0	1				
	780	860	1,640		800	1,918
	102	74	176		843	3,867
	779	1,154	1,933		698	848
	2,459	5,372	7,831		875	317
	467	6,993	7,460		3,123	7,770
	1,116	4,192	5,308		2,039	3,092
	4,054	6,204	10,258		1,122	5,799
	6,979	8,103	15,082		217	557
	899	524	1,423		1,053	3,402
	2,069	5,410	7,479		184	46
	4,124	8,317	12,441		5,459	8,277
	497	723	1,220		2,125	11,263
	2,925	4,670	7,595		2,160	9,056
	4,356	6,672	11,028		803	3,846
	921	525	1,446		768	2,739
	746	733	1,479		9,523	13,455
	4,604	7,346	11,950		2,912	2,428
	1,895	3,269	5,164		1,675	8,625
	4,374	6,382	10,756		607	1,009
	422	726	1,148		3,517	10,458
	1,465	3,962	5,427			
	1,193	3,213	4,406			
	1,355	1,381	2,736			
	800	1,918	2,718			
				Total	89,084	185,577
						274,661

## Focus

- ◆ Quality improvement
  - ◆ Helping you
  - ◆ Answer questions, clarify
  - ◆ We take our work seriously and try to do the right thing
- 
- ◆ Please be considerate of our time
  - ◆ We treat everyone the same
  - ◆ You are free to opt out

# Questions

# **MTQIP Hospital Scoring Index Results**

**Mark Hemmila, MD**



# Metrics for MTQIP

- ◆ Hospital = CQI Scoring Index
  - 10 Measures
  - End result: Hospital P4P
- ◆ Surgeon = VBR
  - 3 Measures (VTE Timing, VTE Type, PRBC to Plasma ratio)
  - Scoring as a group practice
  - End result: Surgeon VBR in 2019



- Hospital Result
- Points
- Possible Points

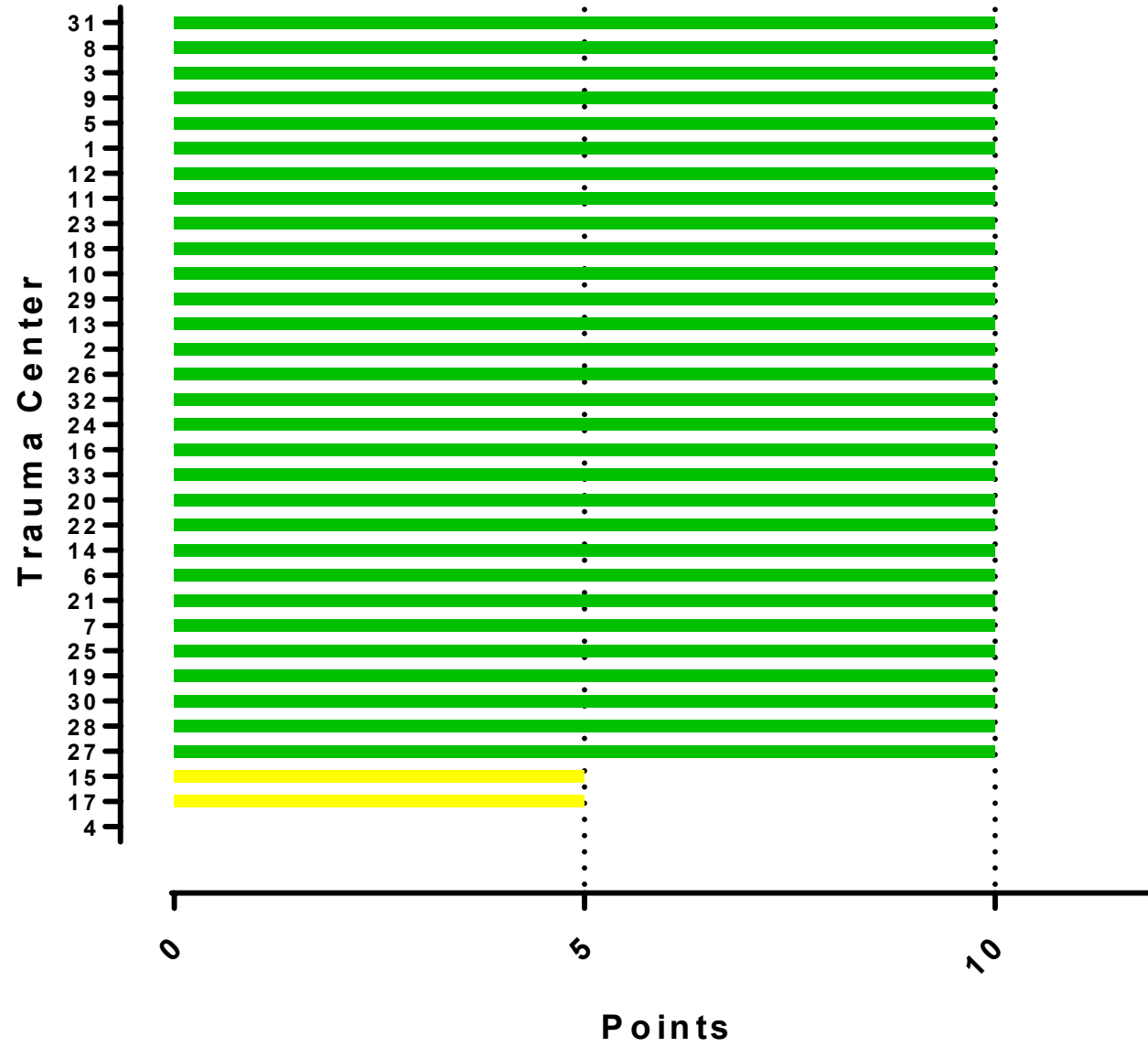
• Score =  
Points/Possible Points x 100

St. Elsewhere Michigan Trauma Quality Improvement Program (MTQIP) 2018 Performance Index January 1, 2018 to December 31, 2018						
Measure	Weight	Measure Description		Result	Points	Possible
#1	10	Data Submission (Partial/Incomplete Submissions No Points) On time and complete 3 of 3 times On time and complete 2 of 3 times On time and complete 1 of 3 times		3	10	10 5 0
#2	10	Meeting Participation All Disciplines *Surgeon represents 1 hospital only Surgeon, and (TPM or MCR) Participate in 3 of 3 Collaborative meetings (9 pts) Surgeon, and (TPM or MCR) Participate in 2 of 3 Collaborative meetings (6 pts) Surgeon, and (TPM or MCR) Participate in 1 of 3 Collaborative meetings (3 pts) Surgeon, and (TPM or MCR) Participate in 0 of 3 Collaborative meetings (0 pts) Registrar, and/or MCR Participate in the Data Abtractor Meeting (1 pt)		3     1	9     1	9 6 3 0 1
#3	10	Data Accuracy	Error Rate	6.5	3	10 8 5 3 0
		5 Star Validation	0-4.0%			
		4 Star Validation	4.1-5.0%			
		3 Star Validation	5.1-6.0%			
		2 Star Validation	6.1-7.0%			
		1 Star Validation	>7.0%			
#4	10	Venous Thromboembolism (VTE) Prophylaxis Initiated Within 48 Hours of Arrival in Trauma Service Admits with ≥ 2 Day Length of Stay (18 Mo's: 1/1/17-6/30/18) ≥ 55% ≥ 50% ≥ 40% < 40%		70	10	10 8 5 0
#5	10	Low Molecular Weight Heparin (LMWH) Venous Thromboembolism (VTE) Prophylaxis Use in Trauma Service Admits (18 Mo's: 1/1/17-6/30/18) ≥ 50% 37-49% 25-36% 20-24% < 20%		23	3	10 7 5 3 0
#6	10	Red Blood Cell to Plasma Ratio (Weighted Mean Points) of Patients Transfused ≥5 Units in 1st 4 Hours (18 Mo's: 1/1/17-6/30/18) 10 pts: Tier 1: ≤ 1.5 10 pts: Tier 2: 1.6-2.0 5 pts: Tier 3: 2.1-2.5 0 pts: Tier 4: > 2.5		3.2	3.8	10 10 5 0
#7	10	Serious Complication Rate-Trauma Service Admits (3 years: 7/1/15-6/30/18) Z-score: < -1 (major improvement) Z-score: -1 to 1 or serious complications low-outlier (average or better rate) Z-score > 1 (rates of serious complications increased)		4.64	5	10 7 5
#8	10	Mortality Rate-Trauma Service Admits (3 years: 7/1/15-6/30/18) Z-score: < -1 (major improvement) Z-score: -1 to 1 or mortality low-outlier (average or better rate) Z-score: > 1 (rates of mortality increased)		-0.39	7	10 7 5
#9	10	Open Fracture Antibiotic Usage (12 Mo's: 7/1/17-6/30/18) ≥ 90% patients (Antibiotic type, date, time recorded) ≥ 80% patients (Antibiotic type, date, time recorded) ≥ 70% patients (Antibiotic type, date, time recorded) < 70% patients (Antibiotic type, date, time recorded)		94	10	10 7 5 0
#10	10	Head CT Scan performed in ED on patient taking anticoagulation medication with head injury (12 Mo's: 7/1/17-6/30/18) ≥ 90% patients (Head CT scan in ED with date and time recorded) ≥ 80% patients (Head CT scan in ED with date and time recorded) ≥ 70% patients (Head CT scan in ED with date and time recorded) < 70% patients (Head CT scan in ED with date and time recorded)		100	10	10 7 5 0
Total Points					71.8	100

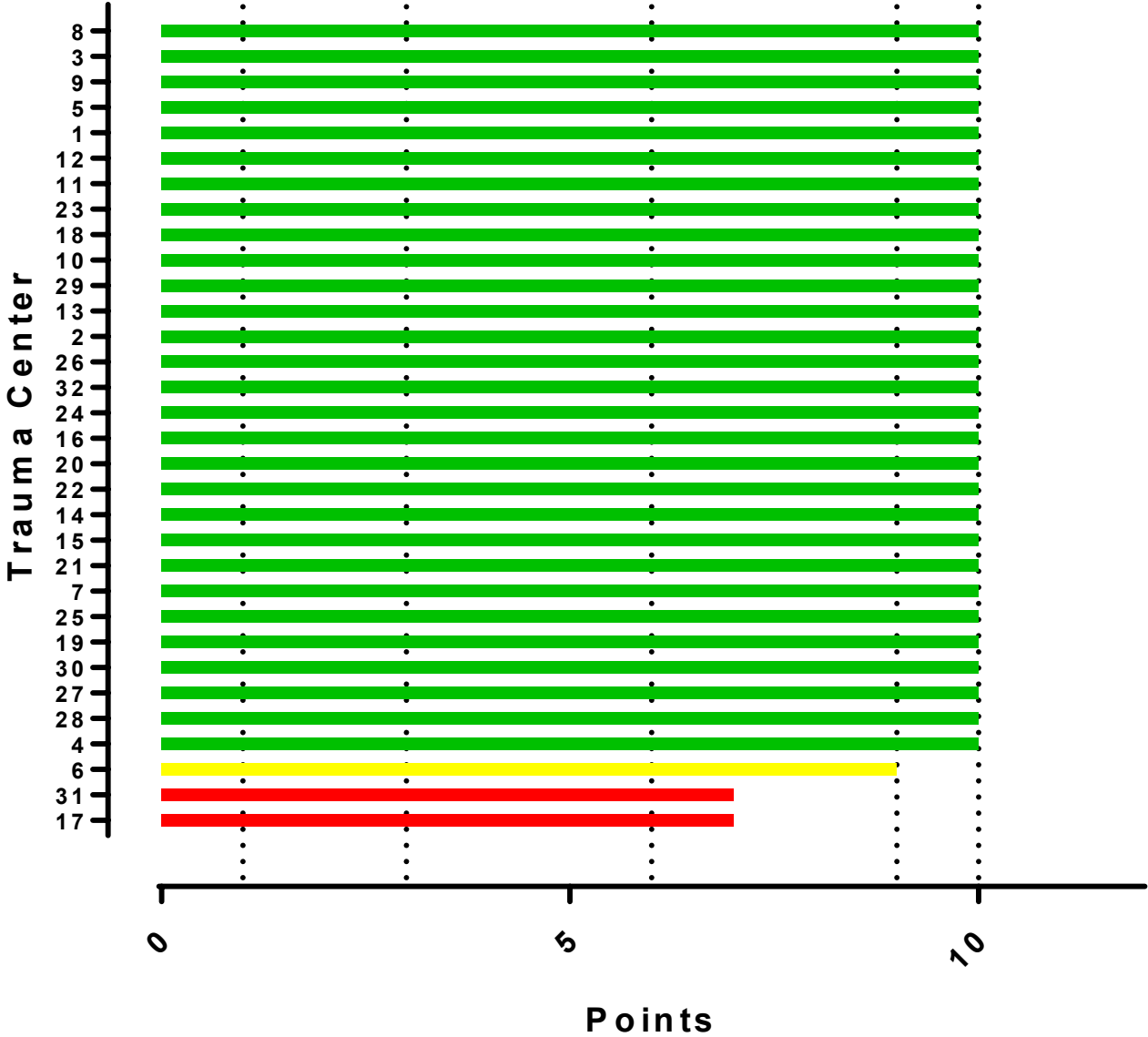
PARTICIPATION (30%)

PERFORMANCE (70%)

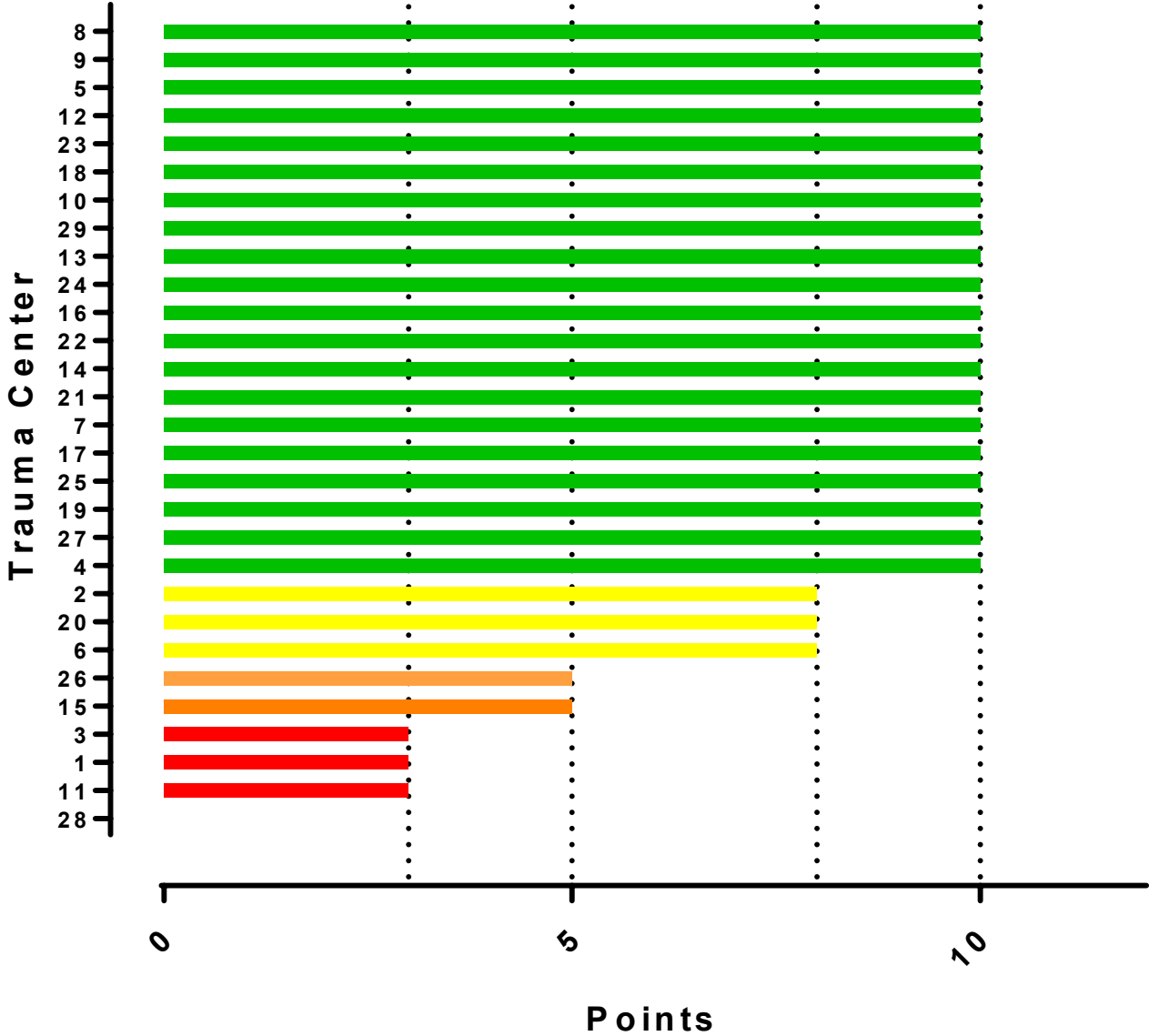
## Data Submission



Meeting Participation



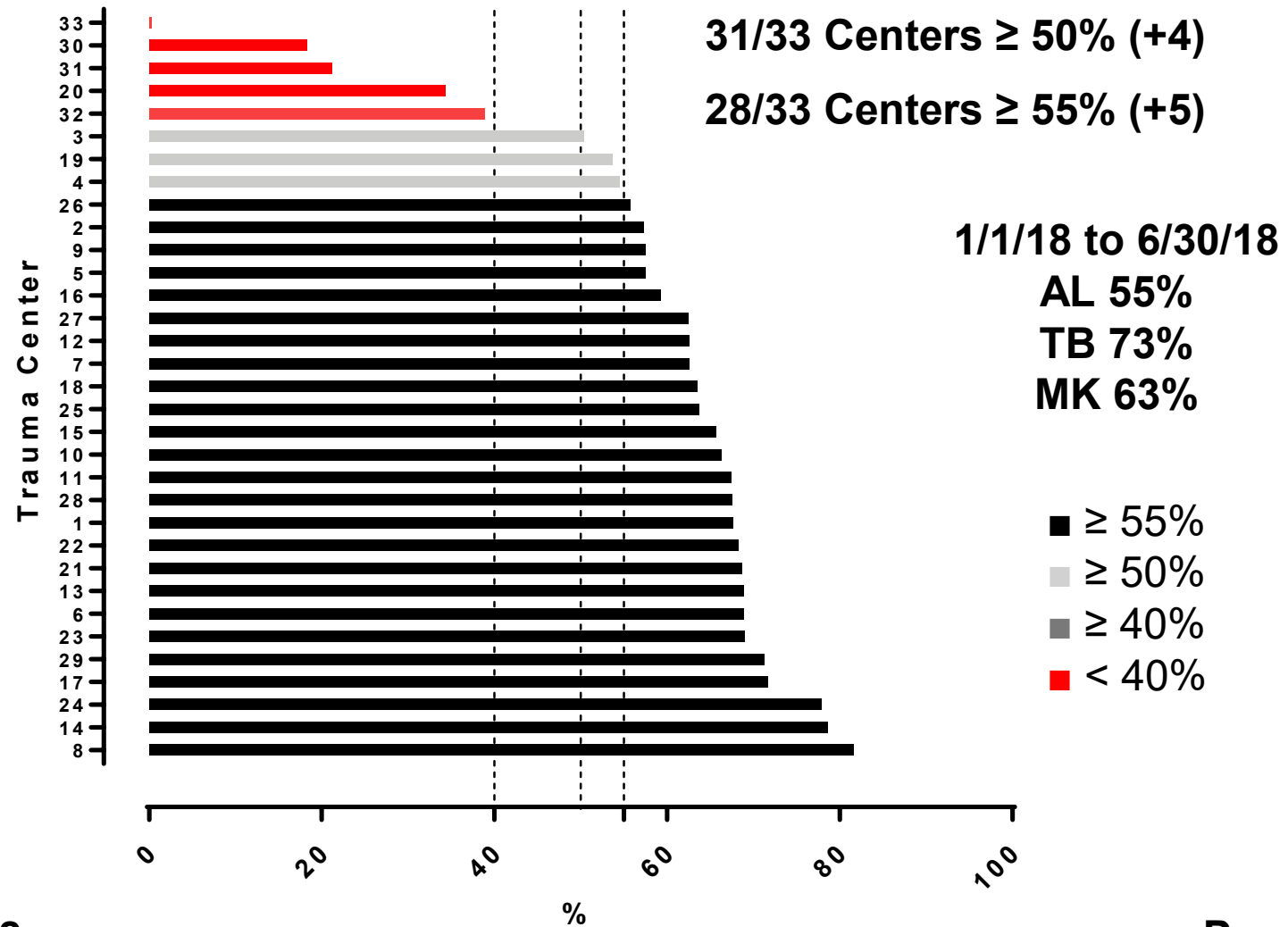
Accuracy of Data



## **#4 VTE Prophylaxis Initiated $\leq$ 48 hrs**

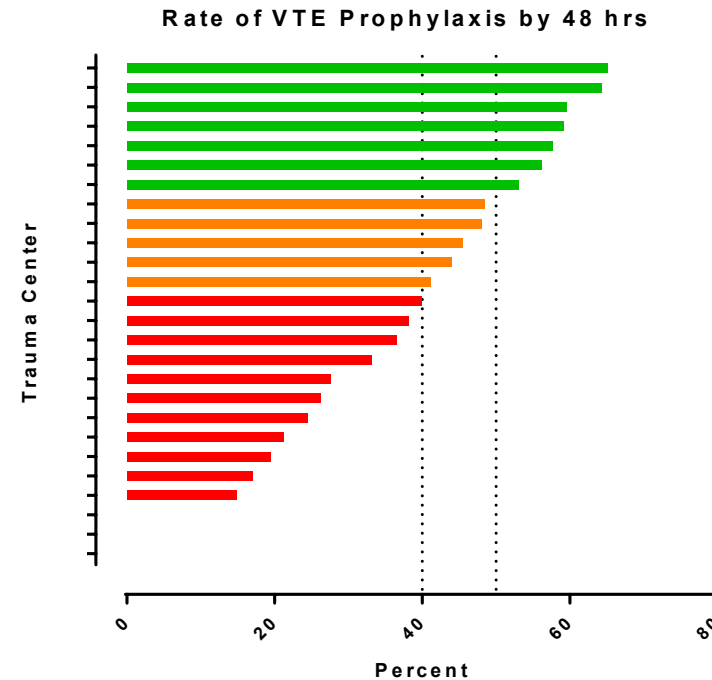
- ◆ Venous Thromboembolism (VTE) Prophylaxis Initiated Within 48 Hours of Arrival in Trauma Service Admits with  $> 2$  Day Length of Stay (18 Mo's: 1/1/17-6/30/18)

VTE Prophylaxis Timing ≤ 48 hrs  
Cohort 2 - Admit to Trauma  
1/1/17 - 6/30/18

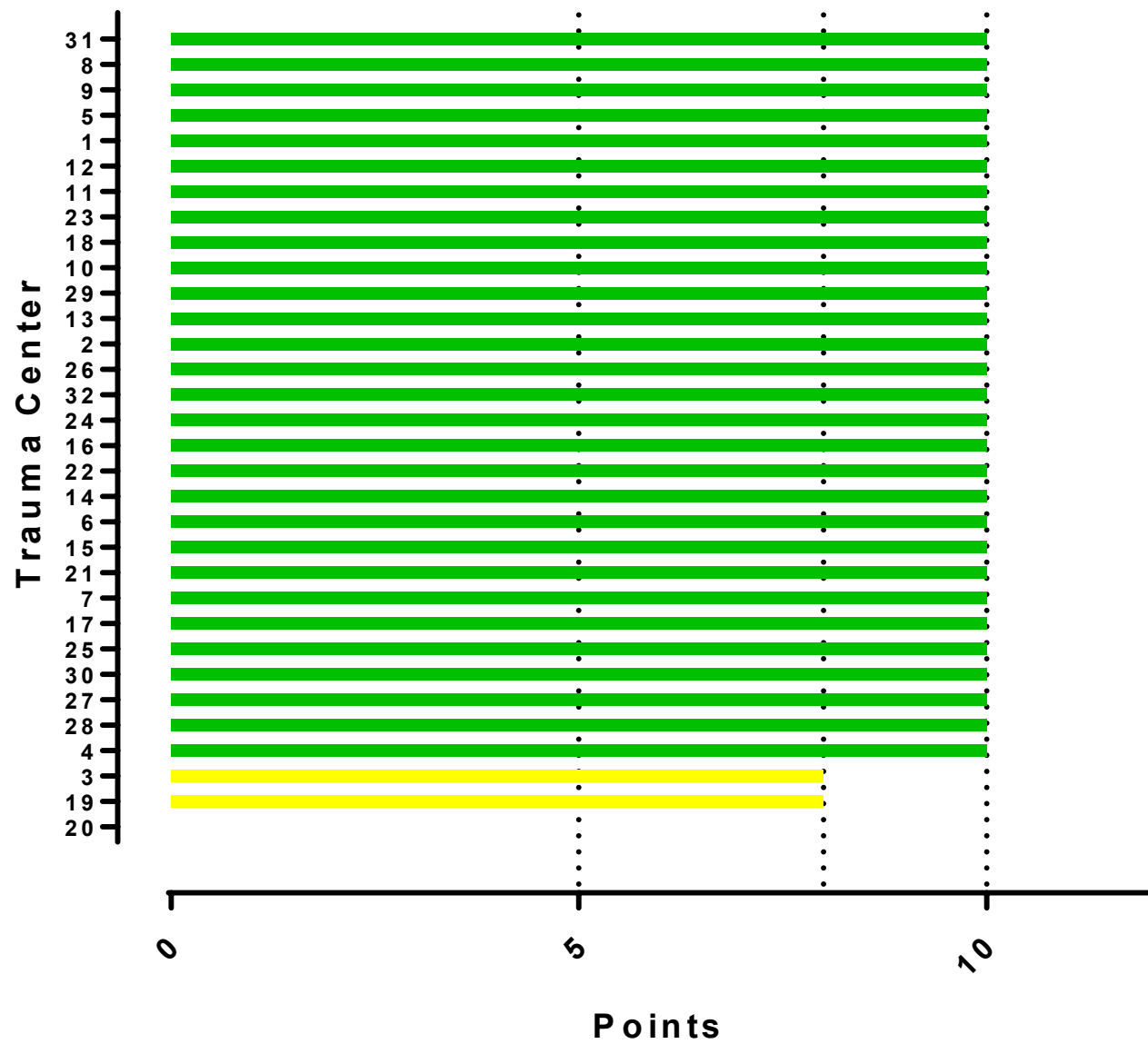


## #4 VTE Prophylaxis Initiated $\leq$ 48 hrs

- ◆ Hospital Target  $\geq$  55% = 10 points
- ◆ CQI Target 75% of hospitals  $\geq$  55%
  - 25/33 hospitals
  - May 2014: 7 > 50%
  - Jan 2015: 31 > 50%



## Timely VTE Prophylaxis

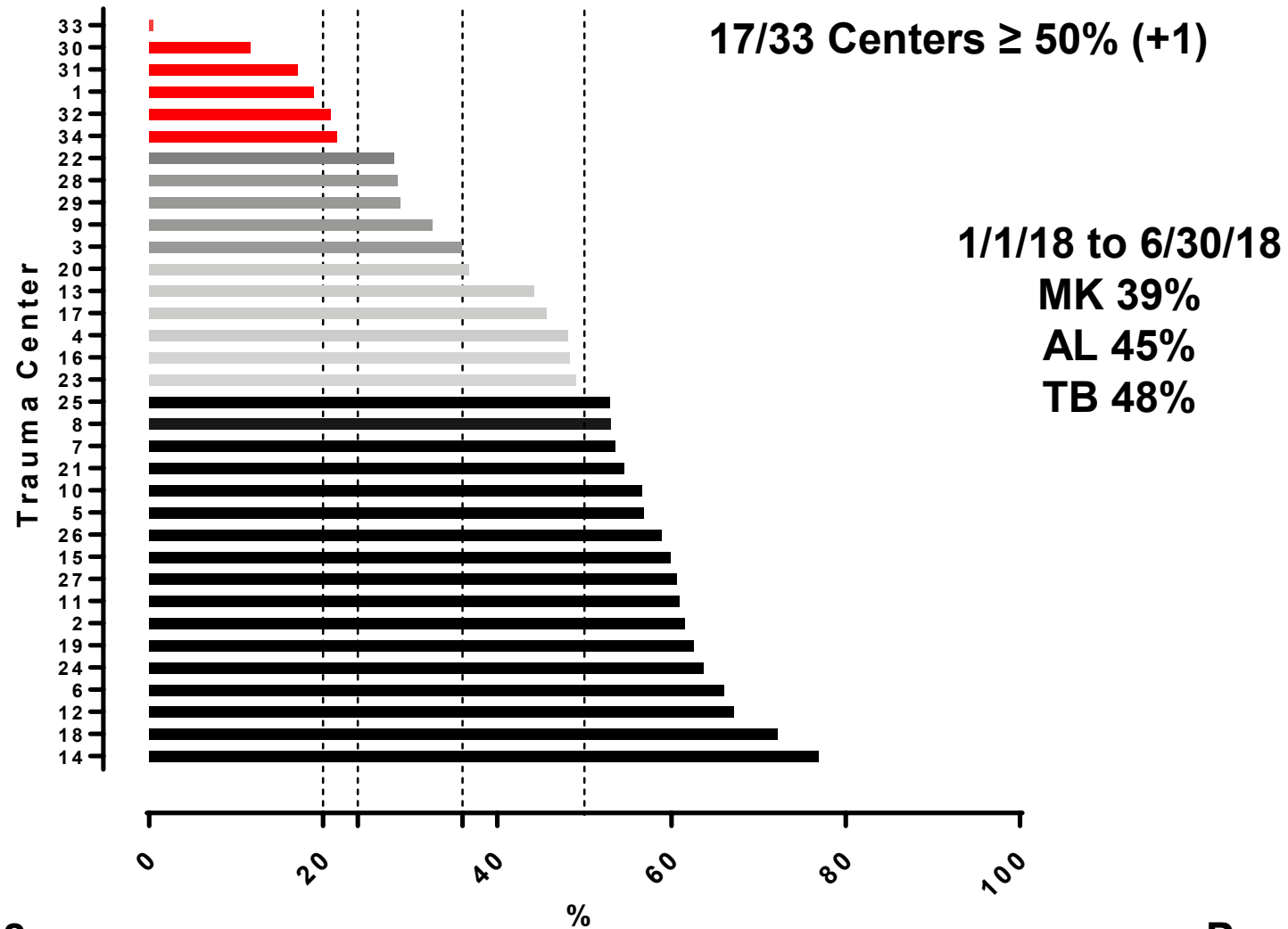




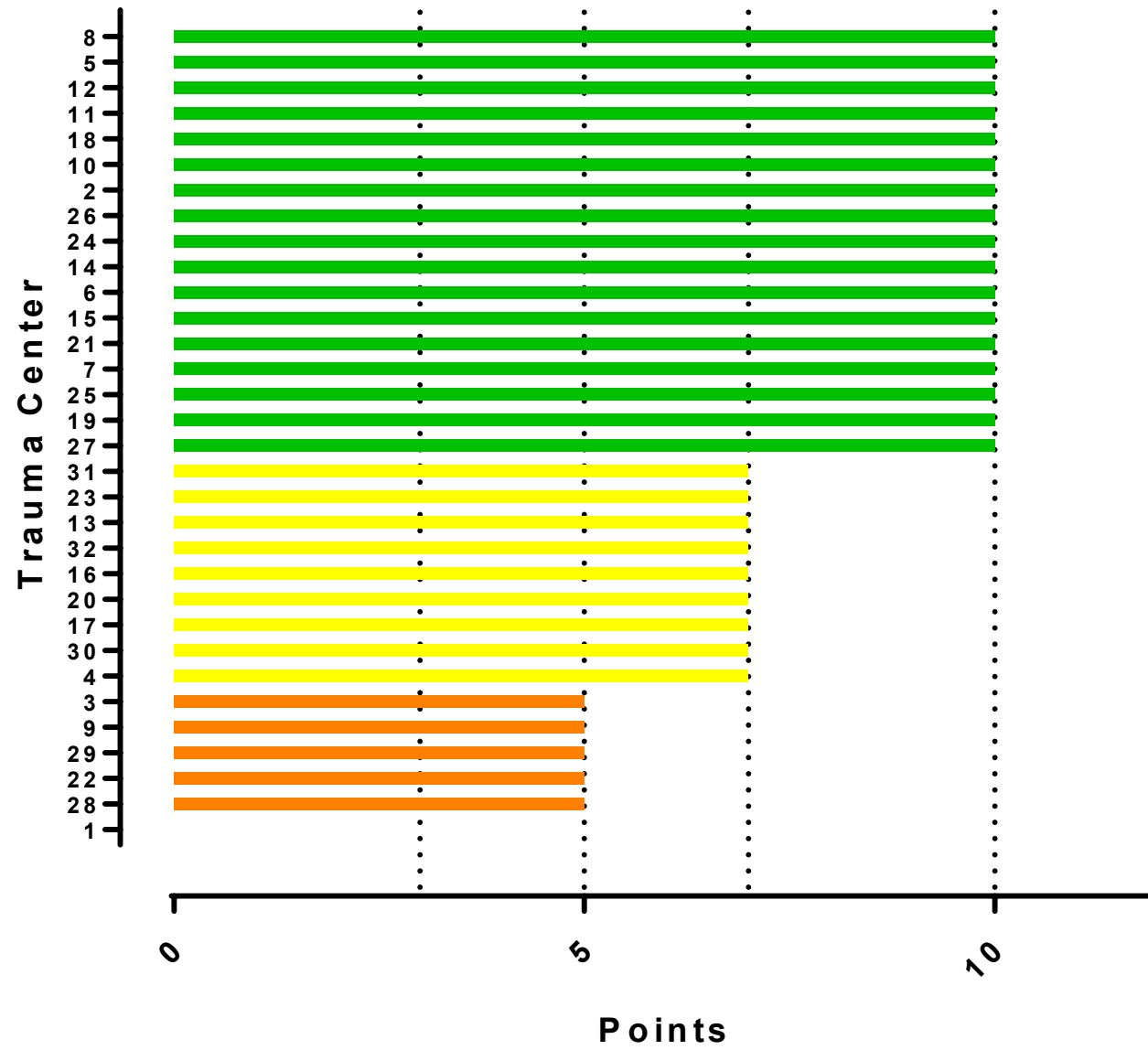
## **#5 VTE Prophylaxis with LMWH**

- ◆ Low Molecular Weight Heparin (LMWH)  
Venous Thromboembolism (VTE) Prophylaxis  
Use in Trauma Service Admits (18 Mo's:  
1/1/17-6/30/18)

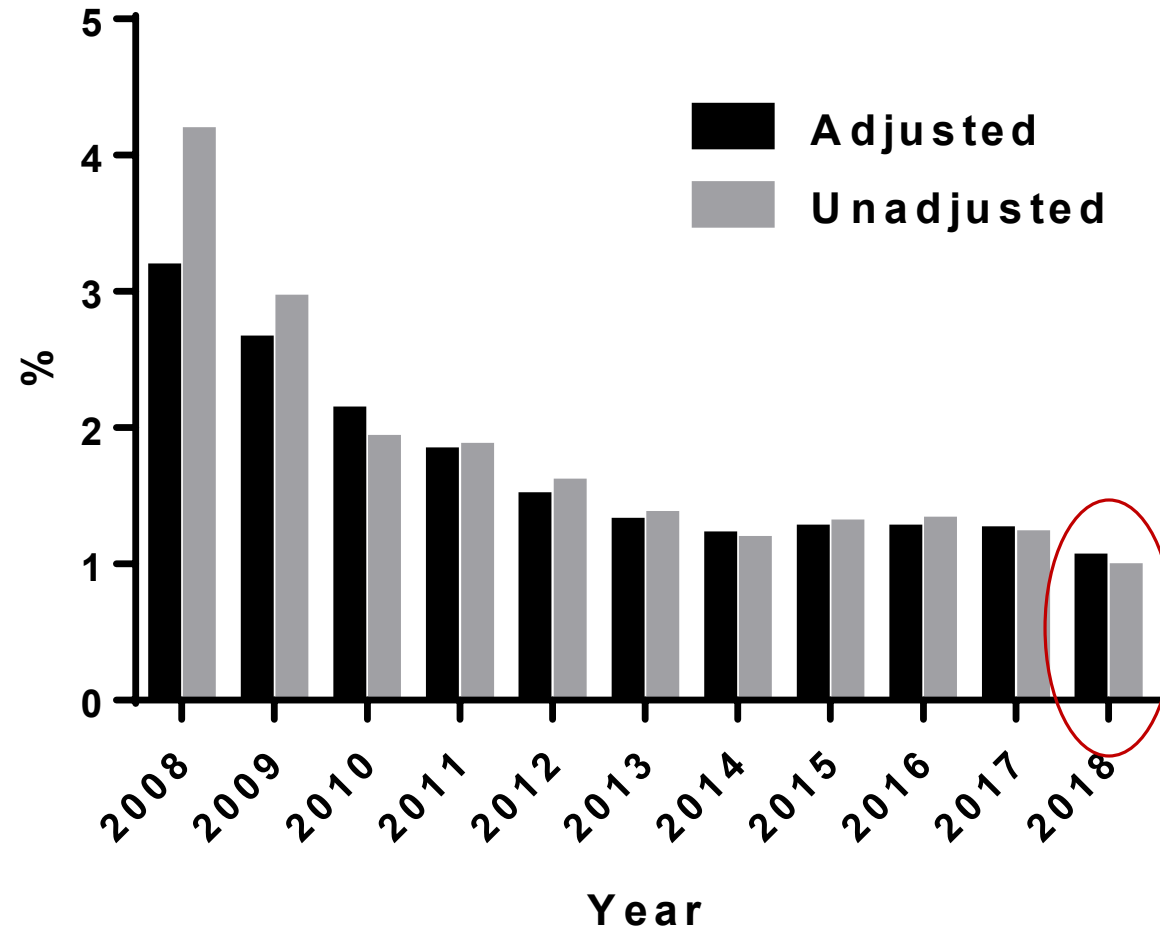
VTE Prophylaxis Type - LMWH  
Cohort 2 - Admit to Trauma  
1/1/17 - 6/30/18



# LMWH



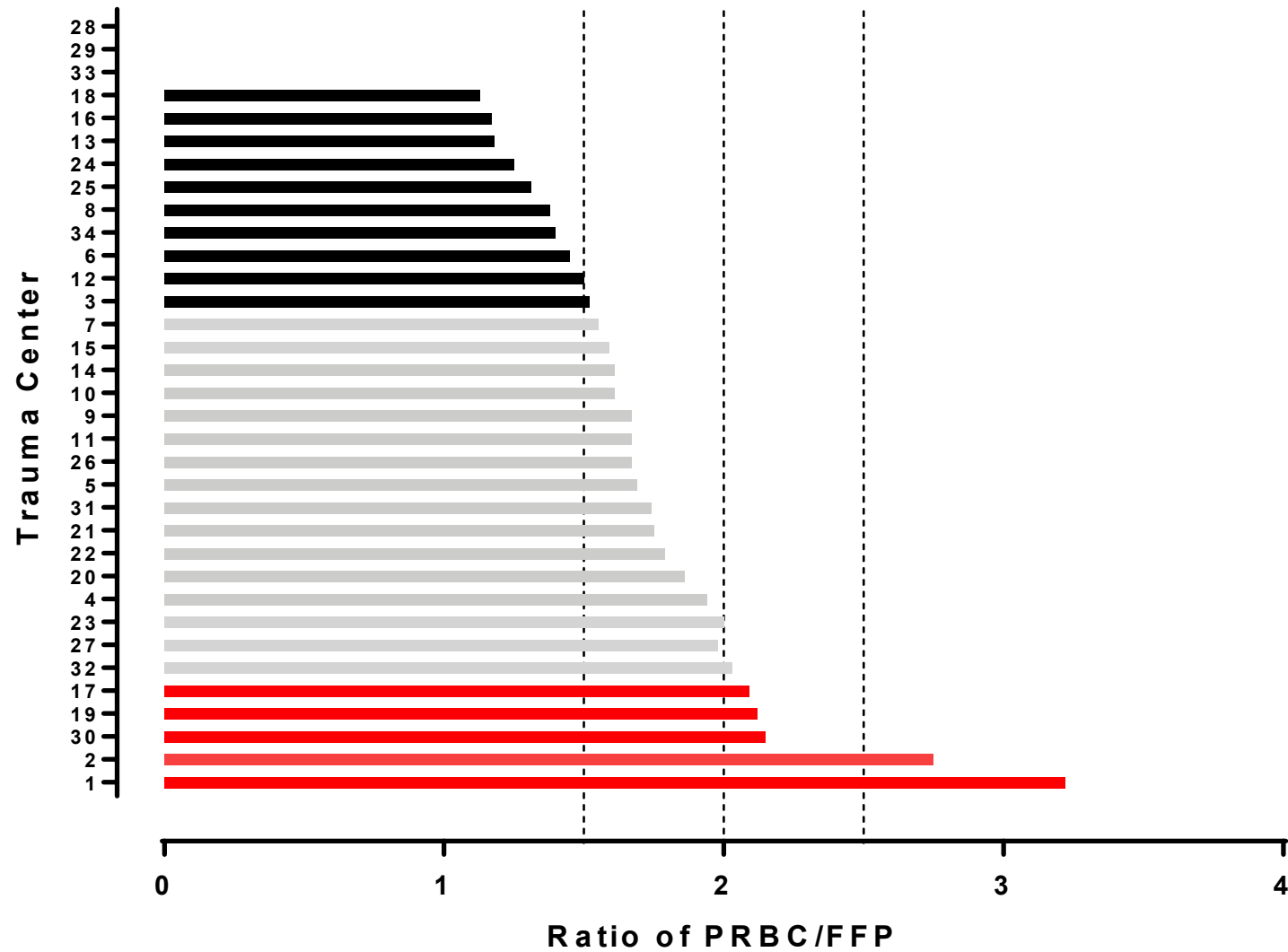
## VTE Event



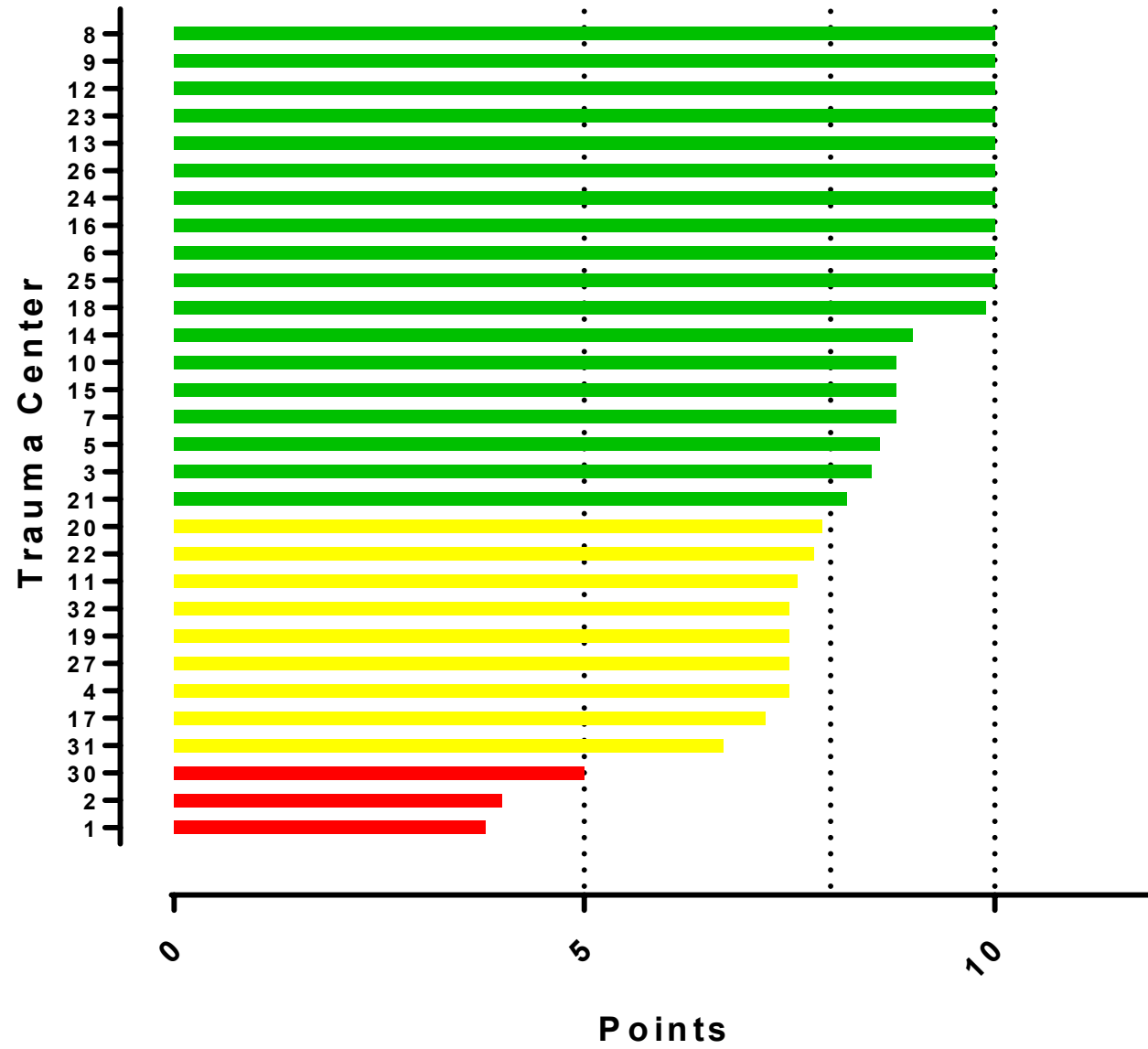
## #6 Red Blood Cell to Plasma Ratio

- ◆ Red blood cell to plasma ratio (weighted mean points) of patients transfused  $\geq 5$  units in first 4 hours (18 Mo's: 1/1/17-6/30/18)

**Blood Product Ratio in first 4 hrs if  $\geq 5$  uPRBCs**  
**Cohort 1 - MTQIP All**  
**1/1/17 - 6/30/18**



## PRBC to Plasma Ratio



## **#7 Serious Complications**

- ◆ Serious Complication Rate-Trauma Service Admits (3 years: 7/1/15-6/30/18)

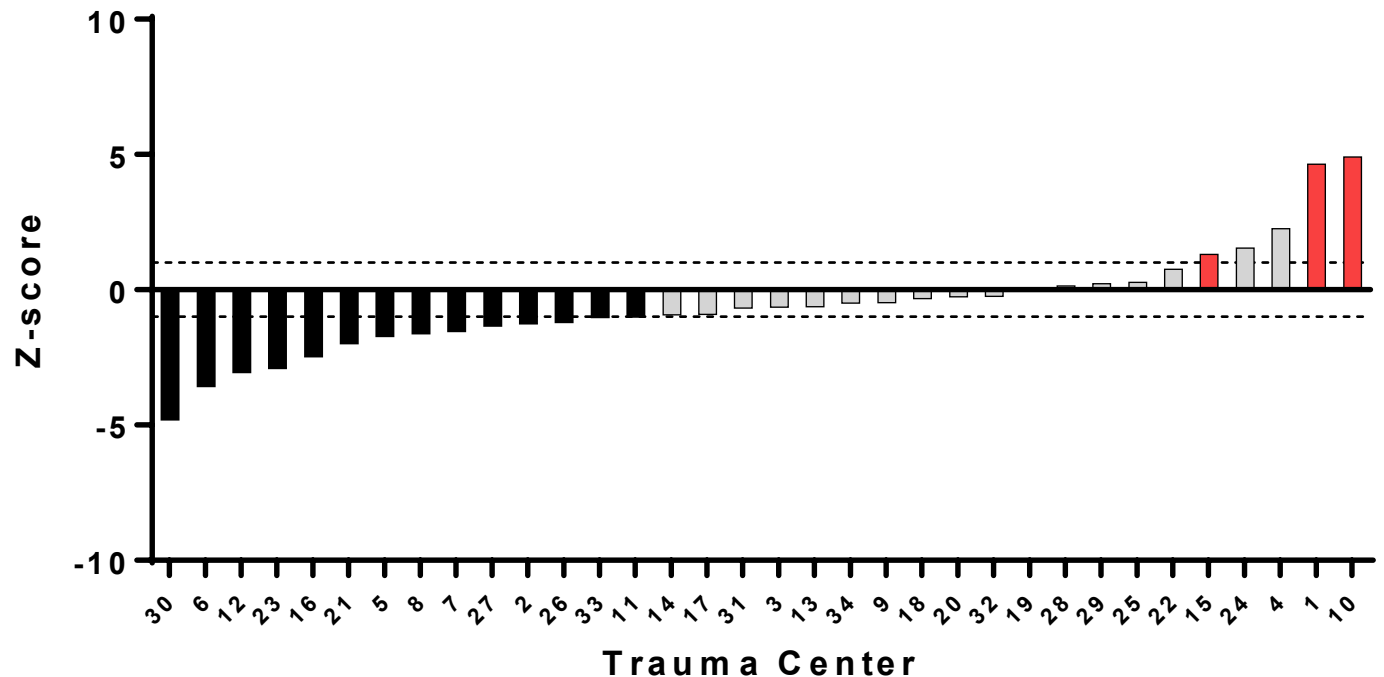


## Z-score

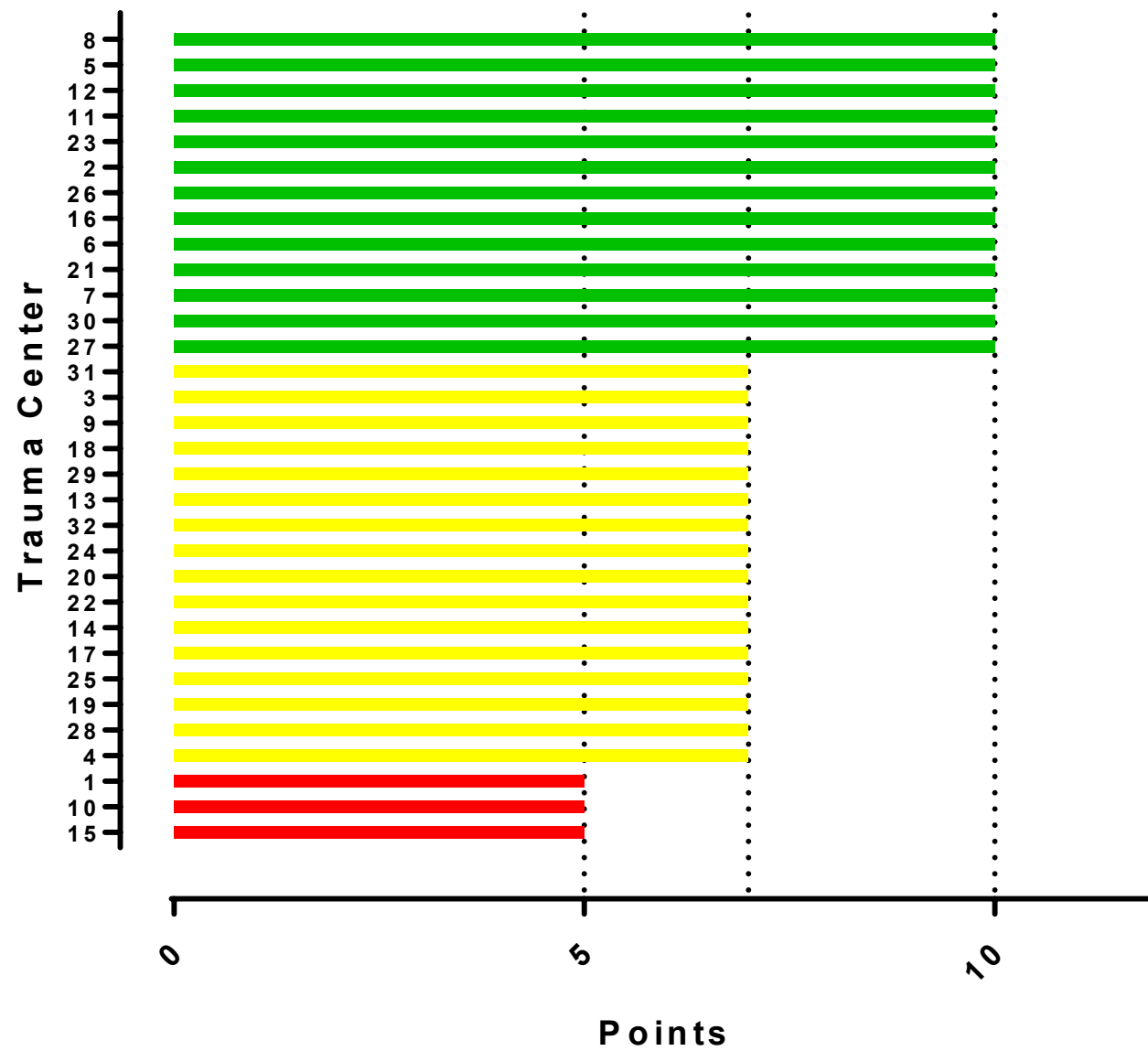
- ◆ Measure of trend in outcome over time
- ◆ Hospital specific
  - Compared to yourself
- ◆ Standard deviation
- ◆  $> 1$  getting worse
- ◆ 1 to -1 flat
- ◆  $< -1$  getting better

# #7 Serious Complication Rate (Z-score)

Z-score - Serious Complication Rate  
Cohort 2 - Admit to Trauma  
7/1/15 - 6/30/18



## Complication Rate: Z-score

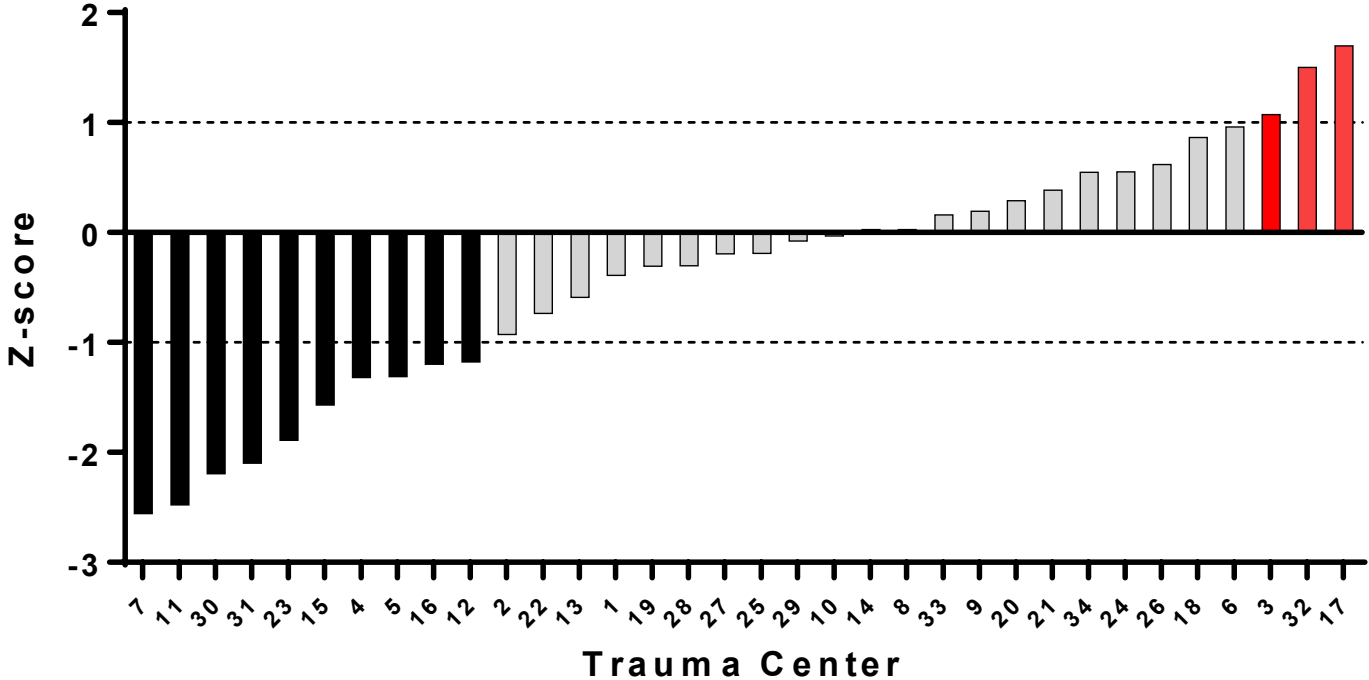


## #8 Mortality

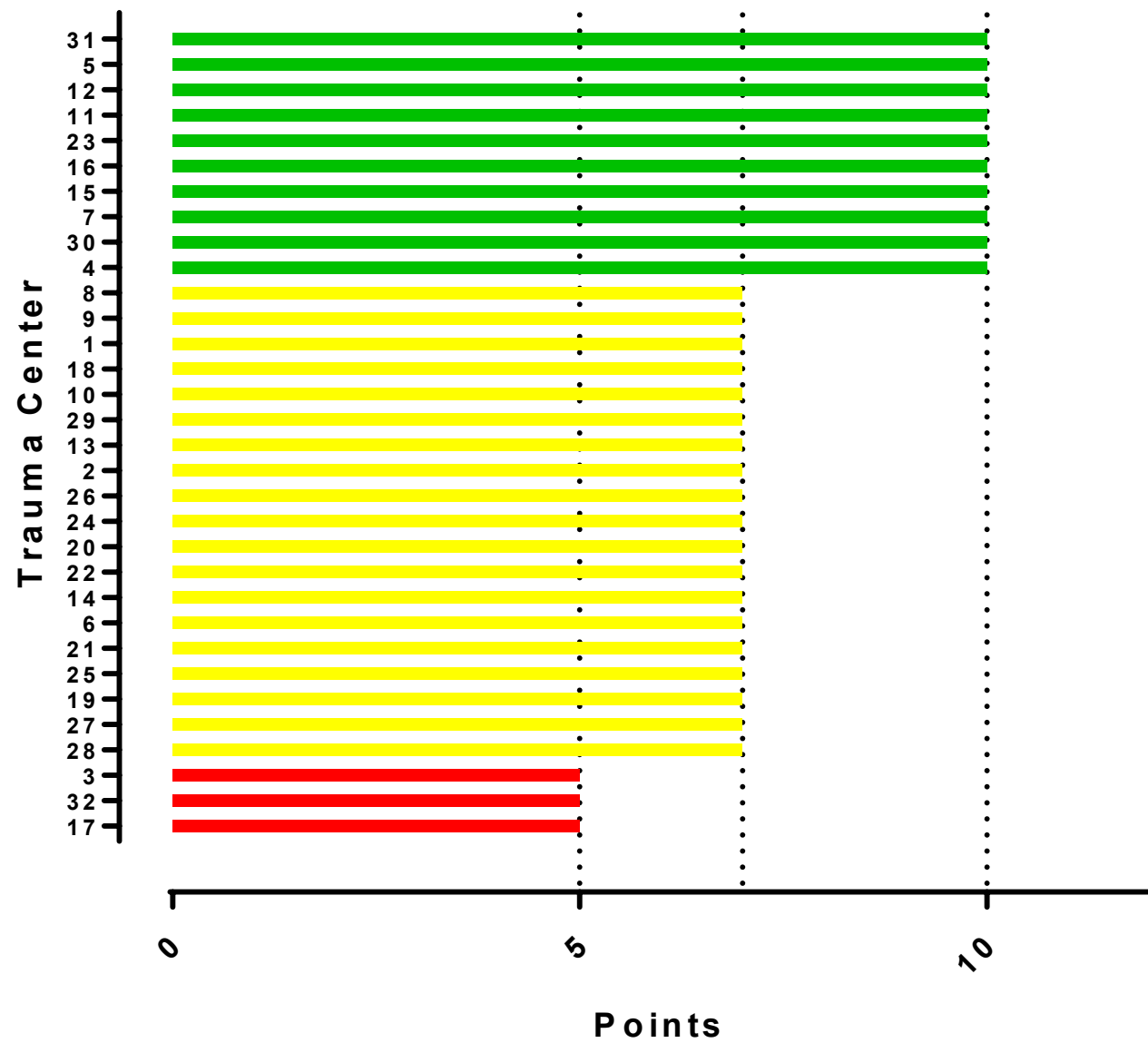
- ◆ Mortality Rate-Trauma Service Admits (3 years: 7/1/15-6/30/18)

# #8 Mortality Rate (Z-score)

Z-score - Mortality Rate  
Cohort 2 - Admit to Trauma  
7/1/15 - 6/30/18



## Mortality Rate: Z-Score



## #9 Open Fracture Antibiotic Usage

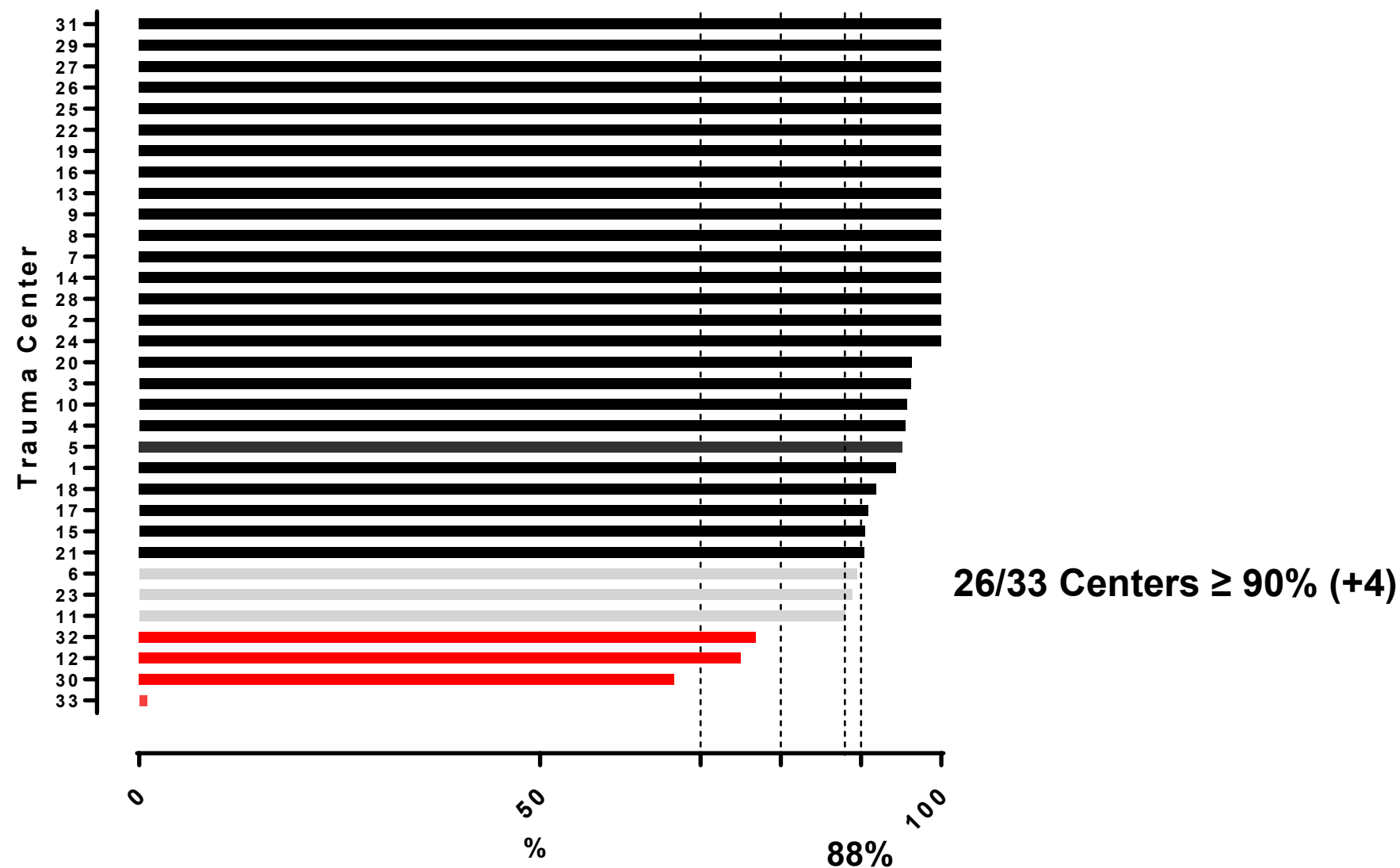
- ◆ Type of antibiotic administered along with date and time for open fracture of femur or tibia
- ◆ Presence of acute open femur or tibia fracture based on AIS or ICD10 codes (See list)
- ◆ Cohort = Cohort 1 (All)
- ◆ Exclude direct admissions and transfer in
- ◆ No Signs of Life = Exclude DOAs
- ◆ Transfers Out = Include Transfers Out
- ◆ Time Period = 7/1/17 to 6/30/18

## #9 Open Fracture Antibiotic Usage

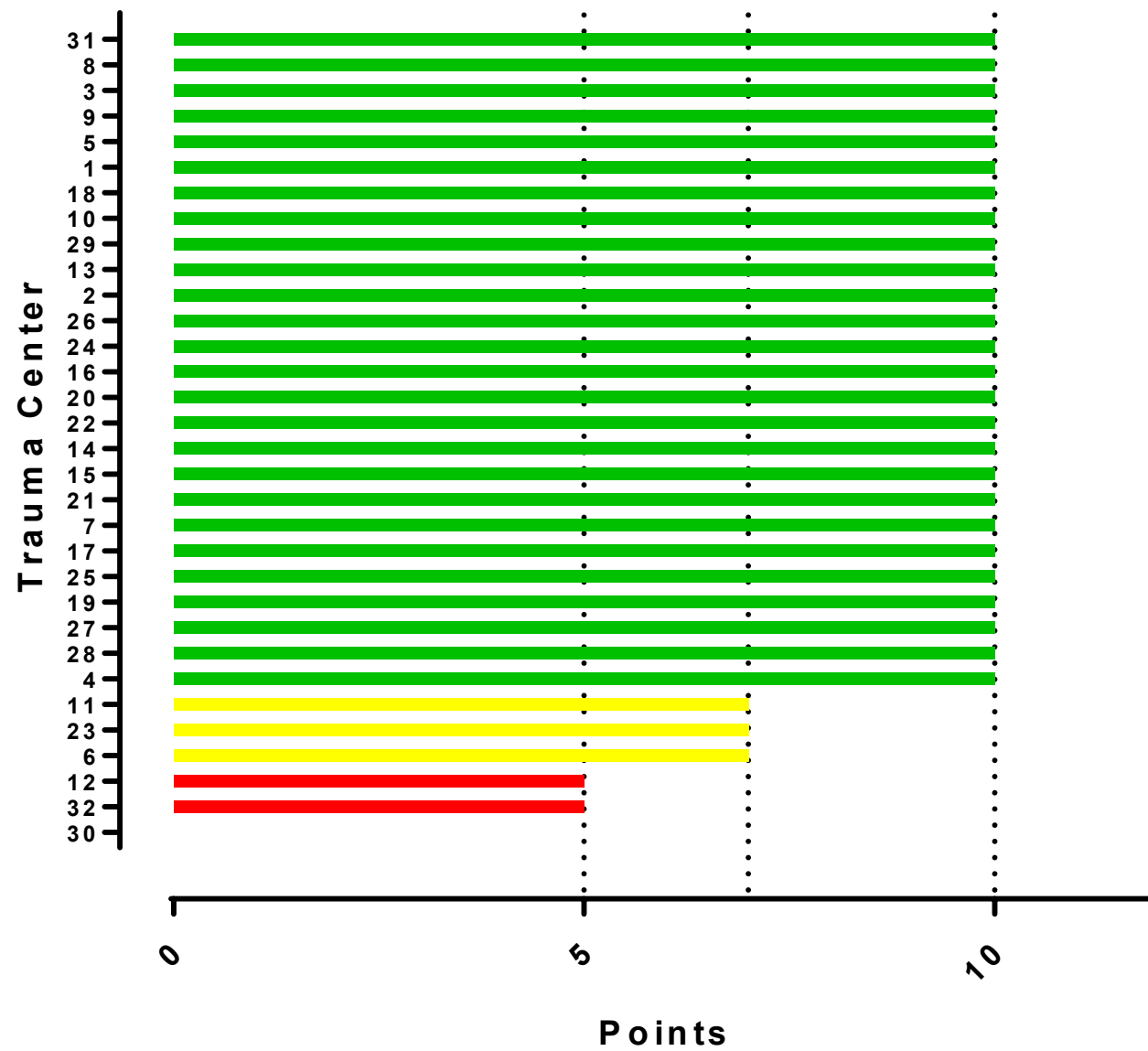
- ◆ Measure = % of patients with antibiotic type, date, time recorded
- ◆ ACS-COT Orange Book – VRC resources
  - Administration within 60 minutes
    - ◆ ACS OTA Ortho Update
    - ◆ ACS TQIP Best Practices Orthopedics



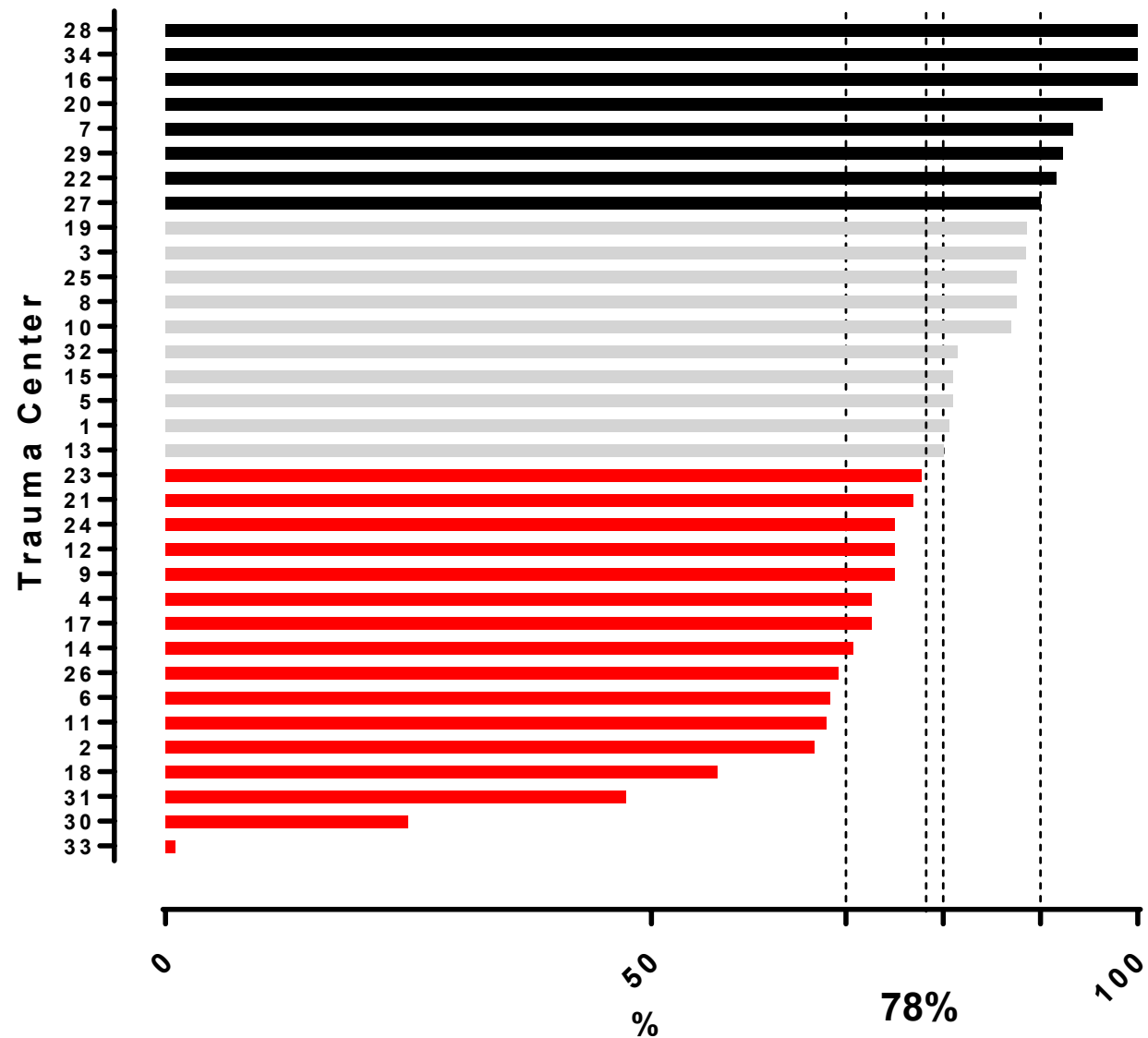
Open Fracture - Abx Type, Date, Time  
Cohort 1 - MTQIP All  
7/1/17 - 6/30/18



## Open Fracture Antibiotic



Open Fracture - Time to Abx  $\leq$  120 min  
Cohort 1 - MTQIP All  
7/1/17 - 6/30/18



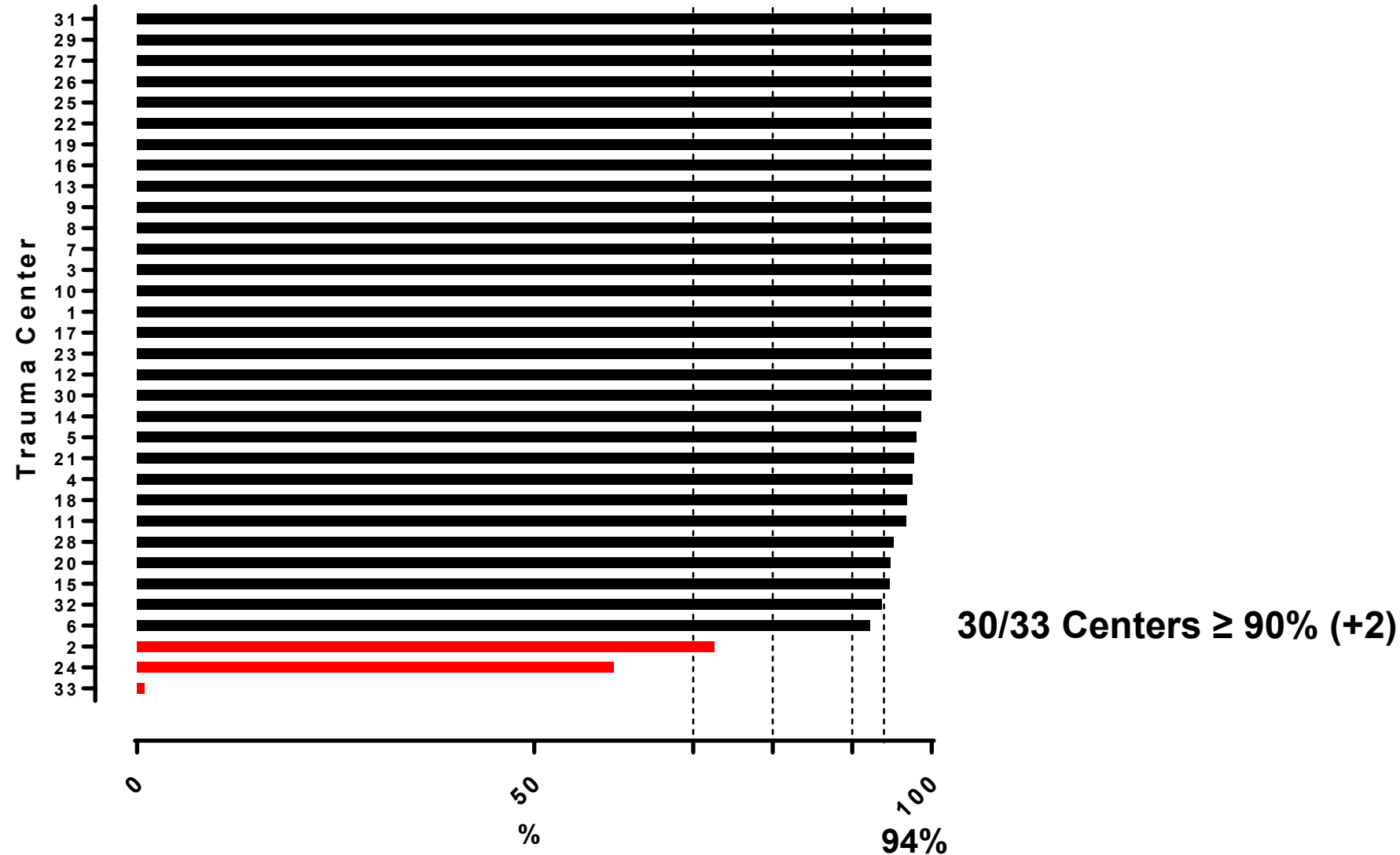
## **#10 Head CT Scan in ED on patient taking anticoagulation medication with TBI**

- ◆ Head CT date and time from procedures
- ◆ Presence of prehospital anticoagulation or anti-platelet use
- ◆ TBI (AIS Head, excluding NFS, scalp, neck, hypoxia)
- ◆ Cohort1, Blunt mechanism
- ◆ Exclude direct admissions and transfer in
- ◆ No Signs of Life = Exclude DOAs
- ◆ Transfers Out = Include Transfers Out
- ◆ Time Period = 7/1/17 to 6/30/18

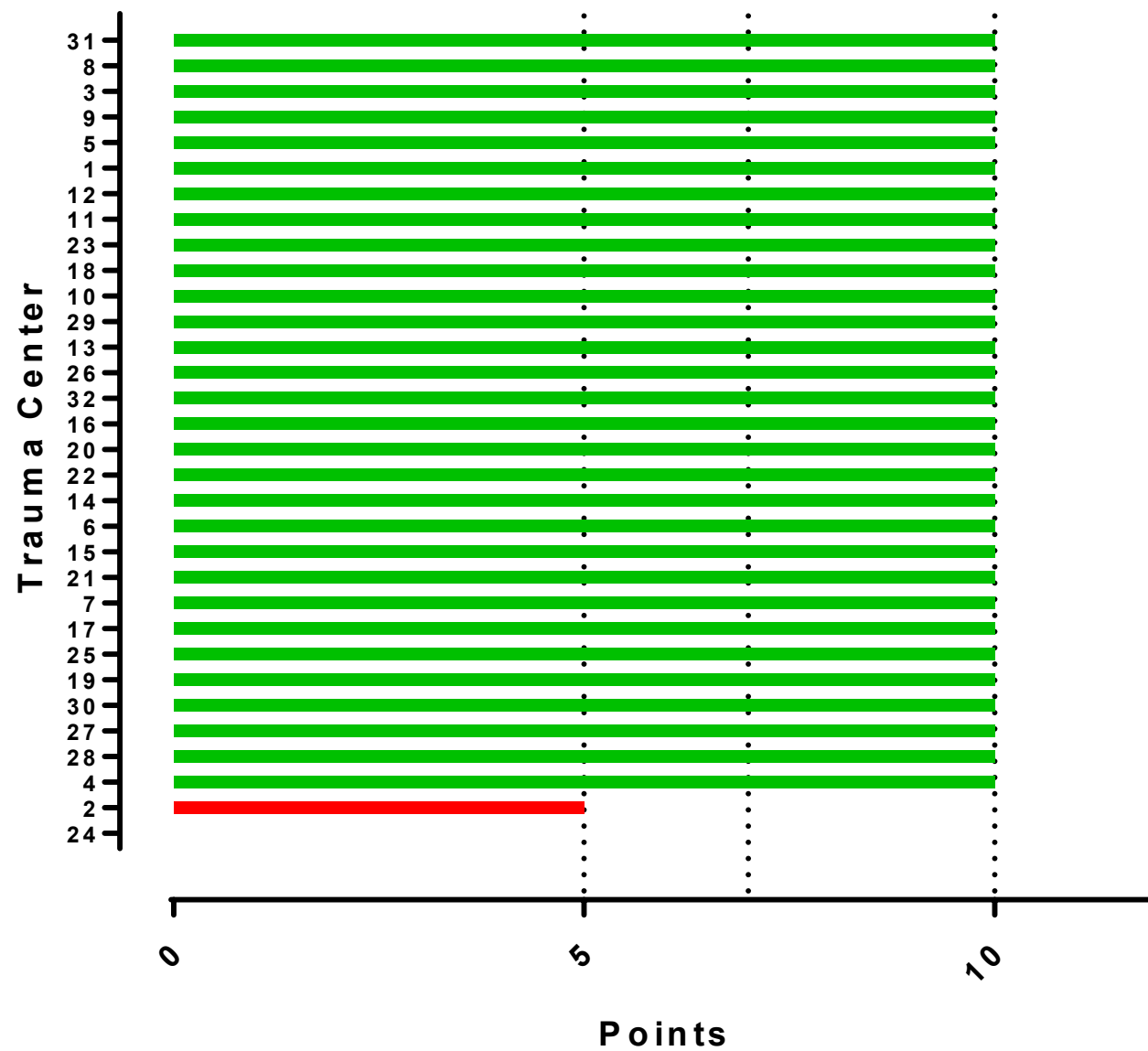
## #10 Head CT

- ◆ Measure = % of patients with Head CT, date, and time
- ◆ Timing
- ◆ Treatment
  - 2018 Data

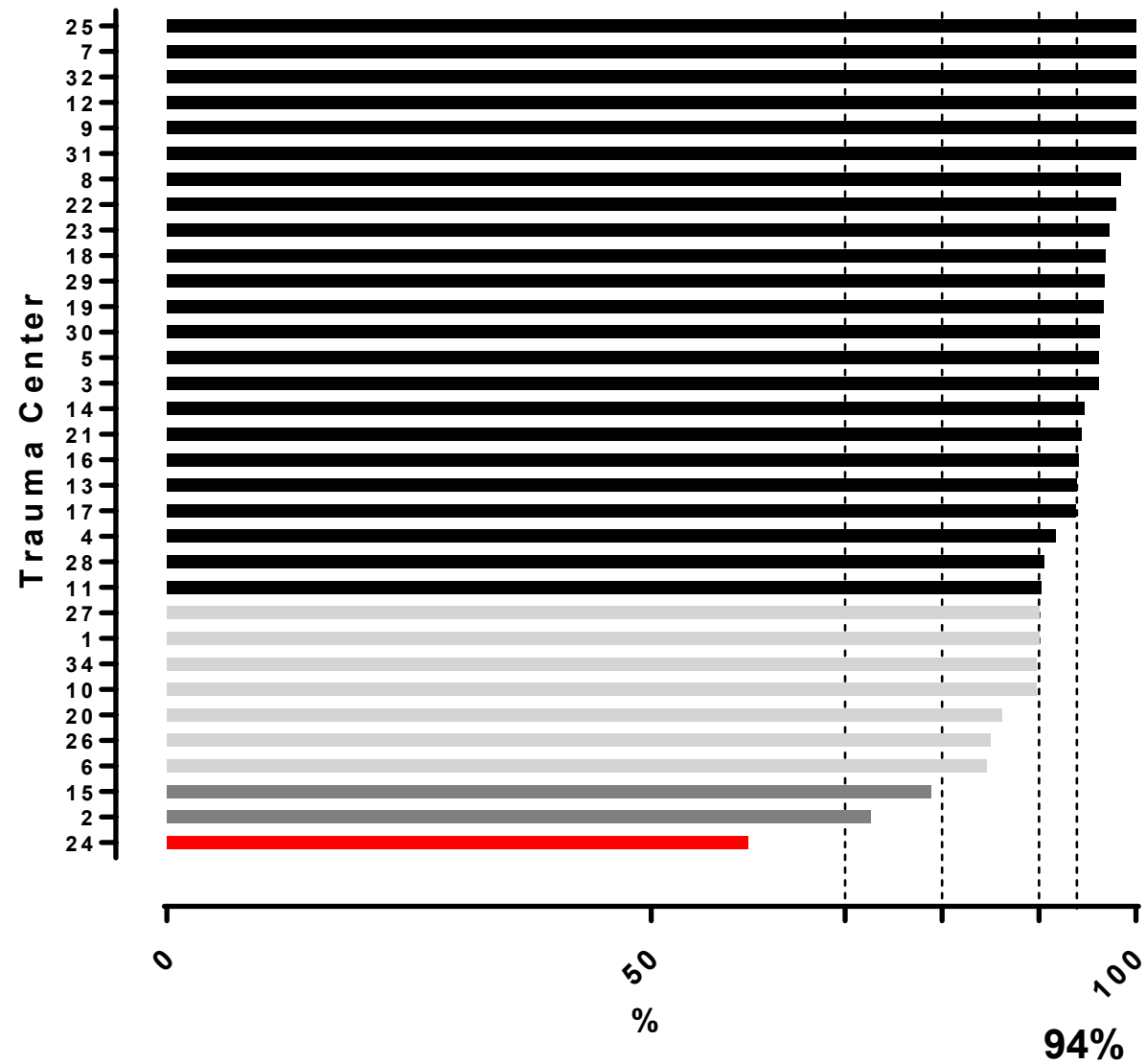
Head Injury and Anticoagulation - Head CT Date/Time  
Cohort 1 - MTQIP All  
7/1/17 - 6/30/18



## Head CT Time with Anticoagulant

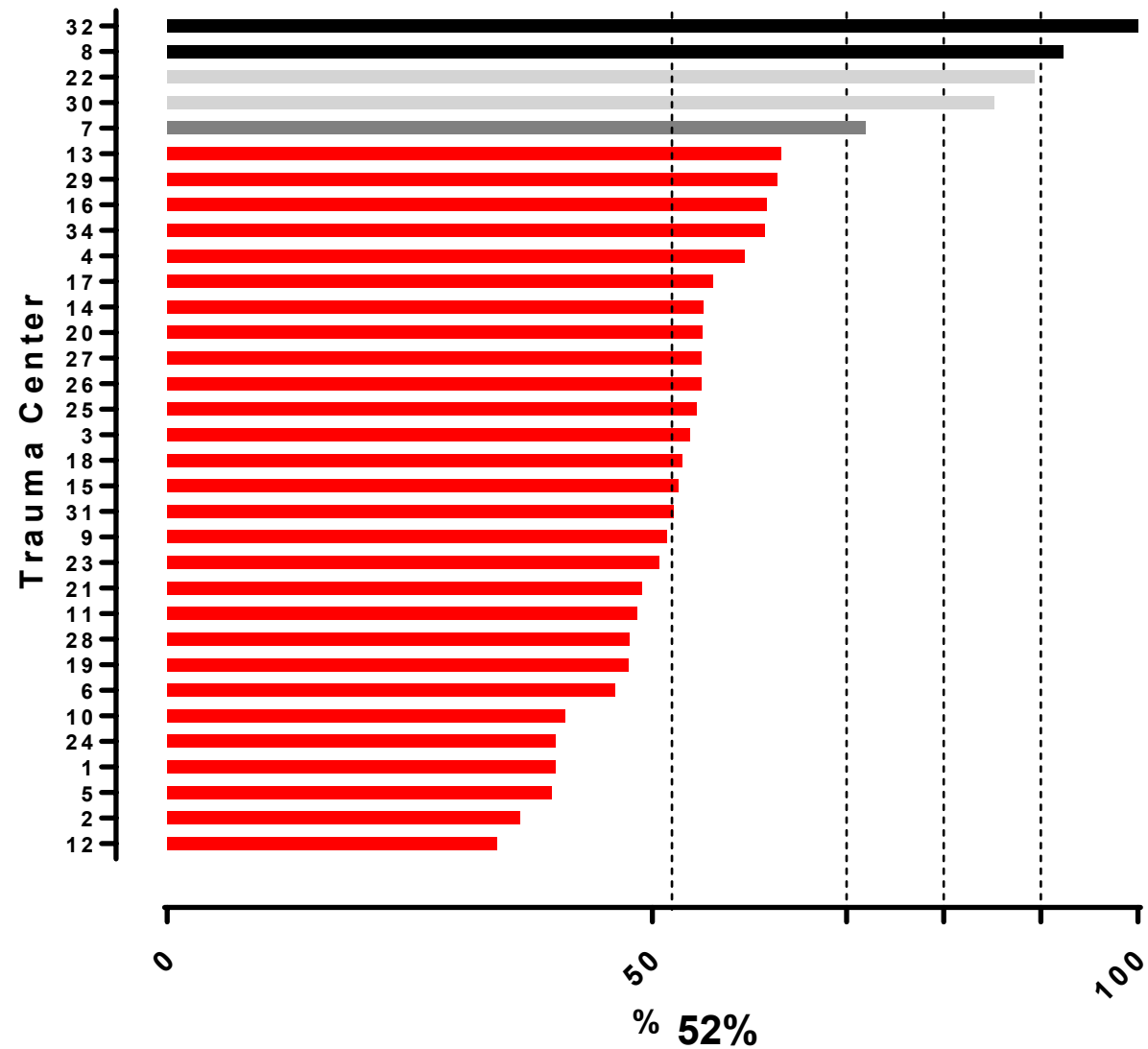


Head Injury and Anticoagulation - Head CT < 4 hrs  
Cohort 1 - MTQIP All  
7/1/17 - 6/30/18

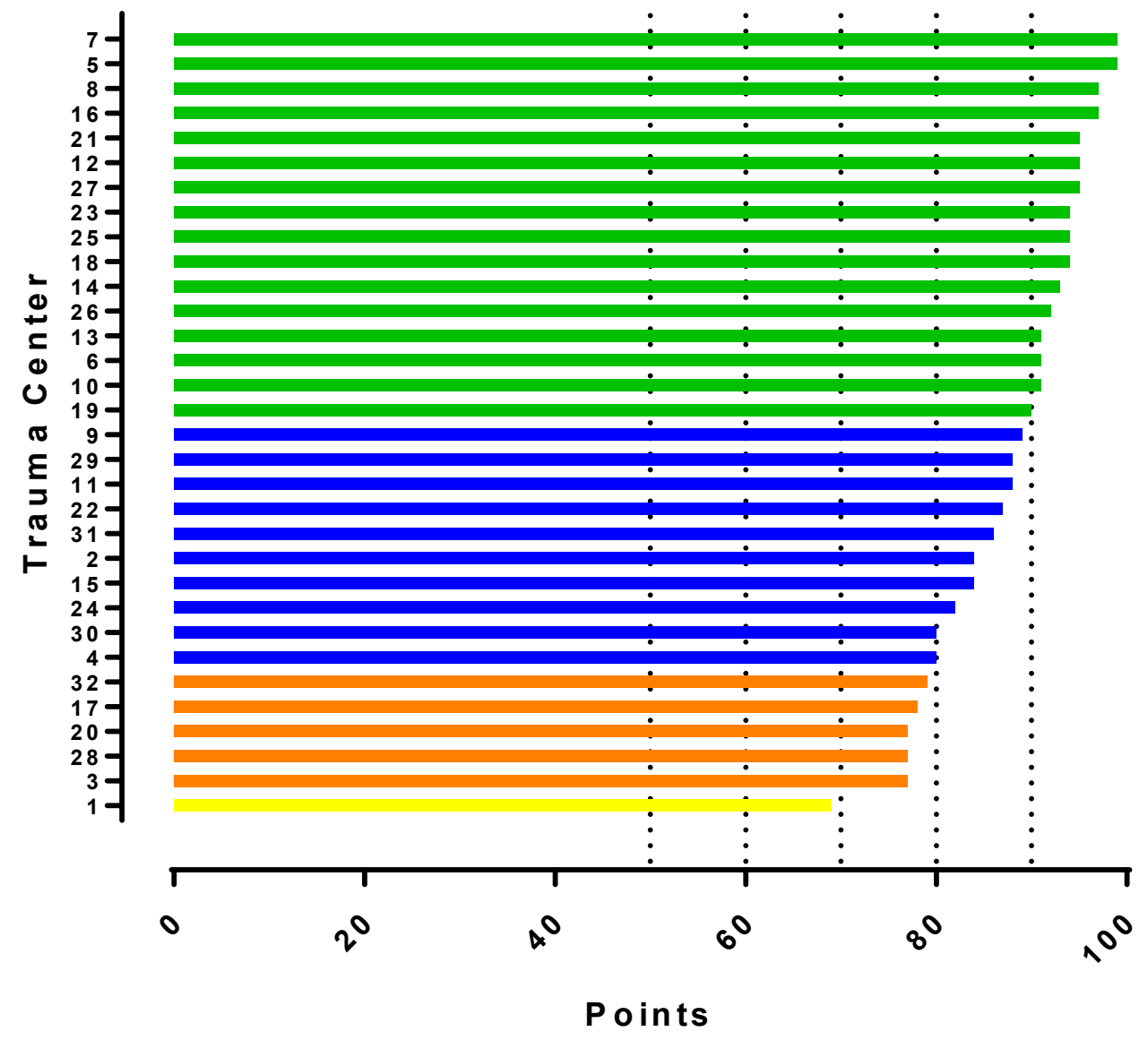




Head Injury and Anticoagulation - Head CT < 1 hr  
Cohort 1 - MTQIP All  
7/1/17 - 6/30/18



2018 CQI Score



87.9%  
99 – 69%

# **2018 Value Based Reimbursement Results**



# Value Based Reimbursement

- ◆ Physician Organization > PGIP (Physician Group Incentive Plan)
- ◆ Surgeon = VBR
  - 3 Measures
    - ◆ VTE Timing  $\geq$  55%
    - ◆ VTE Type  $\geq$  50% (LMWH)
    - ◆ PRBC to Plasma ratio > 7.0 points
  - Scoring as a group practice
  - Need to qualify with at least 2 of 3 measure met
  - End result: Surgeon VBR in 2019

# Value Based Reimbursement

- ◆ 25/32 Surgeon Groups (Hospital)
- ◆ 187/250 Surgeons qualified
- ◆ 63 Surgeons did not
- ◆ 3% increase in BCBSM payments for specialty in 2019
  - Operation
  - E&M
  - General Surgery

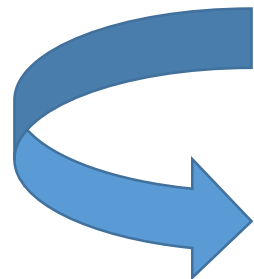
# **2019 Hospital Scoring Index and VBR**

**Judy Mikhail, PhD RN**



# 2019 Performance Index Changes

## **#9 Open fracture antibiotics**

- 
- 2018 Documentation (type, date, time recorded)
  - 2019 Timeliness (within 120 mins)

**Michigan Trauma Quality Improvement Program (MTQIP)**  
**2019 Performance Index January 1, 2019 to December 31, 2019**

Measure	Weight	Measure Description		Points	
#1	10	<b>Data Submission (Partial/Incomplete Submissions No Points)</b>			<b>PARTICIPATION (30%)</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 All Disciplines *Surgeon represents 1 hospital only</b>		0-10	
		Surgeon and (TPM and/or MCR) participate in 3 of 3 Collaborative meetings (9 pt)			
		Surgeon and (TPM and/or MCR) participate in 2 of 3 Collaborative meetings (6 pt)			
		Surgeon and (TPM and/or MCR) participate in 1 of 3 Collaborative meetings (3 pt)			
		Surgeon and (TPM and/or MCR) participate in 0 of 3 Collaborative meetings (0 pt)			
		Registrar and/or MCR participate in the Annual June Data Abstractor meeting (1 pt)			
#3	10	<b>Data Accuracy</b>		<b>Error Rate</b>	
		5 Star Validation		0-4.0%	
		4 Star Validation		4.1-5.0%	
		3 Star Validation		5.1-6.0%	
		2 Star Validation		6.1-7.0%	
		1 Star Validation		> 7.0%	

Any center not selected for audit gets full 10 pts

Any center not  
selected for audit  
gets full 10 pts



#4	10	<b>Venous Thromboembolism (VTE) Prophylaxis Timeliness (<math>\leq</math> 48 Hr of Arrival) in Trauma Service Admits with &gt; 2 Day Length of Stay (18 mo: 1/1/18-6/30/19)</b> $\geq$ 55% $\geq$ 50% $\geq$ 40% < 40%	10 8 5 0	PERFORMANCE (70%)
#5	10	<b>Low Molecular Weight Heparin (LMWH) Venous Thromboembolism (VTE) Prophylaxis Use in Trauma Service Admits (18 mo: 1/1/18-6/30/19)</b> $\geq$ 50% 37-49% 25-36% 20-24% < 20%	10 7 5 3 0	
#6	10	<b>Red Blood Cell to Plasma Ratio (Weighted Mean Points) of Patients Transfused <math>\geq</math> 5 Units in 1st 4 Hr (18 mo: 1/1/18-6/30/19) (See calculation info on page 2)</b>	0-10	
#7	10	<b>Serious Complication Rate-Trauma Service Admits (3 yr: 7/1/16-6/30/19)</b> Z-score: < -1 (major improvement) Z-score: -1 to 1 or serious complications low-outlier (average or better rate) Z-score: > 1 (rates of serious complications increased)	10 7 5	
#8	10	<b>Mortality Rate-Trauma Service Admits (3 yr: 7/1/16-6/30/19)</b> Z-score: < -1 (major improvement) Z-score: -1 to 1 or mortality low-outlier (average or better rate) Z-score: > 1 (rates of mortality increased)	10 7 5	
#9	10	<b>Open Fracture-Antibiotic Timeliness from ED Arrival (12 mo: 7/1/18-6/30/19)</b> $\geq$ 90% patients (Antibiotic type, date, time recorded, and administered $\leq$ 120 min) $\geq$ 80% patients (Antibiotic type, date, time recorded, and administered $\leq$ 120 min) $\geq$ 70% patients (Antibiotic type, date, time recorded, and administered $\leq$ 120 min) < 70% patients (Antibiotic type, date, time recorded, and administered $\leq$ 120 min)	10 7 5 0	
#10	10	<b>ED Head CT Scan Performed in Traumatic Brain Injury (TBI) Patients On Anticoagulation (12 mo: 7/1/18-6/30/19)</b> $\geq$ 90% patients (Head CT scan in ED with date and time recorded) $\geq$ 80% patients (Head CT scan in ED with date and time recorded) $\geq$ 70% patients (Head CT scan in ED with date and time recorded) < 70% patients (Head CT scan in ED with date and time recorded)	10 7 5 0	
Total (Max Points) =			100	

# Value Based Reimbursement (VBR)

## MTQIP Opportunity for 2020

*Aligning Incentives*

Trauma  
Center



Surgeon

# 2020 VBR

- 2020 Measurement period: 1/1/19 to 12/31/19
- Eligible: General Surgeons enrolled in PGIP and nominated by PO
- MTQIP Trauma Surgeon NPI numbers
- We estimate ~ 80% MTQIP surgeons currently eligible
- Surgeon restricted to 1 Trauma Center only
- Surgeon reimbursed for 1 CQI only (if in multiple)
- Surgeon scored by trauma center results
- Must meet 2 of 3 measures
- Reward: 3% increase over standard fee schedule (trauma & EGS)

# 2020 VBR Measures (Repeat from 2019)

1. Increase LMWH VTE prophylaxis use in trauma service admits.
2. Increase VTE prophylaxis timeliness (<48 hrs) in trauma >2 day LOS
3. MTP RBC:Plasma Ratio (weighted mean pts) >5 u in first 4 hr

Future 2020 Measures

# Proposed 2020 Performance Index Changes

Collapse #4 and #5 VTE measures together

Weight	Measure	Points
10	LMWH VTE Prophylaxis Timeliness (<48 hrs of arrival) in Trauma Service Admits with >2 day LOS (18 mo)	
	>55%	10
	>50%	8
	>40%	5
	<40%	0

# Proposed 2020 Performance Index Changes

- Change #9 Open Fracture Antibiotic Timeliness from 120 min to 60 min

#9	10	<b>Open Fracture-Antibiotic Timeliness from ED Arrival (12 mo data):</b> ≥ 90% patients (Antibiotic type, date, time recorded, and administered < 60 min) ≥ 80% patients (Antibiotic type, date, time recorded, and administered ≤ 60 min) ≥ 70% patients (Antibiotic type, date, time recorded, and administered ≥ 60 min) < 70% patients (Antibiotic type, date, time recorded, and administered ≥ 60 min)	10 7 5 0
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# New Measures Discussion

- Suggestions?



# **Sharing of CQI Data Project (ASPIRE) MTQIP Research Update**

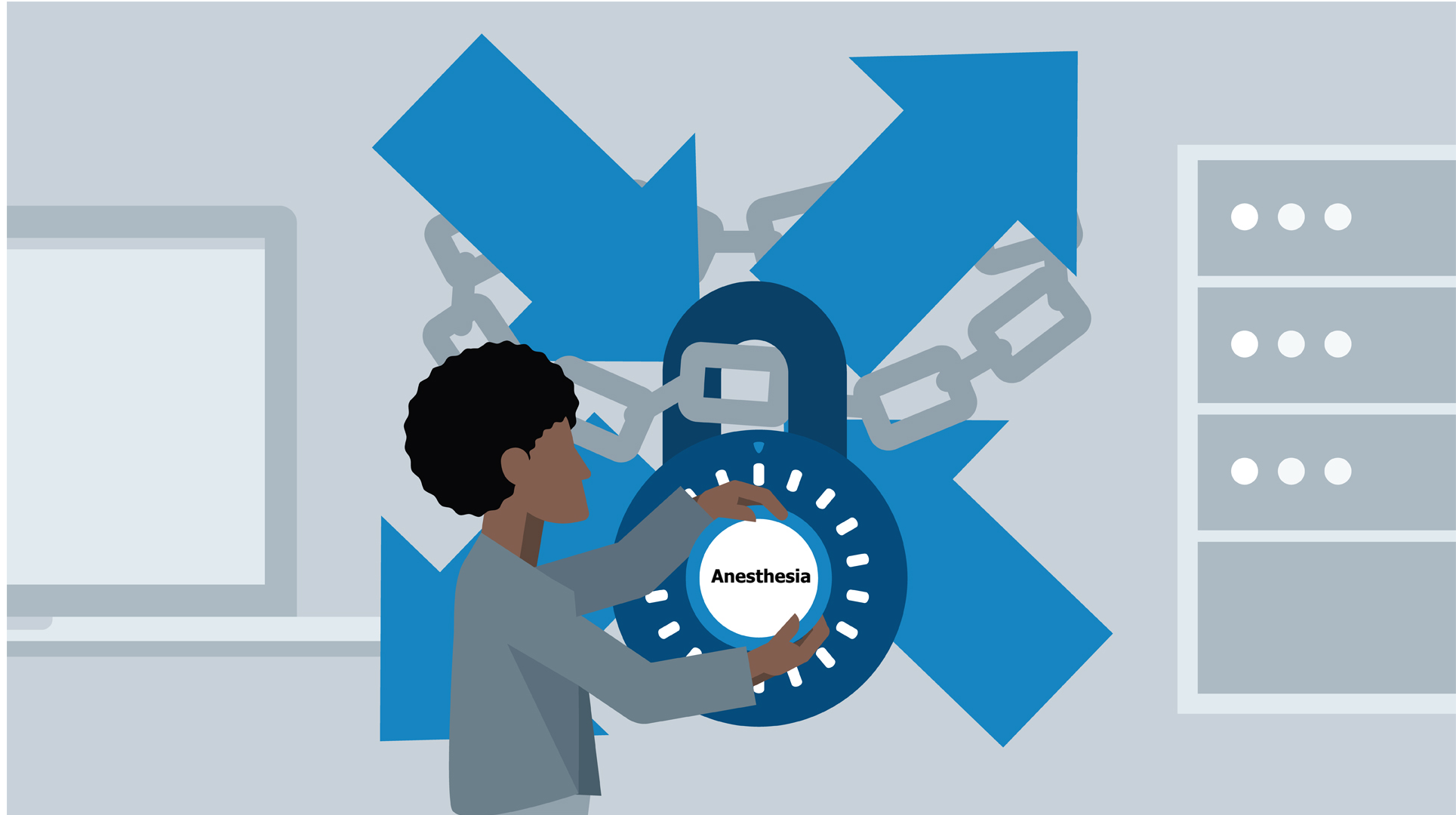
**Jill Jakubus, PA-C**



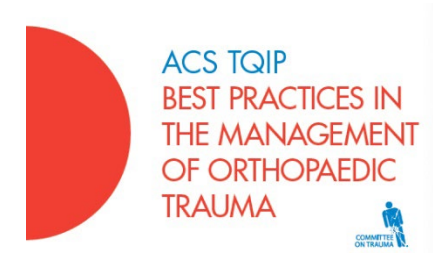
# Greater Returns, Less Burden



# Capture Missing Variables



# Guidelines – ACS Geriatric Hip Fractures



- Peri-operative regional anesthesia reduces pain and **might reduce delirium and cardiac events** in the postoperative period (pg. 21).

Peri-Operative Anesthetic

# AAOS Recommendations Geriatric Hip Fractures



## PREOPERATIVE REGIONAL ANALGESIA

Strong evidence supports regional analgesia to improve preoperative pain control in patients with hip fracture.

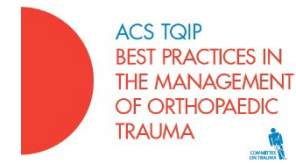
**Strength of Recommendation: Strong**

## RATIONALE

Six high strength studies (Fletcher et al <sup>10</sup>, Foss et al <sup>11</sup>, Haddad et al <sup>12</sup>, Monzon et al <sup>13</sup>, Mouzopoulos et al <sup>14</sup>, and Yun et al <sup>15</sup>) and one moderate strength study (Matot, 2003 <sup>16</sup>)

Peri-Operative Care

# ACS



- The best evidence currently available suggests similar clinical outcomes for patients undergoing general or spinal anesthesia for hip fracture surgery. As a result, one modality is not recommended over the other and patient-specific factors and preferences should be considered. [It may be beneficial for individual hospitals to standardize the approach to anesthesia for geriatric hip fractures in order to streamline care \(pg. 23\).](#)

# AAOS



- The work group recognizes that anesthetic techniques described in several of these articles which were [published decades](#) ago may have changed when compared with modern methods. In addition, there was [significant heterogeneity](#) in the patient populations studied, including multiple studies in which patients were not randomized.

Anesthesia Type

# Solution



# **MTQIP & ASPIRE Centers**

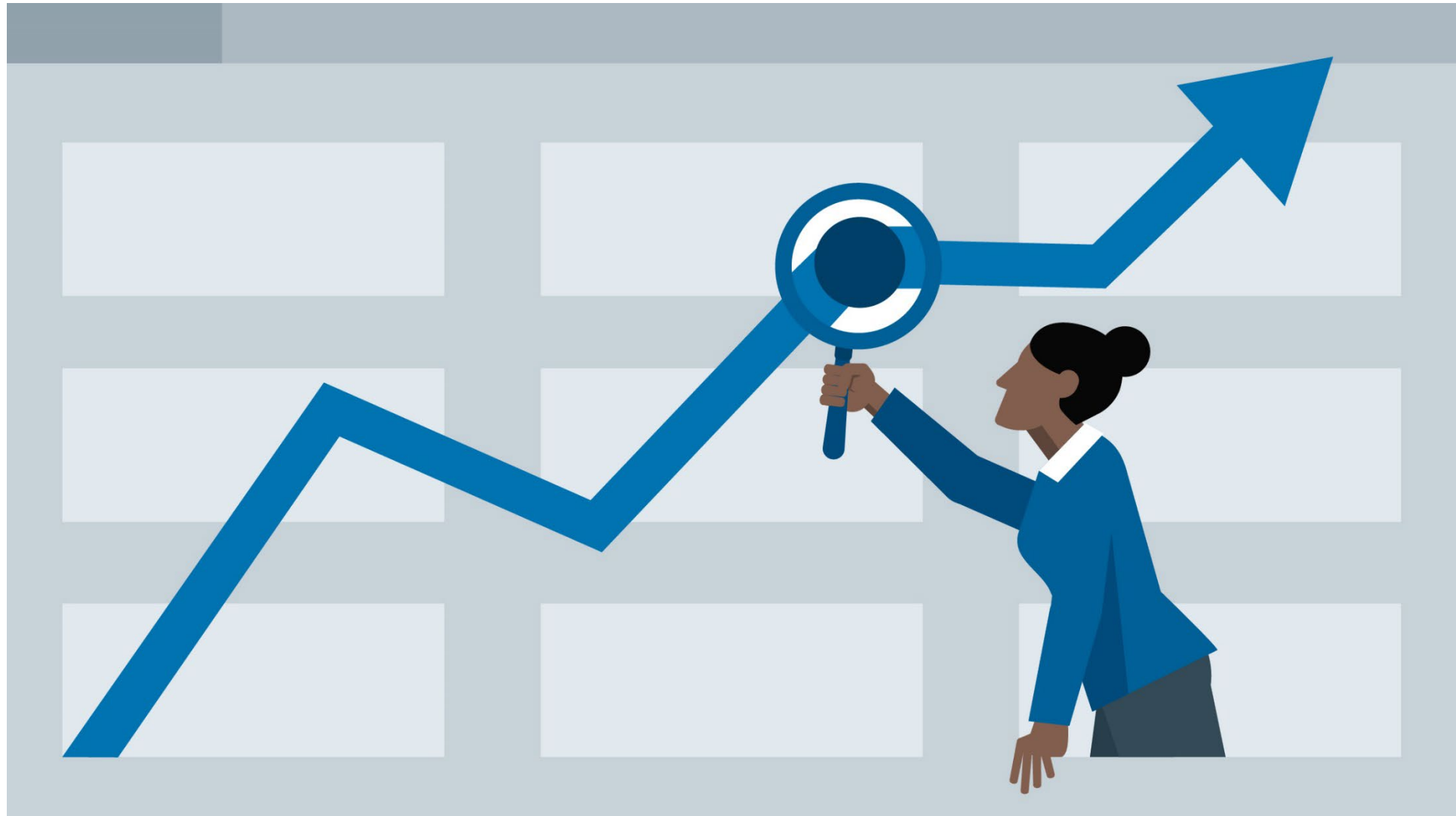
- 1. Beaumont Health System – Dearborn**
- 2. Beaumont Health System – Farmington Hills**
- 3. Beaumont Health System – Royal Oak**
- 4. Beaumont Health System – Trenton**
- 5. Beaumont Health System – Troy**
- 6. Bronson Healthcare – Kalamazoo**
- 7. Henry Ford Health System – Detroit**
- 8. Mercy Muskegon**
- 9. Michigan Medicine**
- 10. St. Joseph Mercy – Ann Arbor**
- 11. St. Joseph Mercy – Oakland**
- 12. St. Mary Mercy – Livonia**
- 13. Sparrow Hospital**



## **Next Steps**

- **MTQIP email**
- **Sign DUA Attachment B**
- **MTQIP/ASPIRE report feedback**
- **Questions**

# Research in Progress



# Outcomes in operative fixation of rib fractures

- **Center: Spectrum Health**
- **PI: Chapman**
- **Phase: Propensity analysis**

## **Burn decontamination survey**

- **Center: Bronson**
- **PI: Davidson**
- **Phase: Publications Committee Approved,  
awaiting completion of DUA**

# **Resource, outcomes, and care variation in IHF**

- **Center: Michigan Medicine**
- **PI: Goulet**
- **Phase: Methods**

# **Association of mortality among trauma patients taking pre-injury direct oral anticoagulants vs. vitamin K antagonists**

- **Center: St. Joseph Mercy**
- **PI: Hecht**
- **Phase:**
  - **Presenting Central Surgical (Mar 2019)**
  - **Accepted publication *Surgery***

## **VTE type for trauma patients**

- **Center: St. Joseph Mercy**
- **PI: Hecht**
- **Phase: Analysis**

## **Optimal timing head CT's for geriatric falls**

- **Center: Providence Hospital, Spectrum Health, St. Joseph Mercy, Michigan Medicine**
- **PI: Iskander, Lopez, Jakubus, Wahl**
- **Phase: Analysis**



## **EMS vs. private car effect on outcomes**

- **Center: Henry Ford**
- **PI: Johnson**
- **Phase: Publications Committee Approved, awaiting completion of DUA**

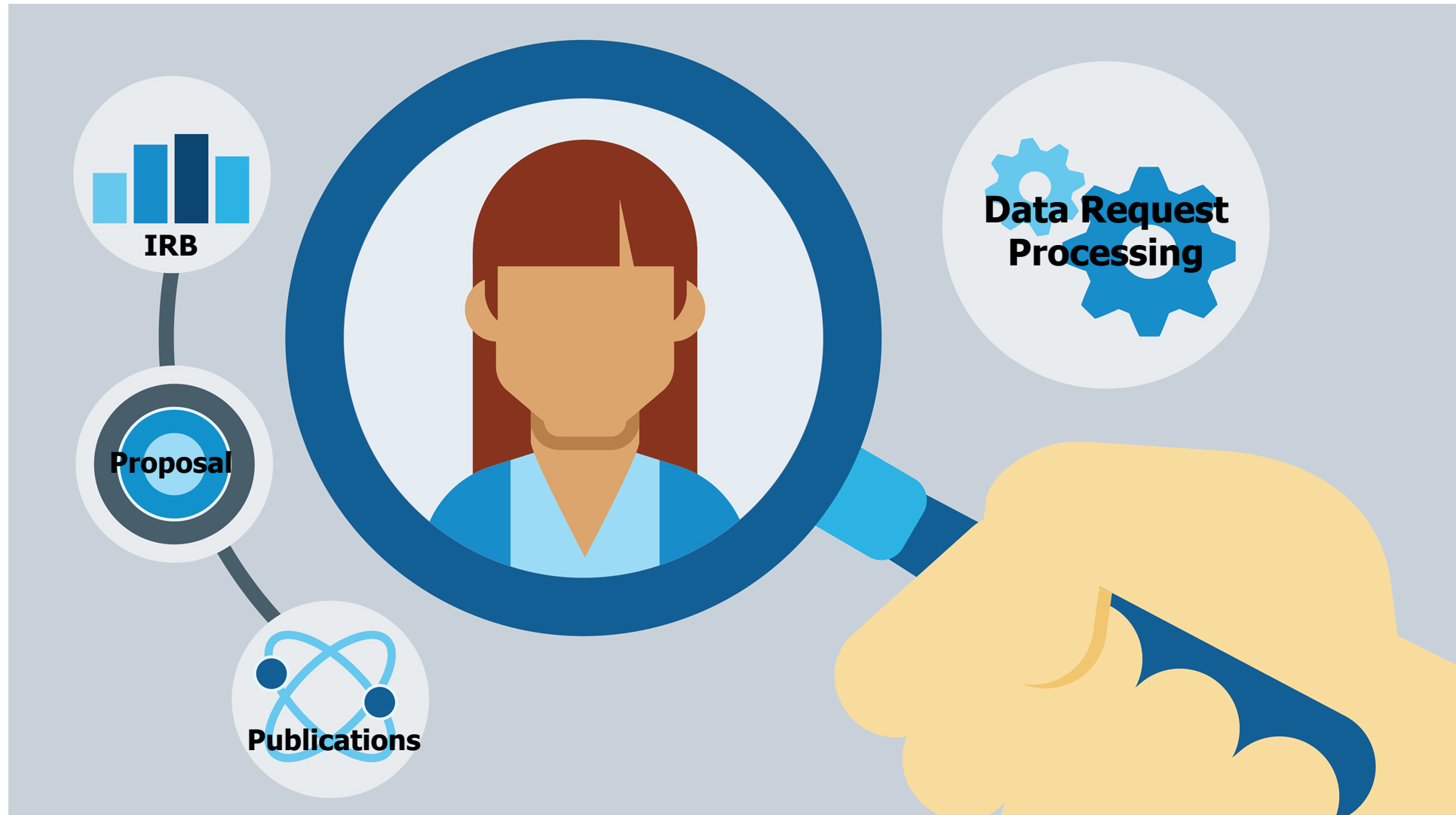
# **ACS-COT verification level affects trauma center management of pelvic ring injuries and patient mortality**

- **Center: Detroit Receiving**
- **PI: Oliphant**
- **Phase:**
  - **Presented American Association for the Surgery of Trauma (Sept 2018)**
  - **Published *Journal of Trauma and Acute Care Surgery* (Jan 2019)**

## **Not further specified: unclassified orthopedic injuries in trauma registries, cause for concern?**

- **Center: Detroit Receiving**
- **PI: Oliphant**
- **Phase:**
  - **Presented Academic Surgical Congress (Feb 2019)**
  - **Manuscript in progress**

# Have an idea on improving care?



# Program Manager Update

Judy Mikhail



# 1. NEW CME PROCESS

# NEW CME Process

- MTQIP obtains CMEs through the UM
- UM changed to a new system
- One time requirement:
  - **Must first sign in and create a profile with password**
- Thereafter, can click on CME links emailed after meetings
- To sign in, complete evaluation, obtain CME



## Office of Continuing Medical Education and Lifelong Learning

SIGN IN MiCME

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BASICS OF CME

PLANNING GUIDE

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ABOUT US



### Our Mission

The Office of Continuing Medical Education and Lifelong Learning encourages high quality continuing medical education designed to enhance patient care by improving the knowledge, competence, and performance of physicians. We service and support the institution, clinical departments, CME planners, and individual CME participants within and beyond Michigan Medicine in their achievement of clinical excellence.



Office of Continuing Medical Education and Lifelong Learning



# Advantage

## Control:

- Your accrued CME history will always be visible
- You can log in anytime and print previous meeting CMEs

# After this meeting:

A link will be sent:

Directions to create a profile and to obtain your CME

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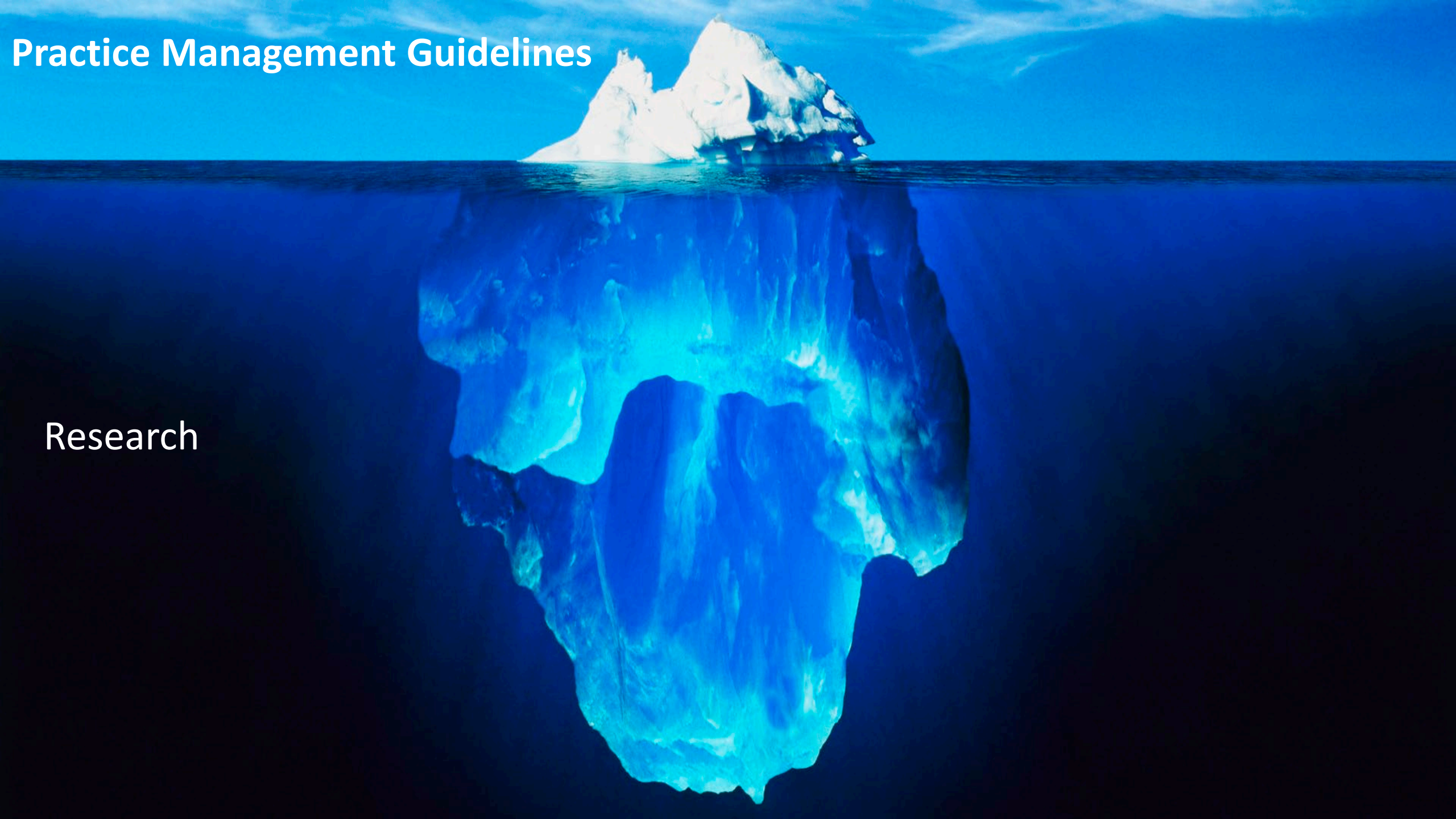
## 2. MTQIP Metrics Bibliography

# Why?

- Repeated requests from membership
- Provide literature support for measures
- To help influence others in their center:
  - Department Heads
  - Other Clinicians

# Practice Management Guidelines

Research





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# Landmark Papers in Trauma and Acute Care Surgery

## Categories:

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# Trauma

3625 pageviews

## Categories

### All

Anterior Abdominal Stab Wounds

Bladder Injury

Blood Product Transfusion

Blunt Aortic Injury

Blunt Cardiac Injury

Blunt Cerebrovascular Injury

Burn Injuries

Cervical Spine Clearance

Cervical Spine Clearance in the Obtunded Patient

Coagulopathy of Trauma

Colon Injury

Damage Control Surgery

Diaphragm Injury

Duodenal Injury

Emergency Department, Resuscitative  
Thoracotomy

Extremity Vascular Injuries

Facial Trauma

Geriatric Trauma

Hemothorax and Pneumothorax

Kidney Injury

Liver Injury

Long Bone Fractures & Extremity Compart.  
Syndrome

Management of the Open Abdomen

Mangled Extremity

Multiple Rib Fractures

Open Fractures

Pancreatic Injury

Pelvic Fractures

Penetrating Cardiac Injury

Penetrating Neck Injury

Penetrating Thoracoabdominal Injury

Pregnancy and Trauma

Prehospital Care

REBOA

Rectal Injury

Small Bowel Injury

Spinal Cord Injury

Splenic Injury

Thoracic and Lumbar Spine Injuries

Trauma Laparotomy

Trauma Quality Improvement

Trauma Resuscitation

Trauma Systems

Traumatic Brain Injury

Traumatic Brain Injury and Anticoag

Vascular Injuries of the Torso

VTE Prophylaxis

## EAST Process

Medical Librarian Search  
Delphi Methodology

Papers Judged:

- # Citations per year
- Quality of scientific method
- Relevance to practice
- Historical landmark papers

## EAST Example

### Optimal Timing of Initiation of Thromboprophylaxis after Nonoperative Blunt Spinal Trauma: A Propensity-Matched Analysis.

Khan M, Jehan F, O'Keeffe T, Hamidi M, Truitt M, Zeeshan M, Gries L, Tang A, Joseph B.

2018 May;226(5):760-768. doi: 10.1016/j.jamcollsurg.2018.01.006.

**Rationale for inclusion:** 2 year review of nonoperative spine injured patients in the TQIP database. When compared to patients with thromboprophylaxis started after 48hrs, those starting prophylaxis <48hrs had decreased VTE rates.

**Citations** - To review the number of citations for this landmark paper, visit [Google Scholar](#).

### Pharmacological Thromboembolic Prophylaxis in Traumatic Brain Injuries: Low Molecular Weight Heparin Is Superior to Unfractionated Heparin.

Benjamin E, Recinos G, Aiolfi A, Inaba K, Demetriades D.

2017 Sep;266(3):463-469. doi: 10.1097/SLA.0000000000002359.

**Rationale for inclusion:** Patients with severe TBI from the ACS TQIP were compared with respect to VTE prophylaxis type. LMWH prophylaxis was associated with less VTE and better survival.

**Citations** - To review the number of citations for this landmark paper, visit [Google Scholar](#).



# MTQIP Format

- Brief annotated bibliography of current primary research
- Links to pub med citation
- Similar to EASTs landmark articles
- Maintained on MTQIP website
- Article recommendations welcomed

# MTQIP Examples

# MTP Ratios

- Holcomb, J. B., Tilley, B. C., Baraniuk, S., Fox, E. E., Wade, C. E., Podbielski, J. M., . . . van Belle, G. (**2015**). [Transfusion of plasma, platelets, and red blood cells in a 1:1:1 vs a 1:1:2 ratio and mortality in patients with severe trauma: The PROPPR randomized clinical trial](#). *JAMA*, 313(5), 471-482. **PROPPR** is the largest randomized study to date to enroll severely bleeding patients. This pragmatic, phase 3, multisite, randomized clinical trial of 680 severely injured patients (12 civilian trauma centers) [PROPPR trial] compared ratios of 1:1:1 vs 1:1:2. More patients in the 1:1:1 group achieved hemostasis and fewer experienced death due to exsanguination by 24 hours. Clinicians should consider using a 1:1:1 transfusion protocol, starting with the initial units transfused while patients are actively bleeding, and then transitioning to laboratory-guided treatment once hemorrhage control is achieved.
- Holcomb, J. B., del Junco, D. J., Fox, E. E., Wade, C. E., Cohen, M. J., Schreiber, M. A., . . . Rahbar, M. H. (**2013**). [The prospective, observational, multicenter, major trauma transfusion \(PROMMTT\) study: comparative effectiveness of a time-varying treatment with competing risks](#). *JAMA Surg*, 148(2), 127-136. **PROMMTT** is a prospective, multicenter observational cohort study conducted at ten Level 1 trauma centers in the US (n=905) analyzing the effect of early plasma and or platelets on in-hospital mortality, and time varying plasma to RBC and platelet to RBC ratios. Early higher plasma and platelet ratios were associated with decreased mortality in patients transfused at least 3 units of blood products during the first 24 hours after admission.

# MTP Ratios

- Chang, R., Folkerson, L. E., Sloan, D., Tomasek, J. S., Kitagawa, R. S., Choi, H. A., . . . Holcomb, J. B. (**2017**). [Early plasma transfusion is associated with improved survival after isolated traumatic brain injury in patients with multifocal intracranial hemorrhage](#). *Surgery*, 161(2), 538-545. This single center retrospective analysis of 633 isolated TBI (head AIS>3) patients comparing those receiving early plasma (<4 hrs of arrival) to no early plasma. Early plasma transfusion was not associated with improved in-hospital survival for all isolated TBI patients but was associated with increased in-hospital survival in those with **multifocal** intracranial hemorrhage.
- Bui, E., Inaba, K., Ebadat, A., Karamanos, E., Byerly, S., Okoye, O., . . . Demetriades, D. (**2016**). [The impact of increased plasma ratios in massively transfused trauma patients: a prospective analysis](#). *European Journal of Trauma and Emergency Surgery*, 42(4), 519-525. This is a single center, prospective, observational study of trauma patients requiring massive transfusion (>10 PRBC in <24 hrs). Achieving a ratio of FFP:PRBC  $\geq 1:1.5$  after the initial 24 h of resuscitation significantly improves survival in massively transfused trauma patients compared to patients that achieved a ratio <1:1.5.

# MTP Ratios

- Moore, H. B., Moore, E. E., Chapman, M. P., McVane, K., Bryskiewicz, G., Blechar, R., . . . Sauaia, A. (2018). [Plasma-first resuscitation to treat haemorrhagic shock during emergency ground transportation in an urban area: a randomised trial](#). *Lancet (London, England)*, 392(10144), 283-291. This pragmatic randomized single-center trial conducted in Denver compared prehospital administration of plasma versus normal saline in hemorrhagic shock patients. Plasma does not improve injury outcome when given within 30 minutes during rapid ground transportation to a mature, level I trauma center.
- Cardenas, J. C., Zhang, X., Fox, E. E., Cotton, B. A., Hess, J. R., Schreiber, M. A., . . . Holcomb, J. B. (2018). [Platelet transfusions improve hemostasis and survival in a substudy of the prospective, randomized PROPPR trial](#). *Blood Adv*, 2(14), 1696-1704. This is a PROPPR trial analysis compared massive transfusion patients who received platelets in the first cooler to those receiving first cooler without platelets. Early platelet administration is associated with improved hemostasis and reduced mortality in severely injured, bleeding patients.
- Meyer, D. E., Vincent, L. E., Fox, E. E., O'Keeffe, T., Inaba, K., Bulger, E., . . . Cotton, B. A. (2017). [Every minute counts: Time to delivery of initial massive transfusion \(MT\) cooler and its impact on mortality](#). *J Trauma Acute Care Surg*, 83(1), 19-24. This is a PROPPR trial analysis of massive transfusion patients to determine the effect of time to cooler arrival on blood ratios and patient outcomes. Independent of product ratios, every minute from time of MT protocol activation to time of initial cooler arrival increases odds of mortality by 5%.

# VTE Prophylaxis: LMWH Superior to UFH

- Byrne, J. P., Geerts, W., Mason, S. A., Gomez, D., Hoefft, C., Murphy, R., . . . Nathens, A. B. (2017). [Effectiveness of low-molecular-weight heparin versus unfractionated heparin to prevent pulmonary embolism following major trauma: A propensity-matched analysis](#). *J Trauma Acute Care Surg*, 82(2), 252-262. This TQIP study of major trauma patients compared LMWH with UF on preventing PE. LMWH was associated with significantly lower risk of PE. LMWH should be the anticoagulant agent of choice for the prevention of PE in trauma.
- Jacobs, B. N., Cain-Nielsen, A. H., Jakubus, J. L., Mikhail, J. N., Fath, J. J., Regenbogen, S. E., & Hemmilla, M. R. (2017). [Unfractionated heparin versus low-molecular-weight heparin for venous thromboembolism prophylaxis in trauma](#). *J Trauma Acute Care Surg*, 83(1), 151-158. This MTQIP study compared unfractionated heparin (UFH) vs LMWH on trauma outcomes. LMWH was superior to UFH in reducing the incidence of mortality and VTE events. LMWH should be the preferred VTE prophylaxis agent for use in hospitalized trauma patients.
- Benjamin, E., Recinos, G., Aiolfi, A., Inaba, K., & Demetriades, D. (2017). [Pharmacological thromboembolic prophylaxis in traumatic brain injuries: Low molecular weight heparin is superior to unfractionated heparin](#). *Annals of Surgery*, 266(3), 463-469. This TQIP study of severe blunt TBI patients (AIS>3), compared LMWH versus UFH on thrombotic complications. LMWH was associated with better survival and lower thromboembolic complications in severe TBI.

# VTE Prophylaxis – NonOp Pelvic Fractures

- Hamidi, M., Zeeshan, M., Sakran, J. V., Kulvatunyong, N., O'Keeffe, T., Northcutt, A., . . . Joseph, B. (2019). [Direct Oral Anticoagulants vs Low-Molecular-Weight Heparin for Thromboprophylaxis in Nonoperative Pelvic Fractures](#). *Journal of the American College of Surgeons*, 228(1), 89-97. This TQIP propensity matched analysis (n=852) of isolated blunt nonoperative pelvic fracture patients compared LMWH vs DOACs (FXa inhibitor or direct thrombin inhibitor) on DVT/PE outcomes. DOACs were associated with a reduced rate of DVT compared with LMWH, without increasing the risk of bleeding complications.
- Jehan, F., O'Keeffe, T., Khan, M., Chi, A., Tang, A., Kulvatunyong, N., . . . Joseph, B. (2017). [Early thromboprophylaxis with low-molecular-weight heparin is safe in patients with pelvic fracture managed nonoperatively](#). *Journal of Surgical Research*, 219, 360-365. This single center retrospective (2010-2012) study of 255 nonoperative pelvic fracture patients compared (first 24 hr) versus late (after 24 hr) initiation of LMWH prophylaxis. Late LMWH had a higher incidence of symptomatic DVT and longer hospital LOS. Early LMWH in pelvic fractures managed nonoperatively is safe and decreases the risk of symptomatic deep venous thrombosis.

# VTE Prophylaxis -Spine

- Khan, M., Jehan, F., O'Keeffe, T., Hamidi, M., Truitt, M., Zeeshan, M., . . . Joseph, B. (2018). [Optimal Timing of Initiation of Thromboprophylaxis after Nonoperative Blunt Spinal Trauma: A Propensity-Matched Analysis.](#) *Journal of the American College of Surgeons*, 226(5), 760-768. This TQIP propensity-matched analysis of 8552 nonoperative, isolated spine trauma patients compared early (<48 hrs) vs late (>48 hrs) thromboprophylaxis. Early thromboprophylaxis was associated with lower DVT and PE. There was no difference in PRBC requirement and mortality.
- Zeeshan, M., Khan, M., O'Keeffe, T., Pollack, N., Hamidi, M., Kulvatunyong, N., . . . Joseph, B. (2018). [Optimal timing of initiation of thromboprophylaxis in spine trauma managed operatively: A nationwide propensity-matched analysis of trauma quality improvement program.](#) *J Trauma Acute Care Surg*, 85(2), 387-392. This TQIP propensity-matched analysis of 3554 operative adult spine injury patients (spine AIS score >3) compared early (< 48 hrs) to late (>48 hrs) thromboprophylaxis. Early VTE prophylaxis was associated with decreased rates of DVT without increasing the risk of bleeding and mortality. VTE prophylaxis should be started within 48 hrs of surgery to reduce risk of DVT.
- Khan, M., Jehan, F., O'Keeffe, T., Hamidi, M., Kulvatunyong, N., Tang, A., . . . Joseph, B. (2018). [Oral Xa Inhibitors Versus Low Molecular Weight Heparin for Thromboprophylaxis After Nonoperative Spine Trauma.](#) *Journal of Surgical Research*, 232, 82-87. This 4-yr (2013-2016) TQIP propensity-matched analysis of 1056 isolated nonoperative spine trauma (Spine-AIS >3 and other-AIS <3) compared LMWH versus oral Xa inhibitors (Xa-Inh) thromboprophylaxis. Oral Xa-Inh seems to be more effective than LMWH for VTE prevention in nonoperative spine trauma. The two drugs had similar safety profile. Further prospective trials should be performed to change current guidelines.



# VTE Prophylaxis: TBI

## VTE Prophylaxis Agent

- Benjamin, E., Recinos, G., Aiolfi, A., Inaba, K., & Demetriades, D. (2017). [Pharmacological thromboembolic prophylaxis in traumatic brain injuries: Low molecular weight heparin is superior to unfractionated heparin](#). *Annals of Surgery*, 266(3), 463-469. This TQIP study of 20,417 severe blunt TBI patients (AIS>3), compared patients receiving LMWH versus unfractionated heparin (UH) on thrombotic complications. LMWH prophylaxis in severe TBI is associated with better survival and lower thromboembolic complications than UH.

## VTE Prophylaxis Timing

- Byrne, J. P., Mason, S. A., Gomez, D., Hoeft, C., Subacius, H., Xiong, W., . . . Nathens, A. B. (2016). [Timing of pharmacologic venous thromboembolism prophylaxis in severe traumatic brain injury: A propensity-matched cohort study](#). *Journal of the American College of Surgeons*, 223(4), 621-631.e625. This TQIP propensity matched analysis 3,634 isolated TBI patients (Head AIS  $\geq 3$  and GCS score  $\leq 8$ ) compared early prophylaxis (<72 hours) versus late prophylaxis ( $\geq 72$  hours) using either LMWH or UFH. Early prophylaxis was associated with decreased risk of PE and DVT with no increase in risk of late neurosurgical intervention or death. Early prophylaxis may be safe and should be the goal for each patient in the context of appropriate risk stratification.

# Serious Complications

- Hemmila, M. R., Cain-Nielsen, A. H., Jakubus, J. L., Mikhail, J. N., & Dimick, J. B. (2018). [Association of Hospital Participation in a Regional Trauma Quality Improvement Collaborative with Patient Outcomes](#). *JAMA Surg*. This is a comparison of MTQIP participation to ACS-TQIP participation and non-participating hospitals, quality performance regarding complications over time. There was a significant improvement in major complications after (vs before) hospital enrollment in the MTQIP collaborative compared with nonparticipating hospitals.
- Hemmila, M. R., Jakubus, J. L., Cain-Nielsen, A. H., Kepros, J. P., Vander Kolk, W. E., Wahl, W. L., & Mikhail, J. N. (2017). [The Michigan Trauma Quality Improvement Program: Results from a collaborative quality initiative](#). *J Trauma Acute Care Surg*, 82(5), 867-876. This is a study of MTQIP collaborative performance over 5 years regarding patient outcomes, resource utilization, and process measures. Collaborative participation significantly reduced serious complications, decreased resource utilization, and improved process measure execution in trauma patients.

### 3. MTQIP 2018 Evaluation Results

# **BCBSM CQI Participation Value Survey 4-Question Surveys Conducted 2016-2018 Year over Year Comparison 1/24/2018**

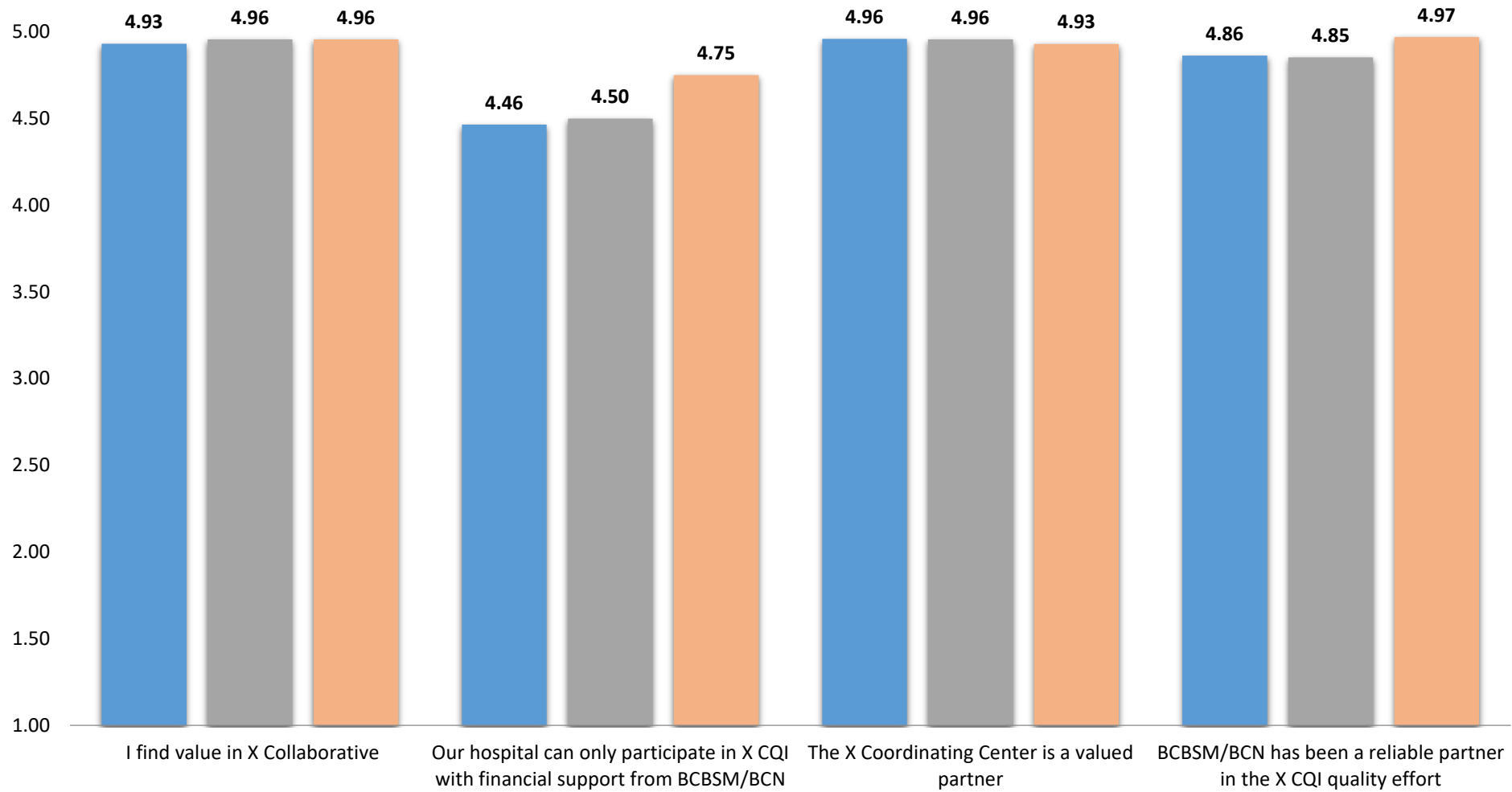
Jackie Rau, MHSA, CQI Project Lead, Value Partnerships  
Blue Cross Blue Shield of Michigan

Your Vote Counts!

# MTQIP

■ 2016 n=73    ■ 2017 n=70    ■ 2018 n=68

Thank You!



Scale is 1-5 (strongly disagree- strongly agree)

# Survey

- ◆ Hospital Scoring Index/VBR
  - Suggest
    - ◆ New
    - ◆ Changes to existing
- ◆ Orthopedics
  - Questions
  - Ideas
    - ◆ Time to OR (Isolated Hip Fracture)
    - ◆ Guideline (Isolated Hip Fracture)
- ◆ Multiple Casualty

# ACS TQIP Collaborative Report

**Table 2: Risk-Adjusted Mortality by Cohort**

		Mortality			Odds Ratio and 95% Confidence Interval				
Cohort	N	Observed Events	Observed (%)	Expected (%)	Odds Ratio	Lower	Upper	Outlier	Decile
All Patients	11,699	863	7.4	7.4	1.01	0.86	1.19	Average	5
Blunt Multisystem	1,374	227	16.5	16.3	1.00	0.77	1.30	Average	5
Penetrating	412	50	12.1	12.0	1.69	0.96	2.99	Average	10
Shock	432	103	23.8	23.8	1.12	0.79	1.60	Average	7
Severe TBI	369	209	56.6	56.7	1.00	0.71	1.40	Average	6
Elderly	4,985	509	10.2	10.2	1.02	0.87	1.21	Average	6
Elderly Blunt Multisystem	400	94	23.5	23.4	1.08	0.78	1.50	Average	8
Isolated Hip Fracture	3,323	118	3.6	3.3	1.06	0.80	1.40	Average	6

# ACS TQIP Collaborative Report

**Table 3: Risk-Adjusted Major Complications by Cohort**

		Major Complications			Odds Ratio and 95% Confidence Interval				
Cohort	N	Observed Events	Observed (%)	Expected (%)	Odds Ratio	Lower	Upper	Outlier	Decile
All Patients	11,209	744	6.6	5.9	1.02	0.83	1.26	Average	5
Blunt Multisystem	1,226	213	17.4	15.4	1.04	0.79	1.37	Average	5
Penetrating	366	55	15.0	14.2	1.43	0.95	2.15	Average	9
Shock	365	61	16.7	15.8	0.92	0.63	1.35	Average	4
Severe TBI	225	44	19.6	18.6	1.38	0.92	2.07	Average	9
Elderly	4,775	289	6.1	5.7	1.00	0.81	1.25	Average	5
Elderly Blunt Multisystem	347	48	13.8	12.9	0.89	0.60	1.31	Average	4
Isolated Hip Fracture	3,297	128	3.9	3.6	1.00	0.73	1.37	Average	5



# ACS TQIP Collaborative Report

**Table 4: Risk-Adjusted Major Complications Including Death by Cohort**

		Major Complications Including Death			Odds Ratio and 95% Confidence Interval				
Cohort	N	Observed Events	Observed (%)	Expected (%)	Odds Ratio	Lower	Upper	Outlier	Decile
All Patients	11,613	1,476	12.7	12.5	1.05	0.91	1.22	Average	6
Blunt Multisystem	1,349	407	30.2	29.3	1.12	0.90	1.40	Average	7
Penetrating	407	100	24.6	24.1	1.61	1.11	2.33	High	10
Shock	428	152	35.5	35.3	1.03	0.77	1.39	Average	5
Severe TBI	363	245	67.5	67.6	1.22	0.88	1.69	Average	9
Elderly	4,963	717	14.4	14.5	1.01	0.87	1.16	Average	5
Elderly Blunt Multisystem	394	132	33.5	33.1	1.09	0.81	1.46	Average	8
Isolated Hip Fracture	3,318	220	6.6	6.4	1.01	0.80	1.27	Average	6

# ACS - Zero Preventable Deaths

- ◆ Lena Napolitano
  - Board of Regents
- ◆ Hashmi/Haider paper
  - 4,500 to 18,550 potentially preventable deaths per year
  - ACS would like to get a better handle on
- ◆ Could we look into?
  - PRQ data (anticipated, un-anticipated)
  - Only trauma centers, no pre-hospital

# Conclusion

- ◆ Thank you for being flexible
- ◆ Evaluations
  - Fill out and turn in
- ◆ Questions?
- ◆ See you in May