

The Michigan Trauma Quality Improvement Program

**Ypsilanti, MI
October 13, 2015**



Disclosures

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

Welcome/Introductions

- ◆ New Center
 - Providence-Providence Park Hospital, Southfield
- ◆ Guest Speaker
 - Greta Krapohl, PhD, RN, University of Michigan

Welcome/Introductions

- ◆ Hurley – Trauma Resuscitation Efficiency
 - Michelle Maxson
- ◆ Sparrow – Outsourcing Data Abstraction
 - Penny Stevens
 - John Kepros
- ◆ Covenant – ACS-TQIP Data Validation
 - Deb Falkenberg
 - Deanne Krajkowski
 - Stacey Lopez

ACS-TQIP

- ◆ Center Report
- ◆ Michigan Report
 - Contract executed for 2015 and 2016
 - Frequency
 - ◆ Two center outcome reports per year
 - ◆ One state report per year
- ◆ No Invoices
 - 2015
 - 2016

Data Submission

- ◆ DI
 - V5
 - Server configuration and software install
 - Test data
 - ?
- ◆ October Submission
 - 3/1/2014 to 6/30/2015 (minimum)
- ◆ ArborMetrix Website
 - Aim for 1 month turnaround
 - Data submitted June 2015 available August

Future Meetings

◆ Winter

- Tuesday February 2, 2016
- Ypsilanti, EMU Marriott Conference Center

◆ Spring

- Wednesday May 18, 2015
- Mackinaw Island, Mission Point Resort

◆ Spring (Registrar's)

- Tuesday June 7, 2016
- Ann Arbor, NCRC

Future Meetings

◆ MTQIP/MANS

- Neurosurgery
- Trauma
- Friday May 20, 2016
- Petoskey, Bay Harbor Resort

◆ Attendees

- Neurosurgeons
- TPD, TPM, MCR

◆ Accommodations

- Hotel covered on Thurs night

Advisory Committee

◆ MTQIP/MANS

- Neurosurgery
- Trauma
- Friday May 20, 2016
- Petoskey, Bay Harbor Resort

◆ Attendees

- Neurosurgeons
- TPD, TPM, MCR

◆ Accommodations

- Hotel covered on Thurs night

Dashboards

Mark Hemmila, MD

Jill Jakubus, PA-C, MHSA



Dashboard

- ◆ Outcomes
- ◆ Performance Index
- ◆ Status

● Low Outlier

● Average

● High Outlier

COMPLICATIONS DASHBOARD

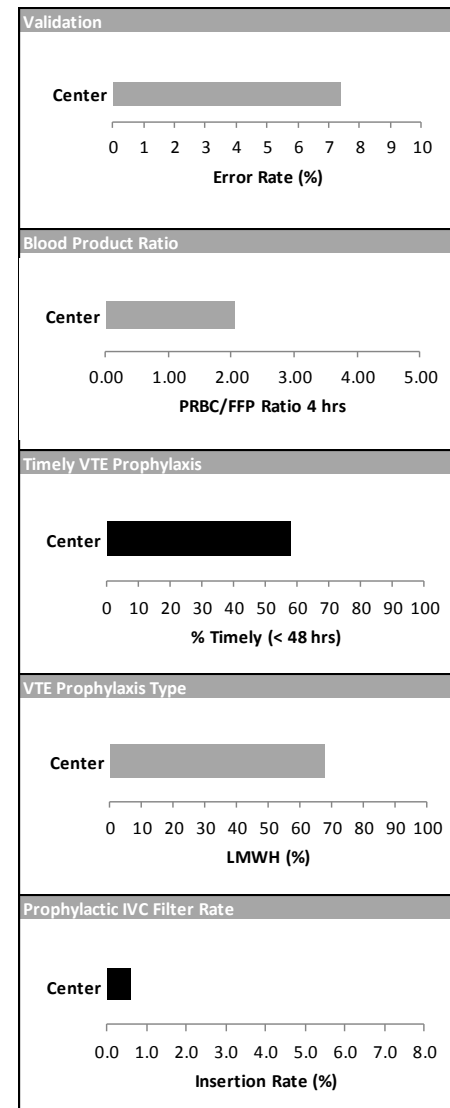
11/1/13 - 4/30/15

Cohort 2, Exclude DOA

Complication	Center	MTQIP	95% CI
Dead	4.2	4.4	●
Failure to Rescue	19.7	18.0	●
Superficial SSI	0.5	0.3	●
Deep SSI	0.4	0.2	●
Organ/Space SSI	0.5	0.2	●
Wound Disruption	0.2	0.1	●
Abd. Fascia Left Open	0.3	0.3	●
Acute Lung Injury/ARDS	1.4	0.8	●
Pneumonia	4.9	3.4	●
Unplanned Intubation	1.7	1.1	●
Pulmonary Embolism	0.7	0.4	●
Renal Insufficiency	0.0	0.1	●
Acute Renal Failure	1.0	0.5	●
Urinary Tract Infection	2.6	1.7	●
Stroke/CVA	0.4	0.3	●
Cardiac Arrest W. CPR	1.5	1.0	●
Myocardial Infarction	0.5	0.3	●
Lower Extremity DVT	1.6	1.0	●
Upper Extremity DVT	0.0	0.0	●
Any DVT	1.6	1.0	●
Severe Sepsis	0.7	0.6	●
Abd. Compartment Syndrome	0.0	0.1	●
Extremity Compartment Syndrome	0.2	0.2	●
Decubitus Ulcer	0.8	0.5	●
Enterocutaneous Fistula	0.2	0.1	●
Drug or Alcohol Withdrawal Syndrome	1.6	1.4	●
Graft/Prosthesis/Flap Failure	0.1	0.0	●
Catheter Related Blood Infection	0.2	0.1	●
Osteomyelitis	0.0	0.0	●
C. Diff Colitis	1.0	0.5	●
Unpl Return to OR	0.8	0.6	●
Unpl Return to ICU	1.8	0.7	●
VTE	1.9	1.4	●
Cardiac/Stroke	2.3	1.5	●
Any Complications	12.9	10.0	●
Serious Complications	11.0	10.3	●
Grade I	8.0	4.6	●
Grade II	6.7	5.7	●
Grade III	6.5	6.3	●
TBI Mortality	39.3	45.4	●

● Low Outlier ● Average ● High Outlier

PERFORMANCE INDEX



Performance Index Cutoffs

Validation

Data Accuracy	First Validation Visit Error Rate	Two or > Validation Visits Error Rate	Tier
5 Star Validation	0-4.5%	0-4.5%	Best
4 Star Validation	4.6-5.5%	4.6-5.5%	Mid
3 Star Validation	5.6-8.0%	5.6-7.0%	Mid
2 Star Validation	8.1-9.0%	7.1-8.0%	Mid
1 Star Validation	>9.0%	>8.0%	Unfavorable

Blood Product Ratio

Mean Ratio of Packed Red Blood Cells (PRBC) to Fresh Frozen Plasma (FFP) in Patients Transfused ≥ 5 Units RBC In First 4 Hrs (18 Months Data)	Tier
Tier 1: ≤ 1.5	Best
Tier 2: 1.6-2.0	Best
Tier 3: 2.1-2.5	Mid
Tier 4: >2.5	Unfavorable

Timely VTE Prophylaxis

Admitted Patients (Trauma Service-Cohort 2) With Initiation of Venous Thromboembolism (VTE) Prophylaxis <48 Hours After Arrival (18 Months Data)	Tier
$>50\%$	Best
$\geq 40\%$	Mid
$<40\%$	Unfavorable

Performance Index Cutoffs

VTE Prophylaxis Type

Admitted Patients (Trauma Service-Cohort 2) Type of Initial Venous Thromboembolism (VTE) Prophylaxis for those receiving (18 Months Data)	Tier
>?%	Best
≥?%	Mid
<?%	Unfavorable

Prophylactic IVC Filter Rate

Admitted Patients (All-Cohort 1) Prophylactic IVC Filter Insertion Rate (Unadj) (18 Months Data)	Tier
≤?% 1.3	Best
≤?% 1.6 2.0	Mid
>?% 1.6 2.0	Unfavorable

Resuscitation Drill Down

- ◆ Inclusion
 - ≥ 5 units PRBC's in first 4 hours
- ◆ Information
 - Blood product usage
 - Ratios
 - Admitting/Responding Surgeon

MTQIP Resuscitation Drill Down

11/1/13 - 4/30/15

M·TQIP

Trauma #	Age	ISS	PRBC 4hr	FFP 4 hr	PLT 4 hr	Cryo 4 hr	IVF 4 hr	4 hr PRBC/FFP Ratio	24 hr PRBC/FFP Ratio	TXA	Mortality	Surgeon
		29	8	2	0	0	1	4.0	4.0	0	0	
		29	8	2	5	0	6	4.0	2.5	0	0	
		43	14	4	3	0	0	3.5	3.5	0	1	
		20	7	2	0	0	1	3.5	3.5	0	1	
		41	6	2	0	3	0	3.0	3.0	0	0	
		36	9	3	1	0	0	3.0	3.0	0	1	
		34	5	2	5	0	0	2.5	2.5	0	1	
		48	5	2	5	0	1	2.5	2.5	0	0	
		27	14	7	15	0	0	2.0	2.0	1	1	
		16	8	4	0	0	5	2.0	2.3	0	0	
		30	43	24	15	0	1	1.8	1.8	1	1	
		9	5	3	0	0	3	1.7	1.7	0	0	
		34	5	3	10	0	1	1.7	2.0	1	1	
		75	6	4	5	1	0	1.5	1.5	0	1	
		50	12	8	15	10	2	1.5	1.6	0	1	
		14	9	6	4	1	8	1.5	1.5	1	0	
		27	15	12	0	0	0	1.3	1.3	0	1	
		33	10	8	0	0	4	1.3	1.3	0	0	
		48	7	6	0	0	0	1.2	1.2	0	0	
		29	7	6	0	0	0	1.2	1.2	0	1	
		34	46	44	45	5	2	1.0	1.0	0	1	
		30	8	8	2	1	0	1.0	1.0	0	0	
		41	14	14	4	0	3	1.0	1.0	0	0	
		41	18	19	20	1	0	0.9	0.9	0	1	
		17	6	8	5	0	0	0.8	0.9	0	0	
		22	5	0	0	0	0	0.0	0.0	0	1	

MTQIP Resuscitation Drill Down

11/1/13 - 4/30/15

M·TQIP

Trauma #	Age	ISS	PRBC 4hr	FFP 4 hr	PLT 4 hr	Cryo 4 hr	IVF 4 hr	4 hr PRBC/FFP Ratio	24 hr PRBC/FFP Ratio	TXA	Mortality	Surgeon
		25	6	4	0	0	4	1.5	1.5	0	0	
		34	10	9	15	4	4	1.1	0.9	0	1	
		34	11	11	12	2	5	1.0	1.2	0	0	
		27	18	18	36	1	2	1.0	1.0	1	0	
		29	6	6	0	0	2	1.0	1.1	0	0	
		10	5	5	0	0	5	1.0	1.0	0	0	
		22	7	7	6	0	5	1.0	1.0	0	1	
		45	5	5	0	0	0	1.0	1.0	0	1	
		19	5	5	1	2	1	1.0	1.0	1	0	
		14	8	8	1	0	2	1.0	1.0	0	0	
		16	8	8	1	0	3	1.0	1.0	0	1	
		22	13	14	12	2	3	0.9	0.9	0	1	
		10	9	10	12	2	11	0.9	1.0	1	1	
		24	6	7	5	0	1	0.9	0.9	0	0	
		24	10	12	6	2	2	0.8	1.0	1	1	
		9	8	10	6	2	3	0.8	1.3	1	0	
		16	6	9	2	2	0	0.7	0.7	0	0	

Blood Product Ratio

- ◆ Will add
 - Tier (1,2,3,4)
 - Points (10,5,0)
- ◆ Change FFP 0 patients
 - Ratio is " " instead of 0
 - Tier 4

Shock/Hemorrhage Drill Down

- ◆ Inclusion

- ED or Lowest ED SBP \leq 90 mmHg

- ◆ Information

- BP
 - Operation and/or Angio
 - Ratios
 - Time to first procedure
 - Admitting/Responding Surgeon

Trauma #	Age	Mechanism	ED SBP	Lowest ED BP	ISS	4 hr PRBC/FFP	24 hr PRBC/FFP	First Intervention	Both	Time to (hrs)	Mortality	Surgeon
		Blunt	82	0	29	4.0	4.0	Operation	0	4.4	0	
		Blunt	153	62	33	4.0	4.0	None	0	0.0	1	
		Blunt	124	79	29	4.0	2.5	Angio	1	7.0	0	
		Blunt	44	24	20	3.5	3.5	Operation	0	0.0	1	
		Blunt	0	85	41	3.0	3.0	Angio	0	3.7	0	
		Blunt	70	70	36	3.0	3.0	Operation	0	1.7	1	
		Blunt	83	74	33	3.0	4.0	None	0	0.0	0	
		Blunt	155	46	34	2.5	2.5	None	0	0.0	1	
		Blunt	84	84	48	2.5	2.5		1	0.0	0	
		Blunt	65	65	27	2.0	2.0	Operation	0	0.8	1	
		Penetrating	81	75	8	2.0	2.0	Operation	0	0.9	0	
		Penetrating	101	86	19	2.0	2.0	Operation	0	1.1	0	
		Blunt	50	50	30	1.8	1.8	Angio	1	1.5	1	
		Blunt	105	66	34	1.7	2.0	Operation	0	2.1	1	
		Blunt	130	85	50	1.5	1.6	Operation	0	2.9	1	
		Blunt	105	44	14	1.5	1.5	Operation	0	1.4	0	
		Blunt	56	56	27	1.3	1.3	Operation	0	1.3	1	
		Blunt	144	78	33	1.3	1.3	None	0	0.0	0	
		Blunt	98	60	48	1.2	1.2	Angio	0	3.3	0	
		Blunt	148	44	34	1.0	1.0	Operation	0	1.0	1	
		Blunt	88	80	30	1.0	1.0	None	0	0.0	0	
		Blunt	111	57	29	1.0	1.0	Angio	0	0.7	0	
		Penetrating	66	66	17	0.8	0.9	Operation	0	0.8	0	
		Blunt	106	70	8	0.2	0.6	Operation	0	1.6	0	
		Blunt	112	83	50	0.0	0.0	Operation	0	1.4	1	
		Blunt	89	76	36	0.0	0.0	Operation	0	2.1	0	
		Penetrating	88	0	25	0.0	0.0	None	0	0.0	1	
		Blunt	87	0	12	0.0	0.0	None	0	0.0	0	

Weird Results

- ◆ Negative times
- ◆ Long times
- ◆ No intervention
- ◆ Review
 - Registrar
 - MCR
 - TPM/TMD
- ◆ If you find changes
 - Resubmit
 - Use appropriate date range



Data Burden/MCR's

- ◆ MCR Hiring
 - July 1, 2015
- ◆ Patients
 - Blood products, max 30/yr
 - Shock/Hemorrhage, max 120/yr
 - TBI, max 70/yr
- ◆ Focus efforts
 - Difficult data
 - Complex patients
 - Process measures

Data/Reports

Mark Hemmila, MD



Confidentiality Agreement

- ◆ Everyone signs a confidentiality agreement for entry to the meeting
- ◆ Every meeting
- ◆ No photographs
- ◆ Reports distributed

Confidentiality Agreement

The following examples are to be considered privileged and confidential information and should be discussed only within the confines of the MTQIP Quality Collaborative meetings.

- ◆ Any and all patient information.
- ◆ Any and all patient identifiers which are considered privileged and protected health information as defined by current HIPPA laws.
- ◆ Any specific Michigan trauma case information.
- ◆ Any information discussed regarding a specific MTQIP site outcome.
- ◆ Any reference to a specific MTQIP site result or analysis.
- ◆ All trauma data presented including but not limited to Composite Metrics.

Confidentiality Agreement

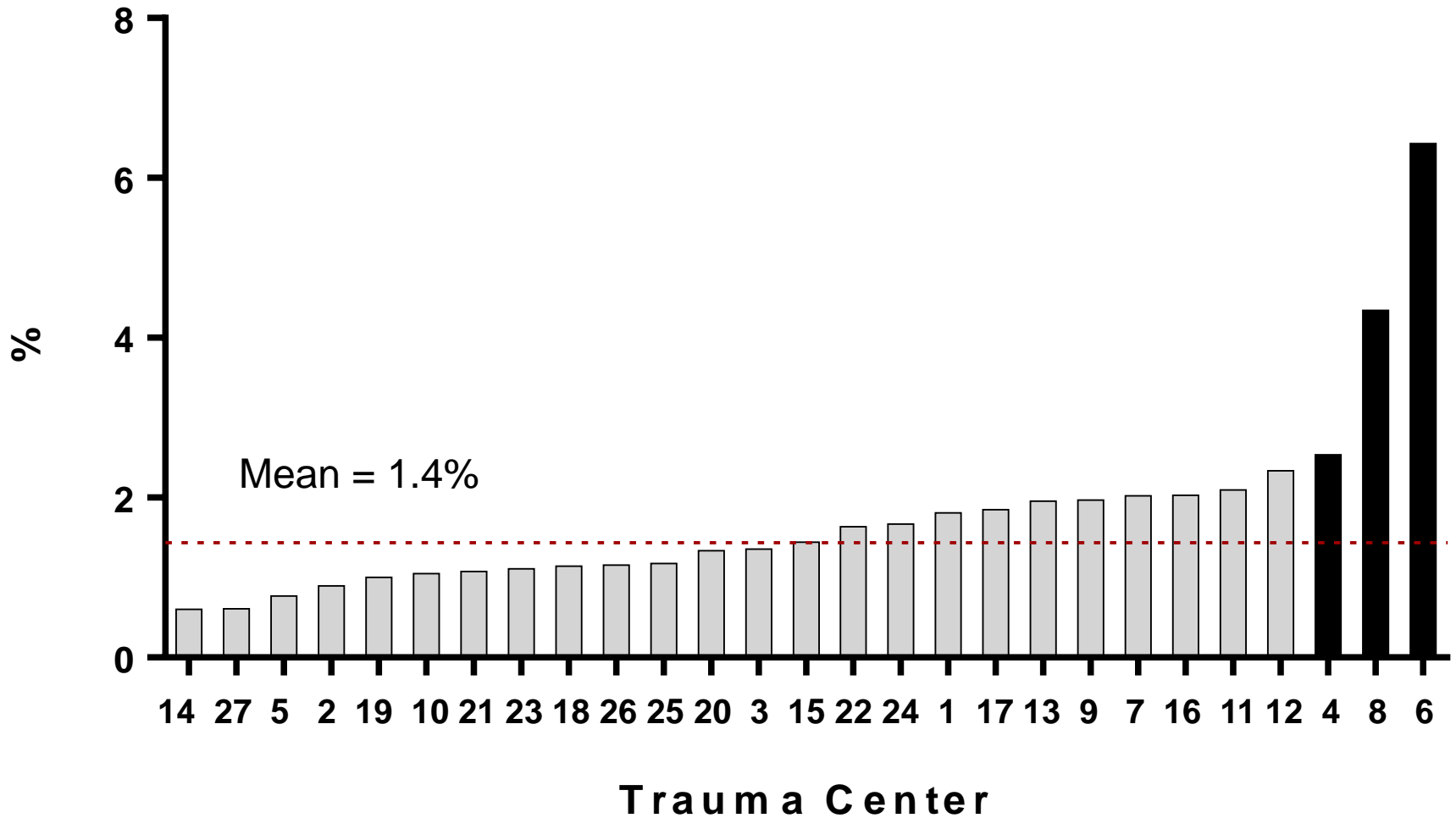
By signing this document, I agree to protect the confidentiality of all information discussed at this meeting and take steps to safeguard against any disclosure of privileged information that may have been discussed. I understand that any violation of confidentiality may result in my personal removal from participation in the project as well as the removal of the hospital site I represent.

IVC Filters

Mark Hemmila, MD

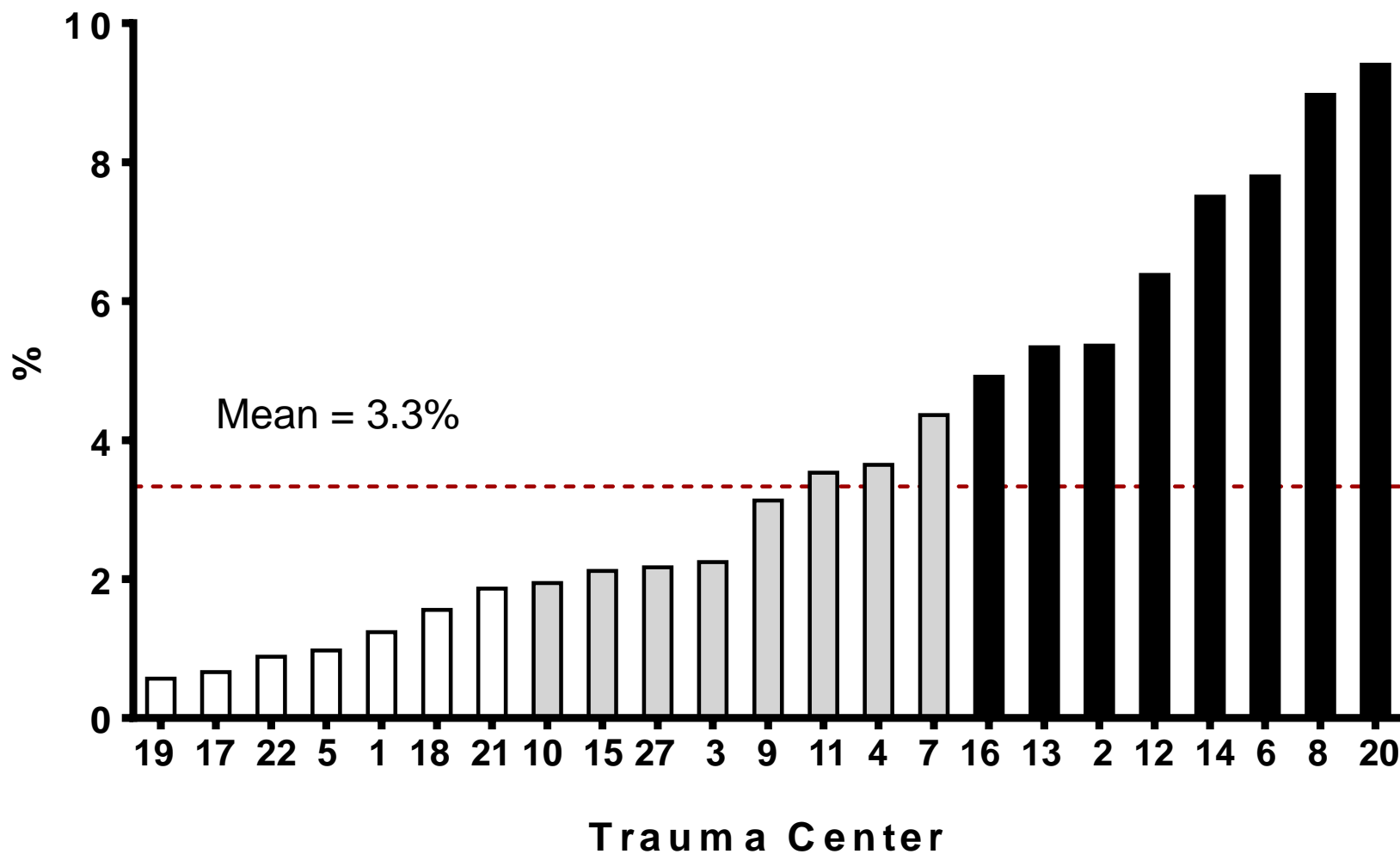


Risk and Reliability Adjusted IVC Filter Use



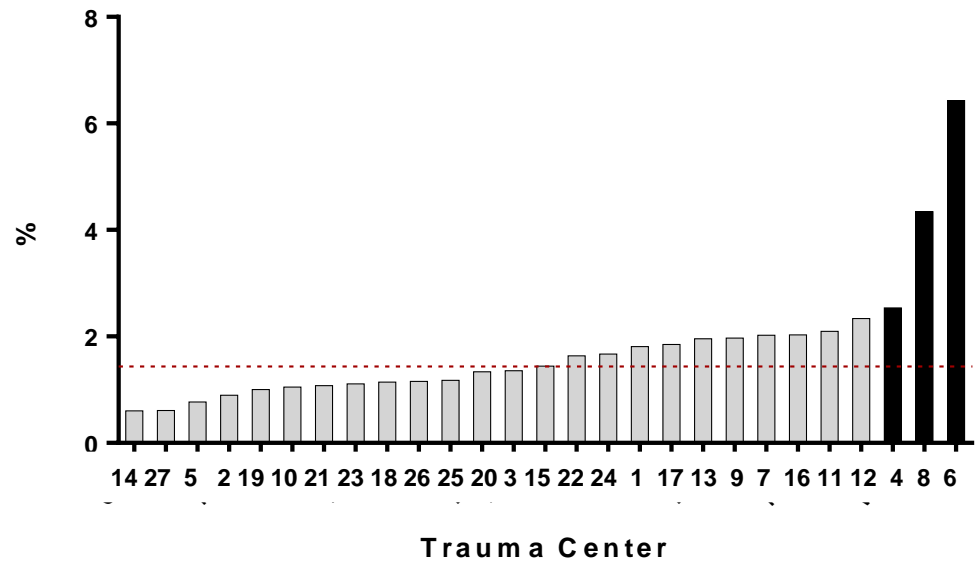
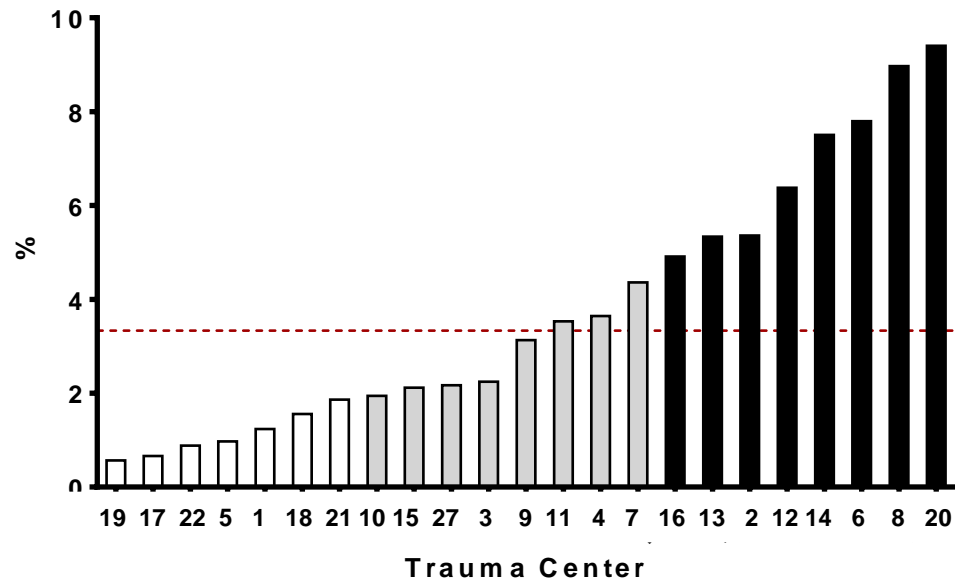
11/1/13 to 4/31/15

Risk and Reliability Adjusted IVC Filter Use

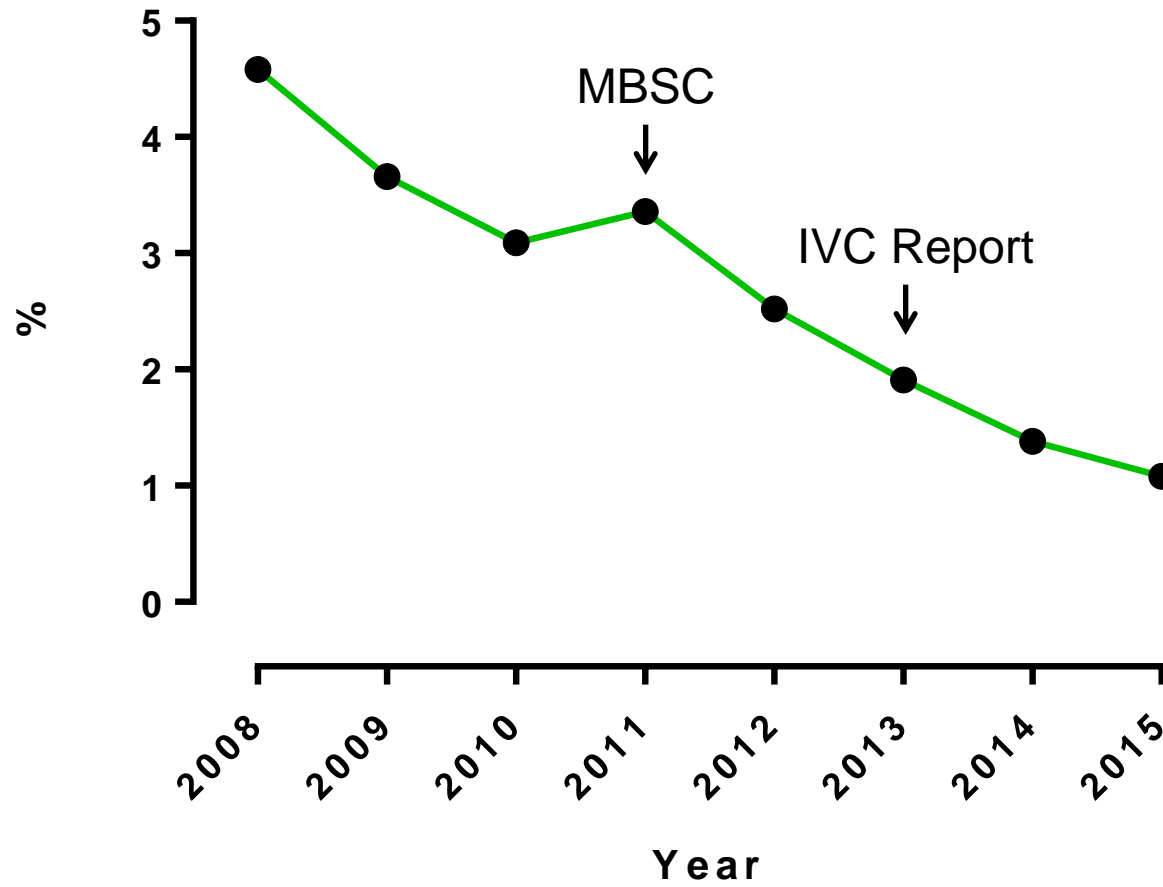


1/1/10 to 12/31/11

Risk and Reliability Adjusted IVC Filter Use



IVC Filter Use



2016 Group Project

- ◆ Target is 1.4% adjusted for 2016 reporting
- ◆ If collaborative mean is $\leq 1.4\%$ every center gets 10 points.
- ◆ If collaborative mean is $> 1.4\%$ every center gets 0 points.
- ◆ At or near target – maintain performance
- ◆ Above target
 - Educate providers
 - Assistance from collaborative members

Prophylactic Inferior Vena Cava Filter Placement Does Not Result in a Survival Benefit for Trauma Patients

Mark R. Hemmila, MD,* Nicholas H. Osborne, MD,* Peter K. Henke, MD,* John P. Kepros, MD,†
Sujal G. Patel, MD,‡ Anne H. Cain-Nielsen, MS,* and Nancy J. Birkmeyer, PhD*

Objective: Trauma patients are at high risk for life-threatening venous thromboembolic (VTE) events. We examined the relationship between prophylactic inferior vena cava (IVC) filter use, mortality, and VTE.

Summary Background Data: The prevalence of prophylactic placement of IVC filters has increased among trauma patients. However, there exists little data on the overall efficacy of prophylactic IVC filters with regard to outcomes.

Methods: Trauma quality collaborative data from 2010 to 2014 were analyzed. Patients were excluded with no signs of life, Injury Severity Score <9, hospitalization <3 days, or who received IVC filter after occurrence of VTE event. Risk-adjusted rates of IVC filter placement were calculated and hospitals placed into quartiles of IVC filter use. Mortality rates by quartile were compared. We also determined the association of deep venous thrombosis (DVT) with the presence of an IVC filter, accounting for type and timing of initiation of pharmacological VTE prophylaxis.

Results: A prophylactic IVC filter was placed in 803 (2%) of 39,456 patients. Hospitals exhibited significant variability (0.6% to 9.6%) in adjusted rates of IVC filter utilization. Rates of IVC placement within quartiles were 0.7%, 1.3%, 2.1%, and 4.6%, respectively. IVC filter use quartiles showed no variation in mortality. Adjusting for pharmacological VTE prophylaxis and patient factors, prophylactic IVC filter placement was associated with an increased incidence of DVT (OR = 1.83; 95% CI, 1.15–2.93, *P*-value = 0.01).

Conclusions: High rates of prophylactic IVC filter placement have no effect on reducing trauma patient mortality and are associated with an increase in DVT events.

Keywords: inferior vena cava filter, quality improvement, trauma outcomes, venous thromboembolism

(*Ann Surg* 2015;262:577–585)

BACKGROUND

The first inferior vena cava (IVC) filter was developed by a surgeon: Lazar J. Greenfield, MD, and a petroleum engineer: Garman O. Kimmel. The device was originally conceived as a secondary component of a catheter-based approach to the management of acute massive pulmonary embolism (PE).¹ Hence, the initial purpose for placement of an IVC filter was to decrease the incidence of recurrent PE and reduce associated mortality. Accepted indications for IVC filter placement are characteristically therapeutic, including proximal deep vein thrombosis (DVT) or PE and contraindication to anticoagulation, failure of anticoagulation, massive PE, or severe cardiopulmonary disease with DVT.²

Indications for prophylactic placement of an IVC filter are controversial. Also, the definition of what constitutes a “contraindication” to anticoagulation or pharmacological prophylaxis to prevent venous thromboembolism (VTE) is variable in the medical literature and among clinicians. Examples of suspected high-risk patients in whom IVC filters have been placed prophylactically in the absence of a VTE event include: bariatric surgery patients, spine surgery patients, and head injured patients.^{3–5} Utilizing the Nationwide Inpatient Sample, the incidence of prophylactic IVC filter placement is increasing at a significantly higher rate than placement after a VTE event (157% versus 42%, adjusted rate increase from 1998 to 2005).⁶

Despite development of temporary retrievable IVC filters, these devices often become permanent in trauma patients and are not removed once the VTE risk has subsided.⁷ IVC filters are not without complications, including device migration, filter penetration, filter fracture, IVC perforation, IVC thrombosis, and PE even with presence of the device.^{2,8} The incidence of PE has increased more than 2-fold from 1994–2001 to 2007–2009 for trauma patients based

MTQIP Reports

Mark Hemmila, MD



Hospital Metrics



MTQIP 2015 Hospital Metrics

- ◆ Participation 70%
 - Data Submission
 - Surgeon Lead
 - Trauma Program Manager/Registrar
 - Site-specific QI project
 - Presentation/Use of MTQIP data
- ◆ Performance 30%
 - Data Validation
 - Massive Transfusion Protocol
 - VTE Prophylaxis

Performance

PERFORMANCE (30%)				
#6	10	Accuracy of Data		
			Visit #1	Visit #2 or More
		5 star validation	0-4.5%	0-4.5%
		4 star validation	4.6-5.5%	4.6-5.5%
		3 star validation	5.6-8.0%	5.6-7.0%
		2 star validation	8.1-9.0%	7.1-8.0%
		1 star validation	> 9%	> 8.0%
#7	10	Massive Transfusion (defined as ≥ 5 u PRBC in first 4 hours): Mean PRBC to Plasma Ratio for first 4 hours of admission		
		≤ 1.5		
		1.6 - 2.0		
		2.1 - 2.5		
		> 2.5		
#8	10	Timely VTE Prophylaxis (< 48 hours of admission)		
		> 50%		
		$\geq 40\%$		
		< 40%		

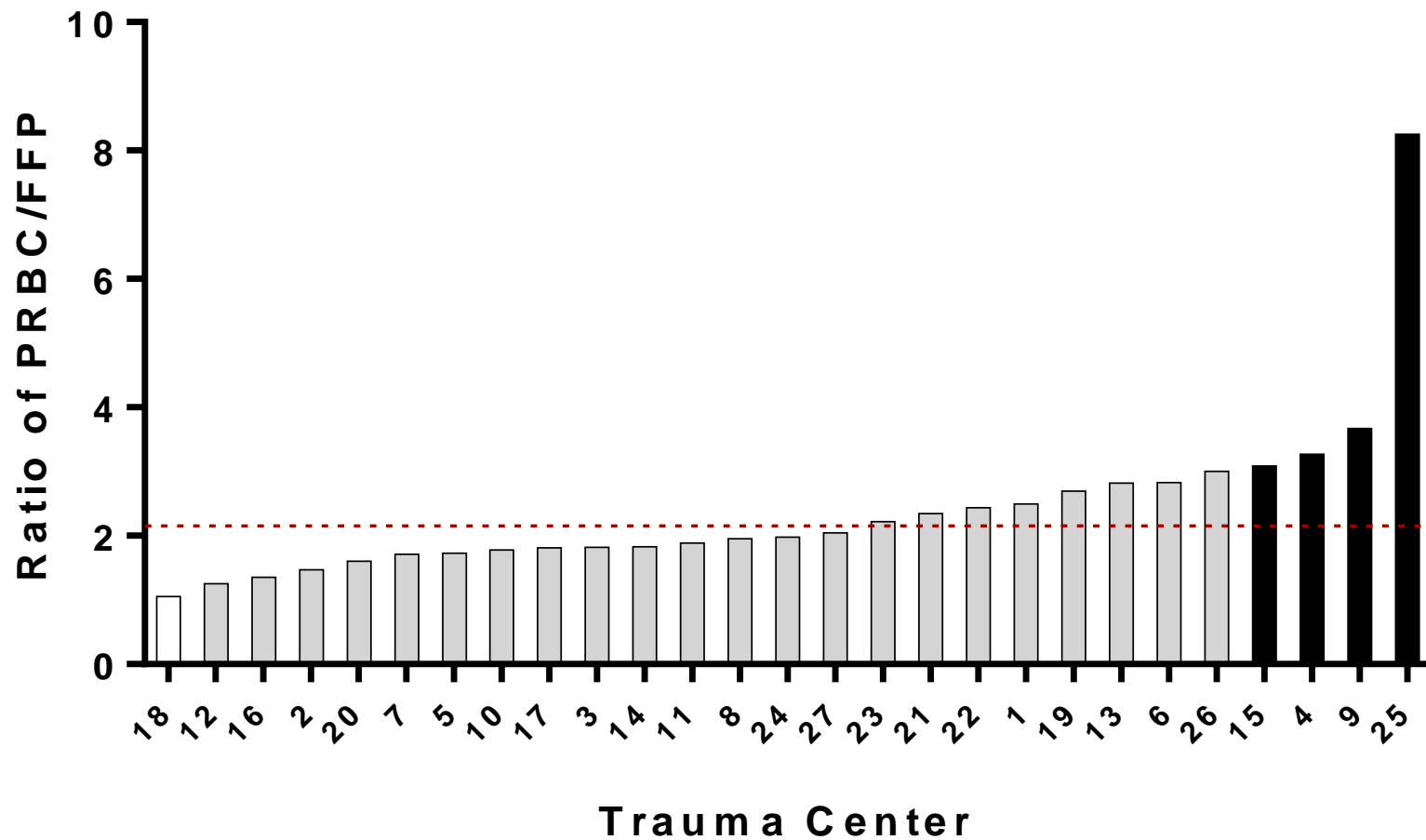
MTQIP 2015 Hospital Metrics

◆ Massive Transfusion

- ≥ 5 units PRBC's in first 4 hrs
- Average of tier points score for each patient
- 0 units FFP places patient in tier 4
- 11/1/13 to 4/30/15

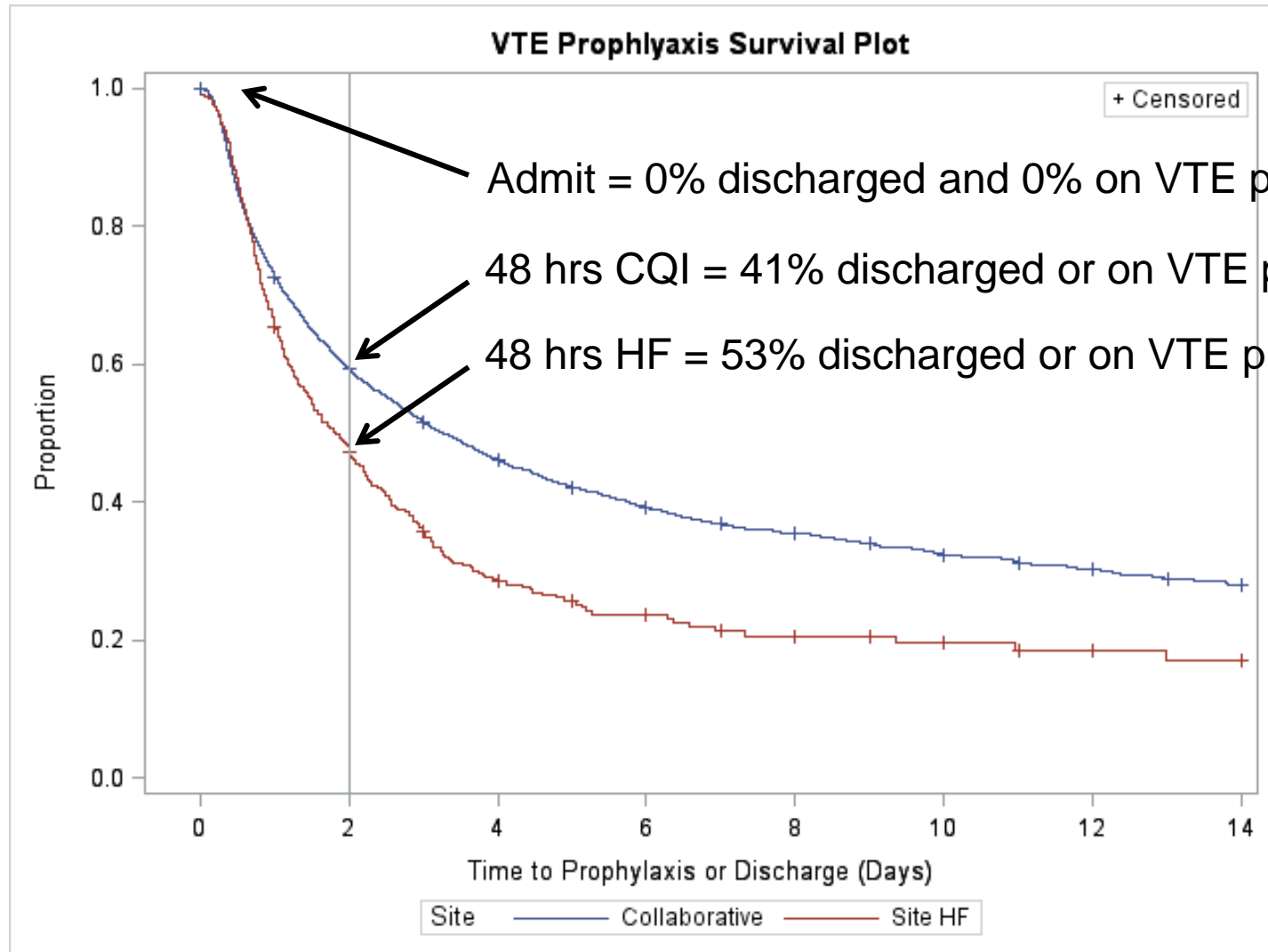
Ratio PRBC/FFP	Tier	Points
< 1.5	1	10
1.6 – 2.0	2	10
2.1 – 2.5	3	5
> 2.5	4	0

Blood Product Ratio in first 4 hrs if ≥ 5 uPRBCs



11/1/13 to 4/30/15

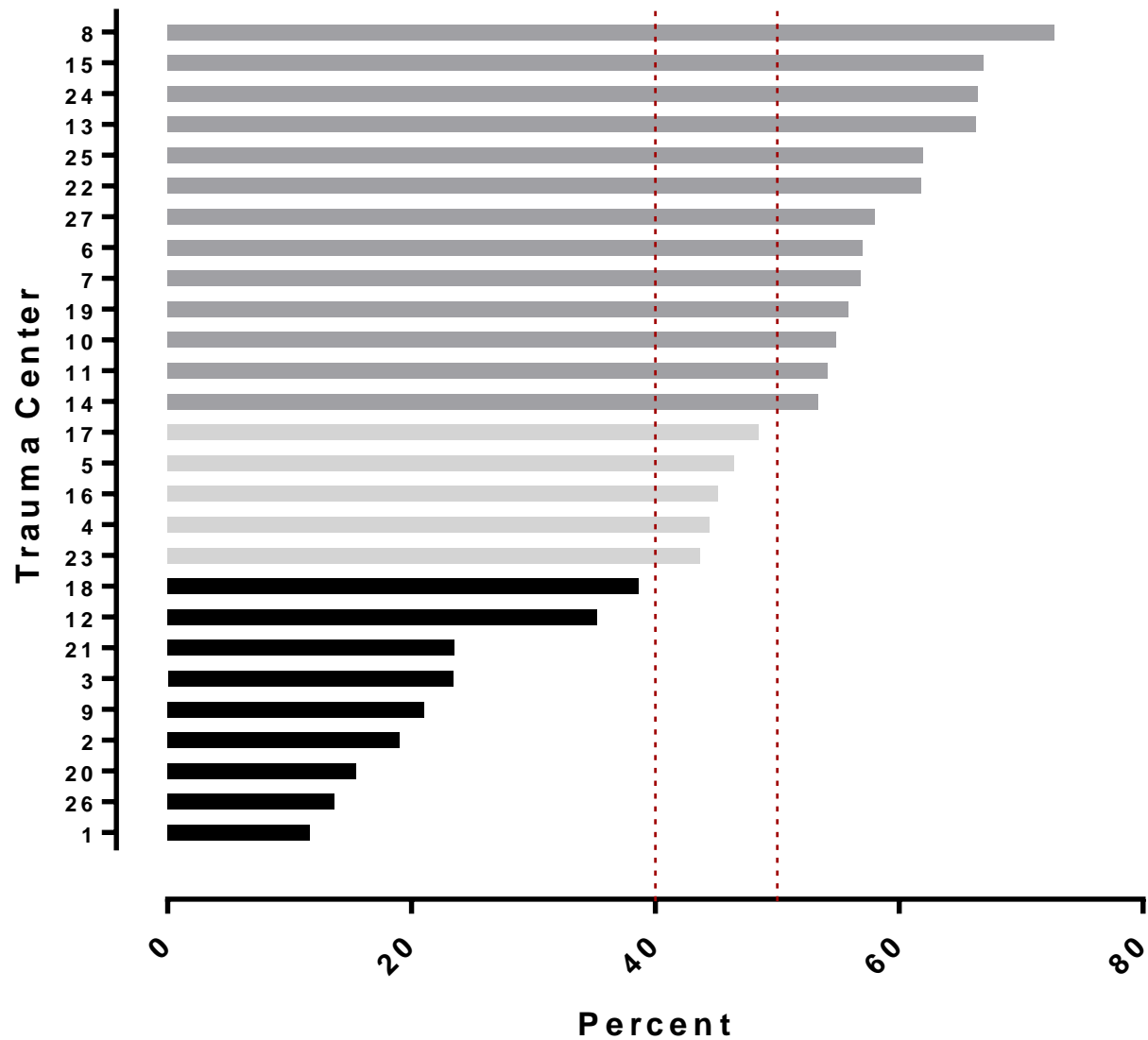
VTE Prophylaxis



VTE Prophylaxis

- ◆ Admit Trauma Service
 - In hospital with no VTE pro = non-Event
 - Discharge Home in 48 hrs = Event
 - VTE Prophylaxis in 48 hrs = Event
 - 11/1/13 to 4/30/15
- ◆ Rate
 - $\geq 50\%$ (10 points)
 - $\geq 40\%$ (5 points)
 - 0 – 39% (0 points)

Rate of VTE Prophylaxis by 48 hrs



11/1/13 to 4/30/15

Collaborative Metrics



MTQIP 2015 Collaborative Metrics

- ◆ Hemorrhage (≥ 5 u PRBC's first 4 hrs)
 - 11/1/13 to 4/30/15
 - % of patients with 4hr PRBC/FFP ratio ≤ 2.5
 - Begin = 34 %
 - Previous = 59 %
 - Current = **62 %** (163/263)
 - Target = 80 %

MTQIP 2015 Collaborative Metrics

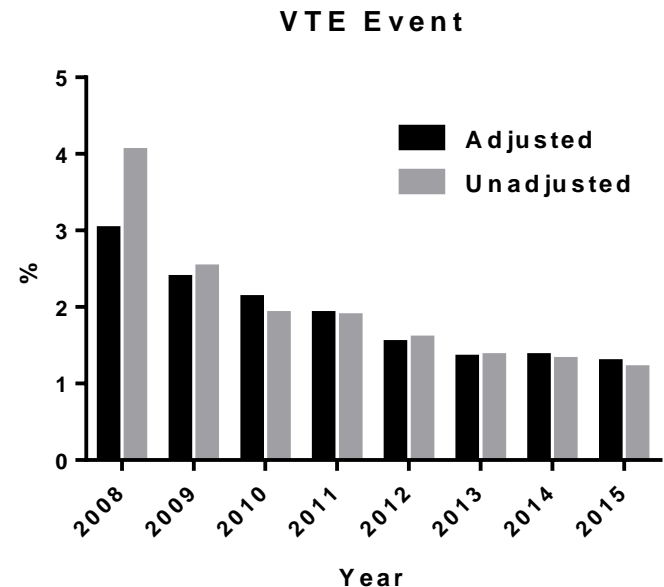
◆ VTE

■ VTE Rate

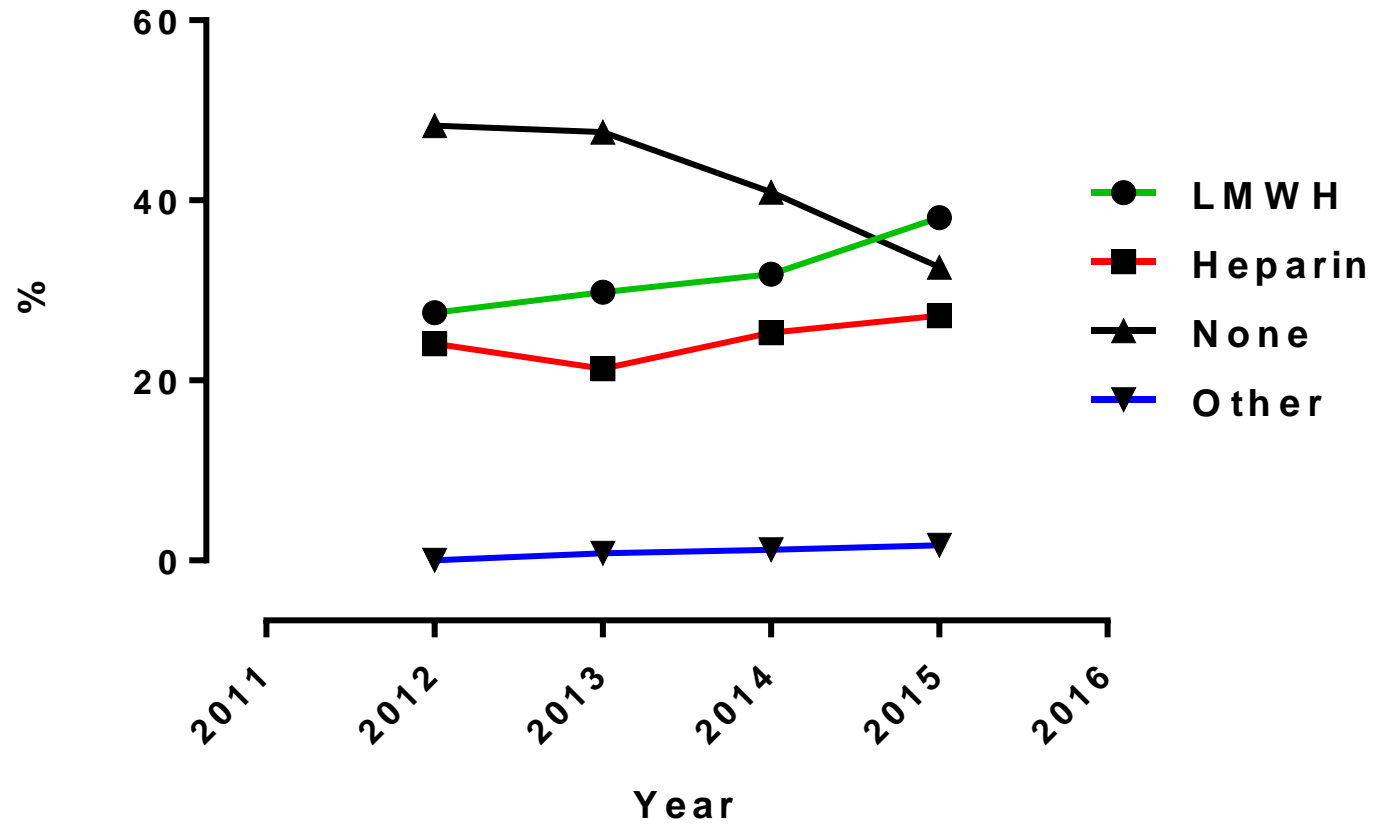
- Begin = 2.5 %
- Previous = 1.4 %
- Current = **1.3 %**
- Target = 1.5 %

■ 48 hr VTE Prophylaxis Rate

- Begin = 38 %
- Previous = 44 %
- Current = **46 %**
- Target = 50 %



Type VTE Prophylaxis



MTQIP 2015 Collaborative Metrics

◆ Brain Injury

■ Selection Criteria

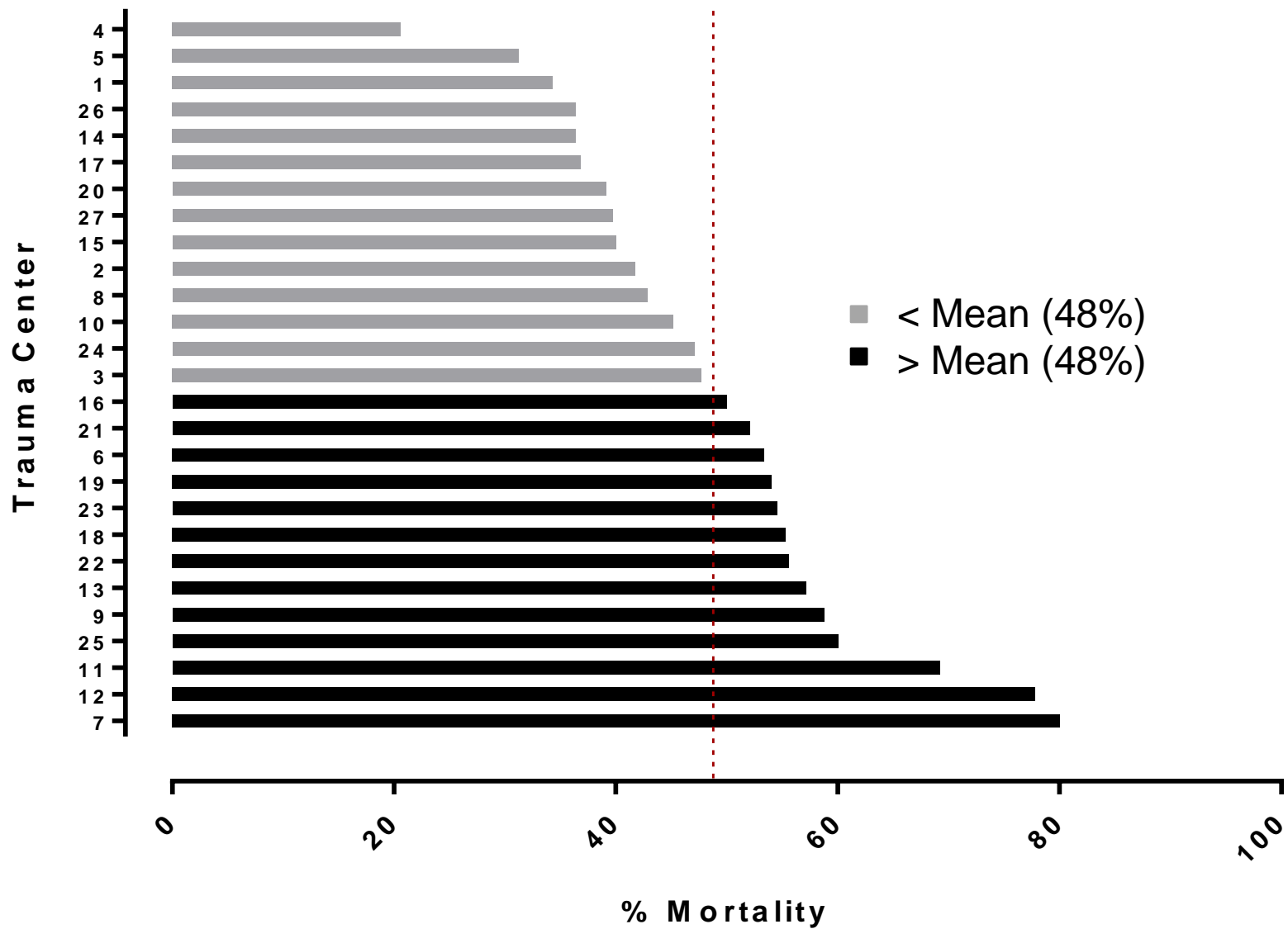
- AIS Head > 0, excluding vascular, scalp, and bony injuries
- Exclude if penetrating mechanism
- Exclude if no signs of life
- Exclude if direct admission transfer
- Exclude if TBI GCS>8

MTQIP 2015 Collaborative Metrics

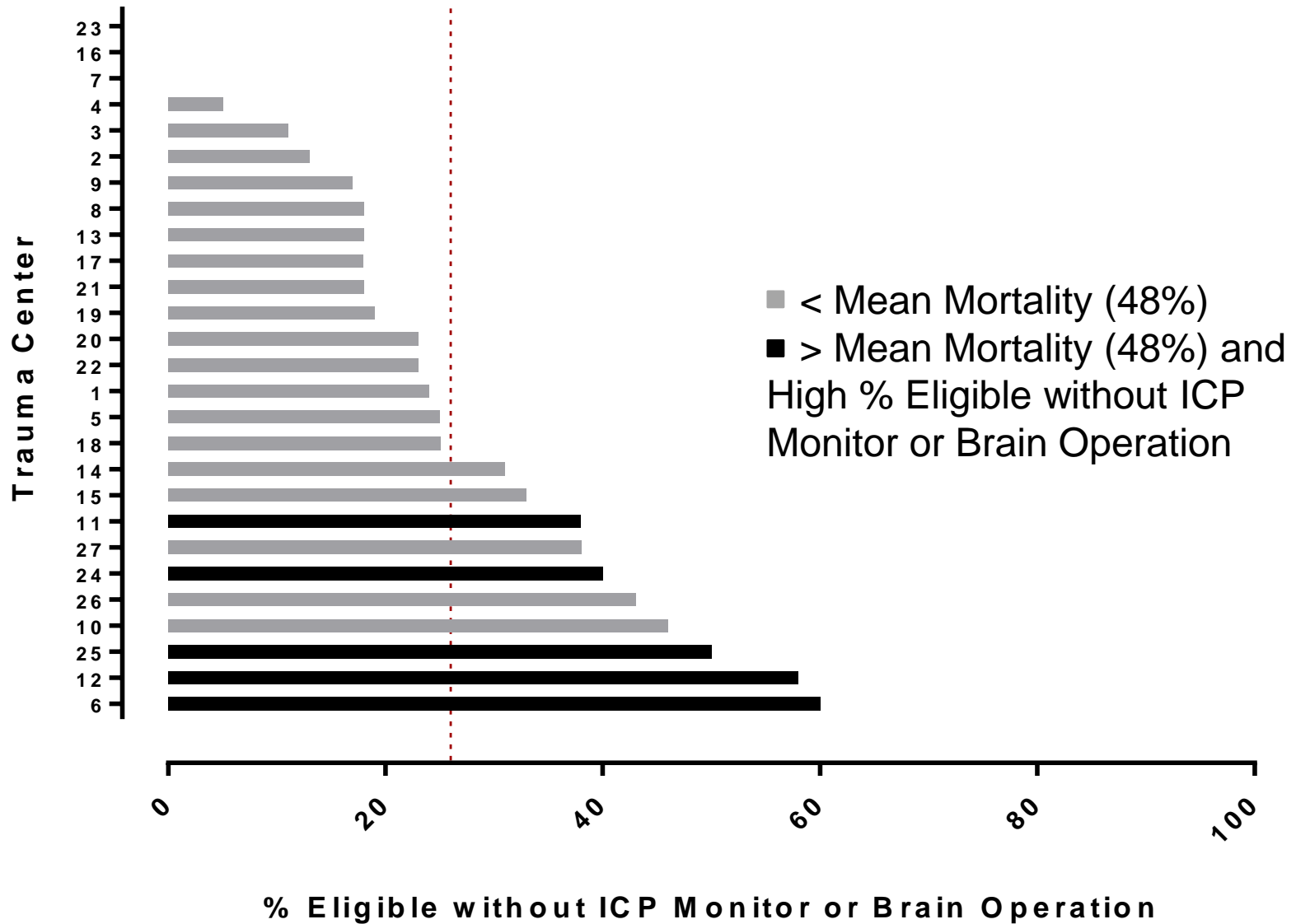
◆ Brain Injury

- % of eligible patients with TBI intervention (Monitor or Operation)
 - Begin = 57 %
 - Previous = 70 %
 - Current = **74 %**
 - Target = 70 %

TBI Mortality (Raw)



TBI Intervention



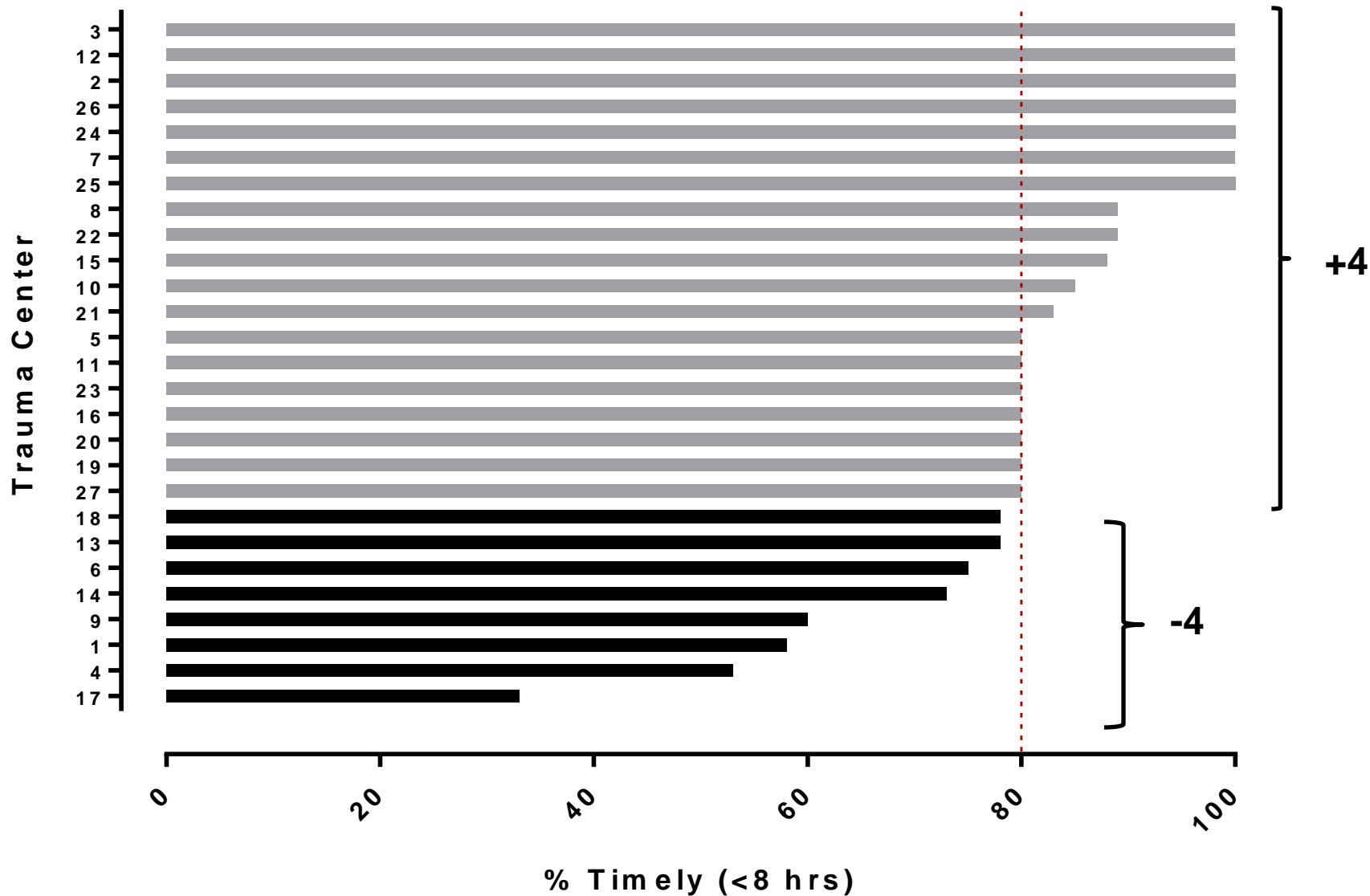
MTQIP 2015 Collaborative Metrics

◆ Brain Injury

- % of TBI intervention patients with timely intervention (≤ 8 hrs after arrival)
 - Begin = 65 %
 - Previous = 79 %
 - Current = **81 %**
 - Target = 80 %

TBI Intervention Timing

■ > 80% Timely
■ < 80% Timely





MTQIP Outcomes




- ◆ ArborMetrix Report

- 11/1/2013 to 4/30/2015 (Standard)
- 1/1/2012 to 4/30/2015 (Extended)

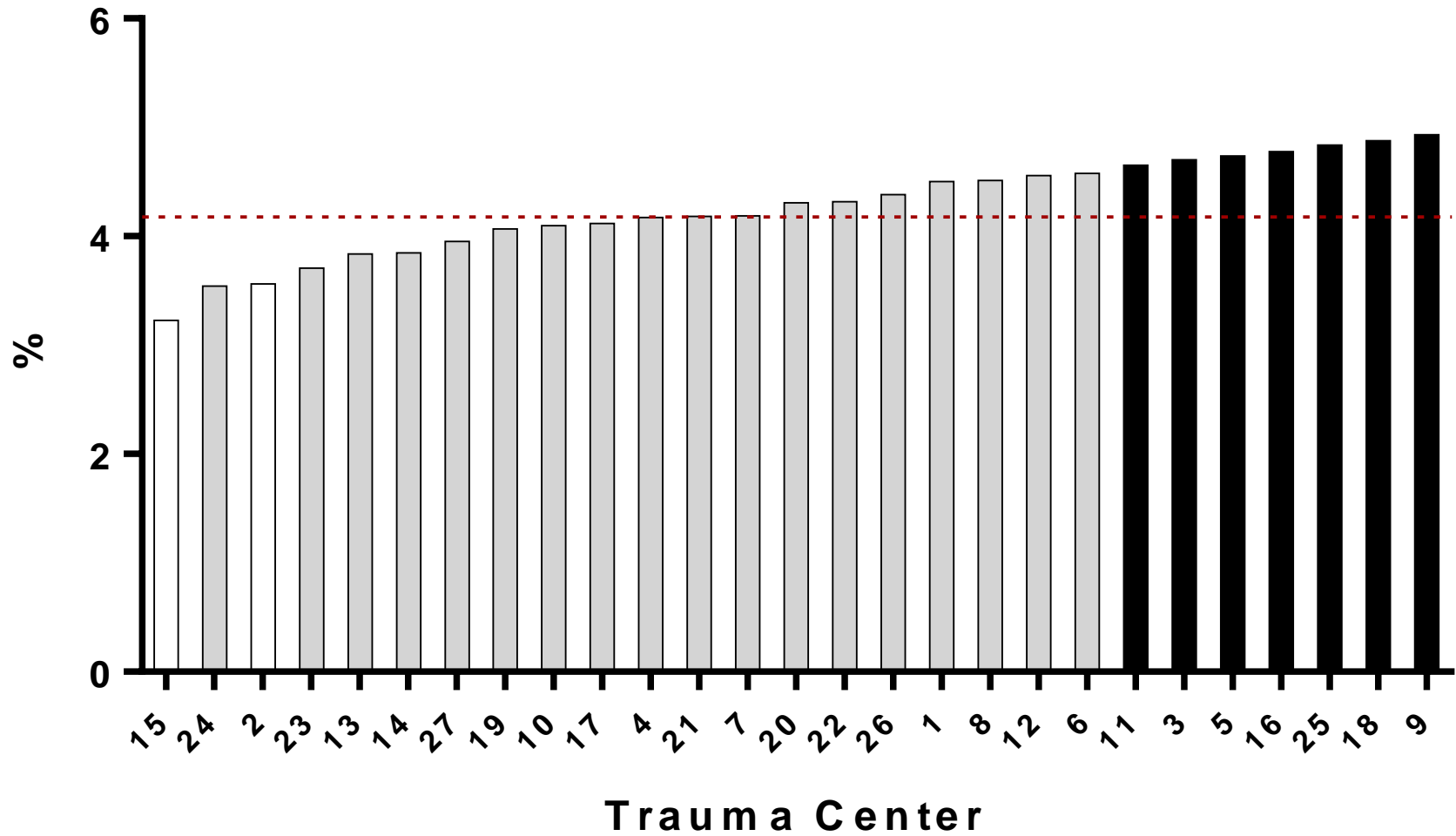
- ◆ Rates

- Risk and Reliability-adjusted
- Red dash line is collaborative mean

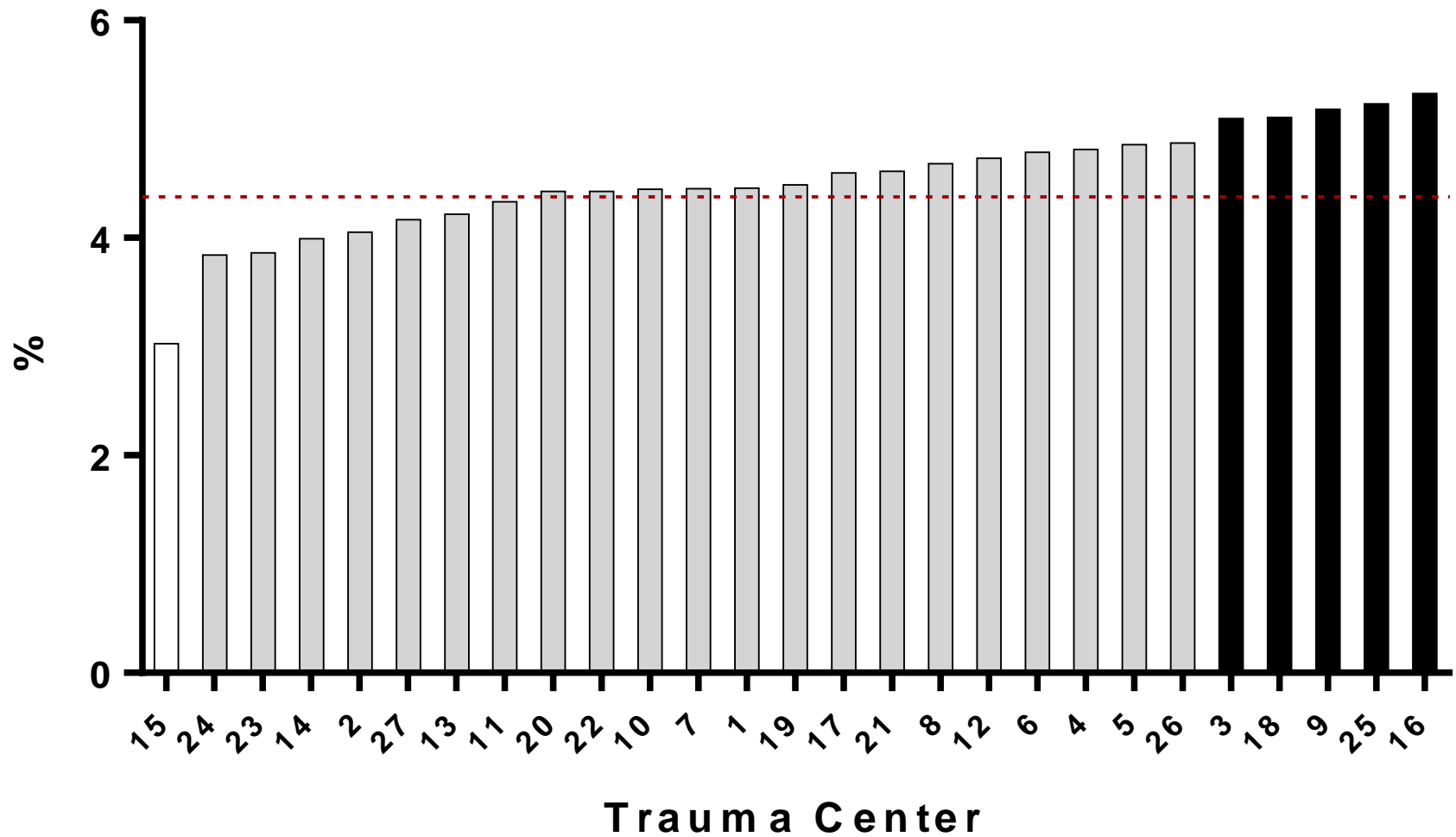
- ◆ Legend

-  Low-outlier status (better performance)
-  Non-outlier status (average performance)
-  High-outlier status (worse performance)

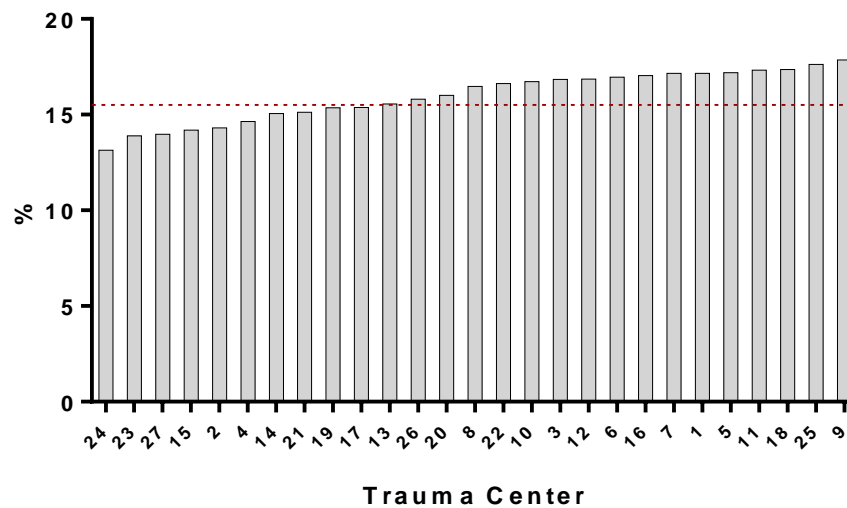
Mortality (Cohort 1 w/o DOA's)



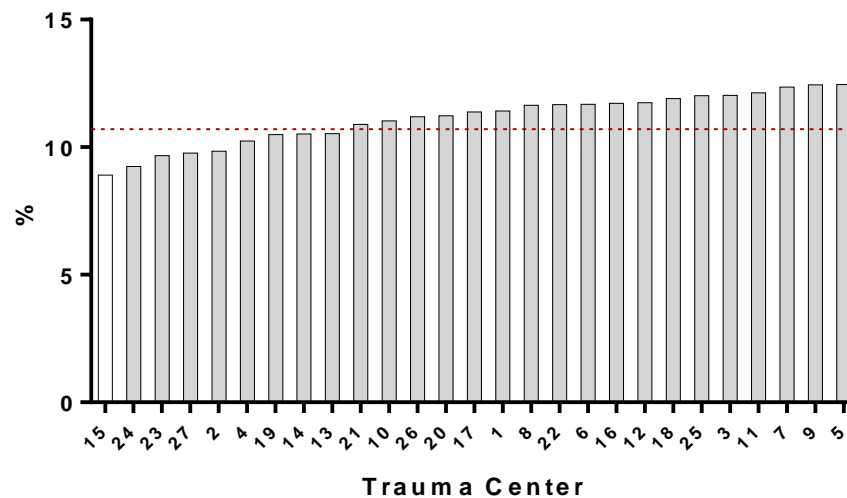
Mortality (Cohort 2 w/o DOA's)



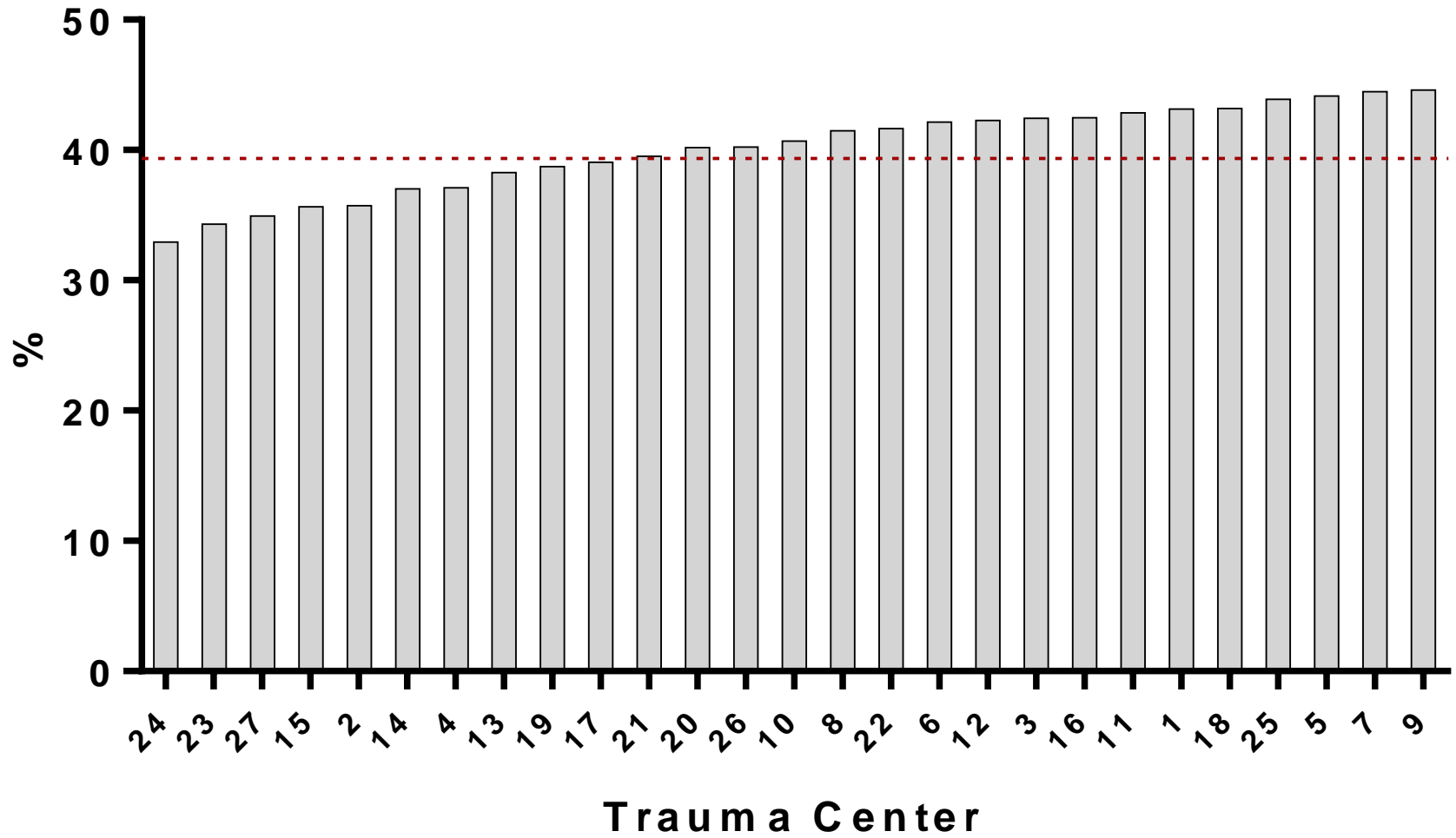
Mortality (Cohort 3 - Blunt Multi w/o DOA's)



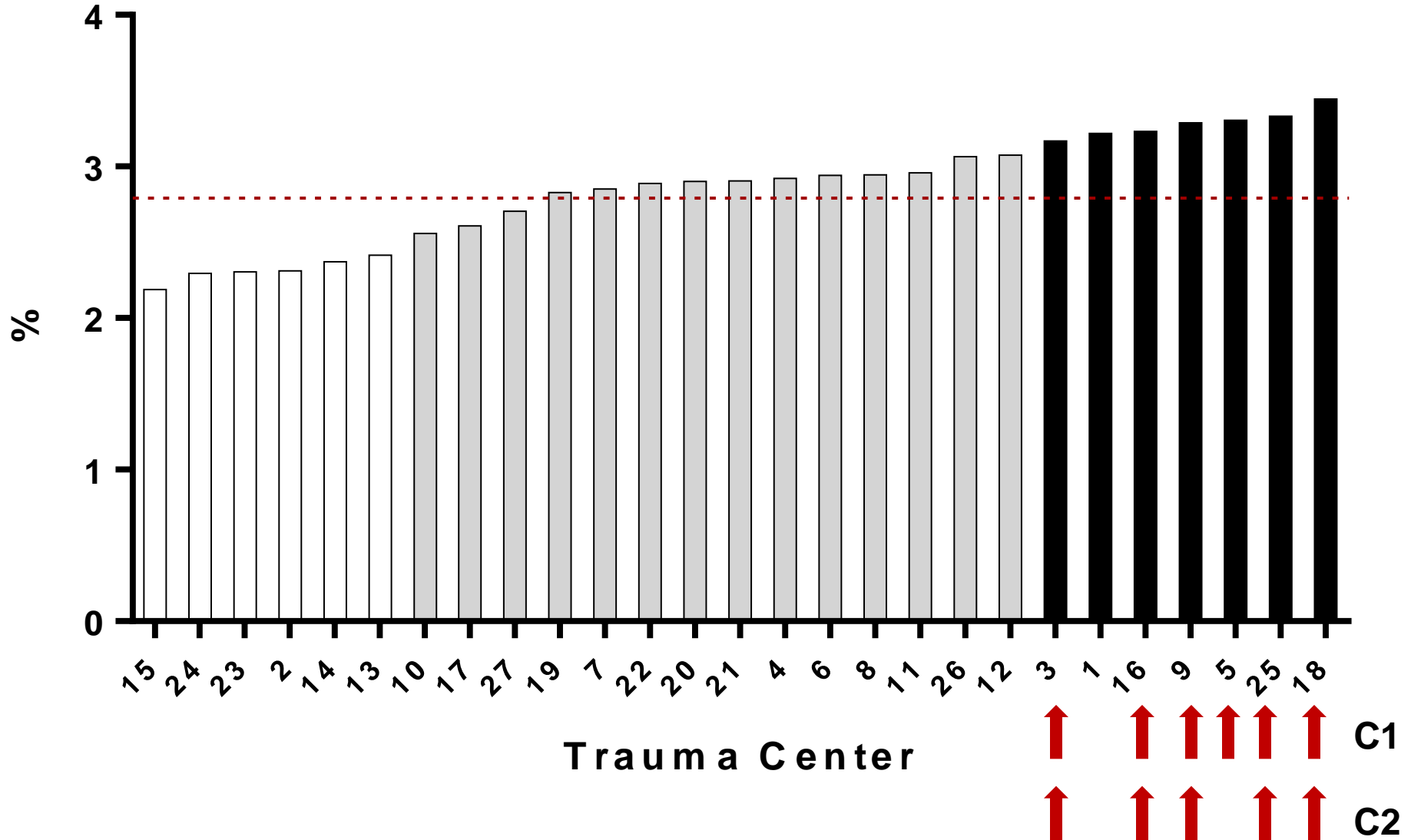
Mortality (Penetrating w/o DOA)



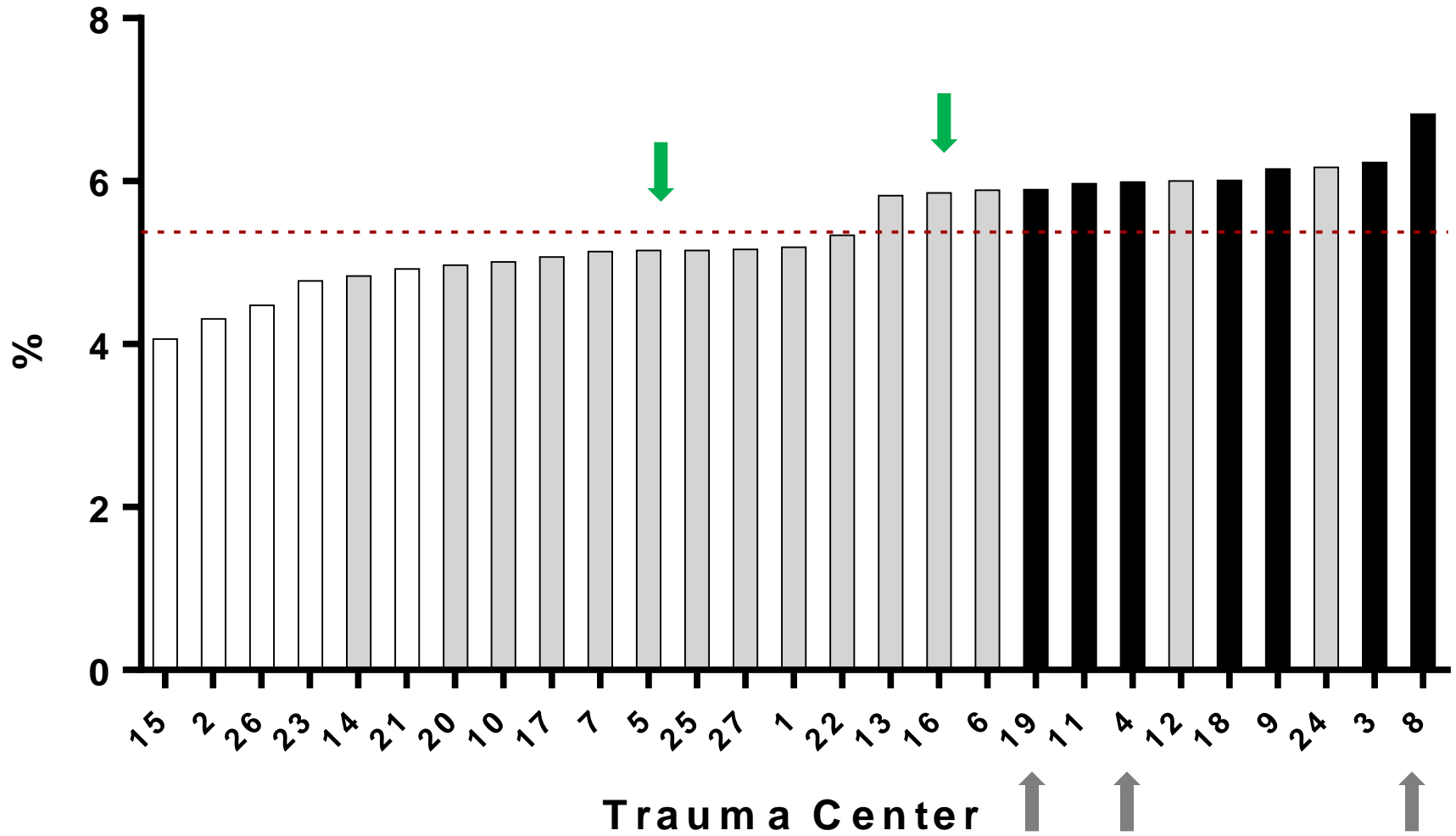
ISS > 35 Mortality



Mortality (Cohort 4 - Blunt Single w/o DOA's)

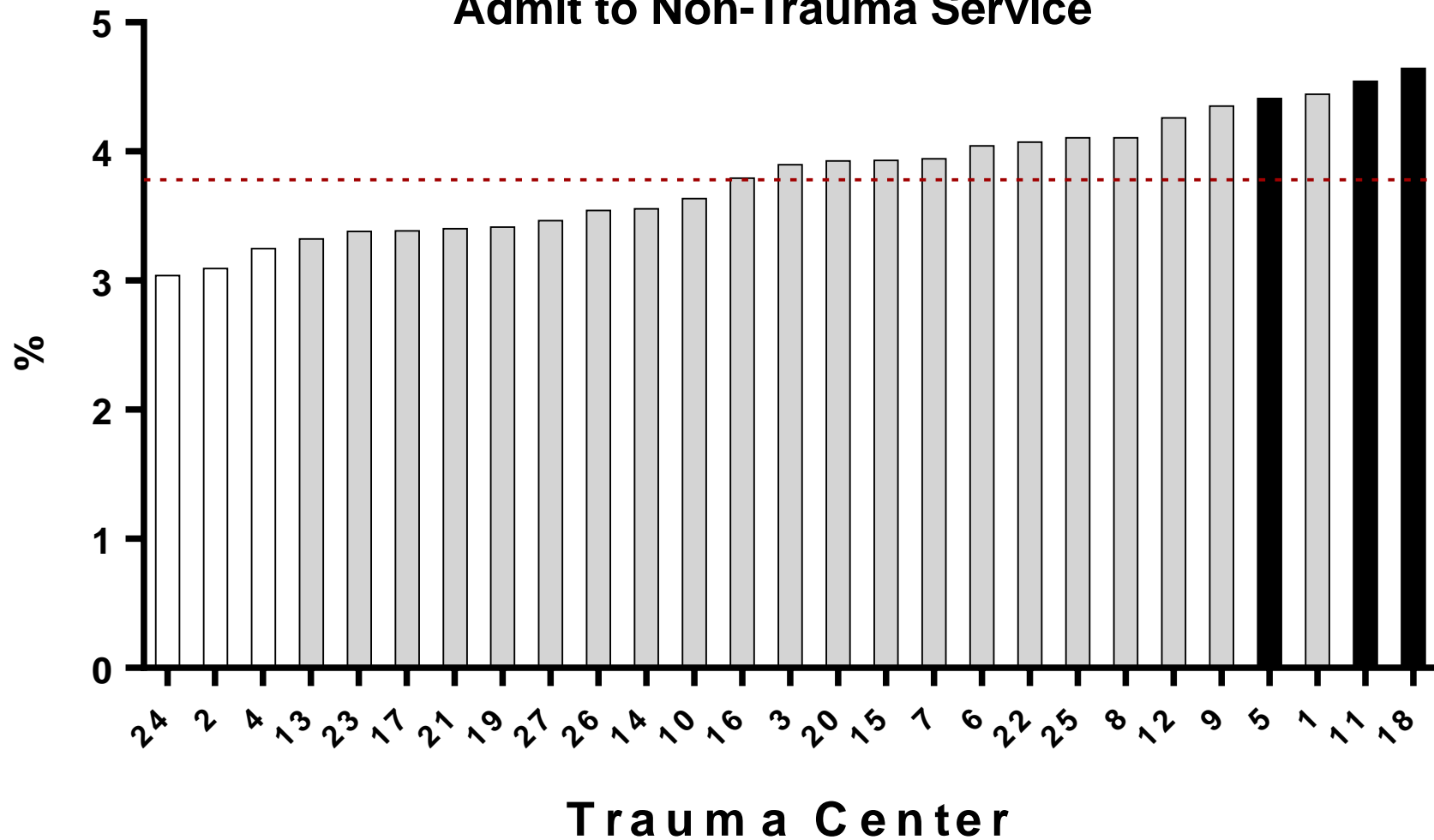


Mortality or Hospice (Cohort 1 w/o DOA's)

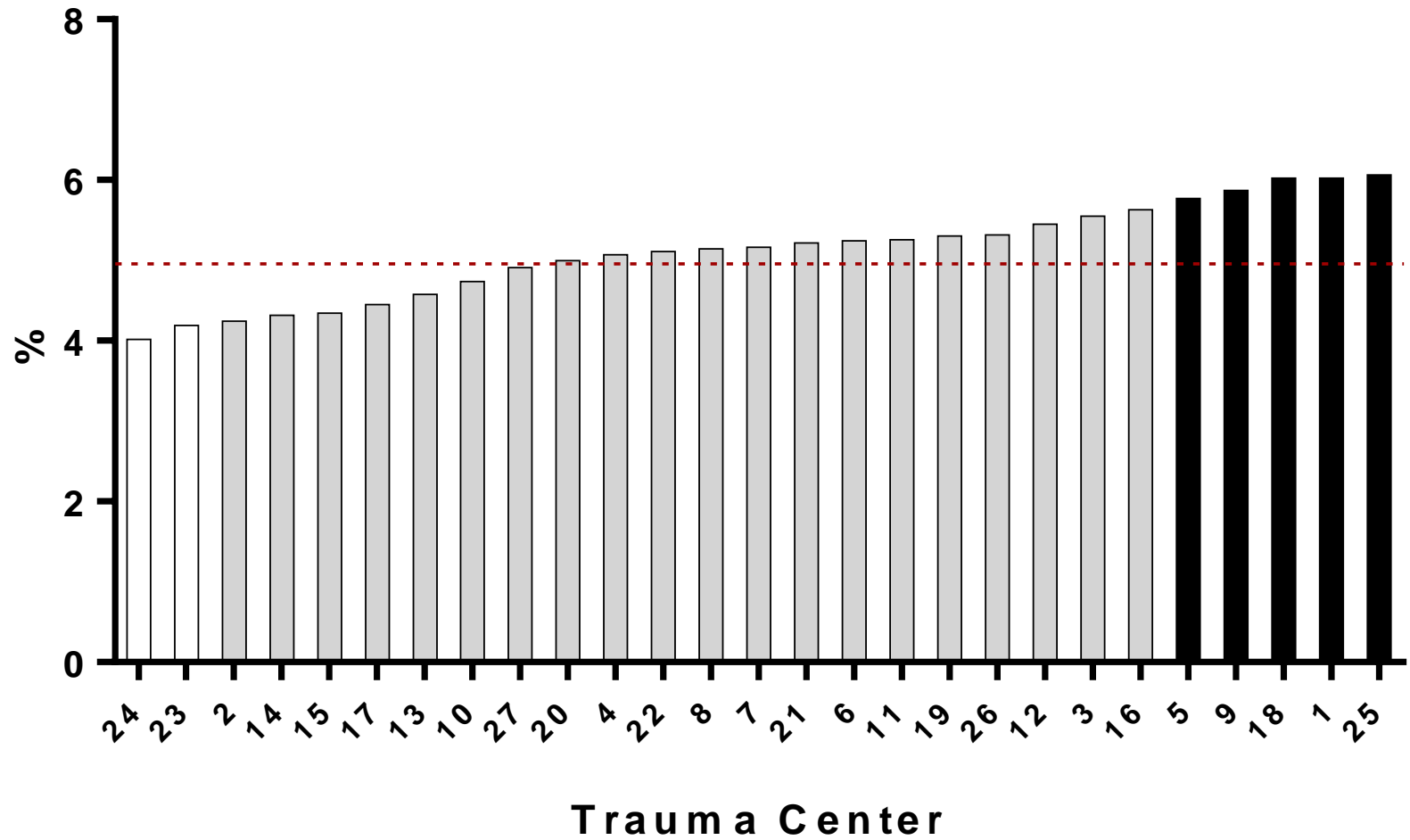


Mortality (Cohort 6)

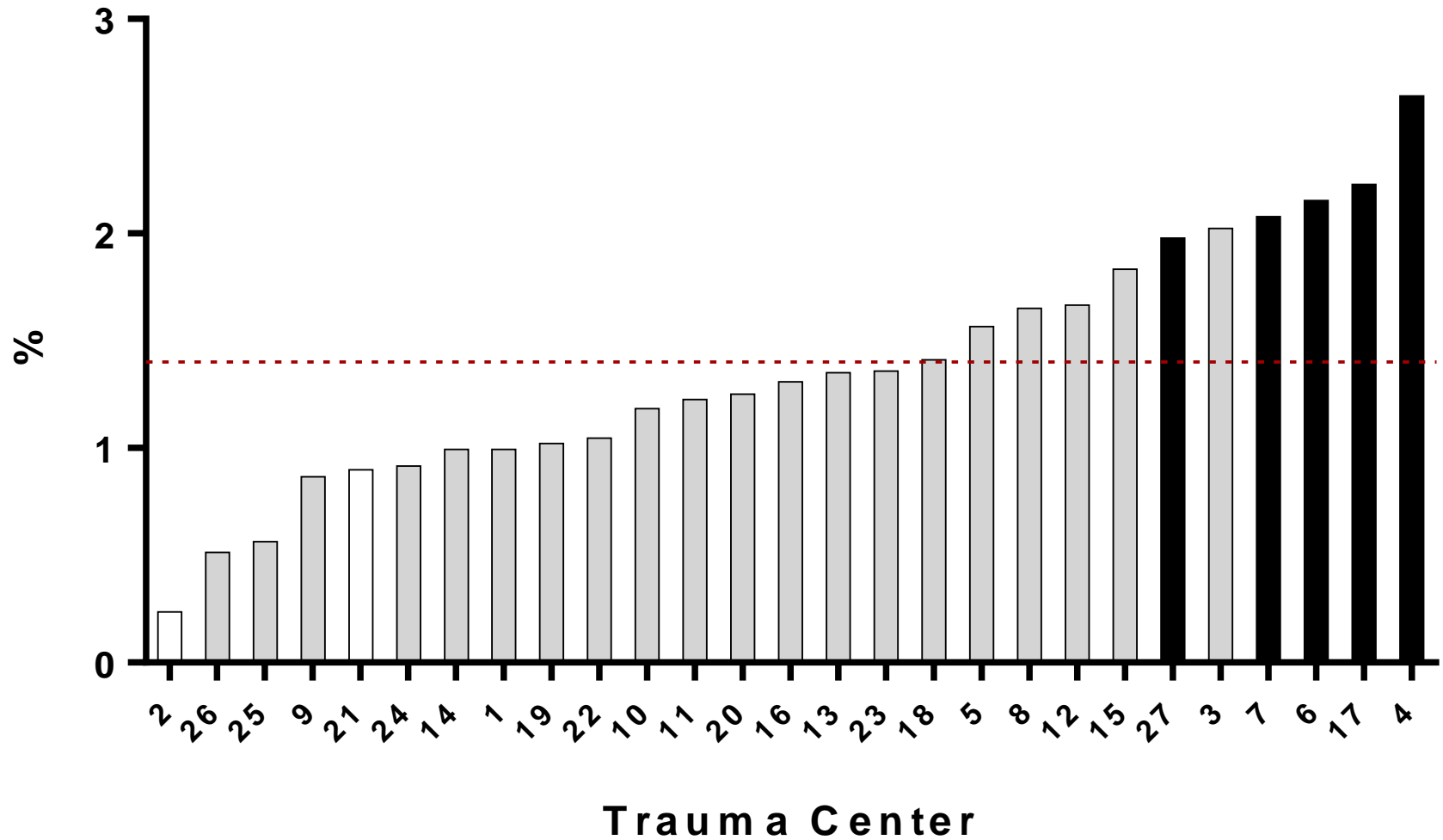
Admit to Non-Trauma Service



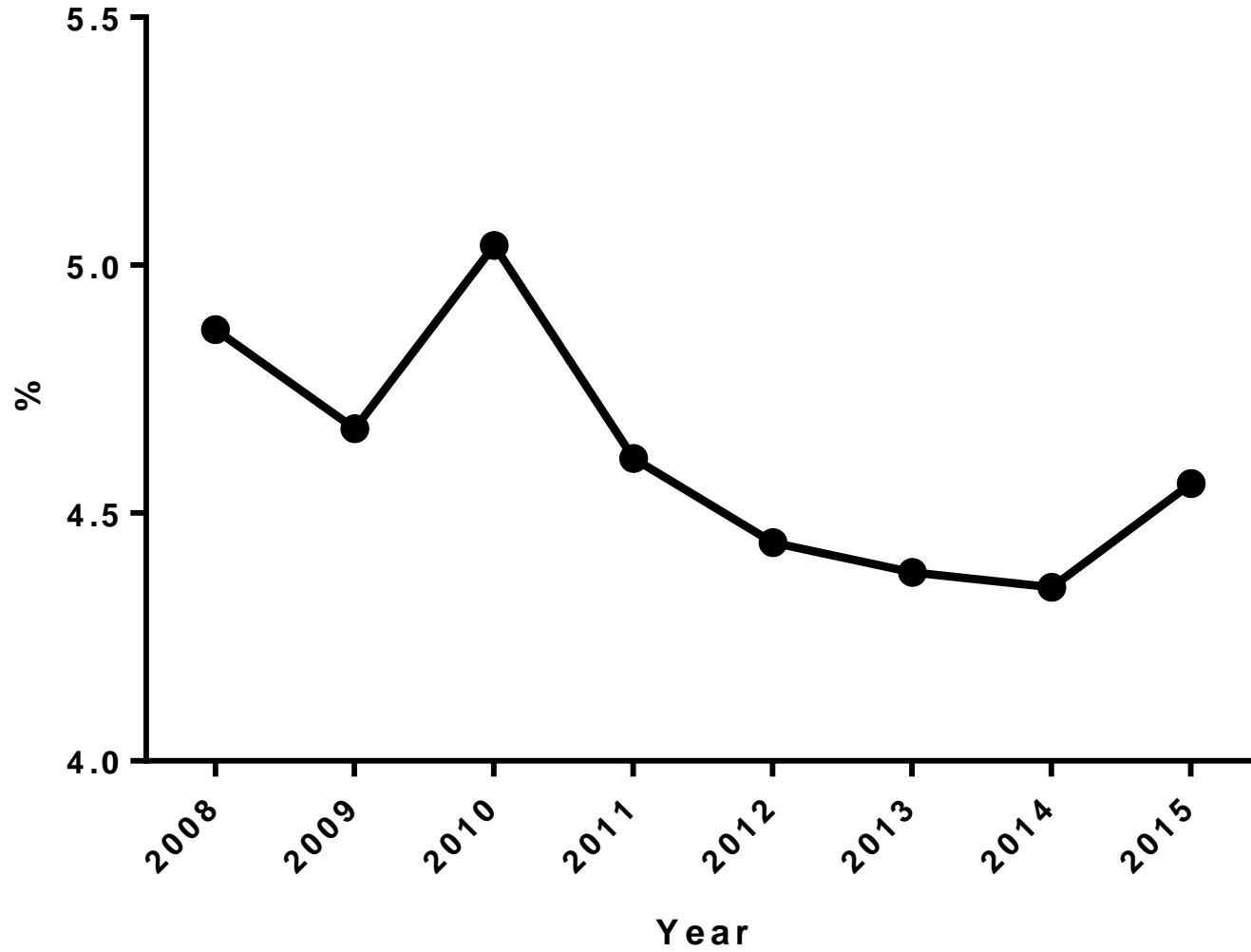
Mortality (≥ 65 yo)



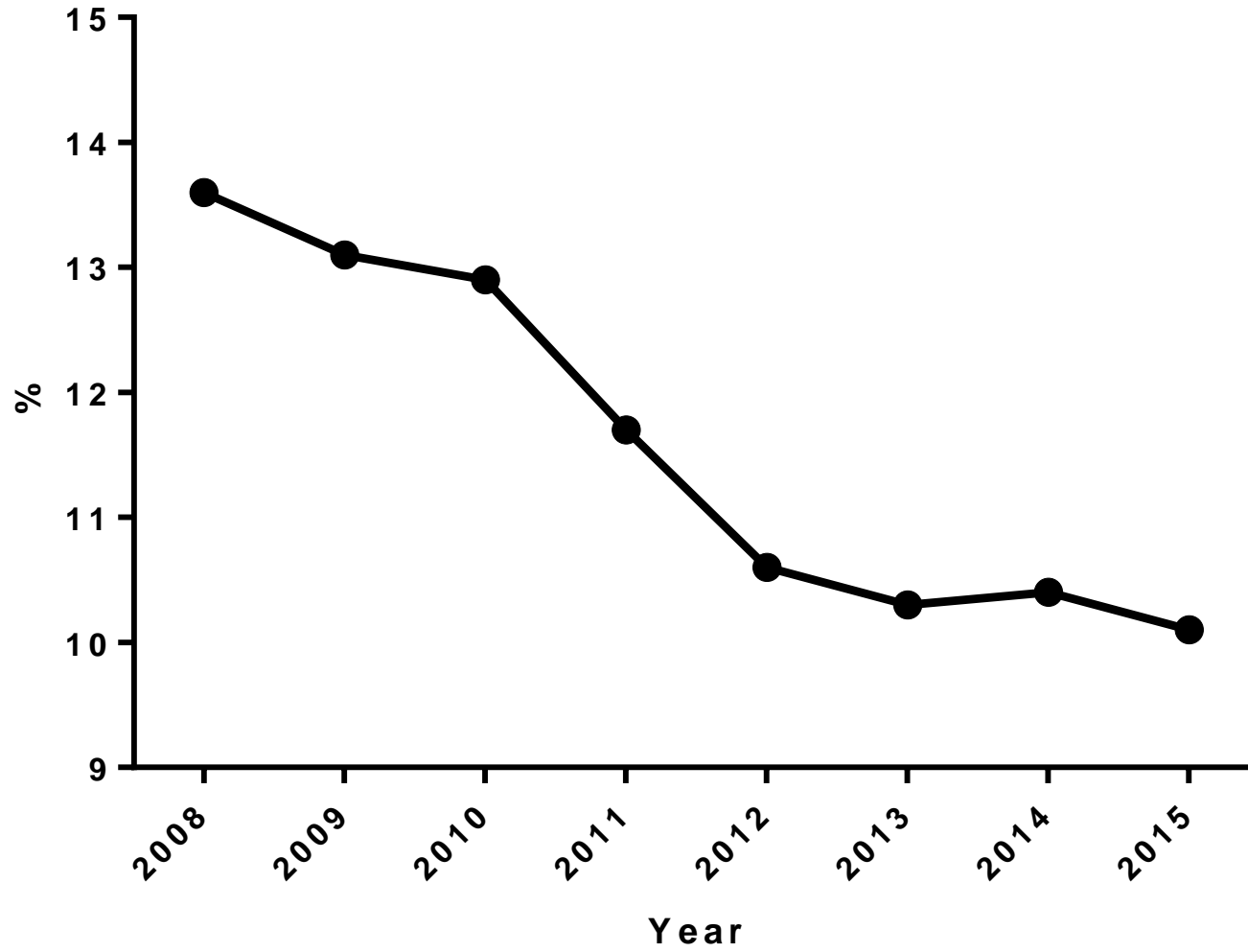
DVT/Pulmonary Embolus



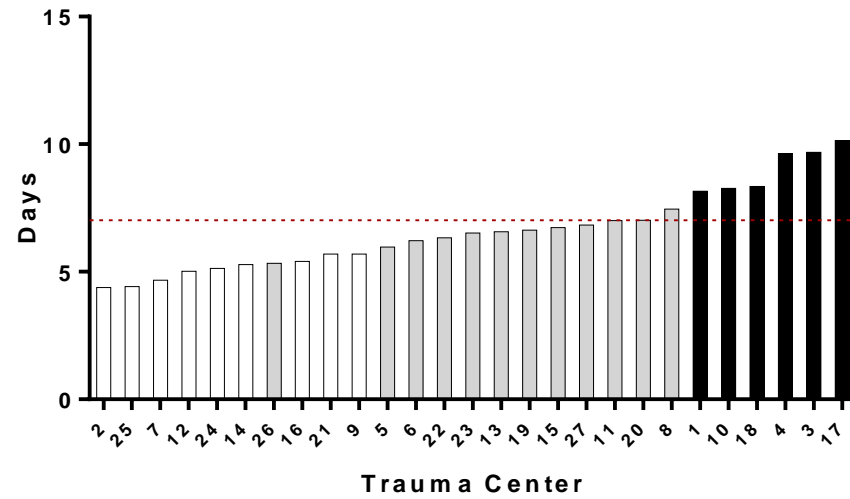
Consortium Outcome Overview - Dead



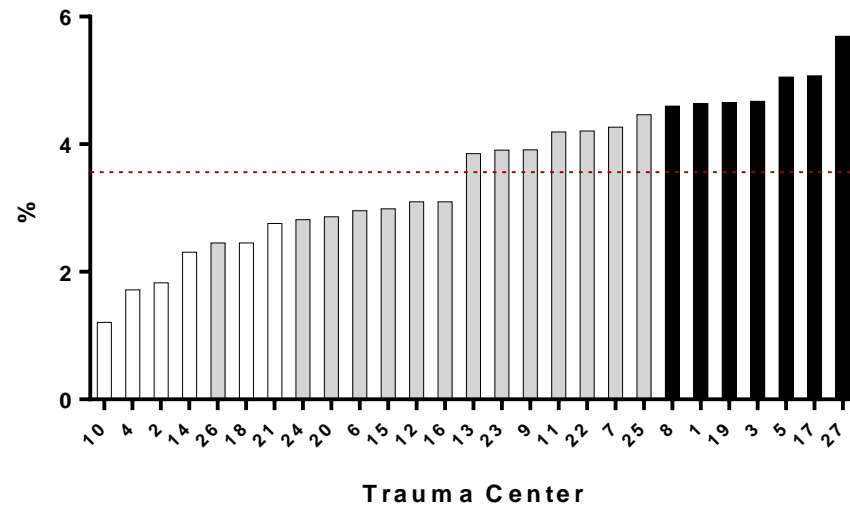
Consortium Outcomes Overview Serious Cx



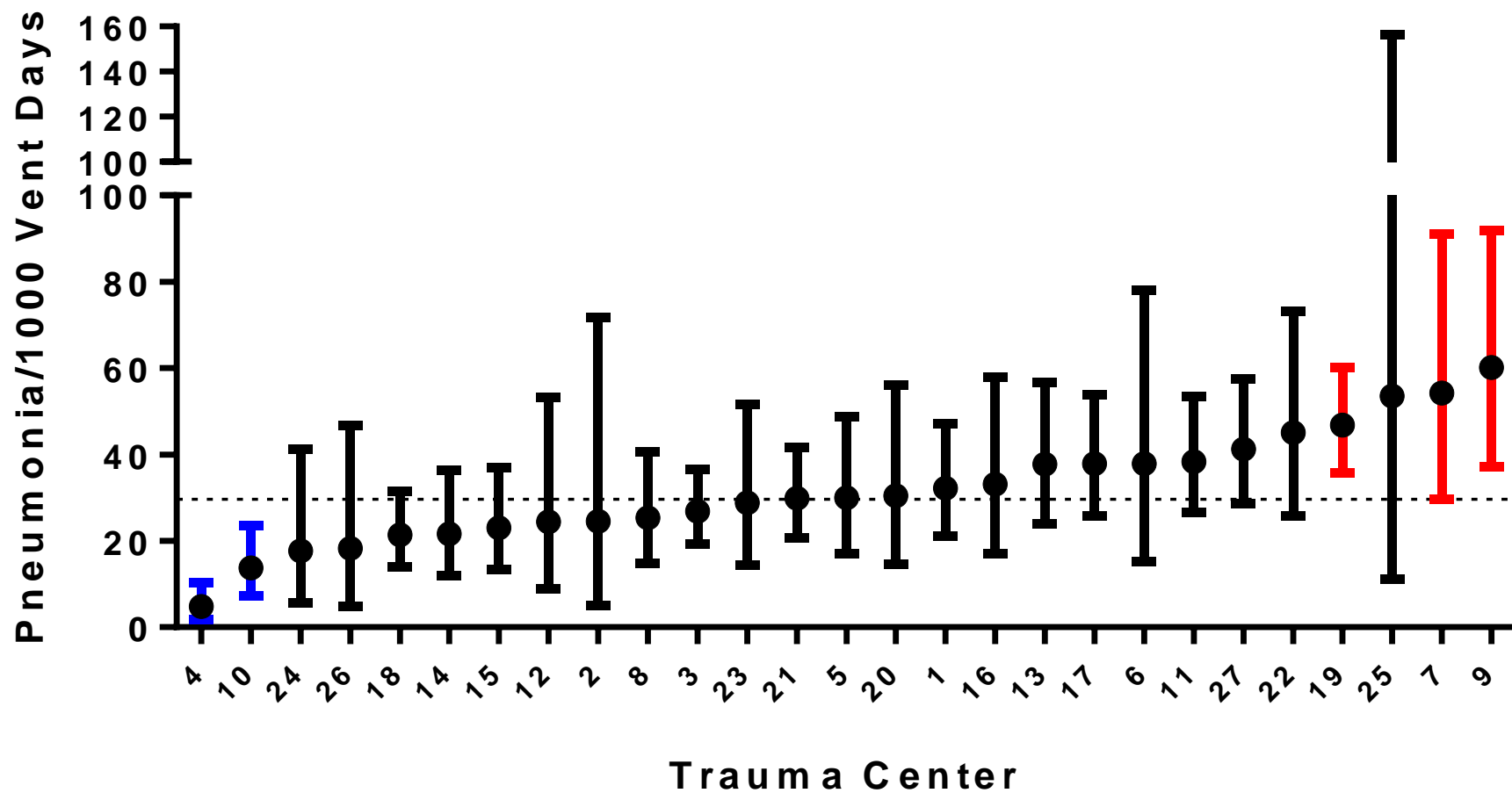
Adjusted Ventilator Days



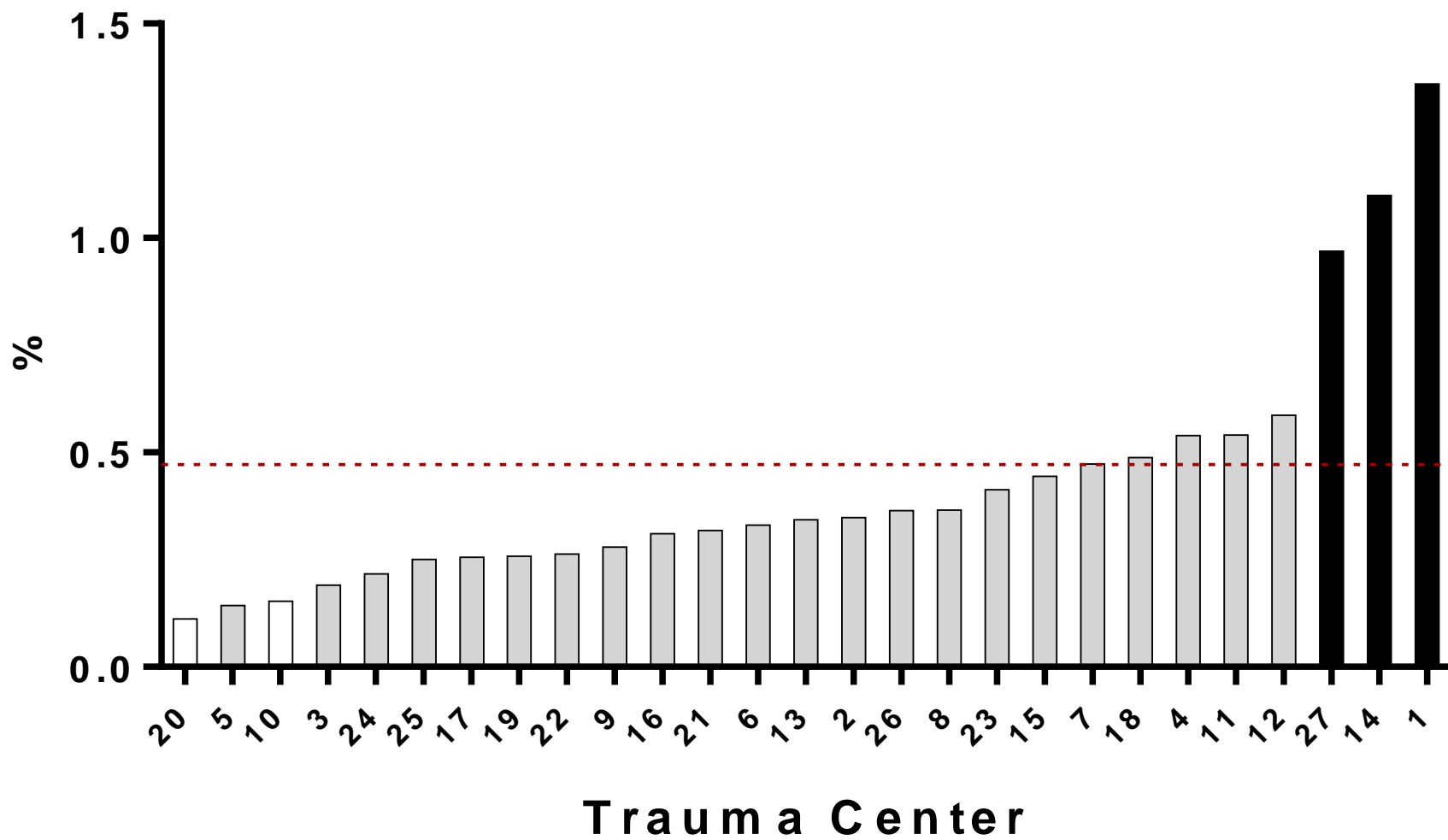
Pneumonia



Adjusted VAP

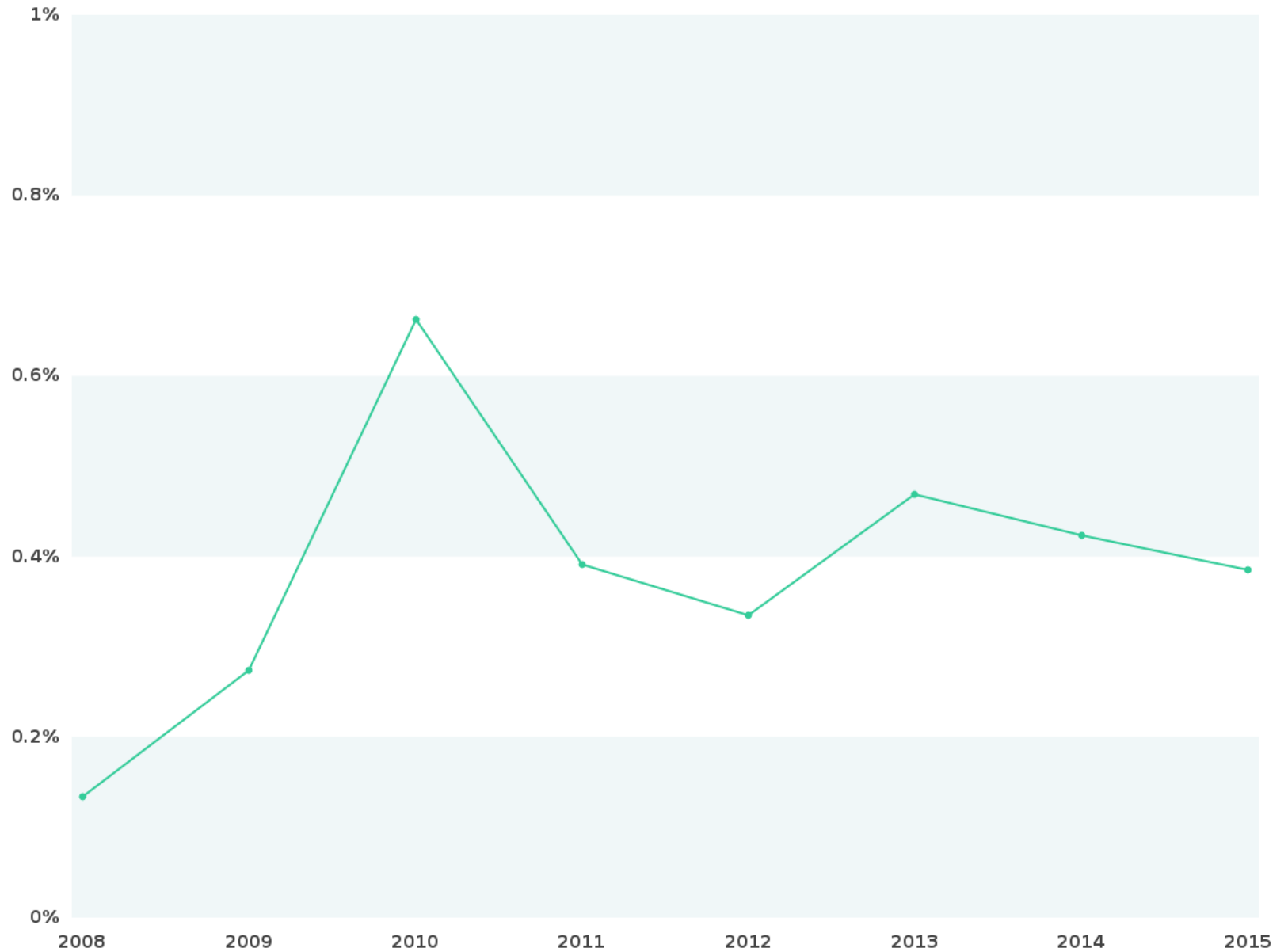


C. Difficile Colitis



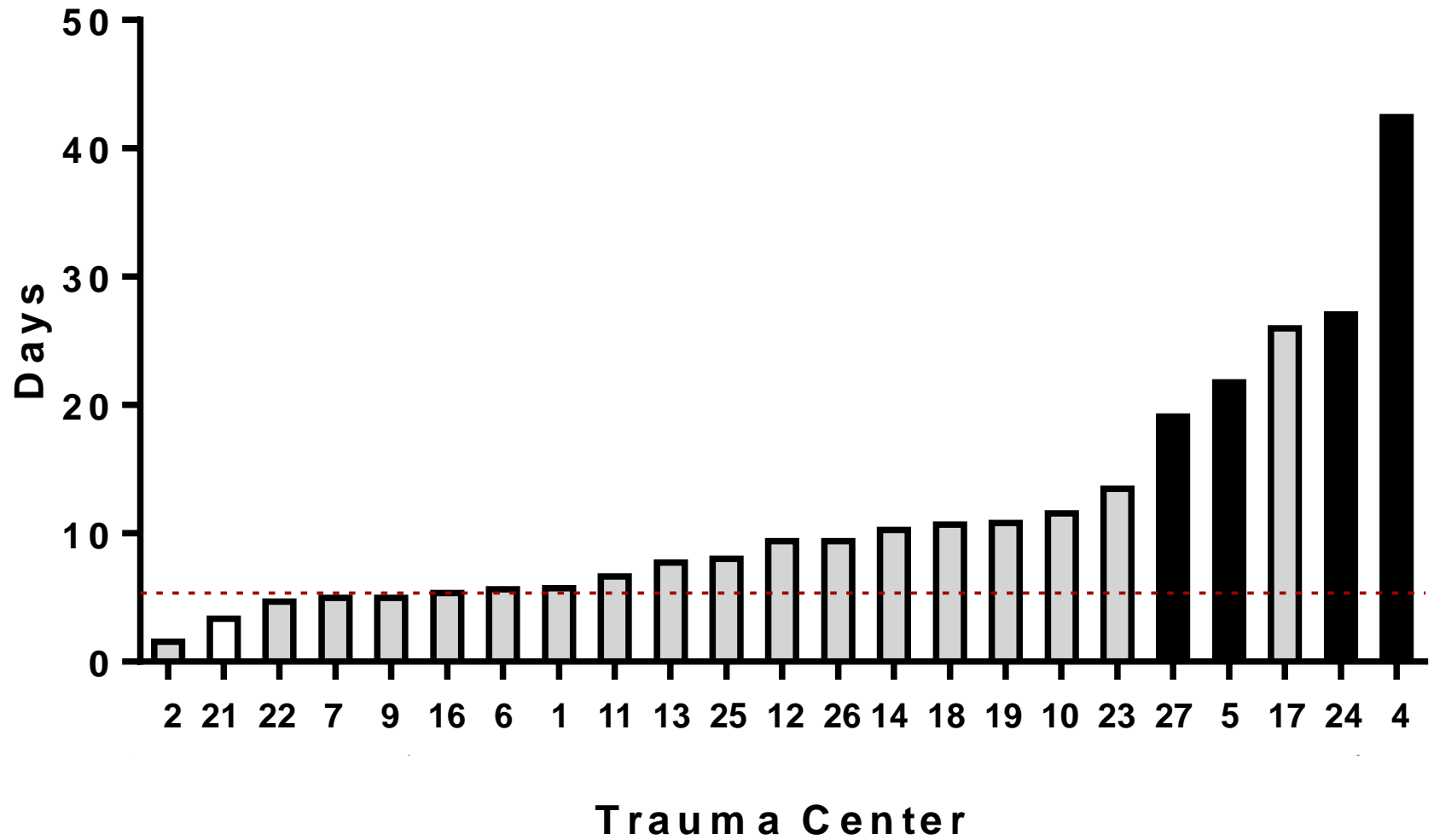
Complications Drill-Down - C. Diff Colitis

Exclude DOAs



LEGEND MTQIP - All Other Hospitals MTQIP - All 95% Confidence Interval

Adjusted Antibiotic Days



White House Medical Unit

Greta L. Krapohl
Lieutenant Colonel (Retired)
U.S Army Nurse Corps





Agenda



- **Mission**
- **History**
- **Roles & Responsibilities**
- **Care in the Air**
- **Care in Crisis**
- **Care at Home**
- **Selection Process**
- **Personal Memories**
- **Professional/Personal Lessons Learned**



Mission

The mission of the White House Medical Unit (WHMU) is to provide worldwide response and comprehensive medical care to the President, Vice President, and their immediate families.

When medically necessary, WHMU professionals coordinate and maintain full supervision of inpatient and subspecialty healthcare services provided at designated medical treatment centers.



Roles and Responsibilities

Primary Missions



- **“World-Class Healthcare”**: Confidential, immediate, and private access to preventive, routine, and urgent care for eligible White House principals.
- **“Protective Medicine”**: Medical readiness and execution in support of all possible emergency scenarios.
- **Continuity of the Presidency**: Full and immediate support of all Continuity programs.



Roles and Responsibilities Collateral Missions



- Global Medical Intelligence & Medical Support Planning
- Travel Medicine Support
- “Care By Proxy”
 - Taking care of those that take care of the President
- Urgent Care Clinical Services
- Emergency Medical Response
 - More than a half million annual visitors to the White House
- Force Protection
- Training and Personnel Development





Care at “Home”



- The “18 acres”
 - Naval Observatory
 - Camp David
 - Second Residences
-



Care in the “Air”

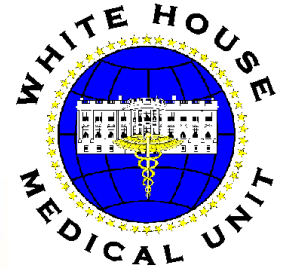


- Transport of critically ill patient to medical treatment facility
- Air Force One
- Marine One





Care in “Crisis”



- **Critical Incident Stress Management**
- **Continuity of the Presidency Training**
- **Contingency Sites Visits**
- **Simulation Training**
- **Assault on the Principal Exercises**





Questions?

Break

Back at 12:30p



Improving Efficiency During Trauma Resuscitation in the ED

**Michelle Maxson
Hurley**



Improving Efficiency During Trauma Resuscitation in the ED

Michelle Maxson, RN, MSN
Trauma Program Manager
Hurley Medical Center

Michael McCann, DO, FACOS, FACS
Chief of Trauma and Surgical Critical Care
Hurley Medical Center





Emergency Department

- 100,426 ED visits
- 16,811 Trauma related ED visits
- 1400 Trauma Activations
- 1635 Trauma Admissions
- 130 nurses
- 72 beds



Farouck Obeid Trauma Bay

- 4 beds with ability to flex up to 6
- CT scanner directly adjacent to trauma bay









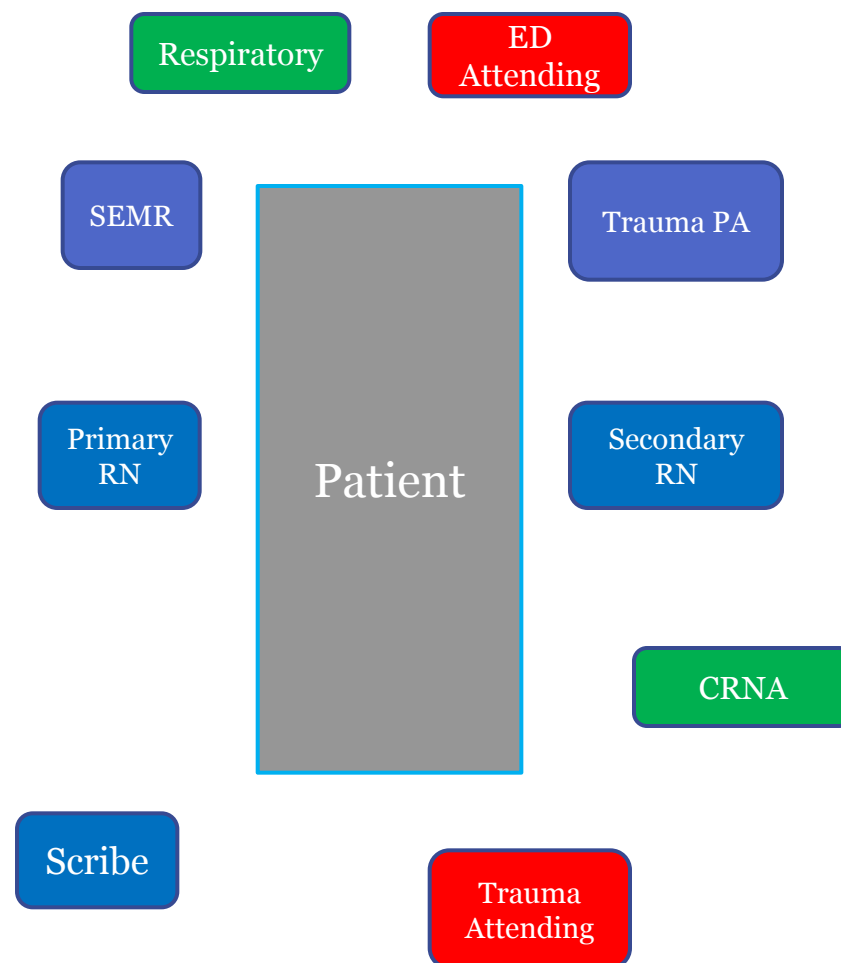
Problem

- Trauma resuscitation was disorganized
 - Lack of role clarity
 - Tasks were being duplicated
 - Other tasks being missed
 - Lack of consistency



Intervention

- Defined roles
 - Trauma surgeon
 - ED physician
 - Primary nurse
 - Secondary nurse





Intervention

- Developed a Trauma Class
 - Trauma resuscitation protocols/guidelines
 - Vitals
 - Monitoring
 - Activation criteria
 - Team roles and responsibilities
 - General rules of conduct during trauma resuscitation
 - Traffic Control
 - Chain of command



Trauma Class

- Documentation in medical record
- Hands-on skills assessment
 - Chest tube management
 - Rapid infuser
 - Assistance with invasive line placement
- Presentation from Trauma Services
- Mock Trauma
- Written Exam



Nurse Requirements

- 2 years experience in the ED or Critical Care Unit
- ACLS and PALS
- TNCC or ATCN
- Attend Trauma Class and pass Trauma Exam
- Must display appropriate competency during mock trauma
- Preferred: CEN/CCRN certification



Evaluation

- 1 year later
 - Lack of consistency
 - Documentation issues persisted
 - Over-crowding during resuscitations



Proposal

- Dedicated trauma nurse group
 - Push-back from nursing leadership
 - Scheduling concerns
 - Nurse recruitment and retention
 - Given 6 months to improve quality or move forward with dedicated group



Dedicated Trauma Nurse Group

- Must have met previously set requirements
- Must have passed trauma class
- Testing began for interested nurses
 - Basic knowledge assessment tool (BKAT)
 - ECG rhythm strip interpretation
 - Mock trauma



Mock Trauma Scenarios

- Conducted by TMD and TPM
- 30 minutes per nurse
- Scenarios were complex
- Used as evaluation tool and teaching tool





Dedicated Trauma Nurse Group

- 30 nurses were selected to be in the dedicated group
- Monthly lectures
 - Minimum attendance at lectures of 70%
 - Topics
 - Initially selected from deficiencies identified during mock traumas

Topics

- Resuscitation
 - Use of TEG
 - TXA
 - Permissive hypotension
 - Hemostatic resuscitation
 - Massive Transfusion Protocol
- Pelvic fracture management
- TBI management
- ED thoracotomy
- Burn resuscitation
- Pediatrics and Geriatrics
- Case presentations
- Anticoagulation reversal



ED Efficiency Measures

- ED efficiency measures were chosen
 - ED dwell time
 - Time to OR
 - Time to CT
 - Time to vitals
 - Time to IV



ED Efficiency Measures

- Calculated using median times per month
- Presented monthly
 - Trauma M & M
 - Trauma Systems Meeting
 - Posted in trauma nurse work-room
 - Discussed with trauma nurses at monthly lecture



October 2015

	ED Dwell Time	Time to OR	Time to CT	Time to Vitals	Time to IV
Class I					
Class II					



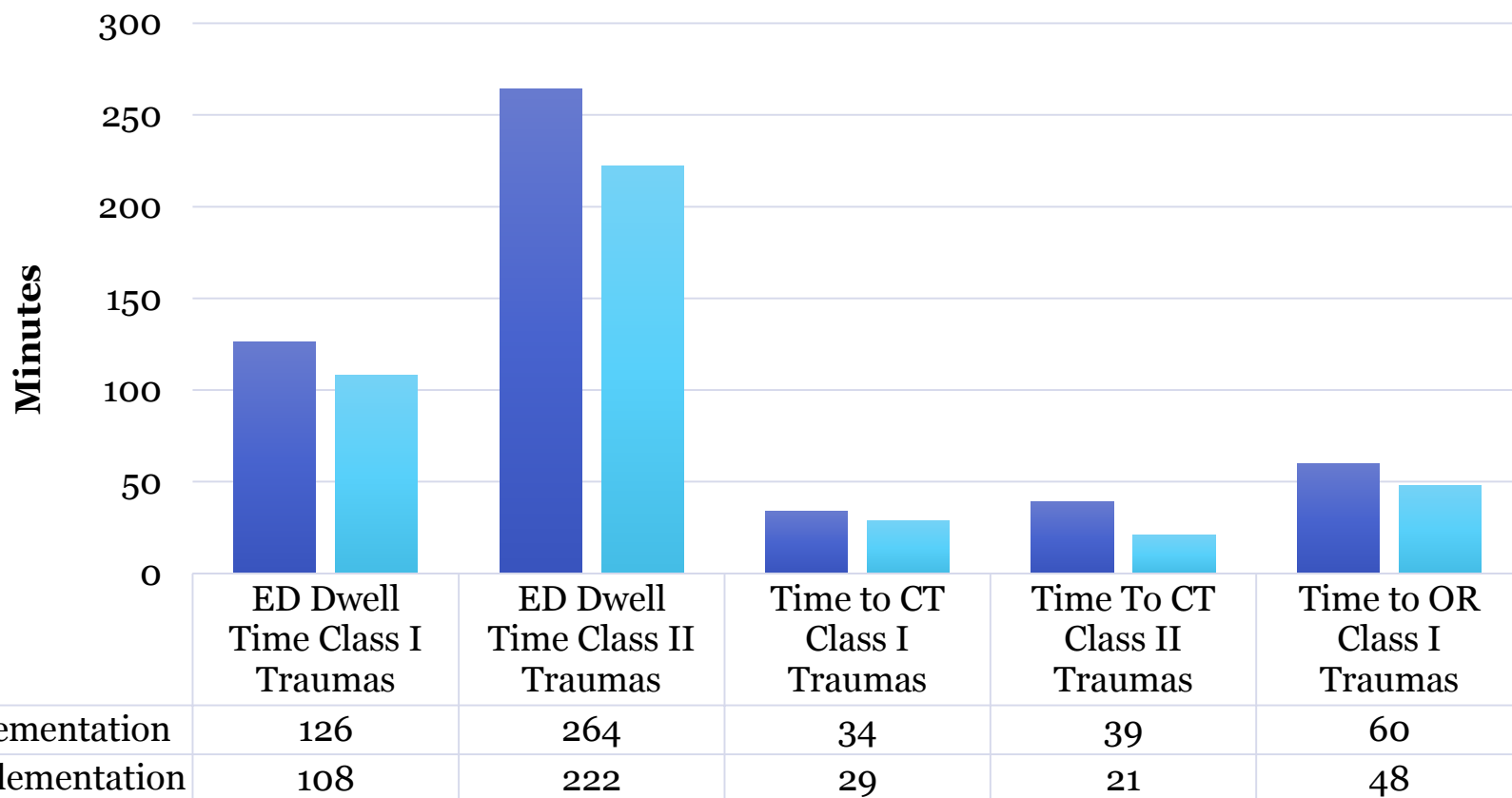
ED Efficiency Measures

- During implementation timeframe
 - 254 Class I trauma activations
 - 454 Class II trauma activations
- Pre and Post implementation data were compared for evaluation

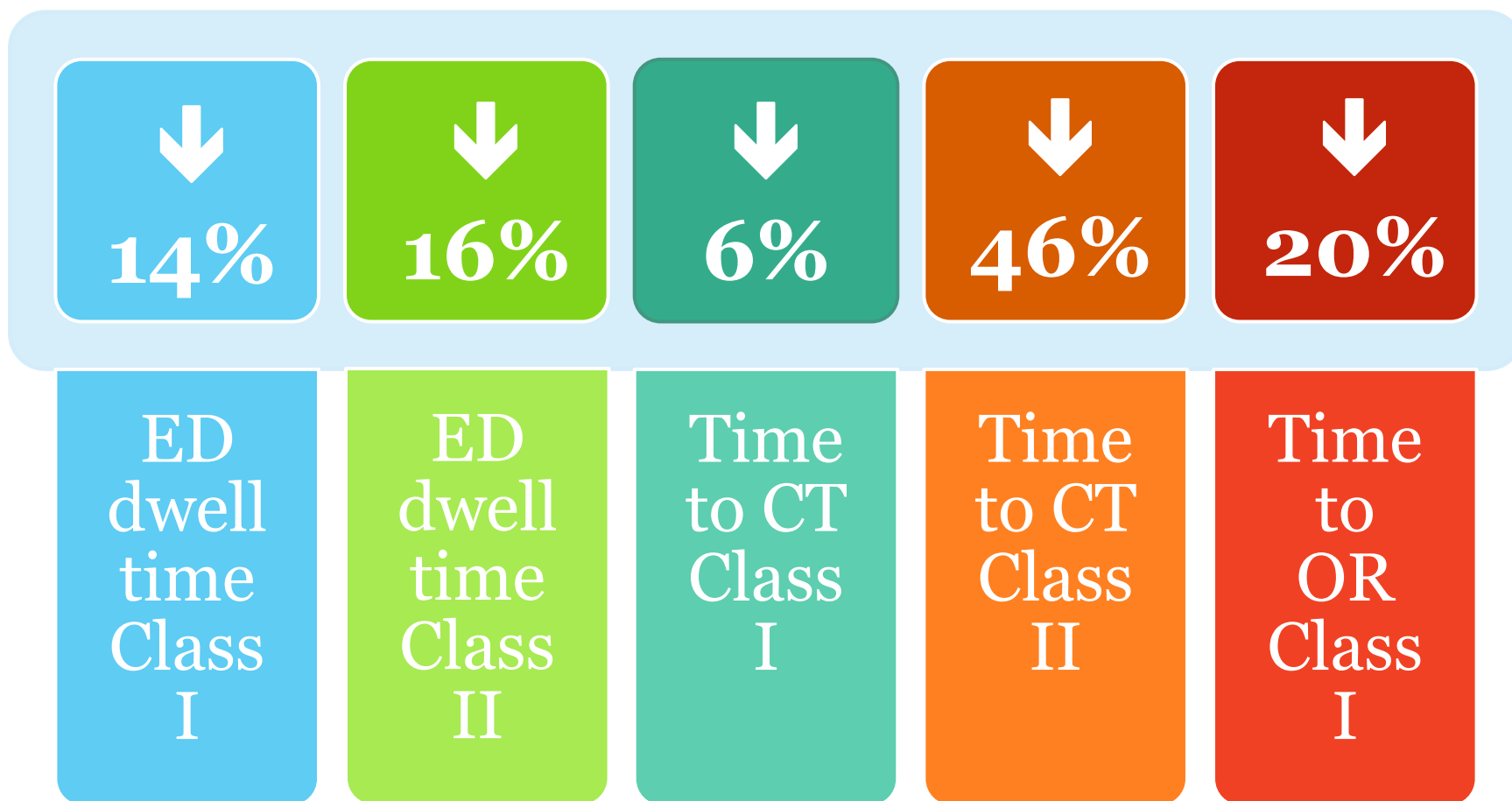


Results

ED Efficiency Measures



Results



Outcomes

- Decrease in ED efficiency measures
- Knowledge level of nursing has improved
- Nurses have taken ownership of trauma bay





Sustainability

- Nursing turnover
 - Conducted more scenarios to add more nurses to the group
 - Elected to keep group around 30 nurses to maintain consistency
- Nursing performance
 - Perform individual evaluations with each trauma nurse to identify areas of strength and weakness



Sustainability

- Nursing knowledge
 - Periodic quizzes to evaluate knowledge
- Trauma Nurse Lectures
 - Continue to have monthly lectures
- ED efficiency measures
 - Continue to present measures at Trauma M & M and Trauma Systems meeting monthly



Summary

- In our experience, a reduction in ED efficiency measures were found with use of dedicated trauma nurses



Pitfalls with Outsourcing Data Abstraction

Penny Stevens, John Kepros
Sparrow





Our Experience with **OUTSOURCING DATA ABSTRACTION**



History

- » Hospital Administration
 - » Centralized all quality initiatives under one department
 - » Decision made to outsource data collection for all registries, including trauma
 - » Contract had been signed



Registry Chapter

Orange Book

- » Registrar is a vital and integral part of the team
- » Registrar works closely with TPM and TMD
- » Registry is an important tool with detailed, reliable, and readily accessible information

Off-site or contract management of the trauma registrar is not viewed by the ACS COT as optimal



Plan

- » Agreed to abstract 50 cases/week
- » Initially hired 6 staff members – all experienced
- » Orientation by advanced trainers within their own company
- » Additional orientation by our registrar
- » EPIC training completed
- » MTQIP training completed



Number of Cases

» Plan was to complete 50/week



Error Rate



- » Workload of our Registrar increased:
 - » Abstracting cases
 - » Reviewing their cases
 - » Identifying and correcting their errors
 - » Providing education and remediation to their team



Types of Errors



Action Plan

- » More frequent communication and education
- » Daily feedback on errors so they could learn by correcting their own cases
- » Hiring new staff; removing other staff from our account
- » Oversight by Managers/Trainers on their end prior to submitting cases



Results



Summary



Questions

???????



ACS-TQIP Data Validation Experience

**Debbie Falkenberg,
Deanne Krajkowski,
Stacey Lopez
Covenant**



ACS-TQIP SITE VISIT

Debbie Falkenberg, RN, MSN

Jackie Jordan, BSN

Deanne Krajkowski

Stacey Lopez, LPN

Time Frame

- ❖ **Notification from ACS May 2015 of impending visit**
- ❖ **Received patient list shortly after**
- ❖ **Visit Scheduled for June 9, 2015 through June 11, 2015**
- ❖ **Validated with ACS that lead time for visits is 4-6 weeks**

Why us?

- ❖ **First randomly selected center nationally in history of ACS-TQIP**
- ❖ **Only center validated to date in Michigan**
- ❖ **Other centers previously receiving visits were those who requested visits or who were identified as having issues with data**

Visit Agenda

❖ Day One

- ❖ 8:00-8:30 Meet & Greet Trauma Staff**
- ❖ 8:30-9:30 Q&A with Staff Liaison & EMR Navigational Tool**
- ❖ 9:30-17:00 Case Abstraction**

❖ Day Two

- ❖ 8:00-17:00 Case Abstraction**

❖ Day Three

- ❖ 8:00-9:00 Case Abstraction Review**
- ❖ 9:00-12:00 Comparison Review**

Meet & Greet Information

❖ **Assessment of Staff Duties**

❖ **Education & Staff Training**

❖ **Registry Volume**

❖ **Data Elements Collected to
determine staffing levels**

Comparison Review Process

❖ Patient List

- ❖ 1 year time frame of data**
- ❖ 20 randomly selected patients**
- ❖ Up to 5 validated during visit**

❖ Comparison Tool

- ❖ Pre loaded ACS-TQIP patient record**
- ❖ Abstracts and enters data found in EMR**
- ❖ Compares values**

❖ Focus of Comparison Review

- ❖ Discrepancy on compared values**

Deliverables

- ❖ **Data Submission Frequency Report Review**
- ❖ **Overall agreement rate of data validity**
- ❖ **Audio recording of Exit Interview**
- ❖ **Recommendations for staff education, additional staffing, and opportunities for improvement in capturing data**

Top 3

Jill Jakubus, PA-C, MHSA



1. Triage Online

Matrix Method

	Not Major Trauma (ISS \leq 15)	Major Trauma (ISS > 15)	Total
Highest Level TTA	A	B	C
Midlevel TTA	D	E	F
No TTA	G	H	I

Overtriage (25-35%)
$A/C \times 100$
Undertriage (\leq 5%)
$(E+H)/(F+I) \times 100$

M·TQIP

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Dashboard // Summary



Dashboard

Summary

Rankings

Trends

Outcomes

Summary

Rankings

Trends

Complications Drill-down

Mortality Drill-down

Utilization

Summary

Rankings

Trends

Utilization Drill-down

Risk Factors

Summary

Rankings

Trends

Comorbidity Drill-down

Practices

VTE Prophylaxis Outcomes

VTE Prophylaxis Timing

VTE Prophylaxis Types

Hemorrhage

IVC Summary

IVC Trends

TBI Management

Timing of TBI Interventions

TBI Intervention

Over/Under Triage

Triage Matrix Drill Down



Dashboard // Summary

Dashboard

[Summary](#)[Rankings](#)[Trends](#)

Outcomes

[Summary](#)[Rankings](#)[Trends](#)[Complications Drill-down](#)[Mortality Drill-down](#)

Utilization

[Summary](#)[Rankings](#)[Trends](#)[Utilization Drill-down](#)

Risk Factors

[Summary](#)[Rankings](#)[Trends](#)[Comorbidity Drill-down](#)

Practices

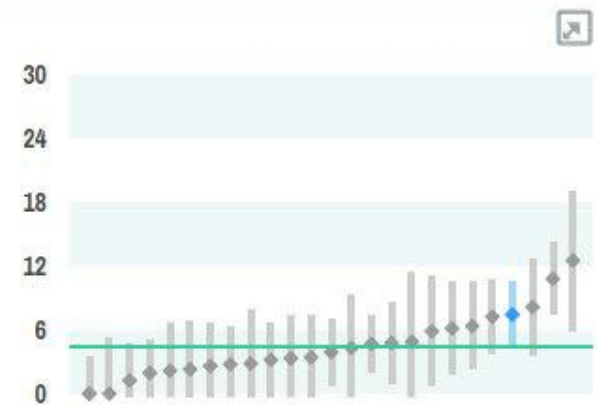
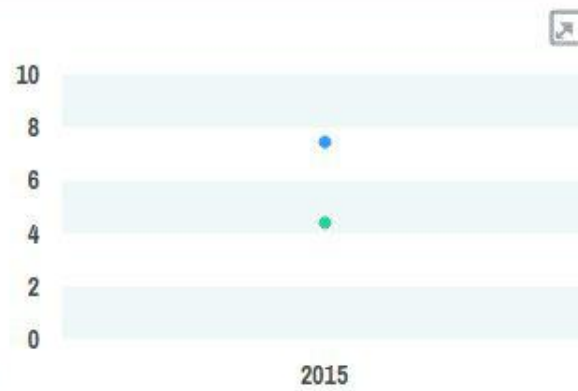
[VTE Prophylaxis Outcomes](#)[VTE Prophylaxis Timing](#)[VTE Prophylaxis Types](#)[Hemorrhage](#)[IVC Summary](#)[IVC Trends](#)[TBI Management](#)[Timing of TBI Interventions](#)[TBI Intervention](#)[Over/Under Triage](#)[Triage Matrix Drill Down](#)

LEGEND
■ Center Name

■ MTQIP - All

■ Other Hospitals

— MTQIP - All

| 95% Confidence Interval


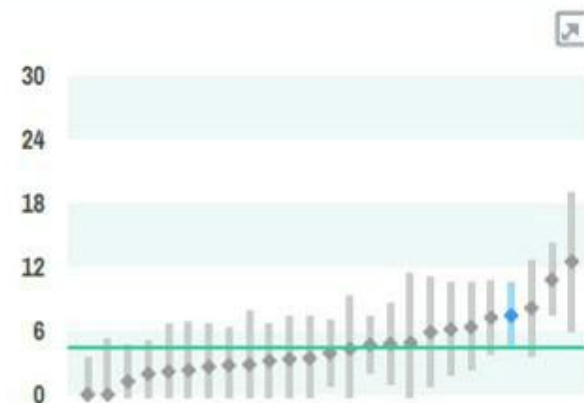
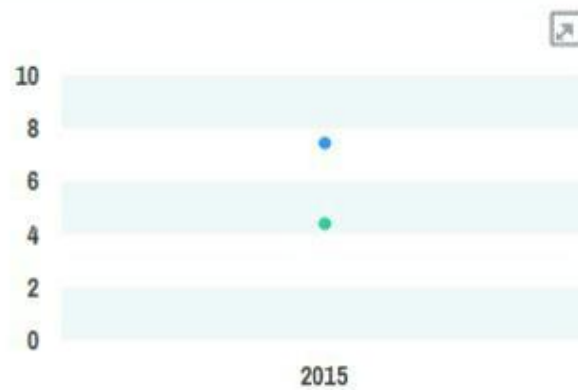
Triage Matrix Drill Down	Cases	Center Name	MTQIP - All - Unadj	P Value (unadj)
Highest Level TTA + Not Major Trauma				
Highest Level TTA + Major Trauma				
Midlevel TTA + Not Major Trauma				
Midlevel TTA + Major Trauma				
No TTA + Not Major Trauma				
No TTA + Major Trauma				

LEGEND
■ Center Name

■ MTQIP - All

■ Other Hospitals

— MTQIP - All

| 95% Confidence Interval


Triage Matrix Drill Down	Cases	Center Name	MTQIP - All - Unadj	P Value (unadj)
Highest Level TTA + Not Major Trauma				
Highest Level TTA + Major Trauma				
Midlevel TTA + Not Major Trauma				
Midlevel TTA + Major Trauma				
No TTA + Not Major Trauma				
No TTA + Major Trauma				
Activation Status Missing	Coming Soon			

LEGEND

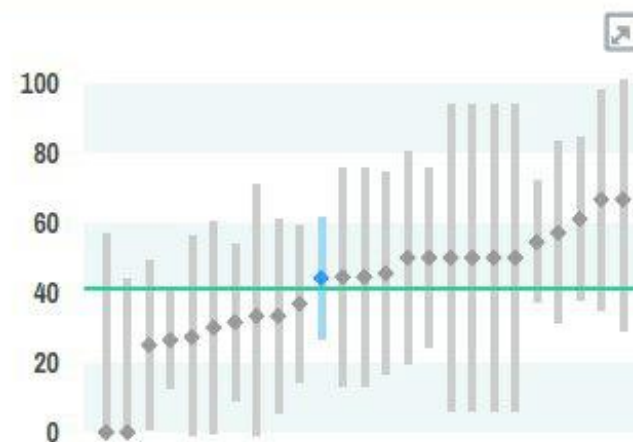
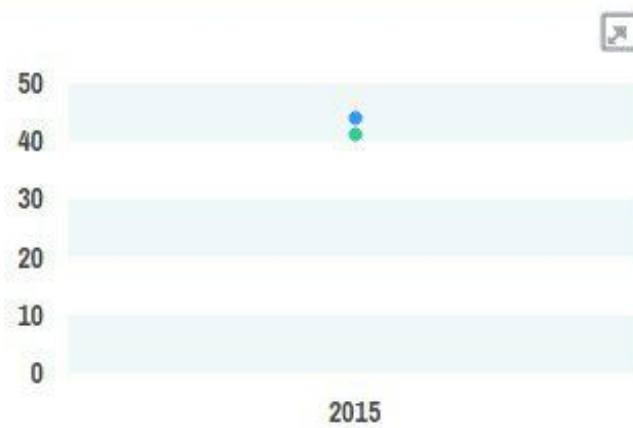
Center Name

MTQIP - All

Other Hospitals

MTQIP - All

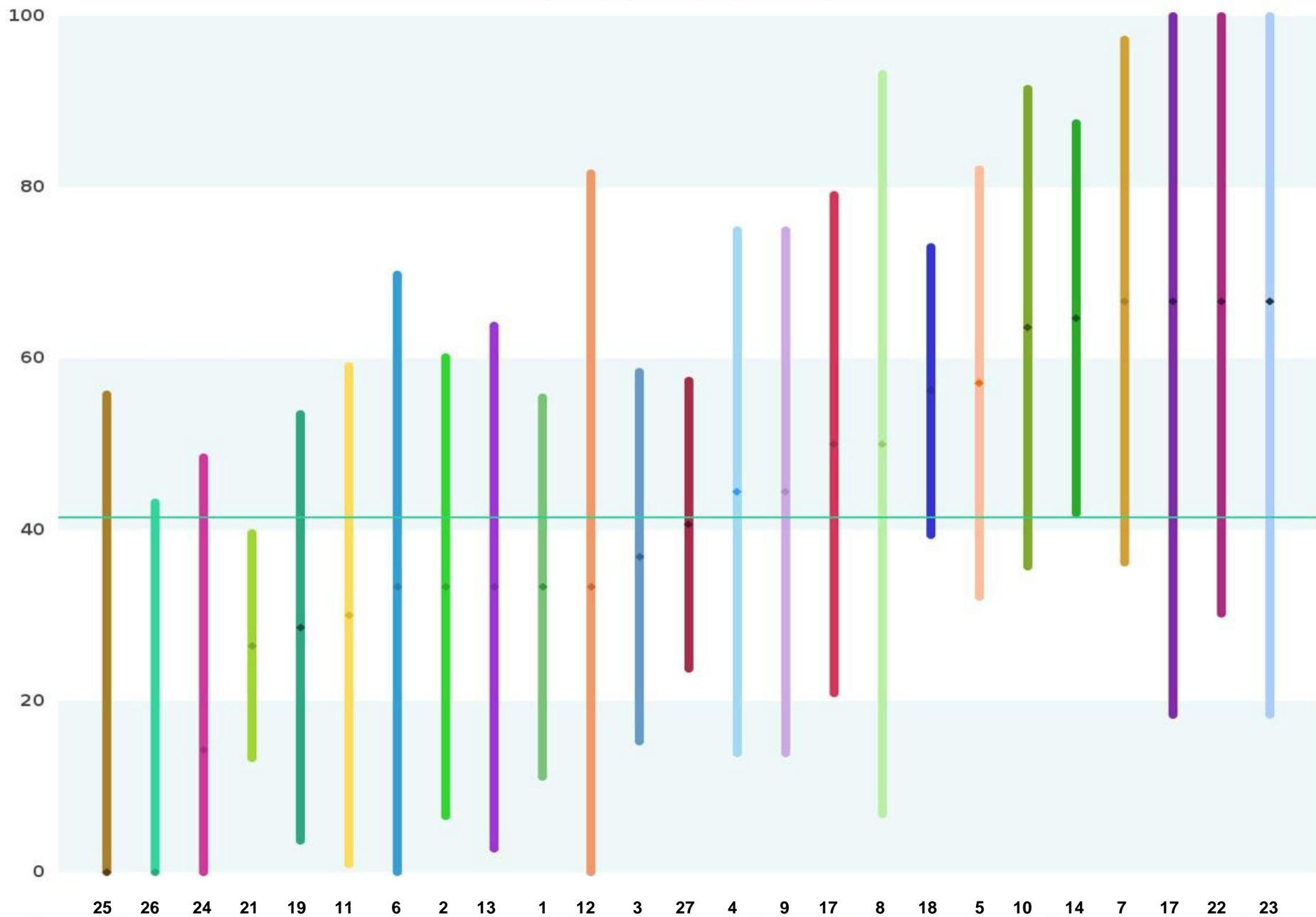
95% Confidence Interval



Over/Under Triage	Cases	Center Name	MTQIP - All - Unadj	P Value (unadj)
Overtriage				
Undertriage				

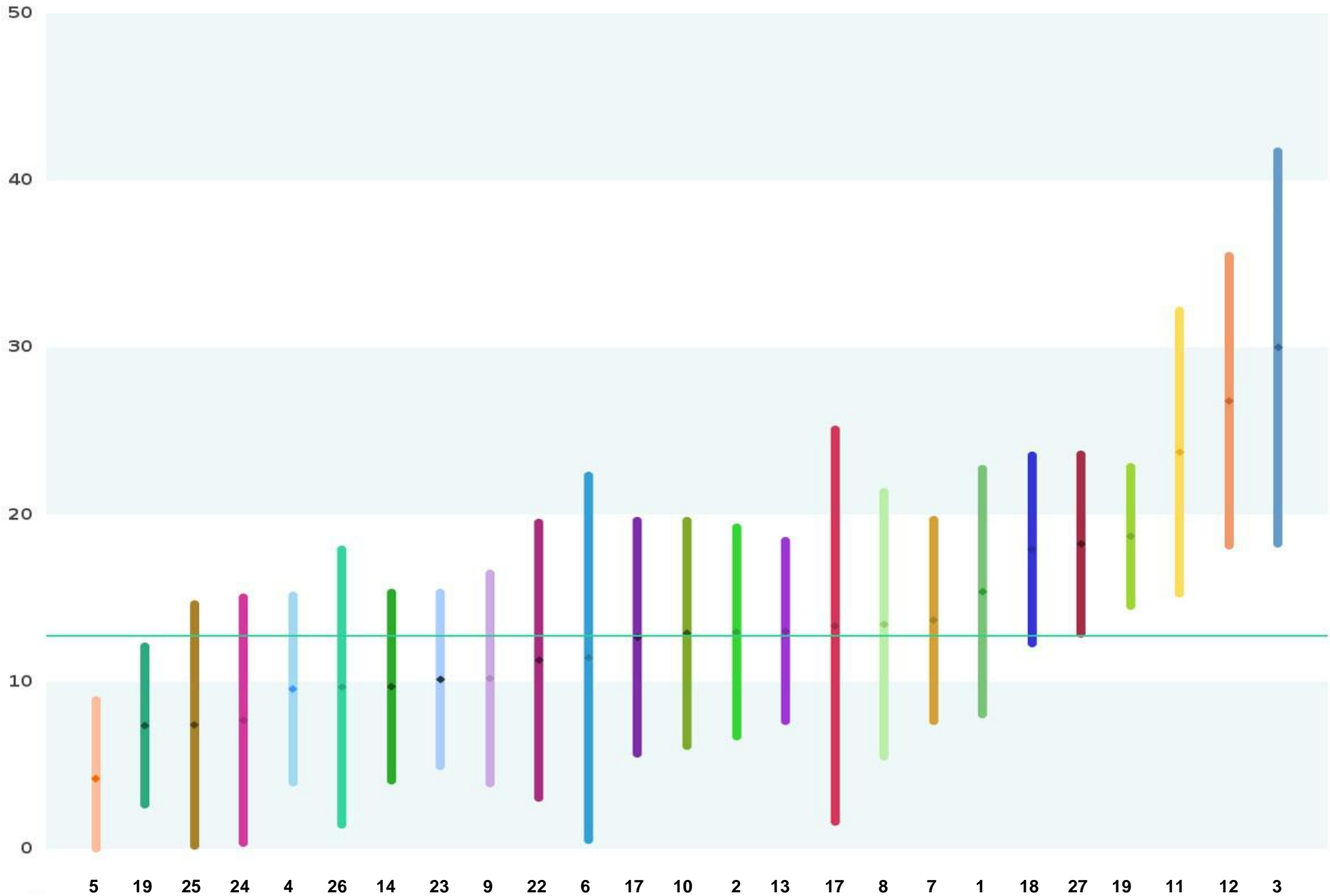
Over/Under Triage - Overtriage

Exclude DOAs, 11/01/2013 - 04/30/2015



Over/Under Triage - Undertriage

Exclude DOAs, 11/01/2013 - 04/30/2015



LEGEND

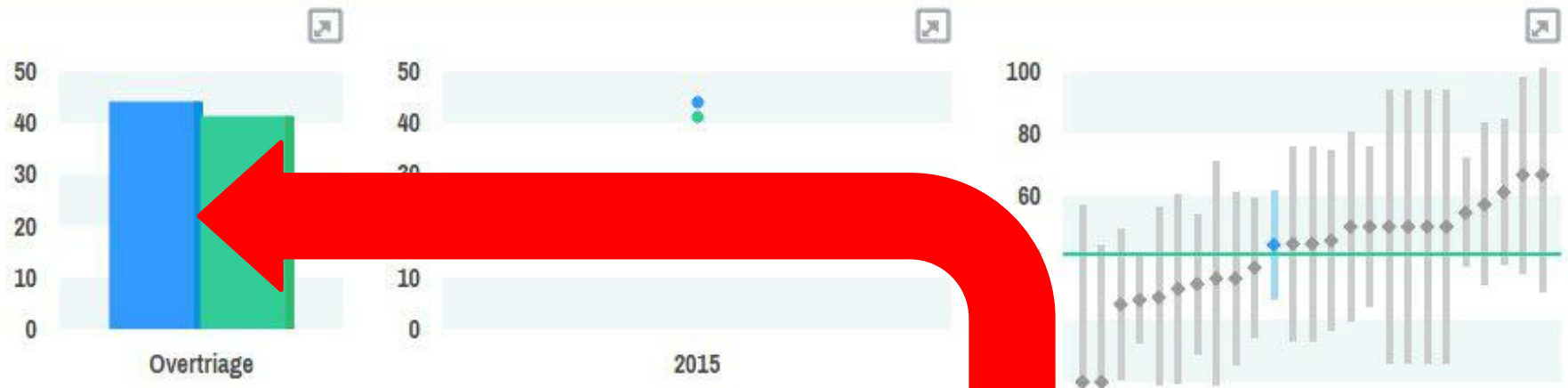
Center Name

MTQIP - All

Other Hospitals

MTQIP - All

95% Confidence Interval



Over/Under Triage	Cases	Center Name	MTQIP - All - Unadj	P Value (unadj)
Overtriage				
Undertriage				

Record #	Age	ISS	Injury Date	Admit Date	Date Discharge	Expected Mortality	Death
----------	-----	-----	-------------	------------	----------------	--------------------	-------

PATIENT / INJURY INFO

ED INFO

DIAGNOSES

AIS DETAILS

PATIENT INFORMATION

INJURY INFORMATION

PROCEDURE INFORMATION

OPERATION ?

Yes

EMERGENCY OPERATION ?

Yes

2. PRQ Report

PRQ DASHBOARD



MECHANISM OF INJURY

[illegible]

PAYER MIX

[illegible]

ED DISPOSITION

[illegible]

ED DISPOSITION

	2008	2009	2010	2011	2012	2013	2014	2015	Trend
ED to OR									
ED to ICU									
ED to Floor									
Total									

- (1) Floor bed (general admission, non-specialty unit bed)
- (2) Observation unit (unit that provides < 24 hour stays)
- (3) Telemetry/step-down unit (less acuity than ICU)
- (4) Home with services
- (5) Died/Expired
- (6) Other (jail, institutional care, mental health, etc.)
- (7) Operating Room
- (8) Intensive Care Unit (ICU)
- (9) Home without services
- (10) Left against medical advice
- (11) Transferred to another hospital

ED DISPOSITION

	2008	2009	2010	2011	2012	2013	2014	2015	Trend
ED to OR									
ED to ICU									
ED to Floor									
Total									
n/a	8th Floor	Cath Lab	ESTU	Hospice	NS ICU/5T	PGCU	Telemetry		
*Against M	9	Cath Lab/I	EXTMED	ICU	NVU	PICU	Telemetry/St		
*Cardiac S	A2	Coronary I	Expired	ICU - over	Neuro	PRGC/SDS	Down Unit		
*General M	A3	D4	FBC	ICU2N	Neuro ICU	Pediatrics	Telemetry/st		
*General S	A4	DA	FLOOR	IR	Neuro/ort	Peds	Trans Peds/B		
*Jail	A7	DF	Family Birt	Intermed c	Not Applic	Police Cust	Trans Peds/Ey		
*Medical T	ADMIT UN	DIE-A	Floor	Jail	Not Availa	Providence	Trans Peds/N		
*NA	AMA	DIED	Floor Bed	L & D	Not Perfor	Psych	Trans Peds/O		
*Surgical T	AMA/Left	DIED IN ED	Floor bed	L&D	Not Recor	Psychiatry	Trans Peds/O		
.	AMU	DIED/DOA	GMF	LAMA	OB	Radio-Ang	Trans Peds/Sx		
1	Admit to I	DIRECT AD	GMU	LDR	OB/L&D	Radiology	Transfer		
10	Angio	DIRECT AD	GSF	Left	OBS	Receiving	Transfer - DRH		
11	B2	DOA	GSU	Left Again	OBS/LDR	Remote Te	Transfer - Oth		
2	B3	DOA (DEA	H. Ford De	Advice	OR	SDU	Transfer Burn		
23h/Obser	B4	DOA (Deat	HOSPICE	MHU	OSU	SICU	Transfer Insur		
3	Beaumont	Dead On A	Home	MICU	Obs	SICU/4P,4C	Transfer Opht		
4	Beaumont	Death	Home w/ s	MICU/5R,5	Observatic	STEPDOWI	Transfer Orth		
4th Floor	Burn ICU/4	Death (In E	Home w/S	MICU/5R,5	Observatic	STU	Transfer Pelvi		
5	C2	Death in El	Home w/o	MPR	Observe	SU	Transfer Requ		
5th Floor	C3	Died	Home with	MTU	Operating	Step Down	Transfer Salin		
6	C4	Died in ED	Home with	Moderate	Other	Step down	Transfer Surg		
6th Floor	CARDIAC L	Died/Expir	Service	N/A	Otjer	Stepdown	Transfer Svr		
7	CATH LAB	Direct Adn	Home with	NA	P2	Surgical	Transfer to		
7E	CCU	Direct Adn	Home with	NCCU	PACU	TRANSFER	Transfer-acute		
7th Floor	CDU	Dischargec	Home/hea	NCU	PCU	Tele	Transferred to		
8	CSU	ED DEATH	Home/self	NICU	PEDS	Tele/Stepc	Another Hosp		

3. Optimized Imputation

INITIAL ED/HOSPITAL SYSTOLIC BLOOD PRESSURE

First recorded systolic blood pressure in the ED/hospital within 30 minutes or less of ED/hospital arrival.

- Please note that first recorded/hospital vitals do not need to be from the same assessment.
- Measurement recorded must be without the assistance of CPR or any type of mechanical chest compression device. For those patients who are receiving CPR or any type of mechanical chest compressions, report the value obtained while compressions are paused.
- If the patient has a cardiopulmonary arrest prior to arrival or within 15 minutes of arrival, and no BP is ever able to be obtained then capture BP as 0.

INITIAL ED/HOSPITAL PULSE

First recorded pulse in the ED/hospital (palpated or auscultated) within 30 minutes or less of ED/hospital arrival (expressed as a number per minute).

- Please note that first recorded/hospital vitals do not need to be from the same assessment.
- Measurement recorded must be without the assistance of CPR or any type of mechanical chest compression device. For those patients who are receiving CPR or any type of mechanical chest compressions, report the value obtained while compressions are paused.
- If the patient has a cardiopulmonary arrest prior to arrival or within 15 minutes of arrival, and no pulse is ever able to be obtained then capture pulse as 0.

INITIAL ED/HOSPITAL GCS-TOTAL

First recorded Glasgow Coma Score (total) within 30 minutes or less of ED/hospital arrival.

- If a patient does not have a numeric GCS recorded, but there is documentation related to their level of consciousness such as "AAOx3," "awake alert and oriented," or "patient with normal mental status," interpret this as GCS of 15 IF there is no other contradicting documentation.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.
- If the patient has a cardiopulmonary arrest prior to arrival or within 15 minutes of arrival, and no GCS is ever able to be obtained then capture GCS total as 3.

Bonus: Analytics Resources



ANALYTICS DICTIONARY

Contains definitions of measures and reports

Service Utilization

	<p><u>Denominator</u>: All cases meeting the MTQIP analytic inclusion criteria AND that have been on a mechanical ventilator, excluding all patients with mechanical ventilator days < 1 and patients who had no signs of life in the ED (Heart rate = 0, Systolic blood pressure = 0, and GCS = 3).</p>
Ventilator Days	<p><u>Numerator</u>: The cumulative amount of time spent on the ventilator. Each partial or full day should be measured as one calendar day. Excludes mechanical ventilation time associated with OR procedures. Non-invasive means of ventilator support (CPAP or BIPAP) should not be considered in the calculation of ventilator days.¹</p>



M•TQIP

Individual Site Summary Report

Cohort 2 (Admit trauma)

- 1) Mechanism = Blunt or penetrating
- 2) Age ≥ 18 , Age ≥ 16 starting 1/1/13
- 3) ISS ≥ 5
- 4) Hospital LOS ≥ 1 day or dead
- 5) Admit to trauma service if ED disposition not death



M•TQIP

Individual Site Summary Report

VTE

- 1) Cohort 2
- 2) Patients who received heparin, LMWH, or no VTE prophylaxis from ED admit date and time
- 3) Exclude all patients who arrived in ED prior to 1/1/12
- 4) Exclude patient who were DOA
- 5) Exclude patients who died in ED
- 6) Exclude patients who received direct thrombin inhibitor, oral Xa inhibitor, Coumadin, or other

Program Manager

Judy Mikhail, RN, MBA, PhD



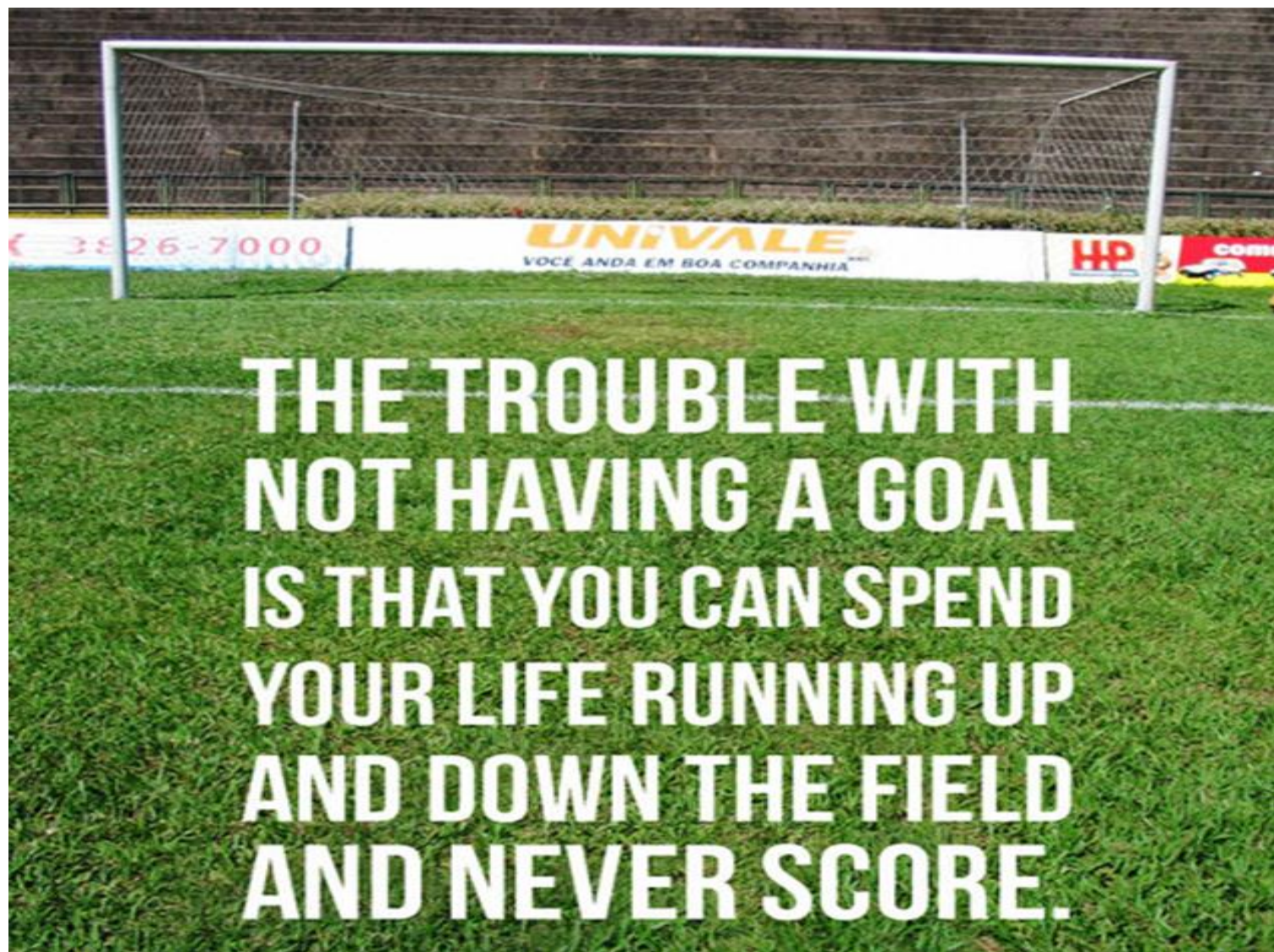
Announcement

MTQIP Receives ACS Approval

- As meeting trauma center verification criteria for participating in:

Risk Adjusted Benchmarking





MTQIP Performance Index

Annual Goal Setting

- Revised annually
- With member feedback
- Increasing expectations
- Earned points ---Not a “gimme”
- From participation toward performance
- Decent spread---movement toward a goal
- What's new this year?

2016 Performance Index

Participation Section (50%)

Measure	Weight	Measure Description	Points	PARTICIPATION (50%)
#1	10	Data Submission (No points for partial/incomplete submissions)		
		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	20	Meeting Participation-Surgeon		
		Participated in 3 of 3 meetings	20	
		Participated in 2 of 3 meetings	10	
		Participated in 1 of 3 meetings	5	
#3	10	Meeting Participation-Clinical Reviewer or Trauma Program Manager		
		Participated in 3 of 3 meetings	15	
		Participated in 2 of 3 meetings	10	
		Participated in 1 of 3 meetings	5	
#4	10	Meeting Participation-Trauma Registrar(s)		
		Participated in the annual June Registrar meeting	5	
		Did not participate	0	
			50	

2016 New Addition

Collaborative Wide Initiative:
Graded as a Group not as Individual Center



We only succeed if we all succeed

2016 Performance Index

Performance Section

#5	10	Data Accuracy	First Validation Visit Error Rate	Two or > Validation Visits Error Rate	10 8 5 3 0	PERFORMANCE (50%)
		5 Star Validation	0-4.5%	0-4.5%		
		4 Star Validation	4.6-5.5%	4.6-5.5%		
		3 Star Validation	5.6-8.0%	5.6-7.0%		
		2 Star Validation	8.1-9.0%	7.1-8.0%		
		1 Star Validation	>9.0%	>8.0%		
#6	10	Site Specific Quality Initiative Using MTQIP Data (Feb 2016-Feb 2017)			10	
		Developed and implemented with evidence of improvement			5	
		Developed and implemented with no evidence of improvement			0	
		Not developed or implemented			0	
#7	10	Mean Ratio of Packed Red Blood Cells (PRBC) to Fresh Frozen Plasma (FFP) in Patients Transfused ≥5 Units RBC In First 4 Hrs (18 Months Data)			10	
		Tier 1: ≤ 1.5			8	
		Tier 2: 1.6-2.0			5	
		Tier 3: 2.1-2.5			0	
		Tier 4: >2.5			0	
#8	10	Admitted Patients (Trauma Service-Cohort 2) With Initiation of Venous Thromboembolism (VTE) Prophylaxis <48 Hours After Arrival (18 Months Data)			10	
		>50%			5	
		≥40%			0	
		<40%			0	
#9	10	COLLABORATIVE WIDE INITIATIVE: Inferior Vena Cava Filter Use			10	
		≤1.3			0	
		>1.3			0	
Subtotal Points) =					50	

Michigan Trauma Quality Improvement Program (MTQIP)						
2016 Performance Index						
January 1, 2016 to December 31, 2016						
Measure	Weight	Measure Description			Points Earned	PARTICIPATION (50%)
#1	10	Data Submission (No points for partial/incomplete submissions) On time and complete 3 of 3 times On time and complete 2 of 3 times On time and complete 1 of 3 times			10 5 0	
#2	20	Meeting Participation-Surgeon Participated in 3 of 3 meetings Participated in 2 of 3 meetings Participated in 1 of 3 meetings Participated in 0 of 3 meetings			20 10 5 0	
#3	10	Meeting Participation-Clinical Reviewer or Trauma Program Manager Participated in 3 of 3 meetings Participated in 2 of 3 meetings Participated in 1 of 3 meetings Participated in 0 of 3 meetings			15 10 5 0	
#4	10	Meeting Participation-Trauma Registrar(s) Participated in the annual June Registrar meeting Did not participate			5 0	
#5	10	Data Accuracy	First Validation Visit Error Rate	Two or > Validation Visits Error Rate		PERFORMANCE (50%)
		5 Star Validation	0-4.5%	0-4.5%	10	
		4 Star Validation	4.6-5.5%	4.6-5.5%	8	
		3 Star Validation	5.6-8.0%	5.6-7.0%	5	
		2 Star Validation	8.1-9.0%	7.1-8.0%	3	
		1 Star Validation	>9.0%	>8.0%	0	
#6	10	Site Specific Quality Initiative Using MTQIP Data (Feb 2016-Feb 2017) Developed and implemented with evidence of improvement Developed and implemented with no evidence of improvement Not developed or implemented			10 5 0	
#7	10	Mean Ratio of Packed Red Blood Cells (PRBC) to Fresh Frozen Plasma (FFP) in Patients Transfused ≥5 Units RBC In First 4 Hrs (18 Months Data) Tier 1: ≤ 1.5 Tier 2: 1.6-2.0 Tier 3: 2.1-2.5 Tier 4: >2.5			10 8 5 0	
#8	10	Admitted Patients (Trauma Service-Cohort 2) With Initiation of Venous Thromboembolism (VTE) Prophylaxis <48 Hours After Arrival (18 Months Data) >50% ≥40% <40%			10 5 0	
#9	10	COLLABORATIVE WIDE INITIATIVE: Inferior Vena Cava Filter Use ≤1.3 >1.3			10 0	
Total (Max Points) =					100	

Conclusion

- ◆ Evaluations
 - Fill out and turn in
- ◆ MCR's
 - Stay in auditorium
- ◆ Surgeons, TPM, Registrars
 - Next door
 - Town hall meeting
 - Data collection, goals, feedback