



M·TQIP

Individual Site Summary Report

November 1, 2015 through January 31, 2018

Issued May 16, 2018

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Description of Cohorts

Cohort 1 (All)

- 1) Mechanism = Blunt or penetrating
- 2) Age \geq 18, Age \geq 16 starting 1/1/13
- 3) ISS \geq 5
- 4) Hospital LOS \geq 1 day or dead

Cohort 1 (All) w/o DOA's

- 1) Mechanism = Blunt or penetrating
- 2) Age \geq 18, Age \geq 16 starting 1/1/13
- 3) ISS \geq 5
- 4) Hospital LOS \geq 1 day or dead
- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)

Cohort 2 (Admit trauma)

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

Cohort 2 (Admit trauma) w/o DOA's

- 1) Mechanism = Blunt or penetrating
- 2) Age \geq 18, Age \geq 16 starting 1/1/13
- 3) ISS \geq 5
- 4) Hospital LOS \geq 1 day or dead
- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 6) Admit to trauma service if ED disposition not death

Cohort 3 (Blunt Multi-System)

- 1) Mechanism = Blunt
- 2) Age \geq 18, Age \geq 16 starting 1/1/13
- 3) ISS \geq 5
- 4) Hospital LOS \geq 1 day or dead
- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 6) AIS \geq 3 in at least two of the following body regions: head/neck, face, chest, abdomen, extremities, or external.

Cohort 4 (Blunt Single-System)

- 1) Mechanism = Blunt
- 2) Age \geq 18, Age \geq 16 starting 1/1/13
- 3) ISS \geq 5
- 4) Hospital LOS \geq 1 day or dead

- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 6) AIS ≥ 3 limited to only one body region with all other body regions having a maximum AIS ≤ 2 in the following body regions: head/neck, face, chest, abdomen, extremities, or external.

Mortality or Hospice

- 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) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 6) Outcome is dead or discharge to hospice

Cohort 5 (Penetrating)

- 1) Mechanism = Penetrating
- 2) Age ≥ 18 , Age ≥ 16 starting 1/1/13
- 3) ISS ≥ 5
- 4) Hospital LOS ≥ 1 day or dead
- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)

Cohort 6 (Admit non-trauma Service)

- 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 non-trauma service if ED disposition not death
- 6) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)

Cohort 7 (Benchmark)

- 1) Age ≥ 16
- 2) ISS ≥ 9
- 3) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 4) Exclude patients who were transferred out
- 5) Exclude patients discharged directly from the ED alive
- 6) Exclude patients with an advanced directive limiting care present prior to injury
- 7) Exclude patients who sustain a hip fracture and fall and age ≥ 65

Note: this benchmark may not match your national benchmark report exactly. The MTQIP uses AIS 2005. The national benchmark uses ICD-9 with crosswalk to AIS 1998.

Cohort 8 (Isolated Hip Fracture)

- 1) Mechanism derived from external cause code = Fall
- 2) AIS 98 code = 851810.3 (femur, fracture, intertrochanteric), 851812.3 (femur, fracture, neck), 851818.3 (femur, fracture, subtrochanteric), or 853171.3 (femur, fracture, femoral head)

- 3) All other injuries must be in AIS external body region (i.e., bruise, abrasion or laceration)

ISS > 35 Mortality

- 1) Mechanism = Blunt or penetrating
- 2) Age ≥ 18 , Age ≥ 16 starting 1/1/13
- 3) ISS > 35
- 4) Hospital LOS ≥ 1 day or dead
- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)

Age < 65 Mortality

- 1) Mechanism = Blunt or penetrating
- 2) Age ≥ 18 , Age ≥ 16 starting 1/1/13 and Age < 65
- 3) ISS ≥ 5
- 4) Hospital LOS ≥ 1 day or dead
- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)

Age ≥ 65 Mortality

- 1) Mechanism = Blunt or penetrating
- 2) Age ≥ 65
- 3) ISS ≥ 5
- 4) Hospital LOS ≥ 1 day or dead
- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)

Mortality Trend

- 1) Cohort 2
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)

Complications Trend

- 1) Cohort 2
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)

Complications

- 1) Cohort 2 w/o DOA's
- 2) Complication severity grade 1
 - a. Definition: Non-life-threatening complications
 - b. Complications: superficial SSI, wound disruption, deep SSI, catheter-related bloodstream infection, catheter-associated urinary tract infection, organ/space SSI, drug or alcohol withdrawal syndrome, osteomyelitis
- 3) Complication severity grade 2
 - a. Definition: Potentially life-threatening complications
 - b. Complications: admission to ICU, pneumonia, unplanned return to OR, DVT, decubitus ulcer, C. difficile colitis, pulmonary embolism, enterocutaneous fistula, extremity compartment syndrome

- 4) Complication severity grade 3
 - a. Definition: Life-threatening complications with residual or lasting disability or mortality
 - b. Complications: cardiac arrest with CPR, acute kidney injury, ARDS, myocardial infarction, unplanned intubation, stroke/CVA, severe sepsis, acute renal insufficiency, mortality
- 5) Specific complication groups
 - a. Any complication = Grade 1 + Grade 2 + Grade 3 (excluding death)
 - b. Serious = Grade 2 + Grade 3 (excluding death)
 - c. Cardiac/Stroke = stroke/CVA, cardiac arrest requiring CPR, myocardial infarction
 - d. Pneumonia = pneumonia
 - e. DVT/Pulmonary Embolus = DVT lower extremity, DVT upper extremity, pulmonary embolism
 - f. UTI = urinary tract infection
 - g. Renal Failure = acute kidney injury
 - h. Sepsis = sepsis
 - i. C. Difficile Colitis = C. diff

Failure to Rescue

- 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) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 6) Admit to trauma service if ED disposition not death
- 7) Exclude patients who did not have a severity grade 2 or 3 complication
- 8) Failure to rescue = $n \text{ dead with complication} / n \text{ with complication}$

Note: A patient can have four possible combinations: dead/no complication, dead/complication, alive/no complication, or alive/complication. Failure to rescue is the percent of patients with an identified complication who go on to die.

Unplanned Return to OR

- 1) Cohort 2
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 3) Unplanned return to OR = Y

Unplanned Return to ICU

- 1) Cohort 2
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 3) Unplanned return to ICU = Y

Hospital Length of Stay

- 1) Cohort 2
- 2) Exclude all deaths

Intensive Care Unit Length of Stay

- 1) Cohort 2
- 2) Exclude all deaths
- 3) Exclude all patients with ICU LOS < 1

Patients Admitted to ICU

- 1) Cohort 1
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 3) ICU days > 0

Mechanical Ventilator Days

- 1) Cohort 2
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 3) Exclude all patients with Mechanical Ventilator Days < 1

VAP

- 1) Cohort 2
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 3) Exclude patients with Mechanical Ventilator Days < 1

Patients on Ventilator

- 1) Cohort 1
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 3) Mechanical Ventilator days > 0

IVC Filter

- 1) Cohort 1
- 2) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 3) Op Code 38.7, 06H00DZ, 06H03DZ, 06H04DZ, 06V03DZ, or 06V03ZZ

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

ICP Monitor and/or Brain Operation

- 1) Cohort 1
- 2) Mechanism = Blunt
- 3) AIS Head ≥ 1 , excluding vascular, scalp, and bony injuries
- 4) Exclude if TBI GCS > 8
- 5) Exclude patients who had no signs of life (ED HR 0, BP 0, GCS 3)
- 6) Exclude patients who were transferred late (Direct admit)

Blood

- 1) Cohort 1
- 2) PRBC 4 hours \geq 5 units




Hemorrhage Control Angiography/Operation

- 1) Cohort 1
- 2) Lowest systolic BP \leq 90 in ED
- 3) Exclude if first angiography/operation < 0 or > 24 hours

No Signs of Life

- 1) Patients will be designated as having arrived at the ED with “no signs of life” if they meet one of the following criteria and die in the ED
- 2) ED SBP 0, HR 0, and GCS 3
- 3) ED SBP 0, HR 0, and mGCS 1
- 4) ED SBP = NK/NR, HR 0, and mGCS 1
- 5) ED SBP 0, HR 0, and mGCS = NK/NR
- 6) ED SBP 0, HR = NK/NR, and mGCS 1
- 7) ED SBP = NK/NR, HR 0, and mGCS = NK/NR

Legend

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

Statistical Methods

We performed risk and reliability adjustment using a two-stage approach. Multivariate logistic regression modeling was used to account for differences in baseline characteristics and injury severity, thereby allowing for risk-adjustment at the patient level. Potential predictors of for the outcome of interest were entered into the model. A logit equation was derived based on the significant co-variables using forward selection. Separate models for each outcome were constructed and the order of variable entry was determined by the c-index which measures the ability of a parameter to discriminate outcome. Reliability adjustment used a Bayesian random effects model to account for sample size differences between hospitals. Logit equations resulting from second stage models were used to calculate expected outcome risk. Adjusted rates for each hospital were calculated by multiplying the rate ratio of observed to expected events by the overall collaborative rate

In some instances, specific incidents had missing values for potentially important co-variables (Glasgow Coma Scale (GCS) motor score, systolic blood pressure, and pulse rate). These attributes were identified and managed via the creation an indicator variable where applicable. The final model and analysis included all of the incidents that met MTQIP entry criteria for the cohort being examined.

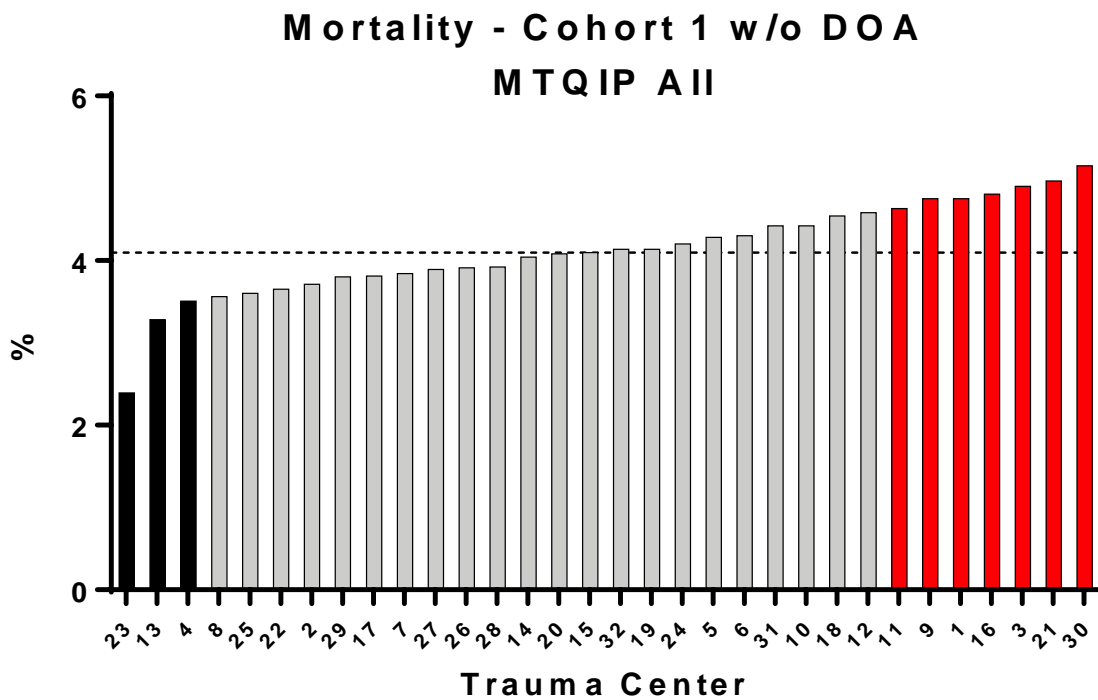
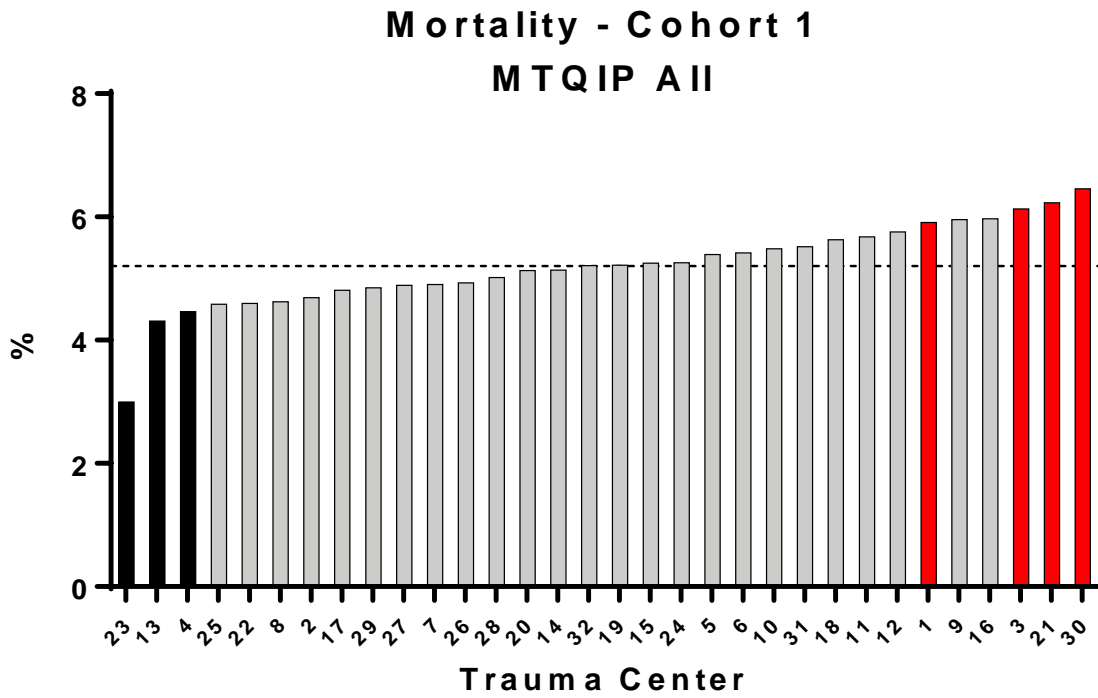
Continuous data exhibiting a right-skewed distribution such as hospital length of stay was natural log-transformed. Multivariate analysis of hospital length of stay, intensive care unit length of stay, and mechanical ventilator days was performed using multiple linear regression and adjusting for significant co-variables. After the regression analysis was conducted the generated coefficient from the regression model was exponentiated to determine the percent increase or decrease in length of stay relative to the risk adjusted mean. Only patients who survived were considered in the hospital and ICU length of stay analysis to simplify this approach. To be included in the ICU length of stay or mechanical ventilator days' analysis, a patient had to have at least one day of use for the resource being investigated.

Eligible = N - Alive w/o intervention - Dead and monitor withheld for reason

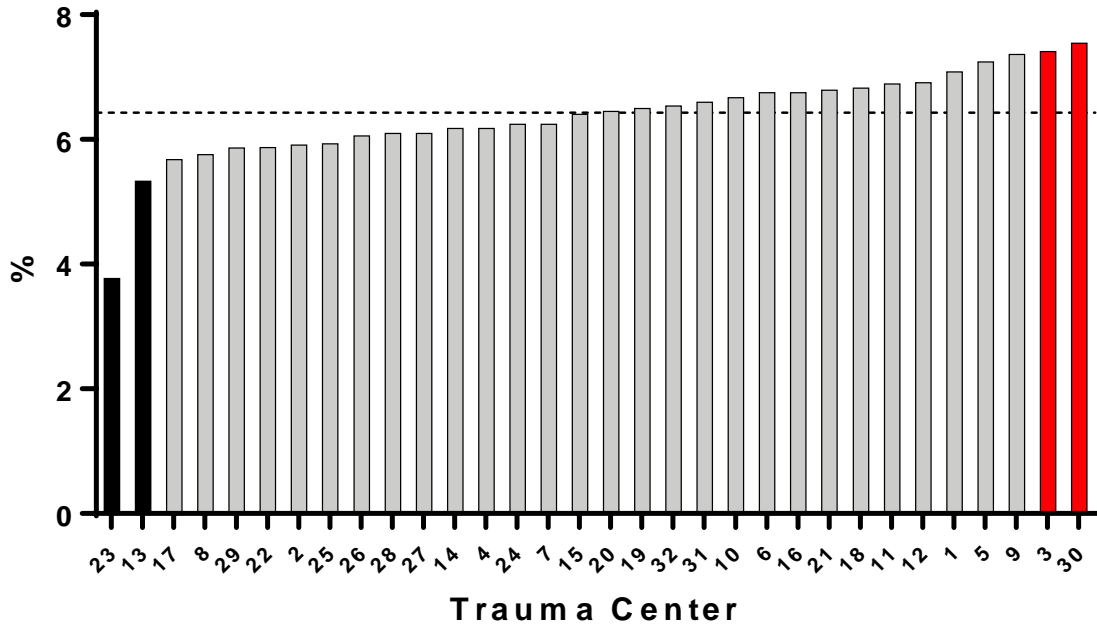
Eligible and no intervention = N - Alive w/o intervention - Alive with intervention - Dead with intervention - Dead and monitor withheld for reason

Timely = Monitor placement or operation \leq 8 hours after ED arrival

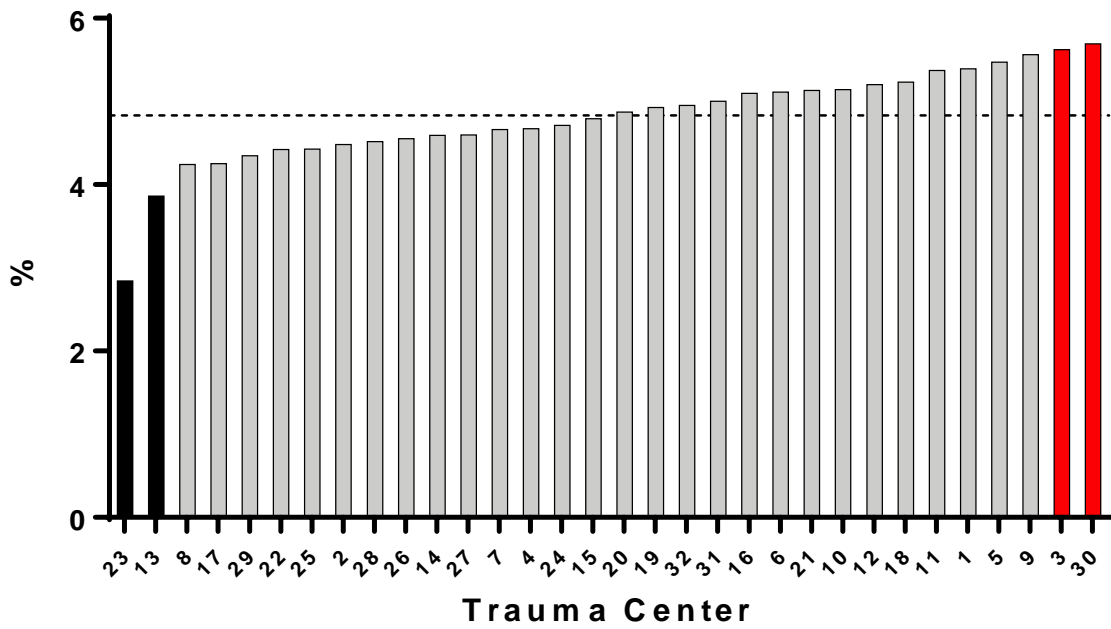
Mortality Graphs



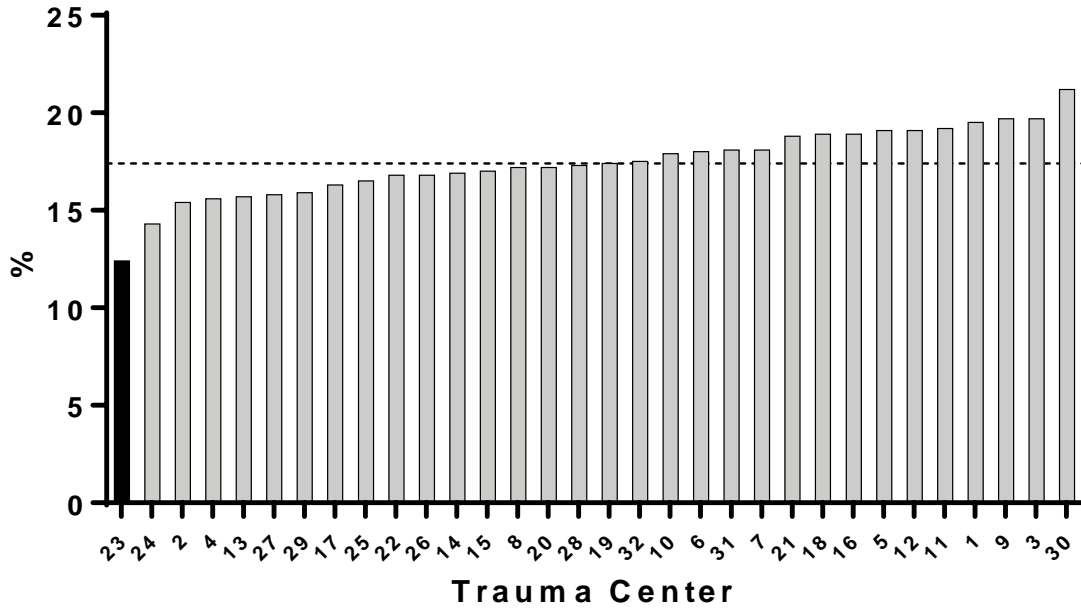
Mortality - Cohort 2 Admit to Trauma



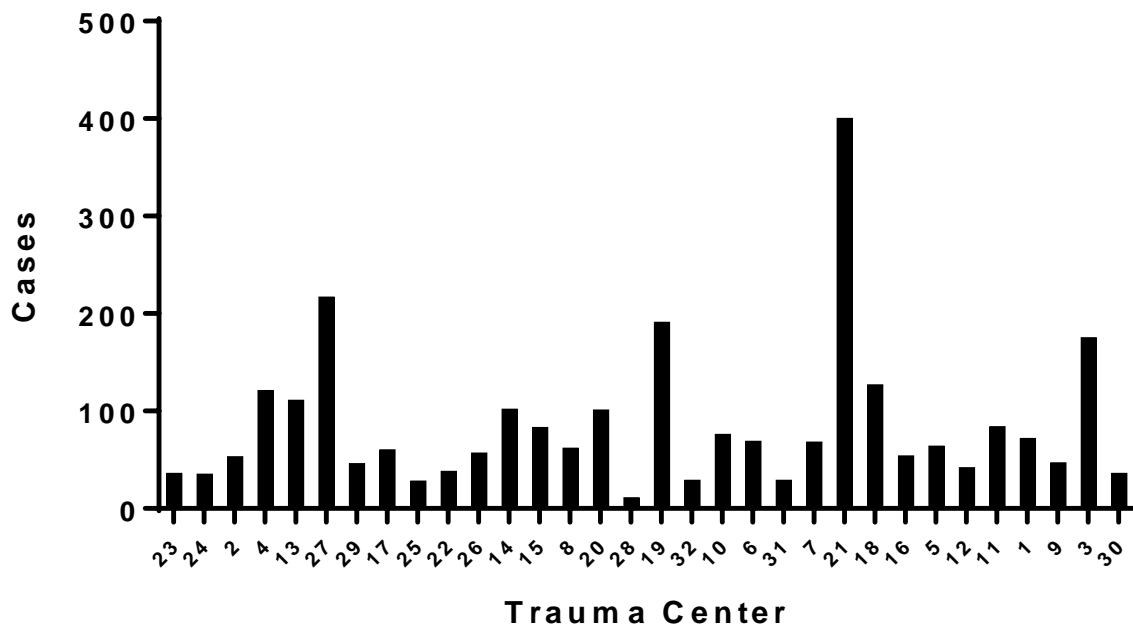
Mortality - Cohort 2 w/o DOA Admit to Trauma



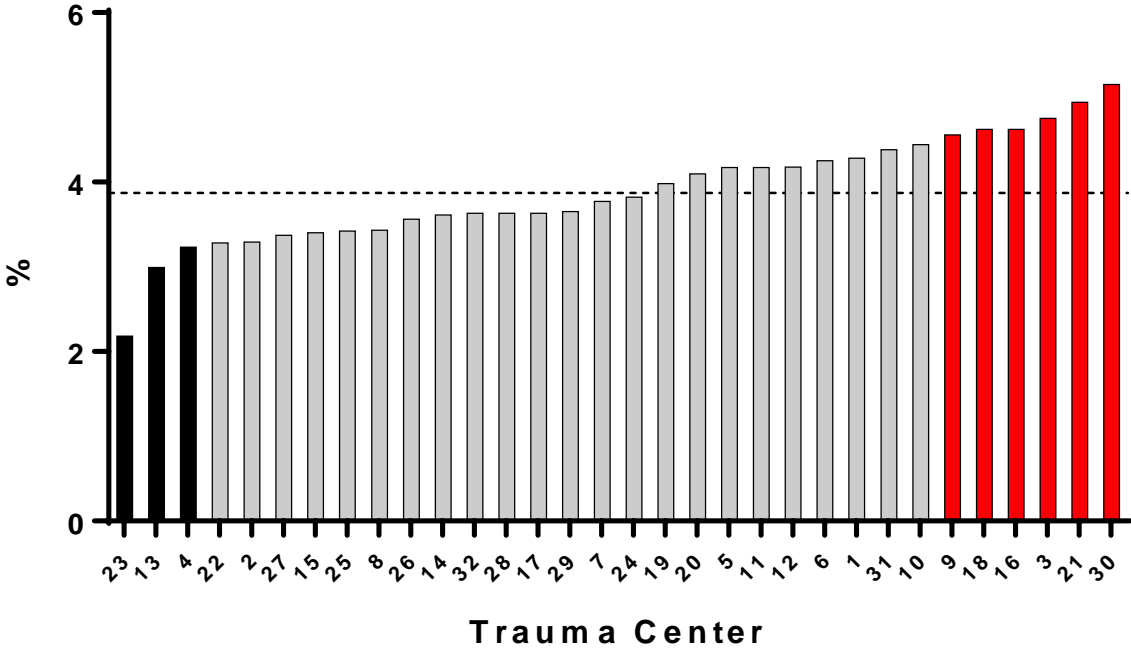
Mortality - Cohort 3 w/o DOA Blunt Multi-System



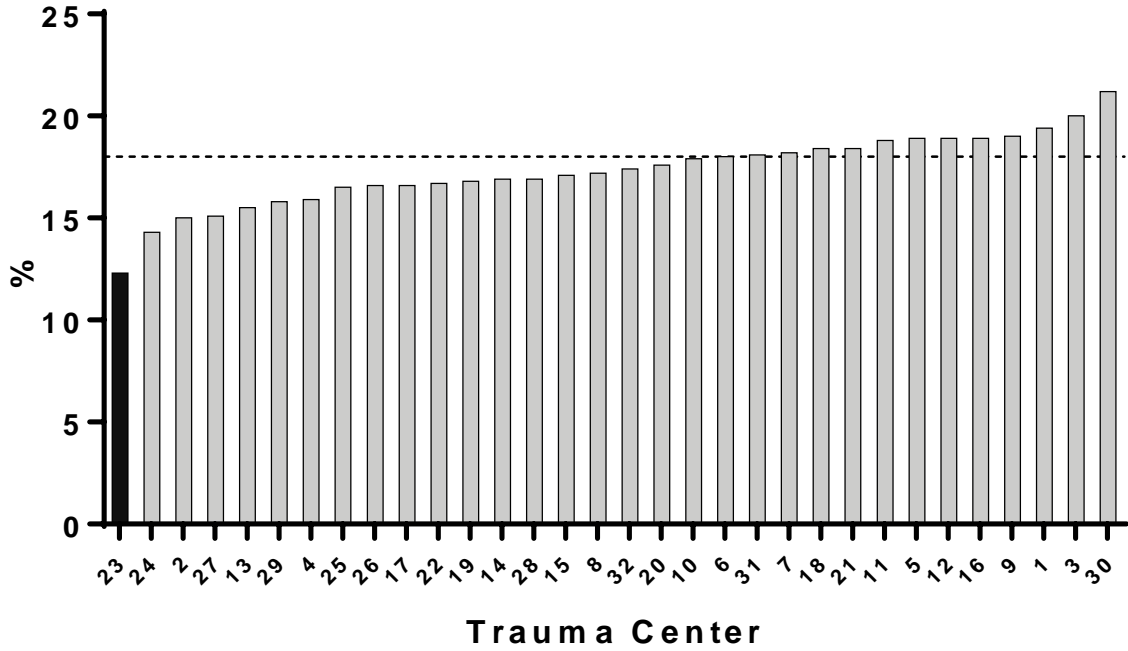
Case Volume Cohort 3 Mortality Blunt Multi-System



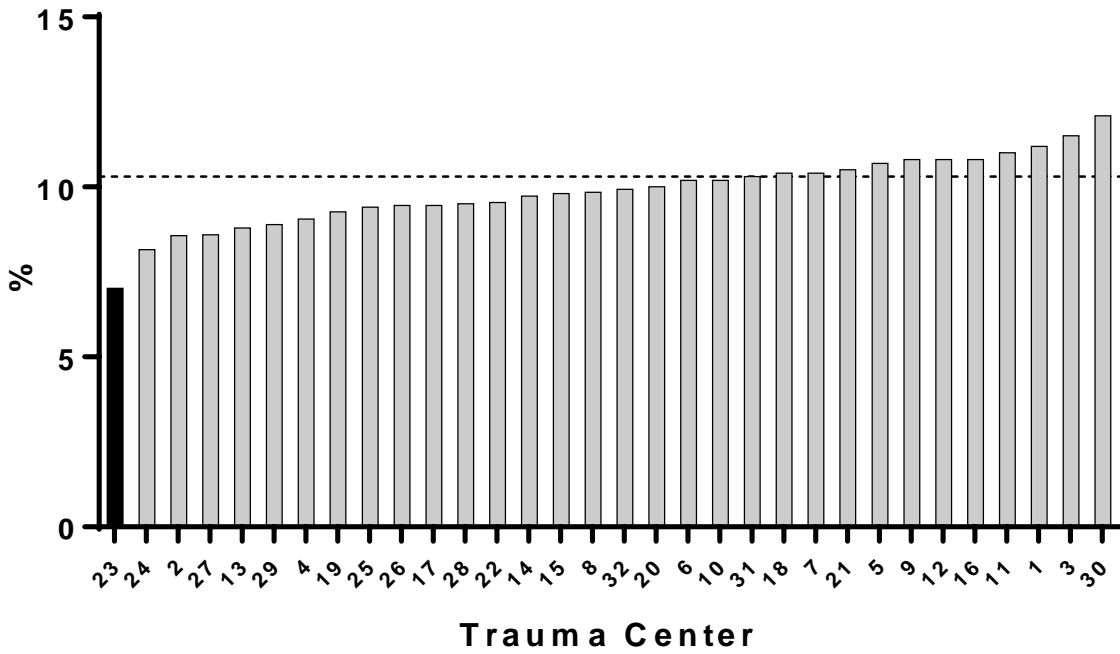
**Mortality - Cohort 4 w/o DOA
Blunt Single-System**



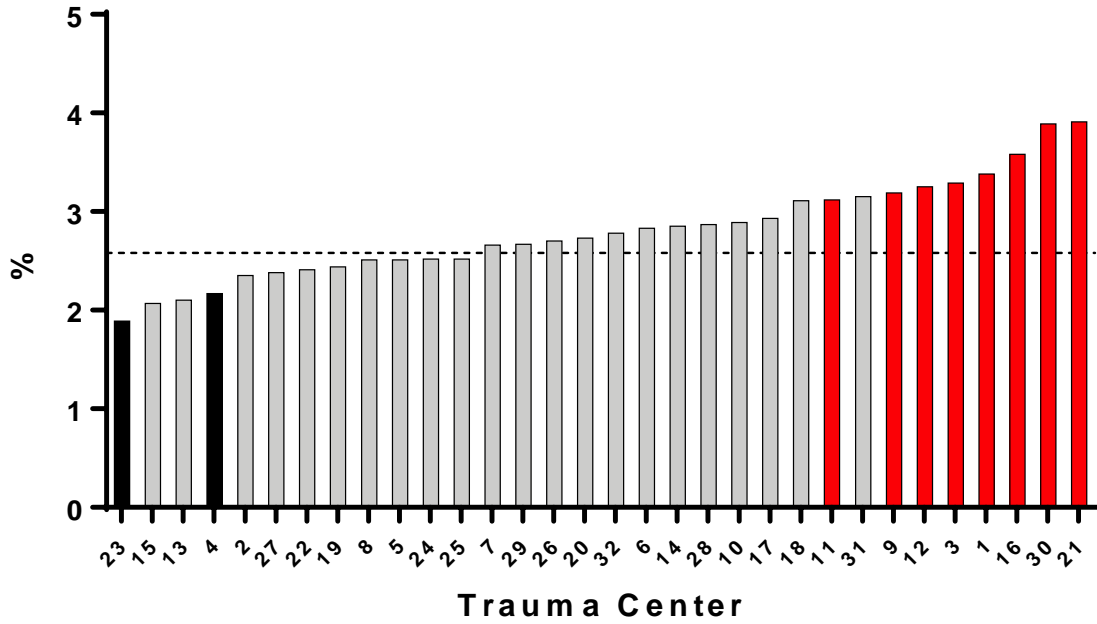
Mortality - Cohort 5 Penetrating



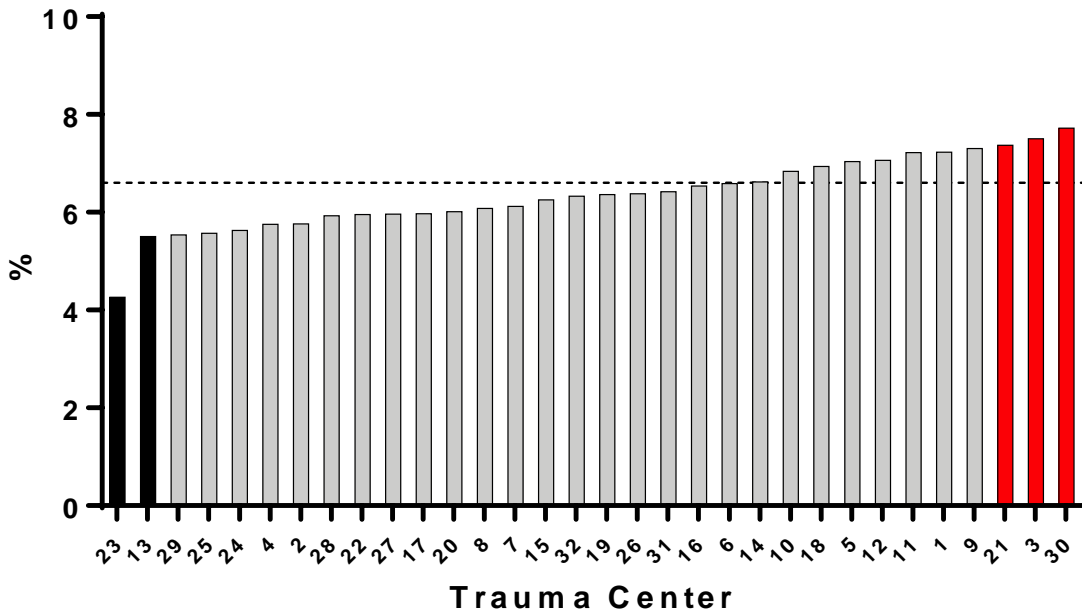
Mortality - Cohort 5 w/o DOA Penetrating



**Mortality - Cohort 6 w/o DOA
Admit to Non-Trauma Service**

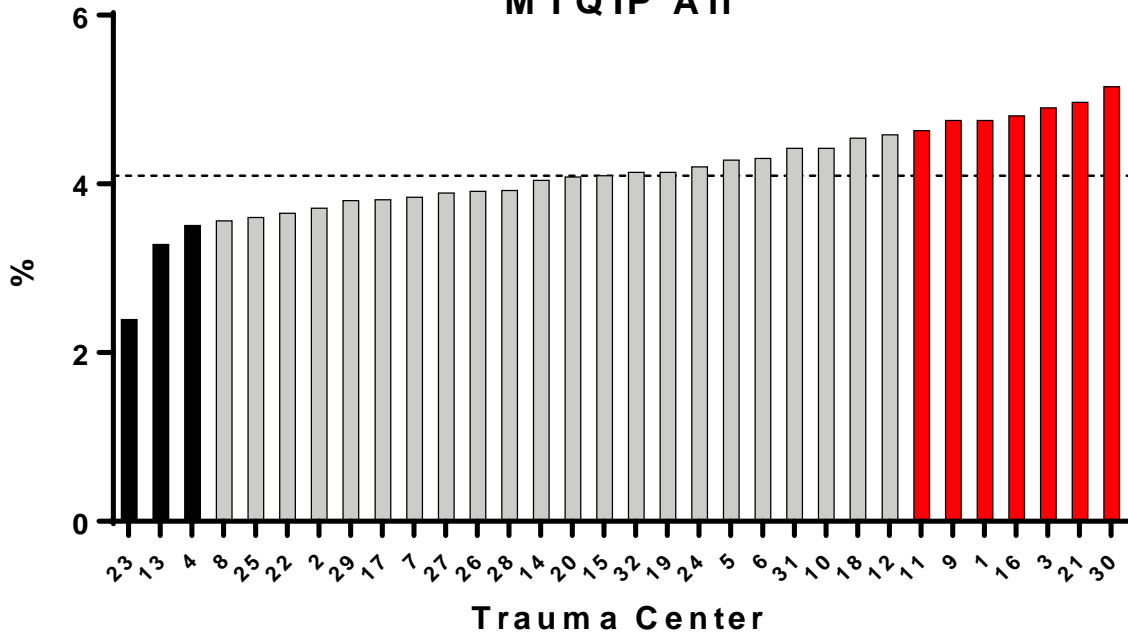


**Mortality - Cohort 7
National Benchmark**



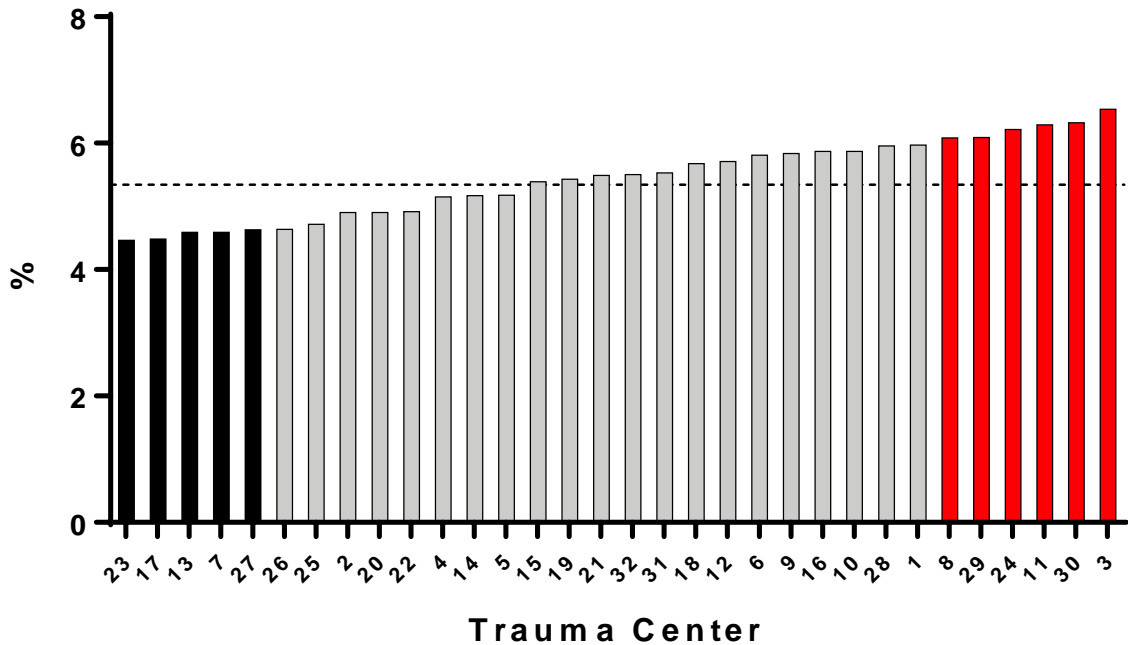
Mortality - Cohort 1 w/o DOA

MTQIP All

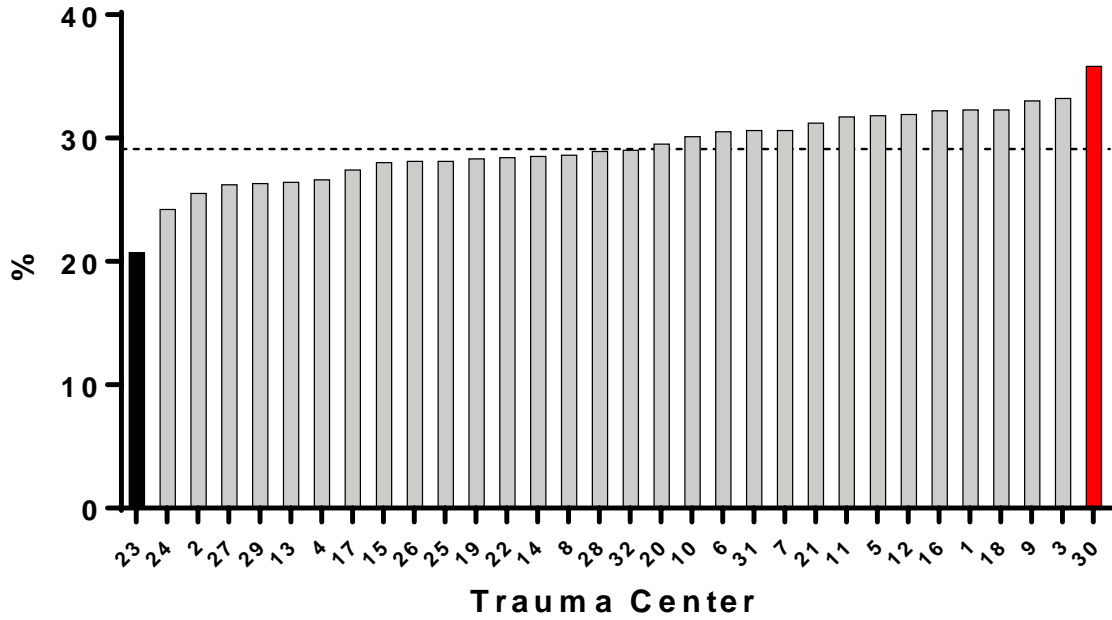


Mortality or Hospice - Cohort 1 w/o DOA

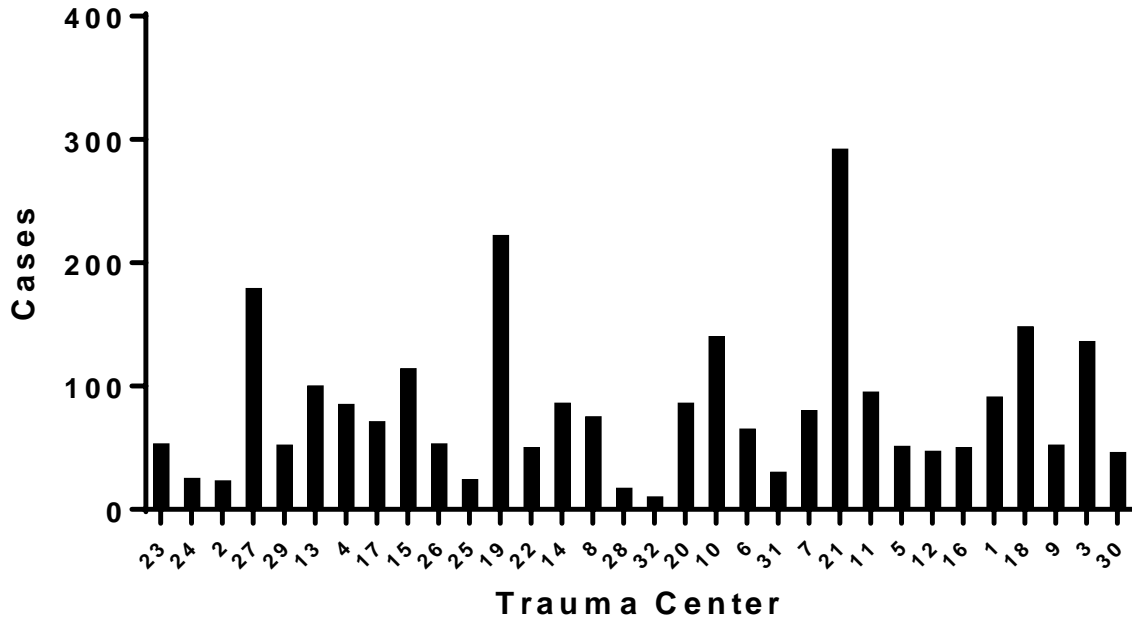
MTIQP All



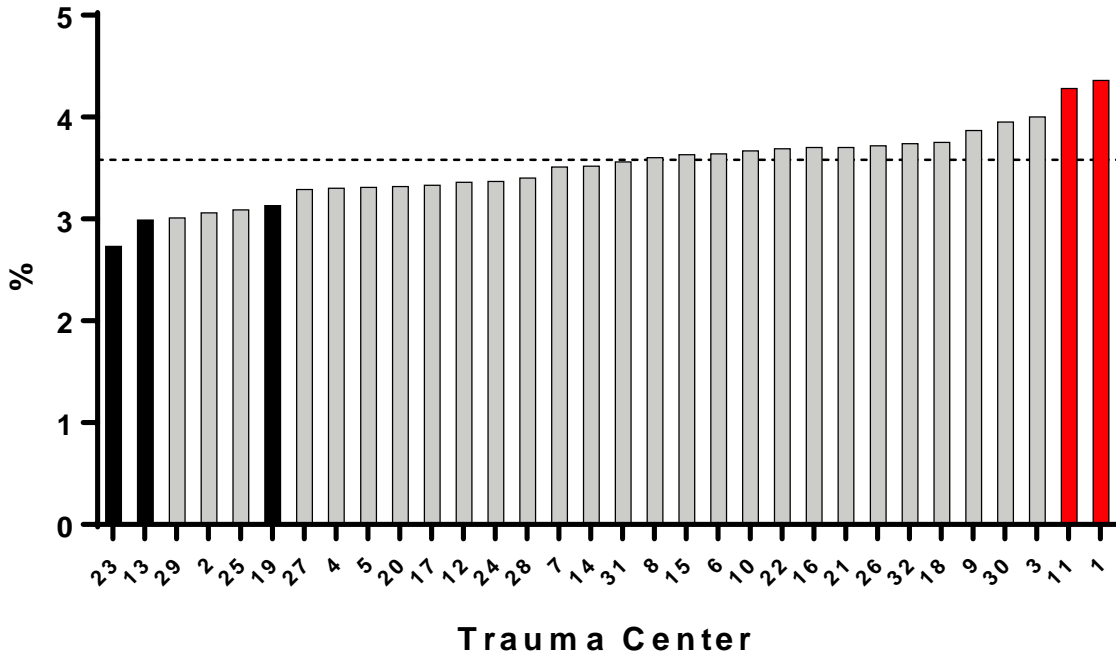
ISS > 25 Mortality



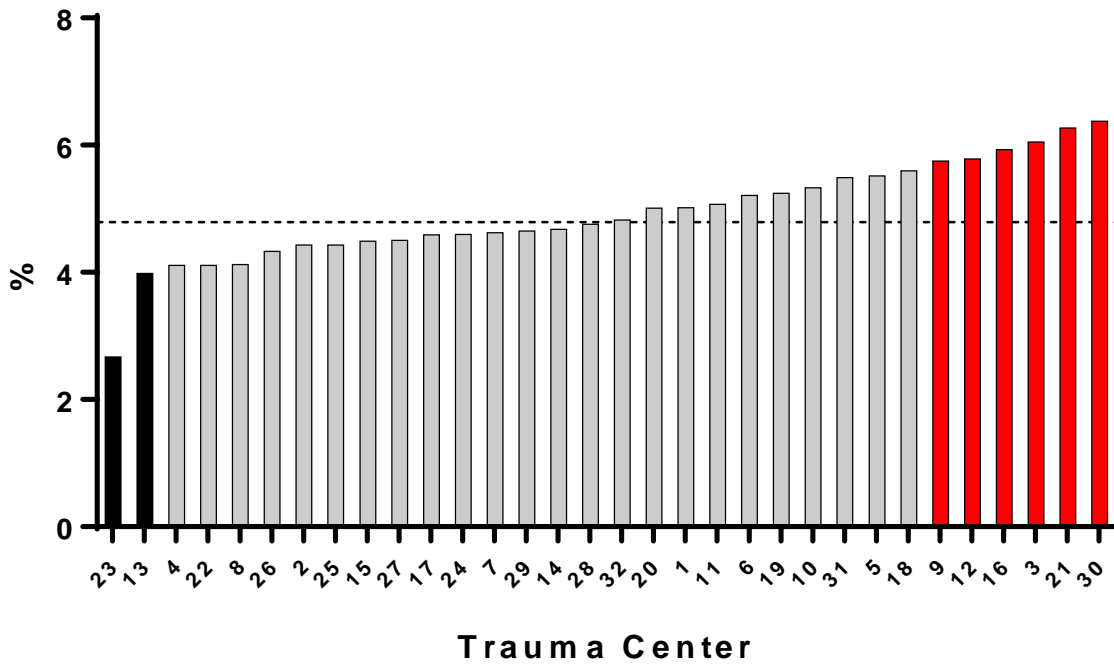
Case Volume ISS > 25 Mortality



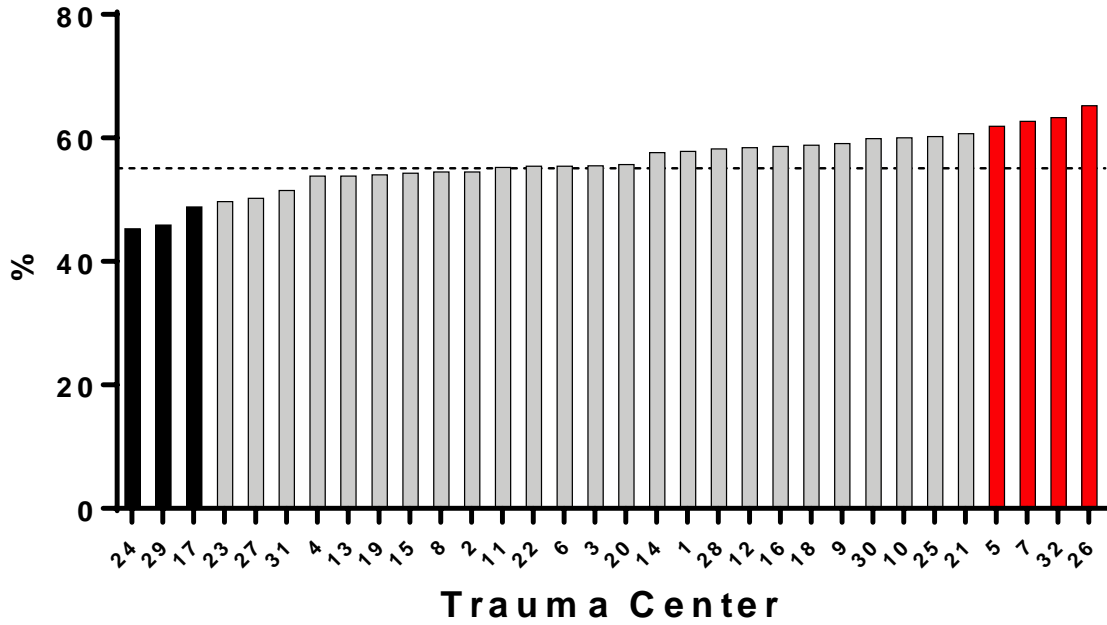
Mortality - Age < 65 years



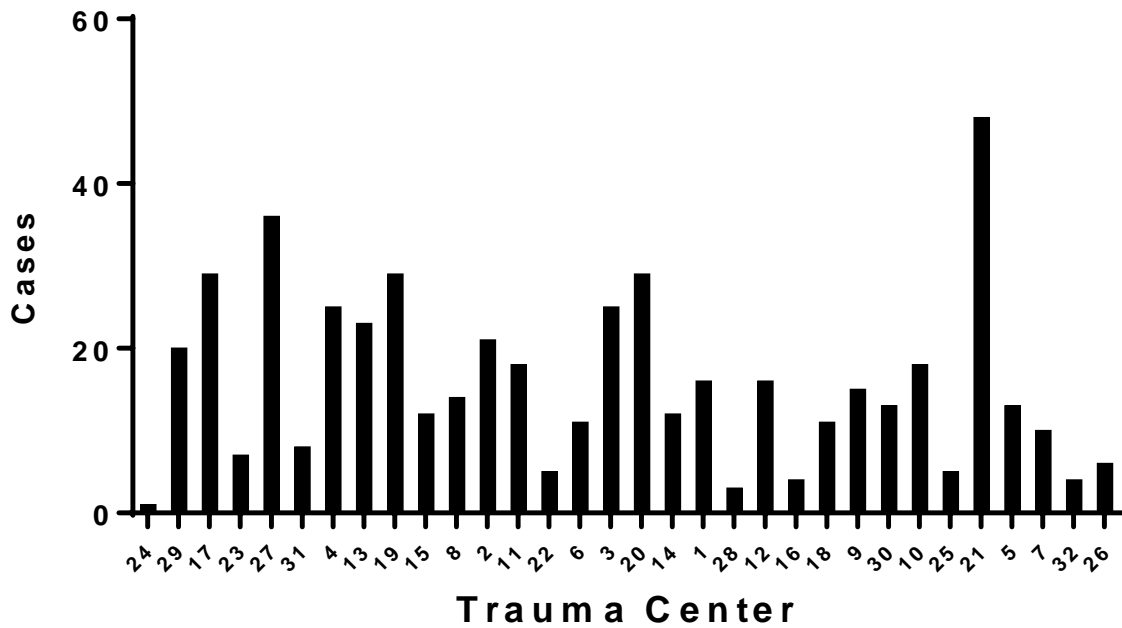
Mortality - Age ≥ 65 years



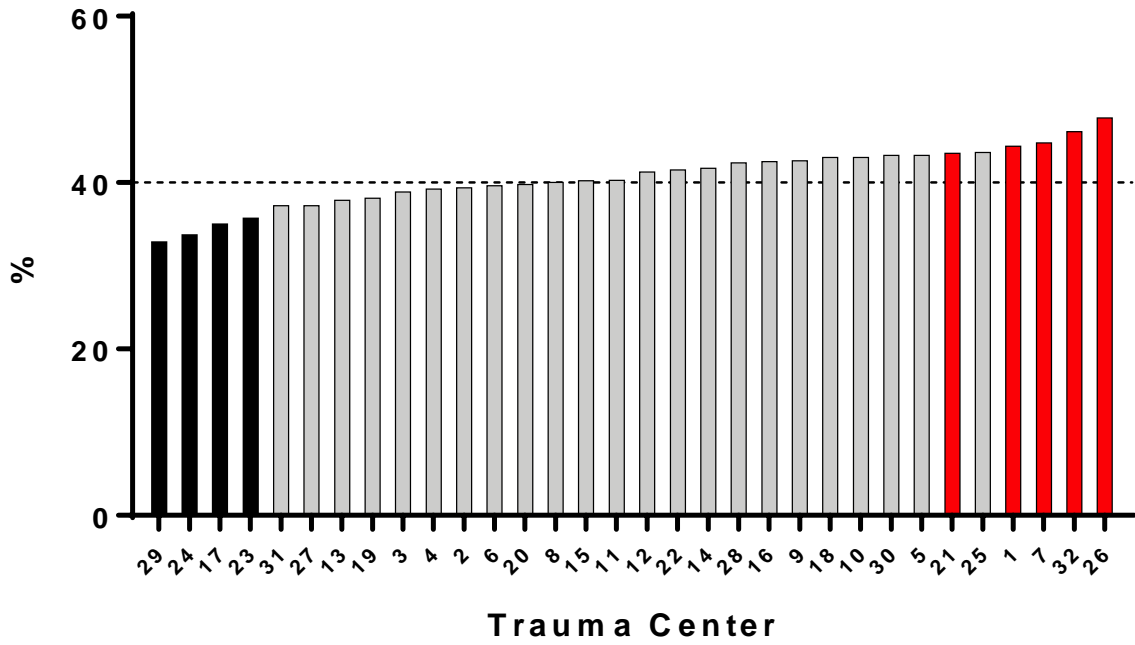
**Mortality - Cohort 1, GCS 3-8, >= 65 yo
MTQIP All**



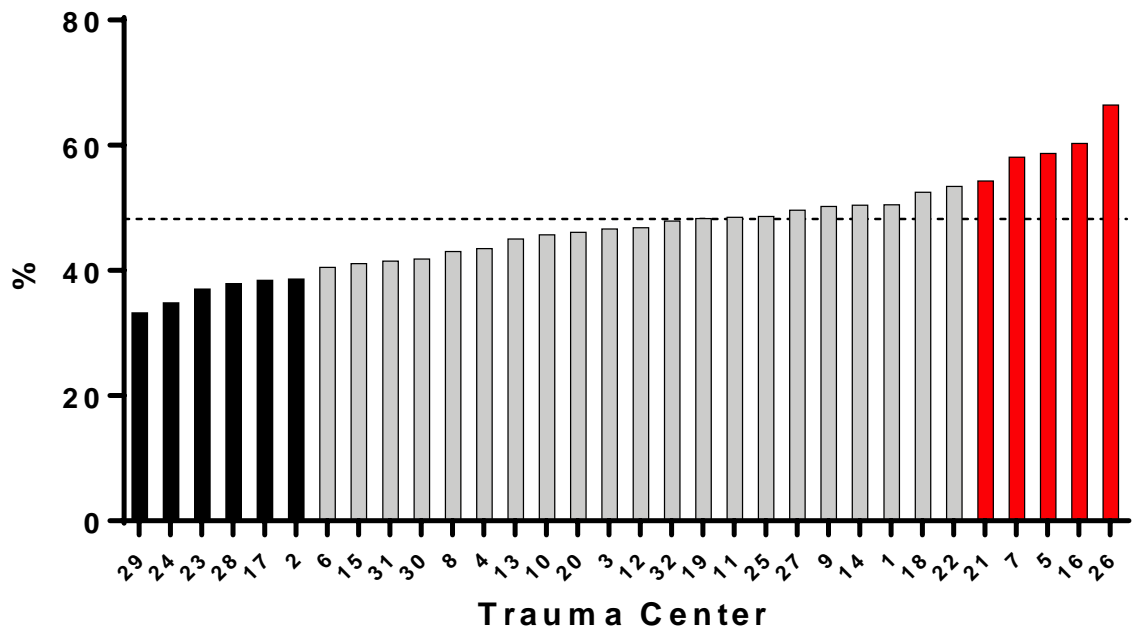
**Case Volume - Cohort 1, GCS 3-8, >= 65 yo
MTQIP All**



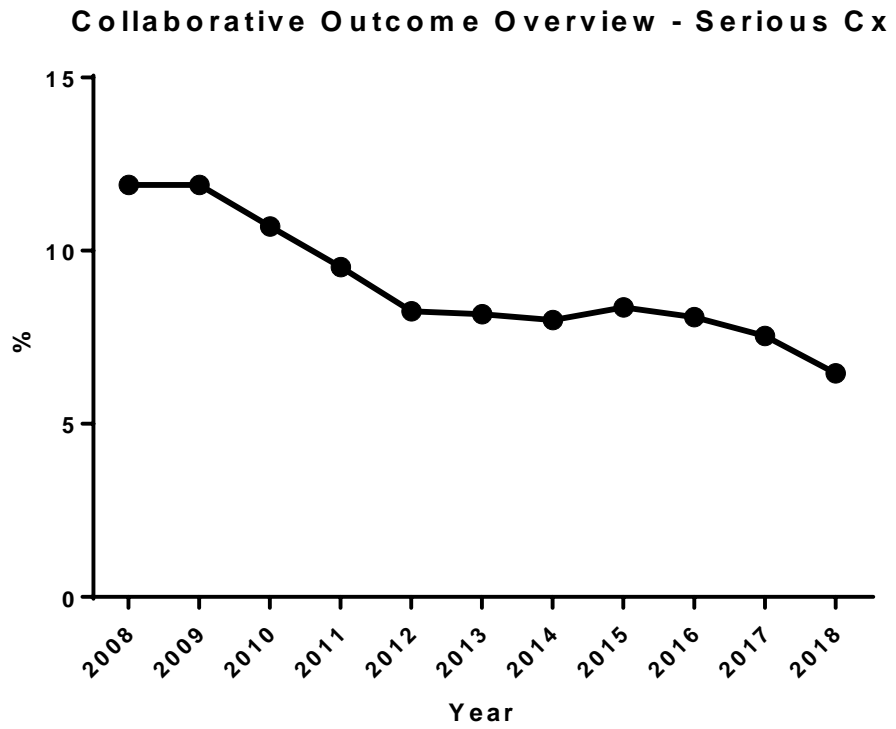
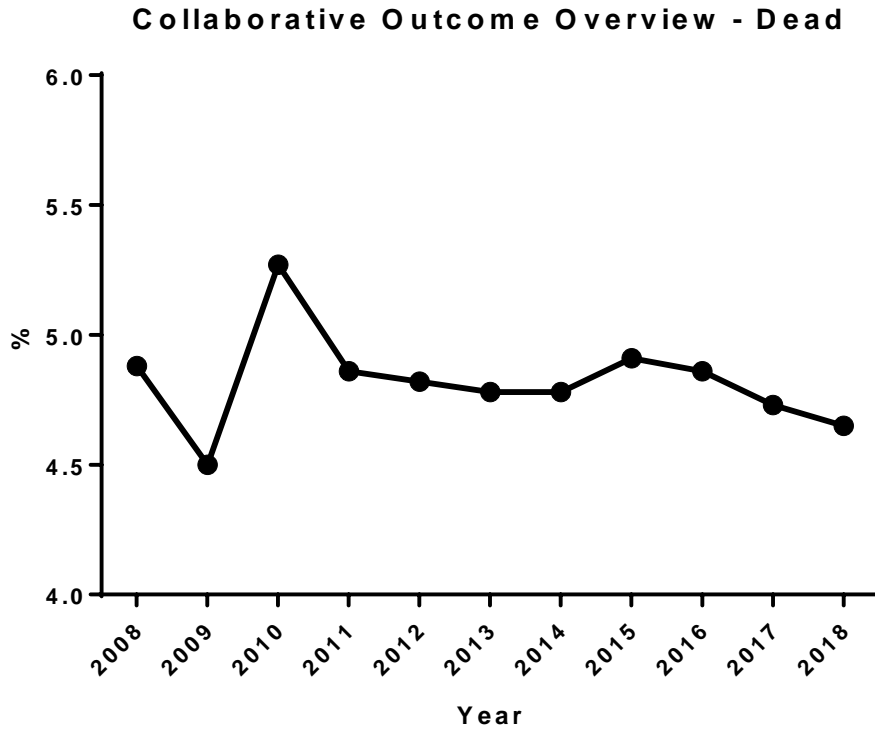
Mortality GCS 3-8



Adjusted TBI Mortality

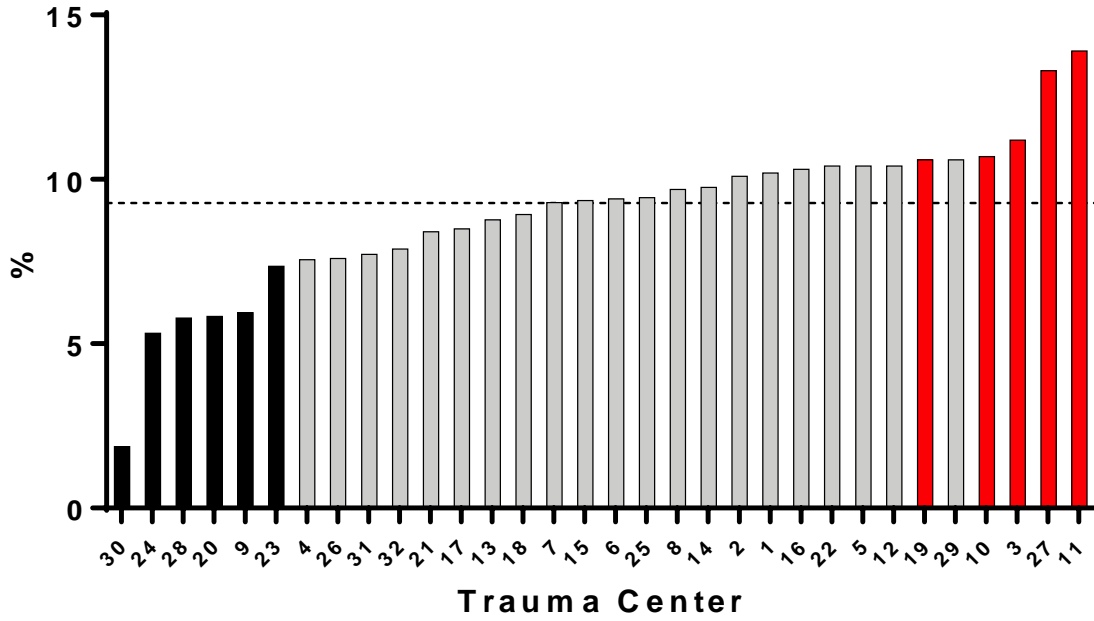


Trends

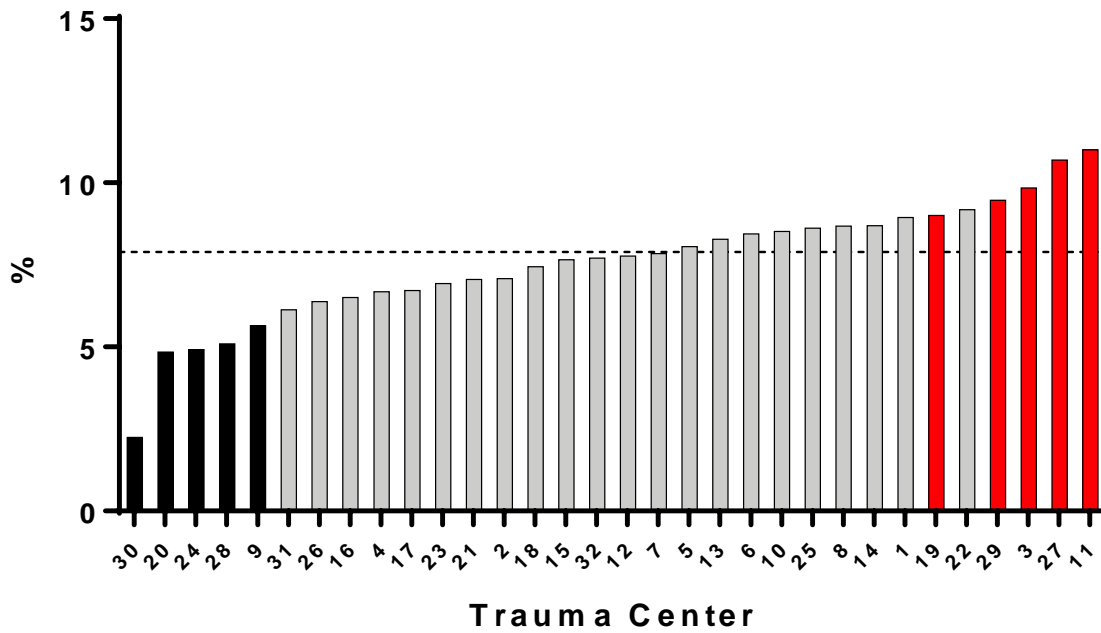


Outcomes

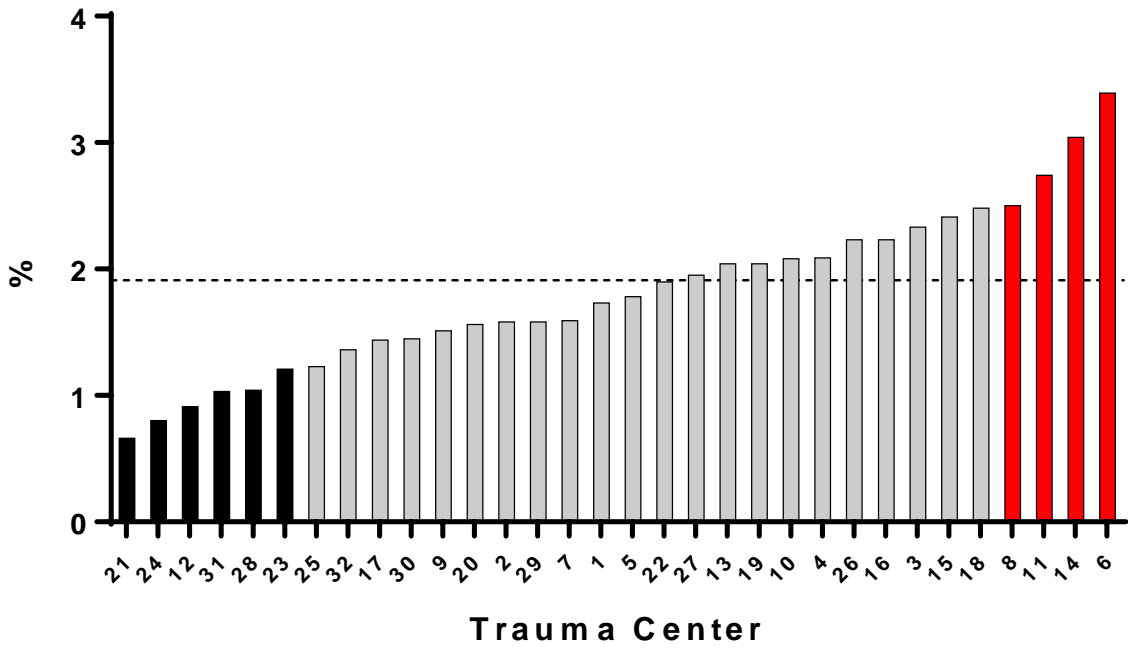
Complications - Any



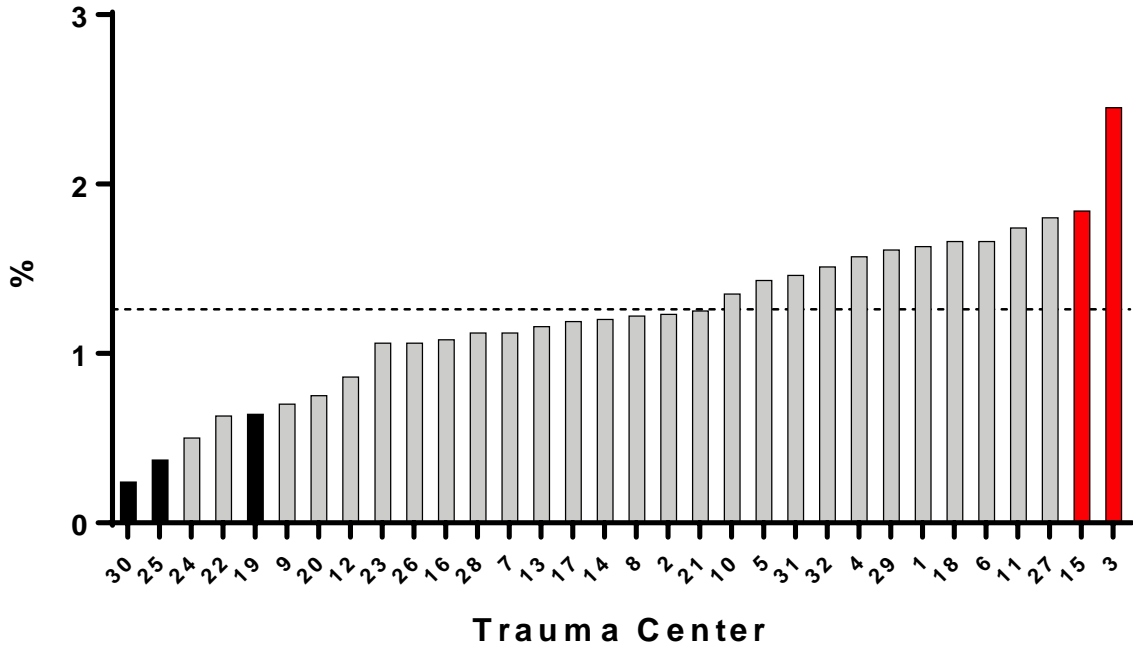
Complications - Serious



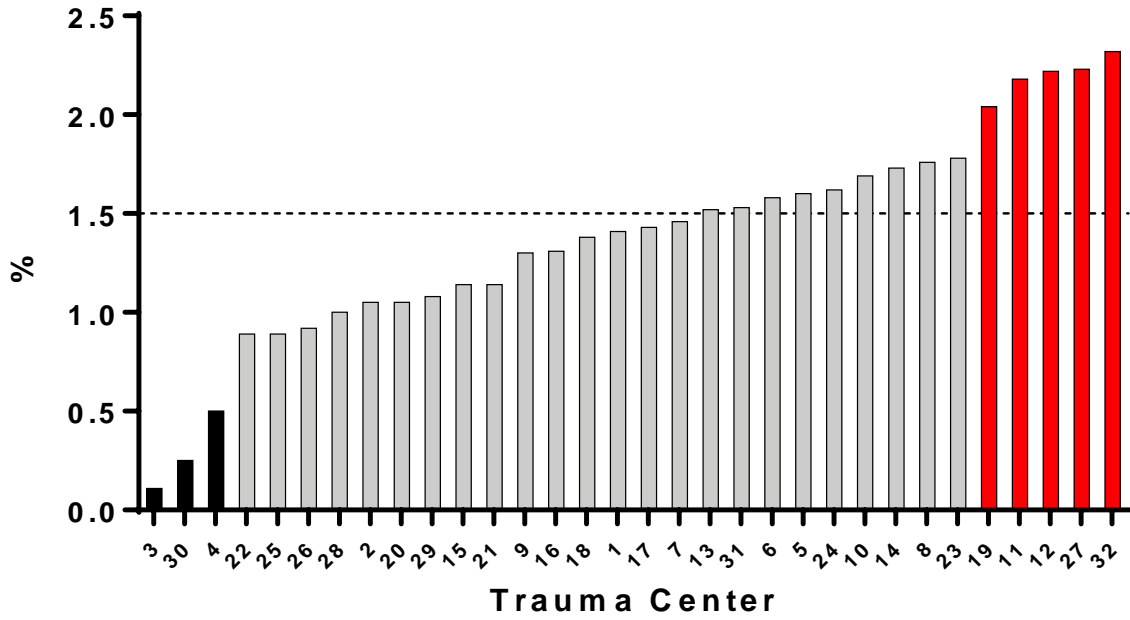
Cardiac/Stroke



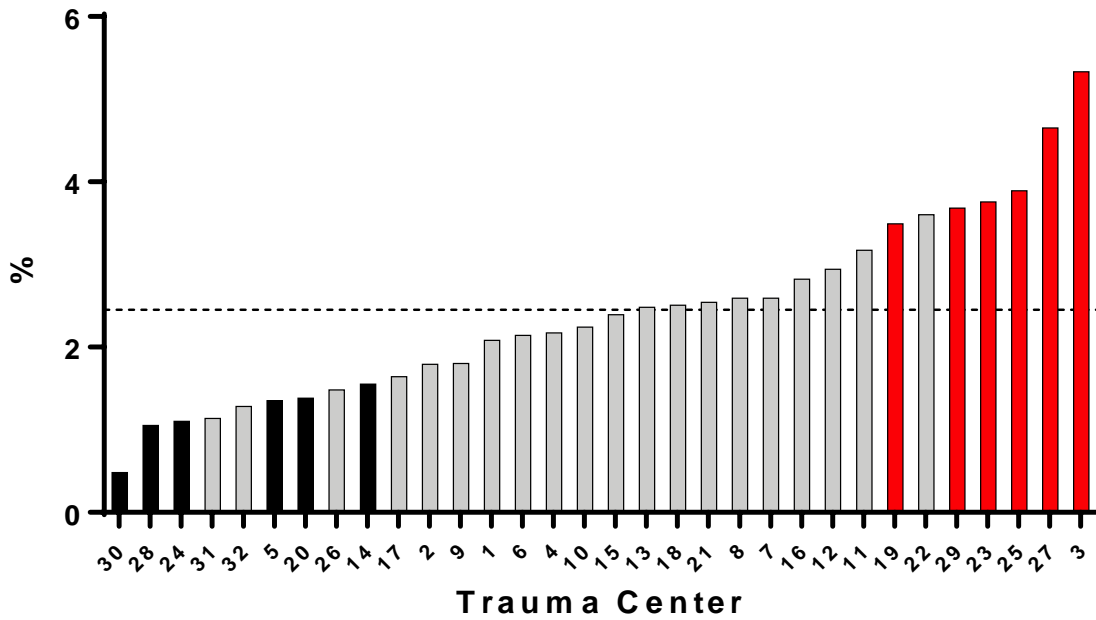
DVT/Pulmonary Embolus



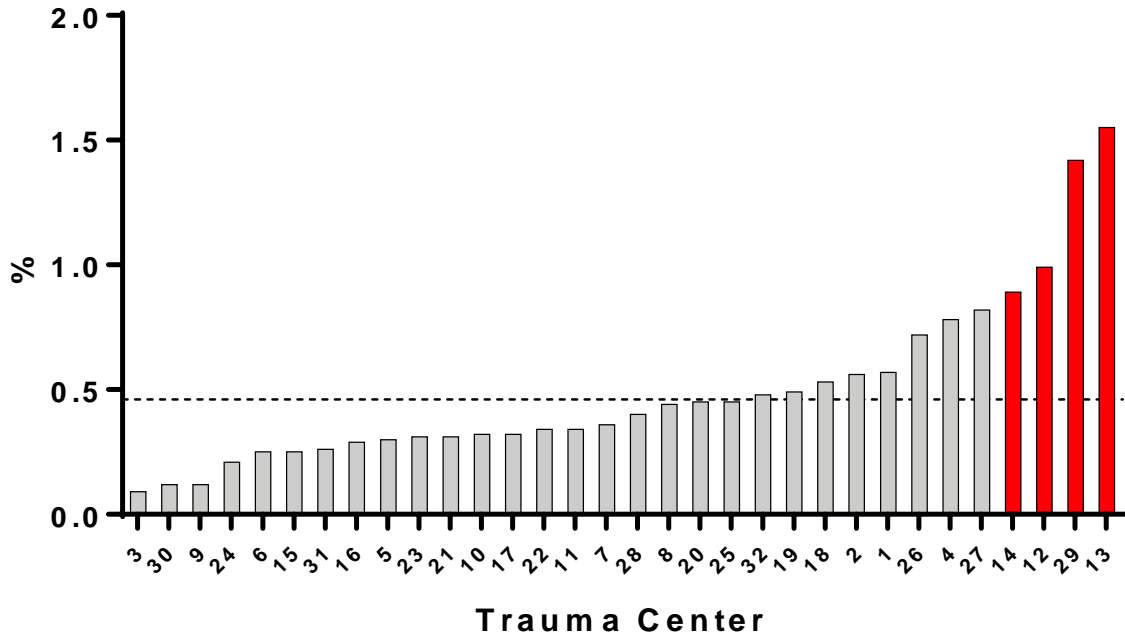
Unplanned Intubation



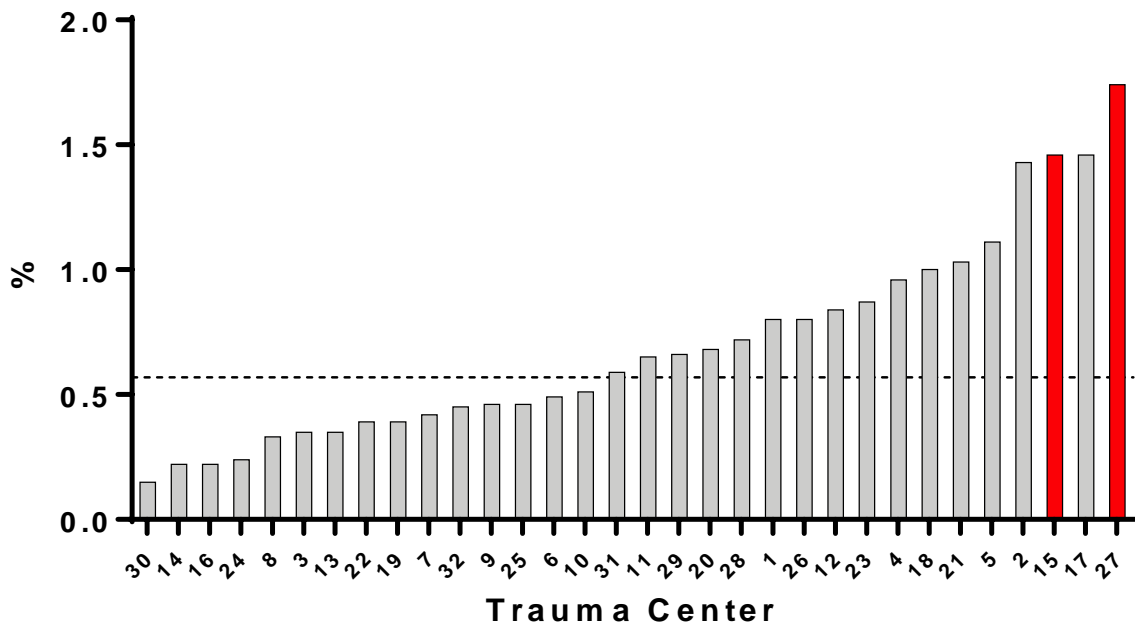
Pneumonia



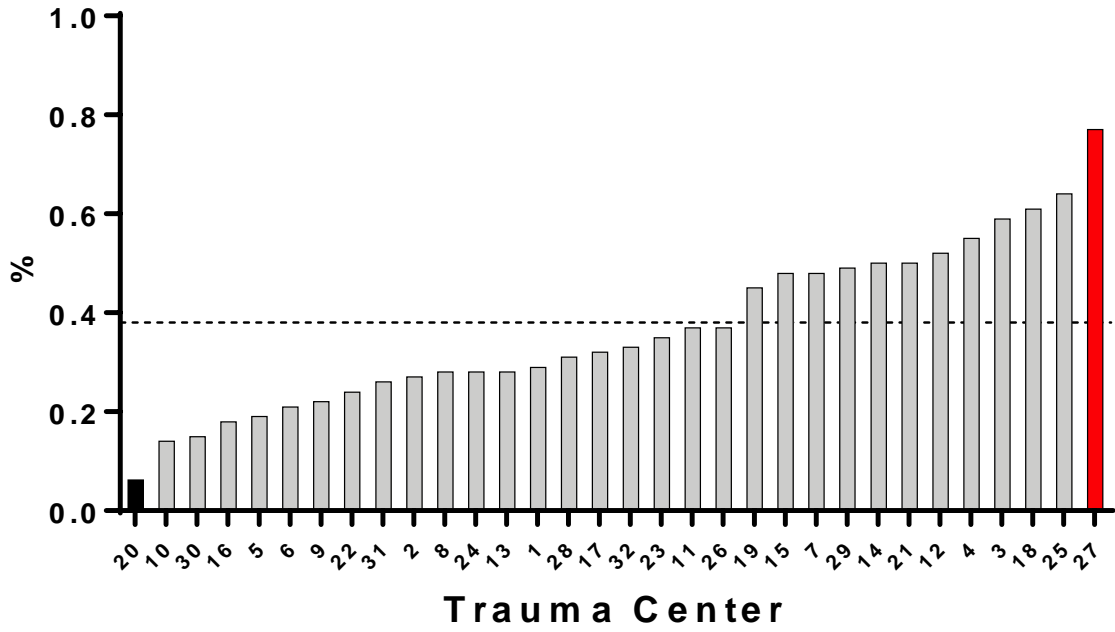
Renal Failure



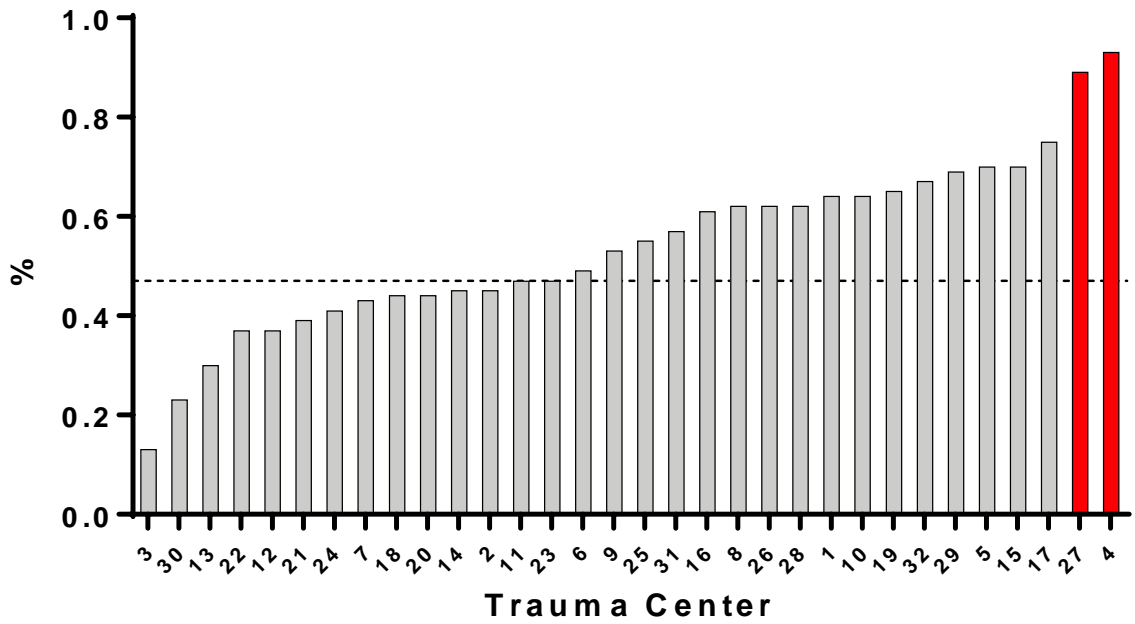
CAUTI



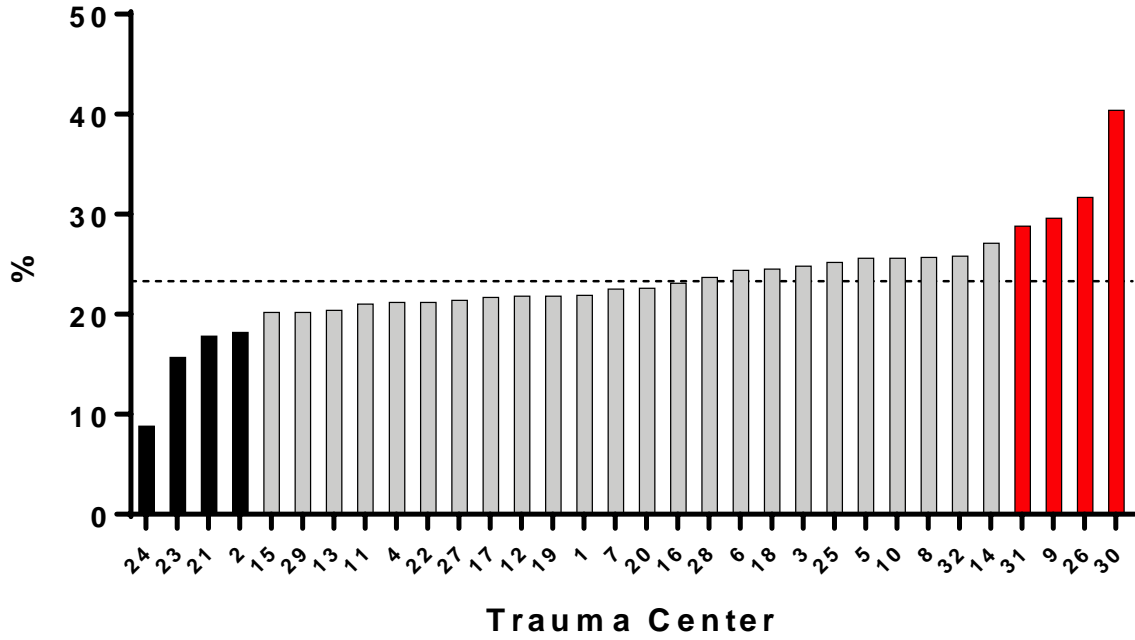
C. Difficile Colitis



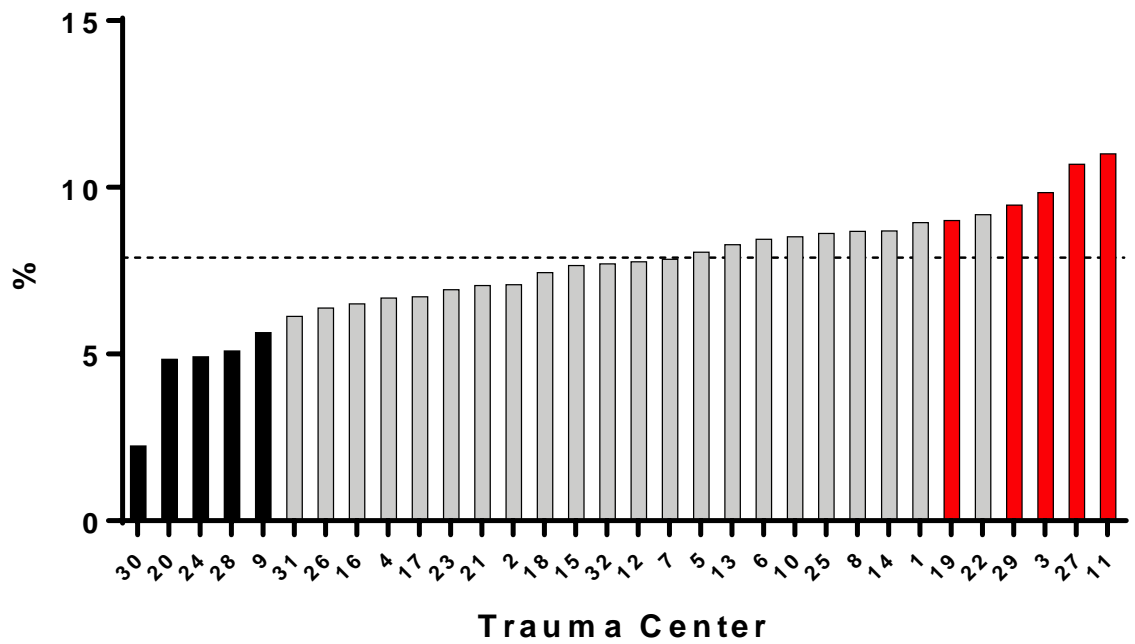
Sepsis



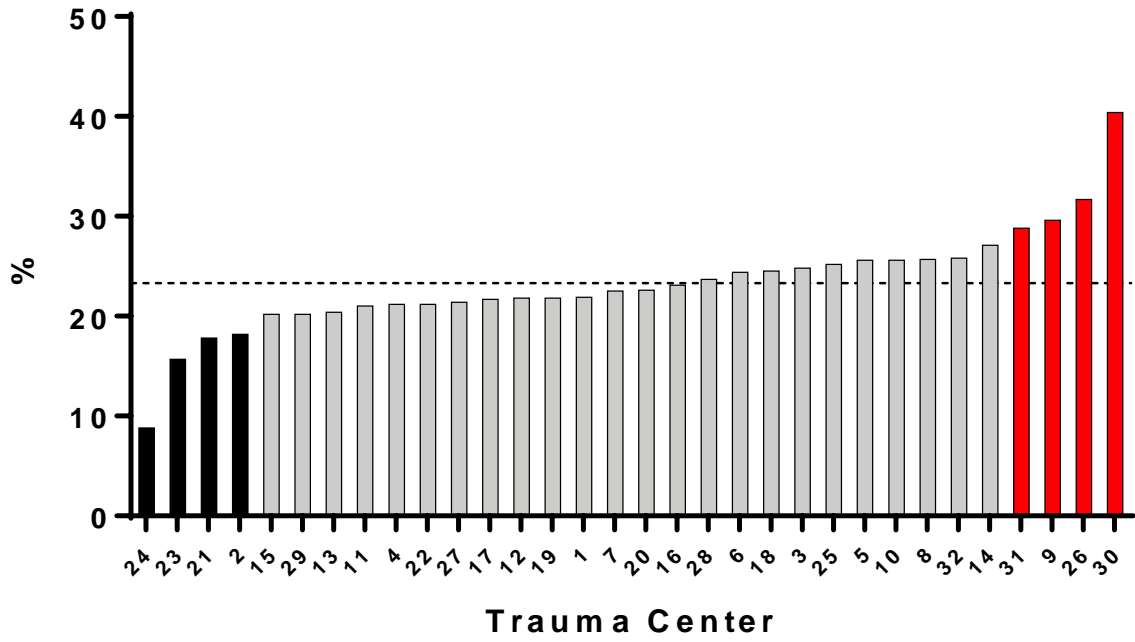
Failure to Rescue



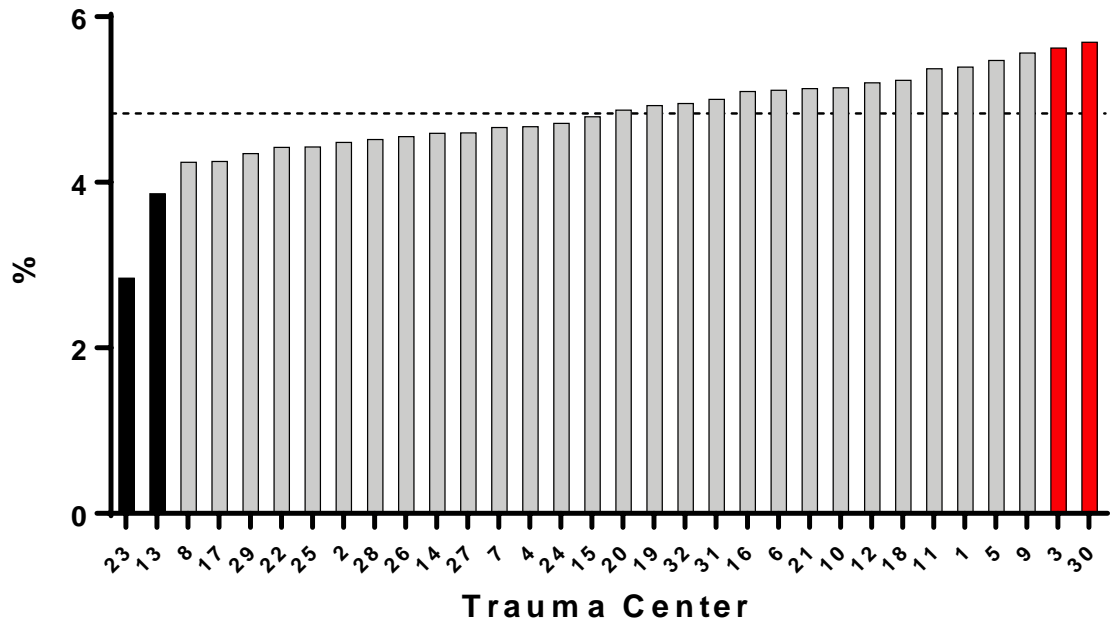
Complications - Serious



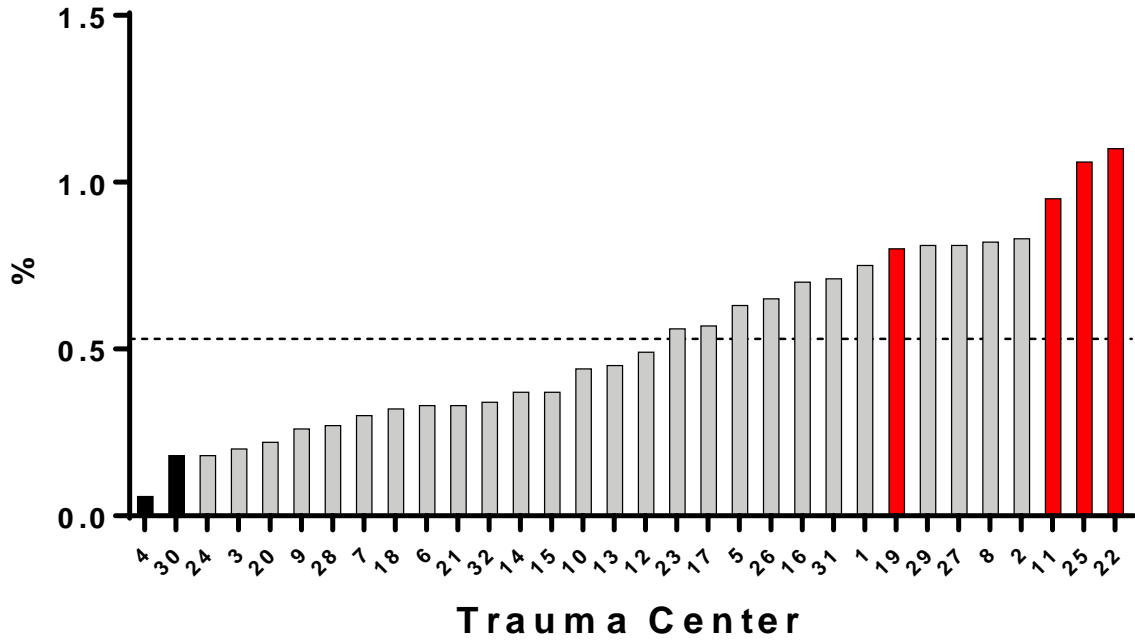
Failure to Rescue



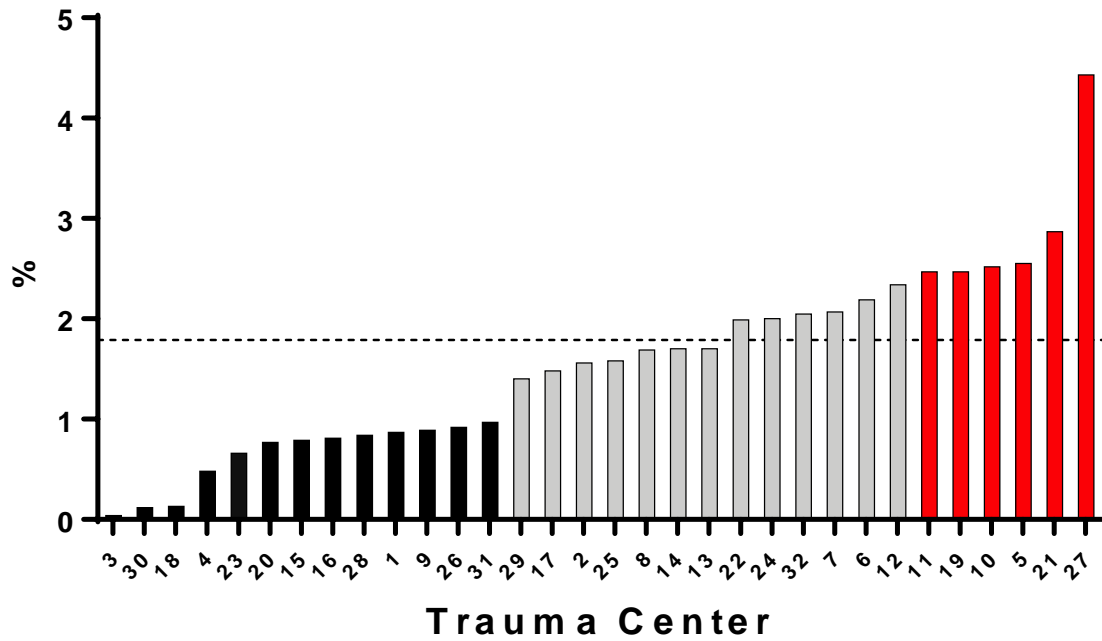
Mortality - Cohort 2 w/o DOA Admit to Trauma



Unplanned Return to OR

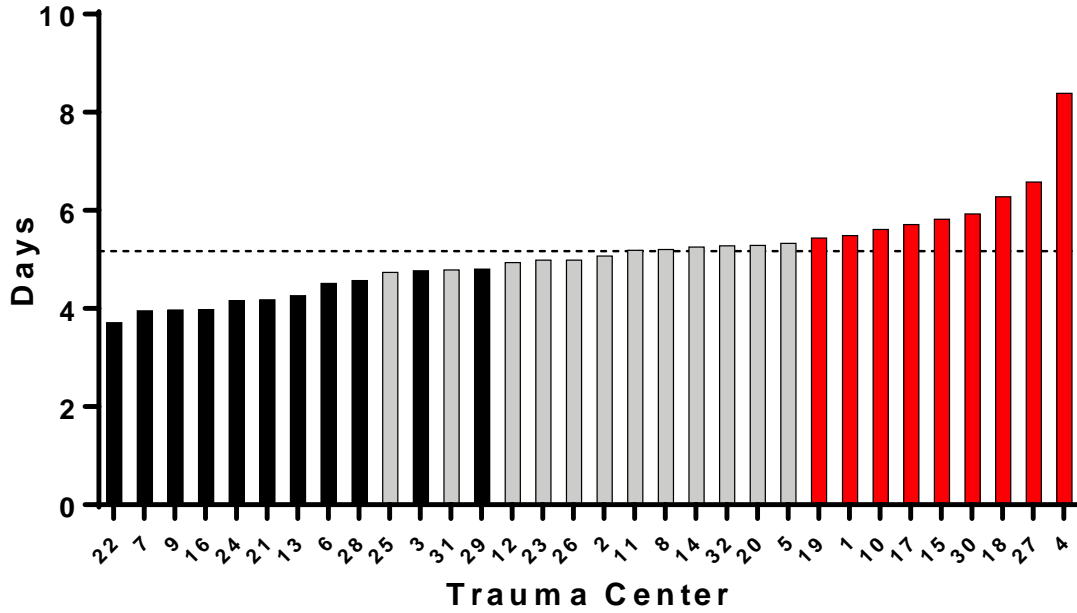


Unplanned Admit to ICU

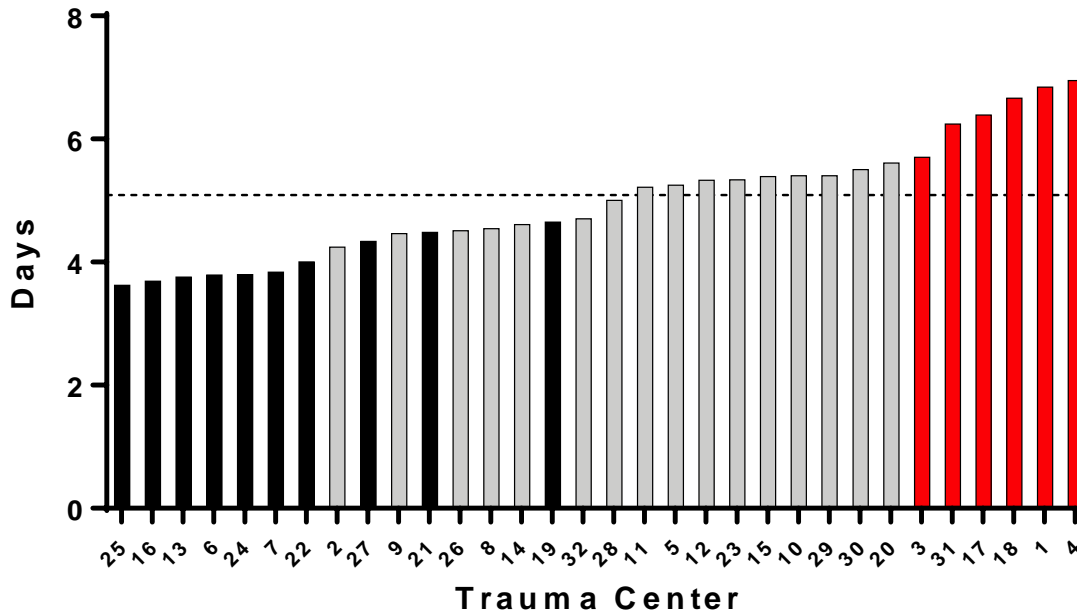


Resource Utilization

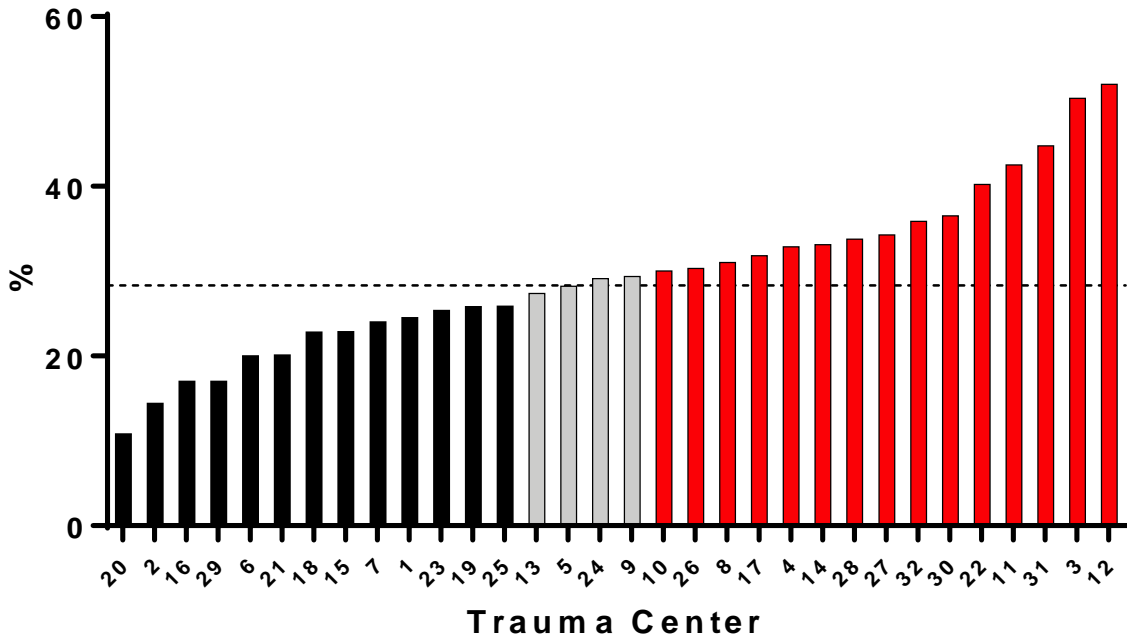
Adjusted Hospital LOS



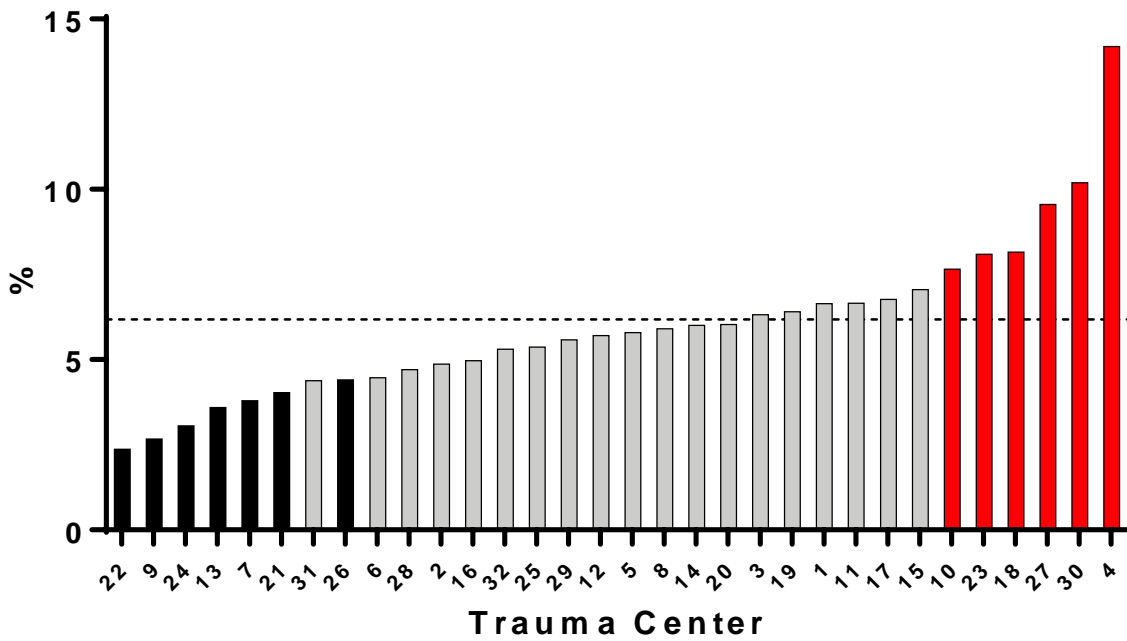
Adjusted ICU LOS



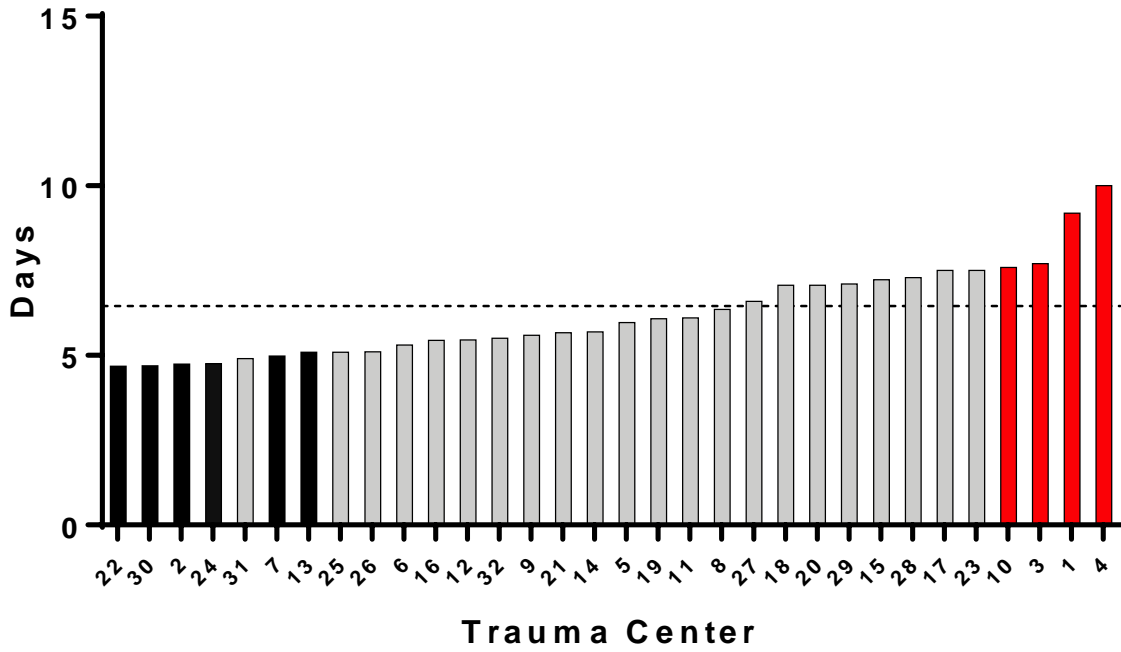
Patients Admitted to ICU



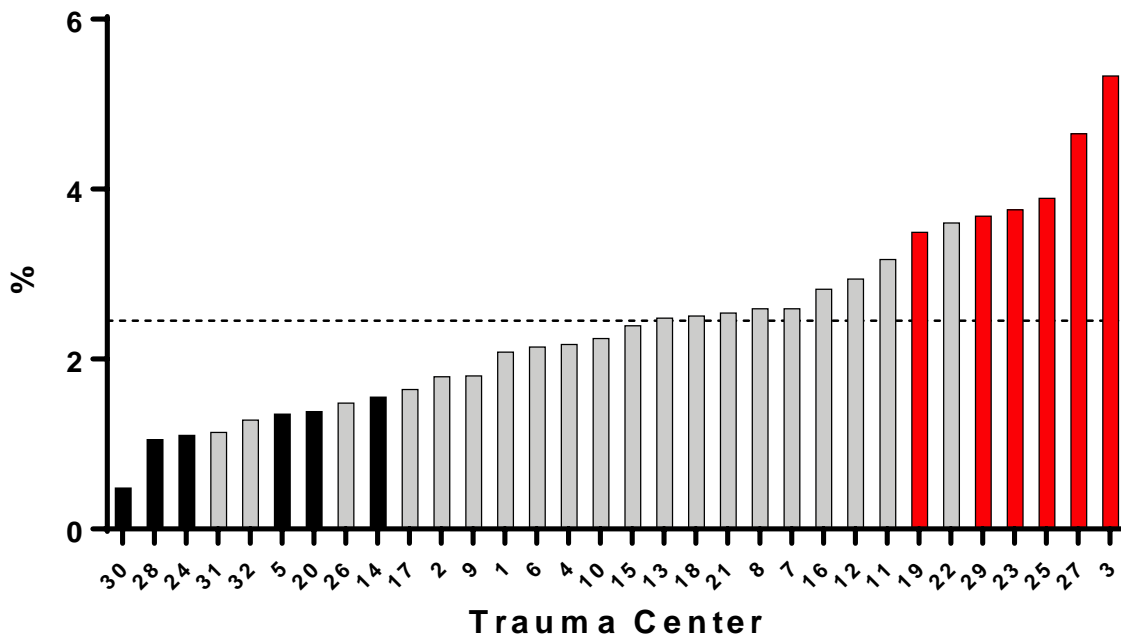
Extended LOS



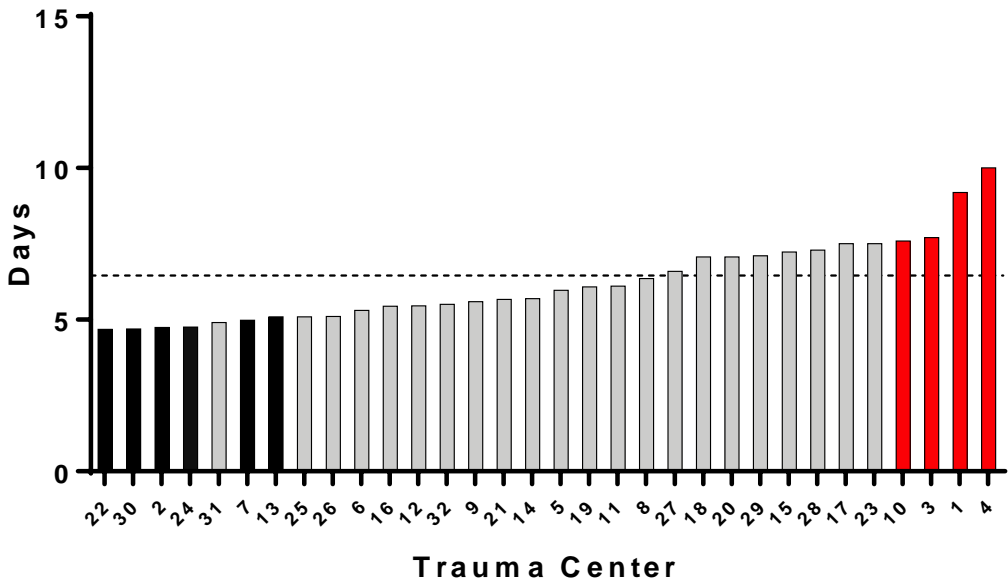
Adjusted Ventilator Days



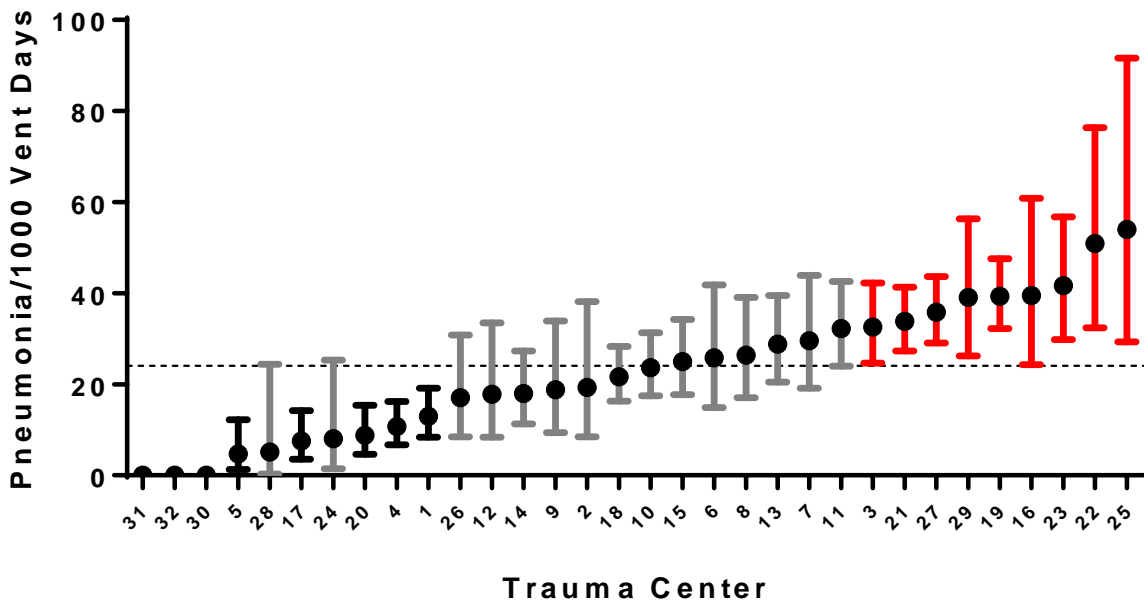
Pneumonia



Adjusted Ventilator Days

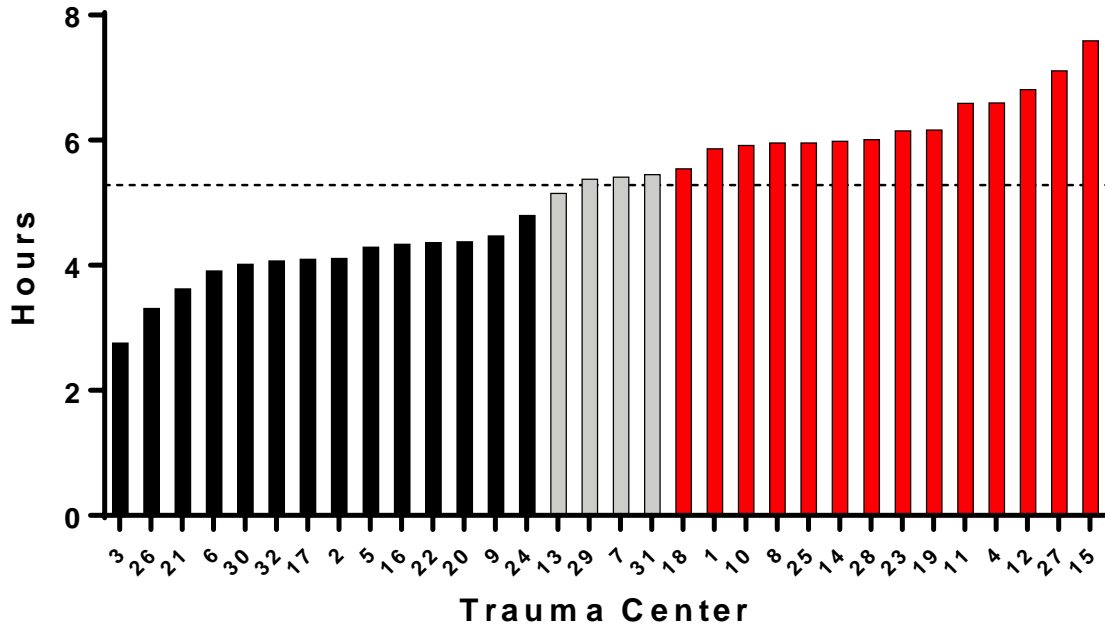


Adjusted VAP

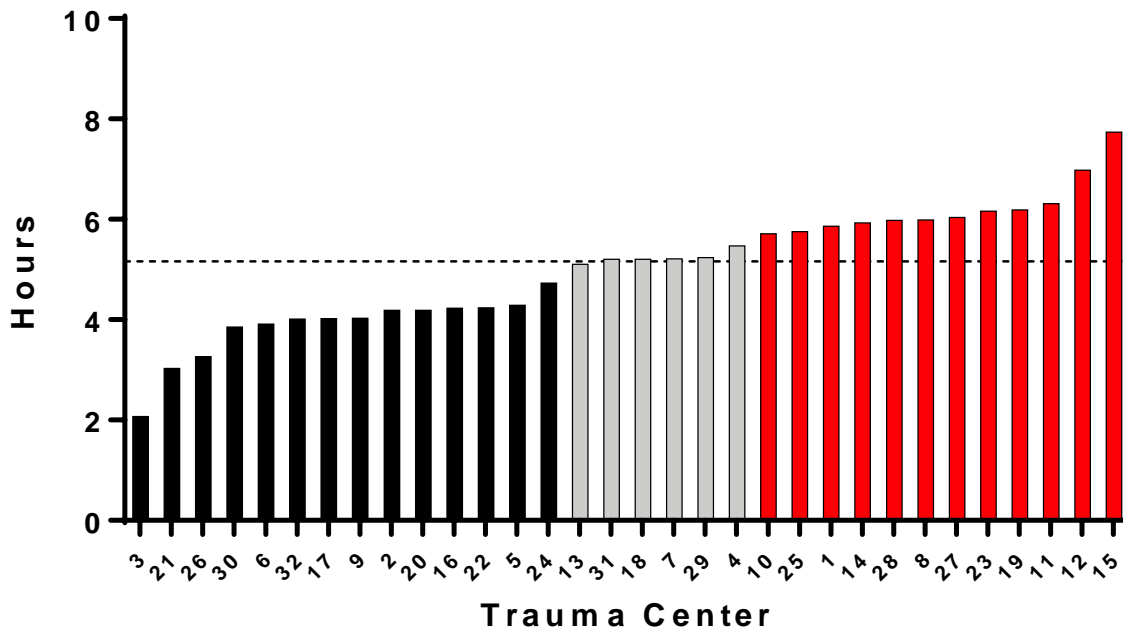


System Efficiency

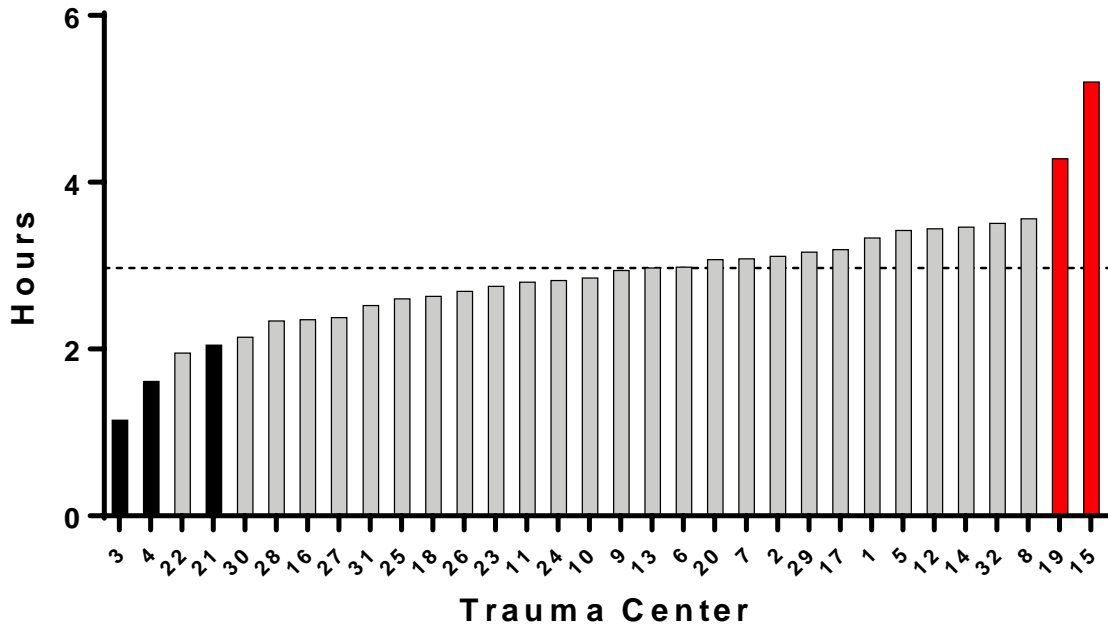
Mean ED LOS - Cohort 1
MTQIP All



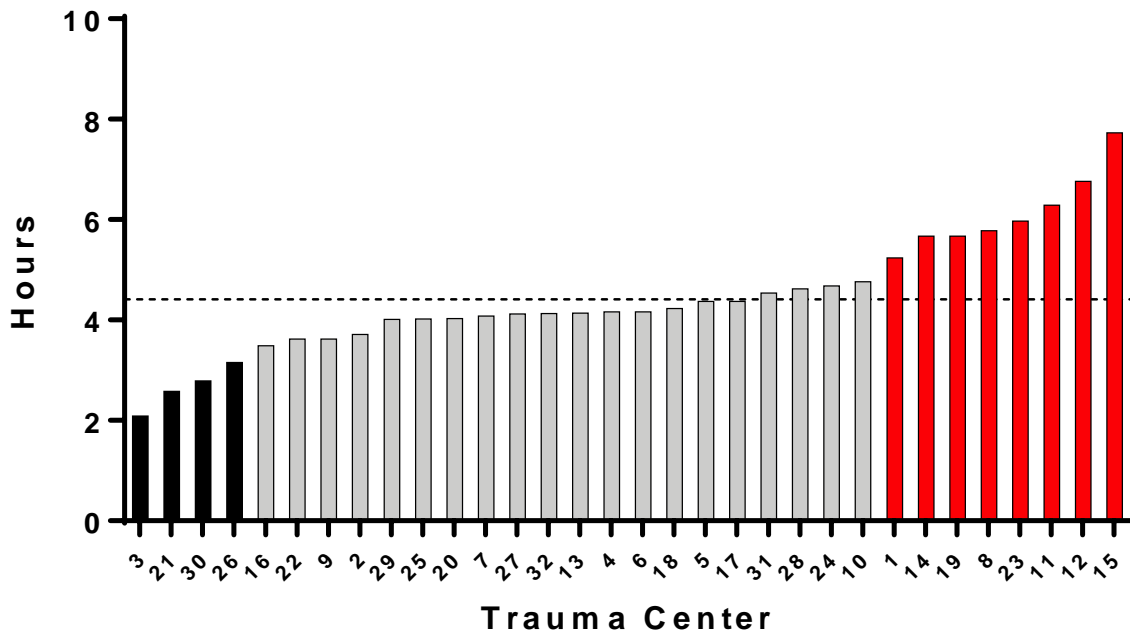
Mean ED LOS - Cohort 2
Admit to Trauma Service



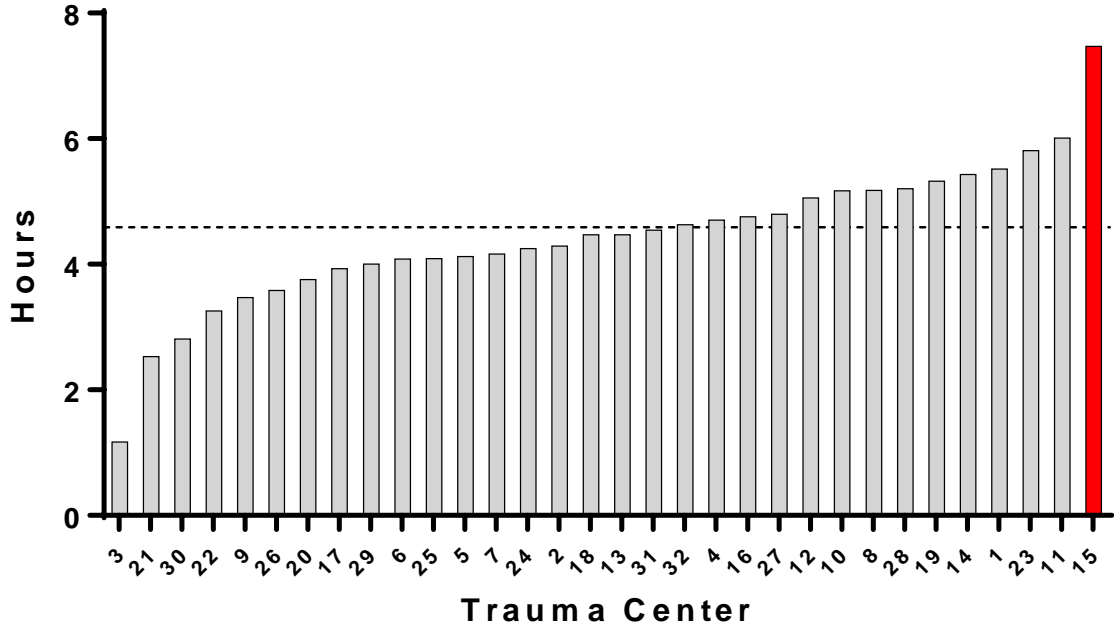
Mean ED LOS - Full Activations



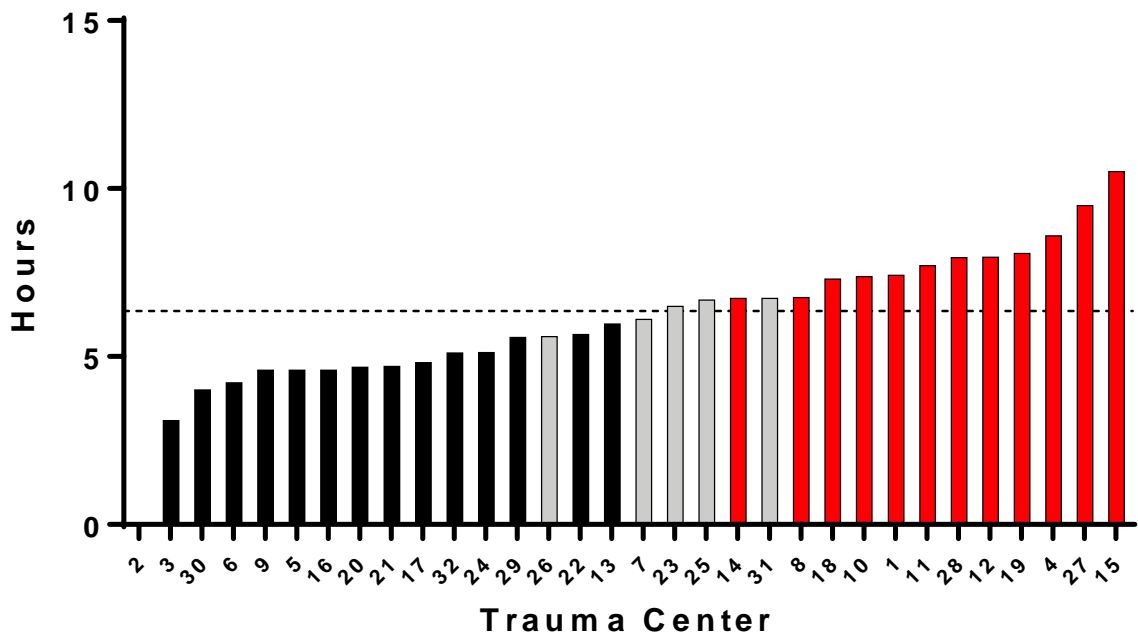
Mean ED LOS - Disposition to ICU



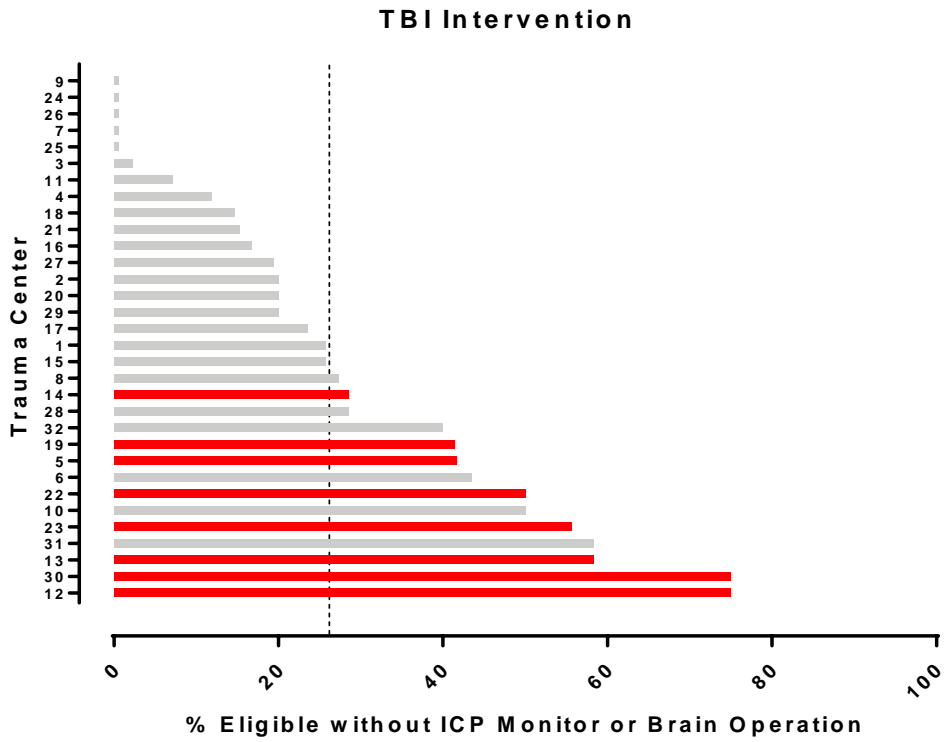
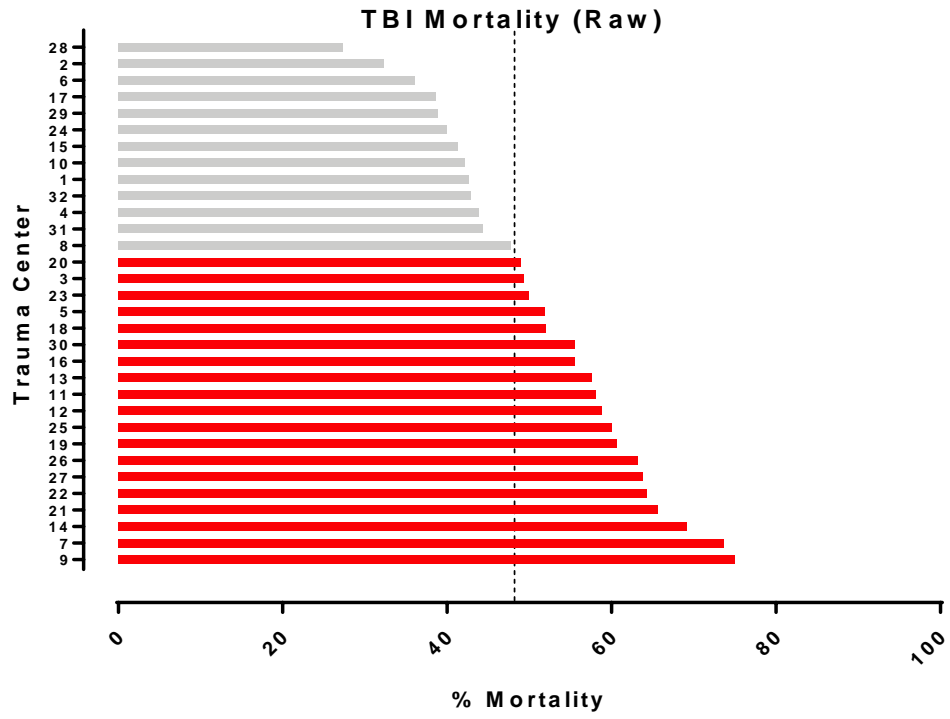
Mean ED LOS - Partial Activations



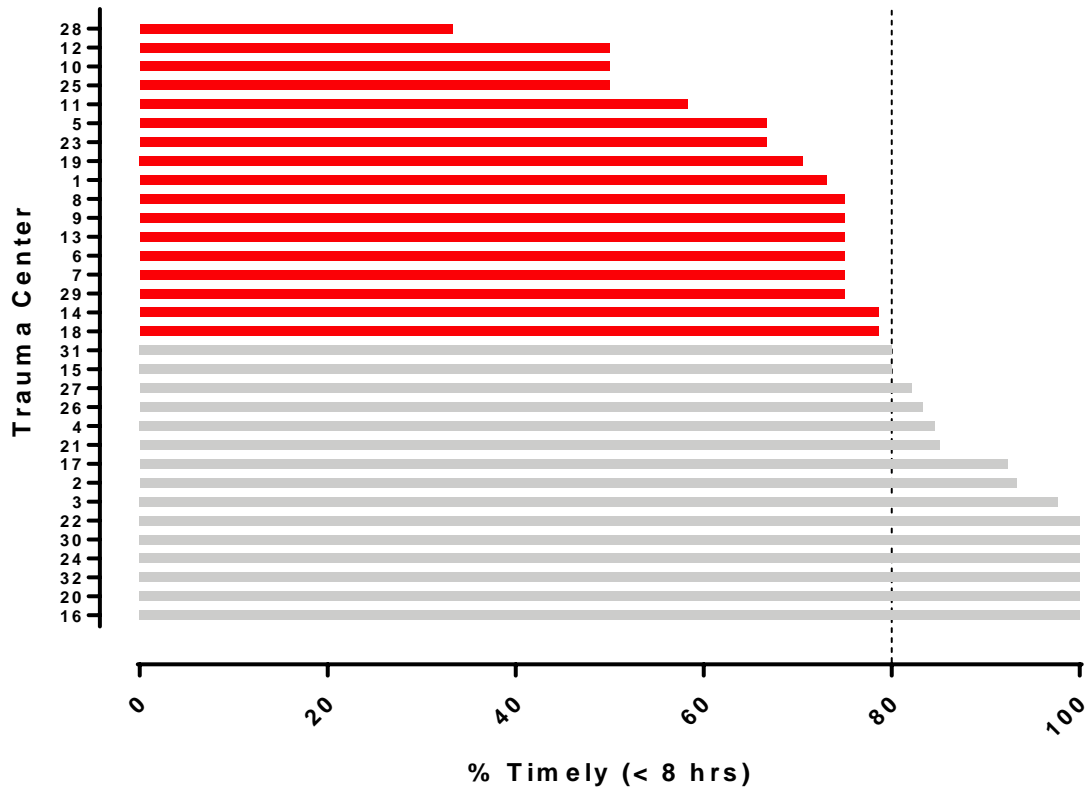
Mean ED LOS - Consult



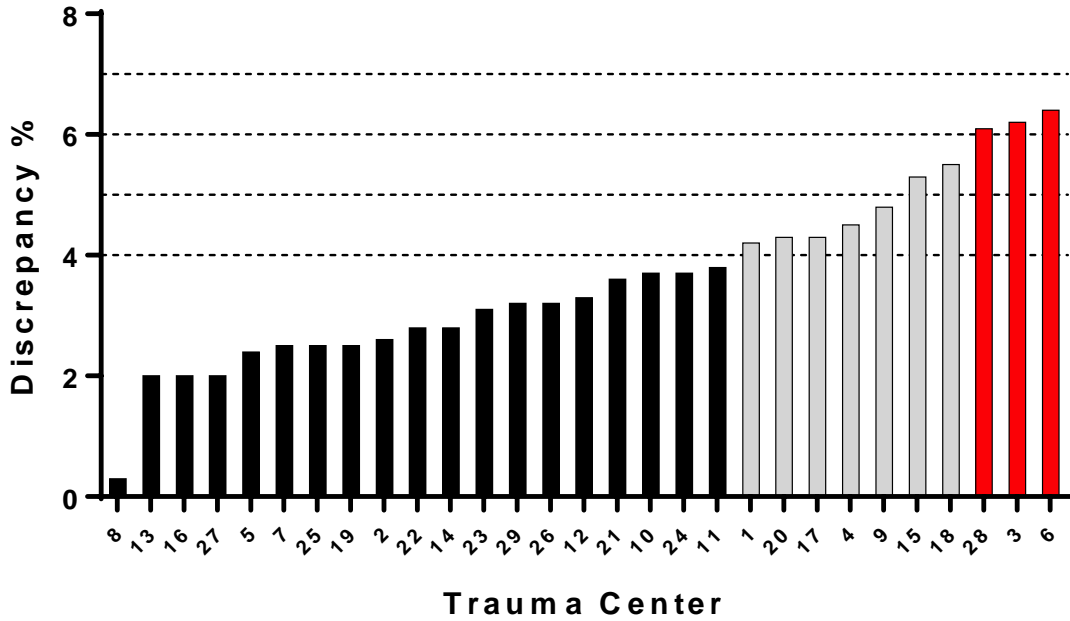
Process Measures



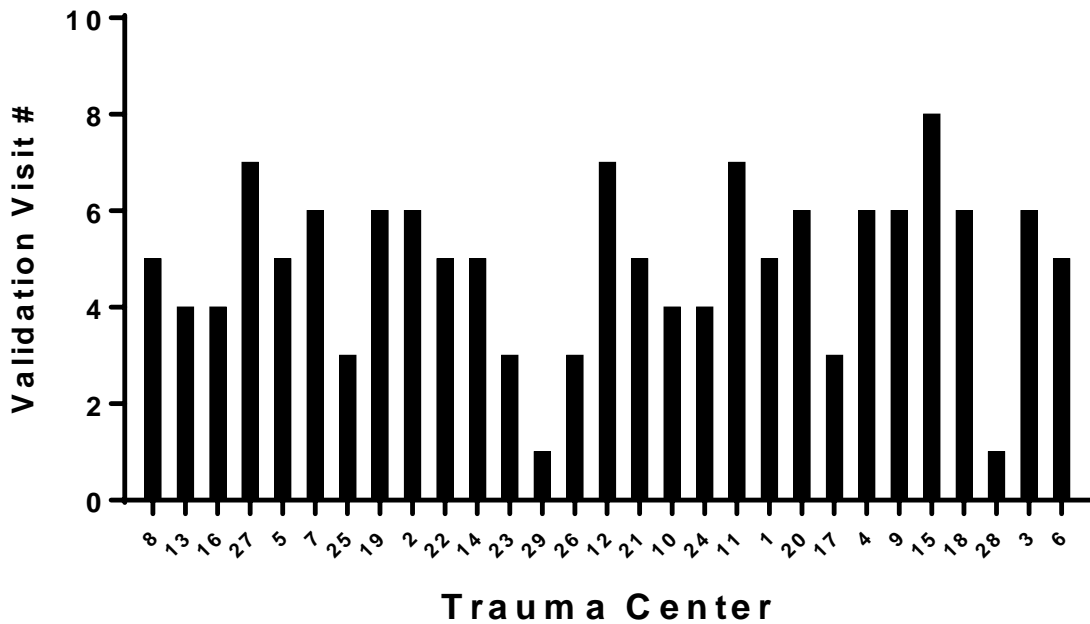
TBI Intervention Timing



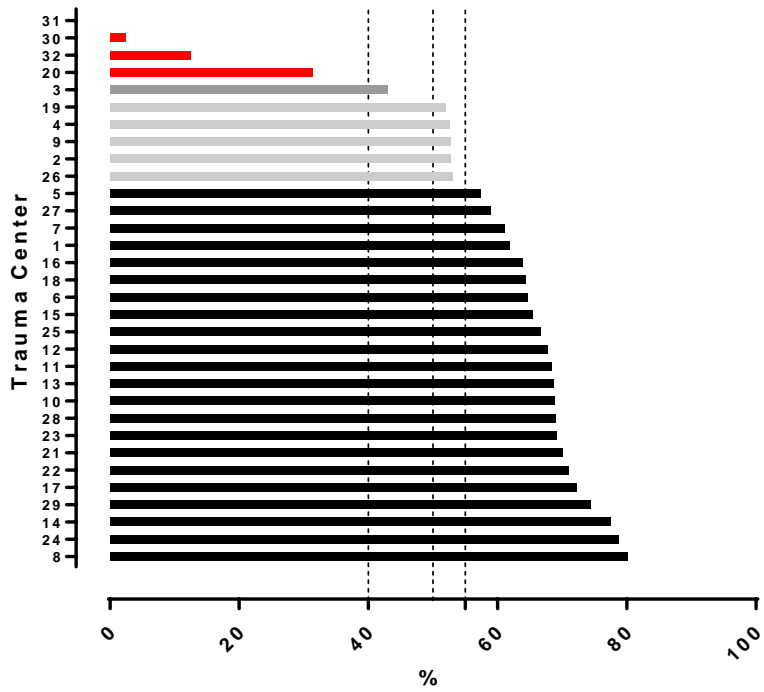
Data Validation Last Processed Report



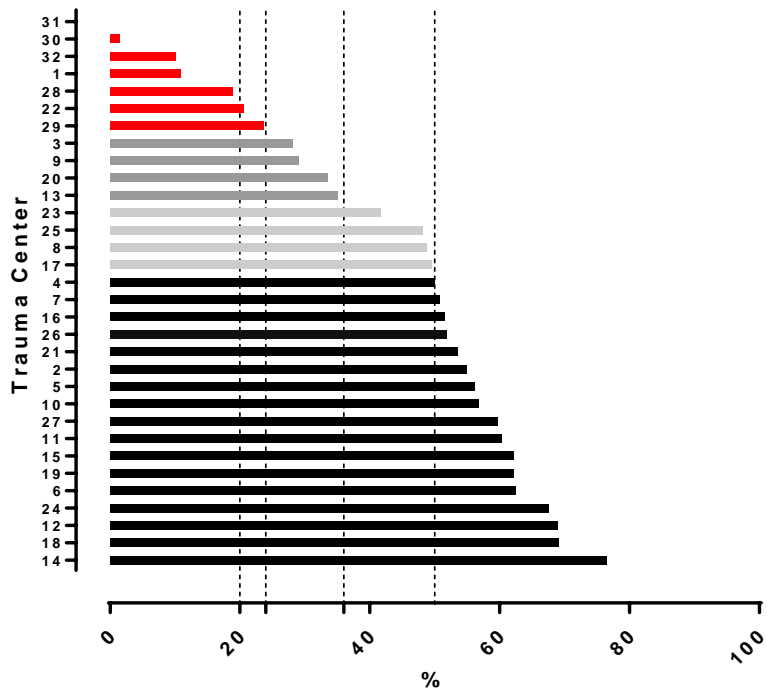
Total Data Validation Visits



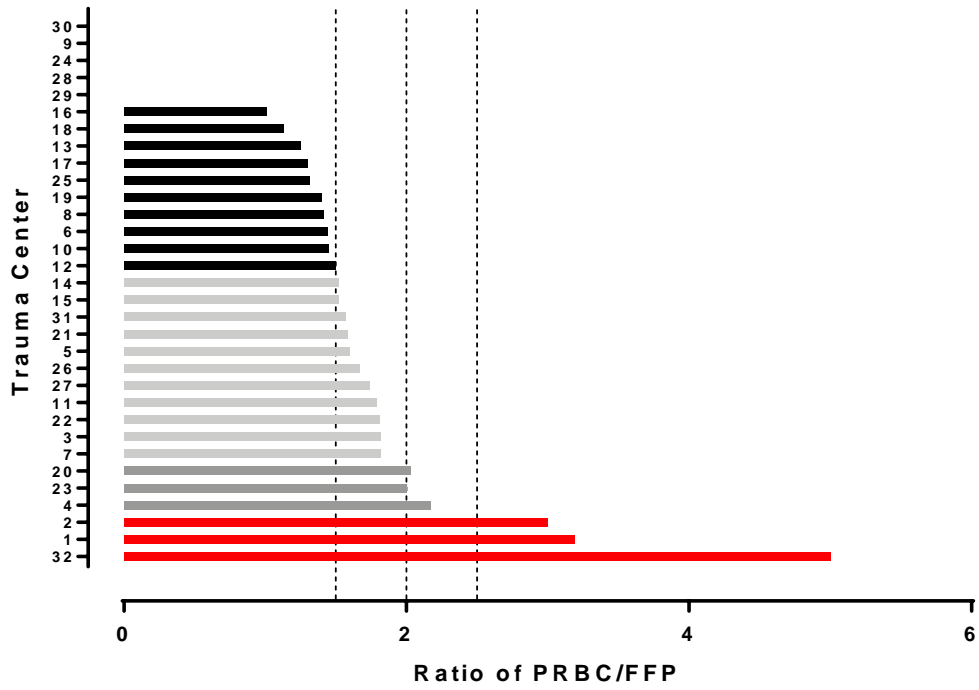
VTE Prophylaxis Timing <= 48 hrs
1/1/17 - 1/31/18



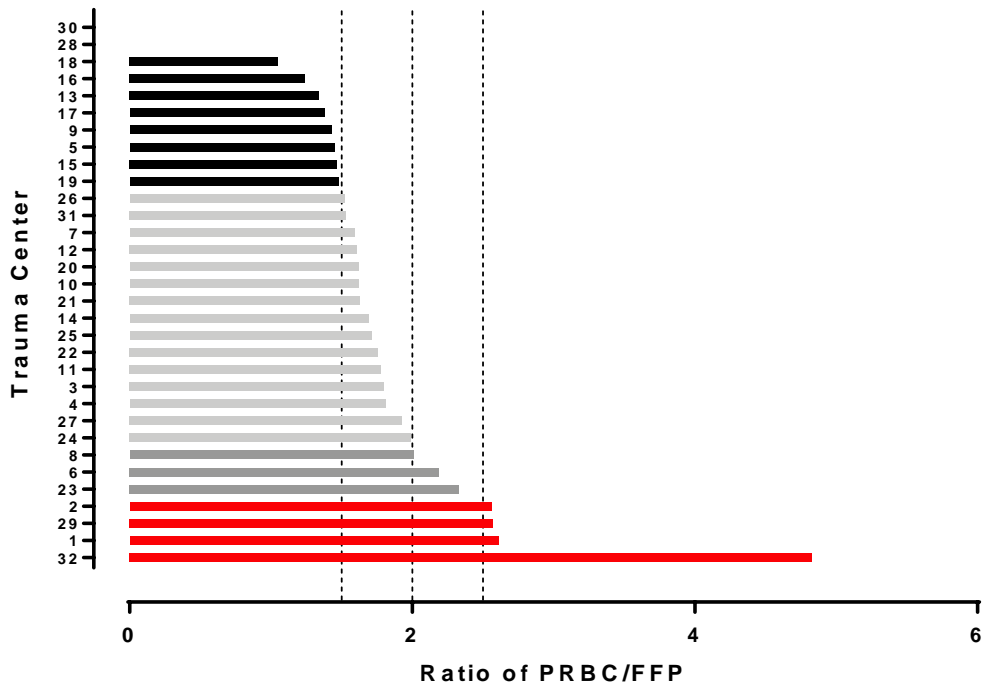
VTE Prophylaxis Type - LMWH
1/1/17 - 1/31/18



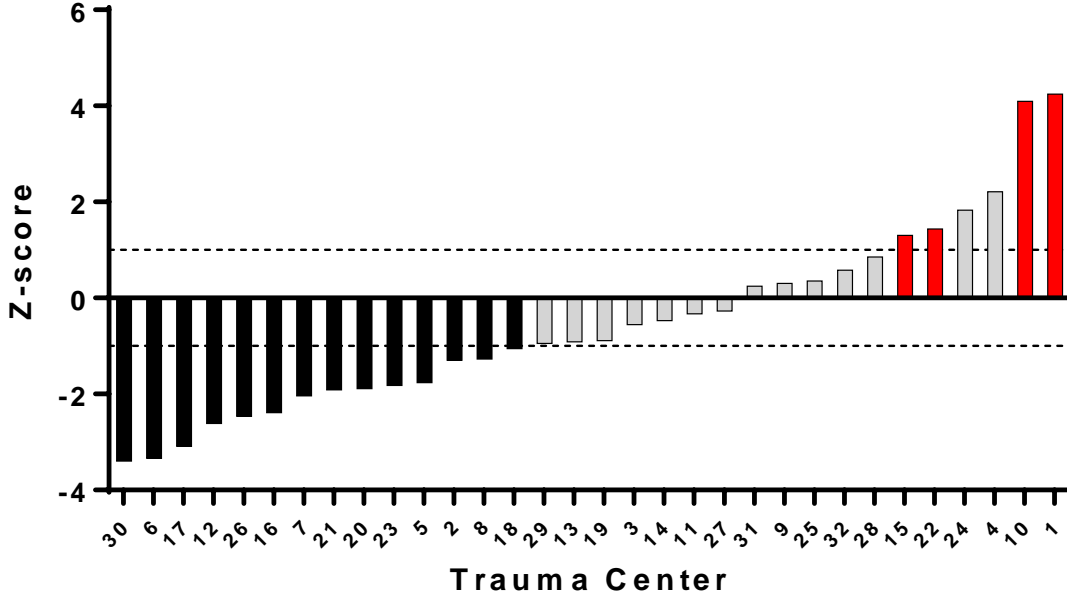
Blood Product Ratio in first 4 hrs if ≥ 5 uPRBCs
1/1/17 - 1/31/18



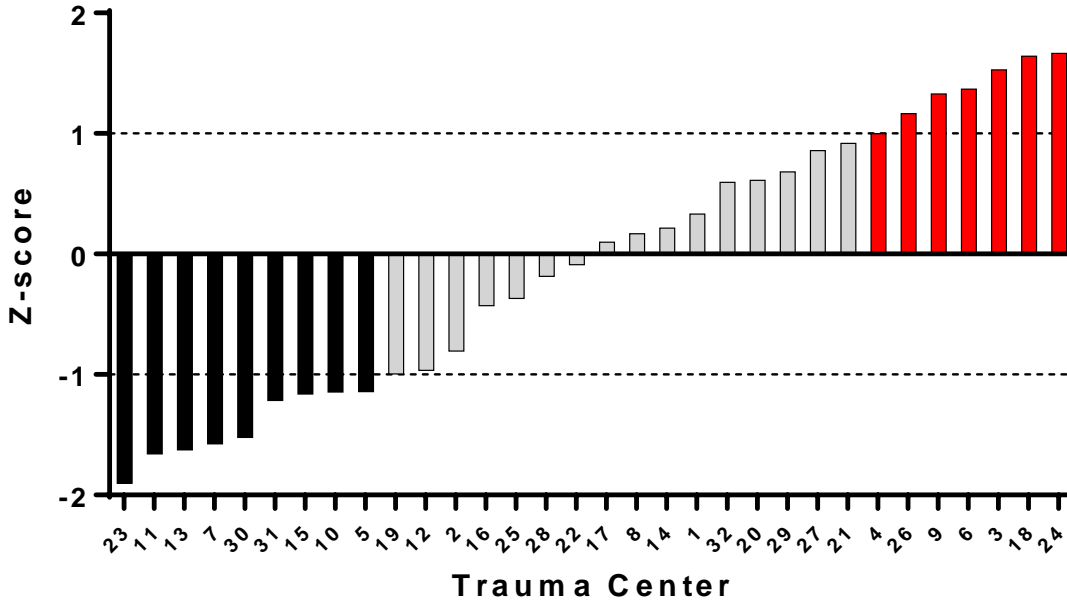
Blood Product Ratio in first 4 hrs if ≥ 5 uPRBCs



**Z-score - Serious Complication Rate
7/1/15 - 1/31/18**

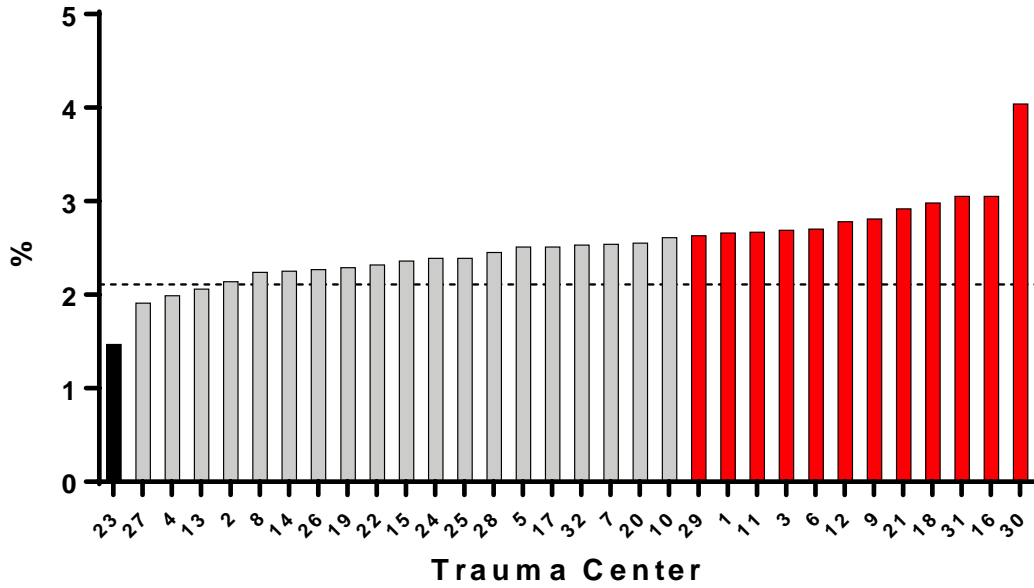


**Z-score - Mortality Rate
7/1/15 - 1/31/18**

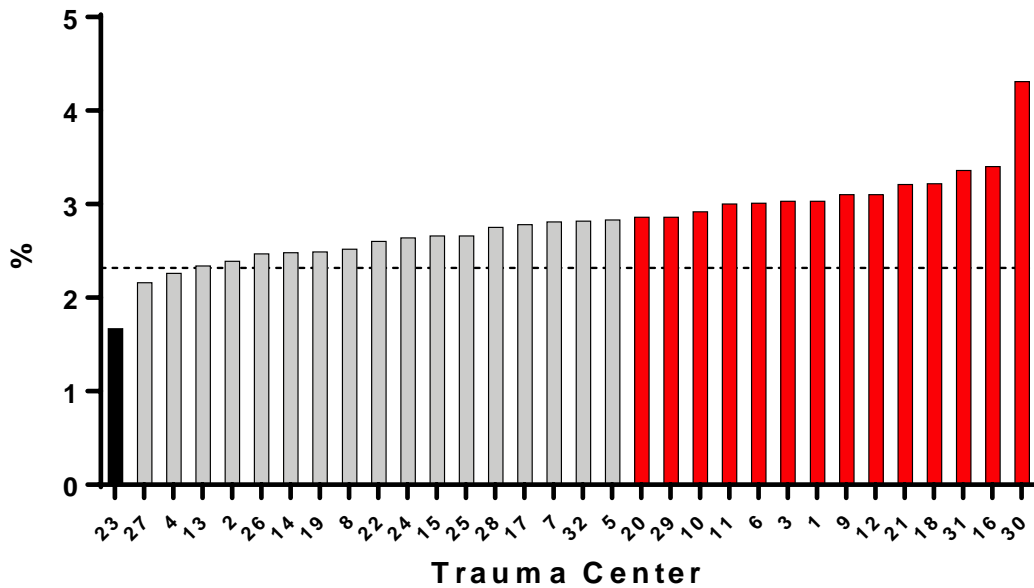


Isolated Hip Fracture – NEW

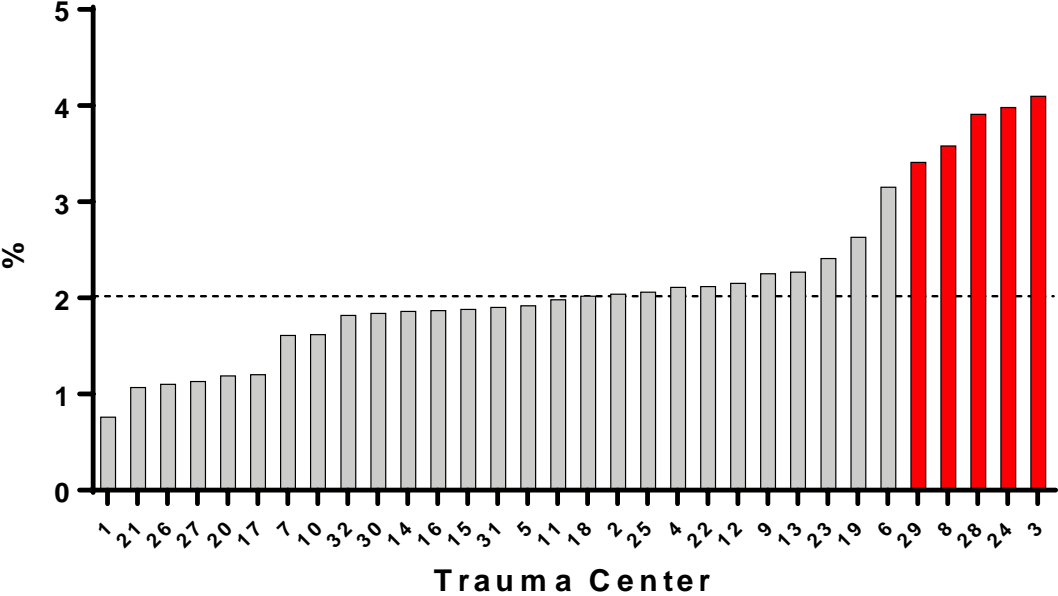
**Mortality - Cohort 8 w/o DOA
Isolated Hip Fracture**



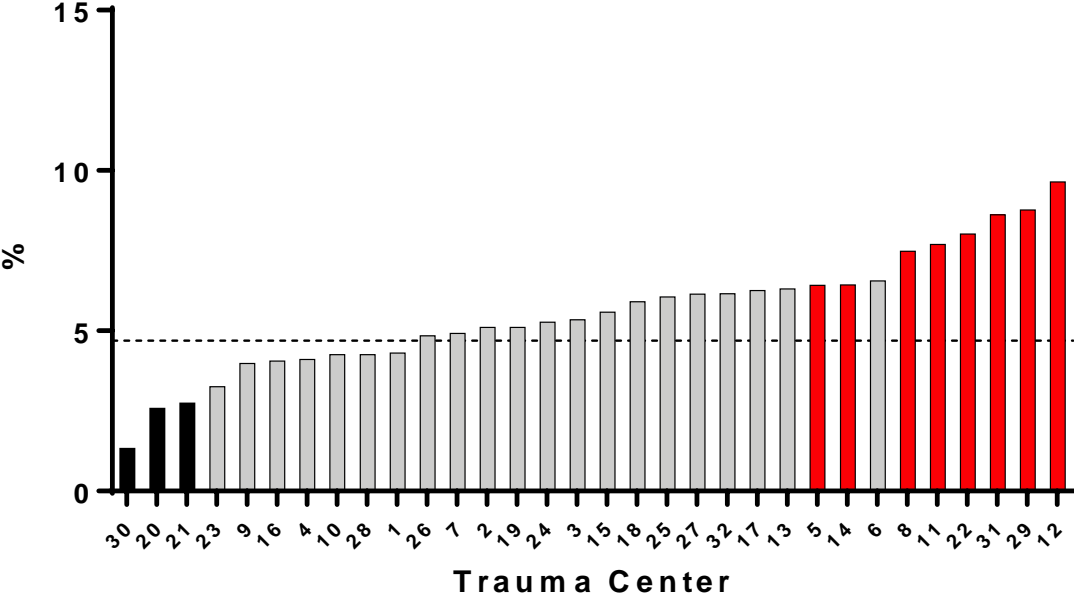
**Mortality - Cohort 8 w/o DOA, Age ≥ 65
Isolated Hip Fracture**



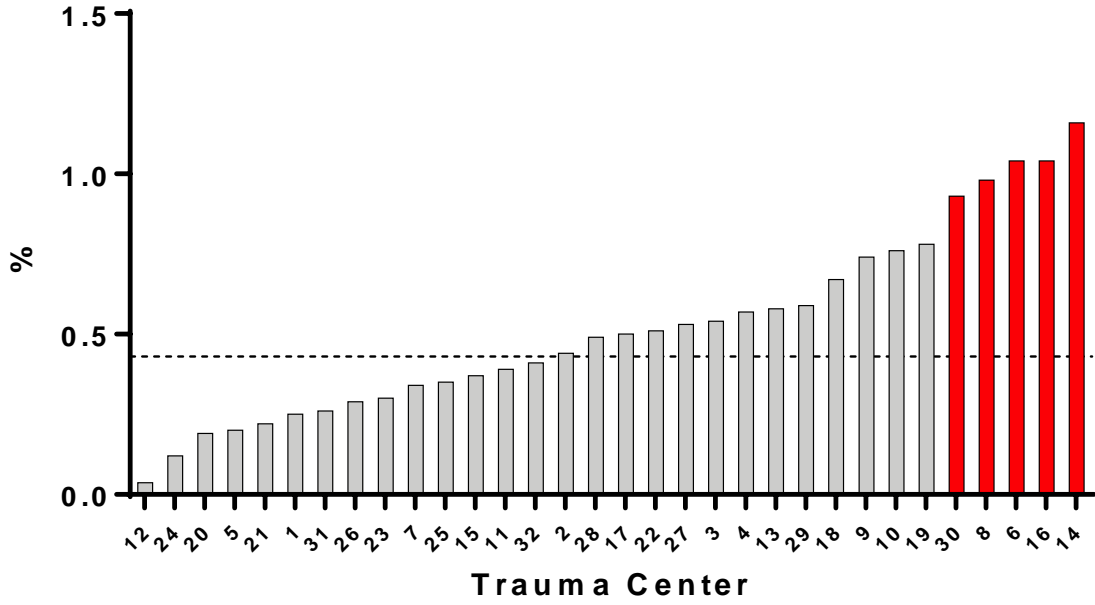
**Mortality or Hospice - Cohort 8 w/o DOA
Isolated Hip Fracture**



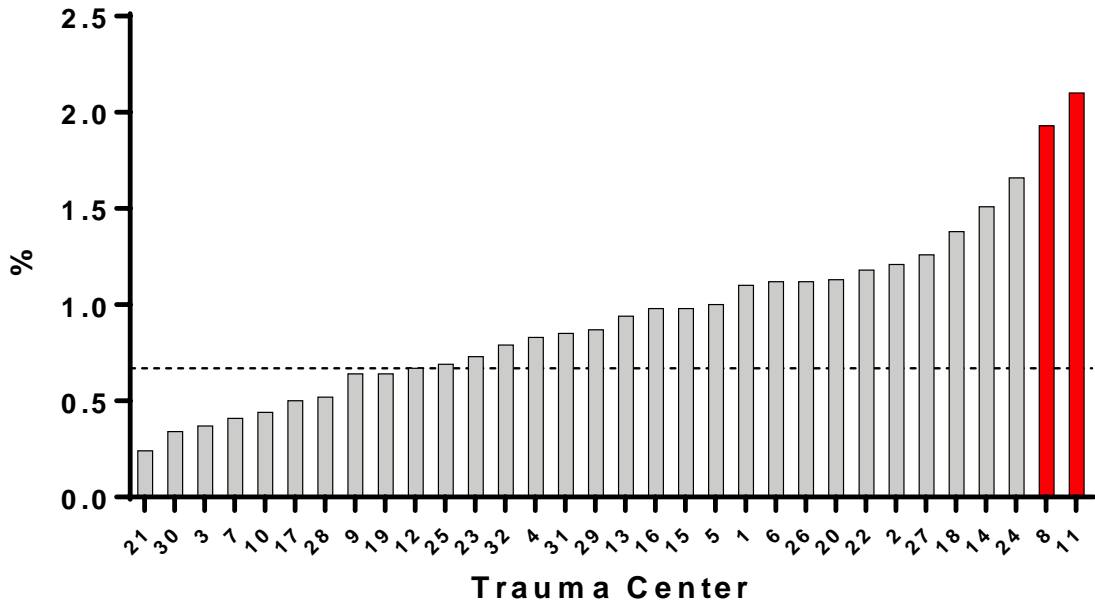
**Serious Complications - Cohort 8
Isolated Hip Fracture**



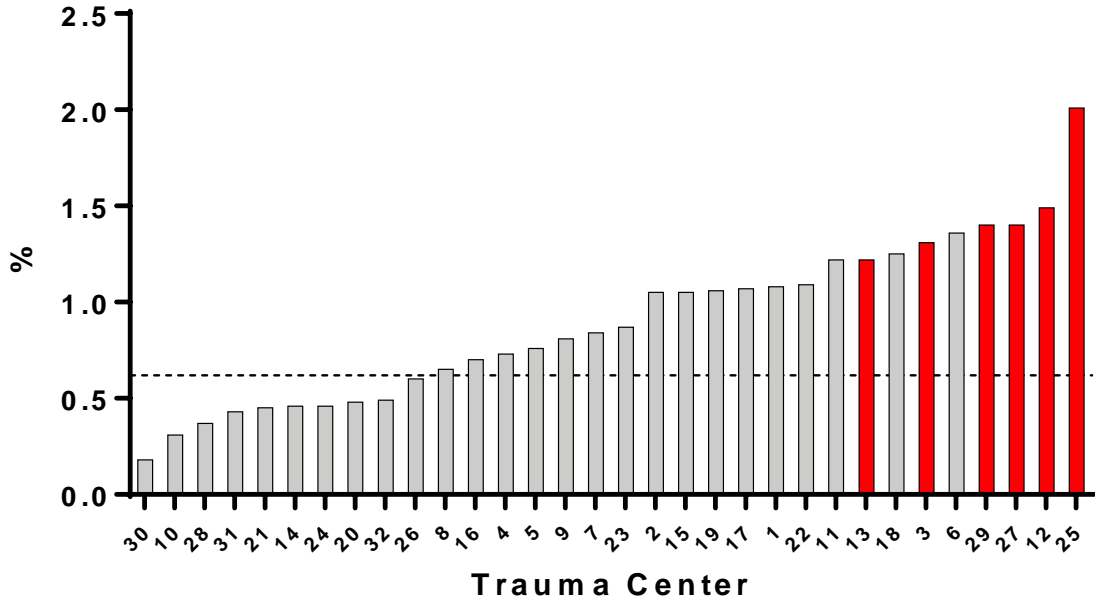
**Cardiac Arrest with CPR - Cohort 8
Isolated Hip Fracture**



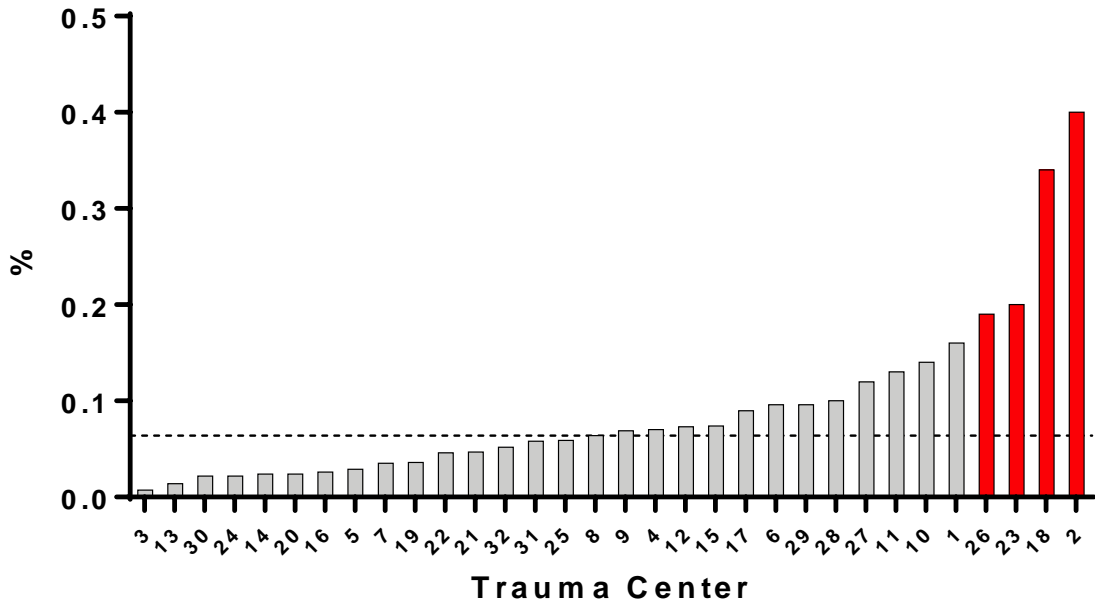
**Myocardial Infarction - Cohort 8
Isolated Hip Fracture**



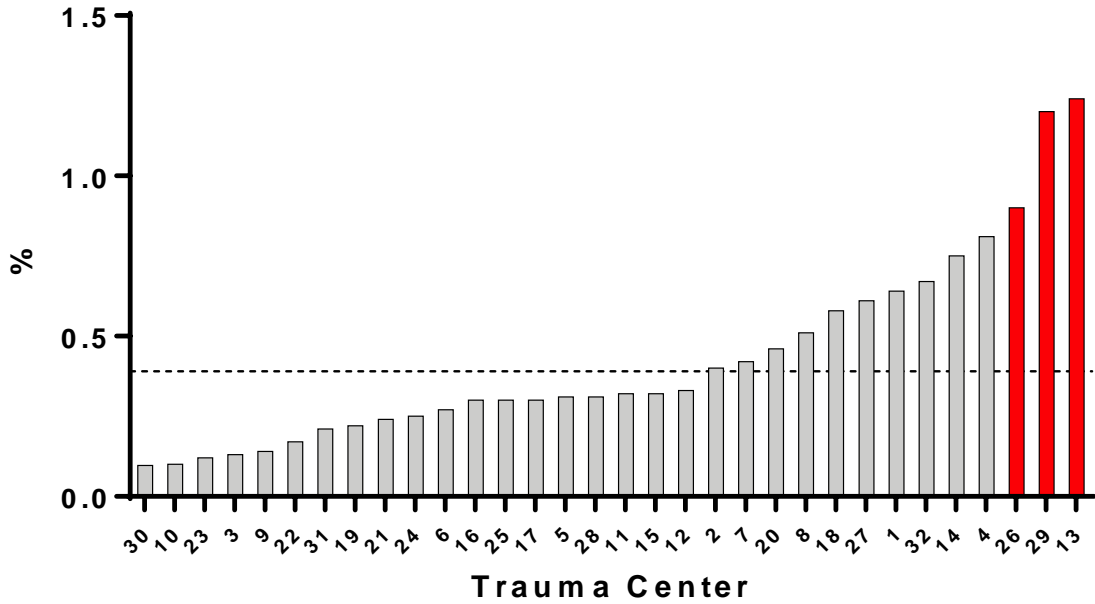
Pneumonia - Cohort 8 Isolated Hip Fracture



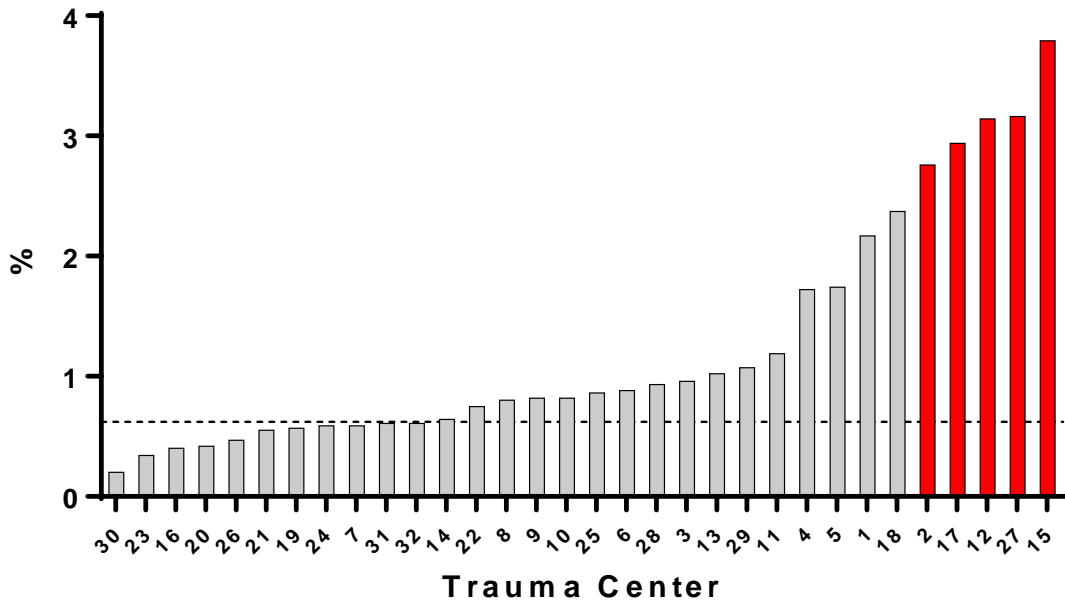
VAP - Cohort 8 Isolated Hip Fracture



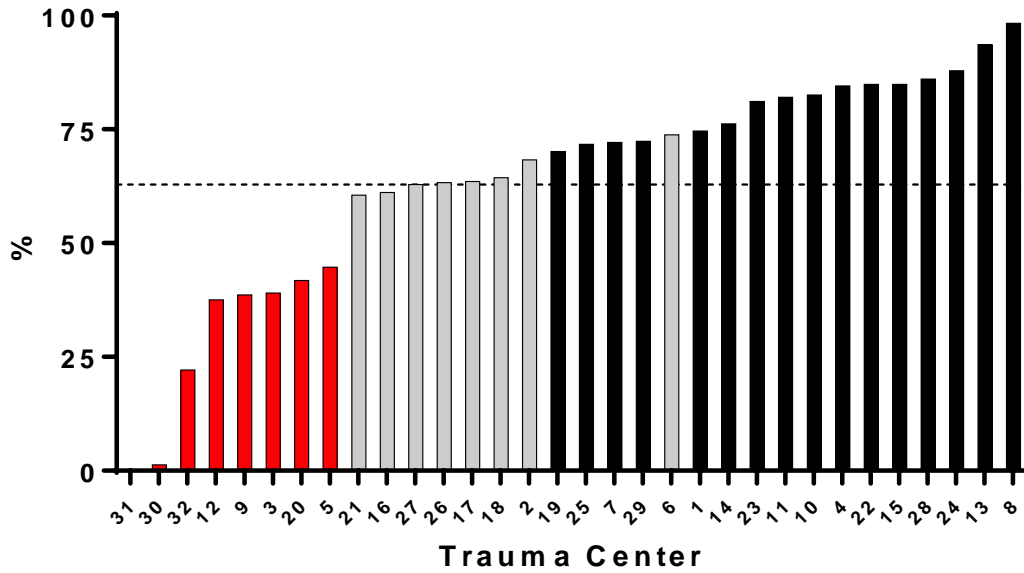
Acute Renal Failure - Cohort 8 Isolated Hip Fracture



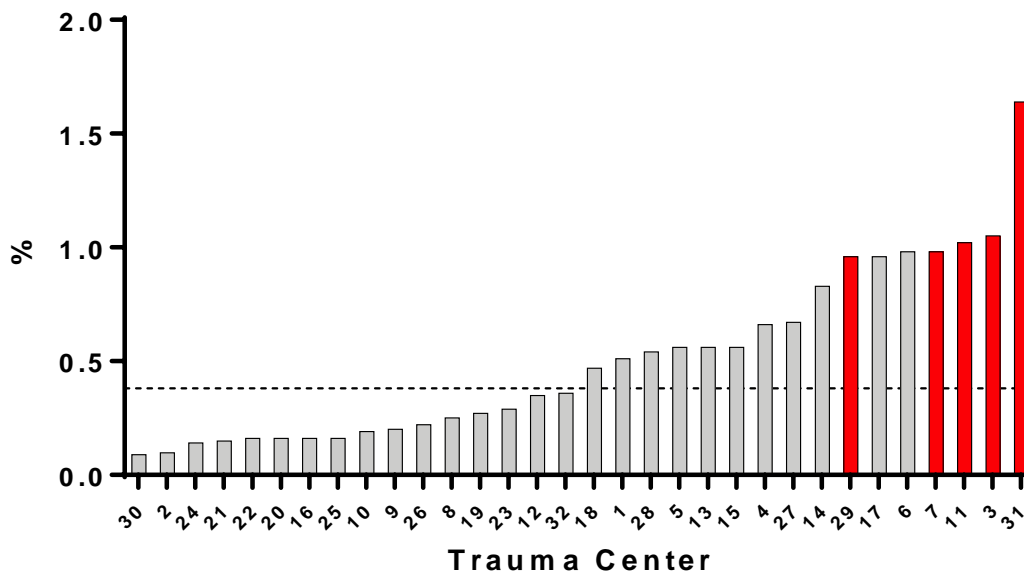
CAUTI - Cohort 8 Isolated Hip Fracture



**VTE Prophylaxis Heparin, LMWH <= 48 hrs - Cohort 8
Isolated Hip Fracture**



**DVT - Cohort 8
Isolated Hip Fracture**



Filter Index

Pg	Pg	Graph	Menu	Sub-Menu	Cohort	Dead	No Signs of Life	ISS	Age	Transfer Out	Period	Period	Internal Filter
9		Mortality (Cohort 1 - all)	Mortality Drill-Down	Dead	1	No Filter	All	All	All	Include	11/1/2015	1/31/2018	
9	15	Mortality (Cohort 1 - all w/o DOA)	Mortality Drill-Down	Dead	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
10		Mortality (Cohort 2 - admit trauma)	Mortality Drill-Down	Dead	2	No Filter	All	All	All	Include	11/1/2015	1/31/2018	
10	27	Mortality (Cohort 2 - admit trauma w/o DOA)	Mortality Drill-Down	Dead	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
11		Mortality (Cohort 3 - blunt multi w/o DOA)	Mortality Drill-Down	Dead	3	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
12		Mortality (Cohort 4 - blunt single w/o DOA)	Mortality Drill-Down	Dead	4	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
15		Mortality or hospice (Cohort 1 w/o DOA)	Mortality Drill-Down	Dead or Hospice	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
13		Mortality (Cohort 5 - penetrating)	Mortality Drill-Down	Dead	5	No Filter	All	All	All	Include	11/1/2015	1/31/2018	
13		Mortality (Cohort 5 - penetrating w/o DOA)	Mortality Drill-Down	Dead	5	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
17		Mortality (<65 yo w/o DOA)	Mortality Drill-Down	Dead	1	No Filter	Exclude DOA	All	< 65	Include	11/1/2015	1/31/2018	
17		Mortality (>65 yo w/o DOA)	Mortality Drill-Down	Dead	1	No Filter	Exclude DOA	All	> 65	Include	11/1/2015	1/31/2018	
21		Complications (Grade 1) - Chg to any	Complications Drill-Down	Any Complications	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
22		Cardiac/Stroke	Complications Drill-Down	Cardiac/Stroke	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
22		VTE	Complications Drill-Down	VTE	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
31		Pneumonia	Complications Drill-Down	Pneumonia	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
24		Acute renal failure	Complications Drill-Down	Acute Renal Failure	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
25		Sepsis	Complications Drill-Down	Severe Sepsis	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
24		CAUTI	Complications Drill-Down	Urinary Tract Infection	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
26	27	Failure to rescue	Complications Drill-Down	Failure to Rescue	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
21	26	Complications (FTR)	Complications Drill-Down	Serious Complications	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
29		Adjusted hospital LOS	Utilization Drill-Down	LOS (days)	2	Alive	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
29		Adjusted ICU LOS	Utilization Drill-Down	ICU LOS (days)	2	Alive	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
31	32	Adjusted ventilator days	Utilization Drill-Down	Mean Ventilator Support Days	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
20		Outcomes overview - dead	Mortality Drill-Down	Dead	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
20		Outcomes overview - serious complications	Complications Drill-Down	Serious Complications	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
34		Unadjusted IVC filter use	IVC Summary	IVC Filter Use - Unadj	1	No Filter	Exclude DOA	All	All	Include	7/1/2017	1/31/2018	
38		TBI intervention	TBI Management	Eligible & No Intervention	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
39		TBI intervention timing	Timing of TBI Interventions	Timely	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
32		Adjusted VAP	Internal analysis		2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	Vent Day ≥ 1
42		Blood product ratio in first 4 hours if > 4 uPRBC	Hemorrhage	Mean Ration PRBC/FFP 4 hrs	1	No Filter	Exclude DOA	All	All	Include	1/1/2017	1/31/2018	
40		Validation	Internal analysis										
33		Patients on ventilator	Utilization Drill-Down	Patients on Ventilator (%)	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
28		Unplanned return to OR	Complications Drill-Down	Unplanned Return to OR	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
14		Mortality (Cohort 6 - admit non-trauma w/o DOA)	Mortality Drill-Down	Dead	6	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
28		Unplanned return to ICU	Complications Drill-Down	Unplanned Return to ICU	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
25		C. difficile	Complications Drill-Down	C. Diff Colitis	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
19		GCS 3-8	Mortality Drill-Down	Total GCS: 3-8	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
16		ISS greater than 25	Mortality Drill-Down	Dead	2	No Filter	Exclude DOA	> 25	All	Include	11/1/2015	1/31/2018	
30		Patients admitted to ICU	Utilization Drill-Down	Patients Admitted to ICU (%)	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
38		TBI mortality (raw)	TBI Management	Dead (with TBI) unadj	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
41		VTE prophylaxis timing	VTE Prophylaxis Metric	Heparin, LMWH ≤ 48 Hours	2	No Filter	Exclude DOA	All	All	Exclude	1/1/2017	1/31/2018	LOS ≥ 3
19		Adjusted TBI mortality	TBI Management	Dead (with TBI) unadj	1	No Filter	Exclude DOA	All	All	Exclude	11/1/2015	1/31/2018	
30		Extended LOS	Utilization Drill-Down	Extended LOS (%)	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
23		Unplanned intubation	Complications Drill-Down	Unplanned Intubation	2	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
18		Mortality GCS 3-8 and Above 65	Mortality Drill-Down	Dead	1	No Filter	Exclude DOA	All	> 65	Include	11/1/2015	1/31/2018	
41		VTE prophylaxis type - LMWH	VTE Prophylaxis Types	LMWH (Type)	2	No Filter	Exclude DOA	All	All	Exclude	1/1/2017	1/31/2018	
33		Antibiotic days	Internal Analysis								11/1/2015	1/31/2018	
14		Mortality (Cohort 7 - Benchmark)	Mortality Drill-Down	Dead	7	No Filter	Exclude DOA	> 8	All	Exclude	11/1/2015	1/31/2018	
35		Mean ED LOS (Cohort 1 - all)	ED LOS	ED LOS Mean (hrs)	1	No Filter	Exclude DOA	All	All	Exclude	11/1/2015	1/31/2018	
35		Mean ED LOS (Cohort 2 - admit to trauma)	ED LOS	ED LOS Mean (hrs)	2	No Filter	Exclude DOA	All	All	Exclude	11/1/2015	1/31/2018	
36		Mean ED LOS - full activations	ED LOS	ED LOS Mean Full Activation (hrs)	2	No Filter	Exclude DOA	All	All	Exclude	11/1/2015	1/31/2018	
36		Mean ED LOS - disposition ED to ICU	ED LOS	ED to ICU (hrs)	2	No Filter	Exclude DOA	All	All	Exclude	11/1/2015	1/31/2018	
37		Mean ED LOS - partial activation	ED LOS	ED LOS Mean Partial Activation (hrs)	2	No Filter	Exclude DOA	All	All	Exclude	11/1/2015	1/31/2018	
37		Mean ED LOS - consult	ED LOS	ED LOS Mean Consult (hrs)	2	No Filter	Exclude DOA	All	All	Exclude	11/1/2015	1/31/2018	
42		Blood product ratio in first 4 hours if > 4 uPRBC	Hemorrhage	Mean Ration PRBC/FFP 4 hrs	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
34		Unadjusted IVC filter use	IVC Summary	IVC Filter Use - Unadj	1	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
43		Z-score - complication rate	Internal analysis	Dead							7/1/2015	1/31/2018	
43		Z-score - mortality rate	Internal analysis	Dead							7/1/2015	1/31/2018	
44		Mortality (Cohort 8 - Isolated hip fracture)	Mortality Drill-Down	Dead	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
44		Mortality (Cohort 8 - Isolated hip fracture)	Mortality Drill-Down	Dead	8	No Filter	Exclude DOA	All	> 65	Include	11/1/2015	1/31/2018	
45		Mortality Hospice (Cohort 8 - Isolated hip fracture)	Mortality Drill-Down	Dead or Hospice	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
45		Serious complications	Complications Drill-Down	Serious Complications	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
46		Cardiac arrest with CPR	Complications Drill-Down	Cardiac Arrest with CPR	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
46		Myocardial infarction	Complications Drill-Down	Myocardial Infarction	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
47		Pneumonia	Complications Drill-Down	Pneumonia	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
47		Ventilator associated pneumonia	Complications Drill-Down	Ventilator Associated Pneumoni	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
48		Acute renal failure	Complications Drill-Down	Acute Renal Failure	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
48		Urinary tract infection	Complications Drill-Down	Urinary Tract Infection	8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	
49		VTE heparin, LMWH < 48 hours	VTE Prophylaxis Metric	Heparin, LMWH ≤ 48 Hours	8	No Filter	Exclude DOA	All	All	Exclude	11/1/2015	1/31/2018	
49		DVT	Complications Drill-Down		8	No Filter	Exclude DOA	All	All	Include	11/1/2015	1/31/2018	