



Individual Site Summary Report

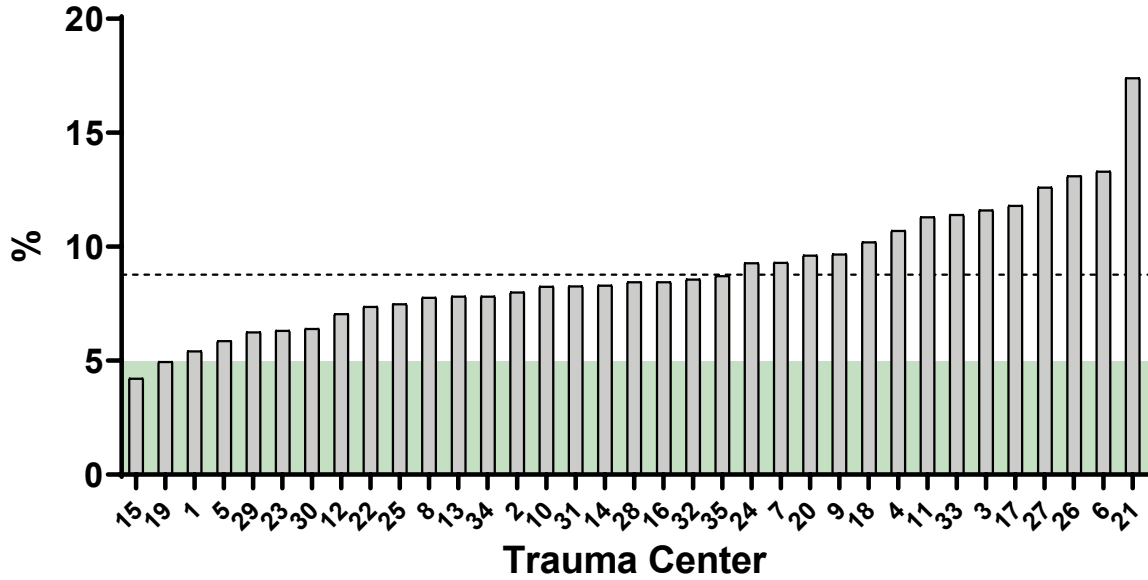
July 1, 2018 through September 30, 2020

Issue February 9, 2021

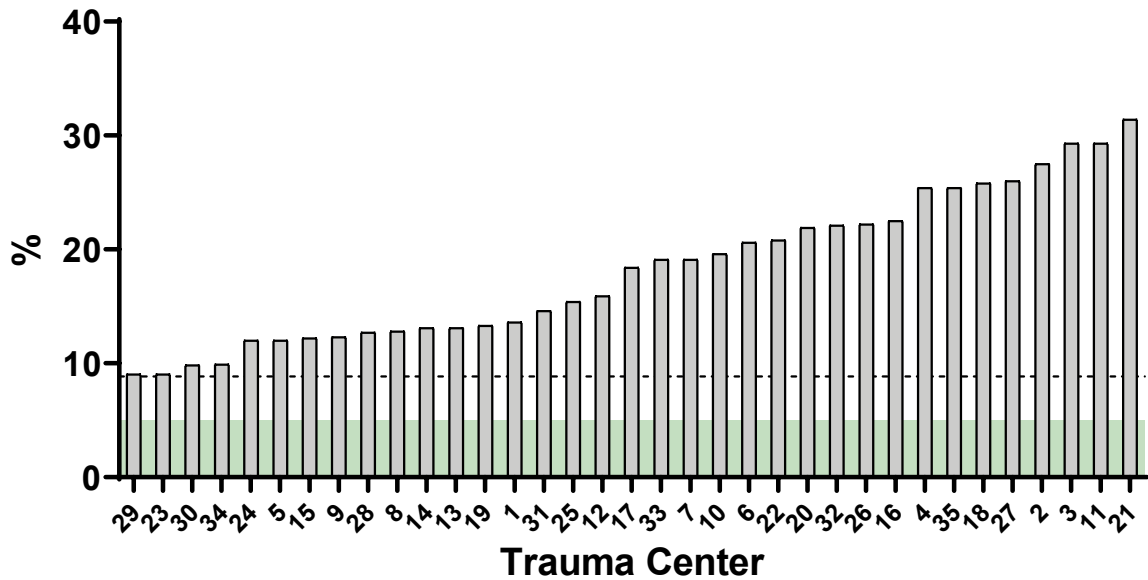
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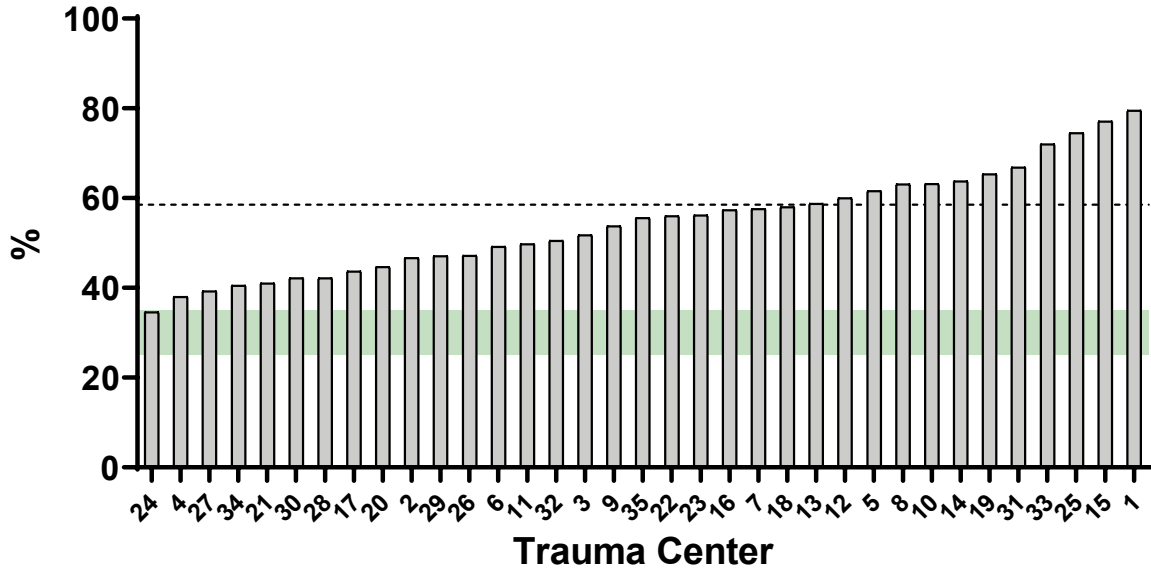
Cribari Undertriage w/o DOA, Age ≥ 16 Cohort 0 - Registry All



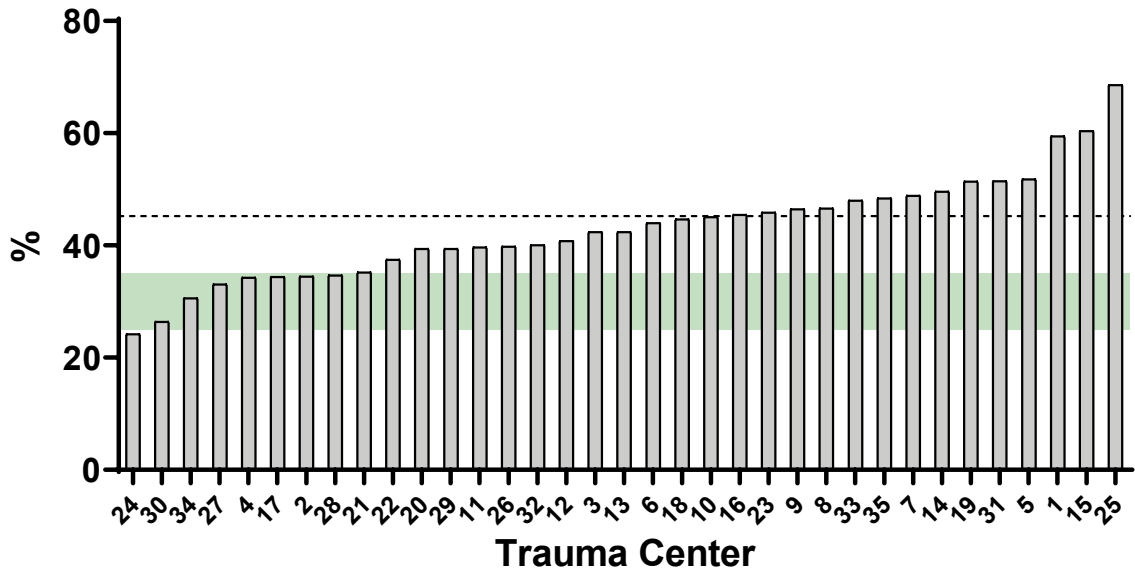
Cribari Undertriage w/o DOA, Age ≥ 16 Cohort 2 - Admit to Trauma



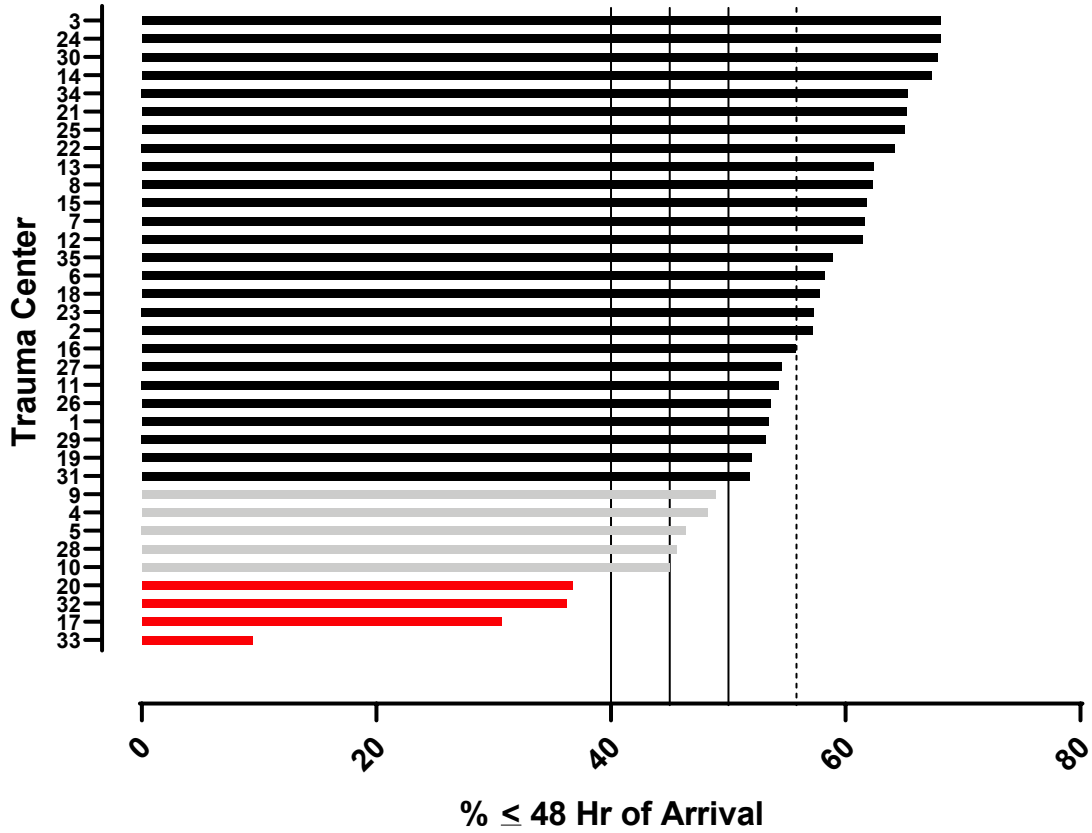
**Cribari Overtriage w/o DOA, Age \geq 16
Cohort 0 - Registry All**



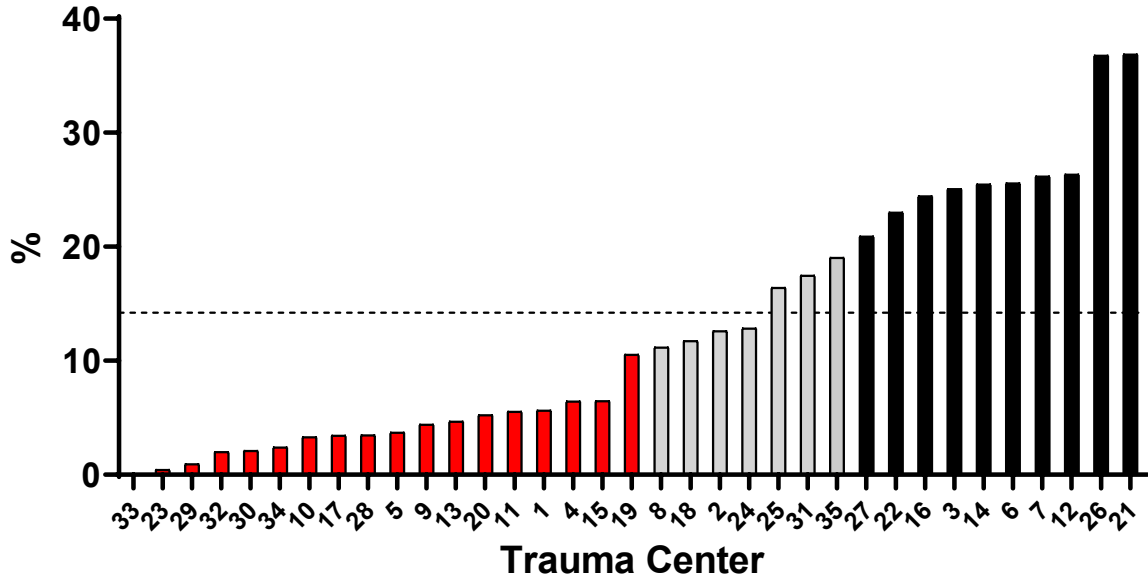
**Cribari Overtriage w/o DOA, Age \geq 16
Cohort 2 - Admit to Trauma**



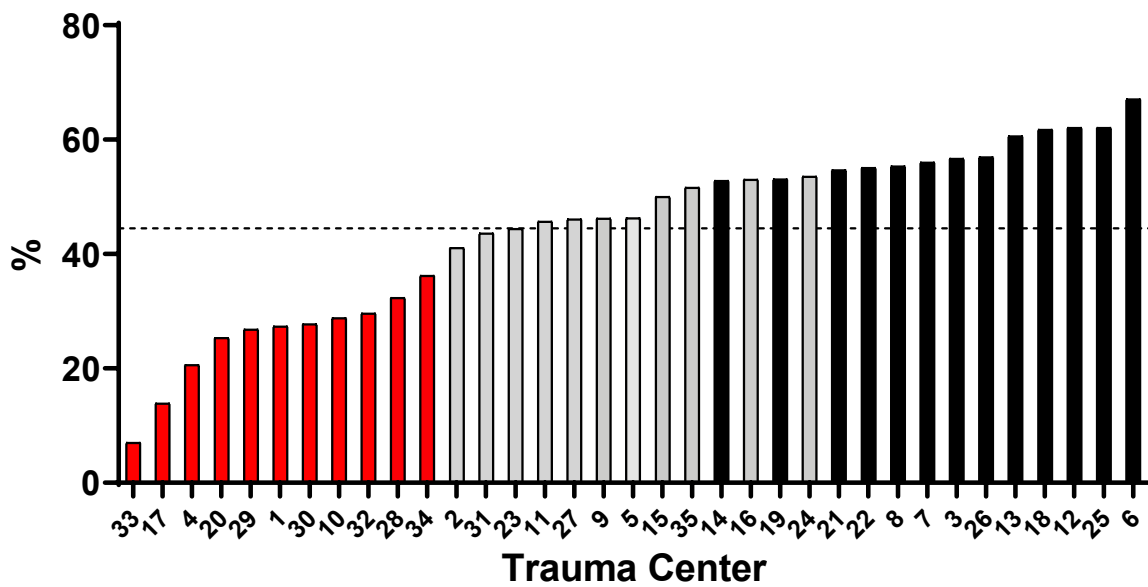
**Metric #4 - VTE Prophylaxis LMWH Timeliness
Cohort 2 - Admit to Trauma
1/1/19 - 6/30/20**



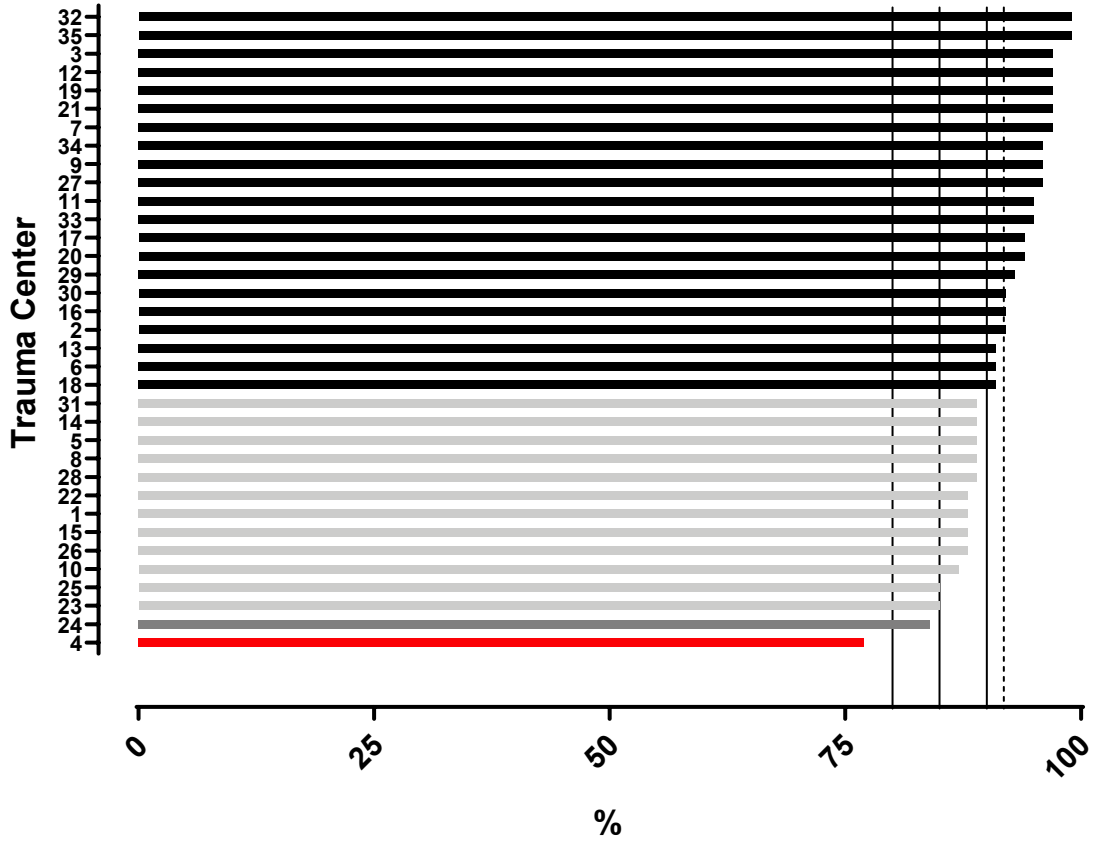
**VTE LMWH \leq 48 hours
Cohort - TBI**



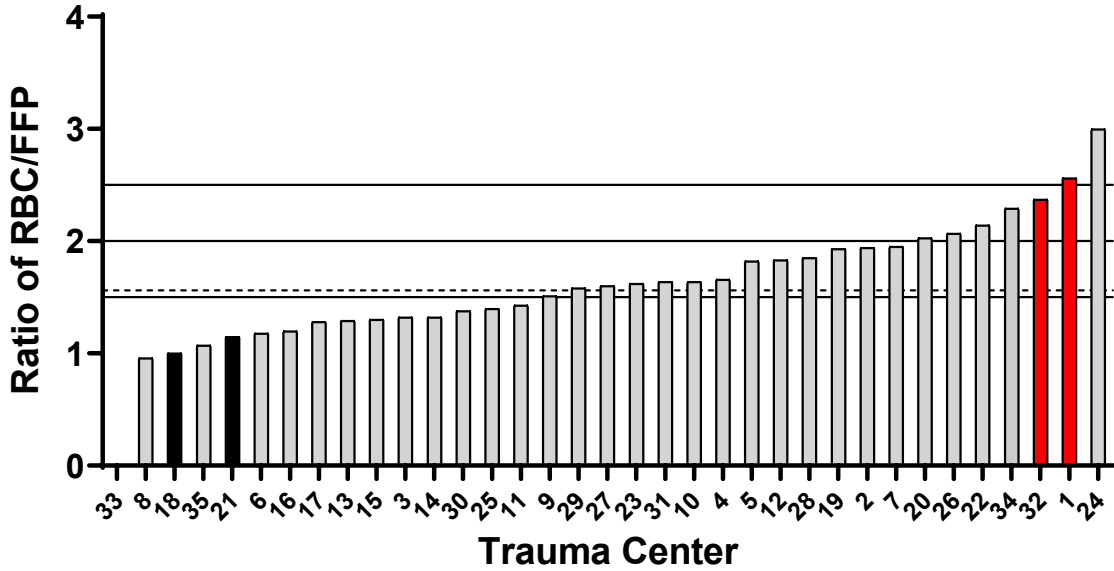
**VTE LMWH \leq 48 hours
Cohort - Spine Injury**



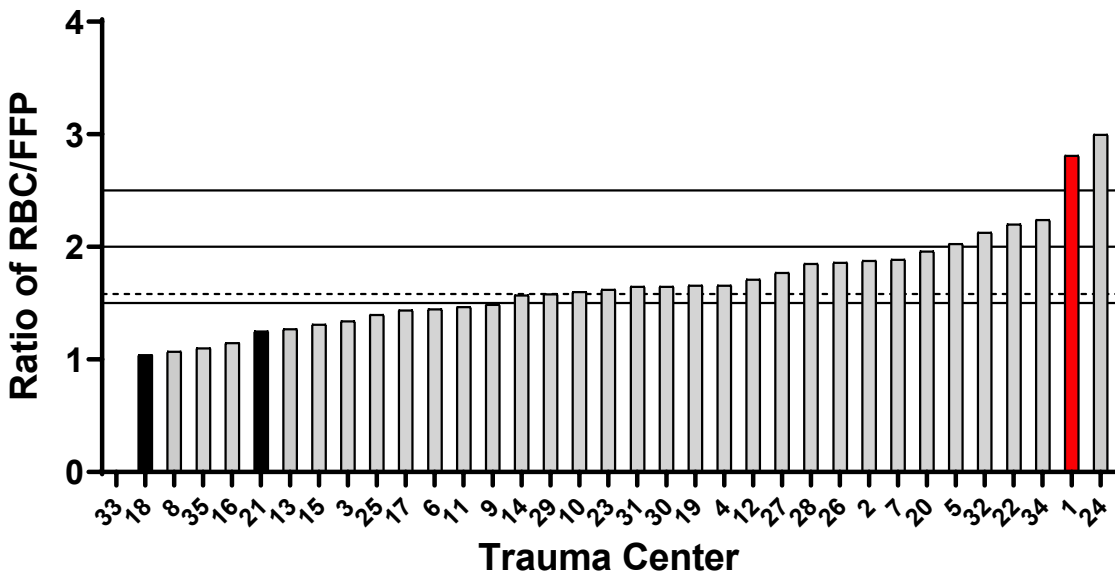
Metric #5 - Timely Surgical Hip Repair \geq 65 years
Cohort 8 - Isolated Hip Fracture
7/1/19 - 6/30/20



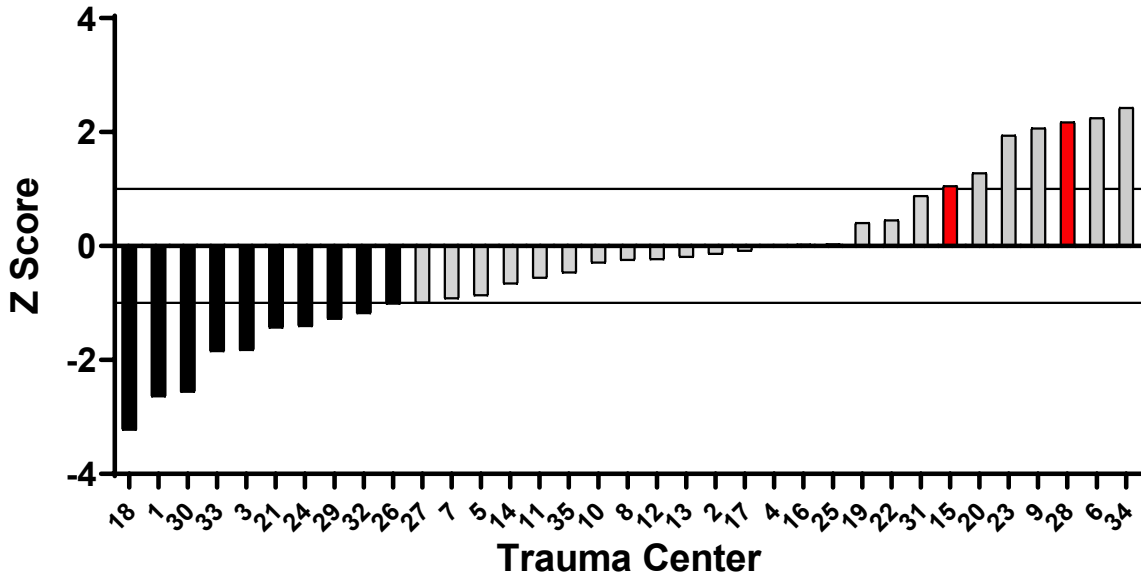
**Metric #6 - RBC to FFP Ratio - Mean
Cohort 1 - MTQIP All
1/1/19 - 6/30/20**



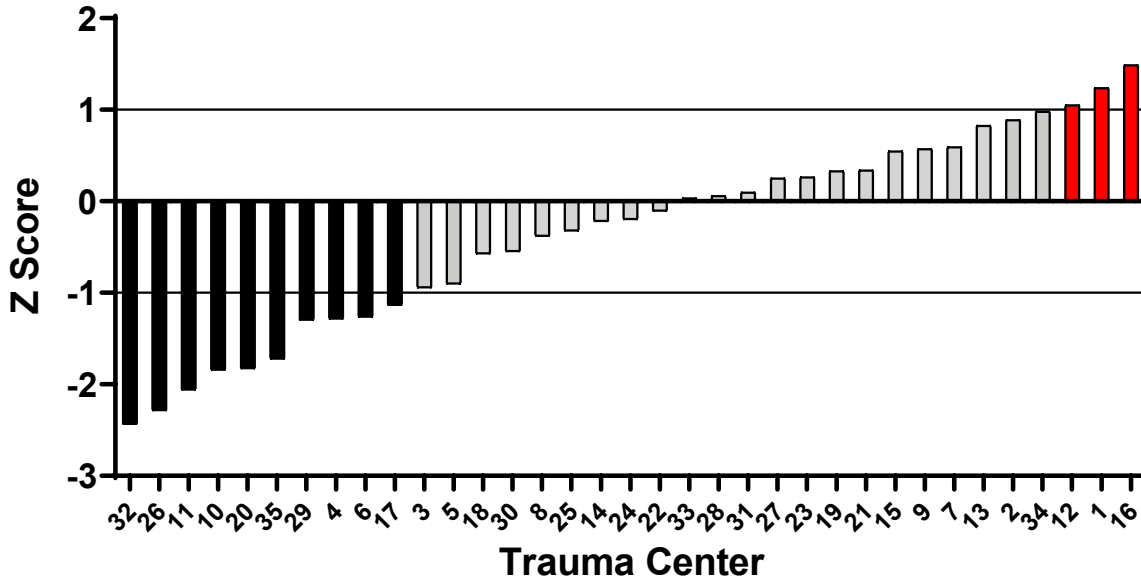
**RBC to FFP Ratio - Mean
Cohort 1 - MTQIP All
7/1/18 - 9/30/20**



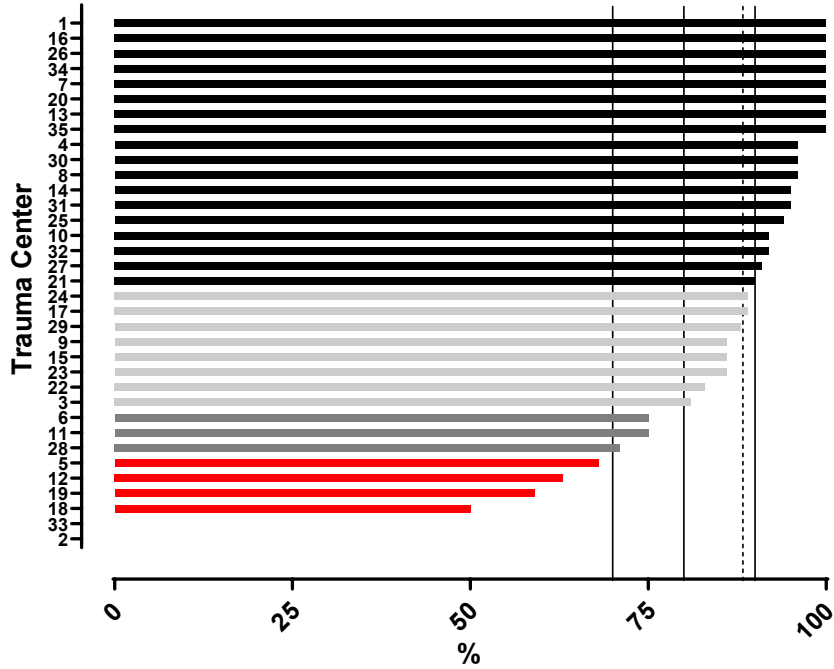
**Metric #7 - Z Score - Serious Complication Rate
Cohort 2 - Admit to Trauma
7/1/17 - 6/30/20**



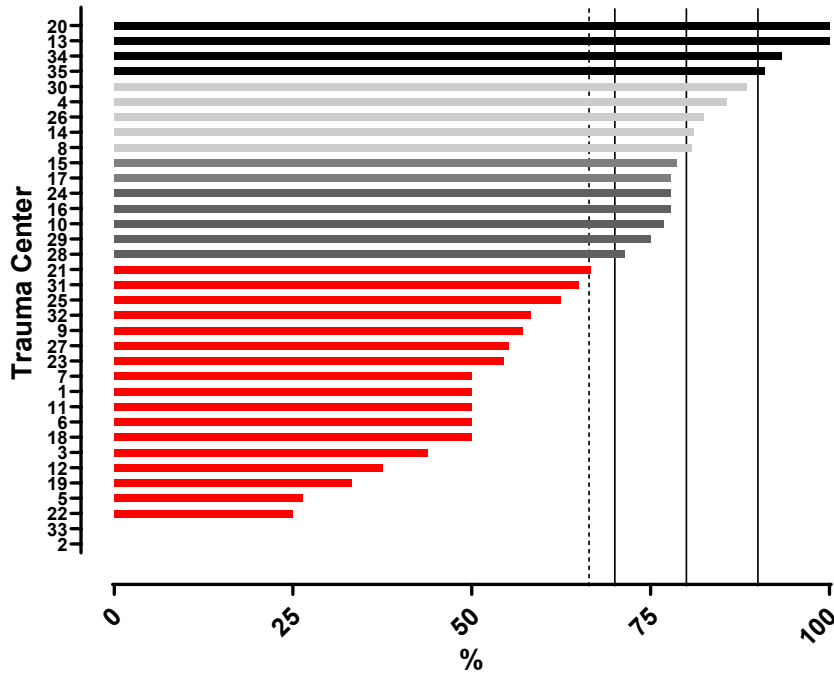
**Metric #8 - Z Score - Mortality Rate
Cohort 2 - Admit to Trauma
7/1/17 - 6/30/20**



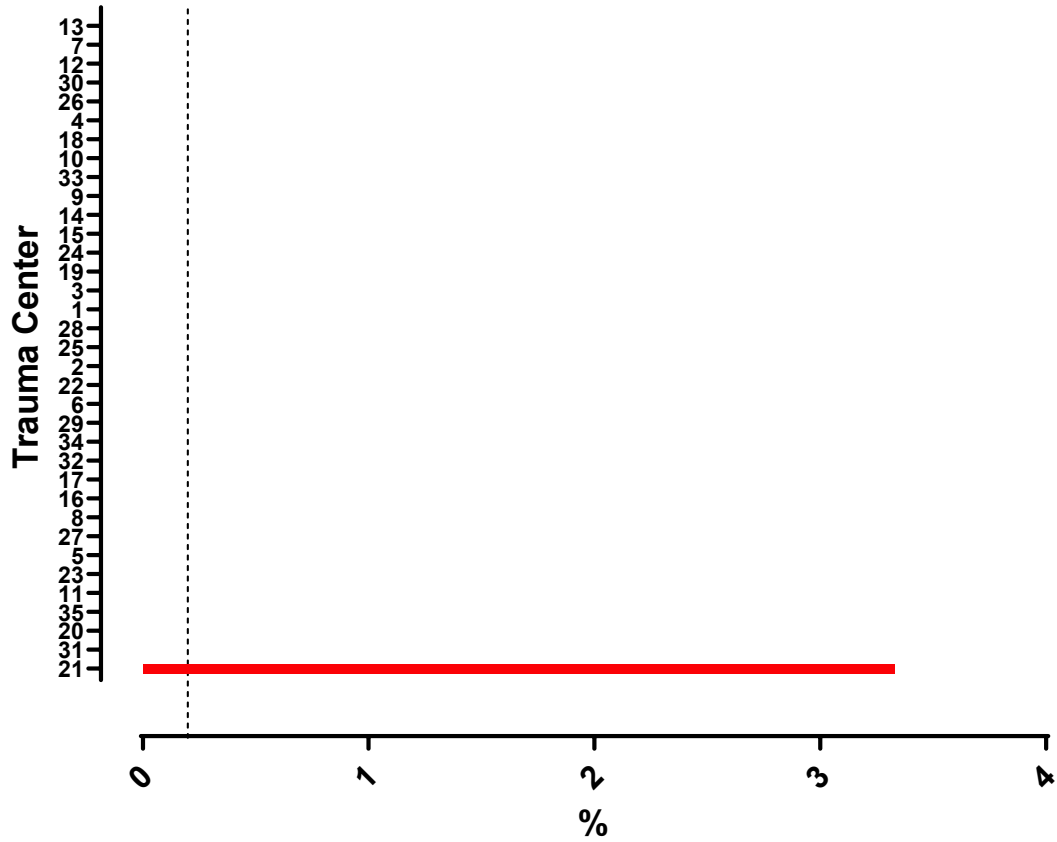
Metric #9 - ED Head CT \leq 120 min
Cohort 1 - MTQIP All on Anticoagulant (Excluding ASA)
7/1/19 - 6/30/20



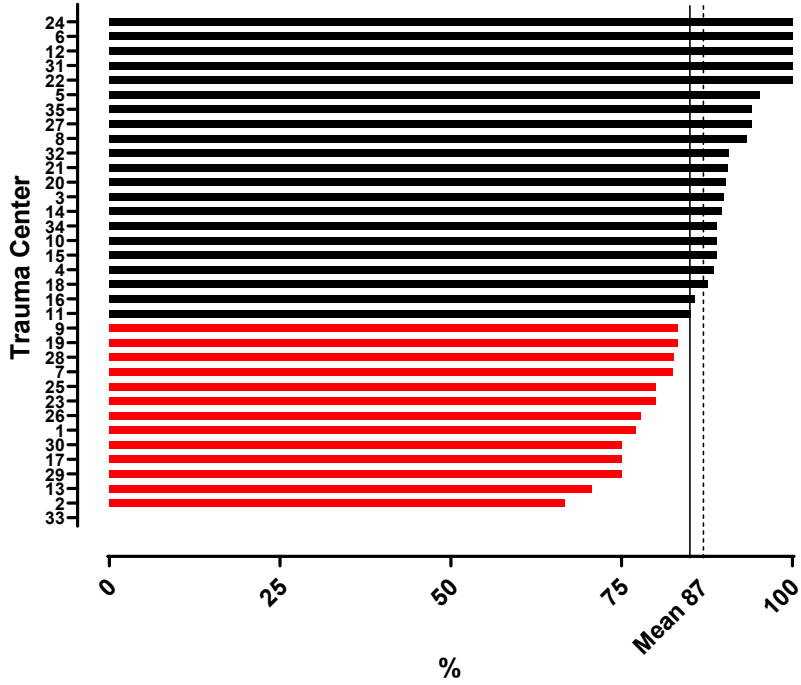
ED Head CT \leq 60 min
Cohort 1 - MTQIP All, TBI on Anticoagulant (Excluding ASA)
7/1/19 - 6/30/20



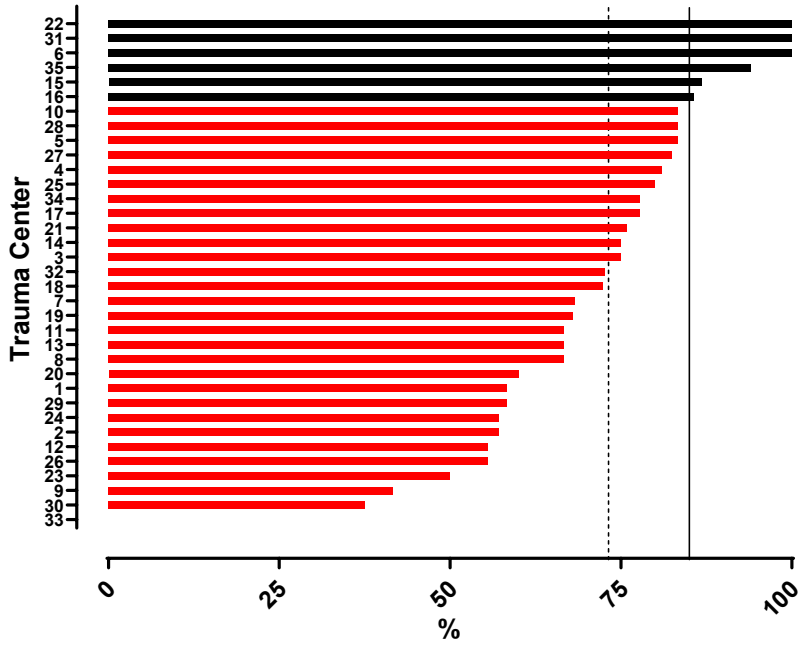
**ED Head CT Missing - Code, Date or Time
Cohort 1 - MTQIP All, TBI on Anticoagulant (Excluding ASA)
7/1/19 - 6/30/20**



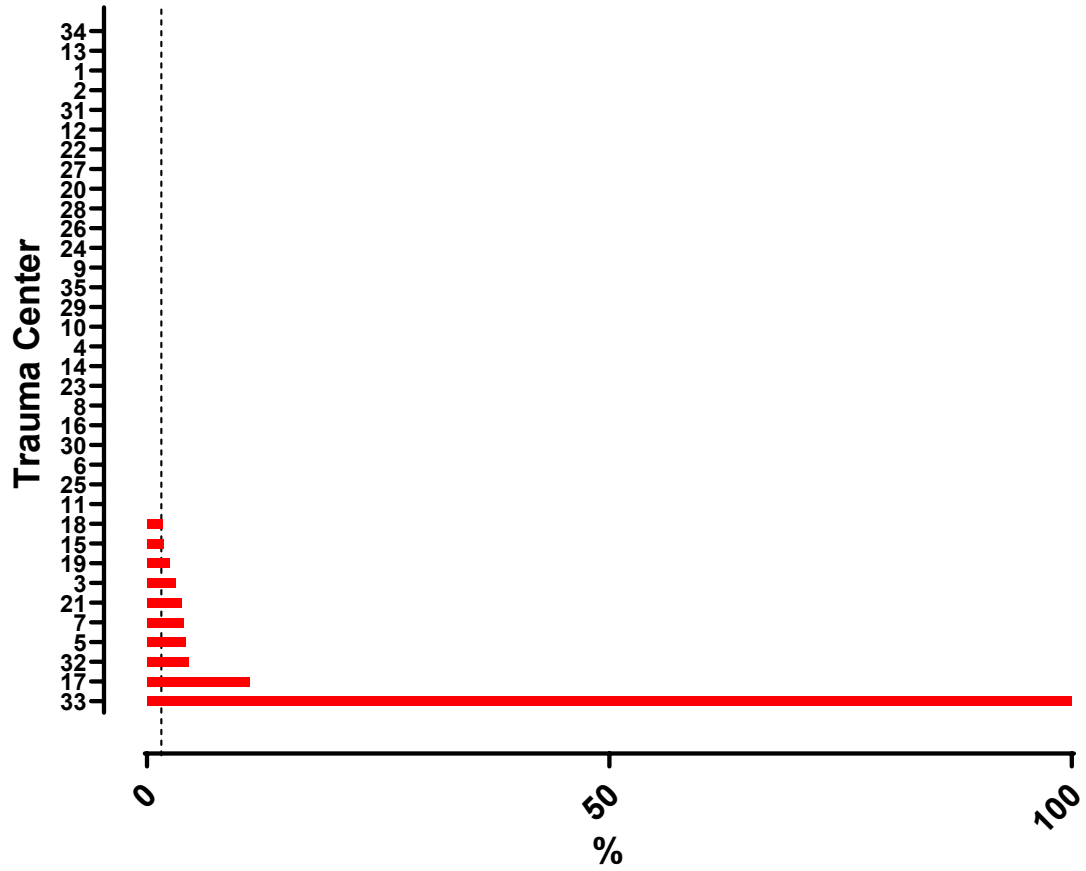
Metric #10 - Open Fracture - Time to Abx \leq 120 min
Cohort 1 - MTQIP All
7/1/19 - 6/30/20



Open Fracture - Time to Abx \leq 60 min
Cohort 1 - MTQIP All
7/1/19 - 6/30/20

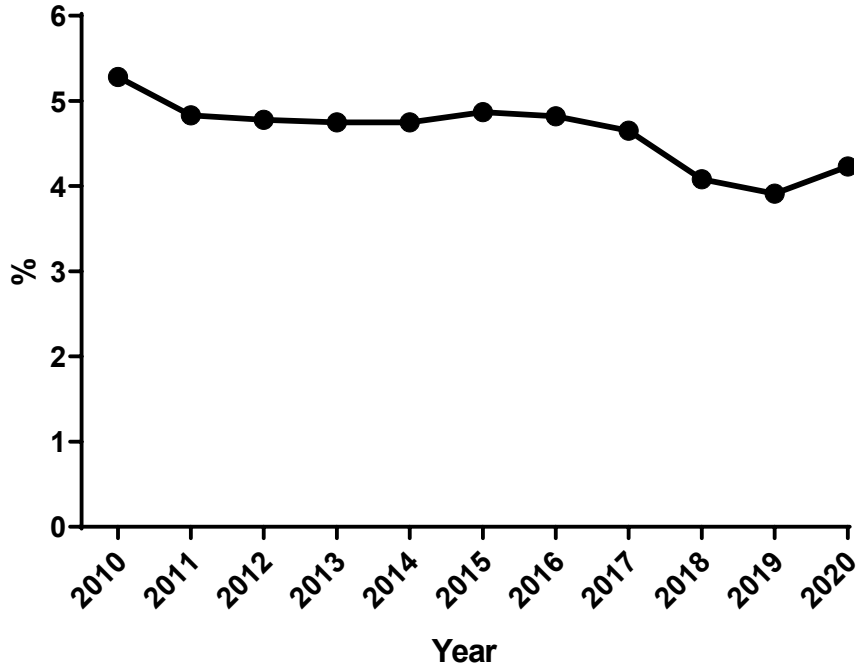


Open Fracture - Missing Type, Date or Time
Cohort 1 - MTQIP All
7/1/19 - 6/30/20

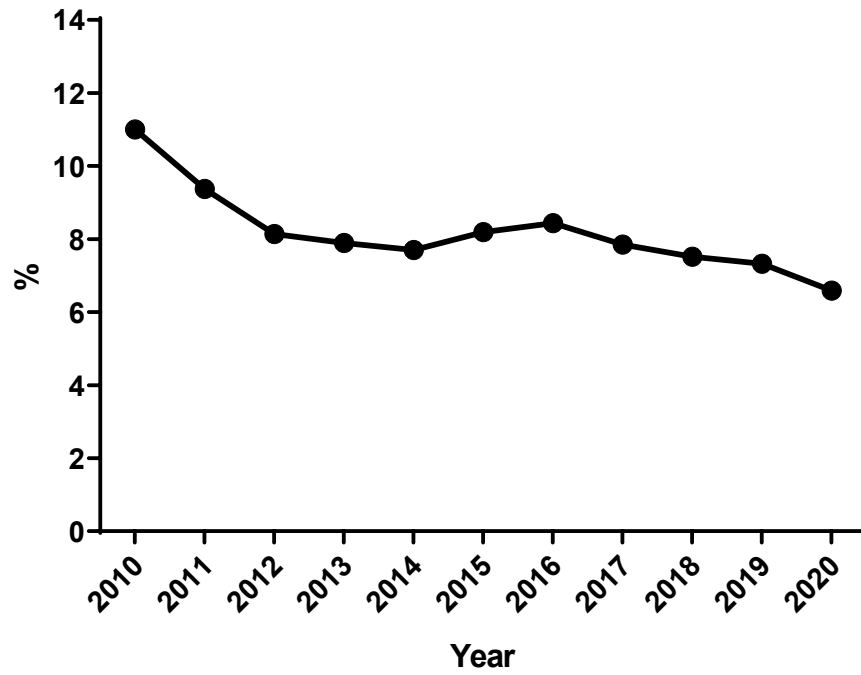


Trends

**Collaborative Outcome Overview - Mortality
Cohort 2 - Admit to Trauma**

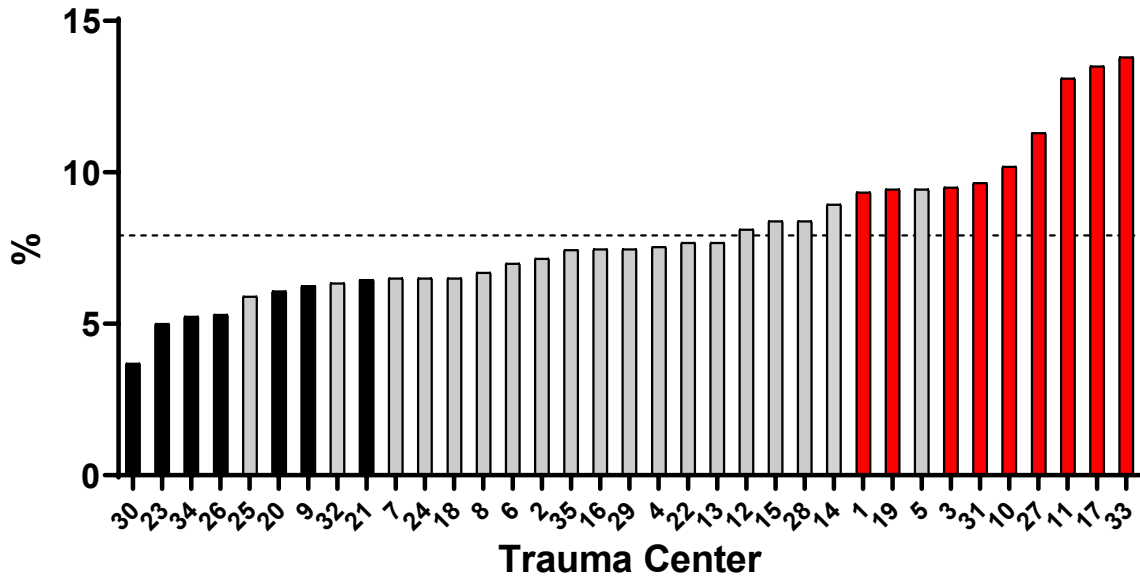


**Collaborative Outcome Overview - Serious Cx
Cohort 2 - Admit to Trauma**

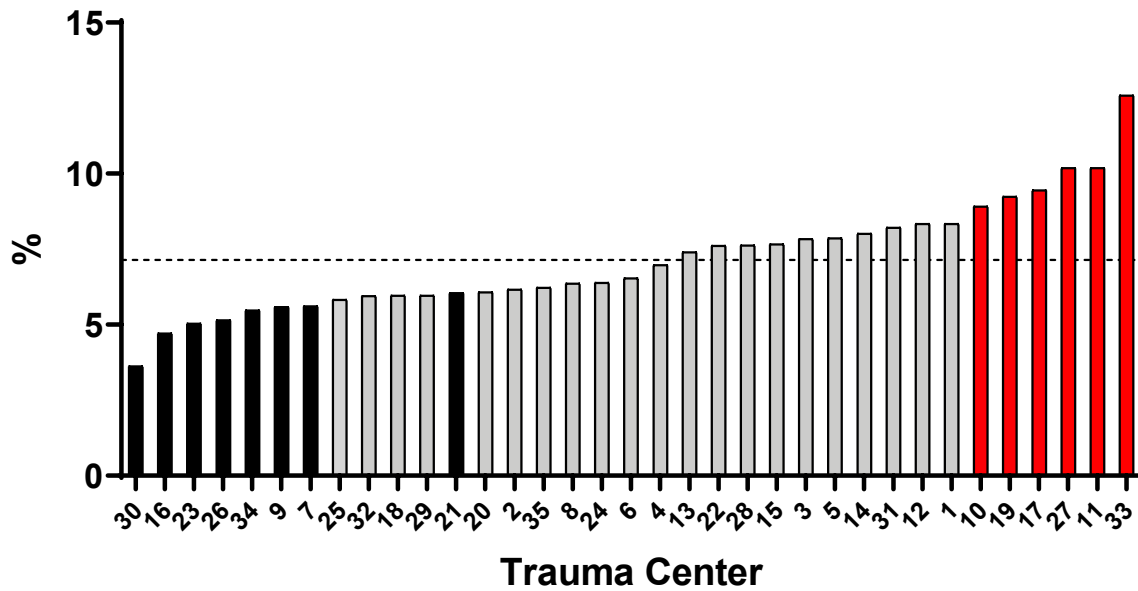


Outcomes

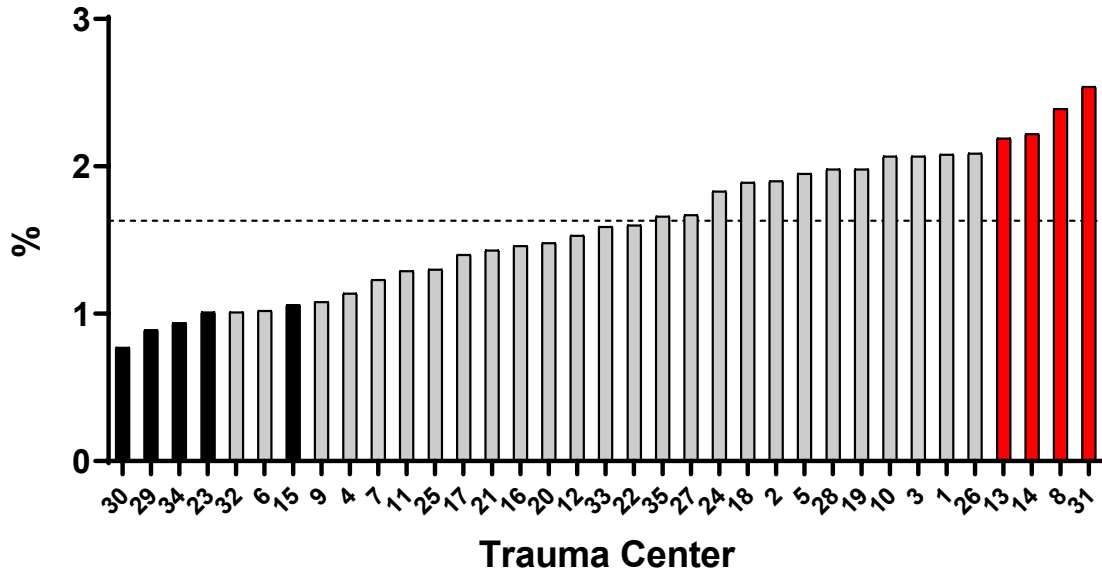
**Complications - Any
Cohort 2 - Admit to Trauma**



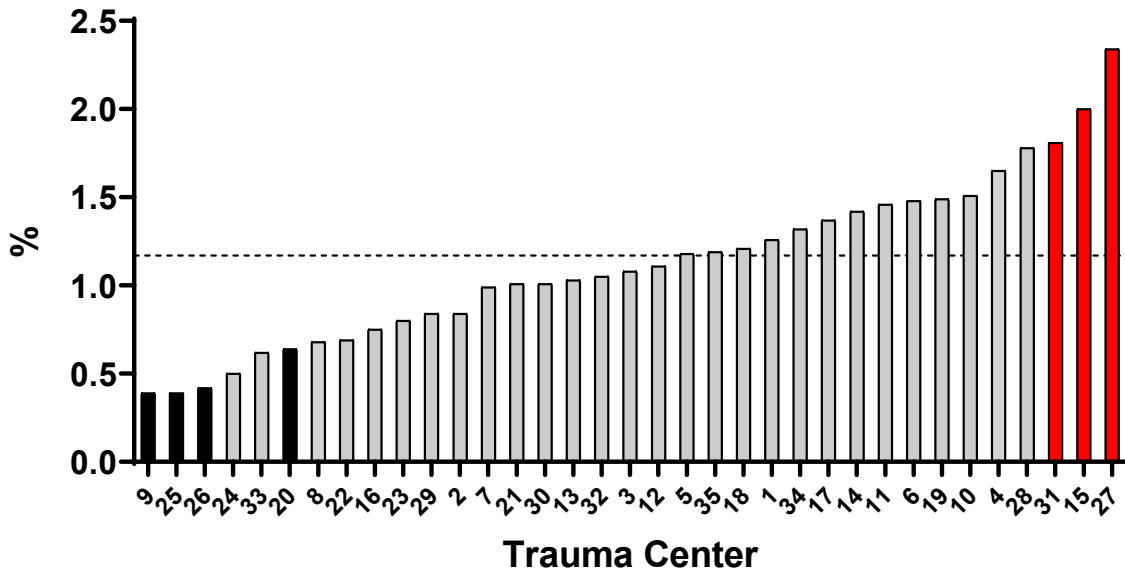
**Complications - Serious
Cohort 2 - Admit to Trauma**



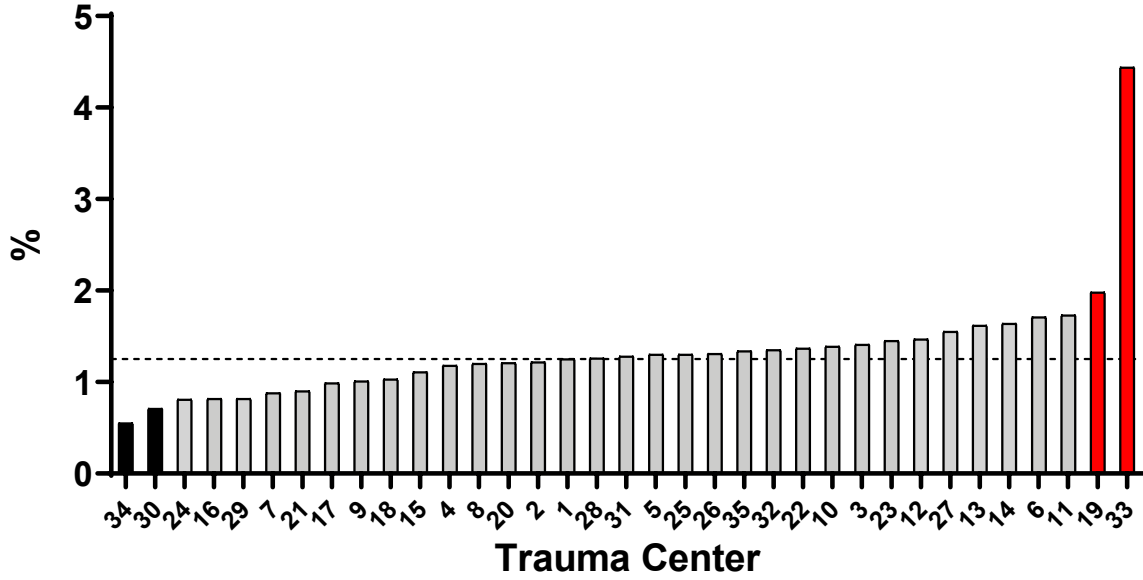
Cardiac/Stroke Cohort 2 - Admit to Trauma



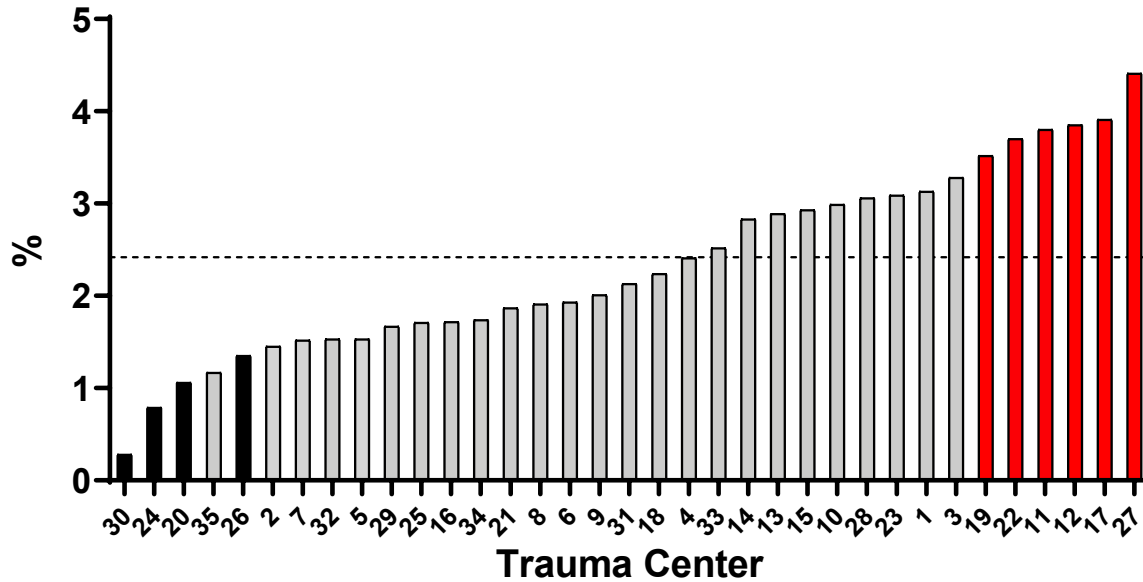
DVT/Pulmonary Embolus Cohort 2 - Admit to Trauma



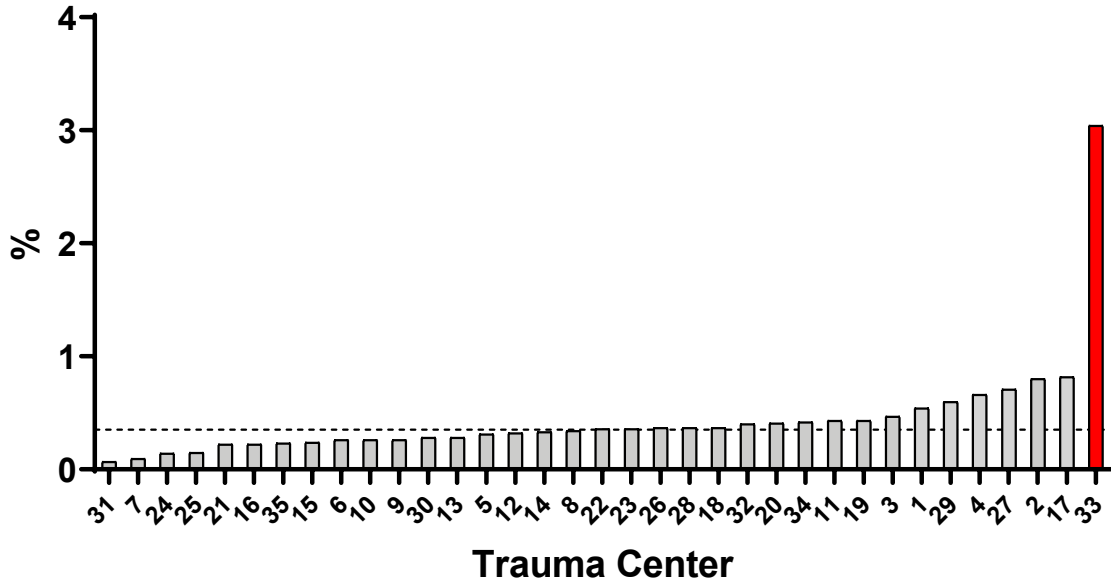
Unplanned Intubation Cohort 2 - Admit to Trauma



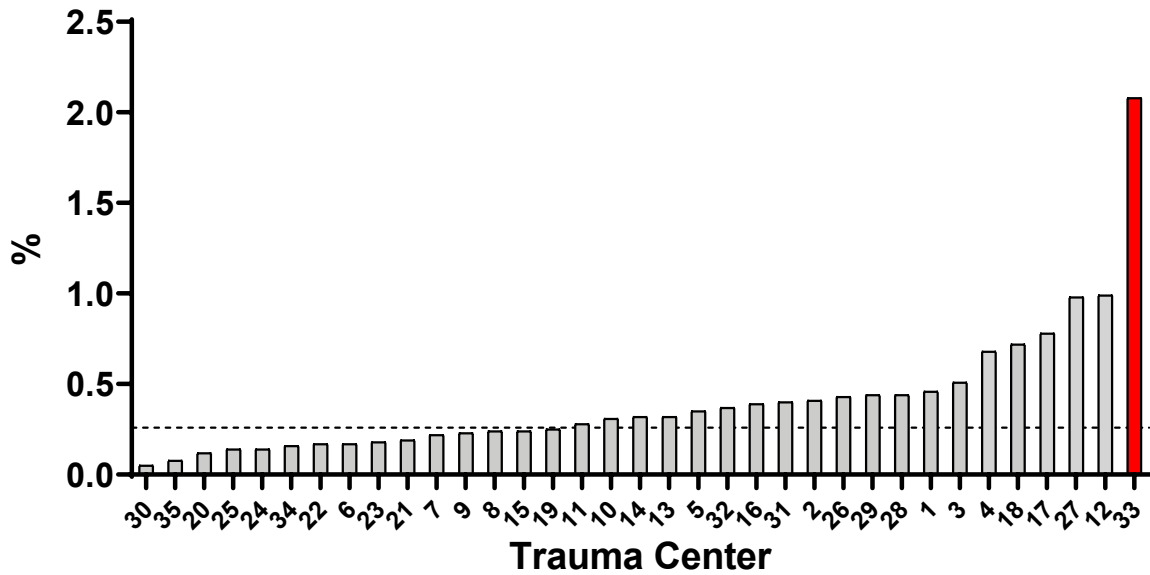
Pneumonia Cohort 2 - Admit to Trauma



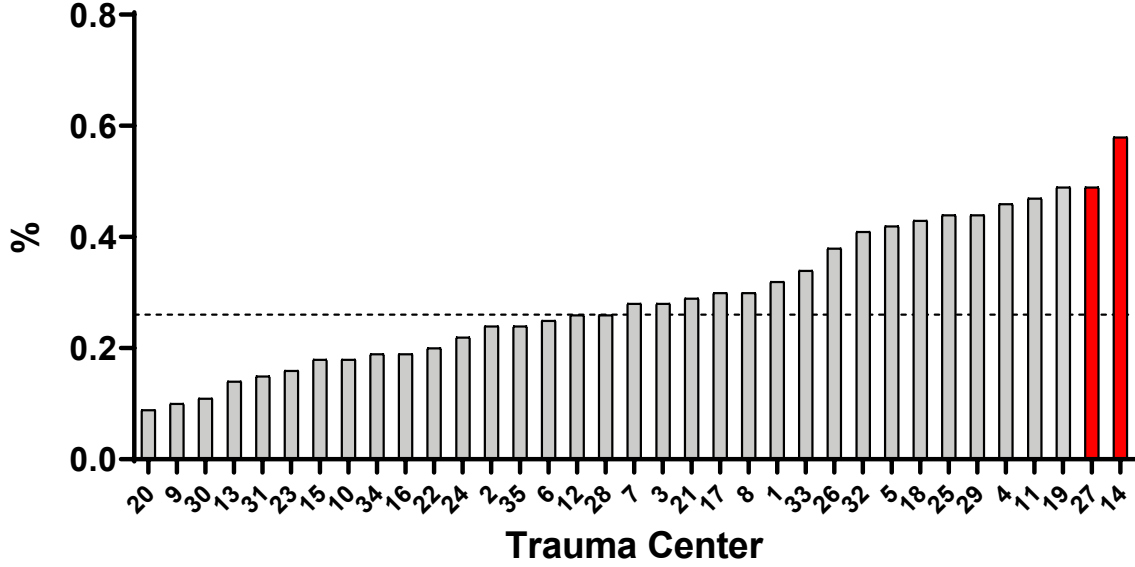
Acute Kidney Injury Cohort 2 - Admit to Trauma



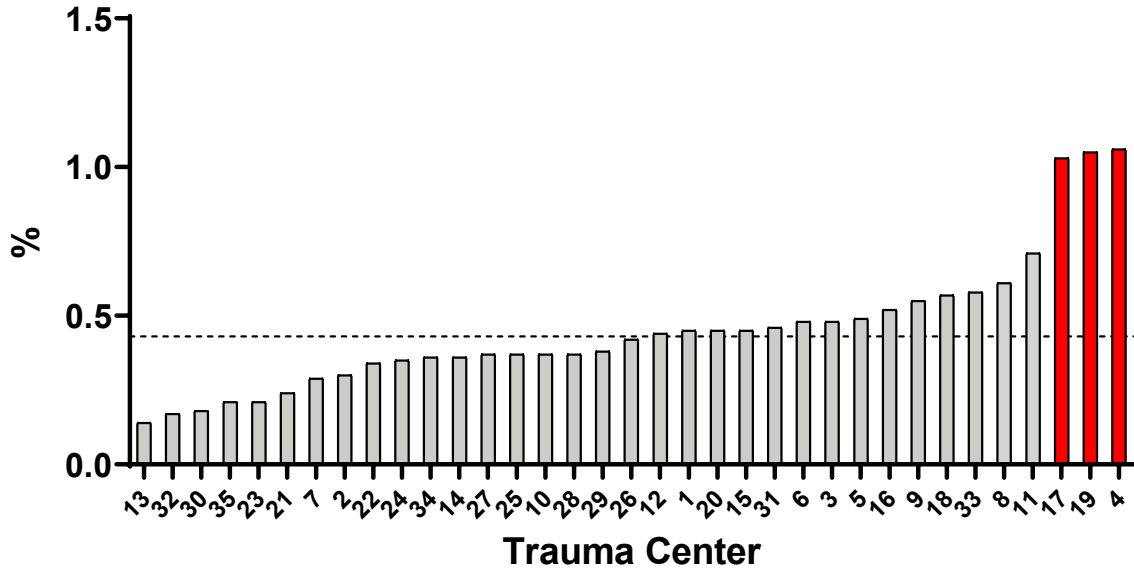
CAUTI Cohort 2 - Admit to Trauma



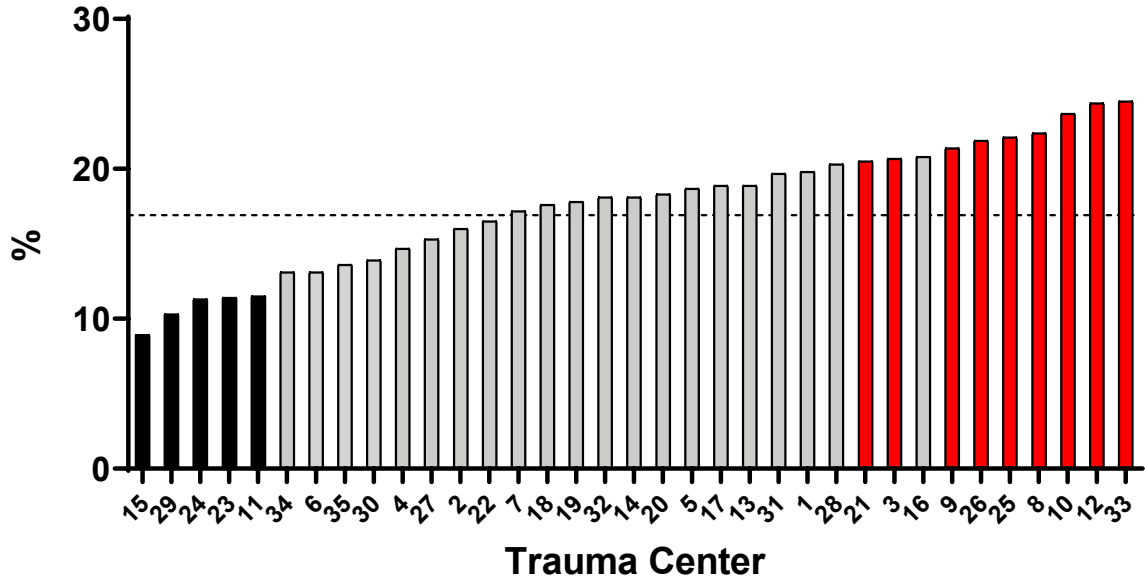
**C. Difficile Colitis
Cohort 2 - Admit to Trauma**



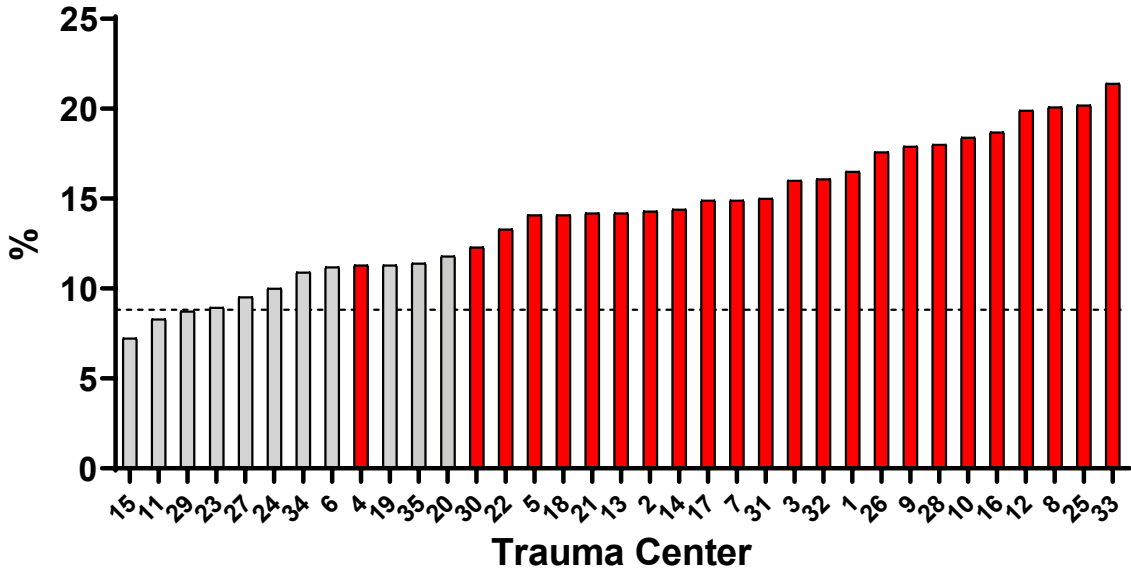
**Sepsis
Cohort 2 - Admit to Trauma**



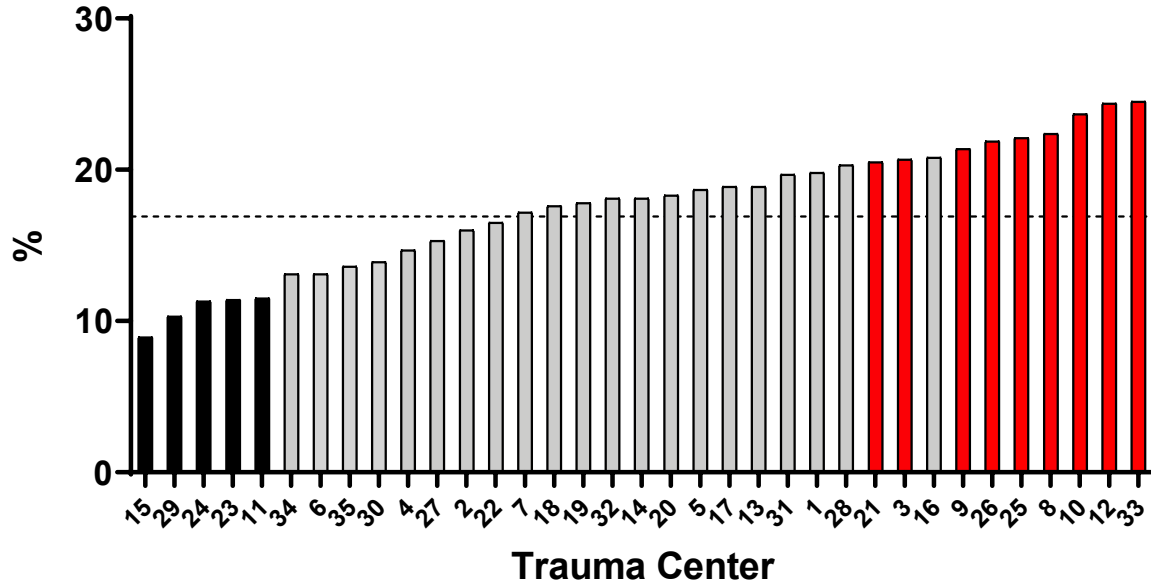
Failure to Rescue Cohort 2 - Admit to Trauma



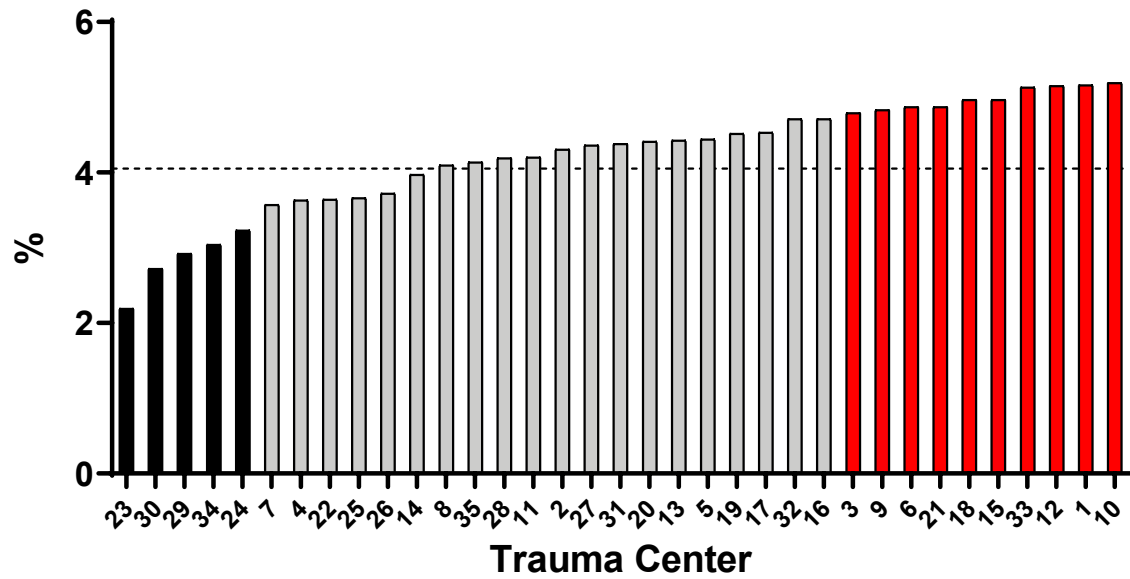
Failure to Rescue Excluding Withdrawal of Care Cohort 2 - Admit to Trauma



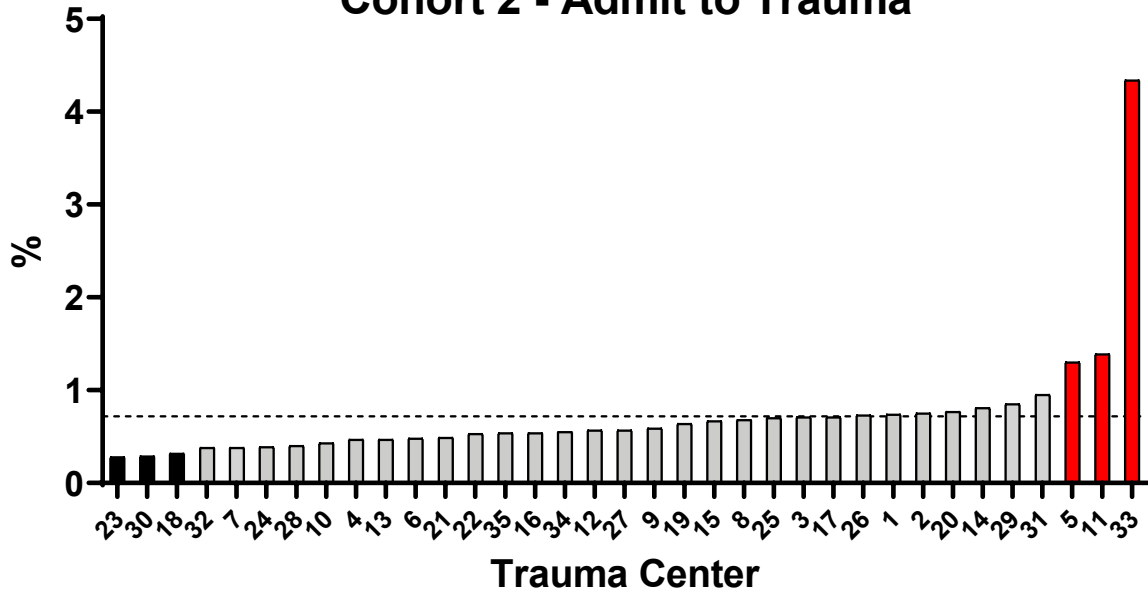
Failure to Rescue Cohort 2 - Admit to Trauma



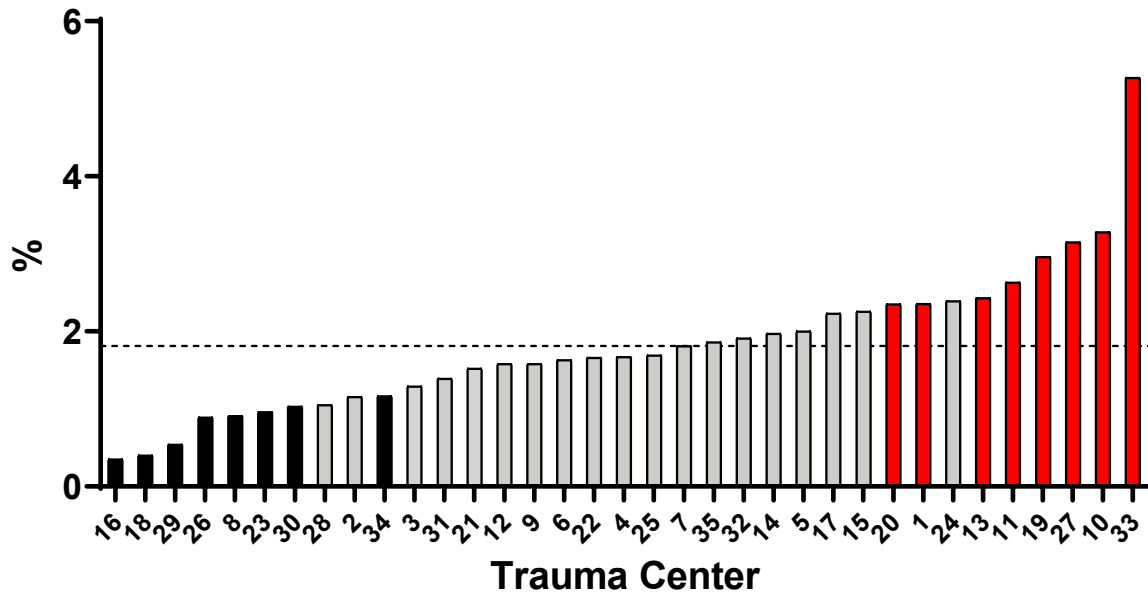
Mortality w/o DOA Cohort 2 - Admit to Trauma



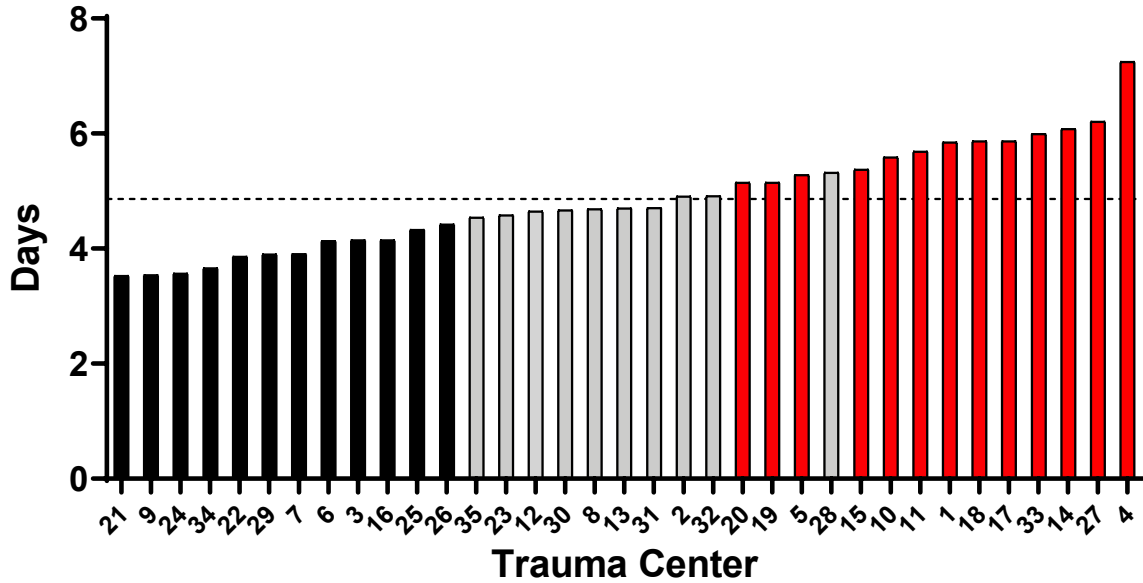
Unplanned Return to OR Cohort 2 - Admit to Trauma



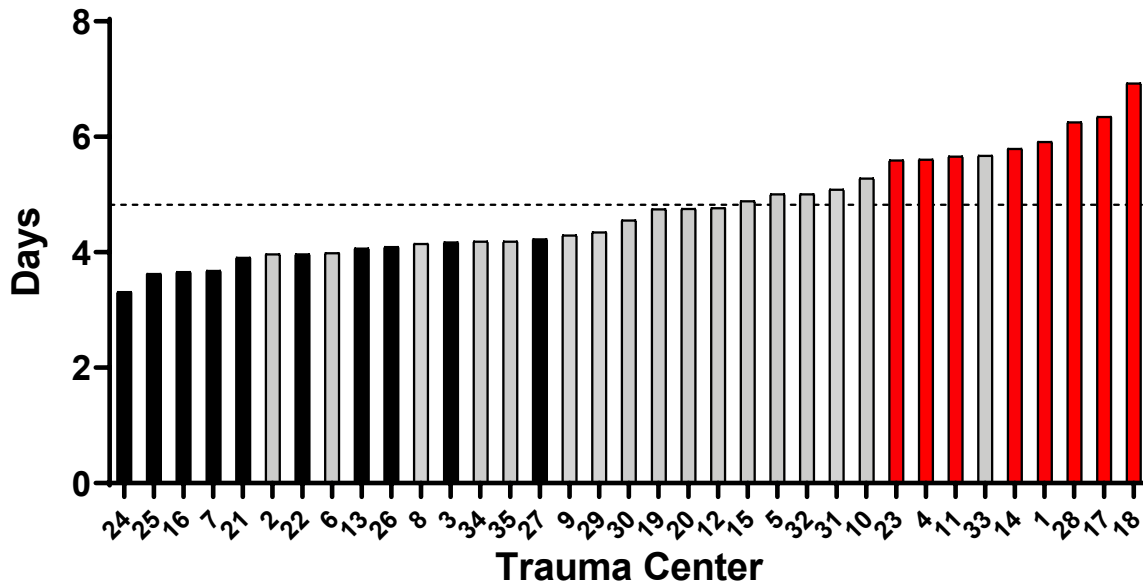
Unplanned Admit to ICU Cohort 2 - Admit to Trauma



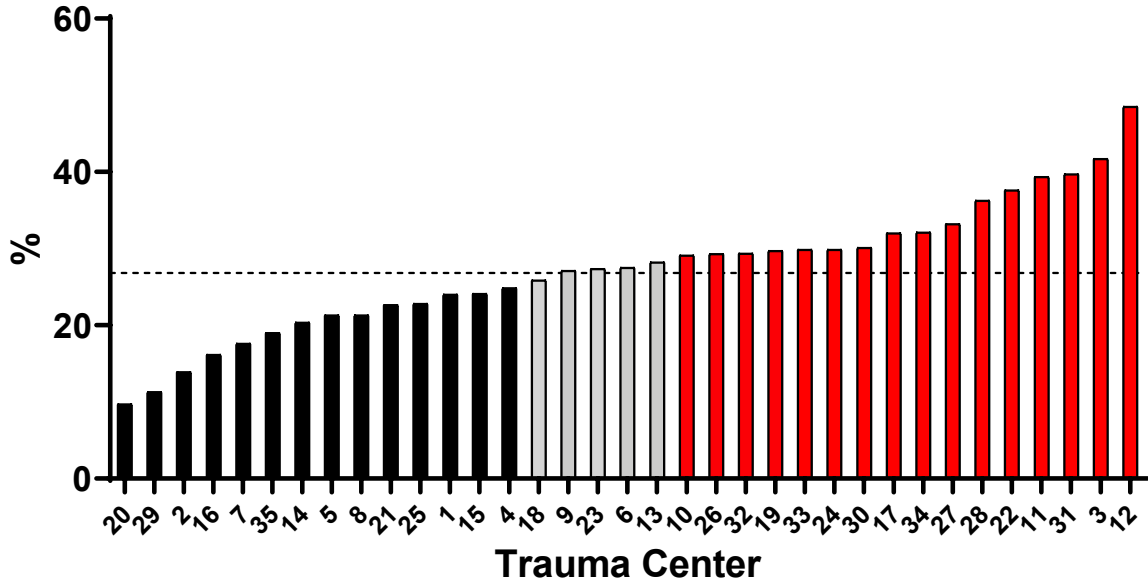
Adjusted Hospital LOS Cohort 2 - Admit to Trauma



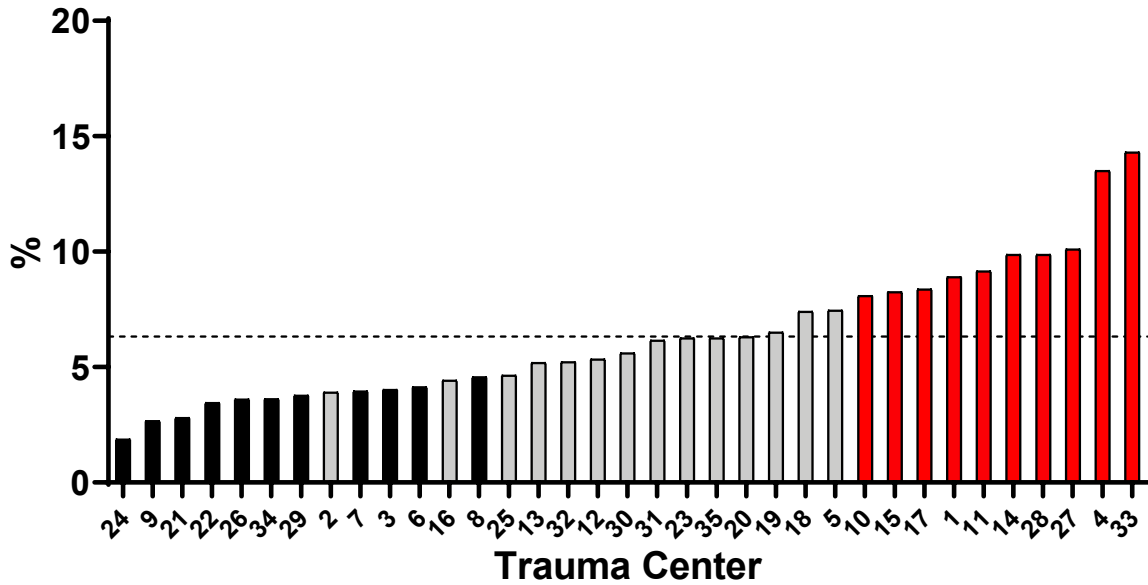
Adjusted ICU LOS Cohort 2 - Admit to Trauma



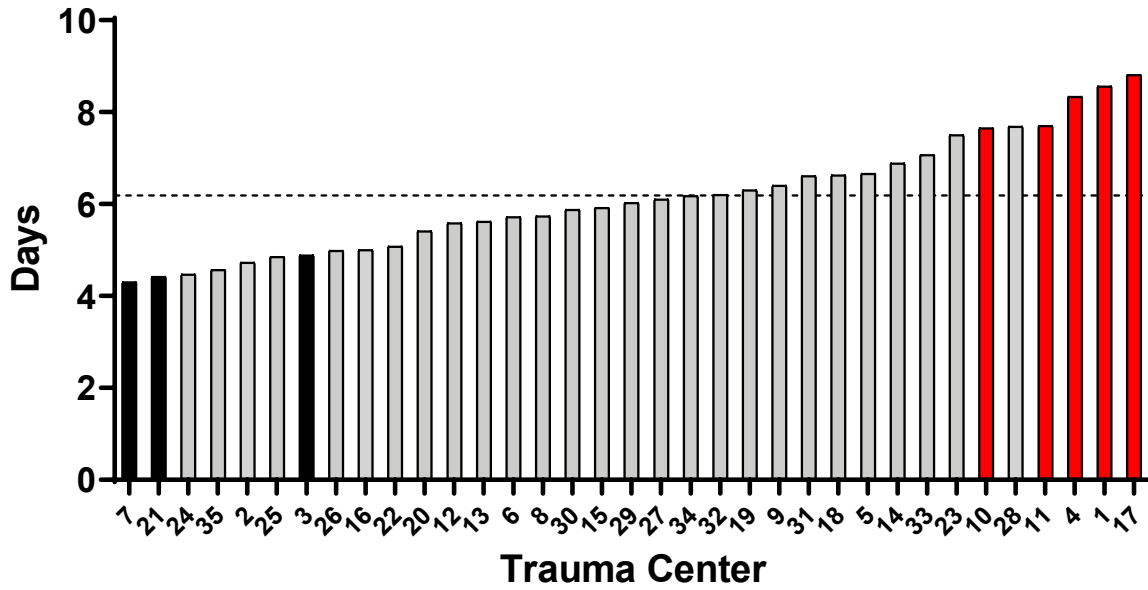
Patients Admitted to ICU Cohort 1 - MTQIP All



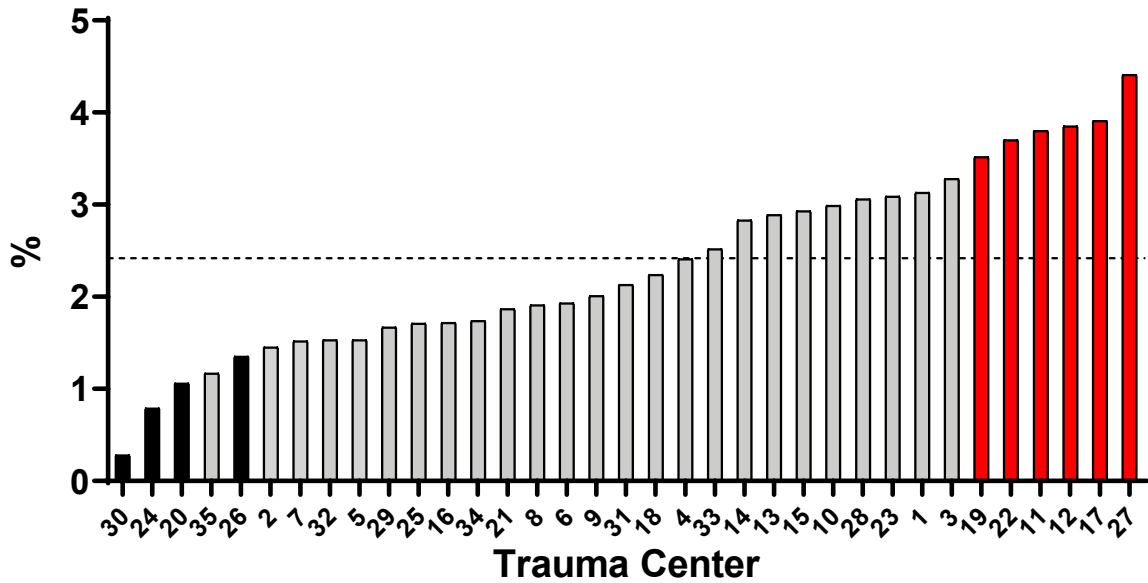
Extended LOS Cohort 2 - Admit to Trauma



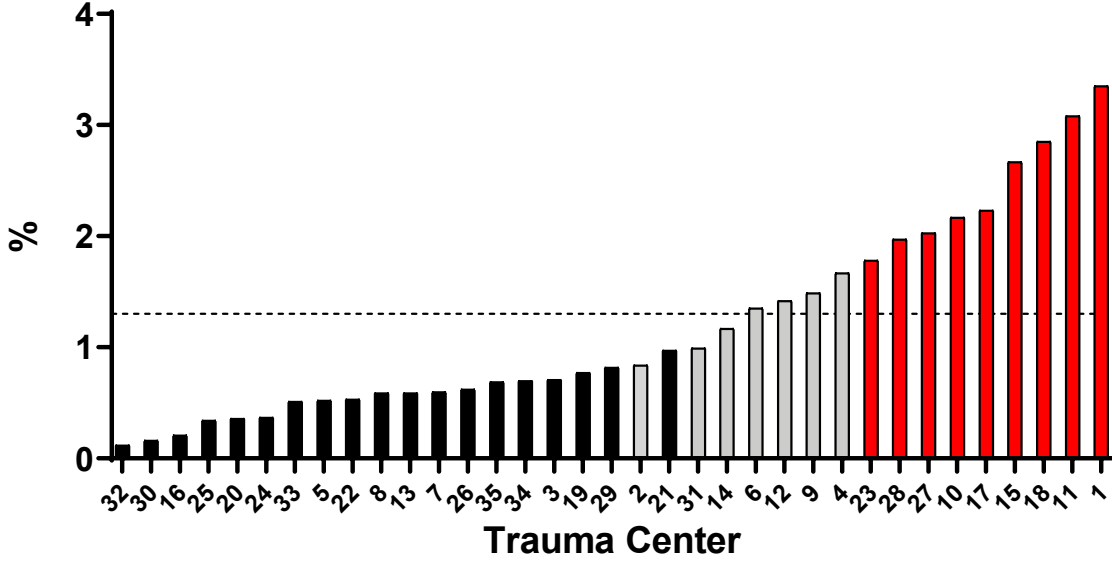
Adjusted Ventilator Days Cohort 2 - Admit to Trauma



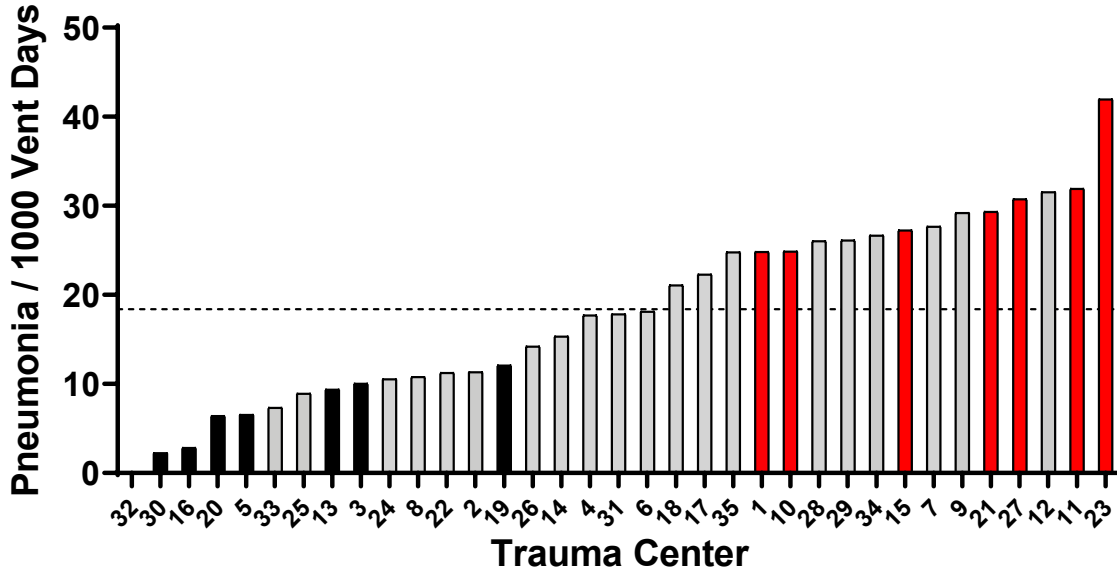
Pneumonia Cohort 2 - Admit to Trauma



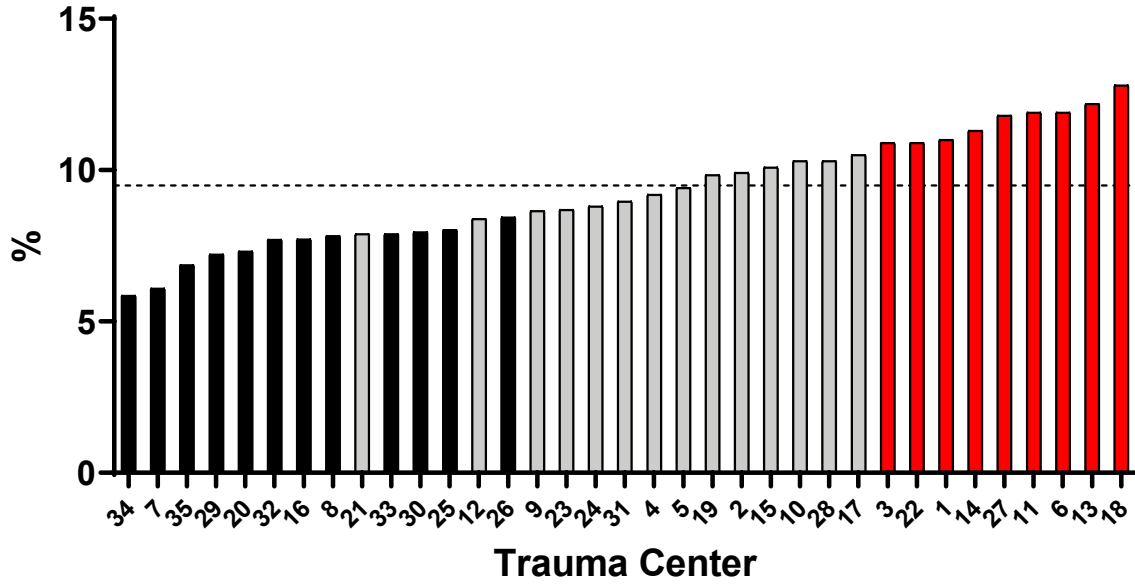
VAP Cohort 2 - Admit to Trauma



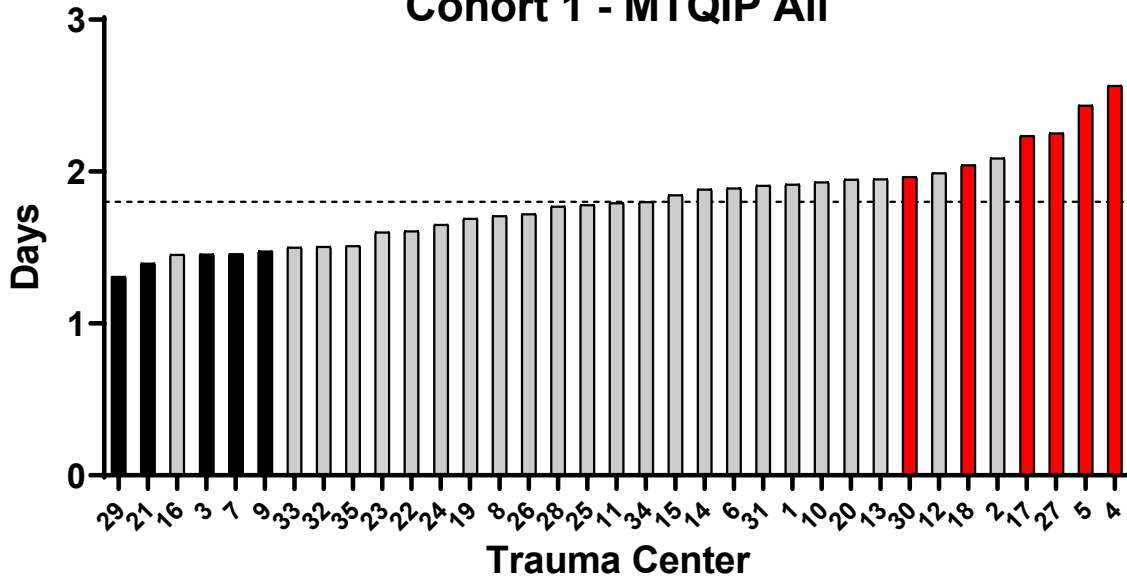
VAP - Ventilator Days > 0 Cohort 2 - Admit to Trauma



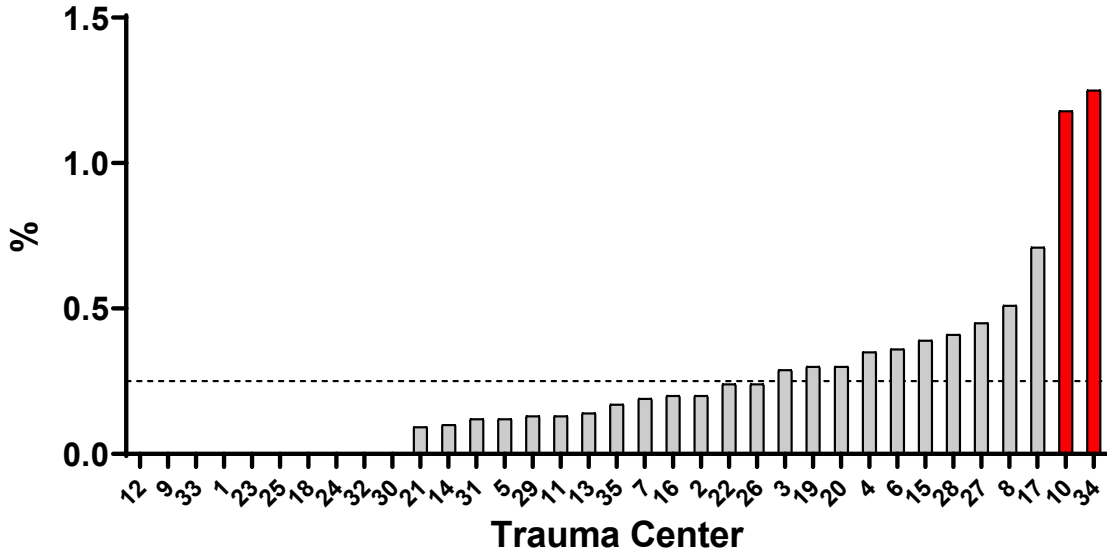
Patients on Ventilator Cohort 1 - MTQIP All



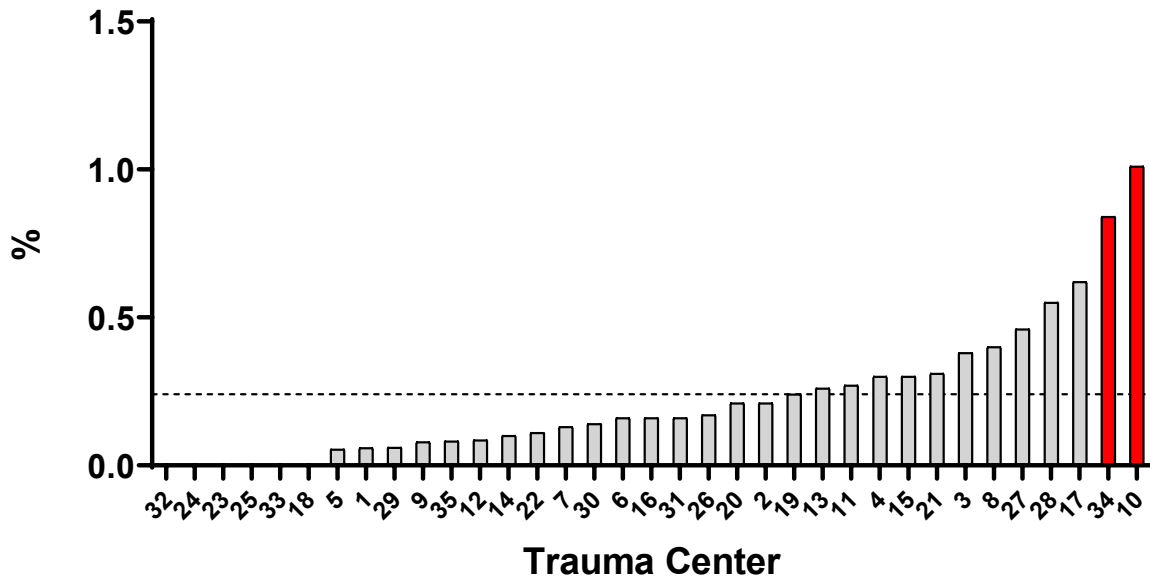
Adjusted Antibiotic Days Cohort 1 - MTQIP All



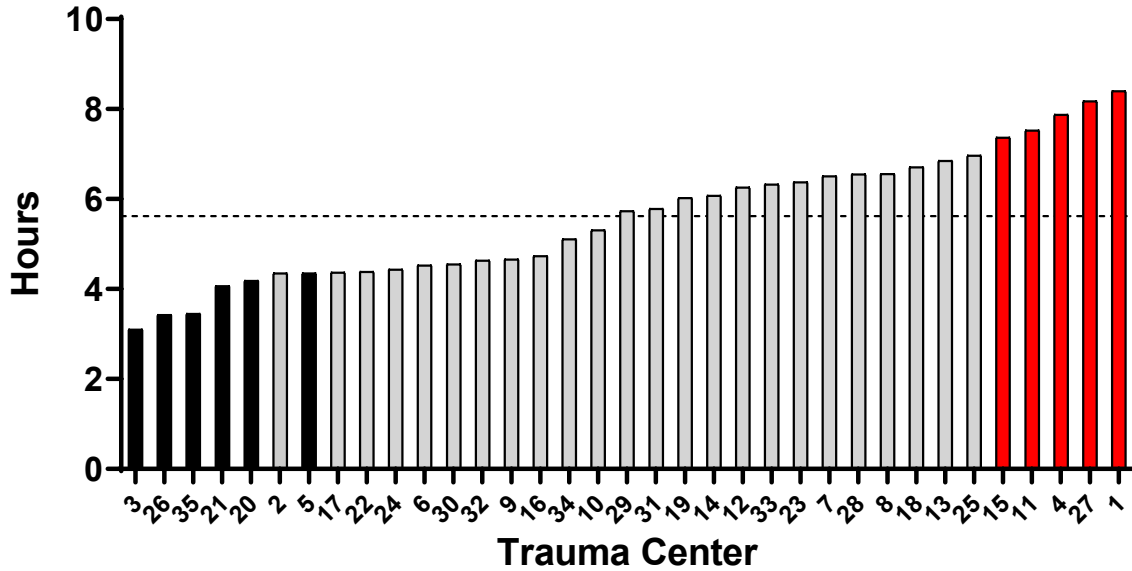
**Unadjusted IVC Filter Use
Cohort 1 - MTQIP All
7/1/19 - 6/30/20**



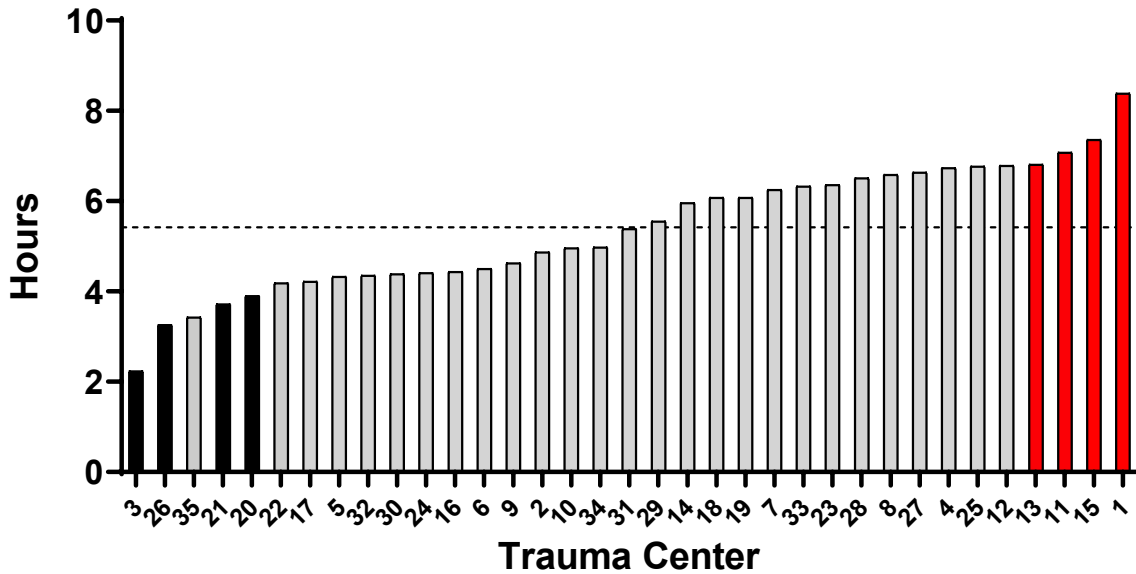
**Unadjusted IVC Filter Use
Cohort 1 - MTQIP All
7/1/18 - 9/30/20**



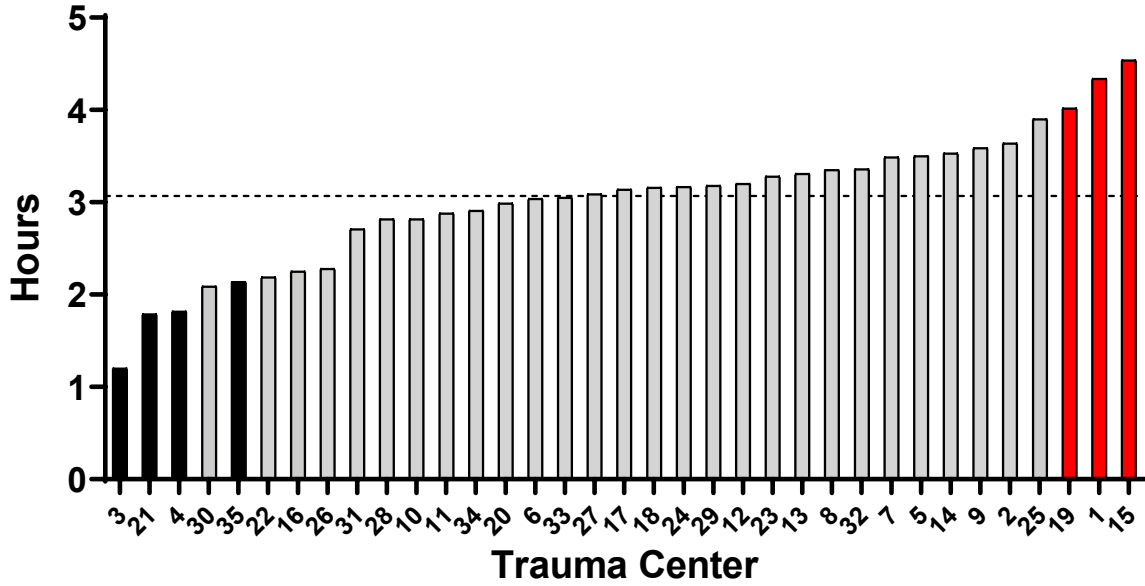
**Mean ED LOS
Cohort 1 - MTQIP All**



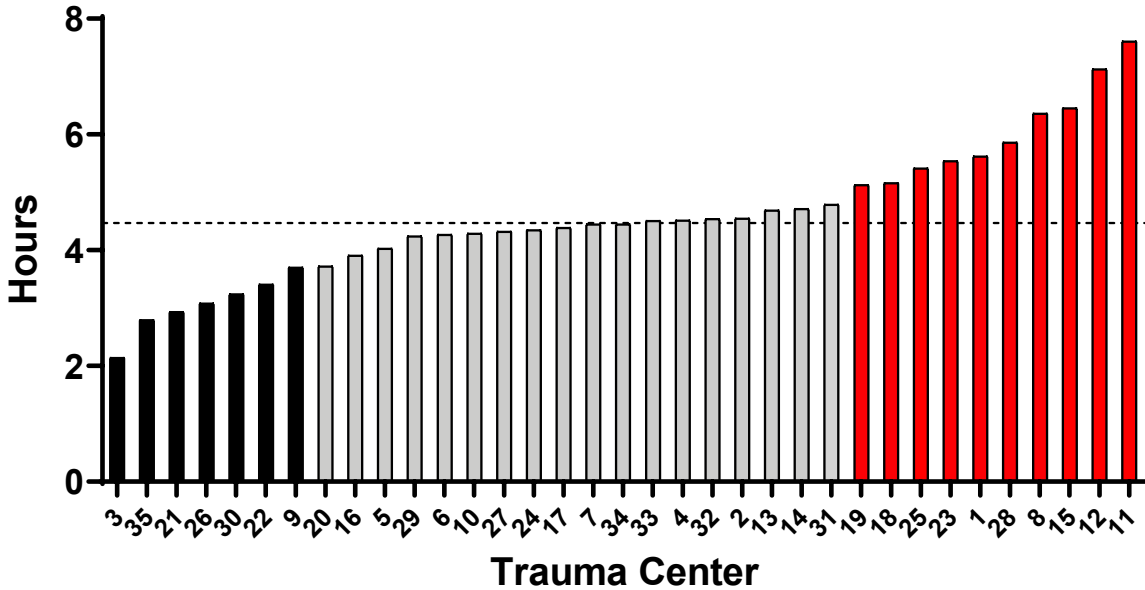
**Mean ED LOS
Cohort 2 - Admit to Trauma**



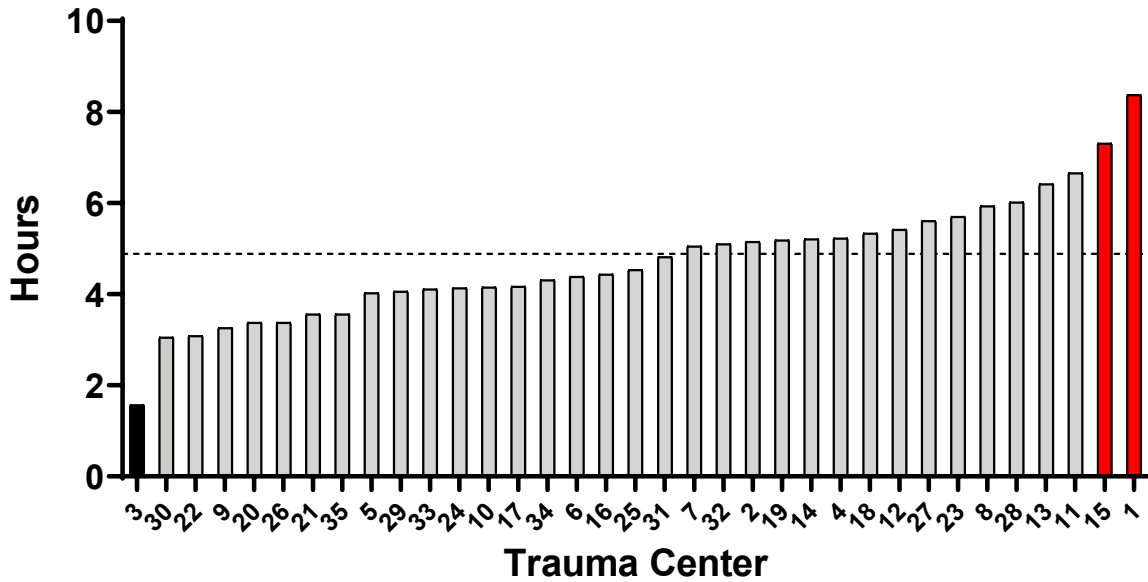
Mean ED LOS - Full Activations Cohort 2 - Admit to Trauma



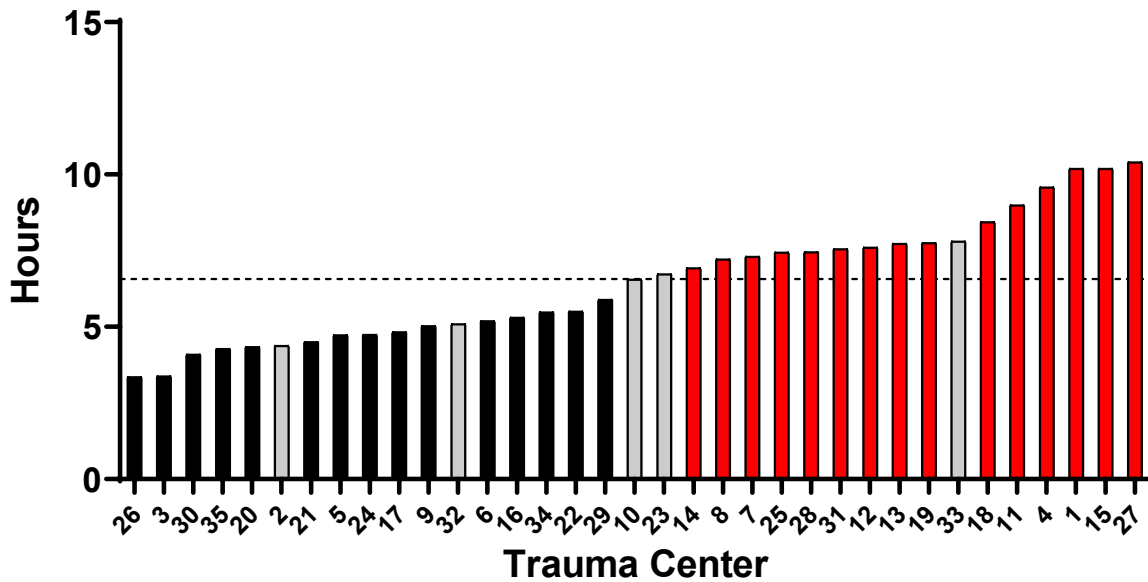
Mean ED LOS - Disposition to ICU Cohort 2 - Admit to Trauma



Mean ED LOS - Partial Activations Cohort 2 - Admit to Trauma

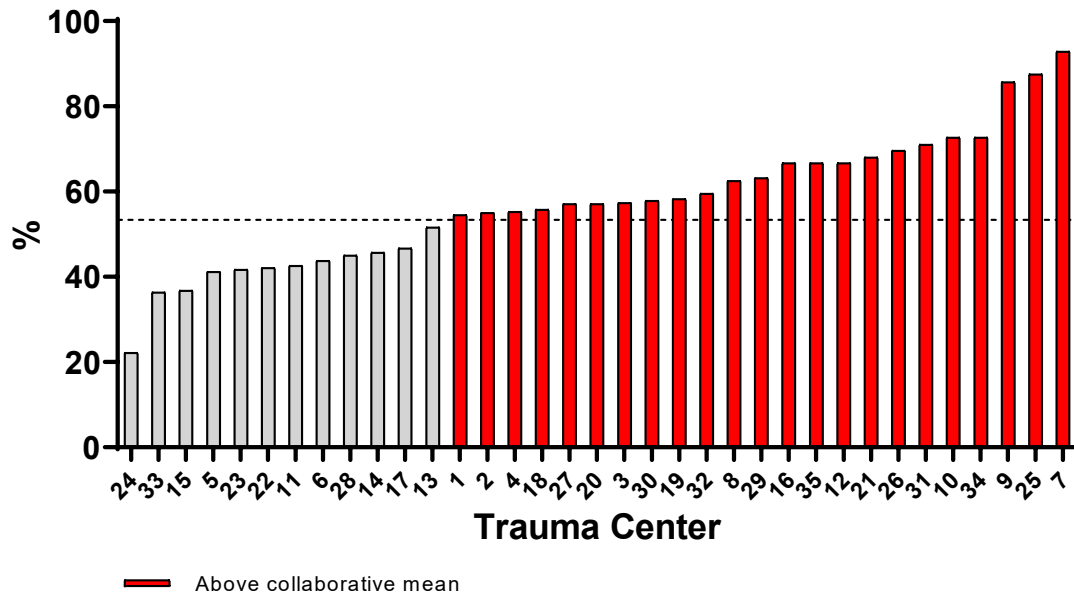


Mean ED LOS - Consult Cohort 2 - Admit to Trauma

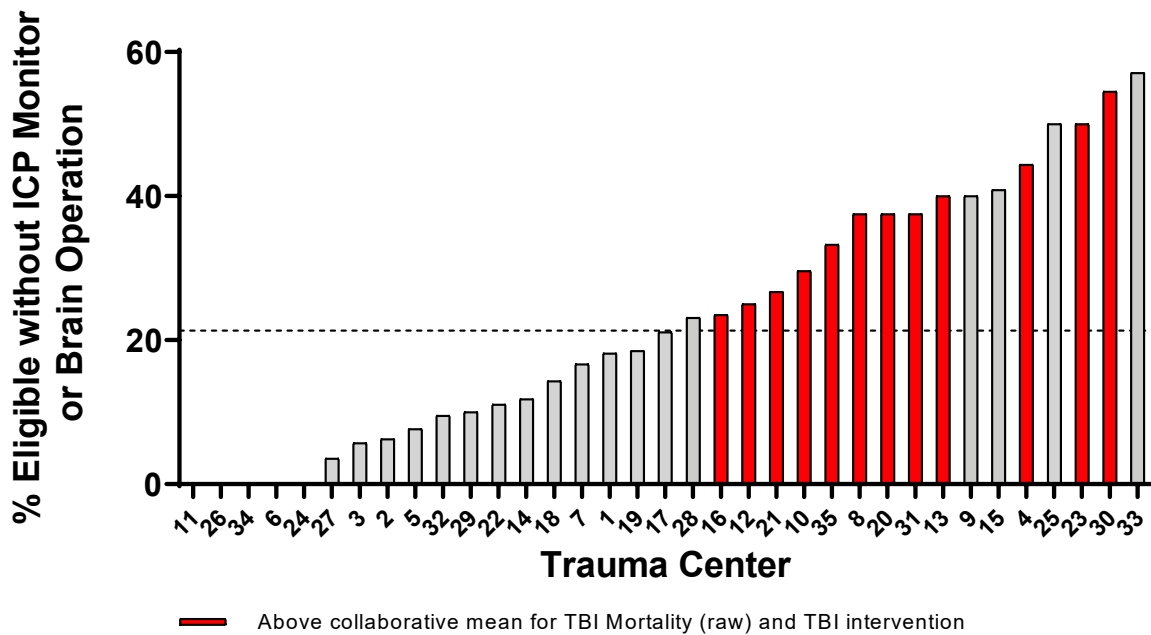


Process Measures

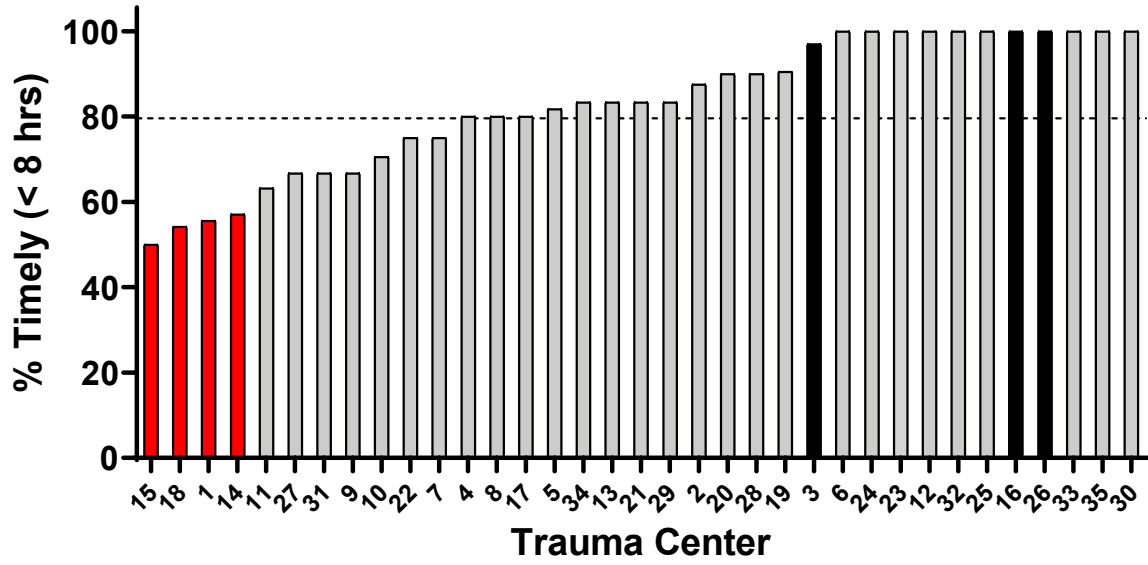
TBI Mortality (Raw) Cohort 1 - MTQIP All



TBI Intervention Cohort 1 - MTQIP All

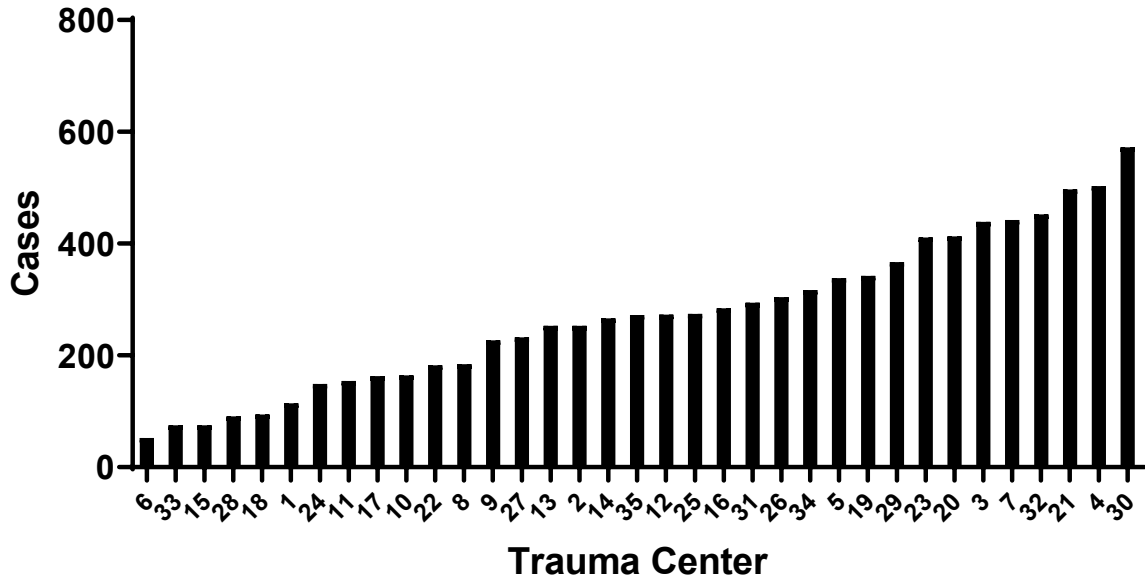


TBI Intervention Timing Cohort 1 - MTQIP All

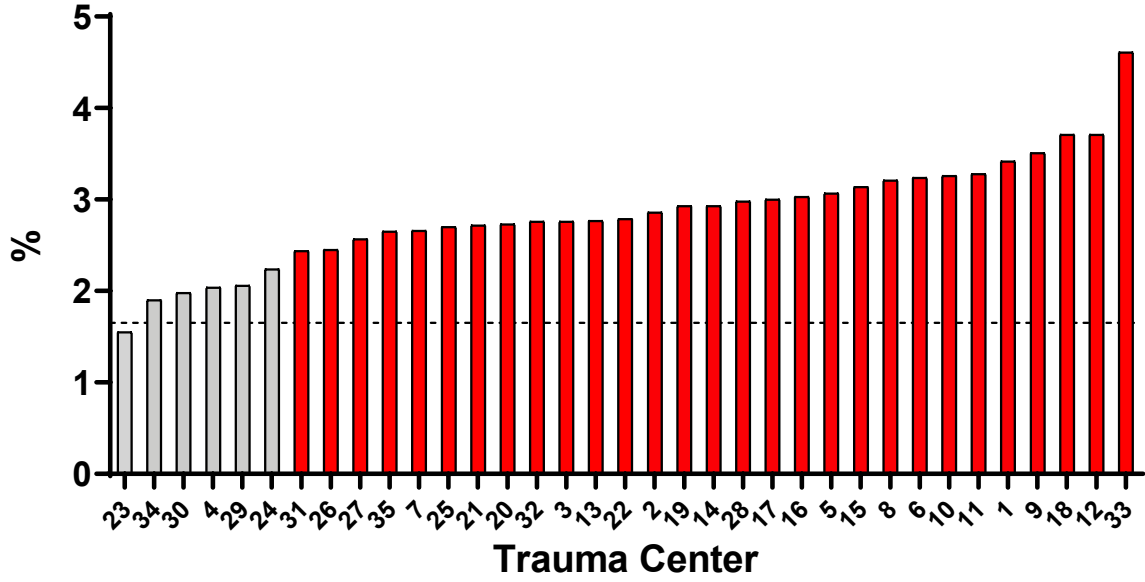


Isolated Hip Fracture

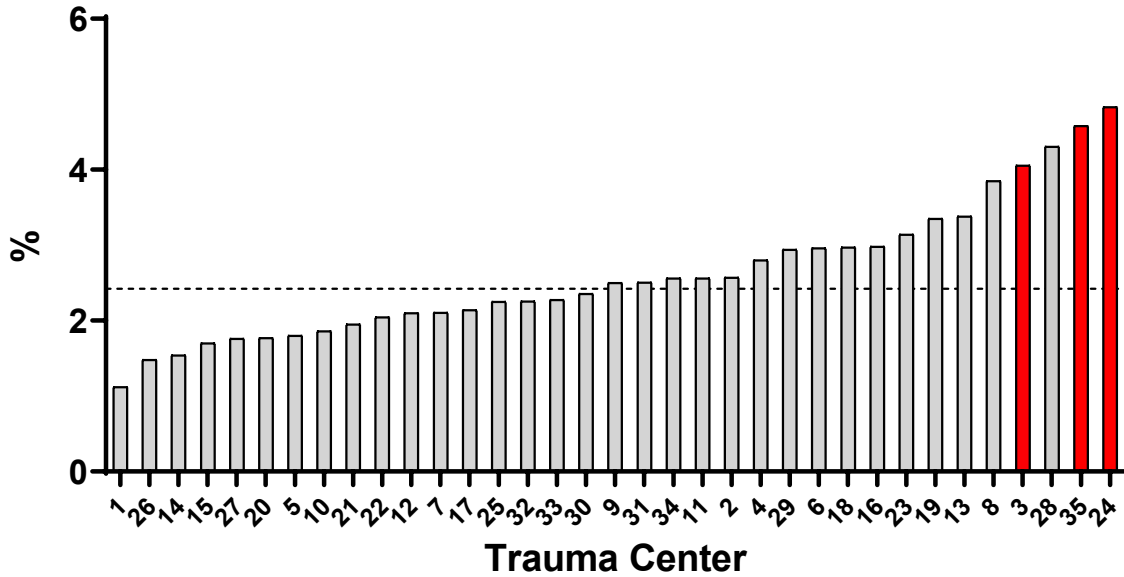
Case Volume
Cohort 8 - Isolated Hip Fracture, Age \geq 65



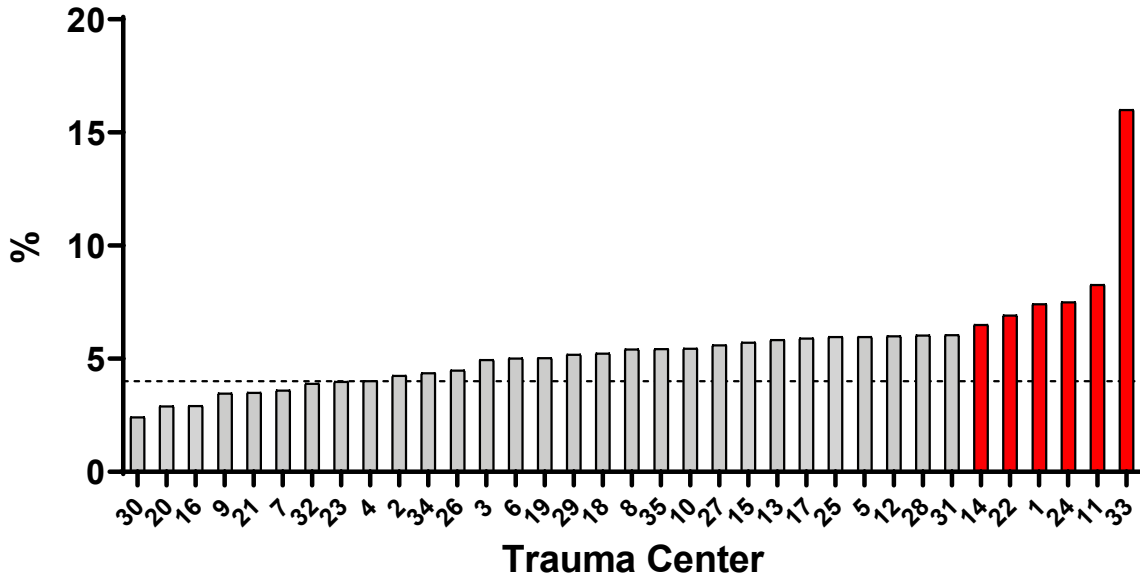
Mortality w/o DOA, Age \geq 65 Cohort 8 - Isolated Hip Fracture



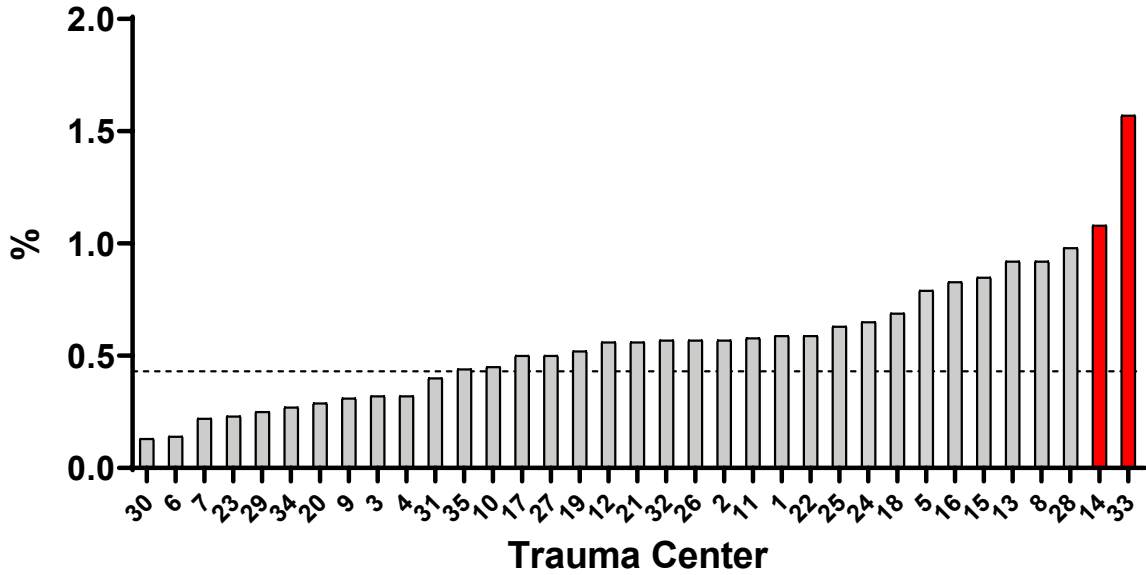
**Mortality or Hospice w/o DOA, Age ≥ 65
Cohort 8 - Isolated Hip Fracture**



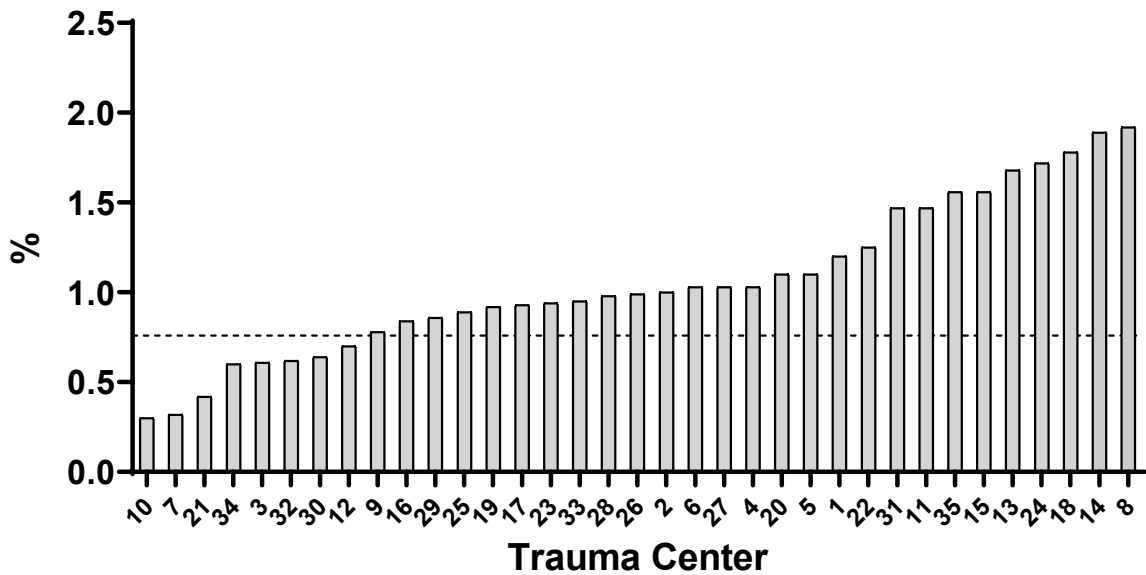
**Serious Complications, Age ≥ 65
Cohort 8 - Isolated Hip Fracture**



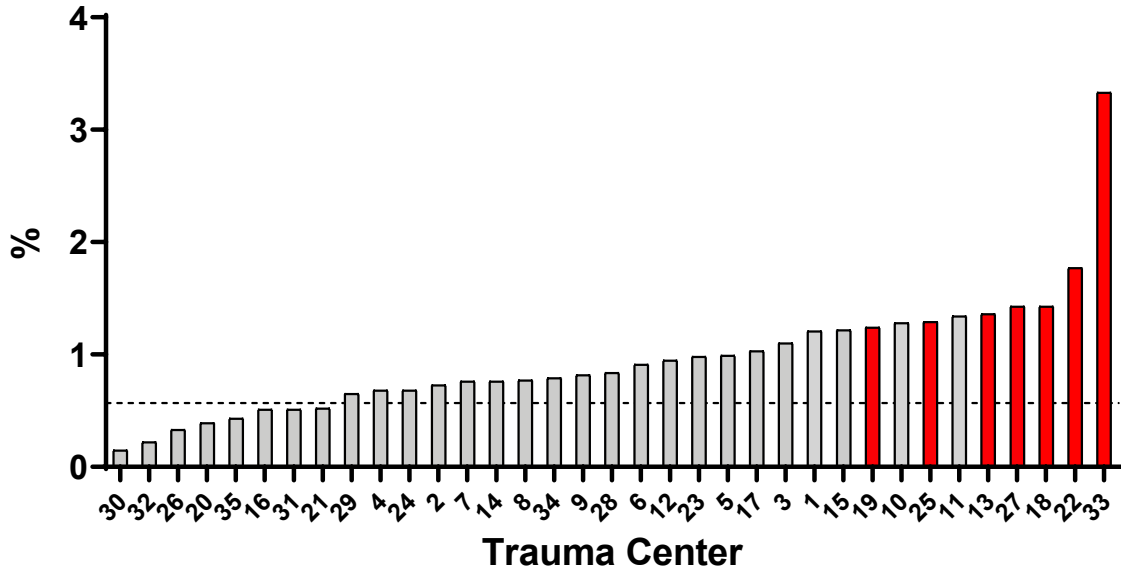
**Cardiac Arrest with CPR, Age \geq 65
Cohort 8 - Isolated Hip Fracture**



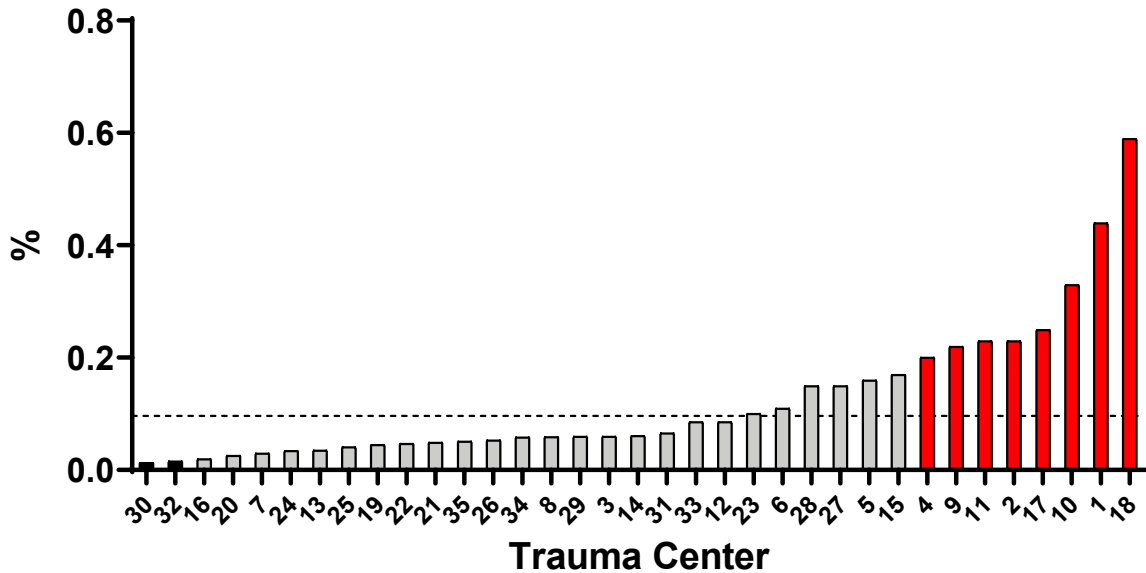
**Myocardial Infarction, Age \geq 65
Cohort 8 - Isolated Hip Fracture**



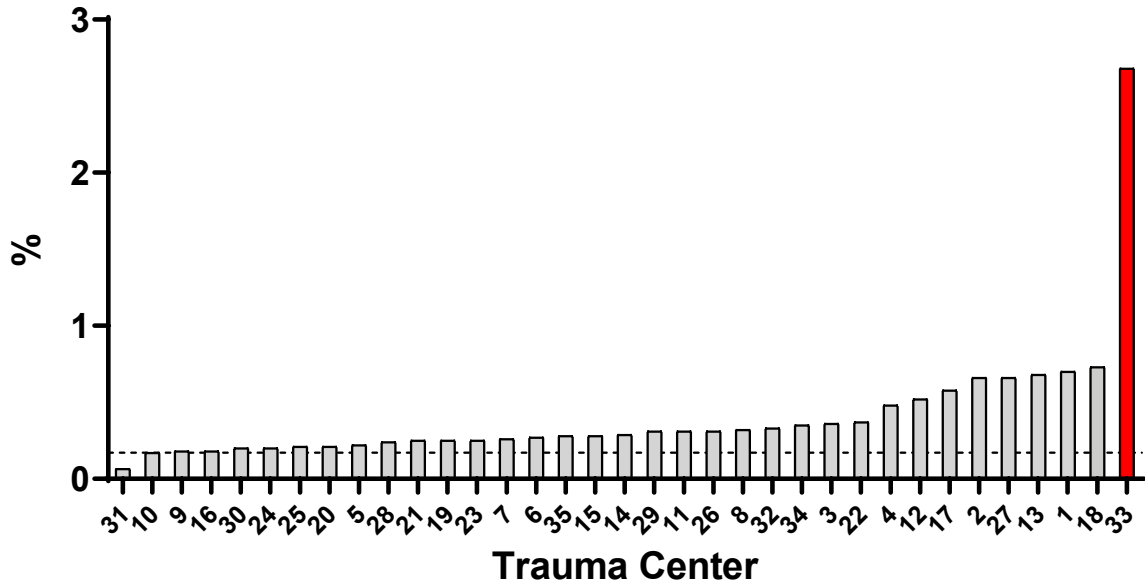
**Pneumonia, Age \geq 65
Cohort 8 - Isolated Hip Fracture**



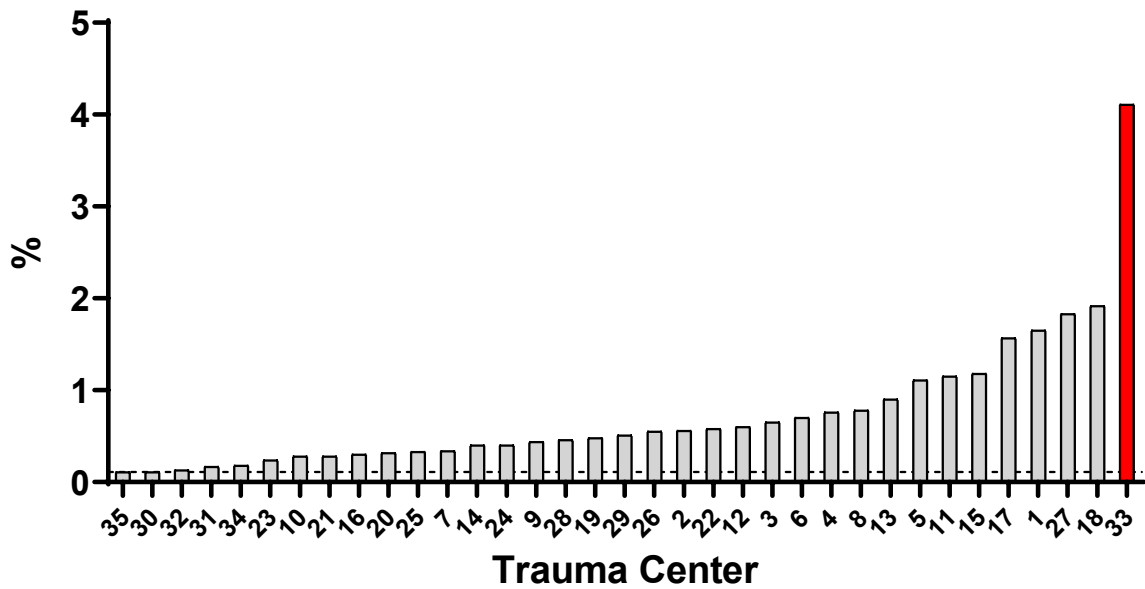
**VAP, Age \geq 65
Cohort 8 - Isolated Hip Fracture**



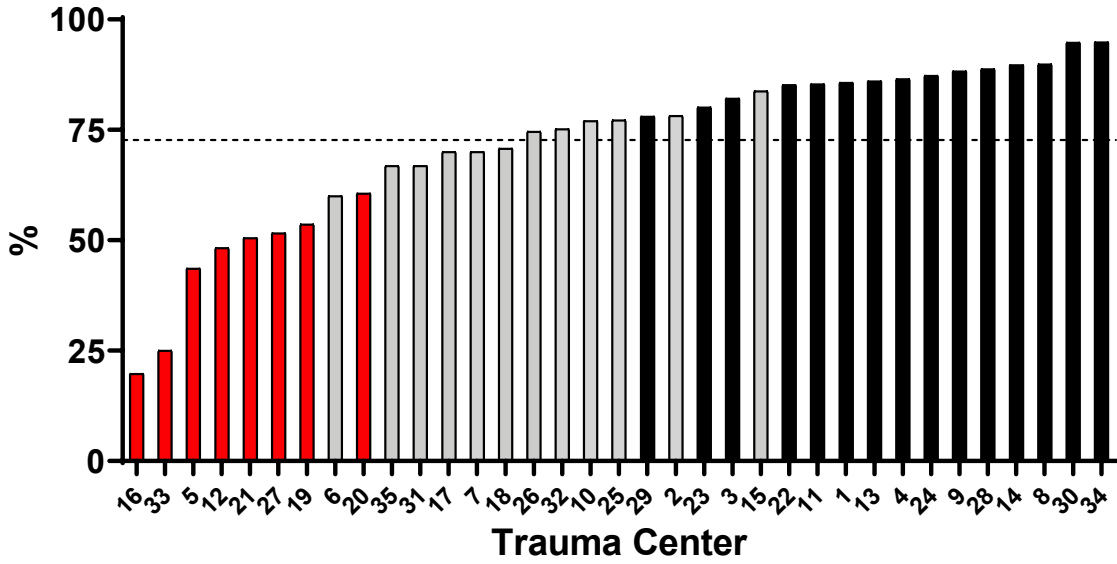
Acute Renal Failure, Age \geq 65 Cohort 8 - Isolated Hip Frature



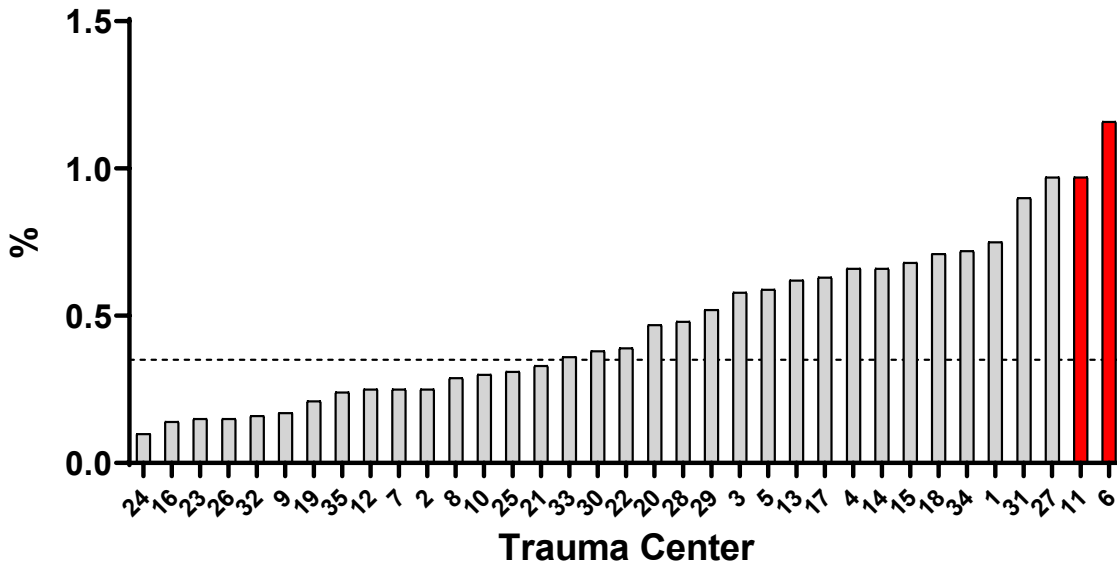
CAUTI, Age \geq 65 Cohort 8 - Isolated Hip Frature



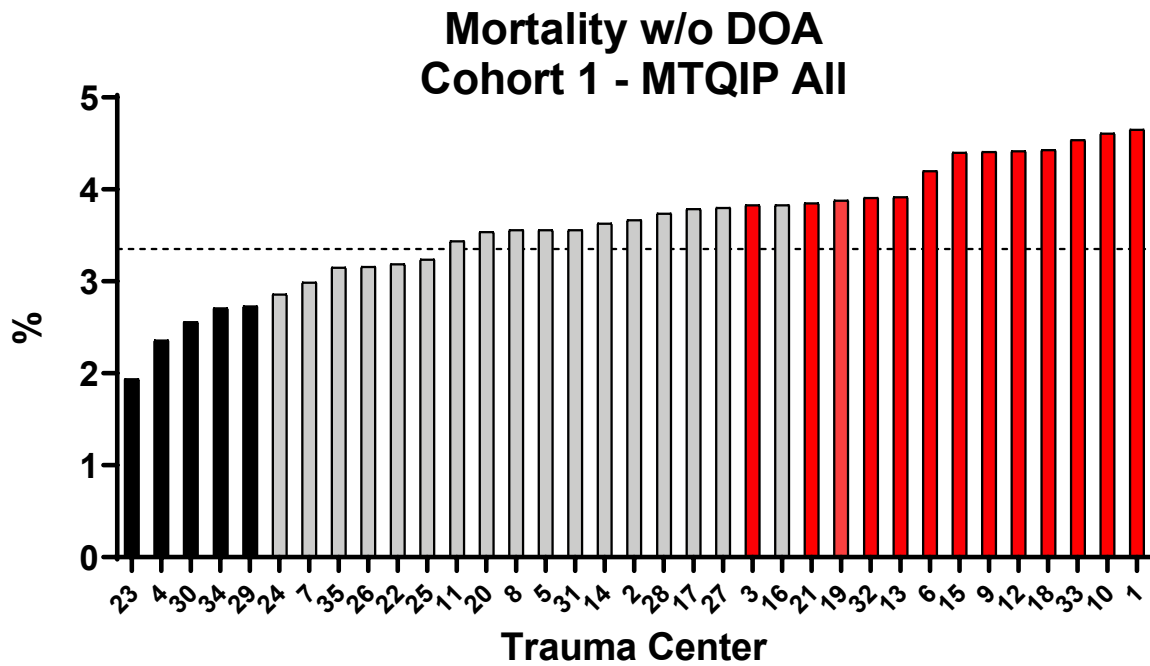
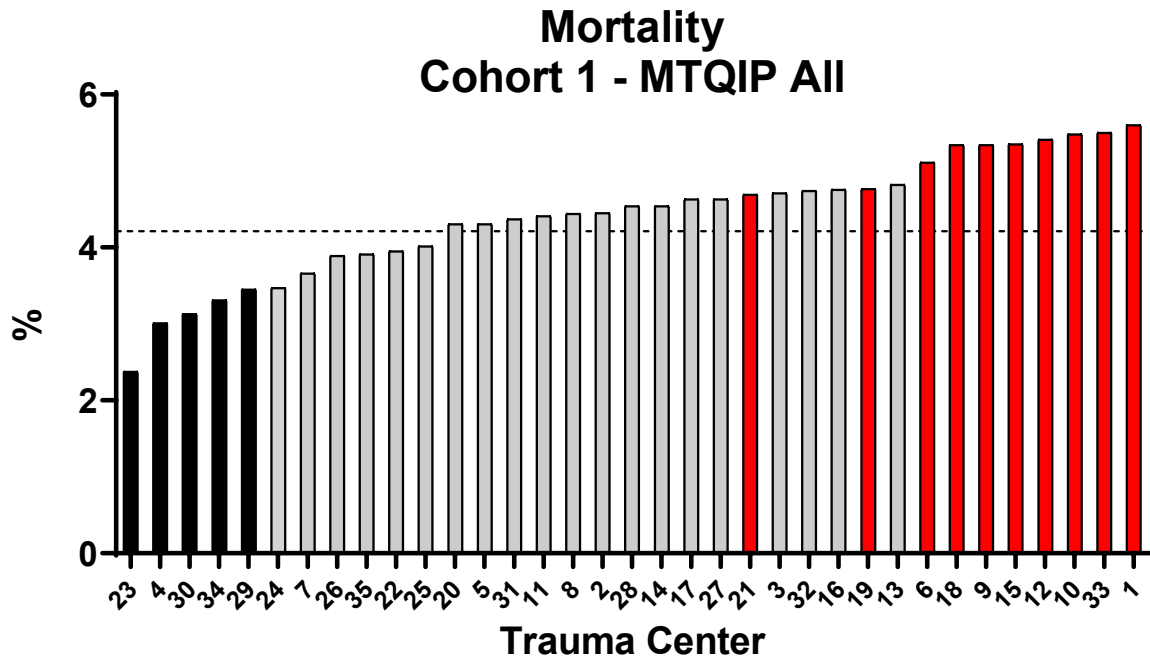
**VTE Prophylaxis Heparin, LMWH \leq 48 hrs, Age \geq 65
Cohort 8 - Isolated Hip Fracture**



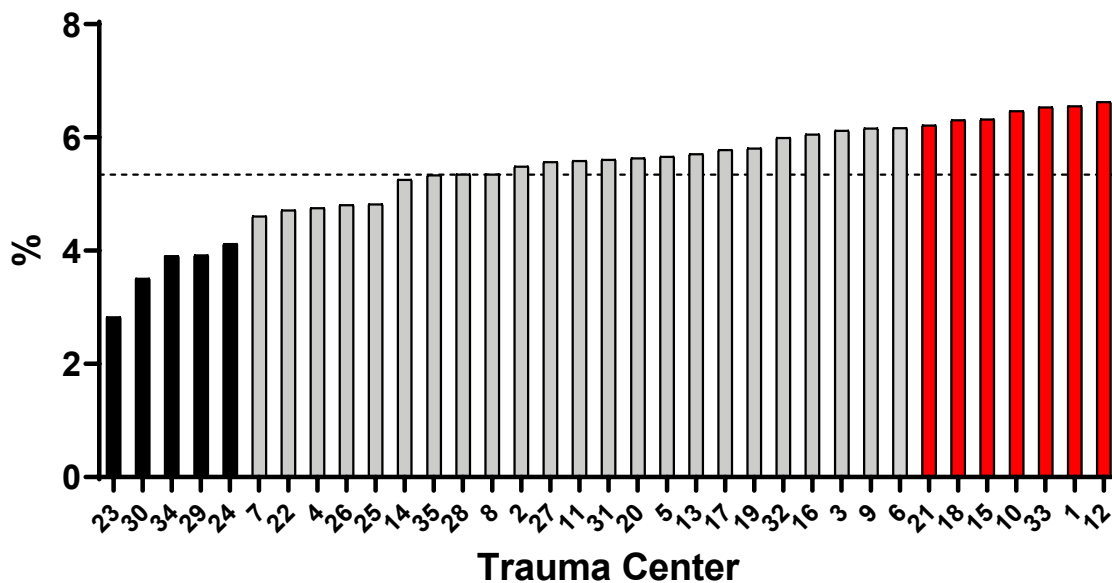
**DVT, Age \geq 65
Cohort 8 - Isolated Hip Fracture**



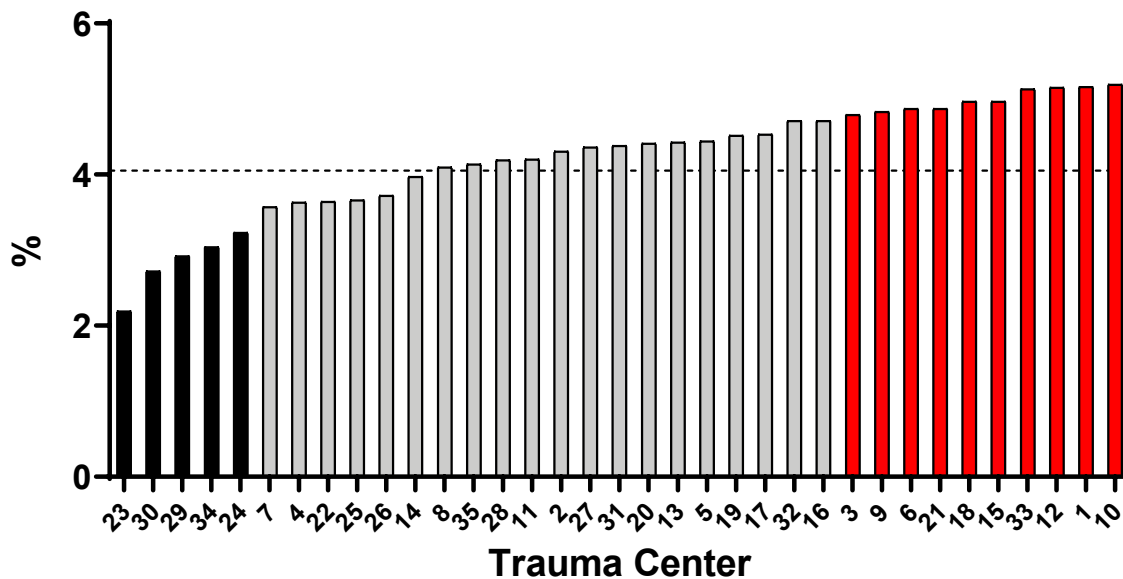
Mortality



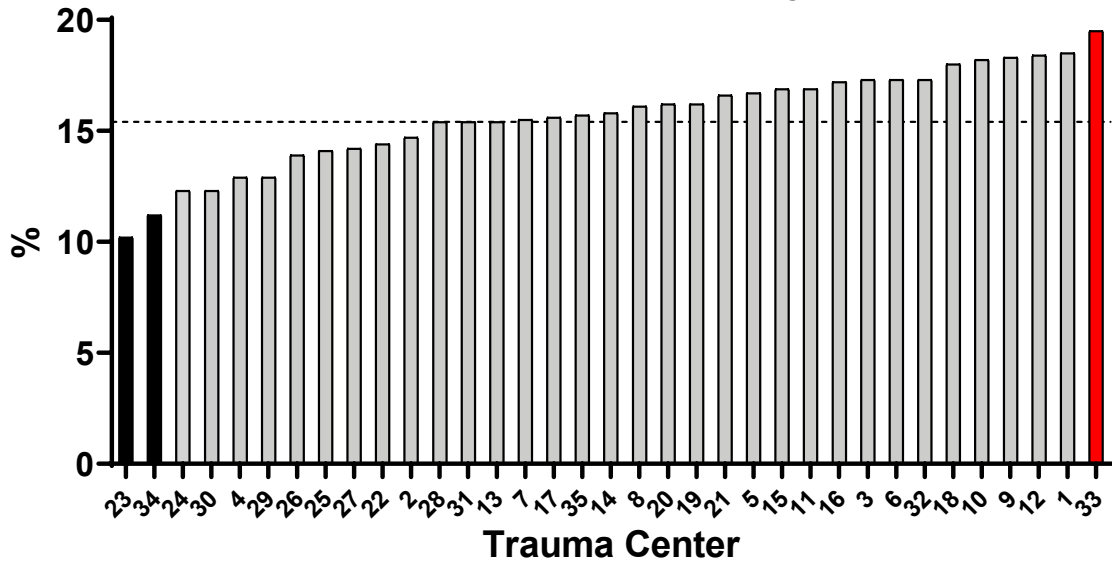
Mortality Cohort 2 - Admit to Trauma



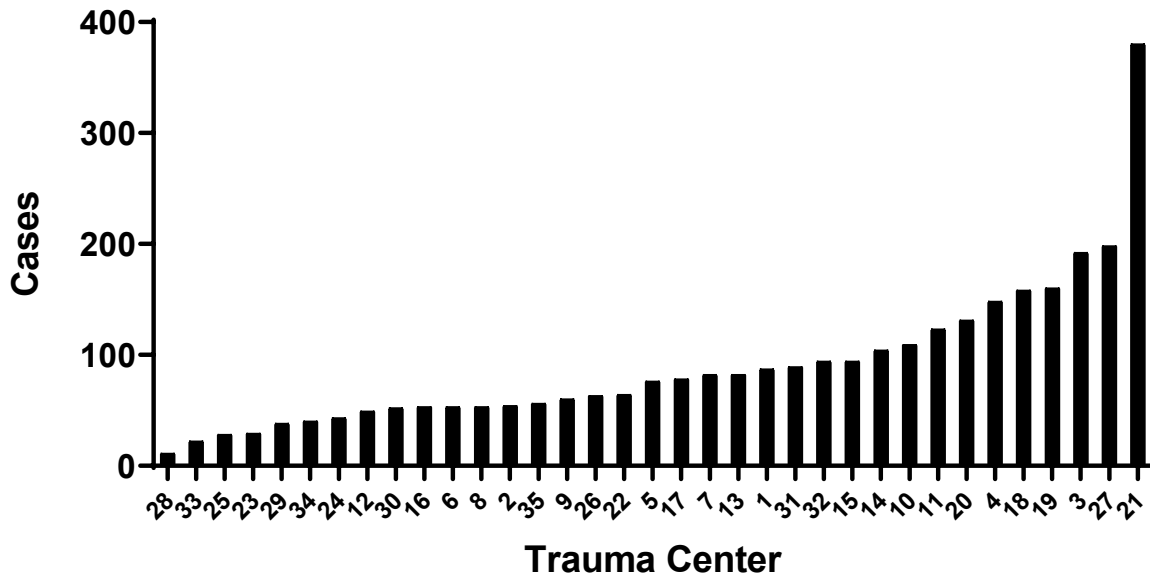
Mortality w/o DOA Cohort 2 - Admit to Trauma



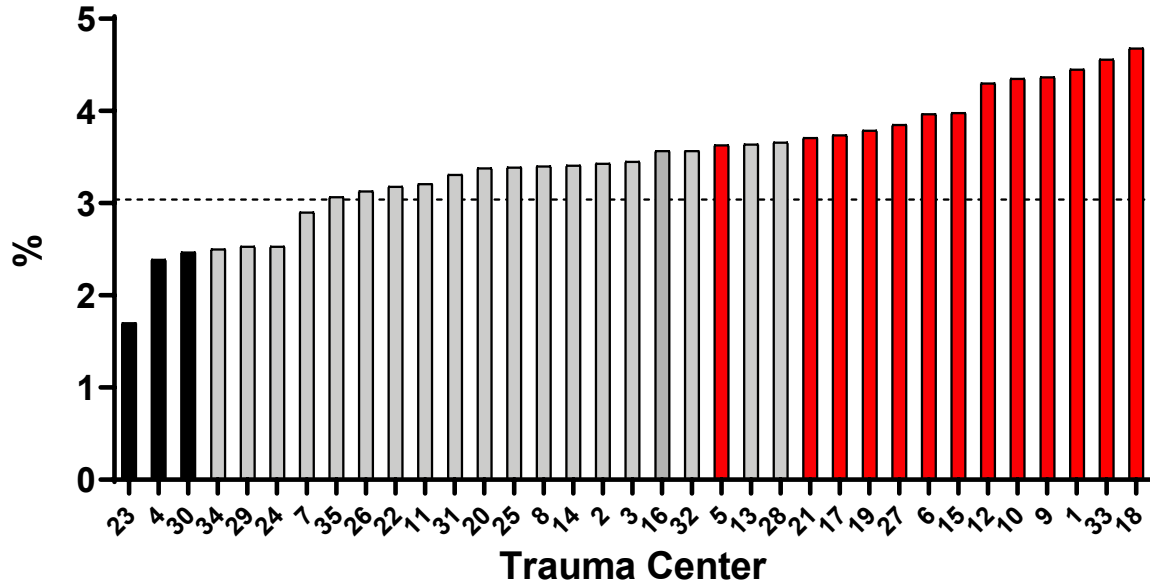
Mortality w/o DOA Cohort 3 - Blunt Multi-System



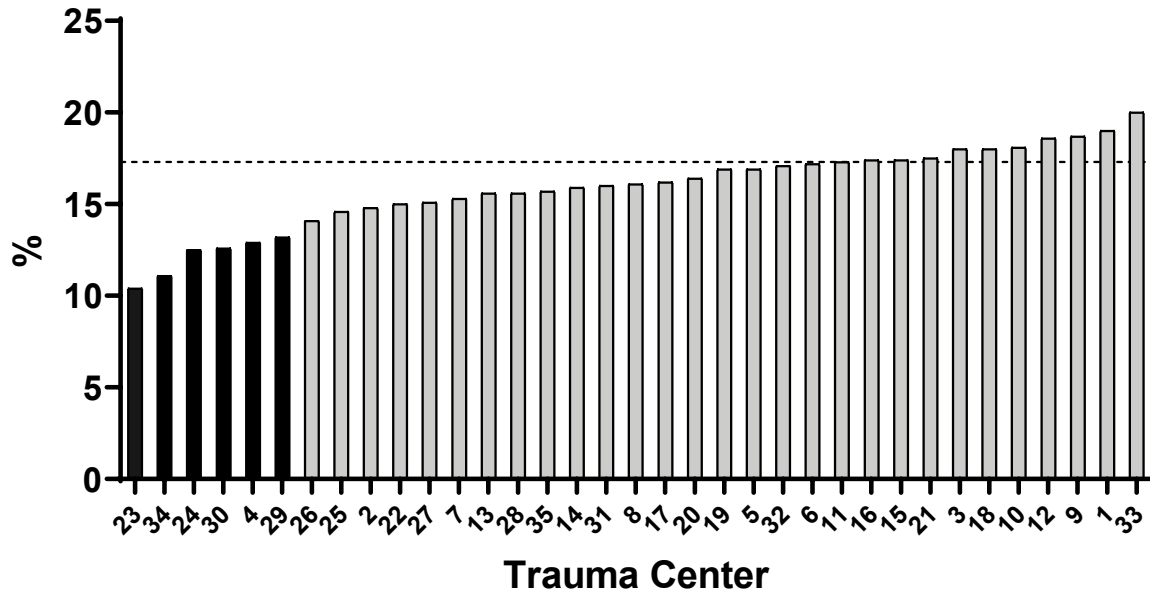
Mortality Case Volume Cohort 3 - Blunt Multi-System



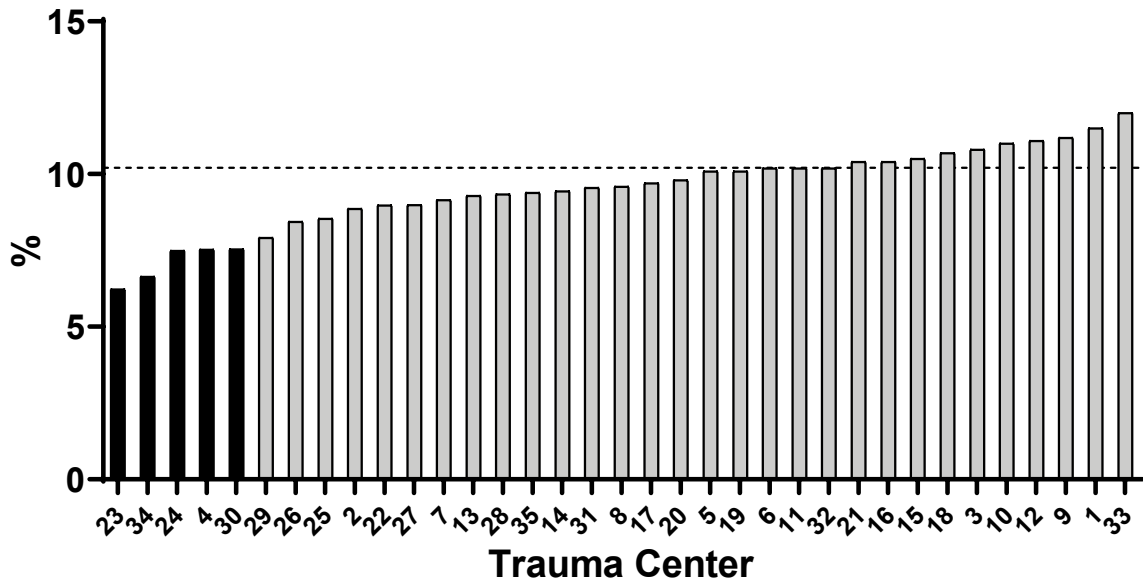
Mortality w/o DOA Cohort 4 - Blunt Single-System



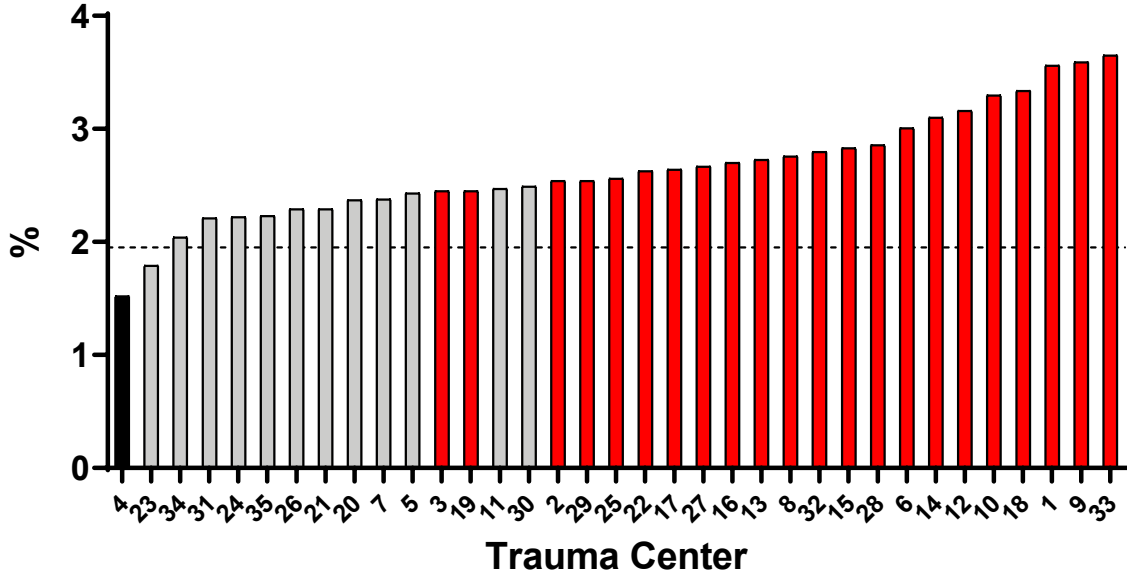
Mortality Cohort 5 - Penetrating



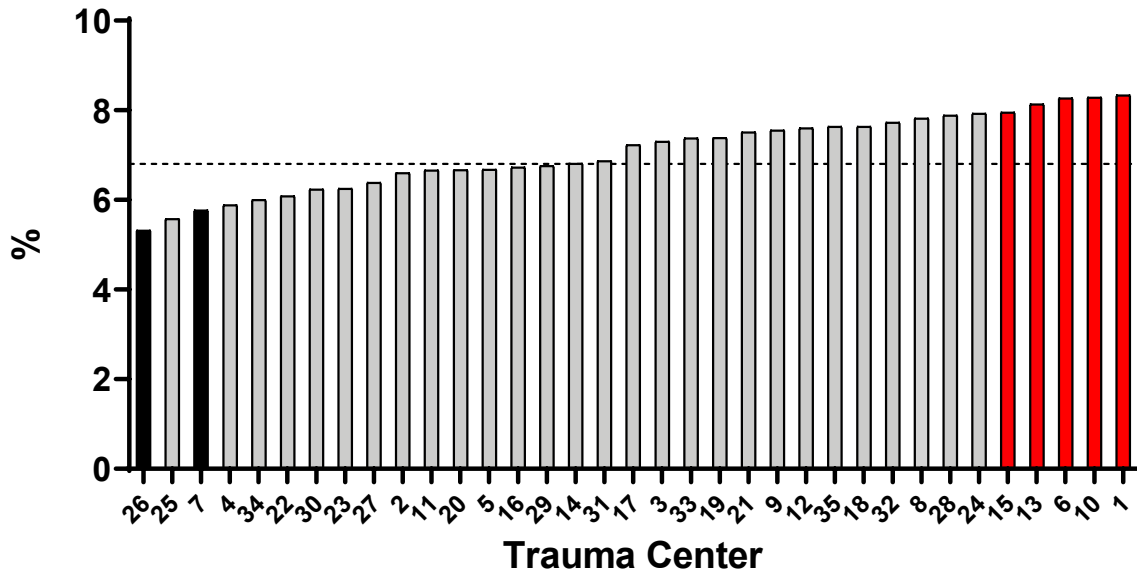
Mortality w/o DOA Cohort 5 - Penetrating



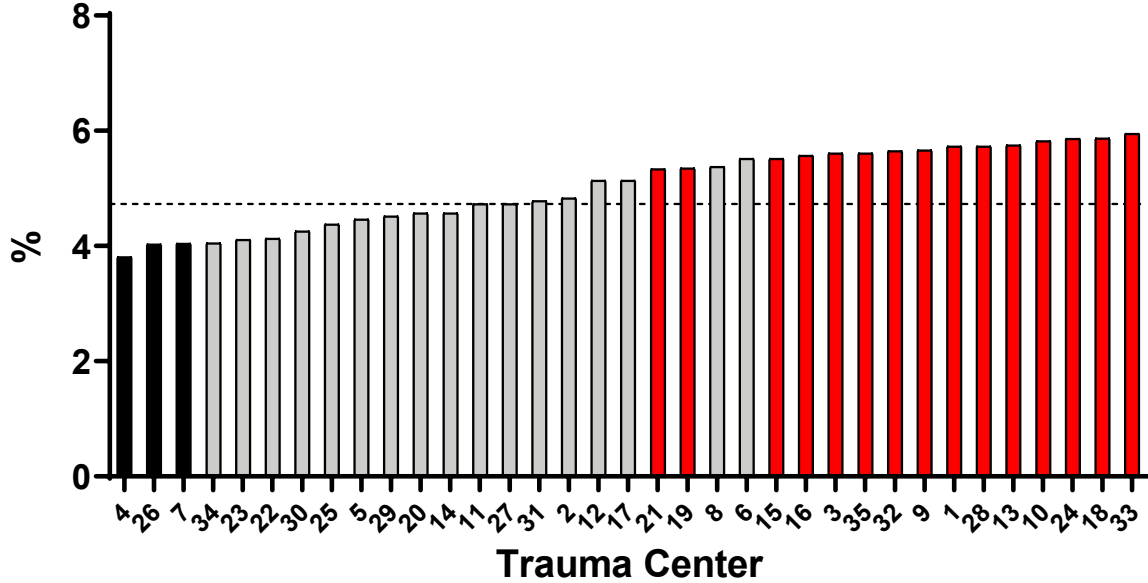
Mortality w/o DOA Cohort 6 - Admit to Non-Trauma Service



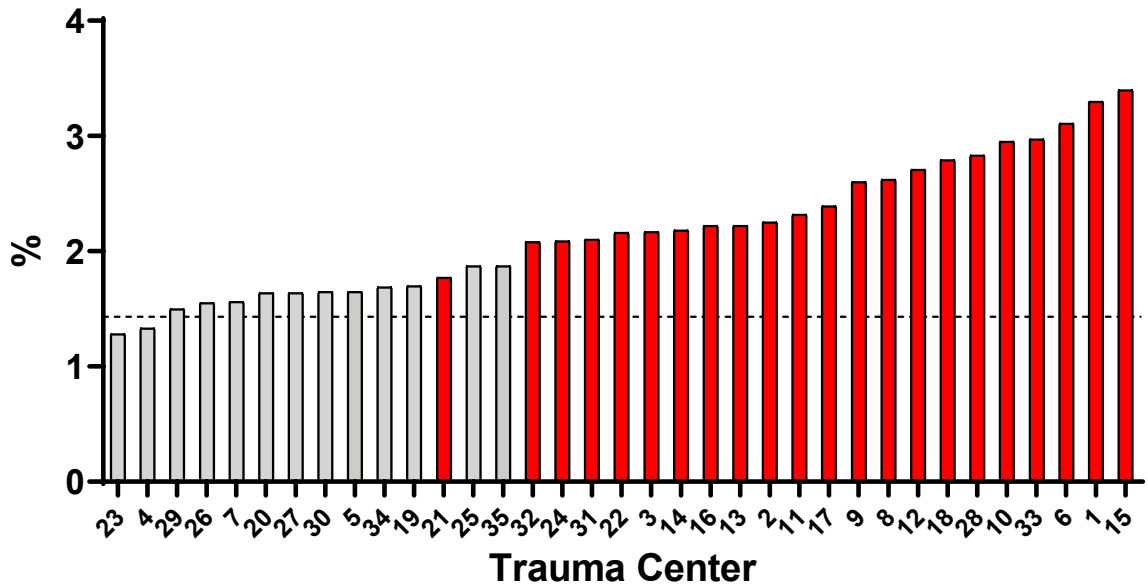
Mortality or Hospice Cohort 7 - National Benchmark



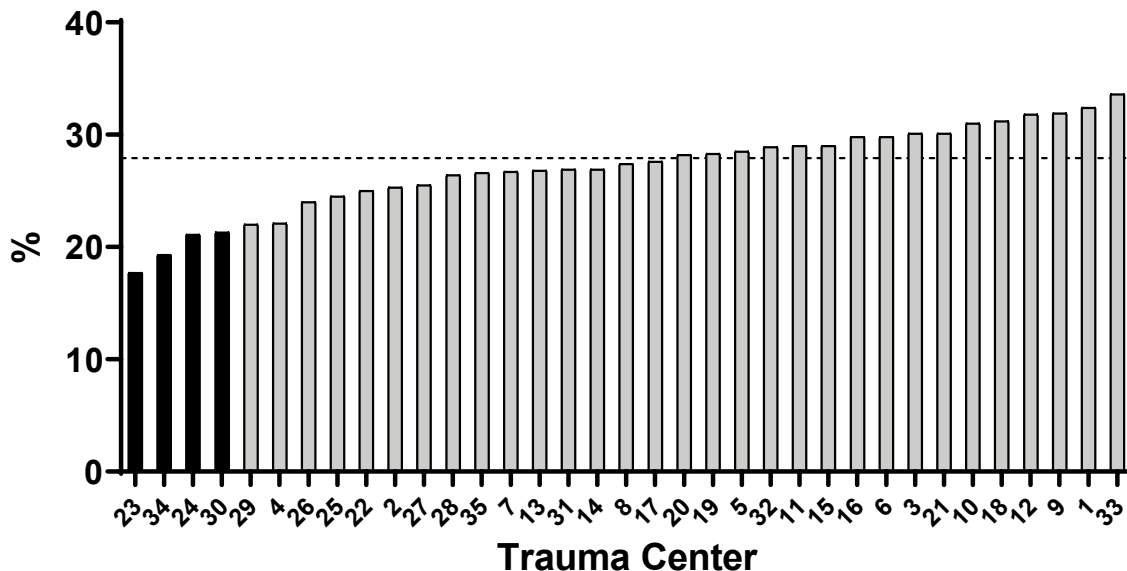
Mortality or Hospice Excluding DOA Cohort 1 - MTQIP All



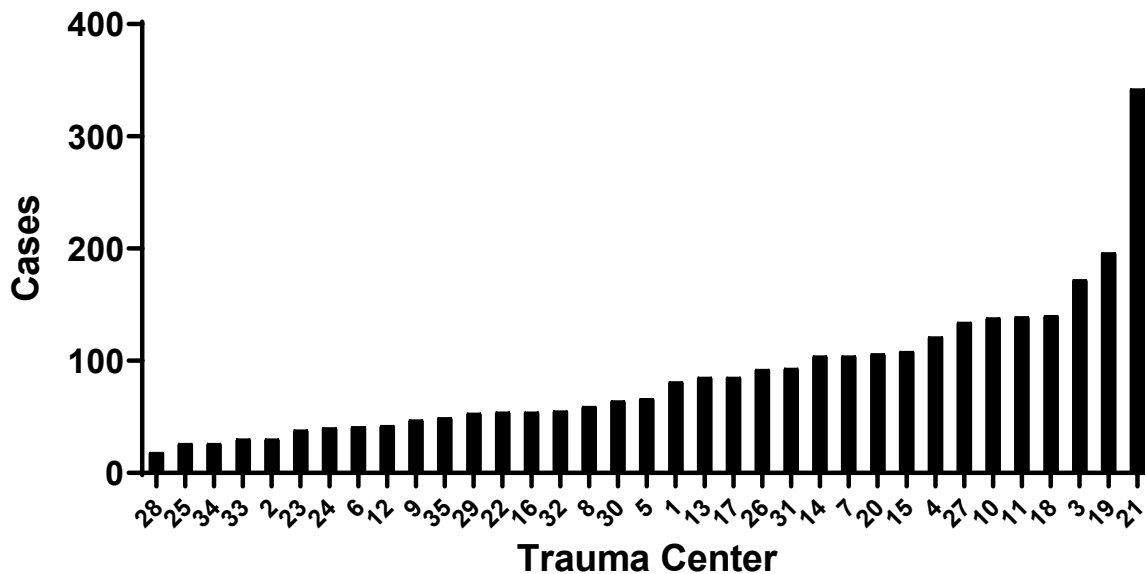
Mortality Excluding Withdrawal of Care and DOA Cohort 1 - MTQIP All



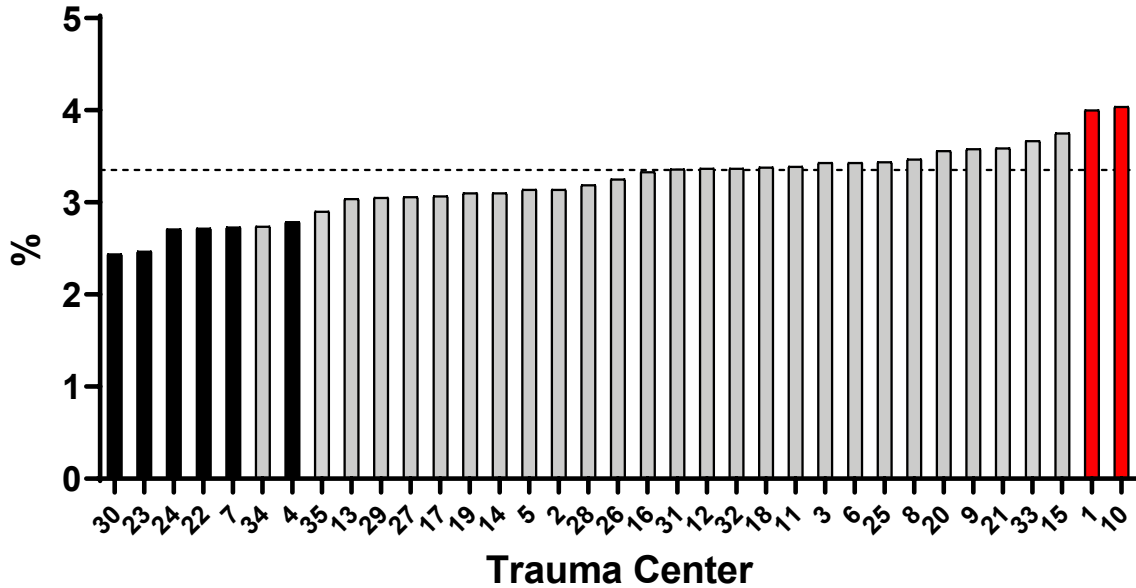
ISS > 25 Mortality Cohort 2 - Admit to Trauma



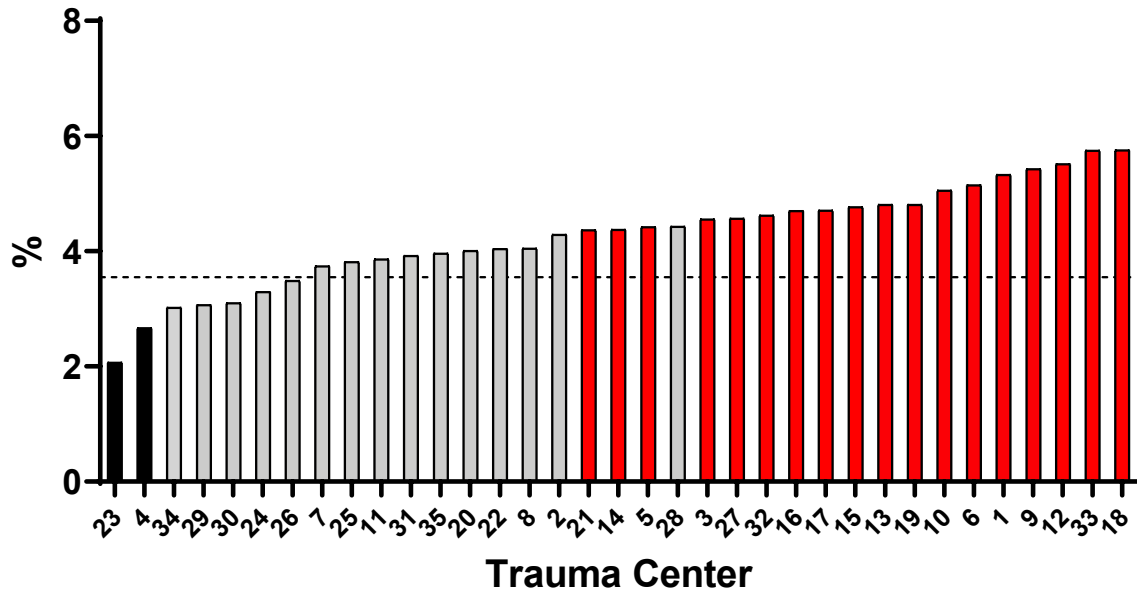
Case Volume ISS > 25 Mortality Cohort 2 - Admit to Trauma



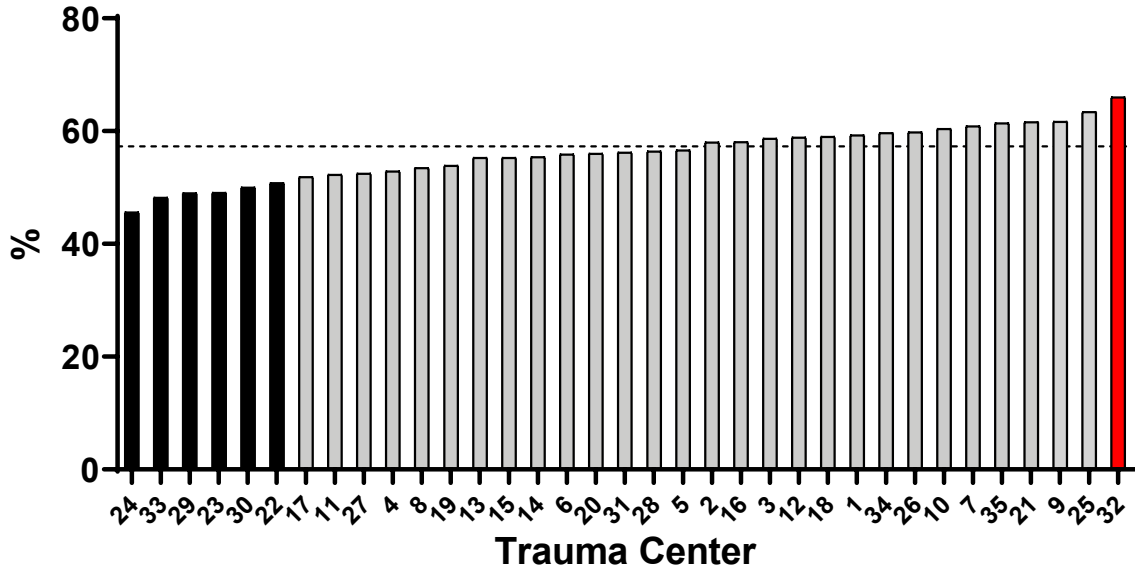
**Mortality - Age < 65 years
Cohort 1 - MTQIP All**



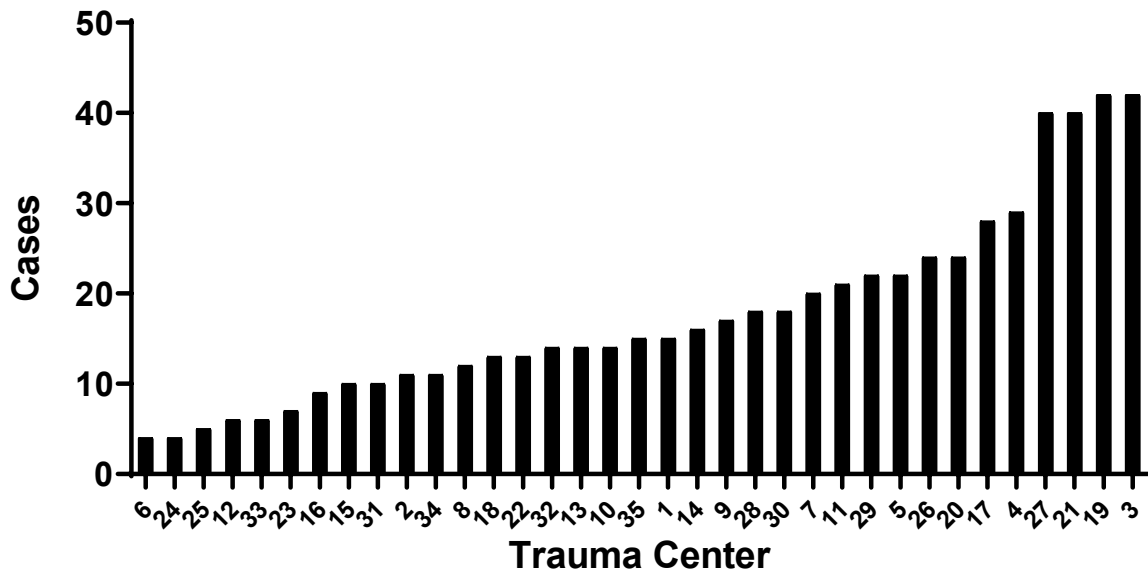
**Mortality - Age ≥ 65 years
Cohort 1 - MTQIP All**



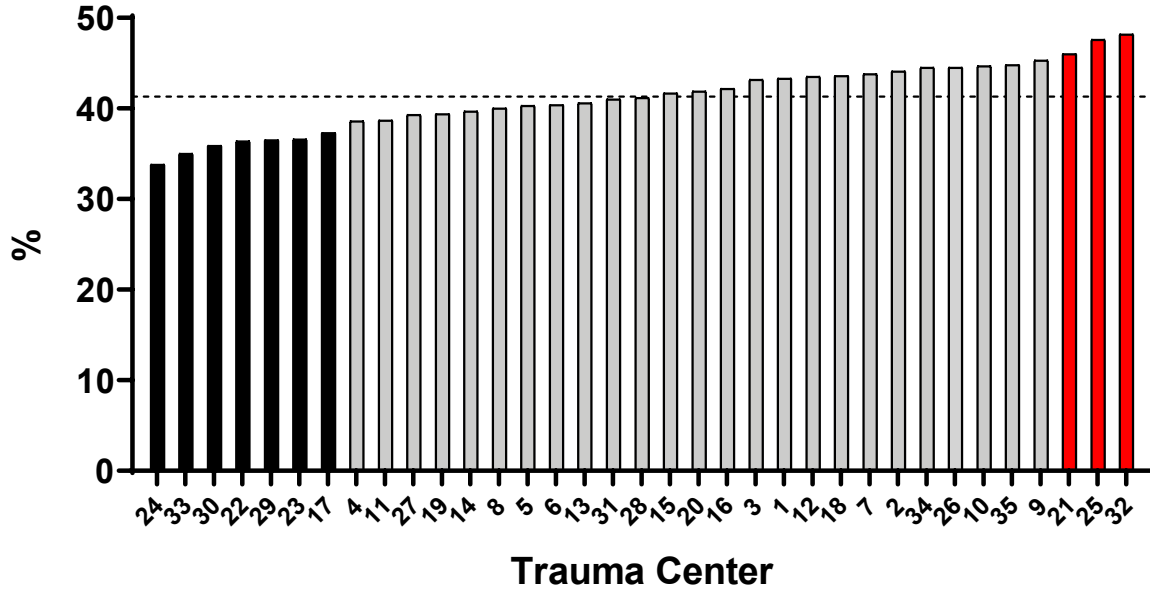
Mortality GCS 3-8, ≥ 65 yo Cohort 1 - MTQIP All



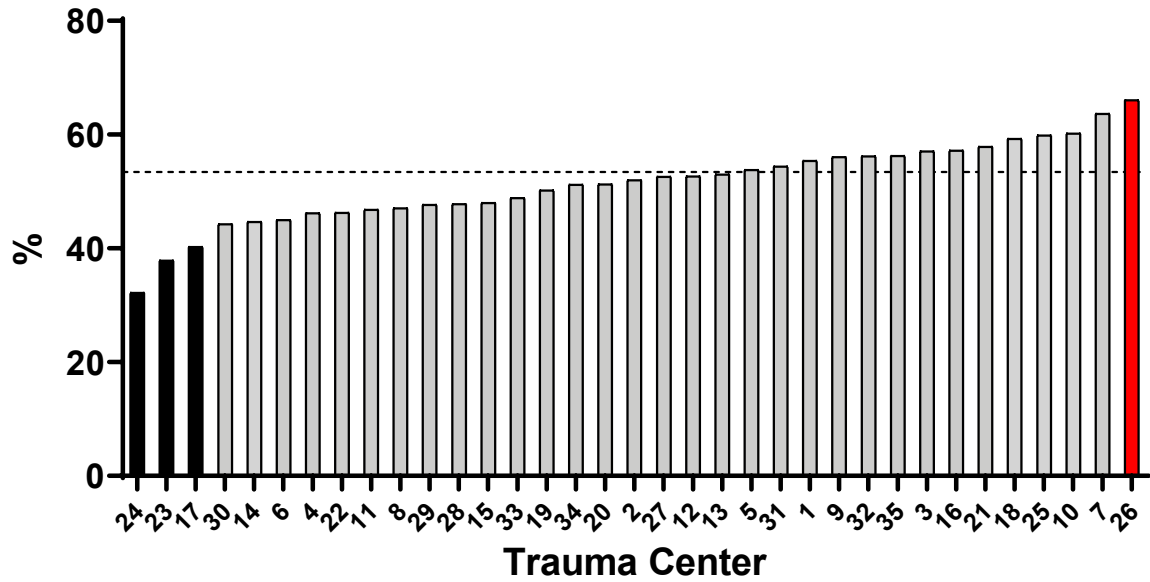
Case Volume GCS 3-8, ≥ 65 yo Cohort 1 - MTQIP All



Mortality GCS 3-8 Cohort 1 - MTQIP All



Adjusted TBI Mortality Cohort 1 - MTQIP All



Appendix

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 \geq 3 limited to only one body region with all other body regions having a maximum AIS \leq 2 in the following body regions: head/neck, face, chest, abdomen, extremities, or external.

Cohort 5 (Penetrating)

- 1) Mechanism = 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 6 (Admit non-trauma Service)

- 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 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 \geq 16
- 2) ISS \geq 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 \geq 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) Injury codes
 - a. AIS code =
 - i. 851810 (femur fracture intertrochanteric)
 - ii. 851812 (femur fracture neck)
 - iii. 851818 (femur fracture subtrochanteric)
 - iv. 853111 (proximal femur fracture NFS)
 - v. 853112 (proximal femur fracture open NFS)

- vi. 853151 (proximal femur fracture trochanteric; intertrochanteric)
 - vii. 853152 (proximal femur fracture trochanteric; intertrochanteric open)
 - viii. 853161 (proximal femur fracture femoral neck)
 - ix. 853162 (proximal femur fracture femoral neck open)
 - x. 853171 (proximal femur fracture femoral neck)
 - xi. 853172 (proximal femur fracture femoral neck open)
- b. ICD-9 code =
- i. 820.22 (closed fracture of subtrochanteric section of neck of femur)
 - ii. 820.32 (open fracture of subtrochanteric section of neck of femur)
- c. ICD-10 code =
- i. S72.21XA (Displaced subtrochanteric fracture of right femur, initial encounter for closed fracture)
 - ii. S72.21XB (Displaced subtrochanteric fracture of right femur, initial encounter for open fracture type I or II)
 - iii. S72.21XC (Displaced subtrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC)
 - iv. S72.22XA (Displaced subtrochanteric fracture of left femur, initial encounter for closed fracture)
 - v. S72.22XB (Displaced subtrochanteric fracture of left femur, initial encounter for open fracture type I or II)
 - vi. S72.22XC (Displaced subtrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC)
 - vii. S72.23XA (Displaced subtrochanteric fracture of unspecified femur, initial encounter for closed fracture)
 - viii. S72.23XB (Displaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II)
 - ix. S72.23XC (Displaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC)
 - x. S72.24XA (Nondisplaced subtrochanteric fracture of right femur, initial encounter for closed fracture)
 - xi. S72.24XB (Nondisplaced subtrochanteric fracture of right femur, initial encounter for open fracture type I or II)
 - xii. S72.24XC (Nondisplaced subtrochanteric fracture of right femur, initial encounter for open fracture type IIIA, IIIB, or IIIC)
 - xiii. S72.25XA (Nondisplaced subtrochanteric fracture of left femur, initial encounter for closed fracture)
 - xiv. S72.25XB (Nondisplaced subtrochanteric fracture of left femur, initial encounter for open fracture type I or II)
 - xv. S72.25XC (Nondisplaced subtrochanteric fracture of left femur, initial encounter for open fracture type IIIA, IIIB, or IIIC)
 - xvi. S72.26XA (Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for closed fracture)
 - xvii. S72.26XB (Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type I or II)

xviii. S72.26XC (Nondisplaced subtrochanteric fracture of unspecified femur, initial encounter for open fracture type IIIA, IIIB, or IIIC)

- 3) All other injuries must be in AIS external body region (i.e., bruise, abrasion or laceration)
- 4) Age \geq 50 unless otherwise specified

Mortality or Hospice

- 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) Outcome is dead or discharge to hospice

ISS > 35 Mortality

- 1) Mechanism = Blunt or penetrating
- 2) Age \geq 18, Age \geq 16 starting 1/1/13
- 3) ISS > 35
- 4) Hospital LOS \geq 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 \geq 18, Age \geq 16 starting 1/1/13 and Age < 65
- 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)

Age \geq 65 Mortality

- 1) Mechanism = Blunt or penetrating
- 2) Age \geq 65
- 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)

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
 - 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 \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
- 7) Exclude patients who did not have a severity grade 2 or 3 complication
- 8) Failure to rescue = n dead with complication / n 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

ICP Monitor and/or Brain Operation

- 1) Cohort 1
- 2) Mechanism = Blunt
- 3) AIS Head \geq 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)
- Mean
- Threshold

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 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

Performance Index

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Filter Index

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