The Michigan Trauma Quality Improvement Program

Kalamazoo, MI
May 1, 2024

Disclosures

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

Disclosures - Mark Hemmila Grants

- Blue Cross Blue Shield of Michigan
  - MTQIP
- Michigan Department of Health and Human Services
  - MTQIP, MOPEN
- Toyota North America, Insurance Institute for Highway Safety
  - VIPA - Vulnerable Road Users Injury Prevention Alliance
- General Motors Corp.
  - ICAM Fellowship
- Henry Jackson Foundation, DOD
  - Combat Wound Infection Study

No Photos Please

Evaluations

- Link will be emailed to you following meeting
- Please answer the evaluation questions
- No CME for this meeting

Data Submission

- Data submitted February 2, 2024
  - This report
- Data submitted April 5, 2024
  - ArborMetrix upload last week
- Next data submission
  - June 7, 2024

Future Meetings

- Data Abstractors
  - Tuesday June 4, 2024
  - Ypsilanti, EMU Marriott
- Fall
  - Tuesday October 8, 2024
  - Ypsilanti, EMU Marriott
- Winter
  - Tuesday February 4, 2025
  - Virtual

Guests

- ACS COT
  - Dr. Jeffrey Kirby MD, Chair
- MEDIC CQI
  - Dr. Michelle Nypaver MD, Program Director
  - Dr. Keith Kocher MD, Program Director
  - Andy Scott, Program Manager
  - Catie Guarnaccia, Samantha Mishra, Aubree Verlinde
- MROCQ CQI
  - Melissa Mietzel, Program Manager
  - Anna Marshall, Nate Piersma

Agenda

- MTQIP Data
- MTQIP and ASPIRE data
- PROM data
- Future Metrics
- ED Pediatric Readiness
  - MEDIC
- Break

Agenda

- Bryant - Orthopaedic Updates
  - Process measure delays
- Alcohol Withdrawal Revisited
  - Corewell Health - GR Butterworth
- Jill - Data Analytics Updates
- Wrap Up

MTQIP Data &
Hospital Scoring Index Results

Mark Hemmila, MD

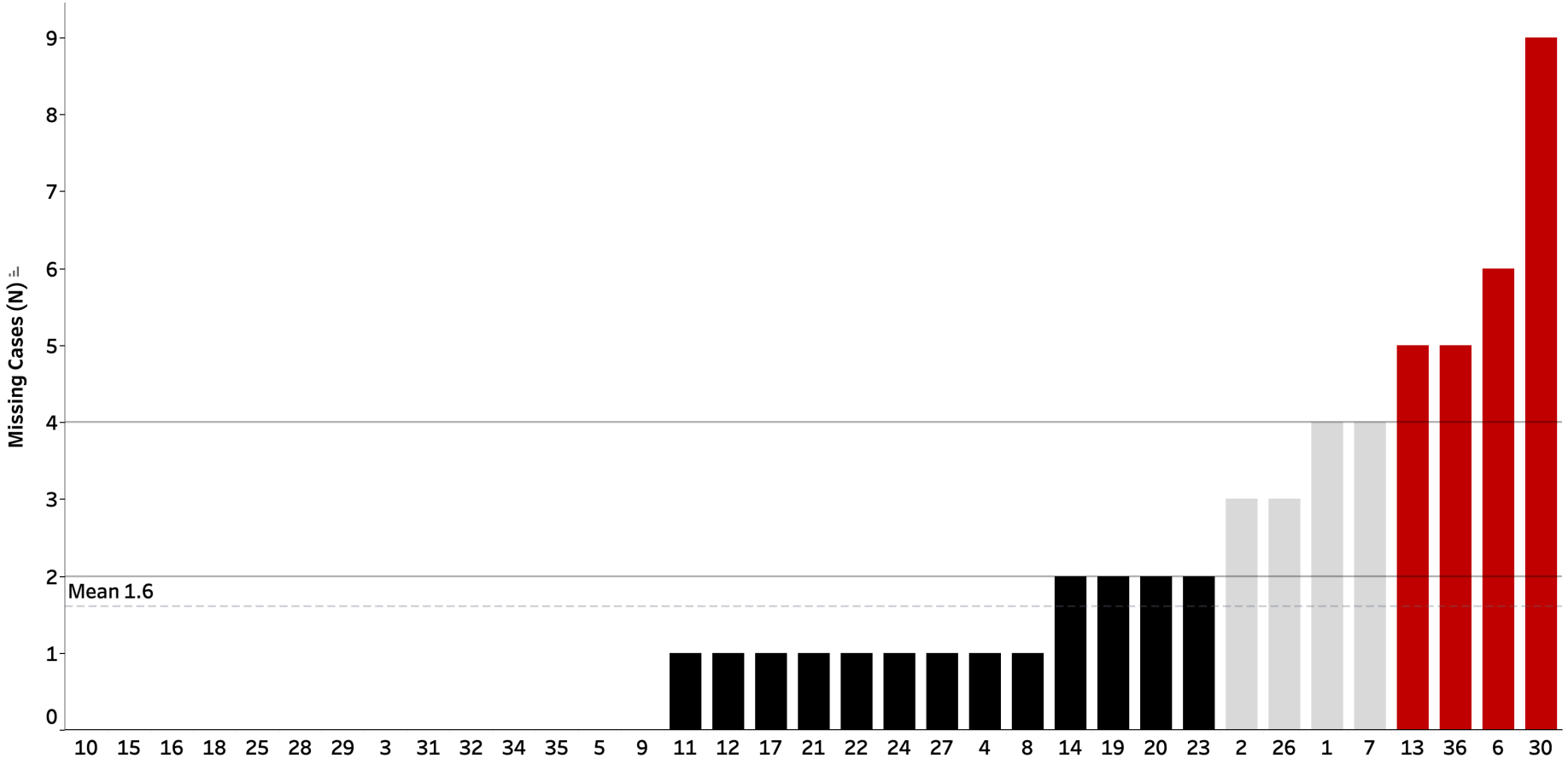
#4 PI Death Determination Documentation

- Completed PI death determination (12 mo: 7/1/23-6/30/24)
- Cohort 2 (Admit trauma)
- Exclude no signs of life
  - 0-2 patients missing = 5 points
  - 3-4 patients missing = 3 points
  - > 4 patients missing = 0 points

Metric 4 | PI Death Determination Documentation

Cohort 2 (Admit to Trauma) | 7/1/23 - 1/31/24

Graph ID 106

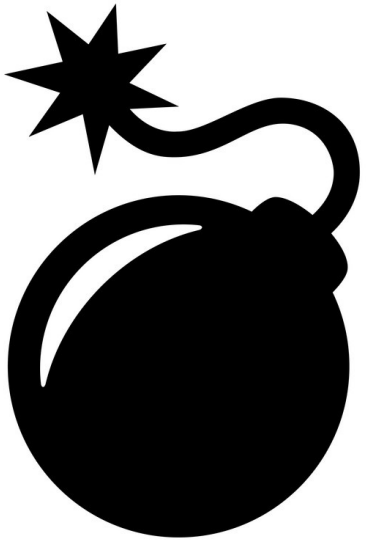


Complications

Complication	With	Without	p-value
Cardiac Arrest	28.5%	20.4%	0.01
DVT	6.3%	1.2%	<0.001
Unplanned ICU Admit	14.6%	6.8%	<0.001
CRBSI	0.8%	0%	0.03
Return to OR	8.8%	3.2%	0.001
Acute Renal Failure	10.5%	2.5%	<0.001
Unplanned Intubation	19.7%	11.1%	0.001
Systemic Sepsis	8.0%	4.2%	0.03
ARDS	8.8%	3.3%	0.001
Stroke/CVA	3.4%	1.2%	0.03
Serious Complication	59%	39%	<0.001

Complications

- Cardiac
  - Arrest
  - Stroke/CVA
- Respiratory/Infection
  - Unplanned intubation
  - ARDS
  - Sepsis
- Acute Renal Failure
- Return to ICU
- Return to OR



Committee to explore how to use and potential additional data - Judy

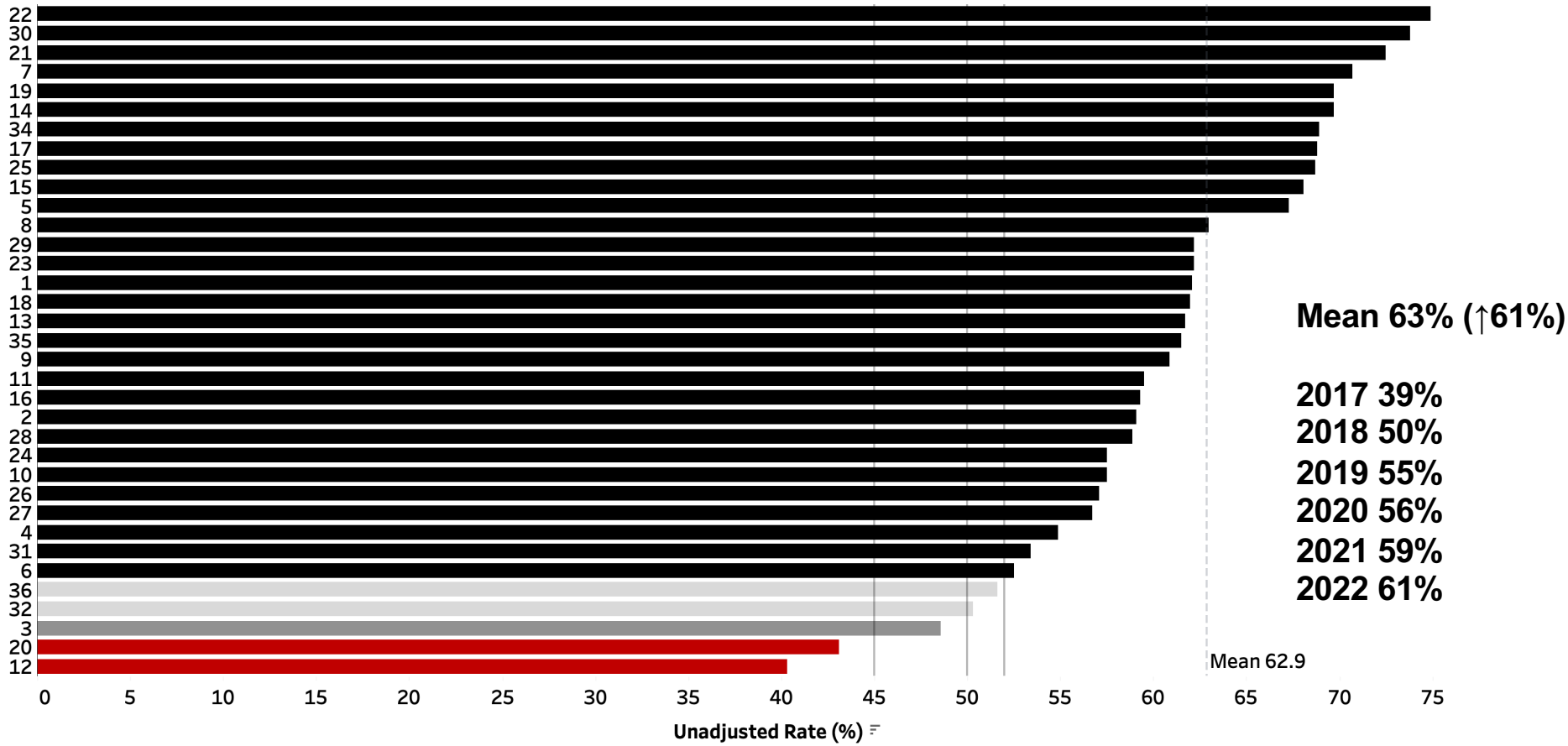
#5A Timely LMWH VTE Prophylaxis in Trauma Service Admits

- Venous Thromboembolism (VTE) Prophylaxis with LMWH Initiated Within 48 Hours of Arrival in Trauma Service Admits with > 2 Day Length of Stay (18 mo: 1/1/23-6/30/24)
  - ≥ 52.5% of patients (≤ 48 hr)
  - ≥ 50% of patients (≤ 48 hr)
  - ≥ 45% of patients (≤ 48 hr)
  - < 45% of patients (≤ 48 hr)

Metric 5 | LMWH VTE Prophylaxis <= 48 Hours

Cohort 2 (Admit to Trauma) | 1/1/23 - 1/31/24

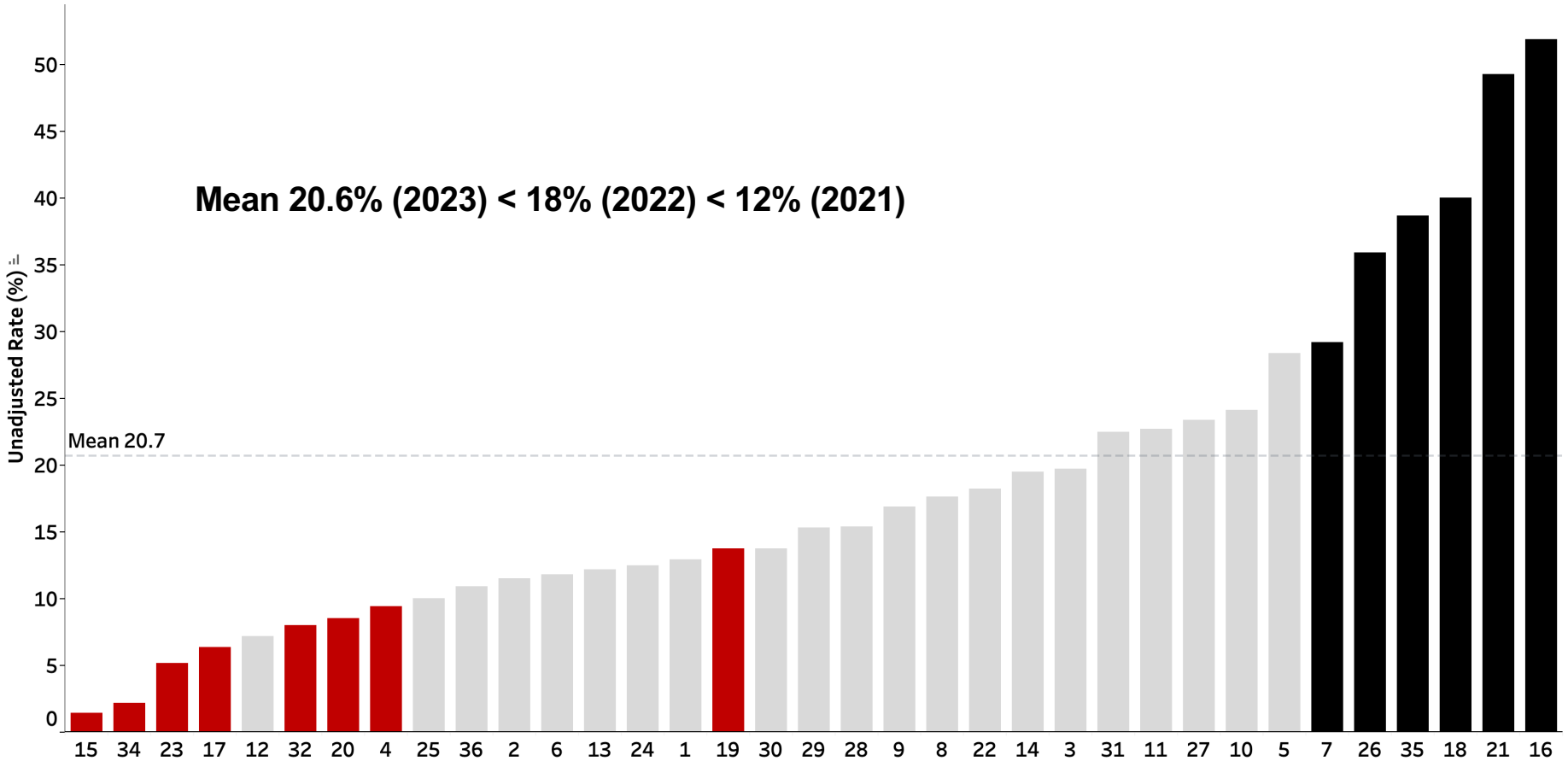
Graph ID 97



LMWH VTE Prophylaxis <= 48 Hours

Cohort 9 (Traumatic Brain Injury) | 1/1/23 - 1/31/24

Graph ID 94



Early VTE prophylaxis in severe traumatic brain injury: A propensity score weighted EAST multicenter study

Asanthi M. Ratnasekera, DO, FACS, Daniel Kim, MD, Sirivan S. Seng, MD, Christina Jacovides, MD, Elinore J. Kaufman, MD, MDHP, Hannah M. Sadek, AGACNP-BC, Lindsey L. Perea, DO, FACS, Christina Monaco, DO, Ilya Shnaydman, MD, FACS, Alexandra Jeongyoon Lee, BS, Victoria Sharp, DO, FACS, FACOS, Angela Miciura, MD, Eric Trevizo, MD, Martin Rosenthal, MD, FACS, Lawrence Lottenberg, MD, William Zhao, MD, Alicia Keininger, MD, Michele Hunt, MSN, John Cull, MD, FACS, Chassidy Balentine, AGNP-BC, MS, TCRN, Tanya Egodage, MD, FACS, Aleem Mohamed, BS* Michelle Kincaid, MD, FACS, Stephanie Doris, DO, Robert Cotterman, DO, Sara Seegert, MSN, RN, Lewis E. Jacobson, MD, FACS, Jamie Williams, MSML, BSN, RN, CCRP, Melissa Whitmill, MD, FACS, Brandi Palmer, MS, Caleb Mentzer, DO, FACS* Nichole Tackett, MS, Tjasa Hranjec, MD, MS-CR, FACS, Thomas Dougherty, MD, Shawna Morrissey, DO, FACS, Lauren Donatelli-Seyler, DO, FACOS, FACS, Amy Rushing, MD, Leah C. Tatebe, MD, FACS, Tiffany J. Nevill, DO, Michel B. Aboutanos, MD, MPH, FACS, David Hamilton, MD, Diane Redmond, MSN, Daniel C. Cullinane, MD, Carolyne Falank, MS, PhD, Mark McMellen, MD, FACS, Christ Duran, RN, MBA, Jennifer Daniels, DO, Shana Ballow, DO, FACS, Kevin Schuster, MD, MPH, FACS, *and* Paula Ferrada, MD, FACS, FCCM, *Newark, Delaware*

BACKGROUND: Patients with traumatic brain injury (TBI) are at high risk of venous thromboembolism events (VTE). We hypothesized that early chemical VTE prophylaxis initiation (≤24 hours of a stable head CT) in severe TBI would reduce VTE without increasing risk of intracranial hemorrhage expansion (ICHE).

METHODS: A retrospective review of adult patients 18 years or older with isolated severe TBI (Abbreviated Injury Scale score, ≥ 3) who were admitted to 24 Level I and Level II trauma centers from January 1, 2014 to December 31 2020 was conducted. Patients were divided into those who did not receive any VTE prophylaxis (NO VTEP), who received VTE prophylaxis ≤24 hours after stable head CT (VTEP ≤24) and who received VTE prophylaxis >24 hours after stable head CT (VTEP>24). Primary outcomes were VTE and ICHE. Covariate balancing propensity score weighting was utilized to balance demographic and clinical characteristics across three groups. Weighted univariate logistic regression models were estimated for VTE and ICHE with patient group as predictor of interest.

RESULTS: Of 3,936 patients, 1,784 met inclusion criteria. Incidences of VTE was significantly higher in the VTEP>24 group, with higher incidences of DVT in the group. Higher incidences of ICHE were observed in the VTEP≤24 and VTEP>24 groups. After propensity score weighting, there was a higher risk of VTE in patients in VTEP >24 compared with those in VTEP≤24 (odds ratio, 1.51; 95% confidence interval, 0.69–3.30; $p = 0.307$), however was not significant. Although, the No VTEP group had decreased odds

- A lot of changes between meeting abstract and paper
- 1,784 patients
- Cut point is 24 hrs after stable head CT
  - No VTEP
  - ≤ 24 hrs VTEP
  - > 24 hrs VTEP
- Results
  - No difference in VTE rate
  - No difference in ICHE
    - Meeting abstract had ↓ rate ICHE in No VTEP cohort

Early venous thromboembolism prophylaxis in patients with trauma intracranial hemorrhage: Analysis of the prospective multicenter Consortium of Leaders in Traumatic Thromboembolism study

Yu-Tung Wu, MD, Chih-Ying Chien, MD, Kazuhide Matsushima, MD, Morgan Schellenberg, MD, MPH, Kenji Inaba, MD, Ernest E. Moore, MD, Angela Sauaia, MD, PhD, M. Margaret Knudson, MD, Matthew J. Martin, MD, *and* the CLOTT Study Group, *Los Angeles, California*

BACKGROUND: The optimal time to initiate venous thromboembolism prophylaxis (VTEp) for patients with intracranial hemorrhage (ICH) is controversial and must balance the risks of VTE with potential progression of ICH. We sought to evaluate the efficacy and safety of early VTEp initiation after traumatic ICH.

METHODS: This is a secondary analysis of the prospective multicenter Consortium of Leaders in the Study of Thromboembolism study. Patients with head Abbreviated Injury Scale score of > 2 and with immediate VTEp held because of ICH were included. Patients were divided into VTEp ≤ or >48 hours and compared. Outcome variables included overall VTE, deep vein thrombosis (DVT), pulmonary embolism, progression of intracranial hemorrhage (pICH), or other bleeding events. Univariate and multivariate logistic regressions were performed.

RESULTS: There were 881 patients in total; 378 (43%) started VTEp ≤48 hours (early). Patients starting VTEp >48 hours (late) had higher VTE (12.4% vs. 7.2%, $p = 0.01$) and DVT (11.0% vs. 6.1%, $p = 0.01$) rates than the early group. The incidence of pulmonary embolism (2.1% vs. 2.2%, $p = 0.94$), pICH (1.9% vs. 1.8%, $p = 0.95$), or any other bleeding event (1.9% vs. 3.0%, $p = 0.28$) was equivalent between early and late VTEp groups. On multivariate logistic regression analysis, VTEp >48 hours (odds ratio [OR], 1.86), ventilator days >3 (OR, 2.00), and risk assessment profile score of ≥5 (OR, 6.70) were independent risk factors for VTE (all $p < 0.05$), while VTEp with enoxaparin was associated with decreased VTE (OR, 0.54, $p < 0.05$). Importantly, VTEp ≤48 hours was not associated with pICH (OR, 0.75) or risk of other bleeding events (OR, 1.28) (both p = NS).

CONCLUSION: Early initiation of VTEp (≤48 hours) for patients with ICH was associated with decreased VTE/DVT rates without increased risk of pICH or other significant bleeding events. Enoxaparin is superior to unfractionated heparin as VTE prophylaxis in patients with severe TBI. (*J Trauma Acute Care Surg.* 2023;95: 649–656. Copyright © 2023 Wolters Kluwer Health, Inc. All rights reserved.)

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Injury

journal homepage: www.elsevier.com/locate/injury

Propensity weighted analysis of chemical venous thromboembolism prophylaxis agents in isolated severe traumatic brain injury: An EAST sponsored multicenter study

Asanthi M. Ratnasekera [a,b,*], Sirivan S. Seng [d], Daniel Kim [d], Wenyan Ji [c], Christina L. Jacovides [e,f], Elinore J. Kaufman [e], Hannah M. Sadek [g], Lindsey L. Perea [h], Christina Monaco Poloni [i], Ilya Shnaydman [j], Alexandra Jeongyoon Lee [k], Victoria Sharp [l], Angela Miciura [l], Eric Trevizo [m], Martin G. Rosenthal [m], Lawrence Lottenberg [n,o], William Zhao [n,o], Alicia Keininger [p], Michele Hunt [p], John Cull [q], Chassidy Balentine [q], Tanya Egodage [r], Aleem T. Mohamed [r], Michelle Kincaid [s], Stephanie Doris [s], Robert Cotterman [t], Sara Seegert [u], Lewis E. Jacobson [v], Jamie Williams [v], Melissa Moncrief [w], Brandi Palmer [w], Caleb Mentzer [x], Nichole Tackett [x], Tjasa Hranjec [y], Thomas Dougherty [y], Shawna Morrissey [z], Lauren Donatelli-Seyler [aa], Amy Rushing [aa], Leah C. Tatebe [ab,ac], Tiffany J. Nevill [ab], Michel B. Aboutanos [g], David Hamilton [ad], Diane Redmond [ad], Daniel C. Cullinane [ae], Carolyne Falank [ae], Mark McMellen [af], Chris Duran [af], Jennifer Daniels [ag], Shana Ballow [ag], Kevin M. Schuster [ah], Paula Ferrada [ai]

A B S T R A C T

Background: In patients with severe traumatic brain injury (TBI), clinicians must balance preventing venous thromboembolism (VTE) with the risk of intracranial hemorrhagic expansion (ICHE). We hypothesized that low molecular weight heparin (LMWH) would not increase risk of ICHE or VTE as compared to unfractionated heparin (UH) in patients with severe TBI.

Methods: Patients ≥ 18 years of age with isolated severe TBI (AIS ≥ 3), admitted to 24 level I and II trauma centers between January 1, 2014 to December 31, 2020 and who received subcutaneous UH and LMWH injections for chemical venous thromboembolism prophylaxis (VTEP) were included. Primary outcomes were VTE and ICHE after VTEP initiation. Secondary outcomes were mortality and neurosurgical interventions. Entropy balancing (EBAL) weighted competing risk or logistic regression models were estimated for all outcomes with chemical VTEP agent as the predictor of interest.

Results: 984 patients received chemical VTEP, 482 UH and 502 LMWH. Patients on LMWH more often had pre-existing conditions such as liver disease (UH vs LMWH 1.7 % vs. 4.4 %, $p = 0.01$), and coagulopathy (UH vs LMWH 0.4 % vs. 4.2 %, $p < 0.001$). There were no differences in VTE or ICHE after VTEP initiation. There were no differences in neurosurgical interventions performed. There were a total of 29 VTE events (3 %) in the cohort who received VTEP. A Cox proportional hazards model with a random effect for facility demonstrated no statistically significant differences in time to VTE across the two agents ($p = 0.44$). The LMWH group had a 43 % lower risk of overall ICHE compared to the UH group (HR = 0.57: 95 % CI = 0.32–1.03, $p = 0.062$), however was not statistically significant.

Conclusion: In this multi-center analysis, patients who received LMWH had a decreased risk of ICHE, with no differences in VTE, ICHE after VTEP initiation and neurosurgical interventions compared to those who received UH. There were no safety concerns when using LMWH compared to UH.

Level of evidence: Level III, Therapeutic Care Management

CONFERENCES AND EVENTS

Clinical Congress 2023

Title: Effect of Timing and Agent for VTE Prophylaxis in Trauma Patients with Severe TBI

Authors: Patrick Johnson, Shukri H.A. Dualeh, Ray Jean, Staci Aubry, John Scott, Mark Hemmila

Introduction: Trauma patients are at increased risk for venous thromboembolism events (VTE). The decision of when to initiate VTE prophylaxis and with what agent remains controversial in patients with severe traumatic brain injury (TBI).

Methods: Data were collected data at 35 Level 1 and 2 trauma centers from 1/2017 to 6/2022. Severe TBI was defined as a Head AIS of 3-5. Exclusion criteria included: penetrating injury, direct admission, death in ED, Hospital LOS<72 hrs, VTE prophylaxis with agent other than Heparin or low molecular weight heparin (LMWH). Patients were placed in the following groups for analysis: None, LMWH≤48hrs, LMWH>48hrs, Heparin≤48hrs, Heparin>48hrs. Multivariable logistic regression accounting for patient factors, injury types/severity, brain injury interventions and timing was used to evaluate risk-adjusted mortality and VTE events.

Results: 12,879 patients were available for analysis. Mean age was 64, 38% were female, and 20% were non-white. 32% had no VTE prophylaxis, 36% LMWH, and 32% Heparin. Overall mortality was 8.3%, None:11.9%, LMWH≤48hr:3.9%, LMWH>48hrs:6.0%, Heparin≤48hrs:7.0%, Heparin>48hrs:8.6%. Patients able to receive LMWH≤48hrs had the lowest risk-adjusted mortality (Table). The lowest rate of VTE was in the None group (0.7%), followed by the LMWH≤48hrs group (1.9%).

Conclusions: Severe TBI patients able to receive early VTE prophylaxis with LMWH had the lowest risk-adjusted rate of mortality. Patients who received no VTE prophylaxis had the lowest rate of VTE events but experienced the highest rate of mortality. The optimal agent for VTE prophylaxis in TBI patients is LMWH and should be initiated ≤48hrs unless there is a contraindication.

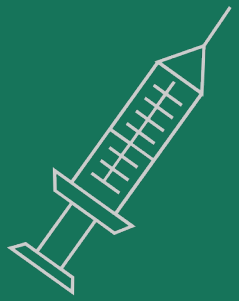
Association of Timing and Agent for VTE Prophylaxis in Patients with Severe Traumatic Brain Injury on VTE, Mortality, Neurosurgical Intervention, and Discharge Disposition

Population & Methods

- Adults ≥ 18 years old
- Severe TBI (AIS Head 3,4,or 5)
- 35 Level 1 & 2 Trauma Centers
- January 2017-June 2022
- Propensity score matching

VTE Prophylaxis

≤ 48 hours
vs > 48 hours



Low Molecular Weight Heparin
vs Heparin vs None

Results

LMWH ≤ 48 hrs
- Lowest mortality (4.1%)
- ⇧ Favorable Discharge (79%)

LMWH vs Heparin (≤ 48 hrs)
- ⇩ VTE rate
- = Mortality, Neurosurgical OR

≤ 48 vs > 48 hrs (LMWH)
- ⇩ VTE rate
- = Mortality
- ⇧ Neurosurgical Intervention

@JTraumAcuteSurg

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The Journal of Trauma and Acute Care Surgery®

CNTR and Trauma Societies > Weight Based LMWH

International Consensus Meeting VTE-Trauma

Orthopaedics representation

LMWH

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Recommendations from the ICM-VTE: Trauma

The ICM-VTE Trauma Delegates*

1 - What is the most optimal VTE prophylaxis in patients with multiple orthopaedic injuries?

Response/Recommendation: Although multiple forms of prophylaxis against venous thromboembolism (VTE) with variable effectiveness are available for patients with multiple orthopedic injuries, low-molecular-weight heparin (LMWH) is considered the most optimal choice based on available literature.

Strength of Recommendation: Acceptable.

Delegates vote: Agree 86.36% Disagree 9.09% Abstain 4.55% (Strong Consensus).

and safe method in preventing DVT in high-risk trauma patients[15]. Geerts et al., also concluded in a randomized double blinded study that LMWH was more effective than LDH in preventing VTE after major trauma[16]. Aggarwal et al., concluded in their guidelines for prevention of VTE in hospitalized patients with pelvis and acetabular fractures that LMWH is the preferred agent of choice[8].

In the updated Western Trauma Association (WTA) guidelines to reduce VTE in trauma patients[1], LMWH was the recommended agent of choice for most trauma patients with a standard dose of 40 mg subcutaneously twice daily. However, in some cases

#5B Weight Based LMWH Protocol in Use

- Weight-Based LWMH Protocol in Use Points are awarded based on the submission of the following:
  - Screenshot of the center's protocol with the weight-based criteria visible in the image AND
  - Screenshots of 5 patients using the protocol with the date and dosage visible in the image.
  - Submit screenshots to the MTQIP submission portal.
  - Default Period: Submit by 12/6/24.

How is this going?

Protocol
Patients

"Not so fast, my friend"

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JANUARY 19, 2023 VOL. 388 NO. 3

Aspirin or Low-Molecular-Weight Heparin for Thromboprophylaxis after a Fracture

Major Extremity Trauma Research Consortium (METRC)*

ABSTRACT

BACKGROUND

Clinical guidelines recommend low-molecular-weight heparin for thromboprophylaxis in patients with fractures, but trials of its effectiveness as compared with aspirin are lacking.

METHODS

In this pragmatic, multicenter, randomized, noninferiority trial, we enrolled patients 18 years of age or older who had a fracture of an extremity (anywhere from hip to midfoot or shoulder to wrist) that had been treated operatively or who had any pelvic or acetabular fracture. Patients were randomly assigned to receive low-molecular-weight heparin (enoxaparin) at a dose of 30 mg twice daily or aspirin at a dose of 81 mg twice daily while they were in the hospital. After hospital discharge, the patients continued to receive thromboprophylaxis according to the clinical protocols of each hospital. The primary outcome was death from any cause at 90 days. Secondary outcomes were nonfatal pulmonary embolism, deep-vein thrombosis, and bleeding complications.

The members of the writing committee (Robert V. O'Toole, M.D., Deborah M. Stein, M.D., M.P.H., Nathan N. O'Hara, Ph.D., Katherine P. Frey, Ph.D., R.N., Tara J. Taylor, M.P.H., Daniel O. Scharfstein, Sc.D., Anthony R. Carlini, M.S., Kuladeep Sudini, Ph.D., Yasmin Degani, M.P.H., Gerard P. Slobogean, M.D., M.P.H., Elliott R. Haut, M.D., Ph.D., William Obremskey, M.D., M.P.H., Reza Firoozabadi, M.D., Michael J. Bosse, M.D., Samuel Z. Goldhaber, M.D., Debra Marvel, M.A., and Renan C. Castillo, Ph.D.) assume responsibility for the overall content and integrity of this article.

The affiliations of the members of the writing committee are listed in the Appendix. Dr. O'Toole can be contacted at rotoole@som.umaryland.edu or at the

Year	Trauma	Other	Patients
2021	0 (0%)	8 (100%)	8
2022	55 (12%)	395 (88%)	450
2023	71 (10%)	622 (90%)	693

1.2% of all Patients

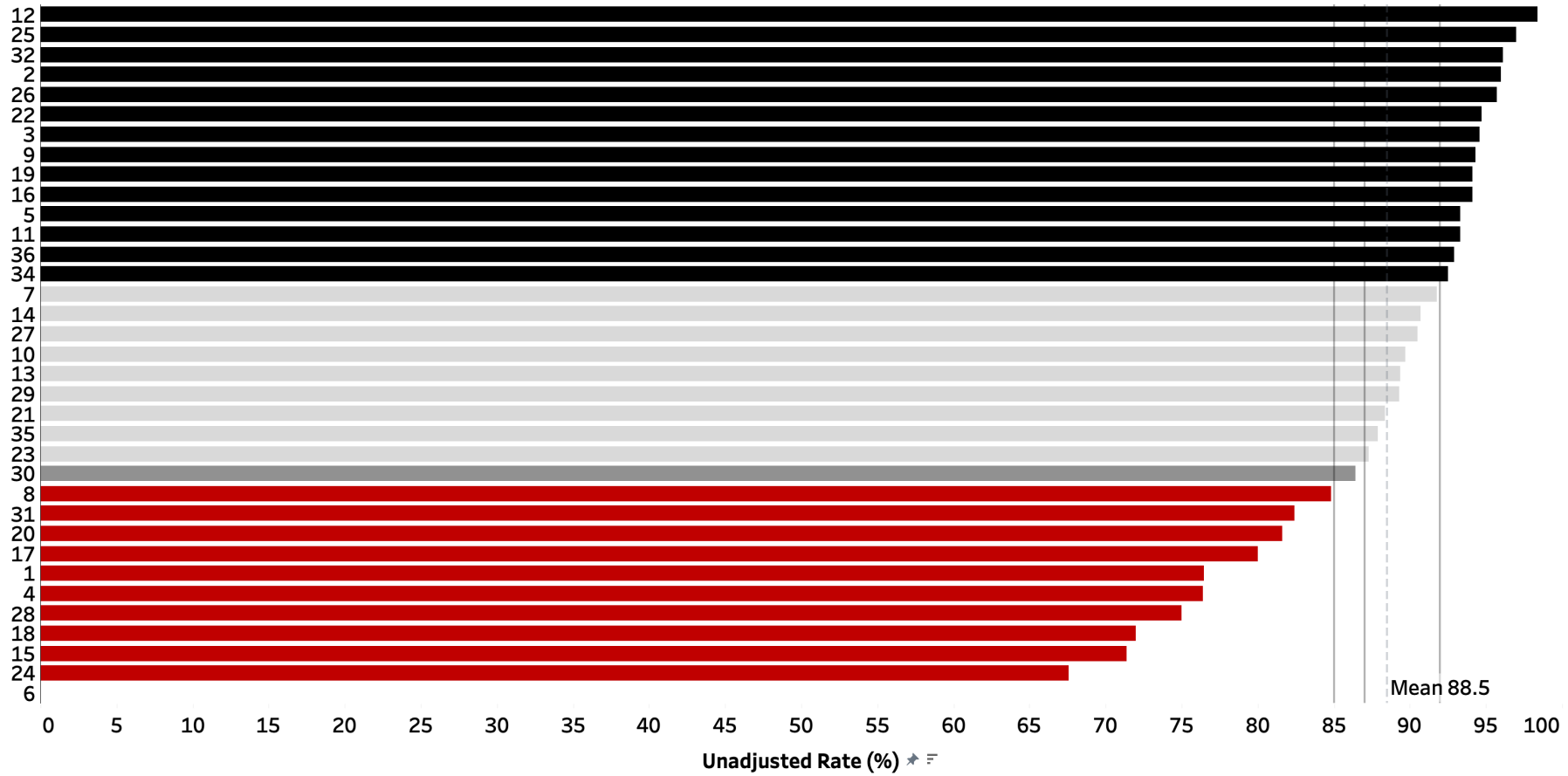
#6 Timely Surgical Repair in Geriatric (Age ≥ 65) Isolated Hip Fracture

- Time to surgical repair of isolated hip fracture in patients age 65 or older (12 mo: 7/1/23-6/30/24)
  - ≥ 92% of patients (≤ 42 hr)
  - ≥ 87% of patients (≤ 42 hr)
  - ≥ 85% of patients (≤ 42 hr)
  - < 85% of patients (≤ 42 hr)

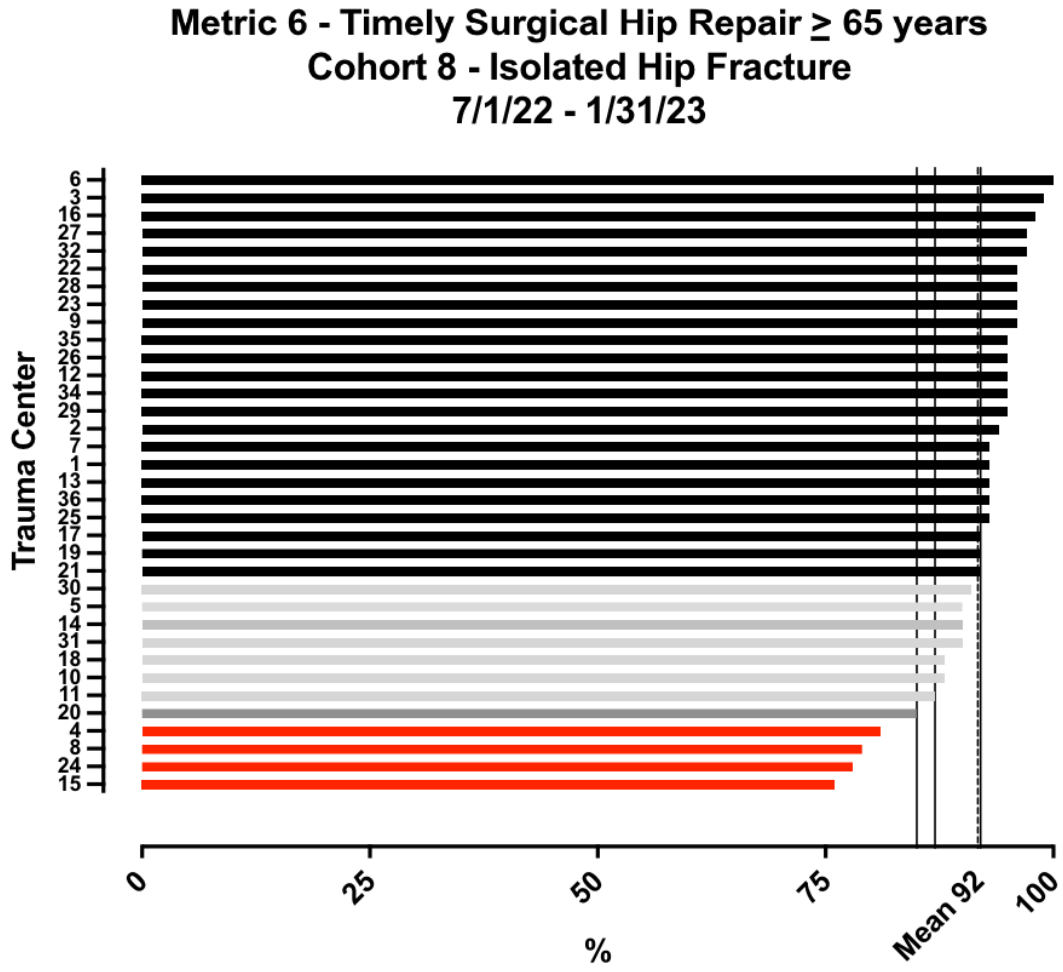
Metric 6 | Timely Surgical IHF Repair

Cohort 8 (Isolated Hip Fracture) | 7/1/23 - 1/31/24

Graph ID 99



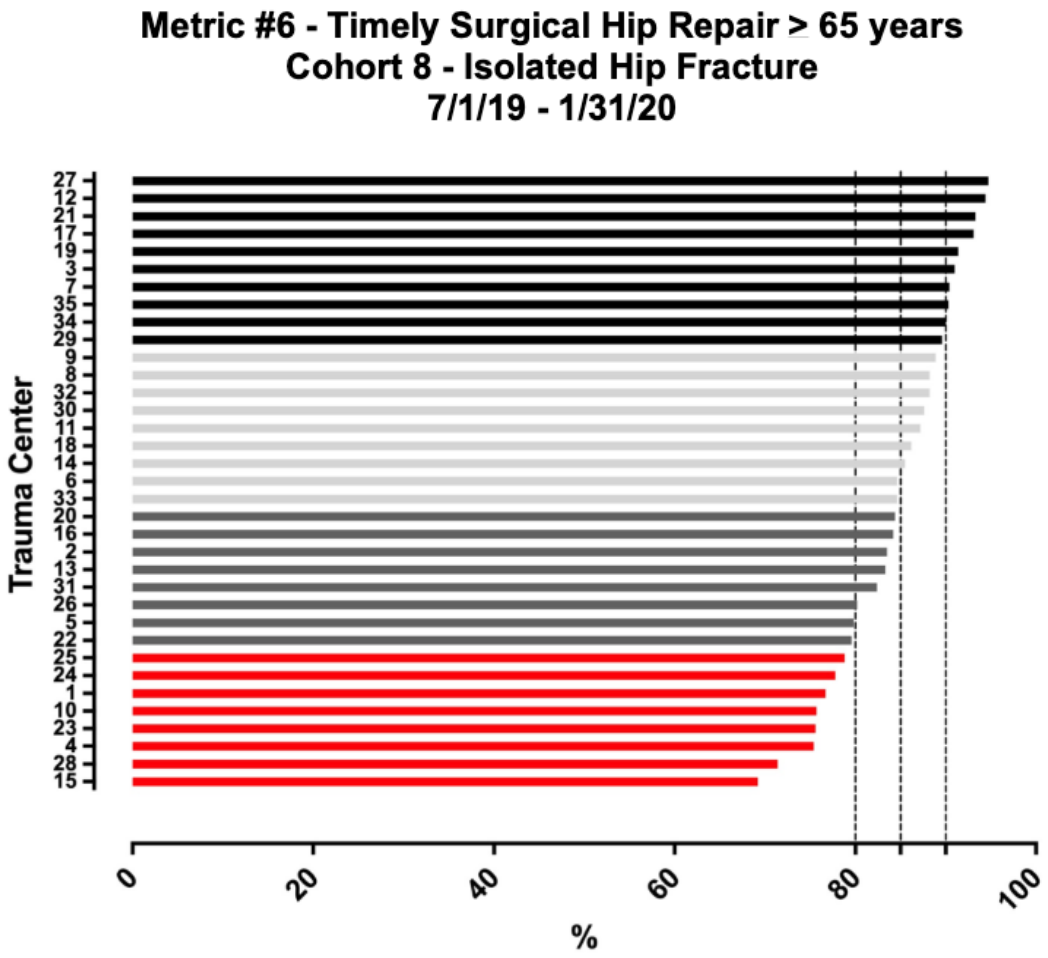
Last Year



Mean 92%

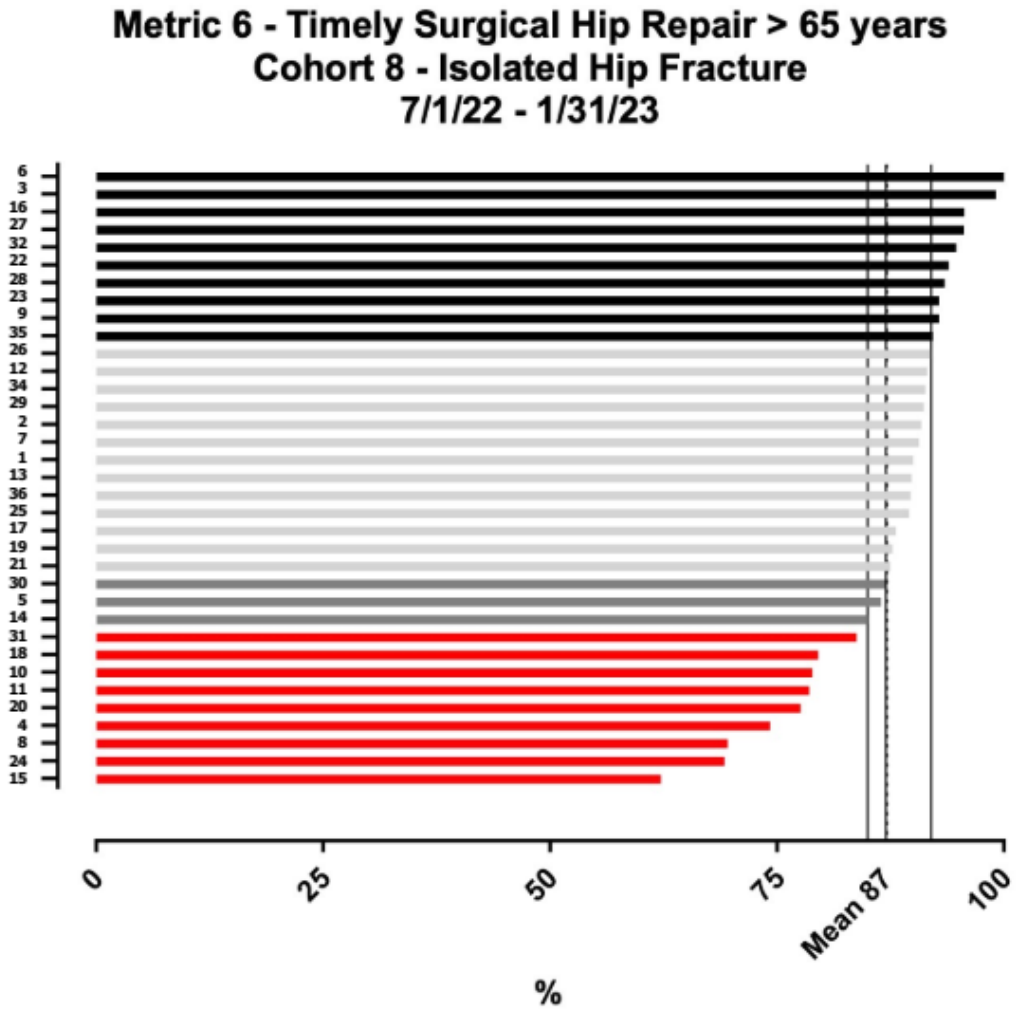
Non-op excluded

3 Years Ago



ean 85.3%

42 hours

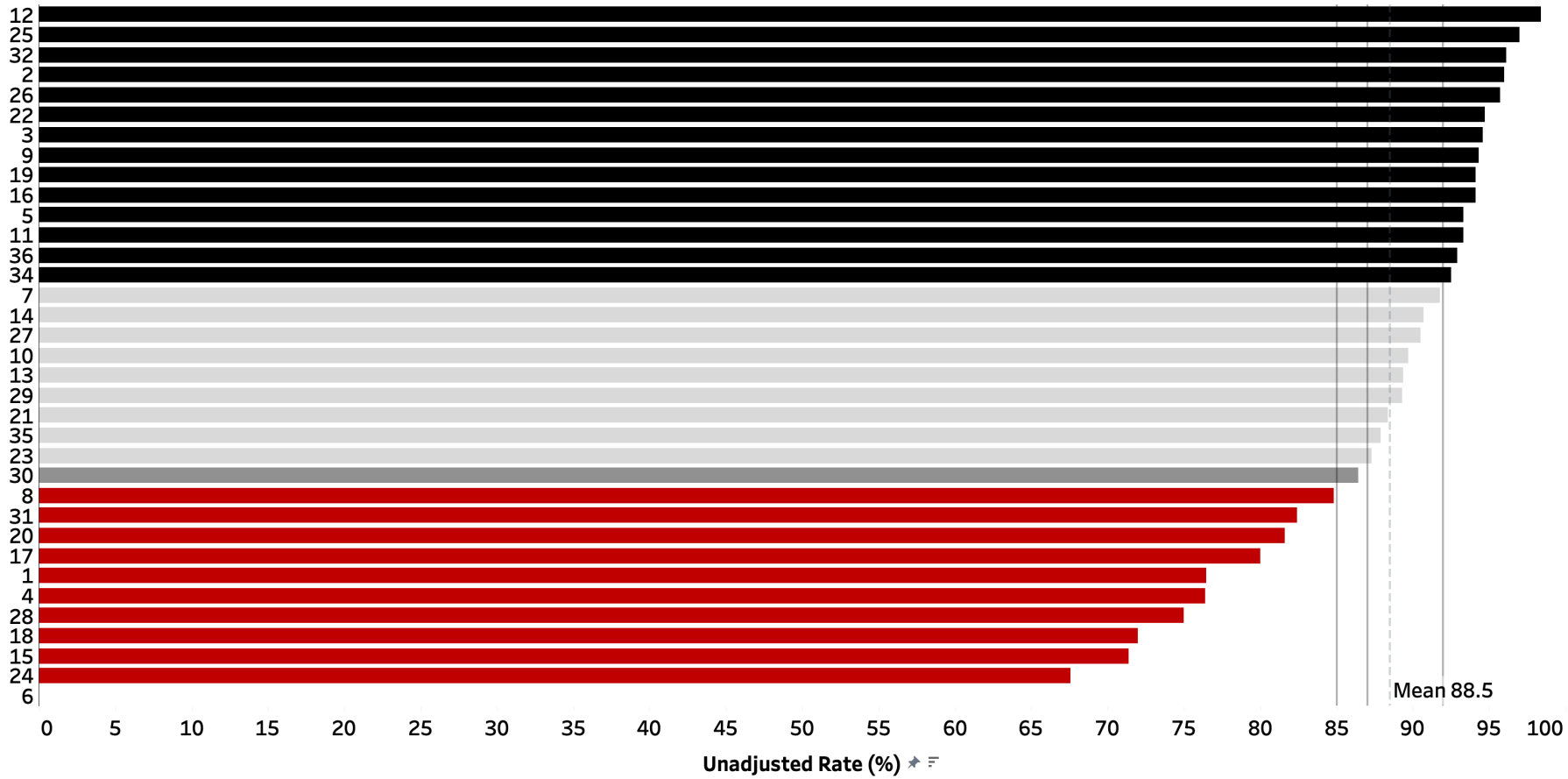

Metric 6 - Timely Surgical Hip Repair > 65 years
Cohort 8 - Isolated Hip Fracture
7/1/22 - 1/31/23
6
3
16
27
32
22
28
23
9
35
26
12
34
29
2
7
1
13
36
25
17
19
21
30
5
14
31
18
10
11
20
4
8
24
15
0
25
50
75
Mean 87
100
%

42 hours

Metric 6 | Timely Surgical IHF Repair

Cohort 8 (Isolated Hip Fracture) | 7/1/23 - 1/31/24

Graph ID 99



JAMA | Original Investigation

Association Between Wait Time and 30-Day Mortality in Adults Undergoing Hip Fracture Surgery

Daniel Pincus, MD; Bheeshma Ravi, MD, PhD; David Wasserstein, MD, MSc; Anjie Huang, MSc; J. Michael Paterson, MSc; Avery B. Nathens, MD, MPH, PhD; Hans J. Kreder, MD, MPH; Richard J. Jenkinson, MD, MSc; Walter P. Wodchis, PhD

IMPORTANCE Although wait times for hip fracture surgery have been linked to mortality and are being used as quality-of-care indicators worldwide, controversy exists about the duration of the wait that leads to complications.

OBJECTIVE To use population-based wait-time data to identify the optimal time window in which to conduct hip fracture surgery before the risk of complications increases.

DESIGN, SETTING, AND PARTICIPANTS Population-based, retrospective cohort study of adults undergoing hip fracture surgery between April 1, 2009, and March 31, 2014, at 72 hospitals in Ontario, Canada. Risk-adjusted restricted cubic splines modeled the probability of each complication according to wait-time. The inflection point (in hours) when complications began to increase was used to define early and delayed surgery. To evaluate the robustness of this definition, outcomes among propensity-score matched early and delayed surgical patients were compared using percent absolute risk differences (RDs, with 95% CIs).

EXPOSURE Time elapsed from hospital arrival to surgery (in hours).

MAIN OUTCOMES AND MEASURES Mortality within 30 days. Secondary outcomes included a composite of mortality or other medical complications (myocardial infarction, deep vein thrombosis, pulmonary embolism, and pneumonia).

RESULTS Among 42 230 patients with hip fracture (mean [SD] age, 80.1 years [10.7], 70.5% women) who met study entry criteria, overall mortality at 30 days was 7.0%. The risk of complications increased when wait times were greater than 24 hours, irrespective of the complication considered. Compared with 13 731 propensity-score matched patients who received surgery earlier, 13 731 patients who received surgery after 24 hours had a significantly higher risk of 30-day mortality (898 [6.5%] vs 790 [5.8%]; % absolute RD, 0.79; 95% CI, 0.23-1.35) and the composite outcome (1680 [12.2%]) vs 1383 [10.1%]; % absolute RD, 2.16; 95% CI, 1.43-2.89).

CONCLUSIONS AND RELEVANCE Among adults undergoing hip fracture surgery, increased wait time was associated with a greater risk of 30-day mortality and other complications. A wait time of 24 hours may represent a threshold defining higher risk.

Editorial pa
Supplemen

Author Affiliatio
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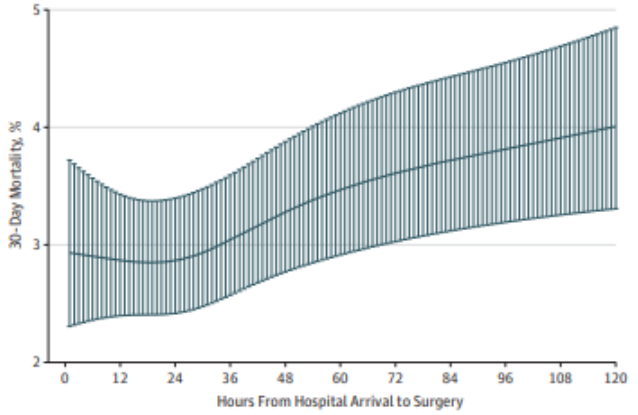
Toronto, Ontario,
Ravi, Wasserstein
Jenkinson); Instit
Evaluative Scienc
Canada (Pincus, F

Figure 1. Probability of the Primary Outcome According to Wait Times for Surgery as a Continuous Variable



What does MTQIP data show?

More in a minute.

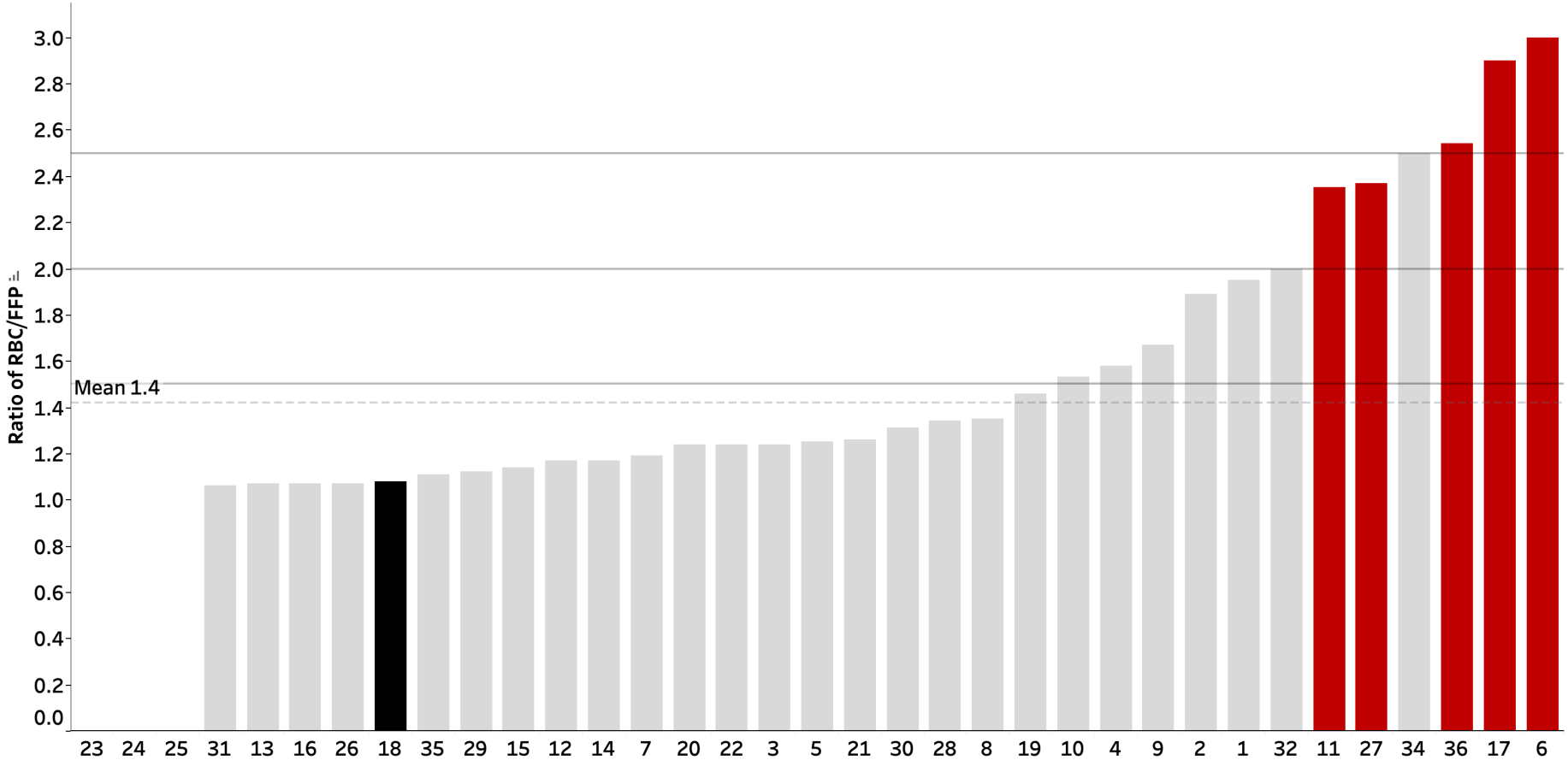
#7 Red Blood Cell to Plasma Ratio

- Red blood cell to plasma ratio (weighted mean points) of patients transfused ≥5 units in first 4 hours (18 Mo's: 1/1/23-6/30/24)

Metric 7 | RBC/FFP Mean Ratio in Massive Transfusion

Cohort 1 (MTQIP All) | 1/1/23 - 1/31/24

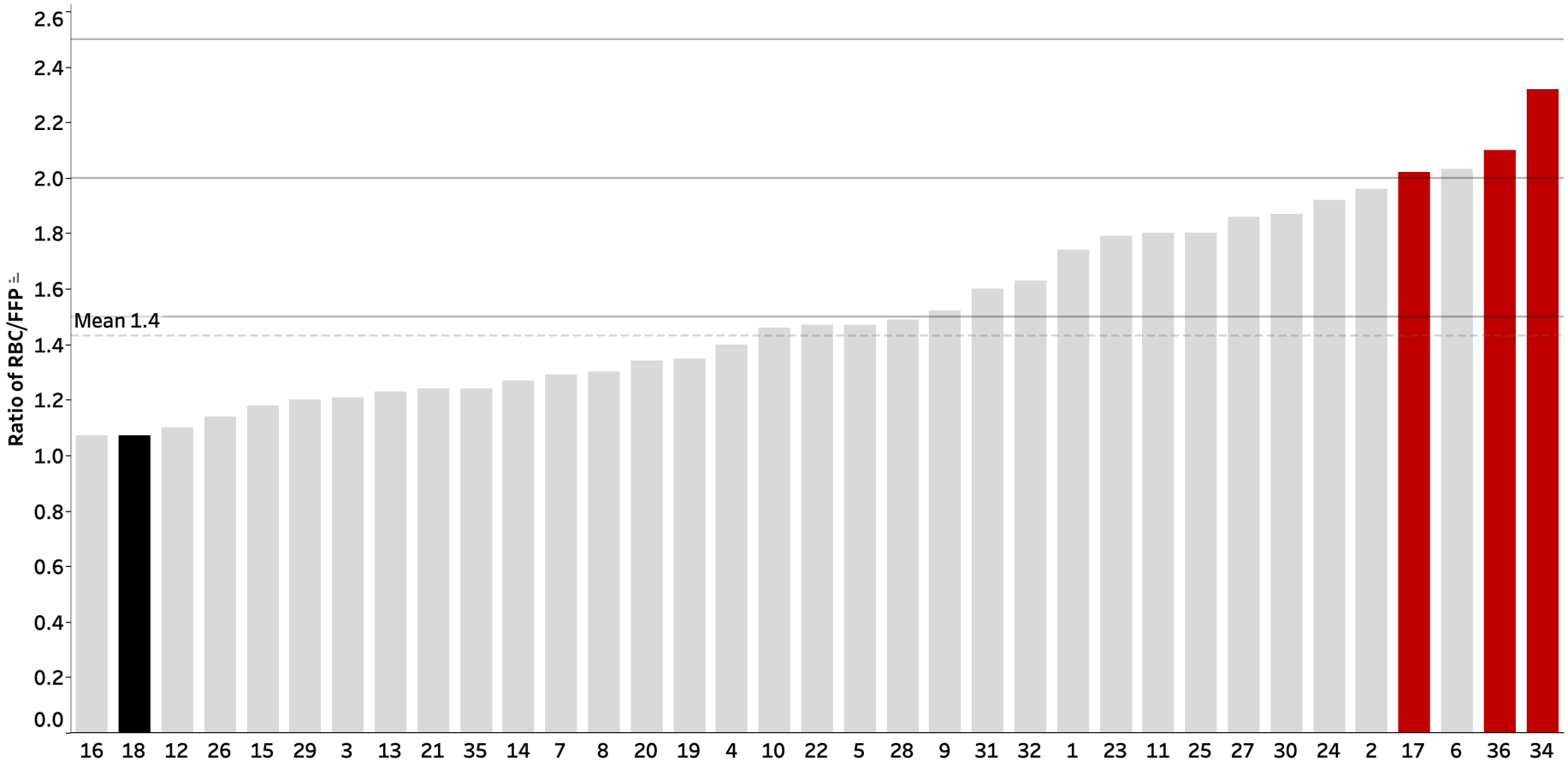
Graph ID 38



RBC/FFP Mean Ratio in Massive Transfusion

Cohort 1 (MTQIP All) | 11/1/21 - 1/31/24

Graph ID 70



Good meeting with MTQIP and blood bank group in February.

Committee to explore hemorrhage control metric – Judy

Expand on PRBC to FFP ratio

- **Time to OR**
- **Time to IR**

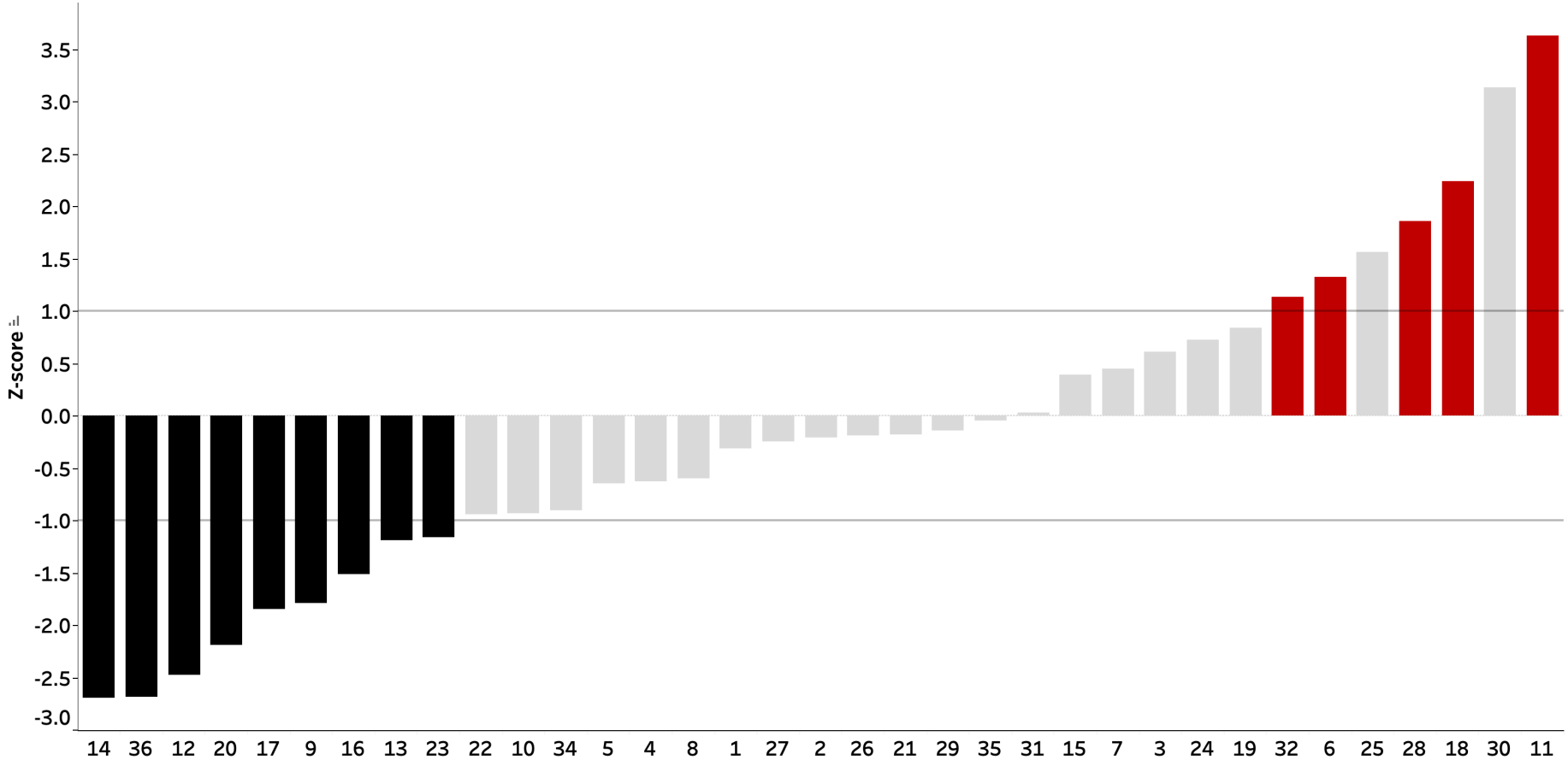
Z-score

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

Metric 8 | Z-score Serious Complication Rate

Cohort 2 (Admit to Trauma) | 7/1/21 - 1/31/24

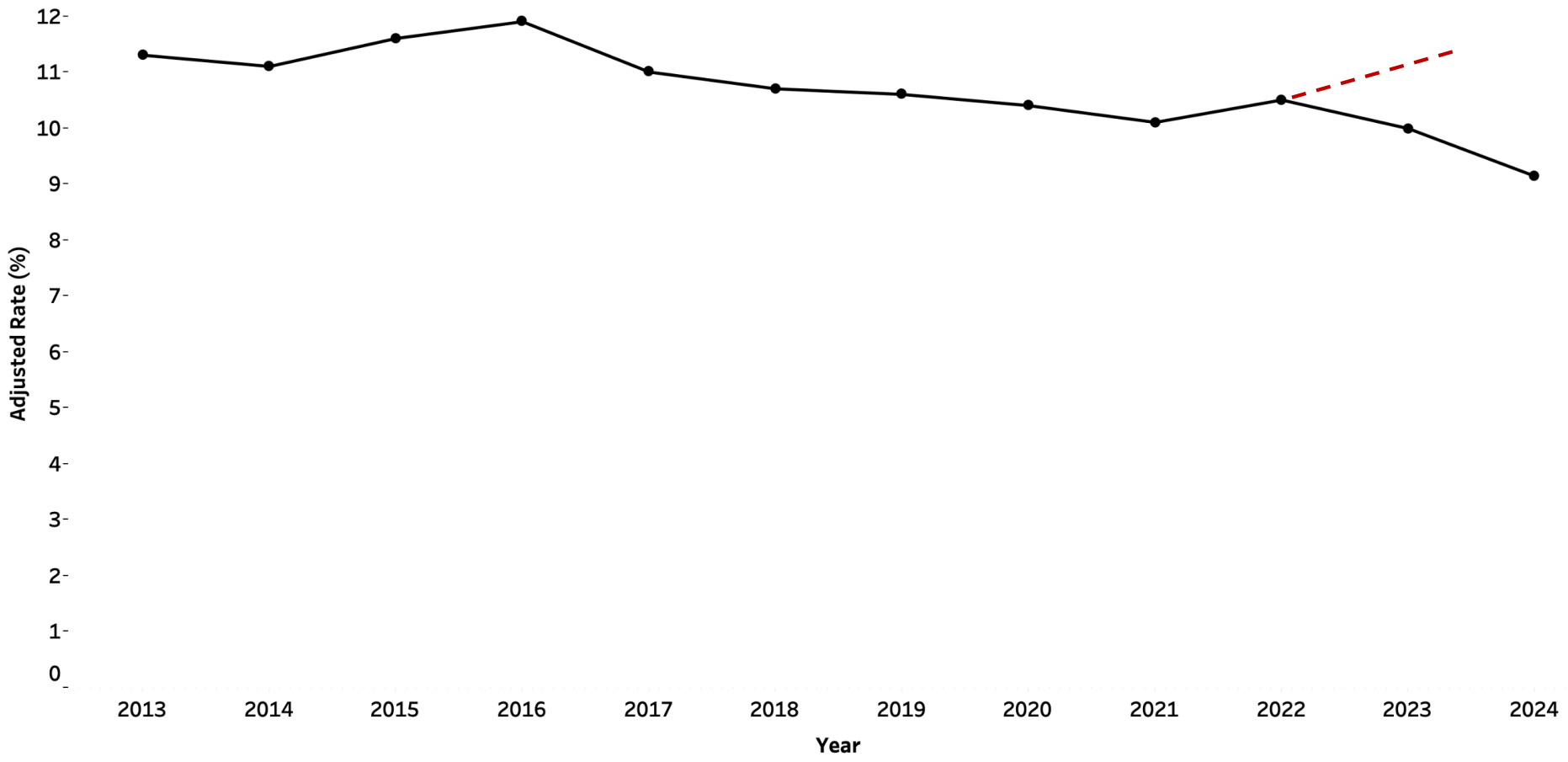
Graph ID: 72



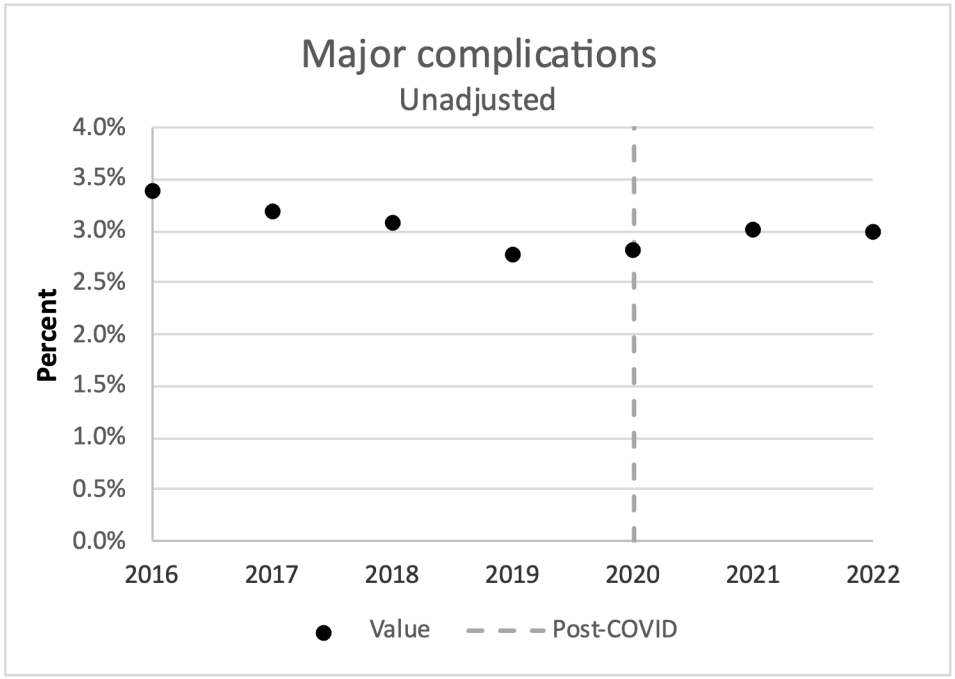
Collaborative Serious Complication Trend

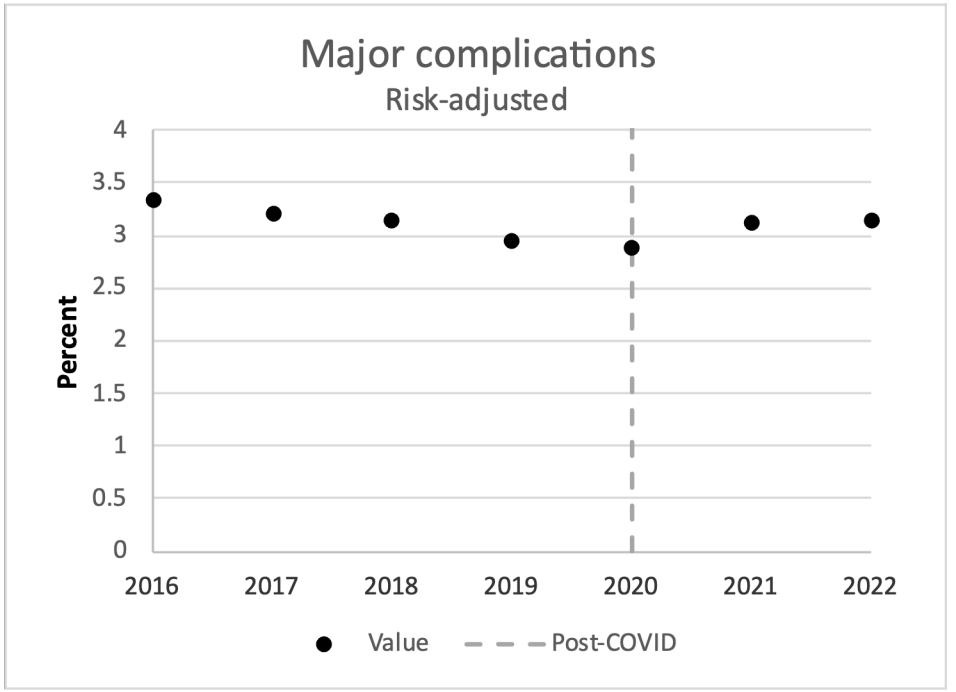
Cohort 2 (Admit to Trauma)

Graph ID 28



ACS TQIP Data

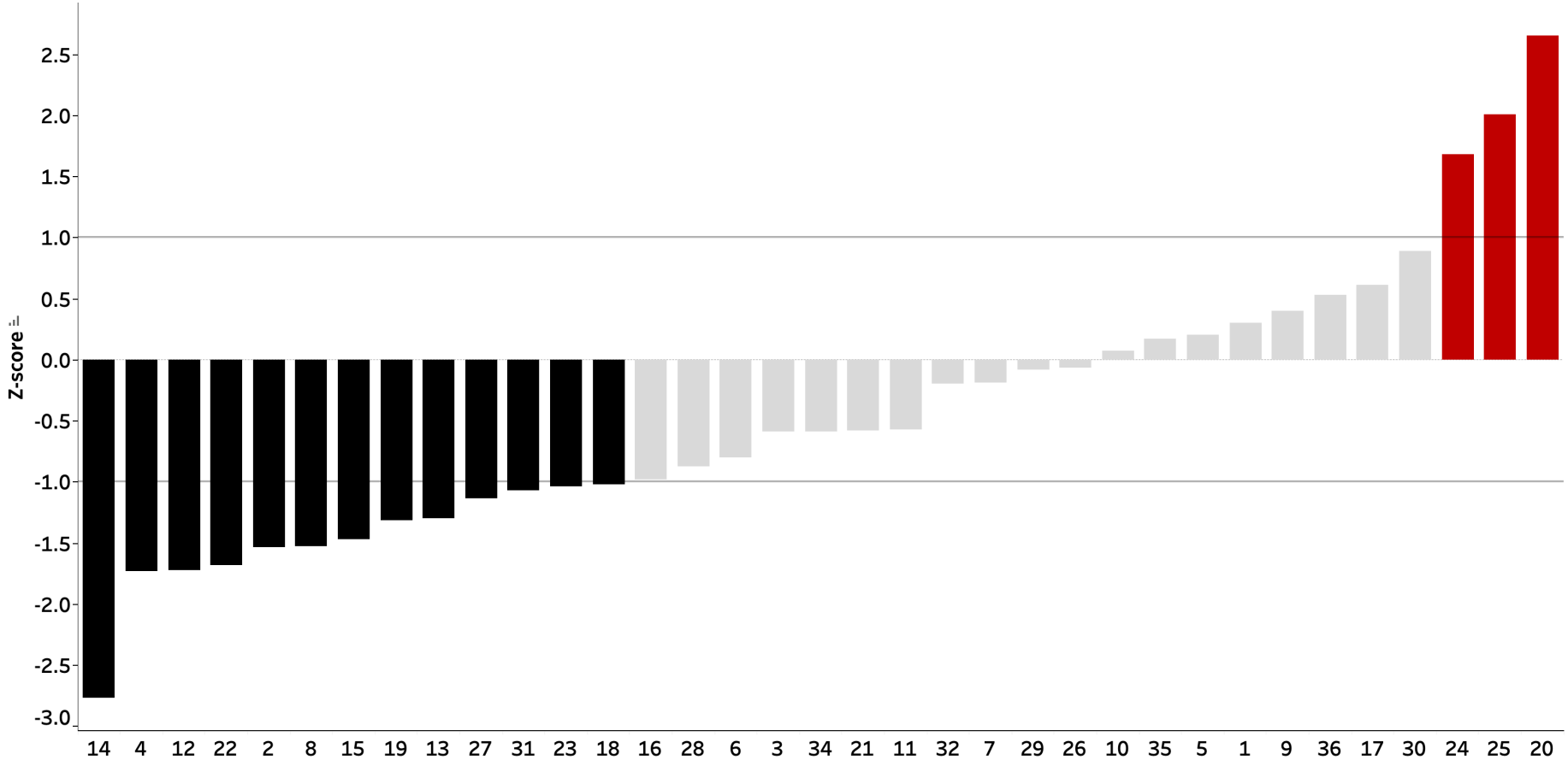




Metric 9 | Z-score Mortality Rate

Cohort 2 (Admit to Trauma) | 7/1/21 - 1/31/24

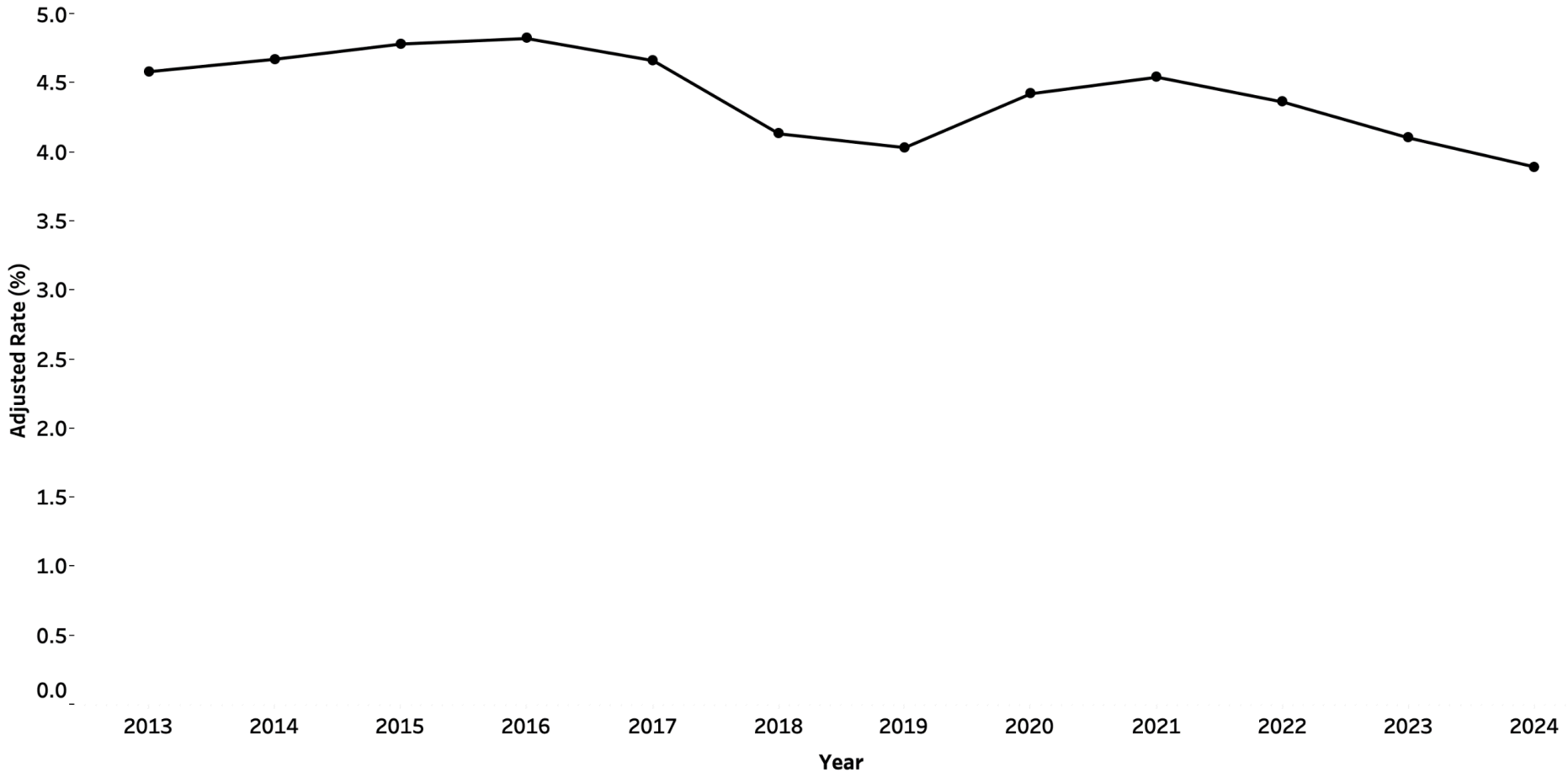
Graph ID 73



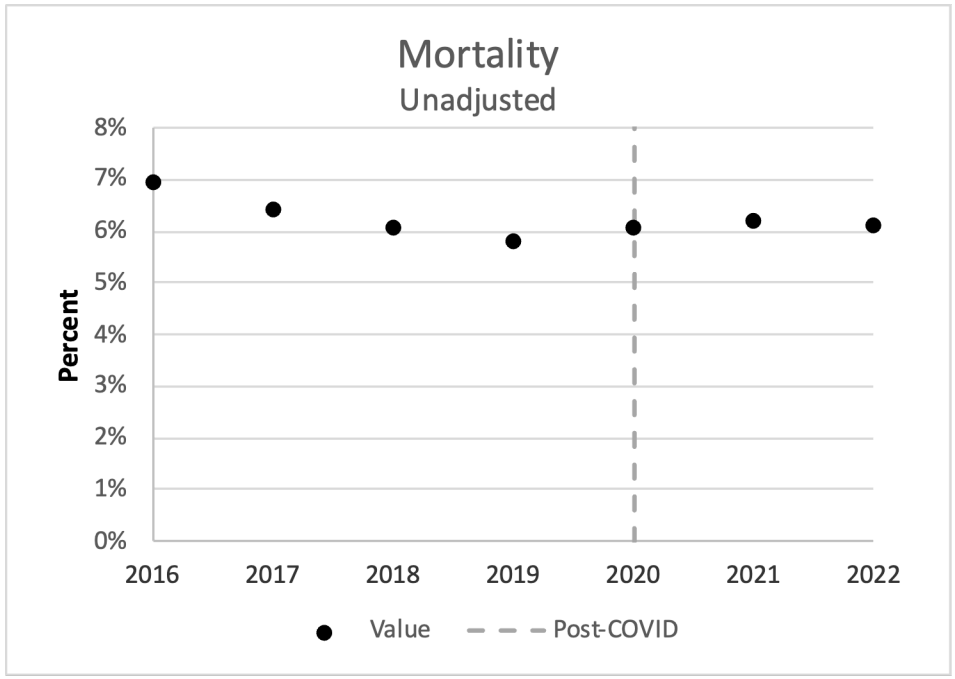
Collaborative Mortality Trend

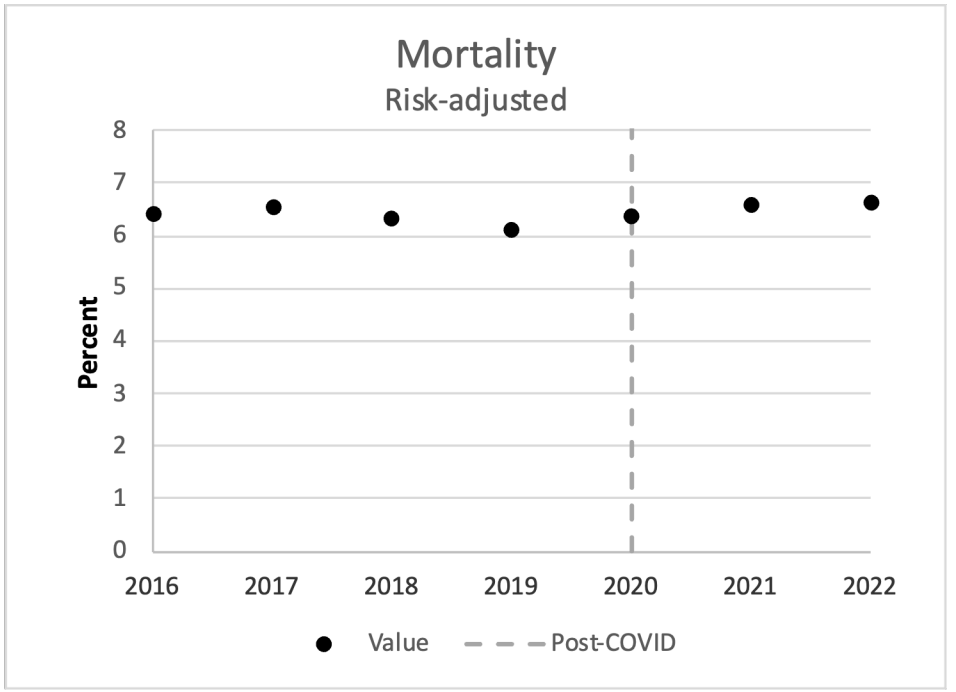
Cohort 2 (Admit to Trauma)

Graph ID 27



ACS TQIP Data





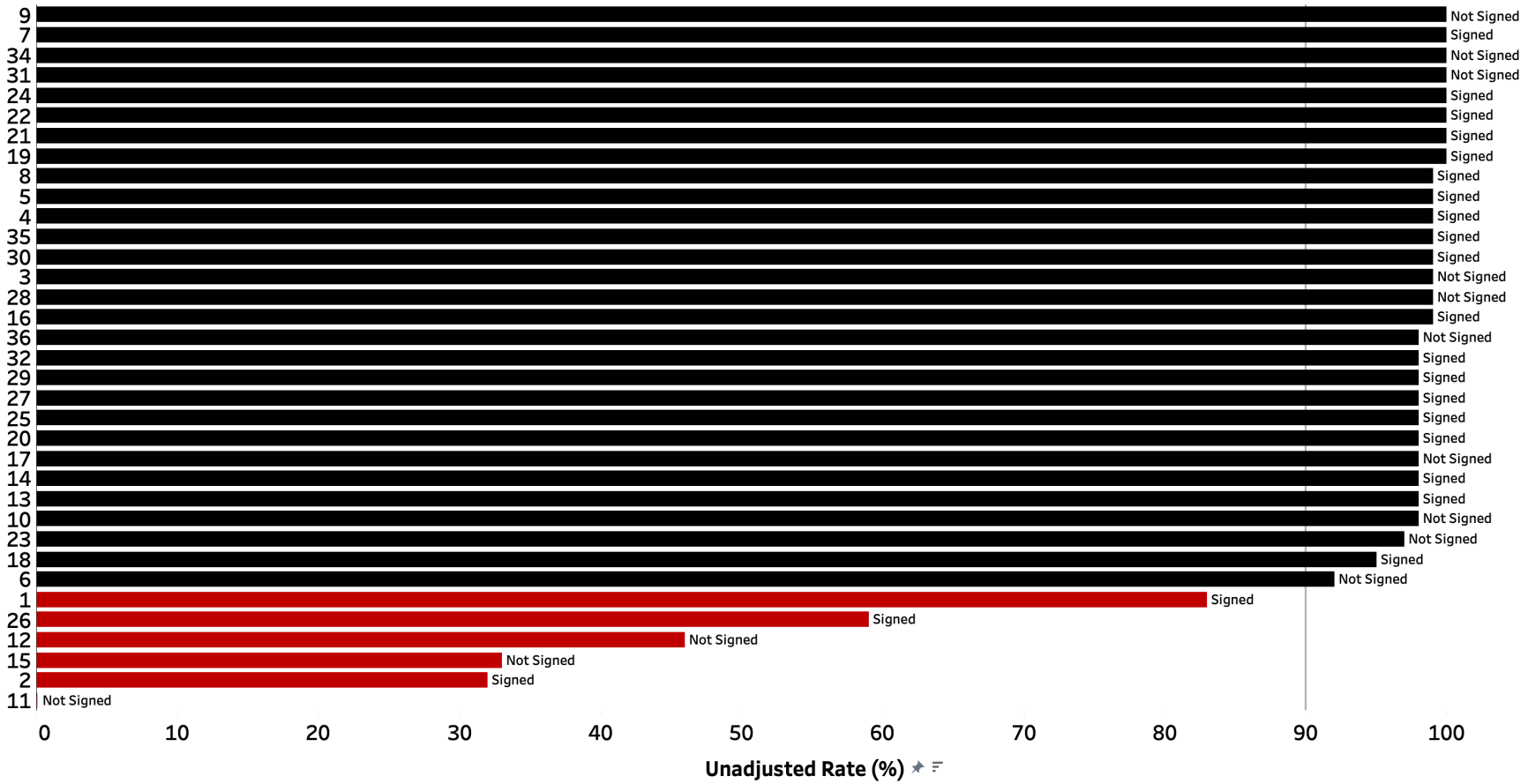
#10 Patient Reported Outcomes Participation

- Signed agreement and >90% of patients contact information submitted
- 12mo: 7/1/23-6/30/24

Metric 10 | PRO Participation Valid Contact Data and Agreement Status

Cohort 1 (MTQIP All) | 7/1/23 - 1/31/24

Graph ID 108



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

- Type of antibiotic administered along with date and time for open fracture of femur or tibia
- Presence of acute open femur or tibia fracture based on AIS or ICD10 codes (See list)
- Cohort = Cohort 1 (All)
- Exclude direct admissions and transfer in
- No Signs of Life = Exclude DOAs
- Transfers Out = Include Transfers Out
- Time Period = 7/1/23 to 6/30/24

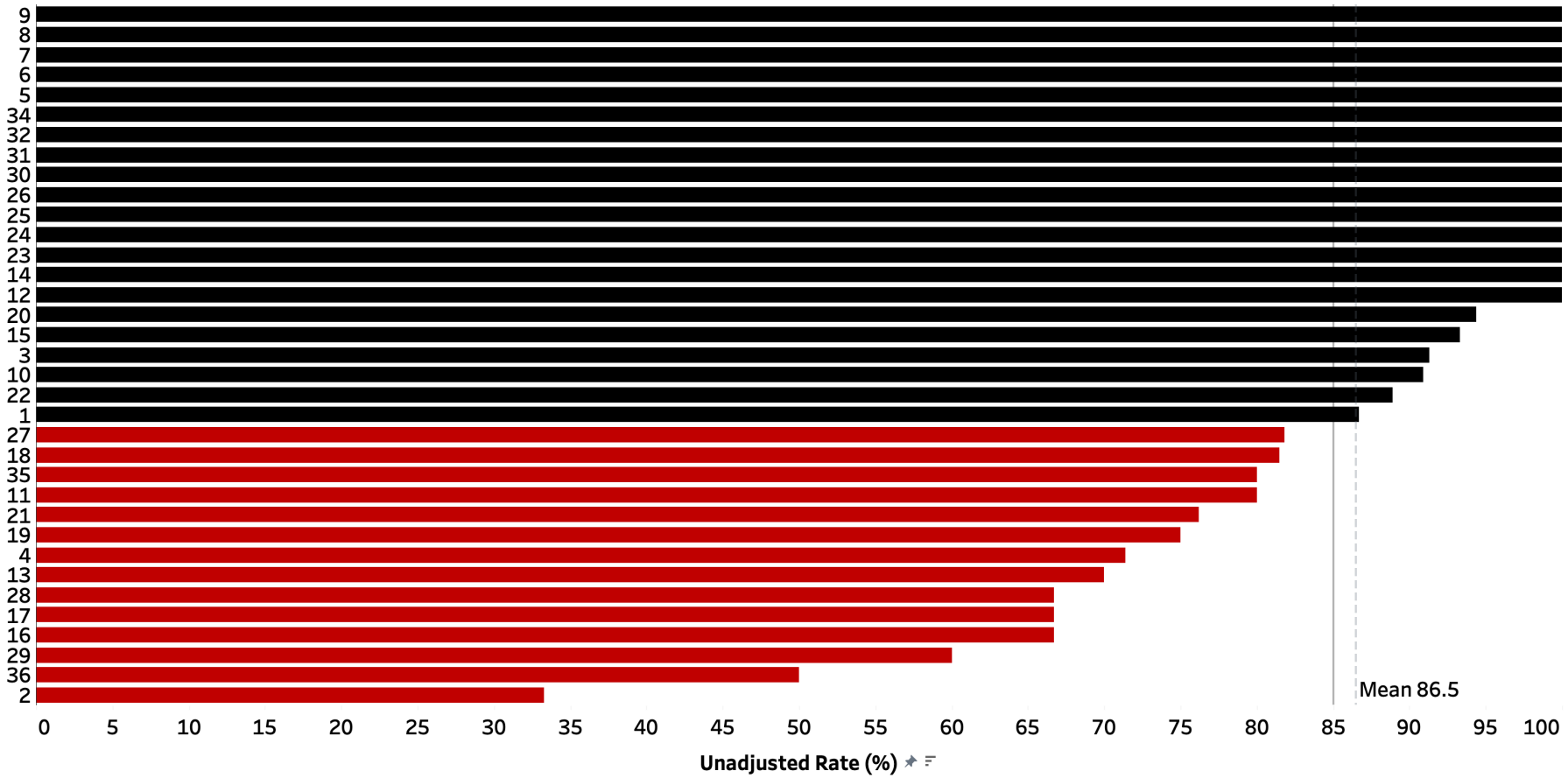
#11 Open Fracture Antibiotic Usage

- Measure = % of patients with antibiotic type, date, time recorded ≤ 90 minutes
  - ≥ 85% patients (≤ 90 min) > 10 points
  - All or nothing
- ACS-COT Orange Book – VRC resources
  - Administration within 60 minutes
    - ACS OTA Ortho Update, ACS TQIP Best Practices Orthopedics
- ACS-COT Charcoal Book – VRC resources
  - Treatment guideline for open extremity fractures
    - Time to antibiotics, time to OR for operative debridement, and time to wound coverage for open fractures
    - ACS TQIP Best Practices Orthopedics

Metric 11 | Open Fracture Antibiotic Administration <= 90 Min

Cohort 1 (MTQIP All) | 7/1/23 - 1/31/24

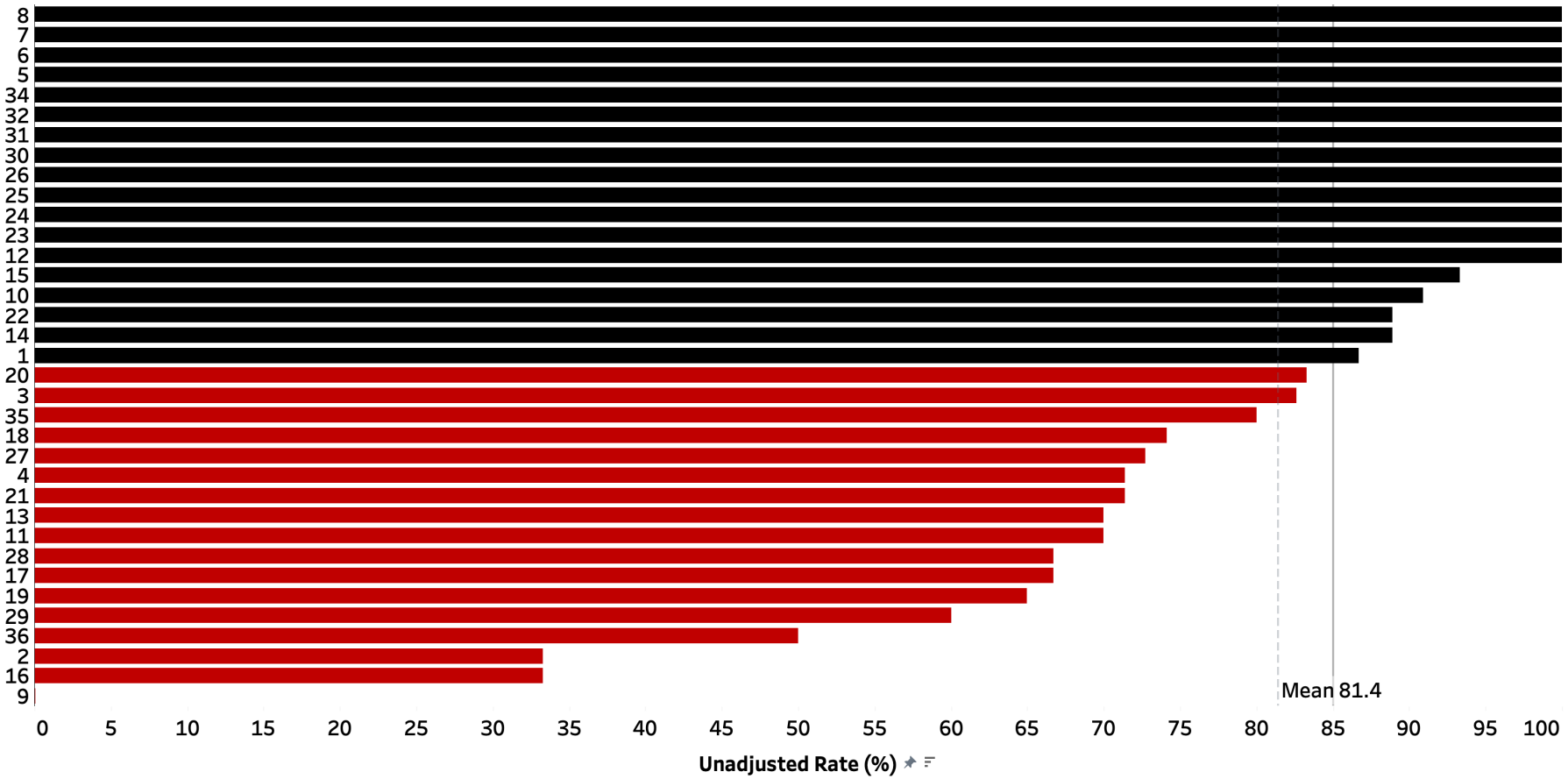
Graph ID 96



Open Fracture Antibiotic Administration <= 60 Min

Cohort 1 (MTQIP All) | 7/1/23 - 1/31/24

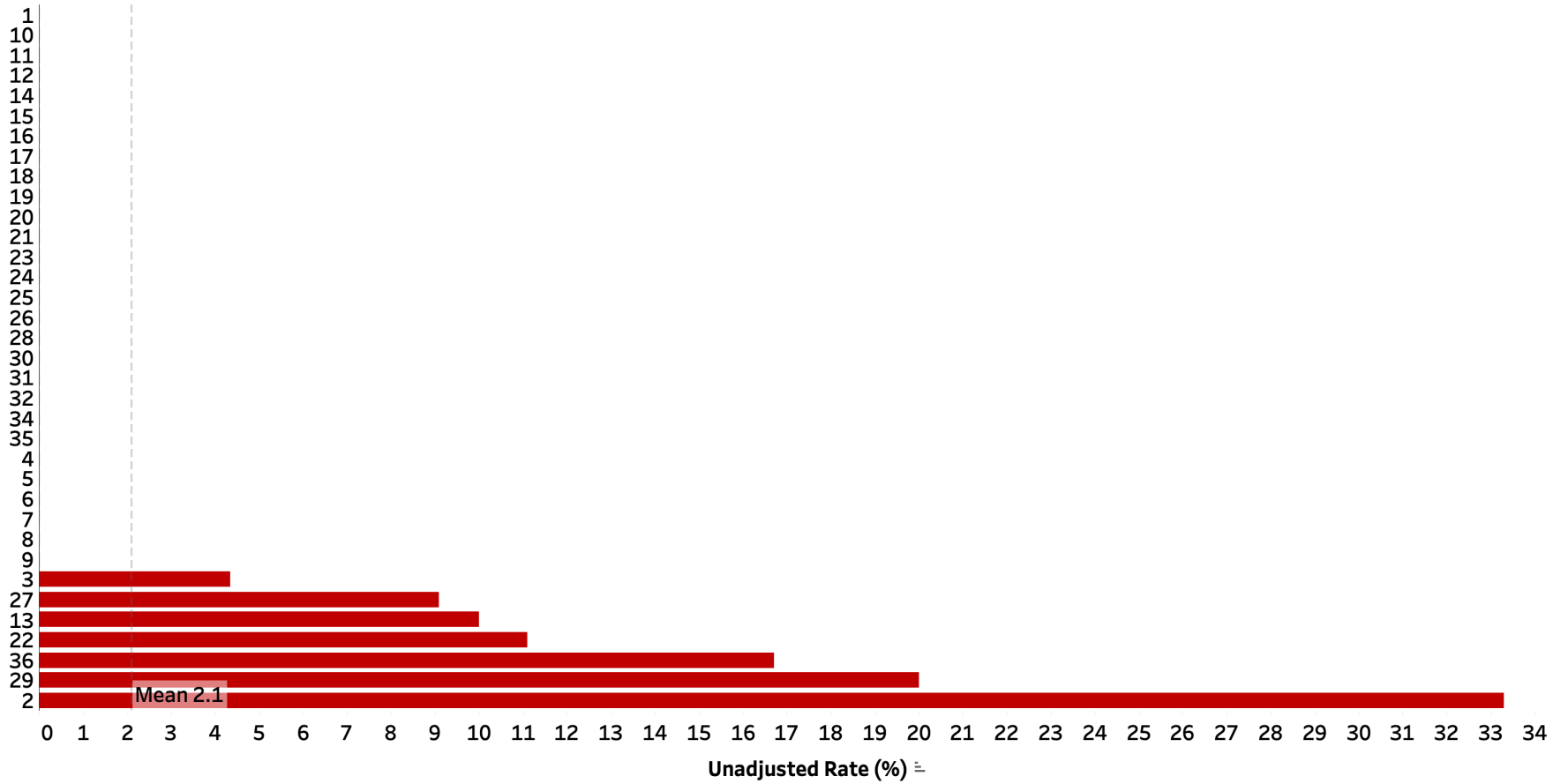
Graph ID 87



Open Fracture Missing/Negative Metric Data

Cohort 1 (MTQIP All) | 7/1/23 - 1/31/24

Graph ID 86



MTQIP and ASPIRE Data

Mark Hemmila, MD

ASPIRE

- Multicenter Perioperative Outcomes Group
  - Parent
  - 60 Hospitals
- ASPIRE
  - In Michigan
  - BCBSM CQI

Hospitals in ASPIRE and MTQIP

Center 3
Center 4
Center 7
Center 8
Center 11
Center 14
Center 16
Center 23
Center 19
Center 22
Center 25
Center 26
Center 27
Center 29
Center 30
Center 31
Center 32

Data Cohorts

- MTQIP uses ICD10 procedure codes
- ASPIRE uses CPT procedure codes
- Date range from 2021 to 2023
- Cohorts
  - Isolated Hip Fracture (91% match rate)
  - Femur Fracture (86% match rate)
  - Hemorrhage Control (67% match rate, 156/234)

Isolated Hip Fractures (Age≥60)

- Time to OR
  - *ED arrival to OR
  - <=24hrs
  - >24 to <=48 hrs
  - >48 hrs
- Surgery duration
- Anesthesia duration
- Anesthesia technique
  - General (ETT or LMA)
  - Epidural or Block

Time to OR	N (%)
<= 24 hr	3,799 (59%)
24 to 48 hr	2,128 (33%)
> 48 hr	465 (7%)
Total	6,392

Age	N (%)
60-69	885 (14%)
70-79	1,755 (27%)
80-89	2,399 (38%)
90+	1,354 (21%)

Isolated Hip Fractures (Age≥60)

- Time to OR = 26±18 hr
  - *ED arrival to OR
  - <=24hrs
  - >24 to <=48 hrs
  - >48 hrs
- Surgery duration = 61±32 min
- Anesthesia duration = 115±40 min
- Anesthesia technique
  - General (ETT or LMA)
  - Epidural or Block

Anes. Technique	N (%)
General	5,444 (85%)
Non-general	949 (15%)

Isolated Hip Fractures

- Outcomes
  - Dead or Hospice = 3.9% (249 pts)
  - Serious complication = 5.9% (380 pts)
  - Serious complication if Dead or Hospice
    - 34% (85 pts)
    - Failure to Rescue = 22% (85/380)

- Some changes from last time

Type of Anesthesia

Unadjusted

anesthesia_non_general	dead_or_hospice 0	1	Total
0	5,221 95.90	223 4.10	5,444 100.00
1	923 97.26	26 2.74	949 100.00
Total	6,144 96.11	249 3.89	6,393 100.00

Pearson chi2(1) = 3.9728 Pr = 0.046

anesthesia_non_general	serious 0	1	Total
0	5,109 93.85	335 6.15	5,444 100.00
1	904 95.26	45 4.74	949 100.00
Total	6,013 94.06	380 5.94	6,393 100.00

Pearson chi2(1) = 2.8808 Pr = 0.090

Adjusted

Non-general: Odds ratio 0.63, 95%CI 0.44-0.91, p=0.015

Non-general: Odds ratio 0.86, 95%CI 0.61-1.22, p=0.4

Surgery Duration

Unadjusted

4 quantiles of n_surgery_ duration	dead_or_hospice 0	1	Total
1	1,560 94.89	84 5.11	1,644 100.00
2	1,532 96.90	49 3.10	1,581 100.00
3	1,439 95.68	65 4.32	1,504 100.00
4	1,525 96.83	50 3.17	1,575 100.00
Total	6,056 96.07	248 3.93	6,304 100.00

Pearson chi2(3) = 11.9273 Pr = 0.008

4 quantiles of n_surgery_ duration	serious 0	1	Total
1	1,557 94.71	87 5.29	1,644 100.00
2	1,492 94.37	89 5.63	1,581 100.00
3	1,409 93.68	95 6.32	1,504 100.00
4	1,468 93.21	107 6.79	1,575 100.00
Total	5,926 94.00	378 6.00	6,304 100.00

Pearson chi2(3) = 3.8746 Pr = 0.275

Adjusted

Duration High: Odds ratio 0.85, 95%CI 0.61-1.18, p=0.3

Duration High: Odds ratio 1.29, 95%CI 0.97-1.71, p=0.08

Anesthesia Duration

Unadjusted

4 quantiles of anesthesia_duration	dead_or_hospice 0	1	Total
1	1,582 96.00	66 4.00	1,648 100.00
2	1,536 95.46	73 4.54	1,609 100.00
3	1,518 96.87	49 3.13	1,567 100.00
4	1,508 96.11	61 3.89	1,569 100.00
Total	6,144 96.11	249 3.89	6,393 100.00

Pearson chi2(3) = 4.2941 Pr = 0.231

4 quantiles of anesthesia_duration	serious 0	1	Total
1	1,582 96.00	66 4.00	1,648 100.00
2	1,510 93.85	99 6.15	1,609 100.00
3	1,472 93.94	95 6.06	1,567 100.00
4	1,449 92.35	120 7.65	1,569 100.00
Total	6,013 94.06	380 5.94	6,393 100.00

Pearson chi2(3) = 19.4000 Pr = 0.000

Adjusted

Duration High: Odds ratio 1.13, 95%CI 0.79-1.63, p=0.5

Duration High: Odds ratio 1.49, 95%CI 1.23-1.81, p<0.001

Time to OR

Unadjusted

time_to_room_cat_enc	dead_or_hospice 0	1	Total
1. <=24h	3,662 96.39	137 3.61	3,799 100.00
2. 24h to 48h	2,045 96.10	83 3.90	2,128 100.00
3. >48h	436 93.76	29 6.24	465 100.00
Total	6,143 96.10	249 3.90	6,392 100.00

Pearson chi2(2) = 7.6566 Pr = 0.022

time_to_room_cat_enc	serious 0	1	Total
1. <=24h	3,631 95.58	168 4.42	3,799 100.00
2. 24h to 48h	1,980 93.05	148 6.95	2,128 100.00
3. >48h	401 86.24	64 13.76	465 100.00
Total	6,012 94.06	380 5.94	6,392 100.00

Pearson chi2(2) = 70.4715 Pr = 0.000

Adjusted

<= 24: Ref
24 to 48: OR 1.0, 95%CI 0.79-1.29, p=0.9
>48: OR 1.45, 95%CI 1.06-1.99, p=0.02

<= 24: Ref
24 to 48: OR 1.47, 95%CI 1.22-1.78, p<0.001
>48: OR 2.54, 95%CI 1.83-3.51, p<0.001

Risk-Adjusted Summary

Factor	Outcome	Odds Ratio	95% CI	p-value
Non-General Anesthesia	Dead or Hospice	0.63	0.44-0.91	0.015
Non-General Anesthesia	Serious Comp.	0.86	0.61-1.22	0.4
Anesthesia Duration High	Dead or Hospice	1.13	0.79-1.63	0.5
Anesthesia Duration High	Serious Comp.	1.49	1.23-1.81	<0.001
Surgery Duration High	Dead or Hospice	0.85	0.61-1.18	0.3
Surgery Duration High	Serious Comp.	1.29	0.97-1.71	0.08
Time to OR 24-48	Dead or Hospice	1.0	0.79-1.29	0.9
Time to OR >48	Dead or Hospice	1.45	1.06-1.99	0.02
Time to OR 24-48	Serious Comp.	1.47	1.22-1.78	<0.001
Time to OR >48	Serious Comp.	2.54	1.83-3.51	<0.001

Femur
Hemorrhage
Hip Fracture - Specific Complications

Fall

MTQIP Patient Recorded Outcome Measures

Mark Hemmila, MD

Summary

- Participant Trauma Centers
  - 22 Total
  - 19 with patient responses
- Surveys
  - 1,130 Total surveys
  - 869 Unique patients
- Contact
  - Text, E-mail > Phone
  - Patient preference after first contact

Survey

- Health Status
  - EuroQol 5D-5L
- Caregiver and financial impact
  - Impact on patient
  - Impact on family or significant others
- Opioid medications
  - Prescriptions

EuroQol

- EQ-5D-5L
  - EQ-5D is a standardized measure of health status developed by the EuroQol Group to provide a simple, generic measure of health for clinical and economic appraisal.
- Descriptive system questionnaire
  - 5 Dimensions
  - 5 Response Levels
- Visual Analogue Scale
  - EQ-VAS 0-100

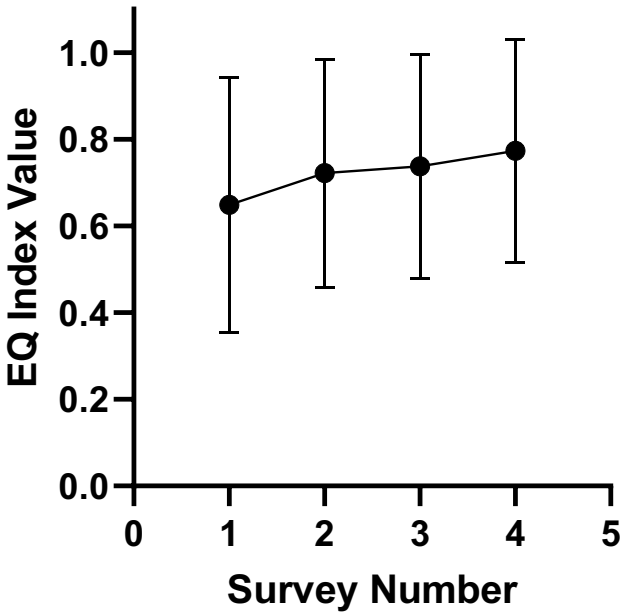
Trauma Center	Patients
Center 14	8
Center 8	13
Center 21	34
Center 4	37
Center 22	8
Center 30	29
Center 5	34
Center 1	11
Center 18	16
Center 13	11
Center 20	36
Center 29	53
Center 32	54
Center 16	32
Center 7	107
Center 25	36
Center 19	74
Center 27	235
Center 35	41
Total	869

Selection Criteria for Survey

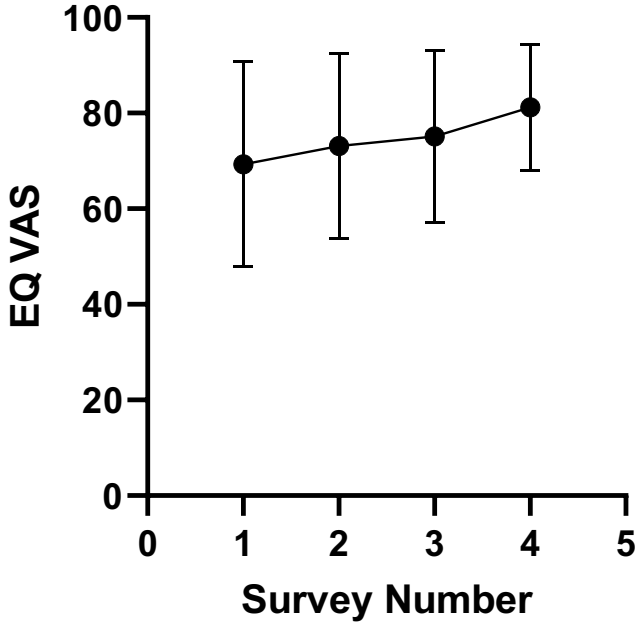
- Fractures
  - Femur, tibia, humerus, radius, tibia, pelvis, rib
- Intubation
- Operation
- Firearm injury
- Head or Neck AIS > 2
- ISS > 14
- Exclude
  - Self-harm, death, hospice

Characteristic	PROM	Cohort 1
Age	63 ± 18	63 ± 22
Female	54%	48%
Race White	92%	81%
Race Black	4.7%	15%
Race Other	3.3%	4%
ISS	11.5 ± 6.2	10.9 ± 6.6
Hospital LOS	5.6 ± 4.8	5.6 ± 6.7
Operation	58%	47%
Emergency Operation	18%	9%
Discharge Home (Self-care)	40%	40%
Discharge Rehab	27%	29%
Discharge SNF	13%	11%
Discharge Home (Home health)	17%	15%

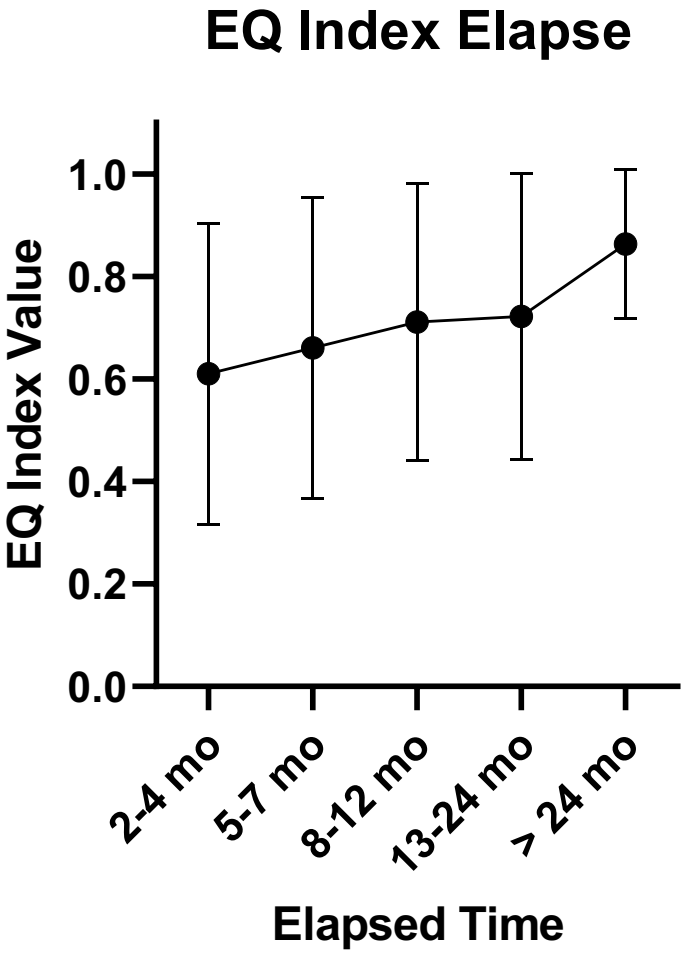
EQ Index



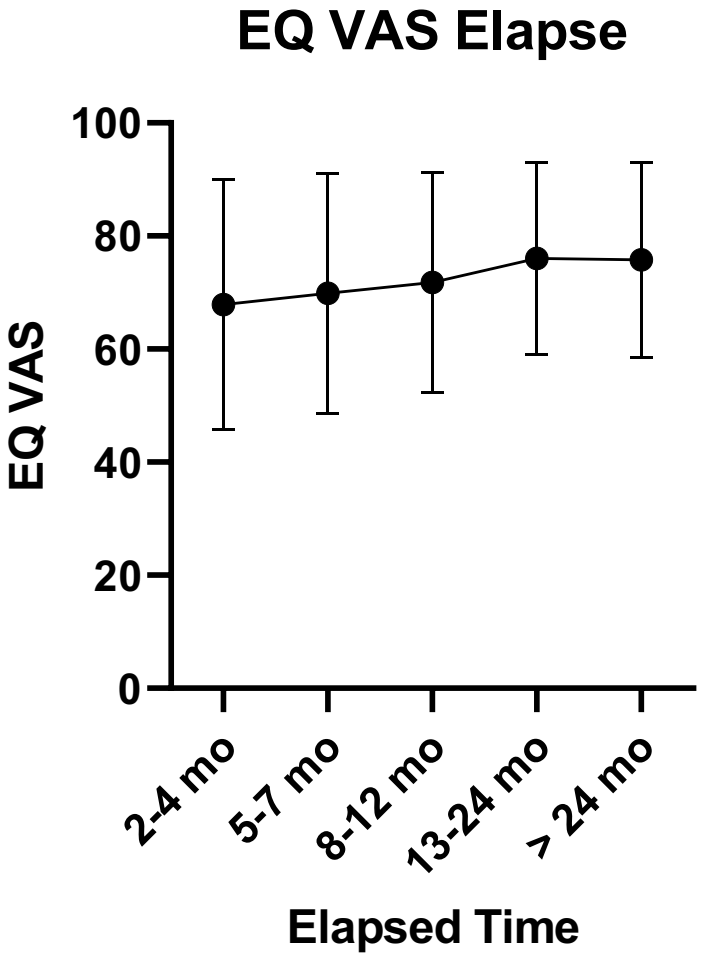
EQ Visual Analogue Scale



Survey Number	Mean Months since Discharge
1	5.9
2	10.9
3	14.3
4	18.0



Population Norm = 0.897



Mobility (Chi2 p=0.001)

	First (6 mo)	Second (11 mo)	Third (14 mo)
Level 1 No problems	323 (37.1)	95 (47.5)	24 (49.0)
Level 2 Slight problems	232 (26.7)	63 (31.5)	16 (32.7)
Level 3 Moderate problems	196 (22.6)	27 (13.5)	4 (8.2)
Level 4 Severe problems	76 (8.8)	13 (6.5)	5 (10.2)
Level 5 Extreme problems/ unable to do	42 (4.8)	2 (1.0)	0 (0)

Self-Care (Chi2 p=0.03)

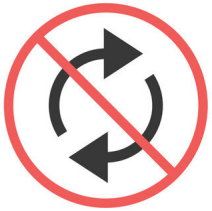
	First (6 mo)	Second (11 mo)	Third (14 mo)
Level 1 No problems	531 (61.1)	143 (71.5)	38 (77.6)
Level 2 Slight problems	188 (21.6)	39 (19.5)	8 (16.3)
Level 3 Moderate problems	98 (11.3)	14 (7.0)	3 (6.1)
Level 4 Severe problems	27 (3.1)	3 (1.5)	0 (0)
Level 5 Extreme problems/ unable to do	25 (2.9)	1 (0.5)	0 (0)

Usual Activity (Chi2 p=0.005)

	First (6 mo)	Second (11 mo)	Third (14 mo)
Level 1 No problems	252 (29.0)	73 (36.5)	17 (34.7)
Level 2 Slight problems	249 (28.7)	70 (35.0)	21 (42.9)
Level 3 Moderate problems	227 (26.1)	38 (19.0)	8 (16.3)
Level 4 Severe problems	81 (9.3)	13 (6.5)	3 (6.1)
Level 5 Extreme problems/ unable to do	60 (6.9)	6 (3.0)	0 (0)

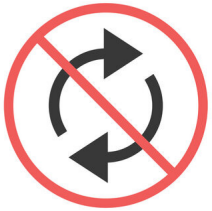
Pain/Discomfort (Chi2 p=0.3)

	First (6 mo)	Second (11 mo)	Third (14 mo)
Level 1 No problems	194 (22.3)	54 (27.0)	10 (20.4)
Level 2 Slight problems	349 (40.2)	86 (43.0)	25 (51.0)
Level 3 Moderate problems	269 (31.0)	46 (23.0)	12 (24.5)
Level 4 Severe problems	43 (5.0)	13 (6.5)	2 (4.1)
Level 5 Extreme problems/ unable to do	14 (1.6)	1 (0.5)	0 (0)



Anxiety/Depression (Chi2 p=0.6)

	First (6 mo)	Second (11 mo)	Third (14 mo)
Level 1 No problems	476 (54.8)	117 (58.5)	26 (53.1)
Level 2 Slight problems	202 (23.3)	40 (20.0)	13 (26.5)
Level 3 Moderate problems	136 (15.7)	35 (17.5)	8 (16.3)
Level 4 Severe problems	34 (3.9)	7 (3.5)	2 (4.1)
Level 5 Extreme problems/ unable to do	21 (2.4)	1 (0.5)	0 (0)



Mobility (Chi2 p=0.1)

	2-4 mo	5-7 mo	8-12 mo	13-24 mo
Level 1 No problems	90 (38.1)	217 (37.0)	91 (42.7)	43 (49.4)
Level 2 Slight problems	59 (25.0)	167 (28.5)	59 (27.7)	28 (32.2)
Level 3 Moderate problems	50 (21.2)	128 (21.8)	39 (18.3)	10 (11.5)
Level 4 Severe problems	22 (9.3)	50 (8.3)	19 (8.9)	6 (6.9)
Level 5 Extreme problems/ unable to do	15 (6.4)	24 (4.1)	5 (2.4)	0 (0)

Self-Care (Chi2 p<0.001)

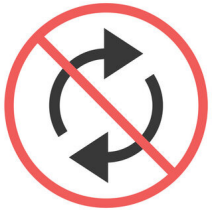
	2-4 mo	5-7 mo	8-12 mo	13-24 mo
Level 1 No problems	125 (53.0)	370 (63.1)	154 (72.3)	64 (73.6)
Level 2 Slight problems	57 (24.2)	134 (22.9)	33 (15.5)	11 (12.6)
Level 3 Moderate problems	39 (16.5)	54 (9.2)	15 (7.0)	10 (11.5)
Level 4 Severe problems	12 (5.1)	11 (1.9)	6 (2.8)	1 (1.2)
Level 5 Extreme problems/ unable to do	3 (1.3)	17 (2.9)	5 (2.4)	1 (1.2)

Usual Activity (Chi2 p<0.001)

	2-4 mo	5-7 mo	8-12 mo	13-24 mo
Level 1 No problems	56 (23.7)	170 (29.0)	81 (38.0)	37 (42.5)
Level 2 Slight problems	60 (25.4)	192 (32.8)	61 (28.6)	26 (29.9)
Level 3 Moderate problems	71 (30.1)	144 (24.6)	47 (22.1)	11 (12.6)
Level 4 Severe problems	34 (14.4)	43 (7.3)	13 (6.1)	10 (11.5)
Level 5 Extreme problems/ unable to do	15 (6.4)	37 (6.3)	11 (5.2)	3 (3.5)

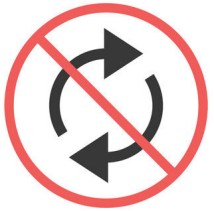
Pain/Discomfort (Chi2 p=0.1)

	2-4 mo	5-7 mo	8-12 mo	13-24 mo
Level 1 No problems	46 (19.5)	124 (21.2)	65 (30.5)	21 (24.1)
Level 2 Slight problems	89 (37.7)	252 (43.0)	80 (37.6)	41 (47.1)
Level 3 Moderate problems	84 (35.6)	169 (28.8)	58 (27.2)	18 (20.7)
Level 4 Severe problems	13 (5.5)	32 (5.5)	8 (3.8)	6 (6.9)
Level 5 Extreme problems/ unable to do	4 (1.7)	9 (1.5)	2 (0.9)	1 (1.2)



Anxiety/Depression (Chi2 p=0.2)

	2-4 mo	5-7 mo	8-12 mo	13-24 mo
Level 1 No problems	113 (47.9)	327 (55.8)	128 (60.1)	52 (59.8)
Level 2 Slight problems	66 (28.0)	131 (22.4)	40 (18.8)	19 (21.8)
Level 3 Moderate problems	37 (15.7)	93 (15.9)	38 (17.8)	13 (14.9)
Level 4 Severe problems	14 (5.9)	21 (3.6)	5 (2.3)	3 (3.5)
Level 5 Extreme problems/ unable to do	6 (2.5)	14 (2.4)	2 (0.9)	0 (0)



Opioids

- PROM data
  - 869 unique patients
- Questions
  - Did you take opioid pain medication in the year prior to injury?
  - Did you receive a discharge prescription for opioid pain medication?
  - Did you fill the prescription?
  - As of today, are you taking any opioid pain medication?

Opioid Data

- Did you take opioid pain medication in the year prior to injury?
  - 133/869 patients, 15%
- Did you receive a discharge prescription for opioid pain medication?
  - 494/869 patients, 57%
- Did you fill the prescription?
  - 438/494 patients, 89%

Opioid Data

- As of today, are you taking any opioid pain medication?
  - 2-4 mo, 24%
  - 5-7 mo, 13%
  - 8-12 mo, 15%
  - 13-24 mo, 15%

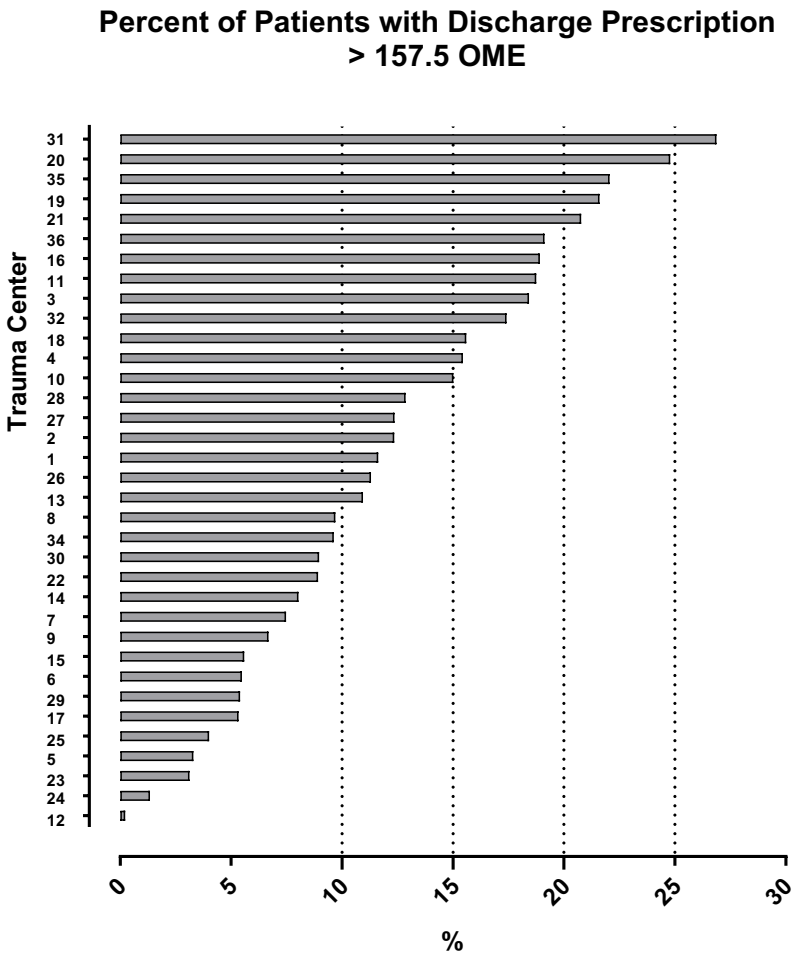
Opioid Data

- As of today, are you taking any opioid pain medication?
- Drop patients who answered + to opioid medication use in year prior to injury (133 pts)
  - 2-4 mo, 17%
  - 5-7 mo, 7%
  - 8-12 mo, 8%
- Potential new persistent use

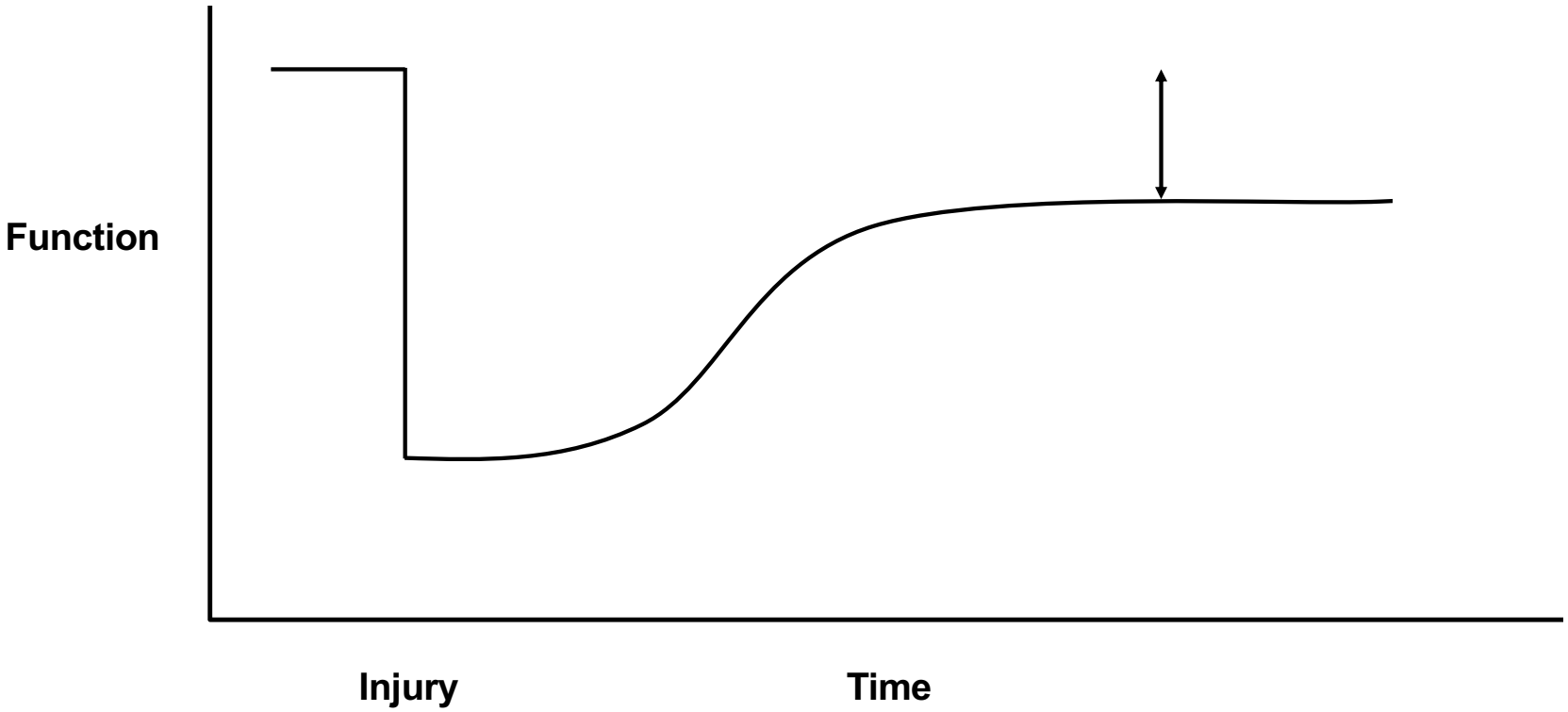
Opioid Data - MTQIP

- Mean = 146 OME
- Median = 100 OME
- 75th = 157.5 - 160 OME
  - 20-22 5mg pills Oxycodone

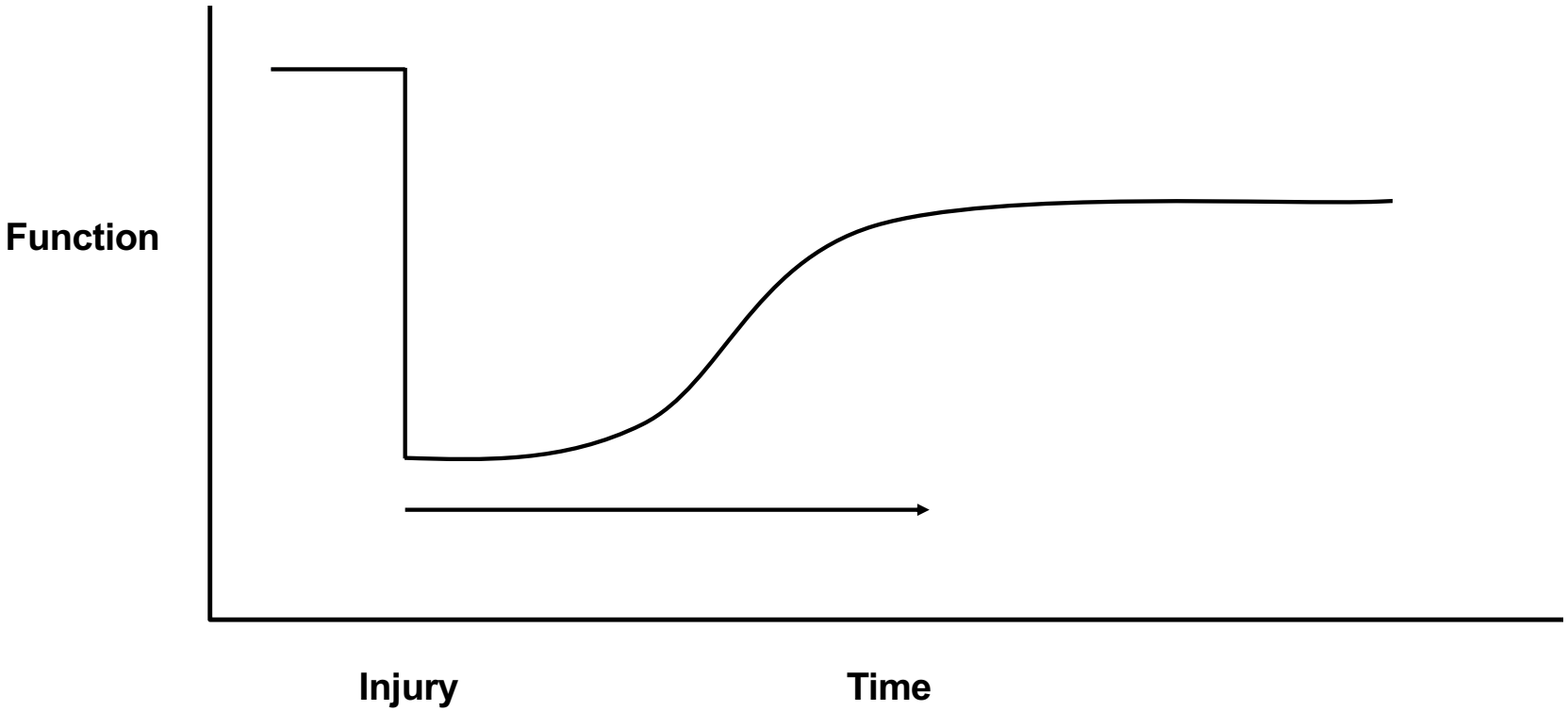
Center	Patients n	n Patients Above 75th	Percent Above 75th
31	655	176	27
8	464	45	10
3	1150	212	18
9	434	29	7
5	696	23	3
1	516	60	12
12	437	1	0
11	736	138	19
23	607	19	3
18	750	117	16
10	992	149	15
29	702	38	5
13	640	70	11
2	510	63	12
35	494	109	22
26	770	87	11
32	706	123	17
24	298	4	1
16	465	88	19
20	1077	267	25
36	392	75	19
22	482	43	9
14	785	63	8
34	561	54	10
6	255	14	5
15	626	35	6
21	2093	435	21
7	1323	99	7
17	525	28	5
25	599	24	4
19	1273	275	22
30	858	77	9
27	817	101	12
28	241	31	13
4	1333	206	15



Trauma - Return to Health



Trauma - Return to Health



PROMS – The future is bright

- Financial Toxicity
  - John Scott, AAST 2023
- AAST 2024
  - Mental health, new onset anxiety/depression
  - Impact on health and financial toxicity
- Extremity Fractures
- Survey and Data
  - Short (EQ 5D 5L and caregiver)
  - Long

Future Metrics Discussion

Judy Mikhail, PhD, MBA, RN
Jill Jakubus, PA-C, MHSA, MS

M·ACS

BONUS POINTS

Jill Jakubus

Objectives

Plan review
Draft index metrics
Supporting literature
Center baseline status
Participant feedback
Progress monitoring

Bonus Points

Background

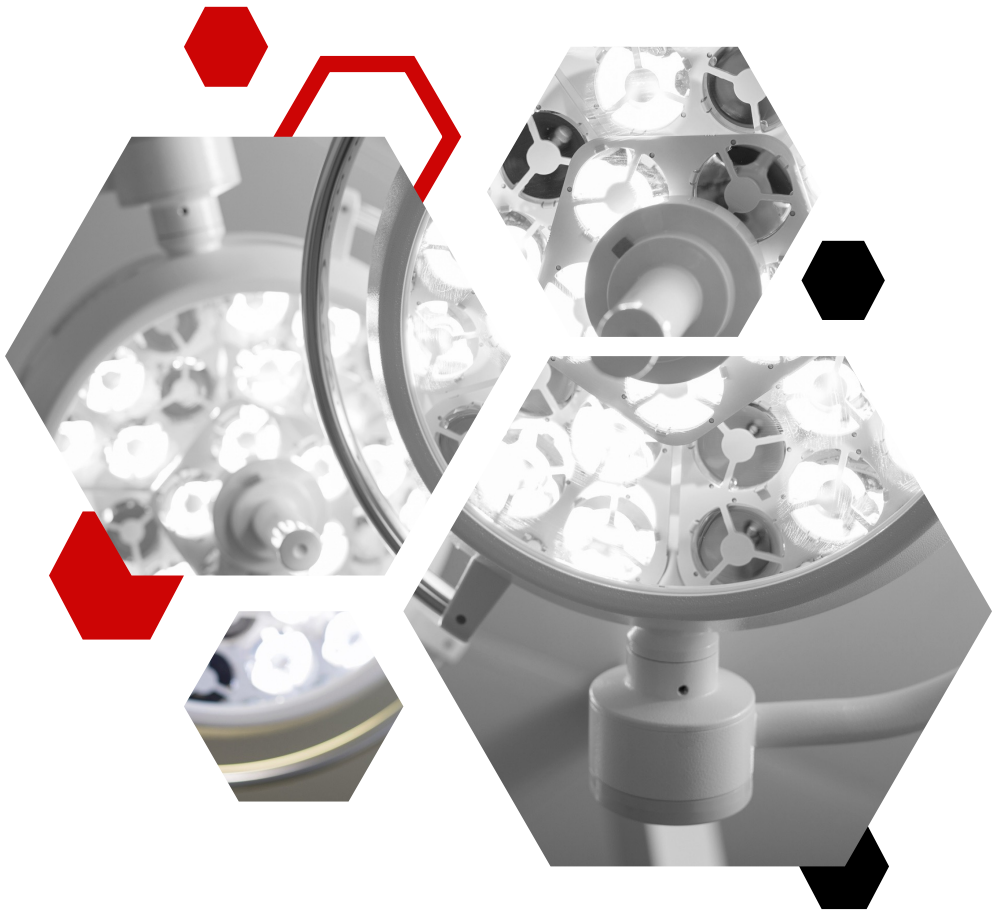
BCBS recommended alignment

Assessment

Portfolio of CQIs indexes reviewed
Similar CQIs offer bonus points
Points added to MTQIP index

Recommendation

Created draft bonus points
Next steps BCBS approval



General Info

Total Points

Total possible points with the addition of bonus points cannot exceed 100.

Non-MTQIP MACS Participants

For MACS Participants from an enterprise that are not MTQIP Members, total bonus points are averaged then added to the MTQIP Performance Index.

Metric

2025 Optional Bonus for MACS Participants				
Optional	1	**MACS Data Submission** On time and complete 3 of 3 times On time and complete 2 of 3 times On time and complete 1 of 3 times	 1.0 0.5 0.0	

MACS Data Submission

Partial/incomplete submissions receive no points. Complete data submission is defined as all cases submitted for the requested interval for the required data submissions.

Metric

Optional	1	**MACS Meeting Participation** Surgeon attends 3 of 3 meetings Surgeon attends 2 of 3 meetings Surgeon attends 0-1 of 3 meetings	 1.0 0.5 0.0	**PARTICIPATION**
Optional	1	**MACS Meeting Participation** Quality Administrator/Manager or Data Abstractor attend 3 of 3 meetings Quality Administrator/Manager or Data Abstractor attend 2 of 3 meetings Quality Administrator/Manager or Data Abstractor attend 0-1 of 3 meetings	 1.0 0.5 0.0	

MACS Meeting Participation

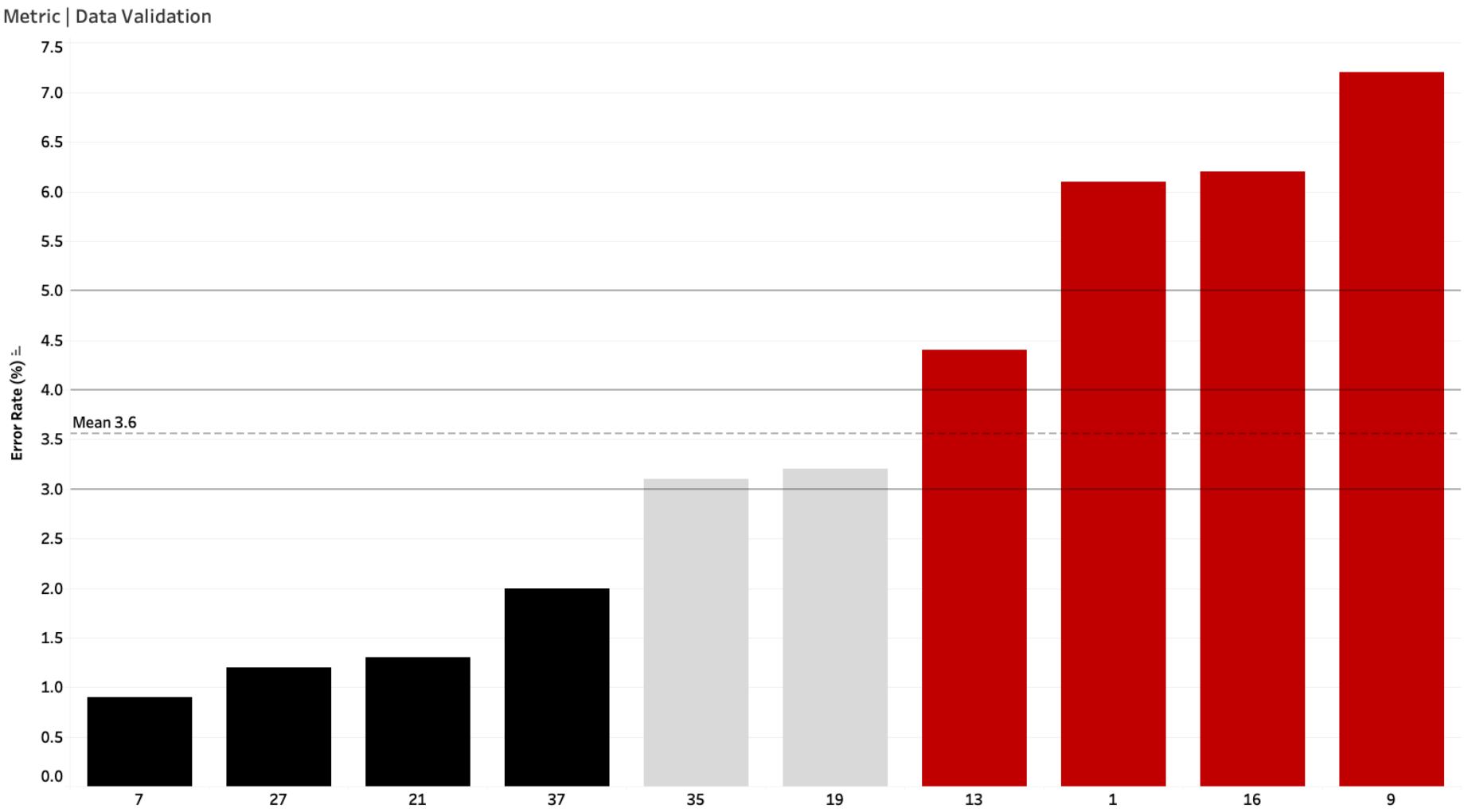
A surgeon may represent one center only. Alternate surgeons are allowed but must be consistent (not rotating). The alternate surgeon must be an attending-level equivalent from the call panel.

Metric

Optional	2.5	**MACS Data Validation Error Rate** 0.0-3.0% 3.1-4.0% 4.1-5.0% > 5.0%	 2.5 1.5 0.5 0.0	

MACS Data Validation Error Rate

Centers not selected for validation this year will receive full points. Centers that are selected but do not schedule a visit will receive 0 points for the validation measure.


Metric | Data Validation
Error Rate (%)
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Mean 3.6
7
27
21
37
35
19
13
1
16
9

Progress Monitoring

MACS INTER-RATER RELIABILITY AUDIT/SITE VISIT REPORT

Purpose: To perform external data validation on selected cases to verify data validity and reliability for the MACS CQI.

Date Performed: 01/15/2024

Auditors:

Chart Selection

Cases for inter-rater reliability (IRR) chart review were selected from your data using an algorithm. These cases included deaths in the hospital, or patients admitted to your ACS services or consulted upon by your ACS services from 9/1/22 to 8/31/23. Two cases from each category were selected: appendix, gallbladder, small bowel, and exploratory laparotomy.

1) Any mortality

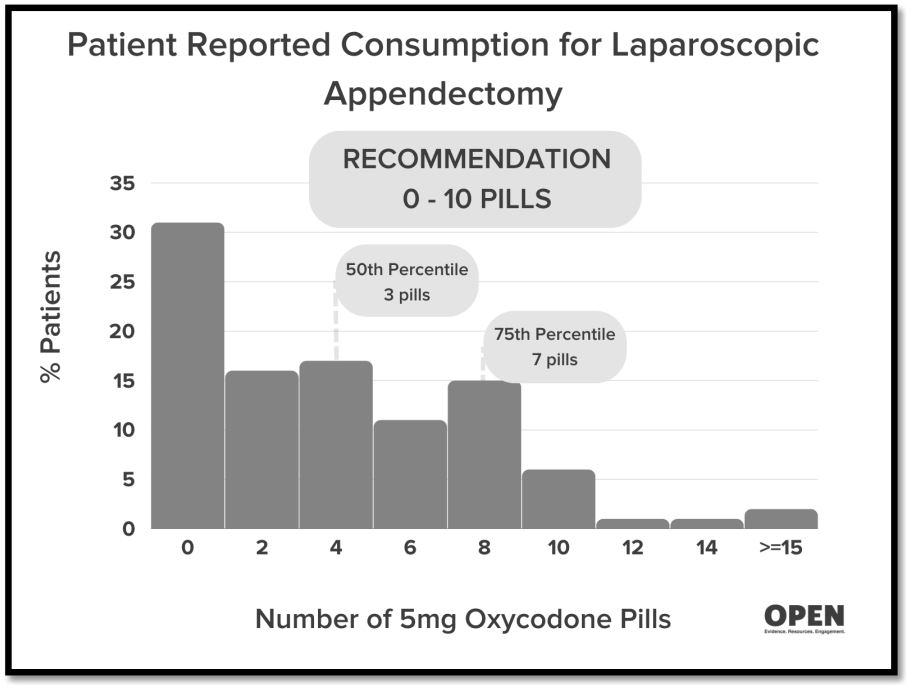
Metric

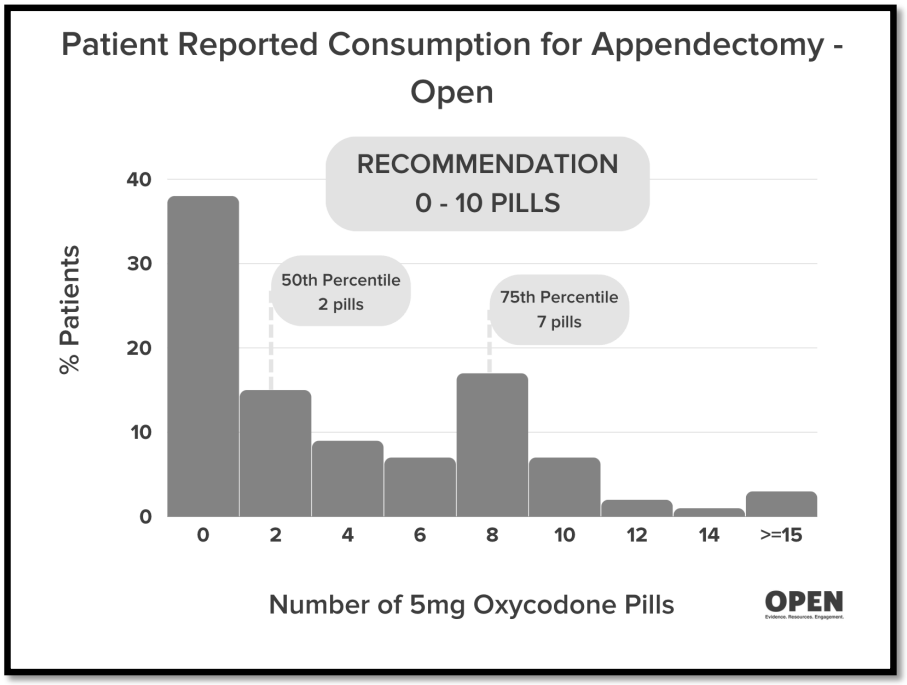
Optional	1	**MACS Evidence-Based Opioid Prescribing in Appendectomy** (12 mo:8/1/24-7/31/25) ≥ 80% patients (≤ 52.5 discharge OME, oxycodone 5 mg = 7 pills) ≥ 70% patients (≤ 52.5 discharge OME) < 70% patients (≤ 52.5 discharge OME)	 1.0 0.5 0.0	

MACS Evidence-Based Opioid Prescribing Appendectomy
Include appendicitis index encounter, operation, and Discharge Disposition = Home or Home Care.
Exclude Prior Opioid Use = Yes.

OME Calculation
Rx: oxycodone 5 mg 1 tab PO Q 6 hours prn pain #7 tabs
Opioid Strength x Opioid Quantity x Conversion Factor
5 x 7 x 1.5 = 52.5 OME

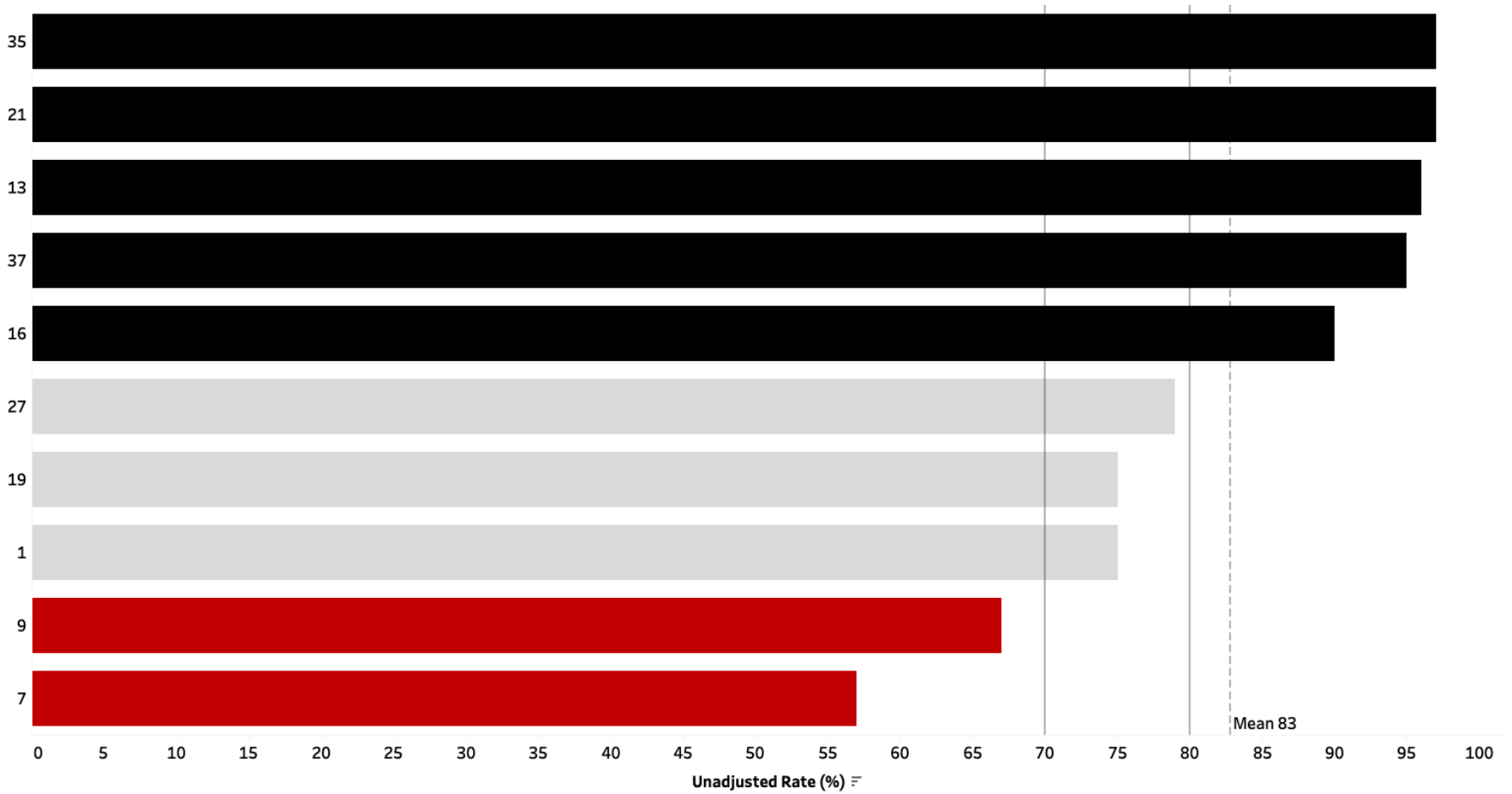
Literature





https://michigan-open.org/prescribing-recommendations/

Metric | Opioid Prescribing Appendectomy



Progress Monitoring

MACS Opioid Drill Down

Interval 8/1/23 - 7/31/24

Target Appendectomy >= 80% patients (<= 52.2 discharge OME)
Cholecystectomy >= 80% patients (<= 45 discharge OME)

M·ACS

Center	Case #	MRN	Arrival Date	Organ System	Conversion	Surgeon	Tab 1 Type	Tab 1 OME	Tab 2 Type	Tab 2 OME	Solution Type	Solution OME	Other Type	Other OME	Total OME	OME Alert
				Appendix	Laparoscopic		Oxycodone	135	None	0	None	0	None	0	135	
				Appendix	Laparoscopic		Oxycodone	120	None	0	None	0	None	0	120	
				Appendix	Open		Oxycodone	112.5	None	0	None	0	None	0	112.5	
				Appendix	Open		Oxycodone	90	None	0	None	0	None	0	90	
				Appendix	Laparoscopic		Oxycodone	90	None	0	None	0	None	0	90	
				Appendix	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Appendix	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Appendix	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Appendix	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Appendix	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Appendix	Laparoscopic		Tramadol	60	None	0	None	0	None	0	60	
				Appendix	Open		Oxycodone	60	None	0	None	0	None	0	60	
				Appendix	Laparoscopic		Oxycodone	45	None	0	None	0	None	0	45	
				Appendix	Laparoscopic		Oxycodone	45	None	0	None	0	None	0	45	
				Appendix	Open		Oxycodone	45	None	0	None	0	None	0	45	
				Appendix	Laparoscopic		Oxycodone	45	None	0	None	0	None	0	45	
				Appendix	Laparoscopic		Oxycodone	45	None	0	None	0	None	0	45	

Metric

Optional	1	**MACS Evidence-Based Opioid Prescribing in Cholecystectomy (Laparoscopic or Robotic)** (12 mo:8/1/24-7/31/25) ≥ 80% patients (≤ 45 discharge OME, oxycodone 5 mg = 6 pills) ≥ 70% patients (≤ 45 discharge OME) < 70% patients (≤ 45 discharge OME)	 1.0 0.5 0.0	RMANCE

MACS Evidence-Based Opioid Prescribing in Laparoscopic Cholecystectomy

Include gallbladder index encounter, Conversion = Laparoscopic or Robotic, and Discharge Disposition = Home or Home Care.

Exclude Prior Opioid Use = Yes.

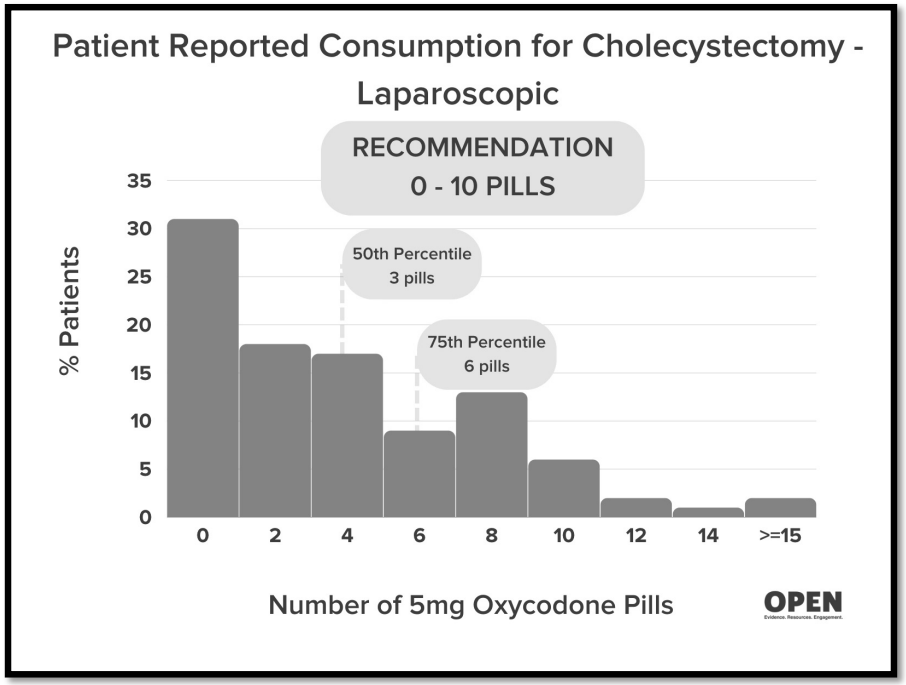
OME Calculation

Rx: oxycodone 5 mg 1 tab PO Q 6 hours prn pain #6 tabs

Opioid Strength x Opioid Quantity x Conversion Factor

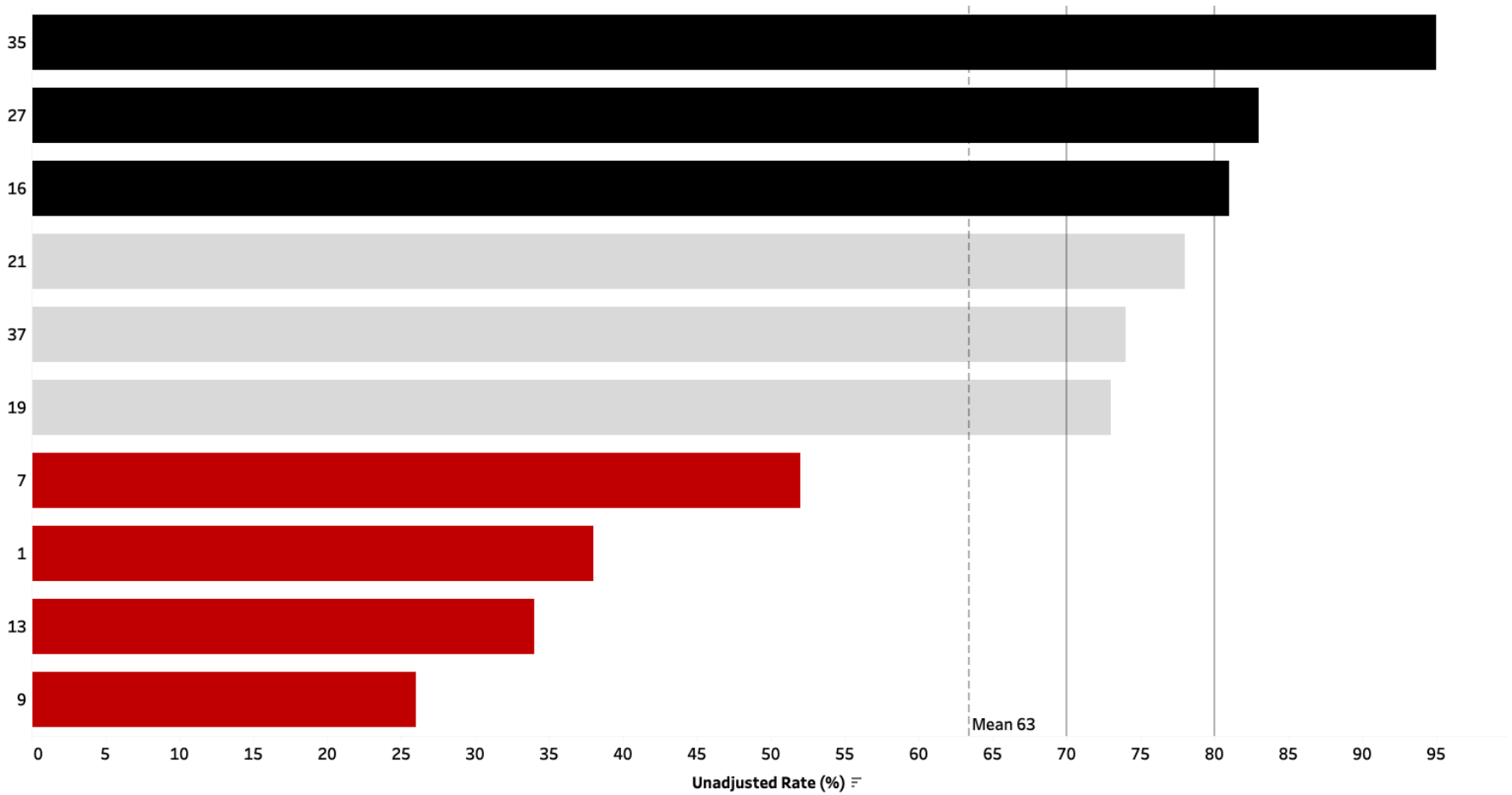
5 x 6 x 1.5 = 45 OME

Literature



https://michigan-open.org/prescribing-recommendations/

Metric | Opioid Prescribing Cholecystectomy



Progress Monitoring

MACS Opioid Drill Down

Interval 8/1/23 - 7/31/24

Target Appendectomy >= 80% patients (<= 52.2 discharge OME)
Cholecystectomy >= 80% patients (<= 45 discharge OME)

M·ACS

Center	Case #	MRN	Arrival Date	Organ System	Conversion	Surgeon	Tab 1 Type	Tab 1 OME	Tab 2 Type	Tab 2 OME	Solution Type	Solution OME	Other Type	Other OME	Total OME	OME Alert
				Gallbladder	Laparoscopic		Hydromorphor	96	Oxycodone	90	None	0	None	0	186	
				Gallbladder	Laparoscopic		Oxycodone	112.5	None	0	None	0	None	0	112.5	
				Gallbladder	Laparoscopic		Oxycodone	112.5	None	0	None	0	None	0	112.5	
				Gallbladder	Laparoscopic		Oxycodone	90	None	0	None	0	None	0	90	
				Gallbladder	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Gallbladder	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Gallbladder	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Gallbladder	Laparoscopic		Oxycodone	75	None	0	None	0	None	0	75	
				Gallbladder	Laparoscopic		Oxycodone	67.5	None	0	None	0	None	0	67.5	
				Gallbladder	Laparoscopic		Oxycodone	67.5	None	0	None	0	None	0	67.5	
				Gallbladder	Laparoscopic		Oxycodone	60	None	0	None	0	None	0	60	
				Gallbladder	Laparoscopic		Oxycodone	60	None	0	None	0	None	0	60	
				Gallbladder	Laparoscopic		Oxycodone	60	None	0	None	0	None	0	60	
				Gallbladder	Laparoscopic		Tramadol	50	None	0	None	0	None	0	50	
				Gallbladder	Laparoscopic		Oxycodone	45	None	0	None	0	None	0	45	
				Gallbladder	Laparoscopic		Oxycodone	45	None	0	None	0	None	0	45	

Metric

Optional	1	**Appendectomy Performed in Uncomplicated Appendicitis with Appendicolith on CT** (12 mo:8/1/24-7/31/25) ≥ 95% patients ≥ 90% patients < 90% patients	 1.0 0.5 0.0	PERFOR

Appendectomy Performed in Uncomplicated Appendicitis with Appendicolith on CT
Include appendicitis index encounter and CT Findings = Fecalith.
Exclude for presence of CT Findings = Abscess, Cecum or Terminal Ileum Inflammation, Free Air, Free Fluid, or Phlegmon.

Literature

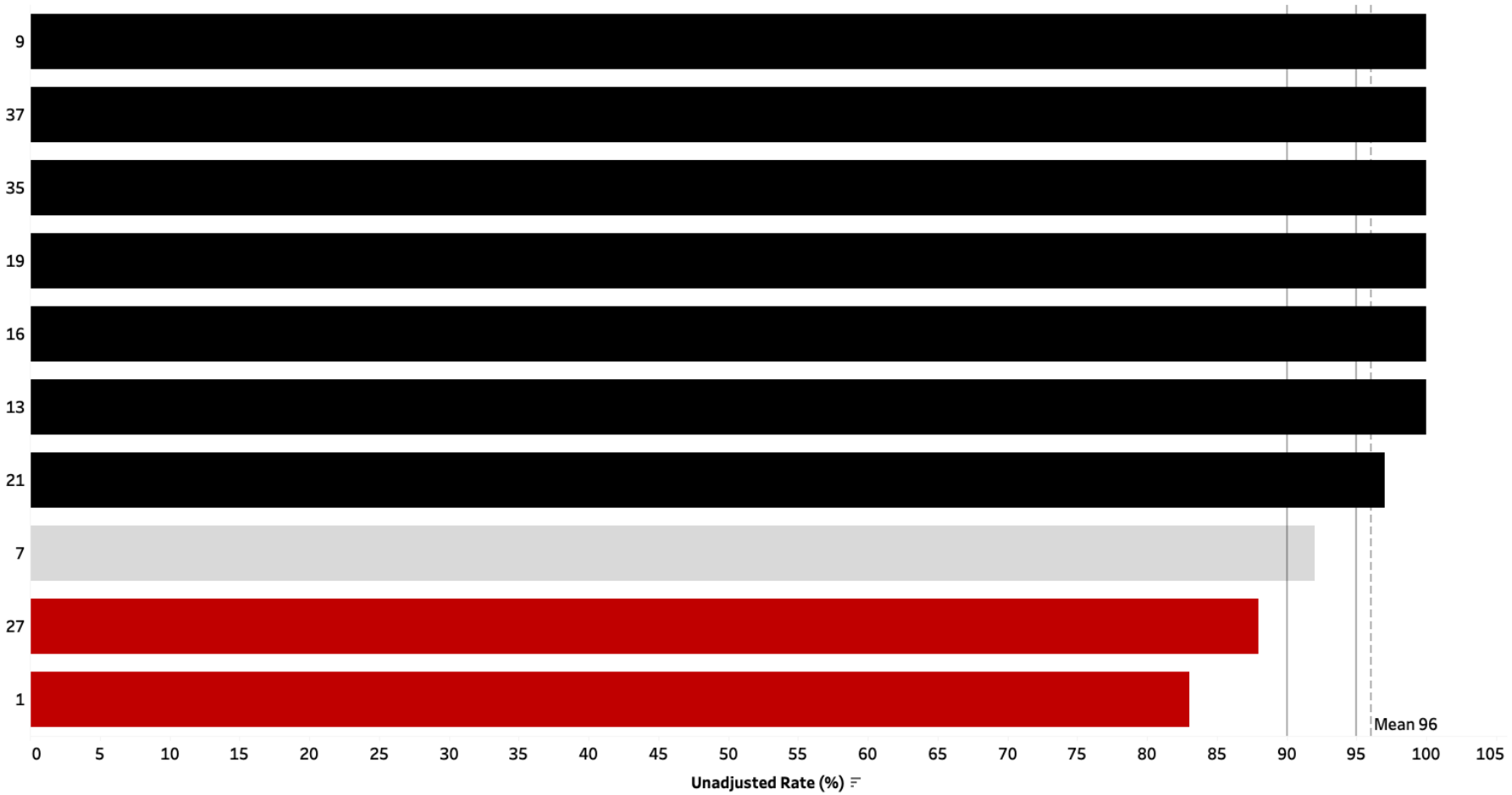
The presence of an appendicolith in patients with acute appendicitis is associated with an increased risk of complications such as perforation.[1] The literature suggests that an appendicolith is a significant risk factor for perforation, with patients presenting with an appendicolith being more likely to develop complicated appendicitis within the first 12 hours of admission.[1] Additionally, the presence of an appendicolith has been identified as an independent predictor for the failure of nonoperative treatment for complicated appendicitis in adults.[2]

In the context of uncomplicated appendicitis, the presence of an appendicolith has been associated with a higher risk of treatment failure when managed conservatively with antibiotics.[3] Specifically, patients with an appendicolith who were treated with antibiotics had a higher rate of complications and were more likely to require an appendectomy within 90 days compared to those without an appendicolith.[3]

Given these findings, it is reasonable to consider early appendectomy in adult patients with uncomplicated appendicitis when an appendicolith is present, as this may reduce the risk of progression to complicated appendicitis and the potential for treatment failure with conservative management.[1-3] However, the decision should be individualized based on the overall clinical picture, patient preferences, and the presence of other risk factors.

1. Appendicolith Appendicitis: Should We Be Operating Sooner? A Retrospective Cohort Study. Show Details
   Taib AG, Kler A, Prayle M, et al.
   Annals of the Royal College of Surgeons of England. 2024;106(3):237-244. doi:10.1308/rcsann.2023.0055.
   New Research
2. Fecalith in the Proximal Area of the Appendix Is a Predictor of Failure of Nonoperative Treatment for Complicated Appendicitis in Adults. Show Details
   Ando T, Oka T, Oshima G, et al.
   The Journal of Surgical Research. 2021;267:477-484. doi:10.1016/j.jss.2021.06.015.
3. A Randomized Trial Comparing Antibiotics With Appendectomy for Appendicitis. Show Details
   Flum DR, Davidson GH, Monsell SE, et al.
   The New England Journal of Medicine. 2020;383(20):1907-1919. doi:10.1056/NEJMoa2014320.

Metric | Appendectomy in Uncomplicated Appendicitis with Appendicolith



Progress Monitoring

MACS Appendicolith Drill Down
Interval 8/1/23 - 7/31/24
Target >= 95% patients

M·ACS

Center	Case #	MRN	Arrival Date	CT Fecalith	CT Abscess	CT Free Air	CT Free Fluid	CT Phlegmon	CT Cecum/TI Inflammation	Consult Surgeon	OR Date	Operative Surgeon	Non-operative Alert
				Yes	No	No	No	No			.		
				Yes	No	No	No	No			.		
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No					
				Yes	No	No	No	No	No				

Metric

Optional	1.5	**ED Visits Z-Score Trend in Appendicitis** (3 yr: 8/1/22-7/31/25) < -1 (major improvement) -1 to 1 or serious complications low outlier (average or better rate) > 1 (rates of serious complications increased)	 1.5 0.7 0.5

Definition

244) **Return to ED/UC Date (mm/dd/yyyy) 1-3**

Intent: To track unscheduled returns for care.

Definition: The date the patient returned to an emergency department or urgent care within 30 days of discharge from their last hospitalization.

Variable Options: Date in mm/dd/yyyy format

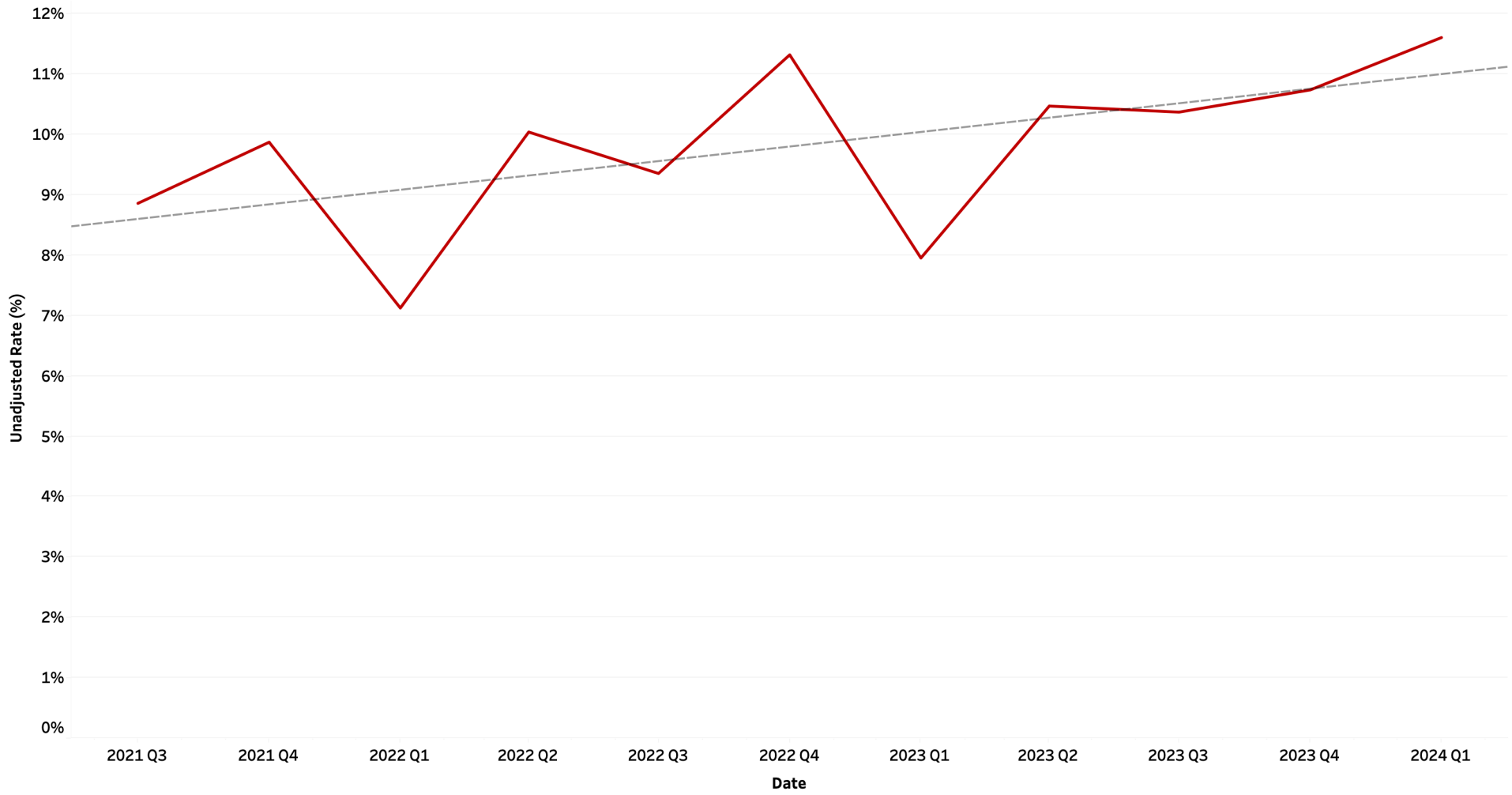
Include: All

Exclude: None

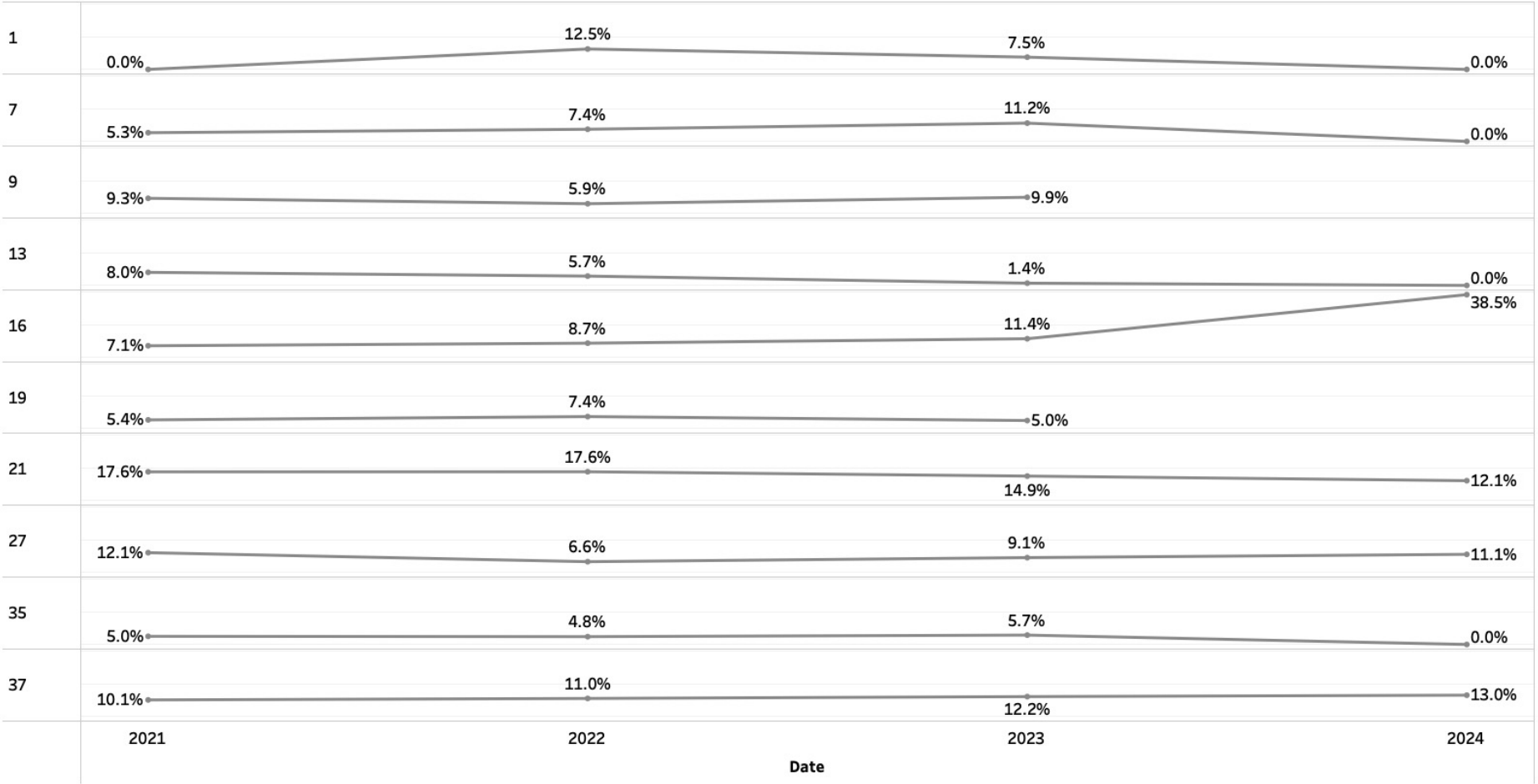
Notes:

- Leave blank if the patient does not return.
- Leave blank if the patient returns to the ED and is readmitted (readmissions will have a new MACS case).
- If there are greater than three ED visits following hospital discharge, enter the first three ED visits.

Metric | ED Visits Z Score Appendicitis



Metric | ED Visits Z Score Appendicitis



Progress Monitoring

MACS Appendicitis ED Visit Drill Down
Interval 8/1/21 - 7/31/24

M·ACS

Center	Case #	MRN	Arrival Date	Consult Surgeon	Operative Surgeon	OR Date	Approach	ASA Score	AAST Grade	ED Visit 1	ED Visit 2	ED Visit 3	ED Visit Alert
							Laparoscopic	2	1	/2023			
							Laparoscopic	3	1	/2023			
										/2023			
										/2024			
							Laparoscopic	1	1	/2023			
							Laparoscopic	2	1	/2023			
							Laparoscopic	2	3	/2021			
										/2021			
										/2022			
										/2023	/2023		
							Laparoscopic	1	1	/2021			
							Laparoscopic	2	3	/2021			
							Laparoscopic	2	4	/2022			
							Laparoscopic	2	1	/2022			
							Laparoscopic	2	1	/2022	/2022		
							Laparoscopic	3	2	/2023			
							Open	3	2	/2022	/2022	/2022	
							Laparoscopic	1	1	/2023			
							Laparoscopic	2	1	/2023			
							Laparoscopic	3	3	/2023			

Add-ins

Michigan Trauma Quality Improvement Program (MTQIP)
Optional Bonus for MACS Participants (Baseline DRAFT)
January 1 to December 31, 2024

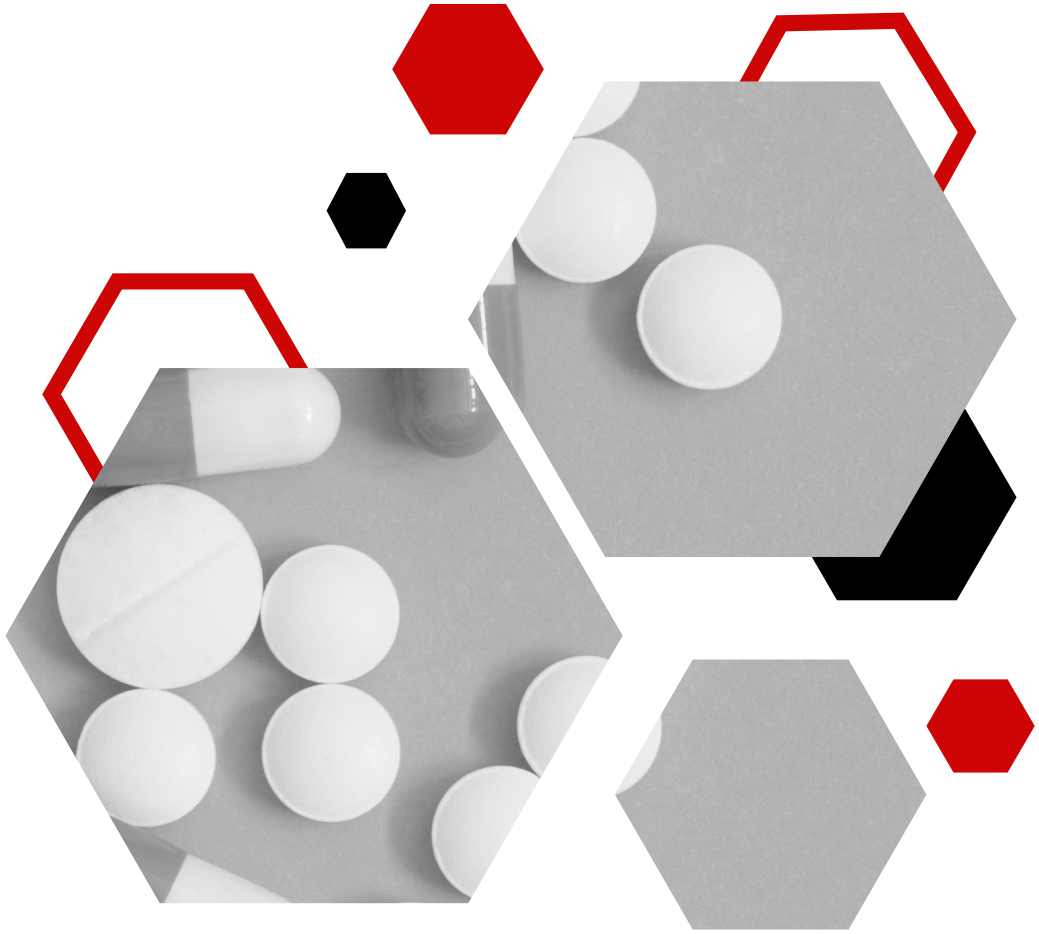
Measure	Weight	Measure Description	Result	Points	Possible	
Optional	1	**MACS Data Submission**				PARTICIPATION
		On time and complete 3 of 3 times	1	0.0	1.0	
		On time and complete 2 of 3 times			0.5	
		On time and complete 1 of 3 times			0.0	
Optional	1	**MACS Meeting Participation**				
		Surgeon attends 3 of 3 meetings	0	0.0	1.0	
		Surgeon attends 2 of 3 meetings			0.5	
		Surgeon attends 0-1 of 3 meetings			0.0	
Optional	1	**MACS Meeting Participation**				
		Quality Administrator/Manager or Data Abstractor attend 3 of 3 meetings	0	0.0	1.0	
		Quality Administrator/Manager or Data Abstractor attend 2 of 3 meetings			0.5	
		Quality Administrator/Manager or Data Abstractor attend 0-1 of 3 meetings			0.0	
Optional	1	**MACS Data Validation Error Rate**				
		0.0-3.0%	1.2	2.5	2.5	
		3.1-4.0%			1.5	
		4.1-5.0%			0.5	
		>5.0%			0.0	
Optional	1	**MACS Evidence-Based Opioid Prescribing in Appendectomy**				PERFORMANCE
		(12 mo:8/1/23-7/31/24)				
		≥80% patients (<52.5 discharge OME, oxycodone 5 mg = 7 pills)	79	0.5	1.0	
		≥70% patients (<52.5 discharge OME)			0.5	
		<70% patients (<52.5 discharge OME)			0.0	
Optional	1	**MACS Evidence-Based Opioid Prescribing in Cholecystectomy (Laparoscopic or Robotic)**				
		(12 mo:8/1/23-7/31/24)				
		≥80% patients (<45 discharge OME, oxycodone 5 mg = 6 pills)	83	1.0	1.0	
		≥70% patients (<45 discharge OME)			0.5	
		<70% patients (<45 discharge OME)			0.0	
Optional	1	**Appendectomy Performed in Uncomplicated Appendicitis with Appendicolith on CT**				
		(12 mo:8/1/23-7/31/24)				
		≥95% patients	88	0.0	1.0	
		≥90% patients			0.5	
		<90% patients			0.0	
Optional	1.5	**ED Visits Z-Score Trend in Appendicitis**				
		(3 yr: 8/1/21-7/31/24)				
		<-1 (major improvement)	coming		1.5	
		-1 to 1 or serious complications low outlier (average or better rate)	soon		0.7	
		>1 (rates of serious complications increased)			0.5	
		Total Points		4.0	10	

Additional Information

Scorecard

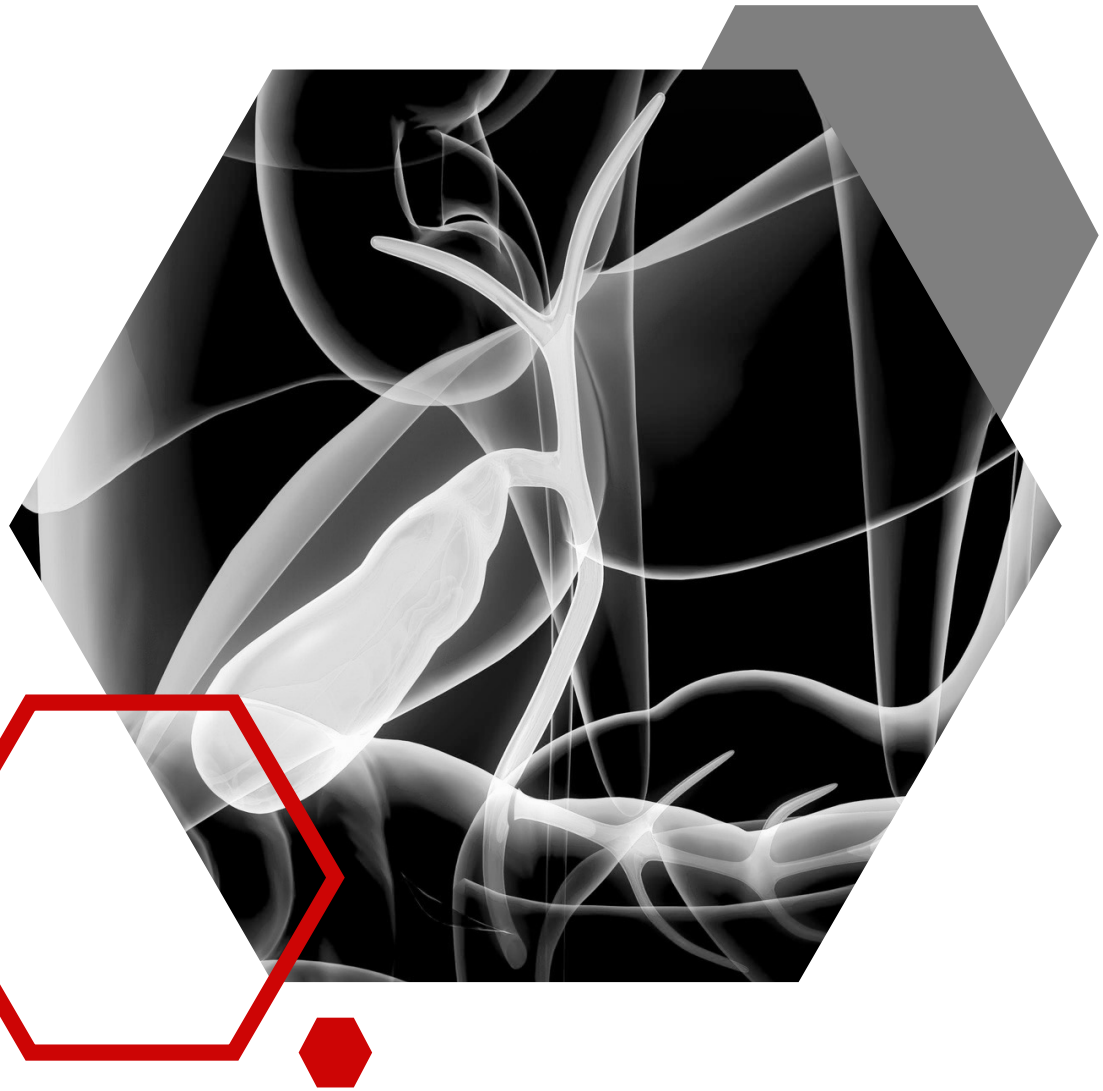
Points earned to date
Max points 100
Dropbox upload for baseline
Current draft pending BCBS
Target go live 2025 (8/1/24)

Feedback



M·ACS

Thank you



Blue Cross
Blue Shield
Blue Care Network
of Michigan

Nonprofit corporations and independent licensees
of the Blue Cross and Blue Shield Association

MTQIP
Future Metrics Planning

Judy Mikhail, PhD, MBA, RN
MTQIP Program Manager
5/1/24

Performance Measure Selection

- Pipeline planning
- Evidence based
- Valid data collection
- Clinically relevant
- Feasible
- Volume sensitive
- Fair but challenging
- What will help you with ACS Reviewers?

Task

Gather interested TPMs/MCRs/Registry Professionals
Discuss potential areas for future metrics/data collection
Generate ideas to bring back to the collaborative
Two meetings held in April 2024

MRC, REG, TPM

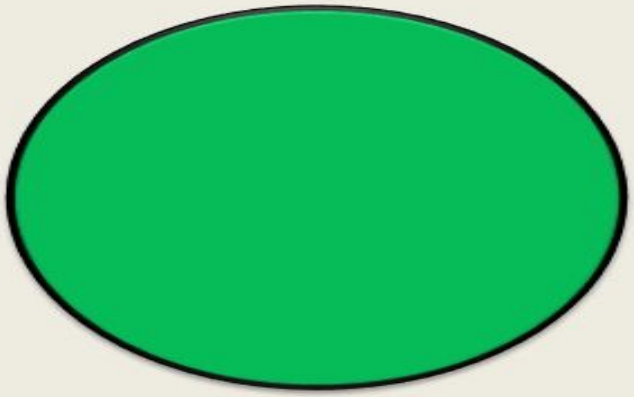
23/27= 85%

Participation Rate

Thank you!

Brainstorming

Green Light Thinking (Wonder)



Green Light Thinking (Wonder)

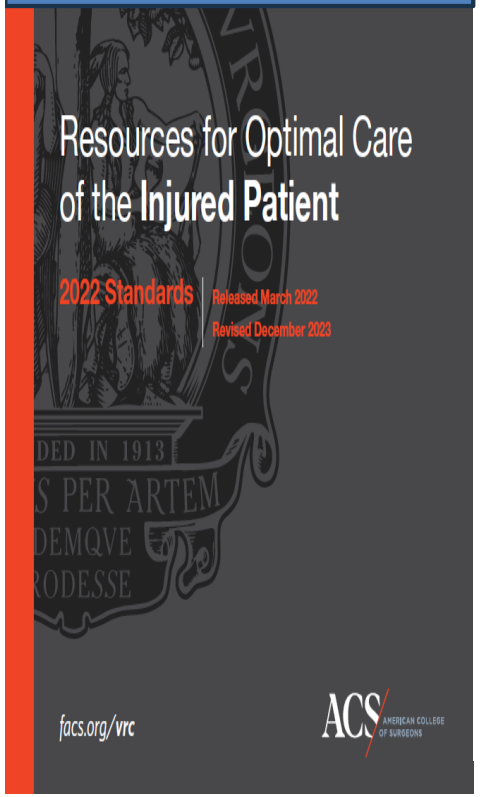
Go! Use your imagination; develop new ideas; use creative thinking.

1. What if?
2. Why might?
3. What could?
4. How could if be that?

Hemorrhage Control

Notification
to
Needle

<=60 min



4.15 Interventional Radiology Response for Hemorrhage Control—TYPE II

Applicable Levels

LI, LII, PTCI, PTCII

Definition and Requirements

Level I and II trauma centers must have the necessary human and physical resources continuously available so that an endovascular or interventional radiology procedure for hemorrhage control can begin within 60 minutes of request.

Additional Information

"Continuously" is defined as 24/7/365 and implies there are no gaps in coverage.

The response time is tracked from request to arterial puncture. It is not expected that every case undergoing intervention must be initiated within 60 minutes. The expectation is that if the clinical situation dictates the need for rapid intervention, that it can be initiated within 60 minutes.

Physician resources could include an interventional radiologist, a neurosurgeon/neurologist, or a vascular surgeon credentialed to perform angiography and embolization or stent placement.

Current
TQIP Data

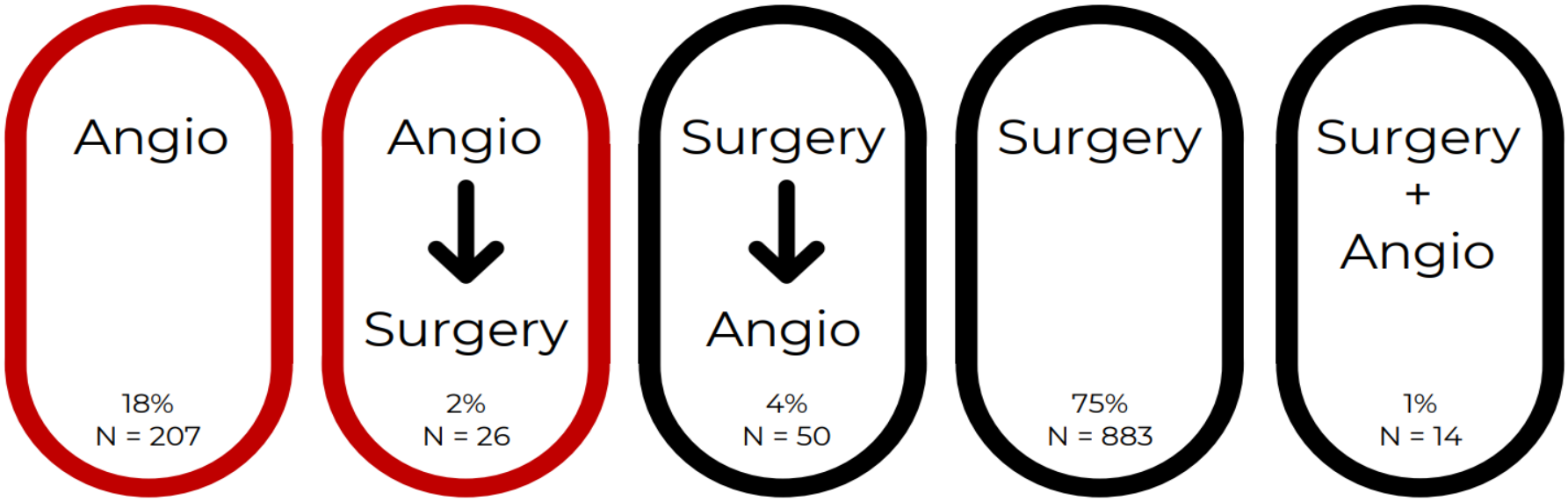
Pts with IR as
FIRST intervention:

Median 3.1 hrs
75% Between 2-4 hrs
1% within 30 minutes

Fastest Centers:
Nonteaching -33 min
↑ vol (>10 yr) -20 min

Feb 2023 Meeting

Scenarios

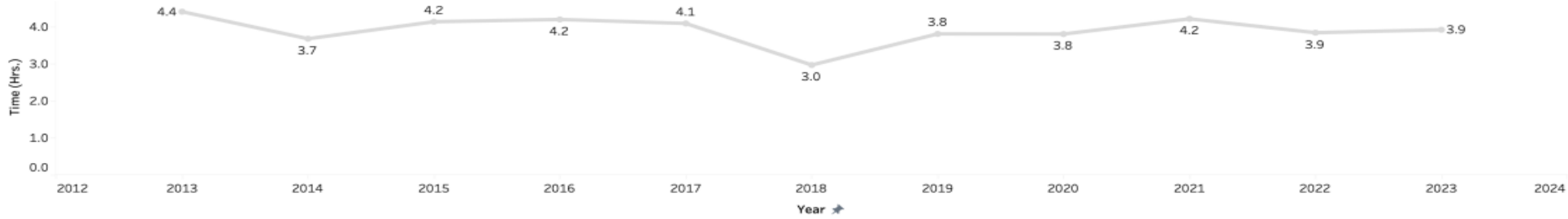


Feb 2023 MTQIP Mtg

Mean Time to First Intervention

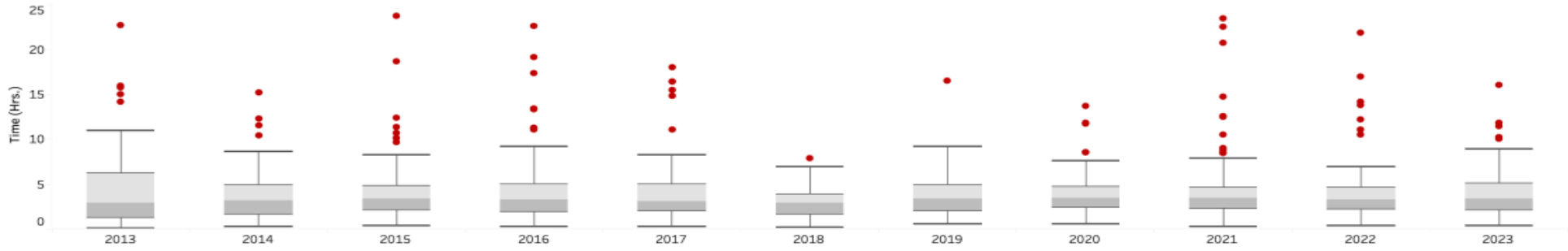
Angio Reported Hemorrhage Control Process Measures | Time 0-24 hours
Cohort 1 (All) | PRBC or Whole Blood 0-4 Hrs. >= 1

Summary
Mean time to first intervention angiography has been stable. Outlier values resulting in increased mean due to low volumes/yr (min 66, max 132, mean 91 cases/yr).



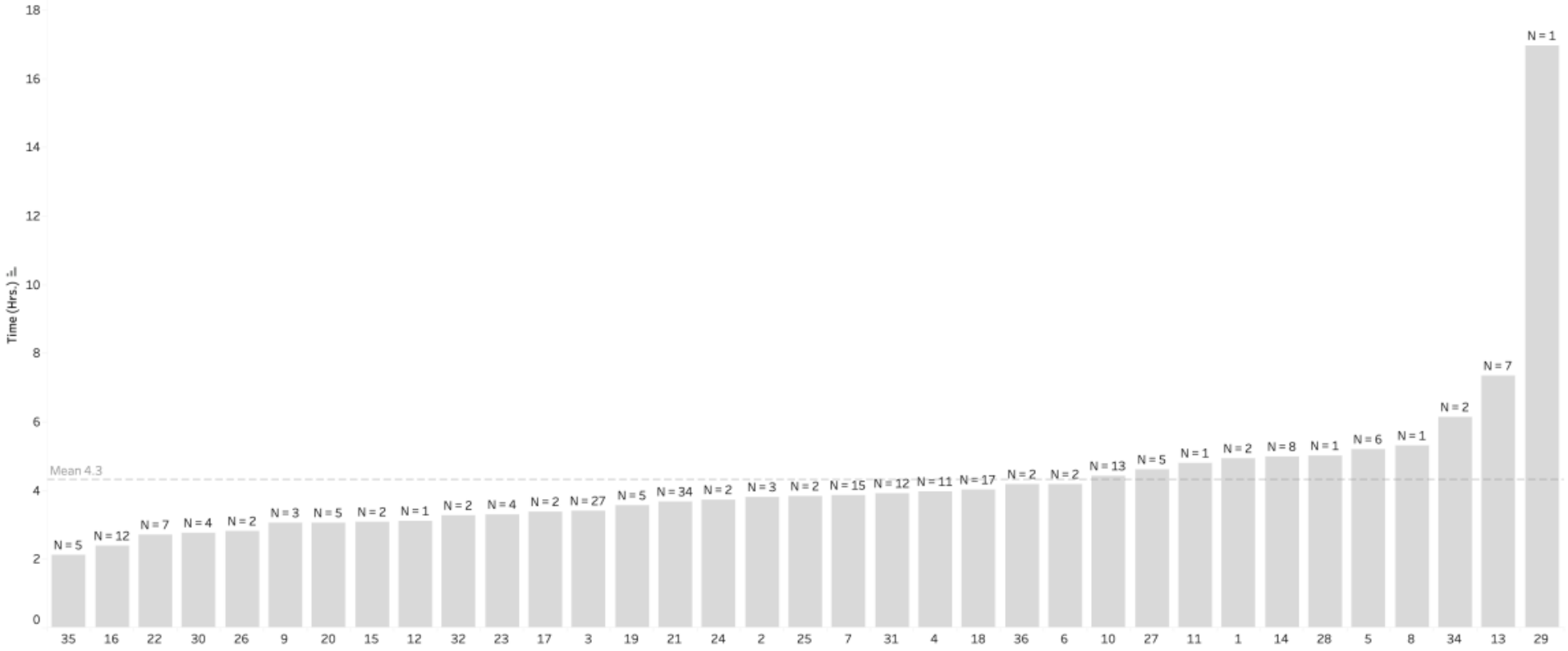
Median Time to First Intervention

Angio Reported Hemorrhage Control Process Measures | Time 0-24 hours
Cohort 1 (All) | PRBC or Whole Blood 0-4 Hrs. >= 1



Mean Time to First Intervention

Angio Reported Hemorrhage Control Process Measures | Time 0-24 hours
Cohort 1 (All) | Year >= 2022 | PRBC or Whole Blood 0-4 Hrs. >= 1



Sunnybrook's Protocol

- Category A (within 60 minutes)
  - **Unstable**: hypotension + transfusion with angioembolizable lesion not amenable to surgery (eg liver, pelvic fx, intercostal artery)
- Category B (within 2 hours)
  - **Stable:** + active arterial extravasation on CT
  - Who do not meet the criteria above
- Category C (during working hours)
  - Procedure same day or first case next morning
  - Pseudoaneurysm (liver, spleen, other)

Suspect that similar criteria likely to be added to Grey Book in future.

QI Carefully

Sunnybrook Protocol

- Category A (within 60 minutes)
  - –Unstable: hypotension requiring transfusion with angioembolizable lesion not amenable to surgery (eg liver, pelvic fx, intercostal artery)
- Category B (within 2 hours)
  - –Stable: + active arterial extravasation on CT
  - –Who do not meet the criteria above
- Category C (during working hours)
  - –Procedure same day or first case next morning
  - –Pseudoaneurysm (liver, spleen, other)

MTQIP Data:

- ✓ Activations
- ✓ Hypotension
- ✓ Transfusions
- ✓ Time to intervention

Hemorrhage Intervention Metric

Time to IR

Time to OR

Combine for larger n

Green Light Thinking

- New data element?
- Time to first drop of blood/plasma in?
- Pros – Cons?

Hemodynamic Instab

Anyone using SI?

Shock Index to Mortality Rates

	Shock Index	Mortality Rate	Blood Products
No Shock	<0.6	**10.9% mortality**	1 unit
Mild Shock	≥0.6 to <1.0		2.8 units
Moderate Shock	≥1.0 to <1.4		9.9 units
Severe Shock	≥1.4	**39.8% mortality**	21.4 units

Observational Study > Scand J Trauma Resusc Emerg Med. 2021 Jan 30;29(1):26.
doi: 10.1186/s13049-021-00840-2.

The impact of age and receipt antihypertensives to systolic blood pressure and shock index at injury scene and in the emergency department to predict massive transfusion in trauma patients

Se Jin Park [1], Mi Jin Lee [2], Changho Kim [1], Haewon Jung [1], Seong Hun Kim [3], Wooyoung Nho [3], Kang Suk Seo [1], Jungbae Park [1], Hyun Wook Ryoo [1], Jae Yun Ahn [1], Sungbae Moon [1], Jae Wan Cho [1], Shin-Ah Son [4]

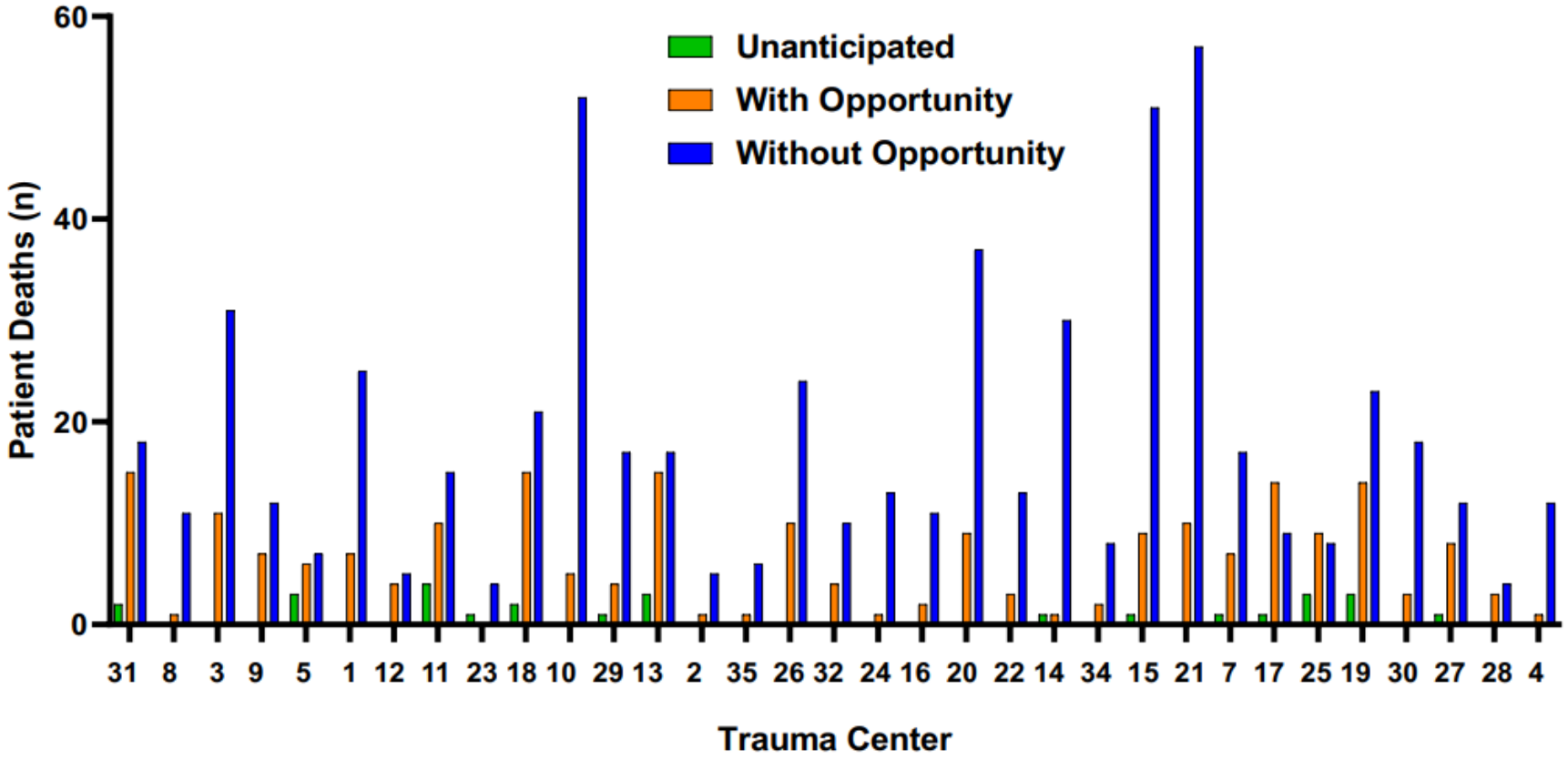
Affiliations + expand

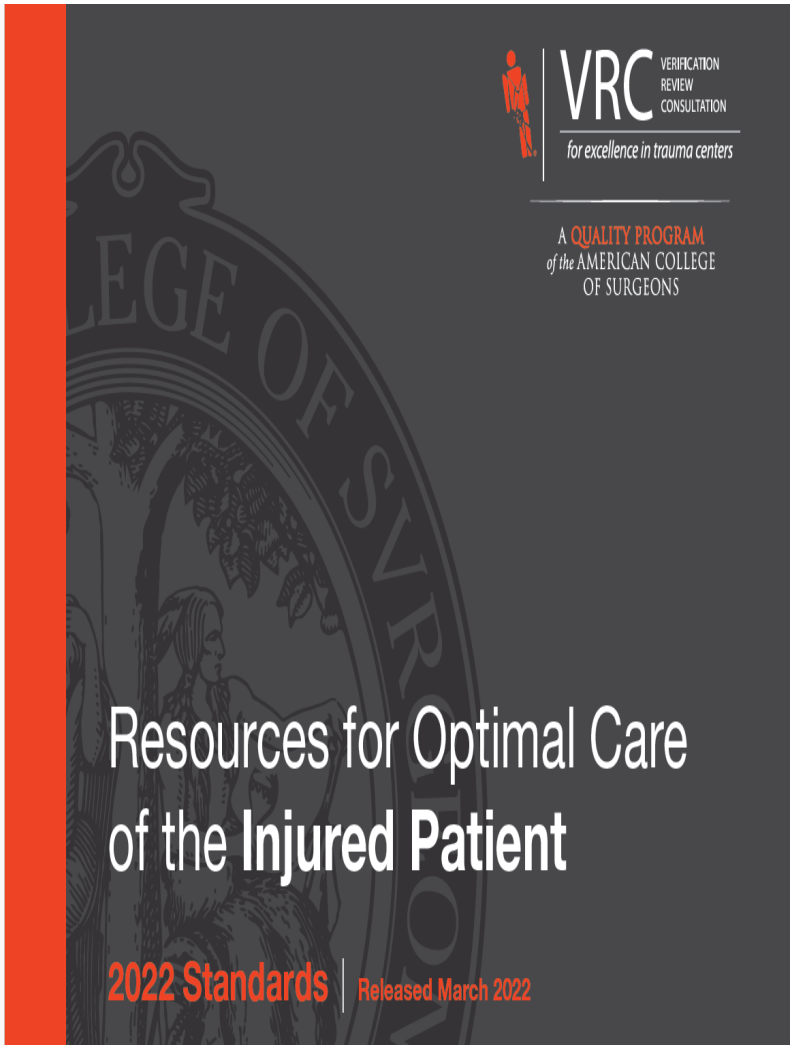
PMID: 33516239 PMCID: PMC7847168 DOI: 10.1186/s13049-021-00840-2

MTQIP
- Age
- Hypertensives
- B Blockers

PI DEATH REVIEWS

"PI THE PI"


Unanticipated
With Opportunity
Without Opportunity
Patient Deaths (n)
60
40
20
0
31 8 3 9 5 1 12 11 23 18 10 29 13 2 35 26 32 24 16 20 22 14 34 15 21 7 17 25 19 30 27 28 4
Trauma Center



7.7 Trauma Mortality Review—

Applicable Levels

LI, LII, LIII, PTCI, PTCII

Definition and Requirements

In all trauma centers, all cases of trauma-related mortality and transfer to hospice must be reviewed and classified for potential opportunities for improvement.

Deaths must be categorized as:

- Mortality with opportunity for improvement
- Mortality without opportunity for improvement

Additional Information

Mortalities include DOA, DIED, and patients who died after withdrawal of life-sustaining care.

The goal of reviewing events is to identify potential opportunities for improvement.

A death should be designated as "mortality with opportunity for improvement" if any of the following criteria are met:

- Anatomic injury or combination of severe injuries but may have been survivable under optimal conditions
- Standard protocols were not followed, possibly resulting in unfavorable consequence
- Provider care was suboptimal

Potential 2025 or 2026 Metric

- Death PI Review
- Death determinations vary among centers
- Most PI goes in a drawer = lost learning
- Shared PI “lifts all boats” - Educational
- Aligns with ACS-TQIP mortality reporting system
- You already do this work - *get credit for it*

How to operationalize?

- Each center submits 1 case a year from the previous X years
  - Case slides with performance improvement write-up
  - MTQIP would create a structured slide template format
- Blinded- deidentified
- MTQIP selects, groups, & presents a few cases per meetings
- MTQIP members vote on death determinations
- Robust discussion & learning

Performance Index Changes/Ideas

2023	2024	2025	2026	2027
NEW Death Classification Doc	NEW Wt Based VTE Prophy	CONSIDER IR+OR w/I 60? Collab-Wide?	CONSIDER Submit a Blinded Death Case *Optional* (Bonus pts)	CONSIDER Submit a Blinded Death Case (Regular Pts)
	NEW Geri Hip Fx Repair ↓42 hrs	CONSIDER Submit a Blinded Death Case *Optional* (Bonus Pts)		
	NEW Delete Head CT Add PROs Participation			

VBR

Value-Based Reimbursement

For Surgeons enrolled in a Physician Organization
With Data in the collaborative for at least 2 years

VBR 2025 Scoring for 2026 Payout

1. Timely LMWH VTE Prophylaxis (≥52.5% w/i 48 hours)
2. Timely op repair geriatric hip fx (≥92.0% w/i 42 hours)
3. Timely antibiotics open fractures (≥85% w/i 90 min) (Collaborative wide)

- Scoring
  - –2 of 3 Measures = 103%
  - –3 of 3 Measures = 105%

- NEW opportunity to earn extra 102% for Alcohol SBIRT

Alcohol Misuse -Type II

5.30 Alcohol Misuse Screening (min 80%)

- **All centers must screen <u>all admitted</u> trauma patients (age >12 yr) by:**
  - Validated tool *OR*
  - Routine blood alcohol testing

New

5.31 Alcohol Misuse Intervention (min 80%)

- **All centers, at least 80% of patients who have screened positive for alcohol misuse:**
  - Must receive a brief intervention before discharge
  - By staff **trained & credentialed by center**
  - May include RN, MSW

Compliance Measures

- Alcohol Misuse Report
- Screening Brief Intervention Protocol
- Alcohol Misuse Intervention Report

Numerator	# pts (participatory/survived to DC) that received an intervention
Denominator	# pts (participatory/survived to DC) who screen + misuse

MTQIP VBR Language

VBR
Alcohol Misuse Screening & Brief Intervention ≥ 80%
Points awarded based on the submission of the following: • 12-month report showing: • ≥ 80% Screening • ≥ 80% Brief Intervention

VBR Reporting Year 2026
7/1/24-6/30/25

Trauma Center:	
Screening Tool Used:	□ AUDIT (Alcohol Use Disorder Identification Test) □ AUDIT-C (Alcohol Use Disorder Identification Test- Consumption) □ CAGE (Cut, Annoyed, Guilty, Eye) □ CRAFFT □ RAPS (Rapid Alcohol Problems Screen) □ SASQ (Single Alcohol Screening Question) □ TWEAK □ Other (Describe and provide reference)

Month Year	# Admitted Participatory	# (%) Screened By BAC or Tool	# (%) Screened Positive BAC or Tool	# (%) Brief Intervention Completed
JUL 2024				
AUG 2024				
SEP 2024				
OCT 2024				
NOV 2024				
DEC 2024				
JAN 2025				
FEB 2025				
MAR 2025				
APR 2025				
MAY 2025				
JUN 2025				
Total				

Key: BAC=Blood Alcohol Concentration (optional per Trauma Center policy)

ED Pediatric Readiness

Michelle Nypaver, MD
Samantha Mishra, DO

Pediatric Readiness in Hospitals

Considerations for Trauma Programs

Sam Mishra, DO, MPH
EMS for Children Program Coordinator

Michele Nypaver, MD
MEDIC Co-Director for Pediatrics

This presentation has been prepared for the MTQIP Collaborative Meeting

May 1st, 2024

MICHIGAN
EMSC State Partnership Program

MEDIC
MICHIGAN EMERGENCY DEPARTMENT IMPROVEMENT COLLABORATIVE

Michigan Emergency Department Improvement Collaborative (MEDIC) CQI

2015 year MEDIC was established

50+ participating sites

ALL major pediatric* EDs in MI

10 million+ ED visits in our data registry over all time

the **first & **one of the only** CQIs to include **pediatric** quality initiatives*

3 main areas of QI work including:

ED Imaging Use

Admission Decisions

Harm Reduction

Blue Cross Blue Shield Blue Care Network of Michigan
Nonprofit corporations and independent licensees of the Blue Cross and Blue Shield Association

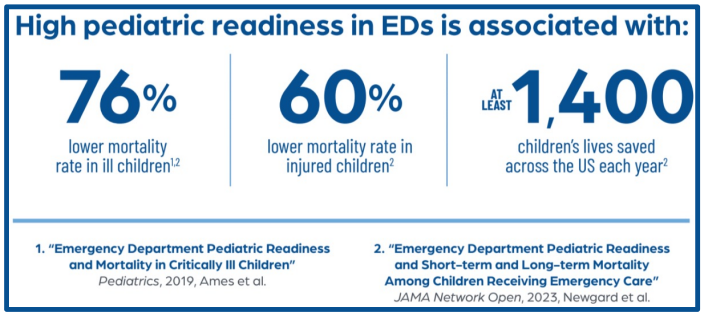
MEDIC MICHIGAN EMERGENCY DEPARTMENT IMPROVEMENT COLLABORATIVE

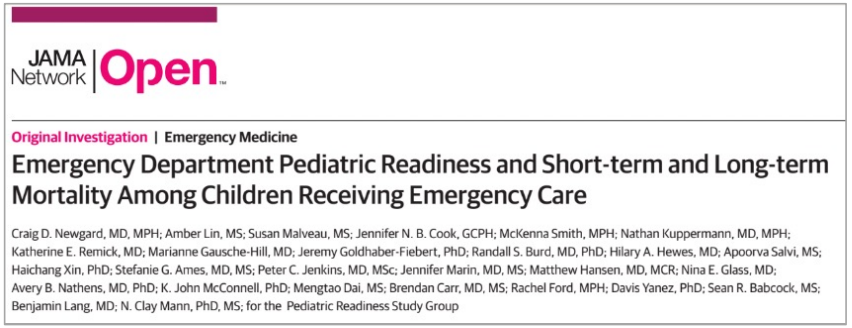
@medic_qi

2024 new pilot initiatives: ***Pediatric Readiness*** & HIV/STI Screening

Why Pediatric Readiness?

Research has shown high pediatric readiness in EDs – scoring **>87 points** on the National Pediatric Readiness Project Assessment – improves outcomes for children.

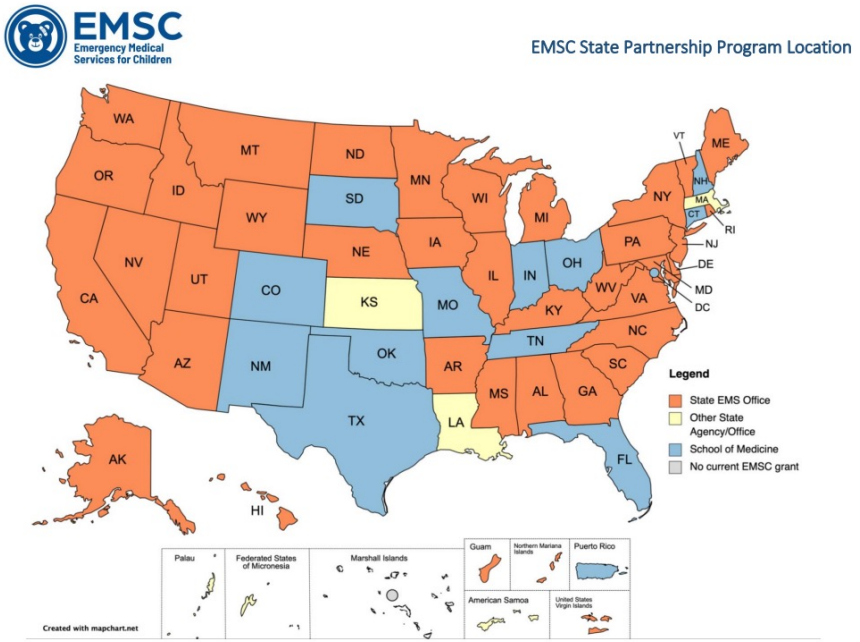




EMSC – Emergency Medical Services for Children

- State Partnership
- Mission: Reduce child and youth mortality and morbidity resulting from severe illness or trauma
- Pillars of Pediatric Readiness
  1. Pre-Hospital Systems
  2. Hospitals & EDs
  3. Disaster Readiness
  4. Family Partnership

GOAL: Improved Pediatric Readiness across the continuum of care



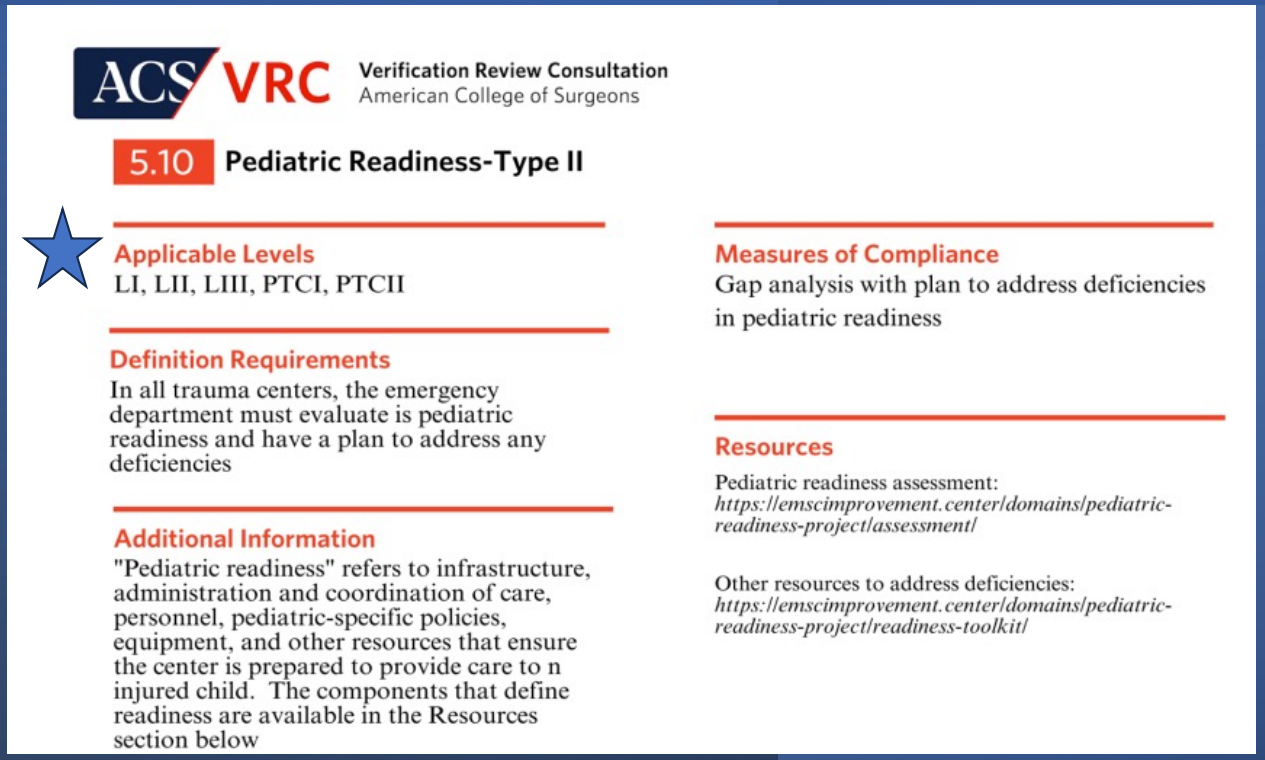
Pediatric Readiness

The day-to-day ability to meet the immediate needs of an ill or injured child

Most children in the United States receive initial trauma care at non-pediatric centers

"The goal of pediatric readiness is not to transform every ED into a pediatric trauma center…

Rather, the goal is to help EDs optimize the initial care for pediatric trauma patients."



ACS VRC Verification Review Consultation
American College of Surgeons

5.10 Pediatric Readiness-Type II

Applicable Levels
LI, LII, LIII, PTCI, PTCII

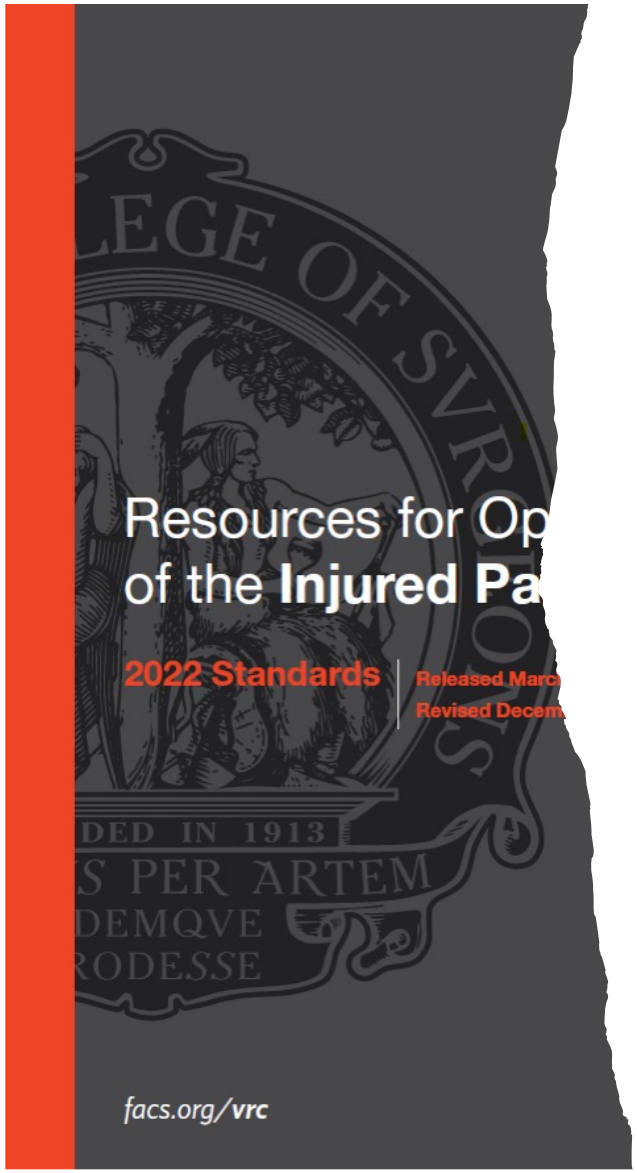
Definition Requirements
In all trauma centers, the emergency department must evaluate is pediatric readiness and have a plan to address any deficiencies

Additional Information
"Pediatric readiness" refers to infrastructure, administration and coordination of care, personnel, pediatric-specific policies, equipment, and other resources that ensure the center is prepared to provide care to n injured child. The components that define readiness are available in the Resources section below

Measures of Compliance
Gap analysis with plan to address deficiencies in pediatric readiness

Resources
Pediatric readiness assessment:
https://emscimprovement.center/domains/pediatric-readiness-project/assessment/

Other resources to address deficiencies:
https://emscimprovement.center/domains/pediatric-readiness-project/readiness-toolkit/



Trauma Designation:

I & II – Trauma Designated by ACS

- Standards: Resources of Optimal Care of the Injured Patient (2022)
- "Gray Book"

III – Trauma Designated by ACS *or* State of Michigan (SOM)

IV – Trauma Designated by SOM

- Standards: Resources of Optimal Care of the Injured Patient (2014)
- "Orange Book"

National Pediatric Readiness Project (NPRP)

Empowers emergency departments (EDs) to improve their capability to provide high-quality care for children, also known as being

"pediatric ready."

Supported by:

EMSC Emergency Medical Services for Children

ENA Emergency Nurses Association

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

American College of Emergency Physicians®

ACS American College of Surgeons

NPRP Assessment – a tool for pediatric readiness

Peds Ready Assessment

QI phase now

Questions are from 2021 assessment

Receive gap report immediately

Be sure to save it!

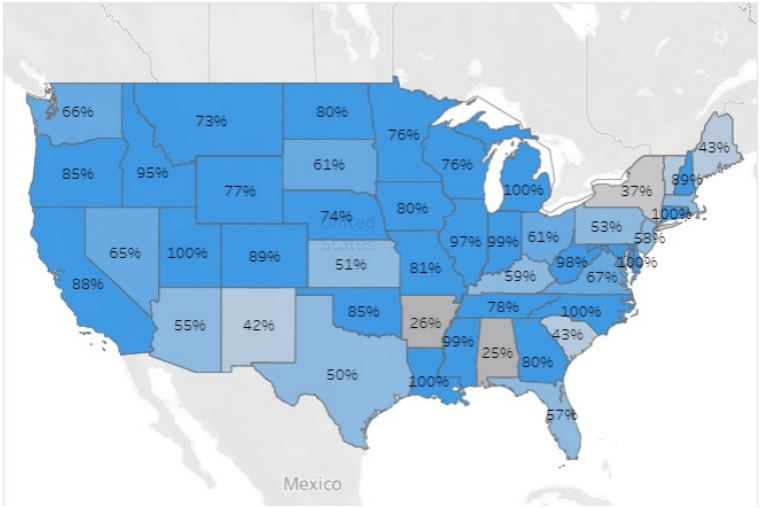
Accepted for ACS Trauma Center Verification

Repeat as often as desired

www.PedsReady.org

Peds Ready Assessment Michigan 2021

100 % of Michigan Emergency Departments participated



Michigan

Michigan 2021 National Pediatric Readiness State Summary

2021 Pediatric Readiness Response Rate

Numerator: **138**
Denominator: **138**
Response Rate: **100%**

2013-14 Pediatric Readiness Response Rate

Numerator: **136**
Denominator: **136**
Response Rate: **100%**

2021 Average State Score	2021 Median State Score
71	69
State AVERAGE Hospital Score out of 100 (n=133)	State MEDIAN Hospital Score out of 100 (n=133)

NOTE: There are 5 records in this dataset that did not have answers to all the scored questions and are not included in the scores shown above.

The overall 2021 National Pediatric Readiness scores (based on the 2018 Joint Policy Guidelines) are not directly comparable with the 2013-14 state scores (based on the 2009 Joint Policy Guidelines). These were two unique assessments based on two different published sets of guidelines. Questions were added/removed and point values changed based on the new guidelines. Although the overall scores are not comparable, several individual questions remained the same and these components can be compared over time.

Filter chart below by urbanicity:
All

What do we know now?

PECC – Pediatric Emergency Care Coordinator

AKA a Pediatric Champion

Having a PECC

- ✓ Increases pediatric readiness scores significantly
- ✓ 2 x likely to have important pediatric policies
- ✓ 4 x likely to have QI plan including needs of children

Pediatric Readiness is Collaborative

Across the Continuum of Care

Building a Pediatric Readiness Team

1. ED Nurse Manager
2. ED PECCs
3. Trauma Program Manager
4. QI Hospital Personnel
5. Emergency Management
6. Nurse Educator

Future Possibilities & Opportunities

Set the stage for
Pediatric Readiness Recognition

MEDIC Pediatric Readiness Project 2024

A pilot program led by MEDIC

in collaboration MDHHS/Michigan EMSC & MTQIP

Aim is to ensure all EDs are equipped with the essential resources & are sufficiently prepared to deliver high-quality emergency care to sick & injured children, ultimately elevating the standard of pediatric care in emergency departments (EDs) across Michigan.

National PRP Pediatric Readiness Project Ensuring Emergency Care for All Children

Emergency Medical Services for Children

MDHHS Michigan Department of Health & Human Services

M·TQIP

MEDIC Pediatric Readiness Project 2024

Key Benefits

- Support healthcare professionals in delivering high quality pediatric emergency care
- Enhanced reputation as community leaders in pediatric emergency preparedness
- ***Support new requirements for American College of Surgeons (ACS) trauma verification***

Site Expectations

- Identify key pediatric readiness contacts
- Complete baseline NPRP Pediatric Readiness Survey with support from MEDIC Implement QI initiatives to close gaps in pediatric care based on gap analysis
- Complete follow-up NPRP Pediatric Readiness Survey

National PRP Pediatric Readiness Project Ensuring Emergency Care for All Children

Emergency Medical Services for Children

MDHHS Michigan Department of Health & Human Services

M·TQIP

Interested in Participating or Learning More?

- Scan the QR code for a copy of the MEDIC Pediatric Readiness Pilot Program One-Pager

- Contact Catie Guarnaccia (szedlaca@med.umich.edu) by Friday, May 31st to:
  - Ask additional questions/learn more
  - Get connected with MEDIC folks at your site
  - Express interest in participating

Pediatric Readiness Resources

Michigan EMSC Connections for support

Sam Mishra, DO, MPH

EMS for Children Program Coordinator

MishraS@michigan.gov

517 896 8061

Aubree Verlinde

Region 5 Systems of Care Coordinator

VerlindeA@michigan.gov

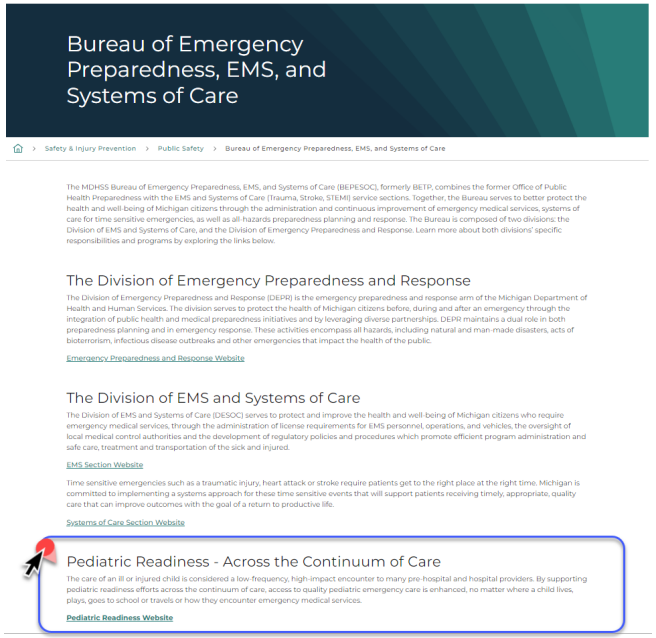
517 897 3334

MICHIGAN
EMSC State Partnership Program

MDHHS
Michigan Department of Health & Human Services
Bureau of Emergency Preparedness, EMS and Systems of Care

Pediatric Readiness Resources & Support

- EIIC – EMSC Innovation and Improvement Center
- Pediatric Readiness Website (BEPESoC)
- PECC Office Hours
- PECC Updates
  - ✓ Hospital
  - ✓ EMS



Hospital-Based Pediatric Readiness Support

Pediatric Readiness updates
Resources
Opportunities

https://forms.office.com/g/ZyXj3zCxyF

Pre-Hospital Pediatric Readiness Support

EMS PEDIATRIC CHAMPION REGISTRATION

https://forms.office.com/g/BPC8v8fz8K

PECC Office Hours

Last Tuesday of every month at 2:00 pm

- Pediatric Readiness
- Disaster considerations peds
- Pediatric Emergencies
- Pediatric Trauma
- Mother – Baby considerations
- Transport

Pediatric Readiness

Welcome to the pediatric readiness page

This newly developed main page for all pediatric readiness resources is still being built! Be sure to come back often to locate new resources, updates, education opportunities that meet your needs!

EMS for Children Program

Pediatric Disaster Readiness

Pre-Hospital Pediatric Readiness

Hospital Pediatric Readiness

Pediatric Readiness Resources

Pediatric Education and Training

What is pediatric readiness?

Pediatric Readiness is the ability to meet the immediate needs of an ill or injured child – no matter where they live (emergency medical service continuum, they receive care.

Why does pediatric readiness matter?

Pediatric encounters comprise a smaller portion of EMS calls and community ED visits in most areas of the State. Tl is considered a low-frequency, high-impact encounter to many pre-hospital and hospital providers. Improving pediatric readiness across the continuum of care is critical. A special focus on supporting and bolstering those agencies, departments and providers who have lower pediatric volumes, and overall pediatric readiness is especially impactful. Robust efforts are made to promote and support pediatric readiness, especially in rural areas of the State, as pediatric encounters become even more infrequent, exacerbating an already low-frequency, high-impact encounter for providers with limited resources. By supporting pediatric readiness efforts across the continuum of care, access to quality pediatric emergency care is enhanced, no matter where a child lives, plays, goes to school or travels or how they encounter emergency medical services.

What is a Pediatric Champion?

A Pediatric Champion may also be known as a Pediatric Emergency Care Coordinator (PECC). They are an individual(s) who is responsible for coordinating pediatric specific activities. A designated individual(s) who coordinates pediatric emergency care need not be dedicated solely to this role; it can be an individual(s) already in place who assumes this role as part of their existing duties.

Additional Pediatric Readiness Resources

For All

EIIC Resources

Focus Areas

The EMSC Innovation and Improvement Center is organized by key "domains" or focus areas.

Prehospital-Based Care

Hospital-Based Care

Trauma Care

Disaster Preparedness

Research

Advocacy

https://emscimprovement.center/

Pediatric Education & Advocacy Kits

PEAK: Status Epilepticus

PEAK: Suicide

PEAK: Pain

PEAK: Agitation

PEAK: Child Abuse

PEAK
Pediatric Education and Advocacy Kits

EIIC – Pediatric Readiness Resources (hospital)

National Pediatric Readiness Project:

- National Pediatric Readiness Project • EIIC (emscimprovement.center)
- Spread the Word – toolkit of materials

Peds Ready Assessment:

- Assessment • EIIC (emscimprovement.center)
- Assessment Website:
  - Pediatric Readiness Assessment - Home Page (pedsready.org)

ED Checklist & Toolkit:

- Checklist & Toolkit • EIIC (emscimprovement.center)

Resources: https://emscimprovement.center/education-and-resources/

Additional Resources (Hospital)

NPRQI: https://sites.utexas.edu/nprqi/

- Implementation arm of the NPRP
- Dashboards and standardized quality measures with benchmarking

Additional Resources (for all)

PEAK: https://emscimprovement.center/education-and-resources/peak/

Collection of best practice educational resources to empower providers across disciplines.
Organized by provider types and deliverable type

BEPESoC : https://www.michigan.gov/mdhhs/safety-injury-prev/publicsafety/betp

Pediatric Readiness landing page: https://www.michigan.gov/mdhhs/safety-injury-prev/publicsafety/betp/pediatric-readiness

Resources and information by areas of focus
Education and training by the Bureau in one place

EIIC : Pre-Hospital Resources

National Prehospital Pediatric Readiness Project

- https://emscimprovement.center/domains/prehospital-care/prehospital-pediatric-readiness/

Prehospital Pediatric Readiness Toolkit

- https://emscimprovement.center/domains/prehospital-care/prehospital-pediatric-readiness/pprp-toolkit/

Break

Back at 3:45

Orthopedic Updates

Bryant Oliphant, MD

Identifying Patient Characteristics Associated with Delays in Orthopaedic Process Measures

Bryant W. Oliphant, MD, MBA, MSc
@BonezNQuality

CENTER FOR HEALTHCARE OUTCOMES & POLICY
MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN
DEPARTMENT OF ORTHOPAEDIC SURGERY

Disclosures

- Nishant Gohel MD – None
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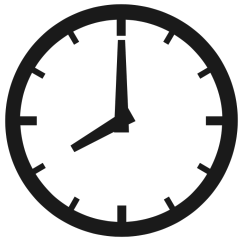
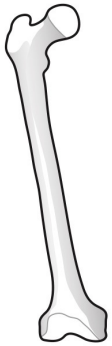
- Bryant W. Oliphant, MD, MBA, MSc – Grant support by NIAMS of the NIH under award number K23AR079565, Specialty Consultant for MTQIP, Chair of Orthopaedic Surgery Specialty Group – ACS Committee on Trauma.

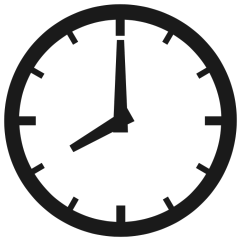
Timely Fixation of Ortho Injuries is Good!



< 24 hours



vs

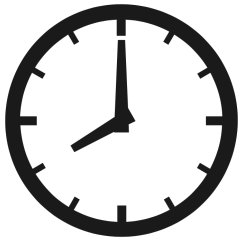


> 48 hours

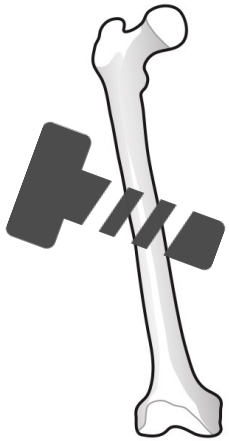
↓ Pulmonary complications
↓ ICU days
↓ LOS

Bone et al 1989

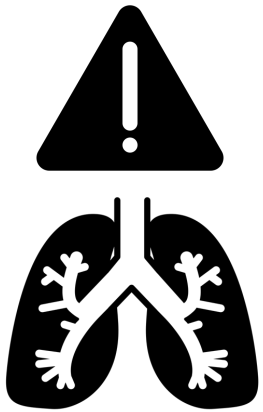
Timely Fixation of Ortho Injuries is Good!



< 24 hours



↓70%



C.M. Robinson 2001

Timely Fixation of Ortho Injuries is Good!

Vallier et al 2016

Orthopaedic Process Measures

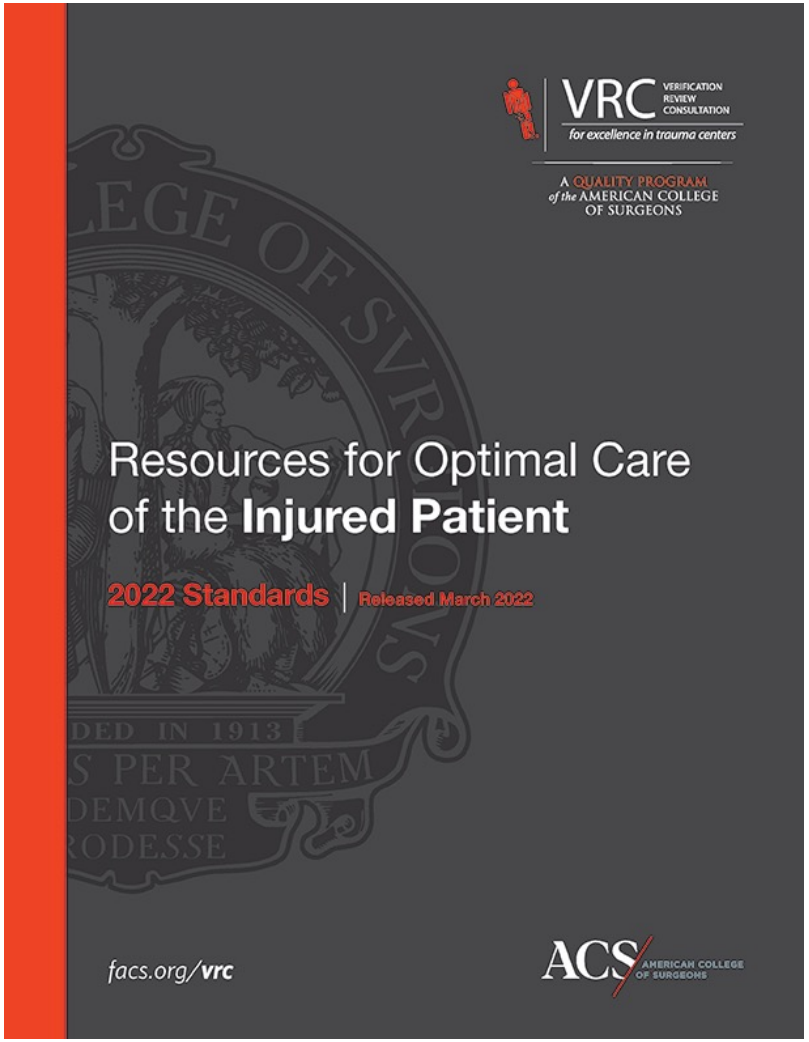
1. Fixation of mid-shaft femur fracture < 24 hours
2. Fixation of open tibia shaft fracture < 24 hours
3. I & D of open tibia shaft fracture < 24 hours
4. Flap coverage of open tibia shaft fracture within 7 days
5. Number of fasciotomies performed in tibia shaft fractures
6. Operative fixation in elderly hip fractures < 48 hours
7. Antibiotics administered in open femur or tibia fractures < 60 minutes

ACS tqip® TRAUMA QUALITY IMPROVEMENT PROGRAM

M·TQIP

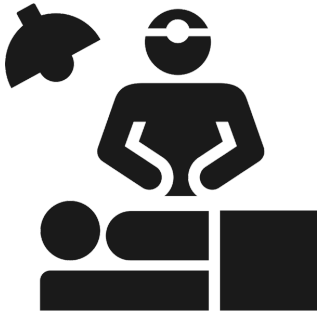
“Less than 80% of femurs were fixed within 24 hours. Recommend examining barriers to timely surgery.”

Reviewers rarely comment on patient factors as a reason for delay…

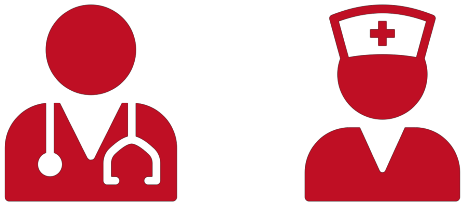


Reasons for Delay

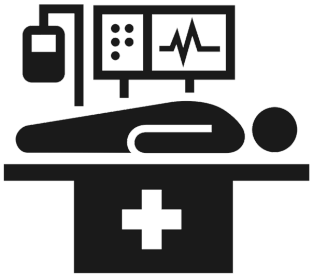
Surgeon Factors

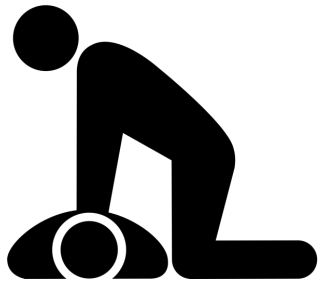


Hospital Factors



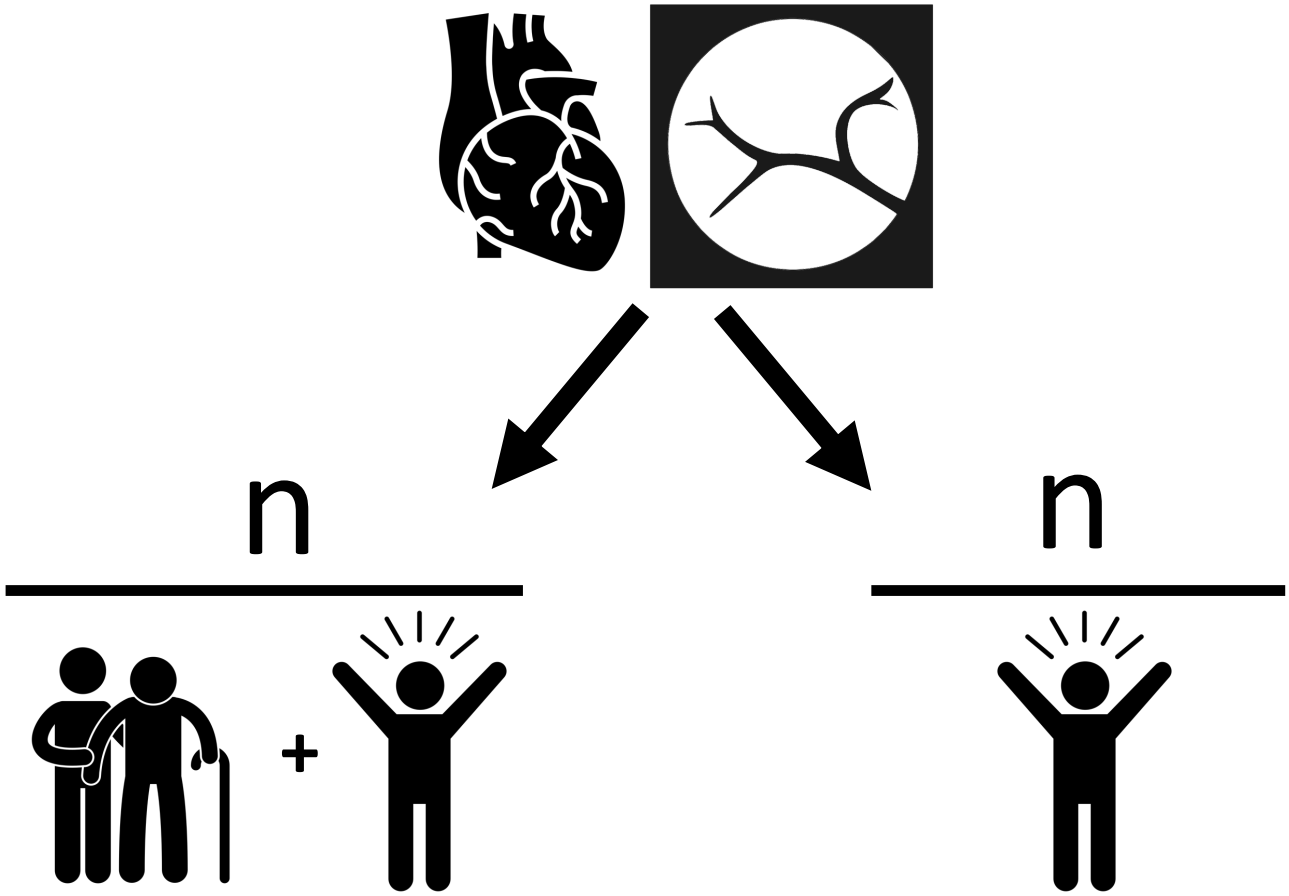
Patient Factors





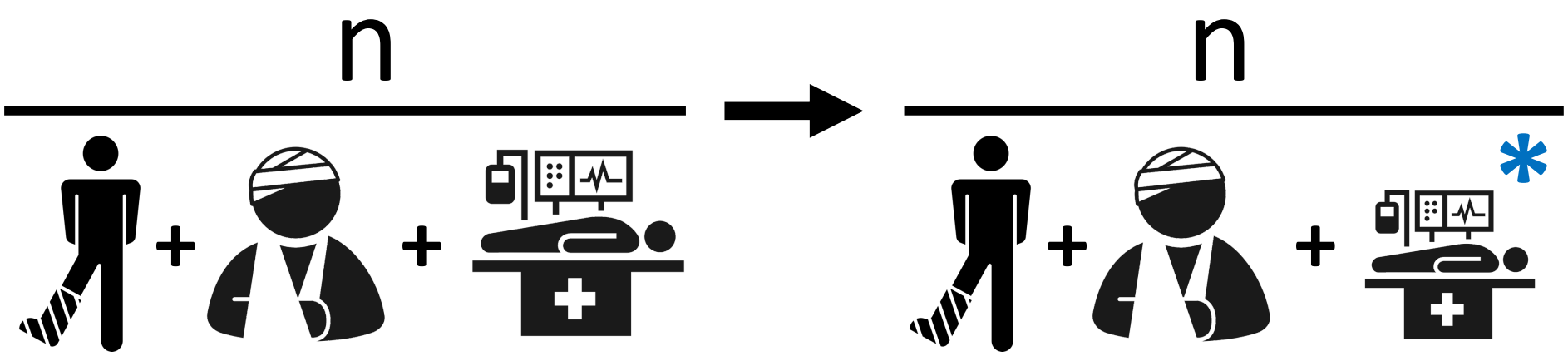
Standing in the corner…

What is the Real Denominator?



Nallamothu et al 2016
Brukel et al 2016

Can We Risk Adjust Process Measures?



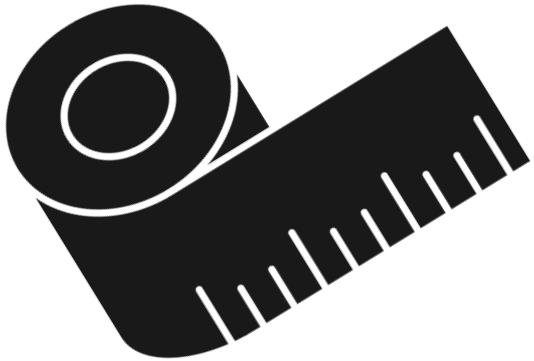
Are there certain factors that predict a delay?

3 Orthopaedic Injuries + Associated Surgery

1. Closed Femoral Shaft Fracture → Fixation within 24 hours
2. Open Tibia Shaft Fracture → Fixation within 24 hours
3. Open Tibia Shaft Fracture → I & D within 24 hours

Methods – Measures

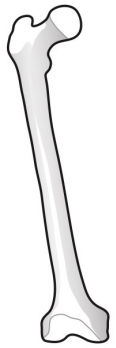
- Delay = time to associated procedure > 24 hours from ED arrival
  - e.g. Femur Fixation of Femoral Shaft Fracture
- Delay in “Healthy Patients” – proxy for structural issue
- Outcomes
  - Complications
  - Length of stay

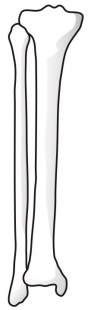


- Univariate analysis to describe groups
- Multivariable logistic regression to evaluate factors associated with a delay

Methods – Inclusion Criteria

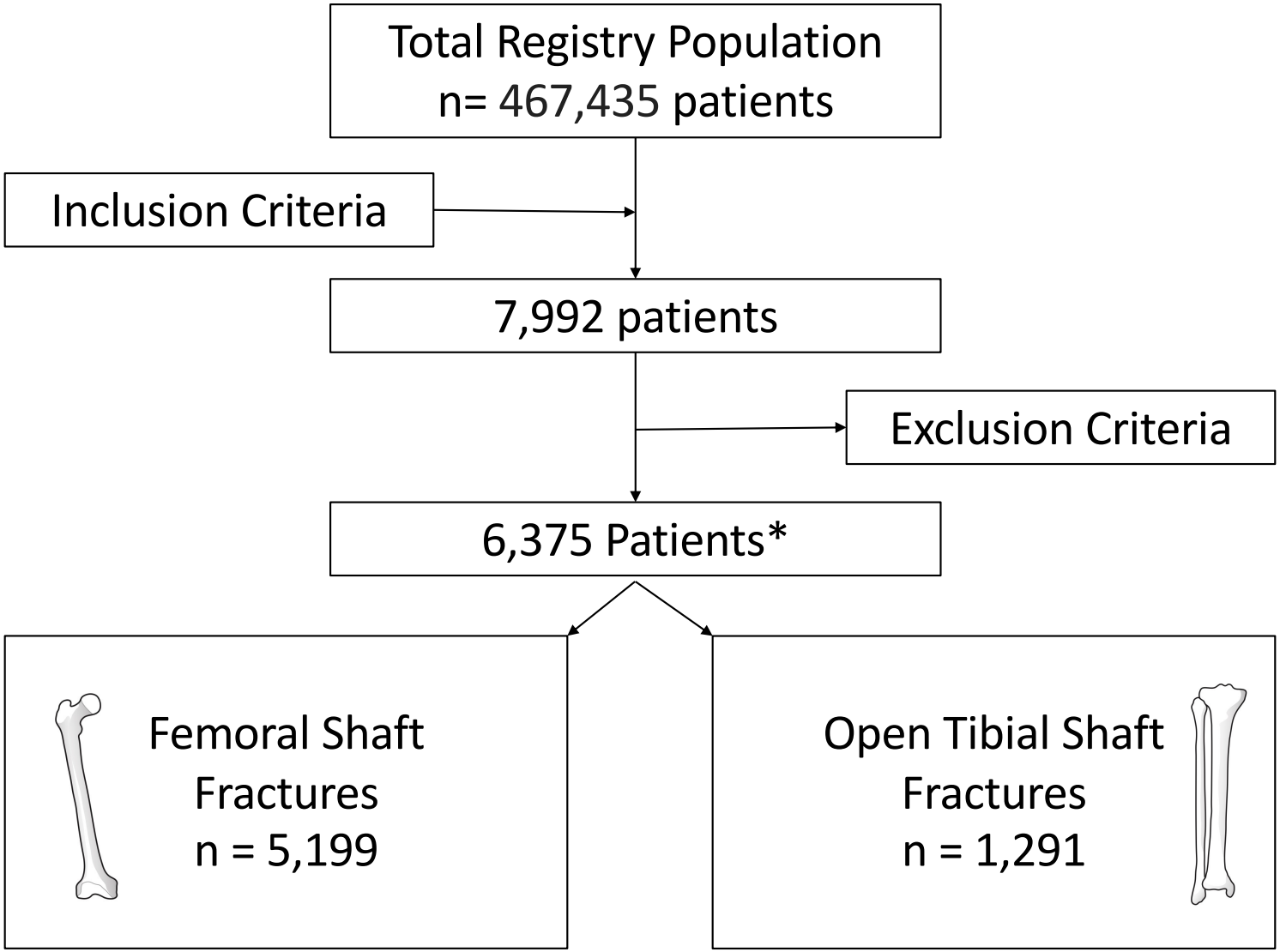
- Used Fall 2022 ACS TQIP Reporting Code Set
- Injuries defined using AIS05
  - Femoral Shaft Fracture
  - Open Tibial Shaft Fracture
- Procedures defined using ICD-10-PCS
- Age ≥ 18 years
- January 1, 2017 through October 30, 2022
- Injury Severity Score ≥5
- Blunt or penetrating mechanism
- Level 1 or Level 2 Trauma Center





Methods – Exclusion Criteria

- Transfers in
- Hospital length of stay < 12 hours
- Missing procedure date/time
- Dead on arrival
- Death in Emergency Department
- Death during admission


Total Registry Population
n= 467,435 patients
Inclusion Criteria
7,992 patients
Exclusion Criteria
6,375 Patients*
Femoral Shaft
Fractures
n = 5,199
Open Tibial Shaft
Fractures
n = 1,291

Results

n = 5,199

Surgical Procedures Performed

87.5%
(n=4,550)

> 24 hour delay

31.8%

n = 1,291

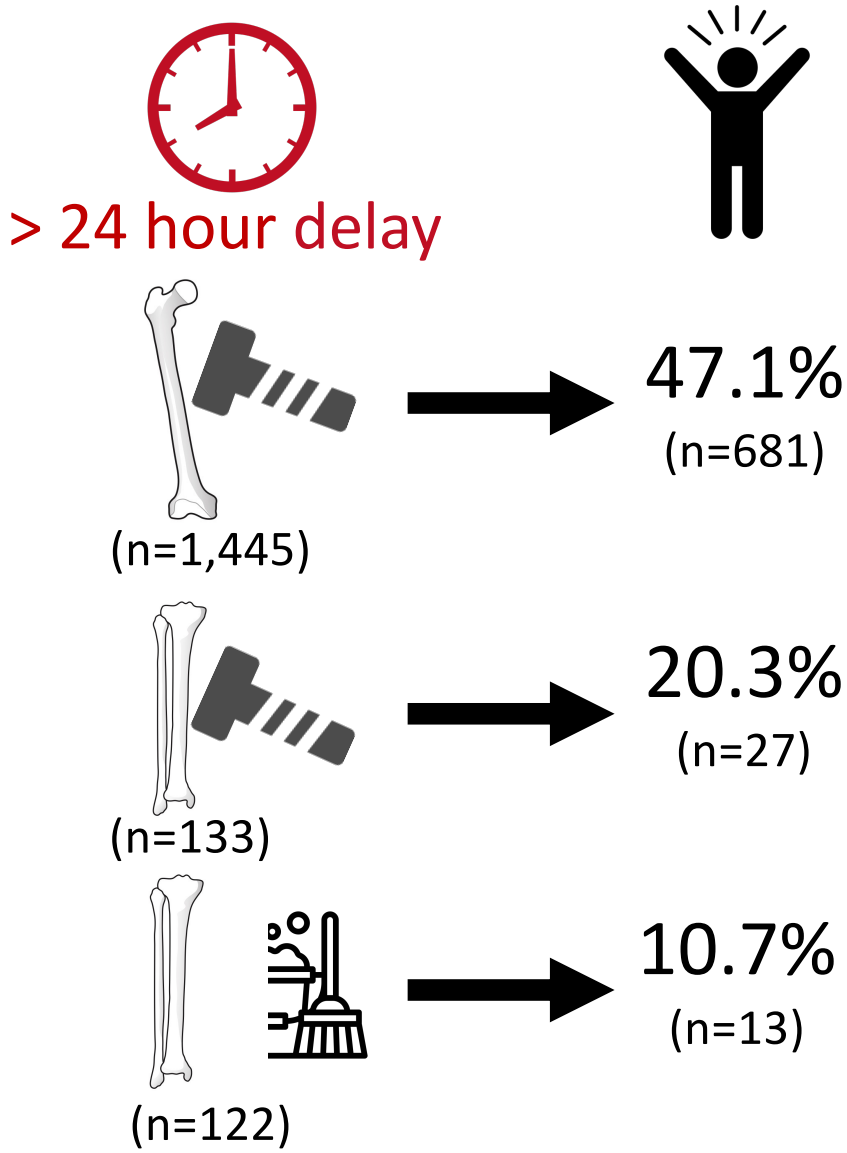
92.2%
(n=1,190)

11.2%

50.5%
(n=652)

18.7%

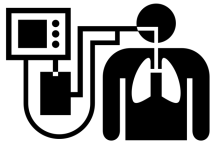
Results



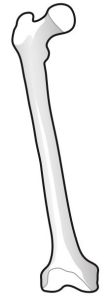
Femur Group

	> 24 hour delay	No Delay	
 Age	66.9 (22.4)	51.4 (24.7)	p<0.001
 Female	58.5%	46.5%	p<0.001
 Insured	96.8%	93.6%	p<0.001

Tibia Fix Group

	> 24 hour delay	No Delay	
 AIS Head & Neck	16.5%	7.0%	p<0.001
 AIS Face	1.5%	0.2%	p=0.014
 Intubated	15.8%	7.8%	p=0.002

Factors Associated with Femur Fixation Delay



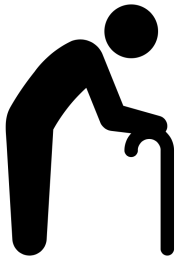
46-65y OR 2.32
65-75y OR 3.14
>75y OR 3.37
*p<0.001

ISS > 35

OR 2.64
*p=0.012

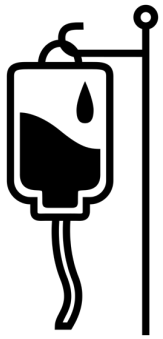
Intubated	OR 2.59	p=0.000
Hypertension requiring medication	OR 1.32	p=0.003
Anti-coagulant Use	OR 1.70	p<0.001
Functionally dependent health status	OR 1.59	p<0.001
Disseminated cancer	OR 2.13	p=0.011
Blood transfusion	OR 0.54	p<0.001
Chronic renal failure	OR 2.43	p=0.029

Factors Associated with Tibia Fixation Delay



65-75 yo OR 2.62

*p=0.031



OR 1.59

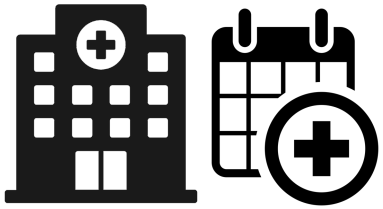
*p=0.012

Other Race	OR 2.04	p=0.016
Uninsured	OR 0.65	p=0.025

Complications

	> 24 hour delay	No Delay	
Pneumonia	3.5%	1.5%	p<0.001
VAP	2.1%	0.9%	p<0.001
ICU Return	4.2%	2.1%	p<0.001

LOS (days)

	> 24 hour delay	No Delay	
	8.4 (7.5)	6.7 (6.7)	p<0.001

Limitations

- Retrospective study – limited to registry data
- Some patients did not have an associated surgery
- Excluded those who died
- Antibiotics is likely more important than I&D in open fractures

Conclusions

- There are some patient characteristics associated with a delay to femur fixation
- A substantial amount of “healthy” patients had a surgical delay
- Can we consider “risk adjusting” process measures through better understanding the denominator

Thank you

Alcohol Withdrawal Revisited
Center Case

Judy Mikhail, PhD, MBA, RN

Alcohol Withdrawal Revisited

Judy Mikhail, PhD, MBA, RN
MTQIP Program Manager
5/1/24

Update from 6 years ago…
Presented at May 2018 MTQIP Meeting

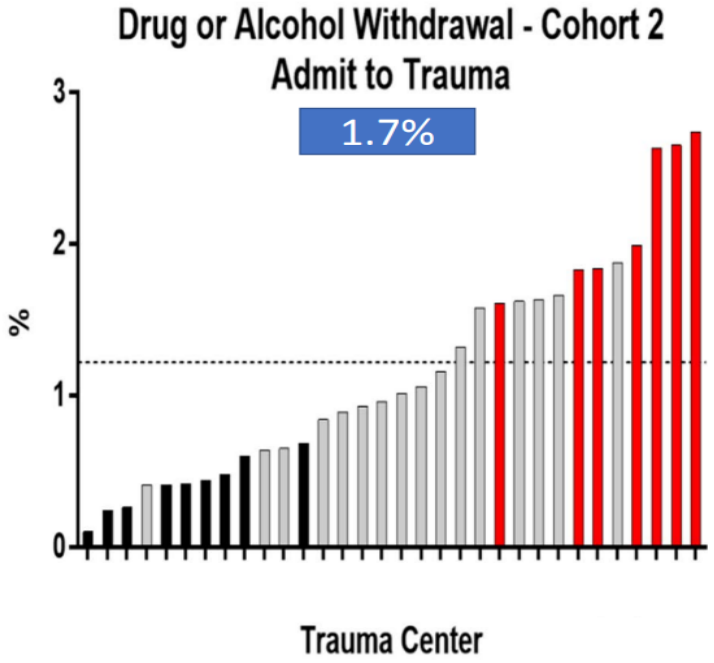
MTQIP Data Collection

Center ID	Alcohol withdrawal syndrome 0	1	Total
	35	0	35
	27	0	27
	34	1	35
	28	0	28
	27	1	28
	35	0	35
	27	1	28
	19	2	21
	28	0	28
	39	0	39
	6	1	7
	27	1	28
	36	0	36
	20	1	21
	21	0	21
	27	1	28
	35	0	35
	27	1	28
	34	0	34
	21	0	21
	33	2	35
	35	1	36
	28	0	28
	21	0	21
	21	0	21
	34	0	34
	28	0	28
	7	0	7
	30	0	30
Total	790	13	803

AWS

- Characterized by:
  1. Tremor
  2. Sweating
  3. Anxiety
  4. Agitation
  5. Depression
  6. Nausea
  7. Malaise
  8. Seizures
  9. Delirium

← Under capture→

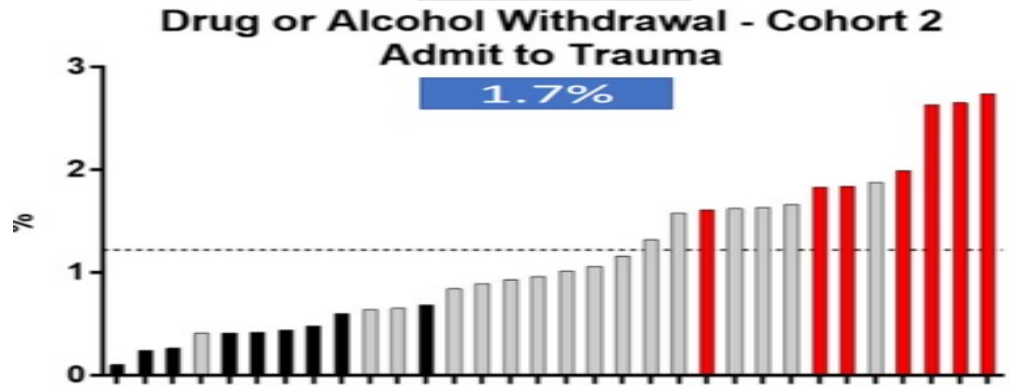


2018

Alcohol Withdrawal Syndrome

Cohort 2 (Admit to Trauma)

2018



2023

1.6%

Adjusted Rate (%)

Mean 1.6

3.6 3.4 3.2 3.0 2.8 2.6 2.4 2.2 2.0 1.8 1.6 1.4 1.2 1.0 0.8 0.6 0.4 0.2 0.0

6 15 21 25 32 34 30 9 20 28 13 26 36 10 24 18 2 29 14 7 1 23 5 16 31 4 35 12 3 19 8 17 27 11 22

Alcohol Survey n=25

- What screening tool do you use? 25 CIWA

- Preferred prophylaxis for high-risk predicted withdrawal?
  - 16 Ativan, 3 Librium, 1 Alcohol, 3 Other: Valium, Phenobarbital

- What do you use for alcohol withdrawal?
  - 18 CIWA with Ativan
  - 3 CIWA with Phenobarbital
  - 4 Phenobarbital

Survey

- Is Alcohol Used?
  - 13 No - Hospital does not carry it
  - 1 No - Lack of evidence
  - 4 Selectively - depends on the patient

- If given, what quantity?
  - We have no titration mechanism.
  - We typically underestimate the need.
  - We only consider it when Ativan is in short supply.
  - We leave it up to the individual provider
  - Up to 8 drinks/wk for women & 15/wk for men

Alcohol Specific Triggers for ICU Admission?

- 5 – No specific criteria, provider discretion
- Active withdrawal symptoms. We do not admit those "at risk for withdrawal" to the ICU...*but often regret this*…
- Alcohol Hx with previous DTs, Adm ETOH>200, Acute S/S withdrawal
- Uncontrolled on Ativan, hourly CIWA's, CIWA >10 = critical care consult
- Exceed Phenobarbital dosing with s/s withdrawal
- High Ativan requirements, DTs, Unreliable exam
- Precedex use to manage agitation
- 3 consecutive CIWA scores of 15 or greater

Geriatrics

- Geriatric Specific Admission Criteria for Alcohol?
  - 18 No
- Medications
  - 8 Medication selection based on age
  - 5 Dosing based on age
  - Age & BMI
  - Seroquel based on Geriatric consultants

Survey

Alcohol effect on LOS?

- 7 Frequently
- 15 Occasionally
- 2 Very frequently

Alcohol effect on d/c disposition

- 2 Frequently
- 20 Occasionally
- 2 Very Frequent

Data Analytic Updates

Jill Jakubus, PA-C, MHSA, MS

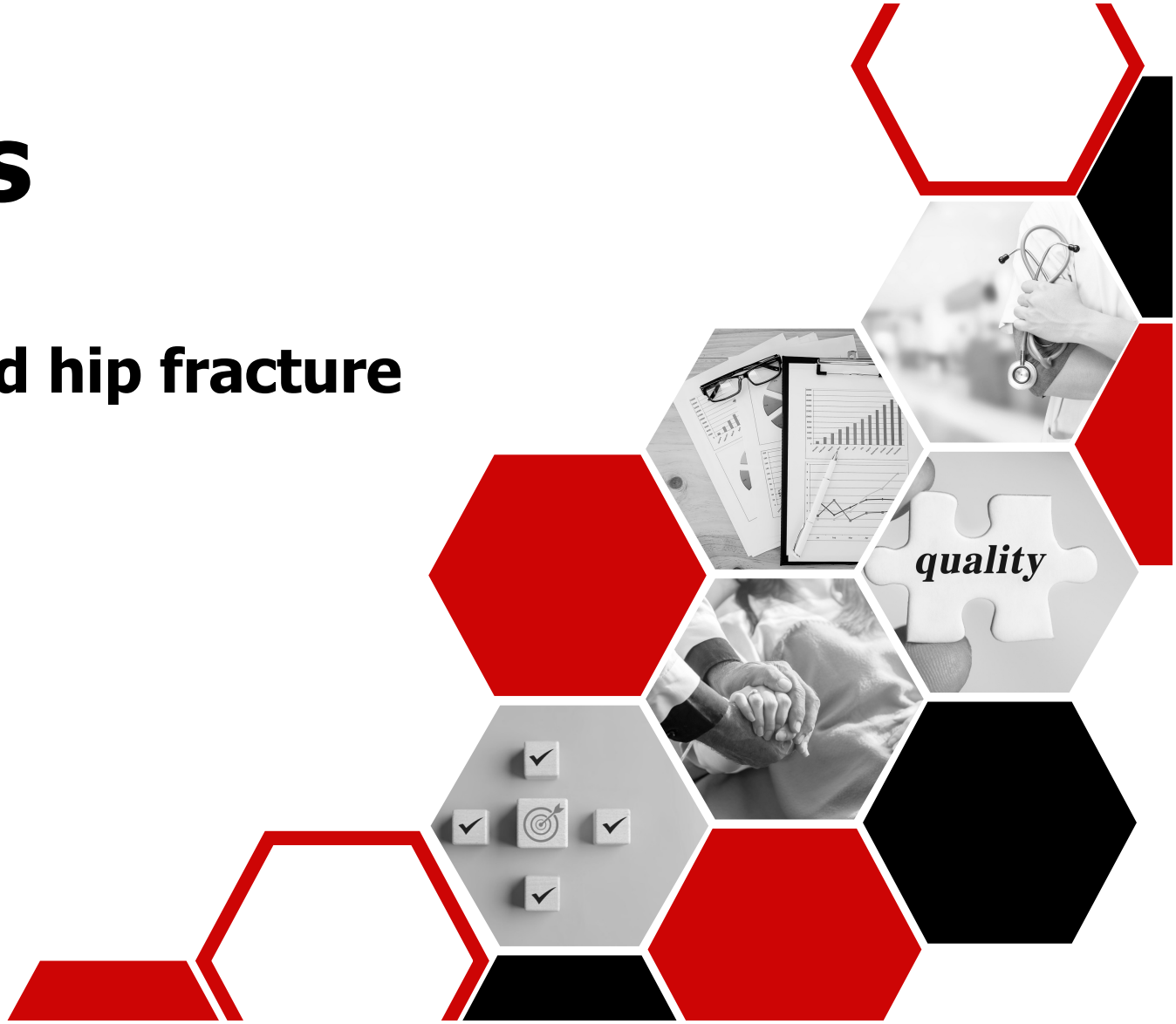
M·TQIP

ANALYTIC UPDATES

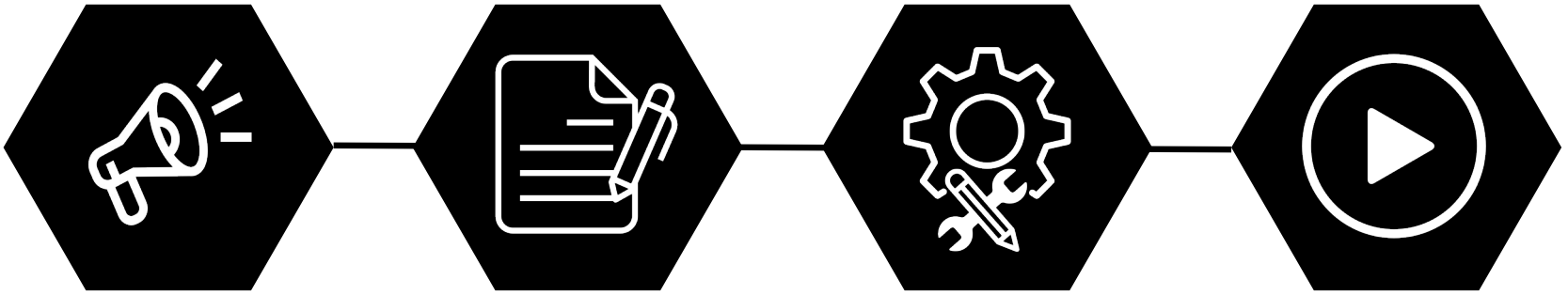
Jill Jakubus

Objectives

- ✓ Reminders
- ✓ Opioids isolated hip fracture
- ✓ ESO migration



AIS 2015 Transition



May 2023

AIS 2015 transition announced to the collaborative.

Jan 2024

ESO working on finalized licensing contract with AAAM.

May 2024

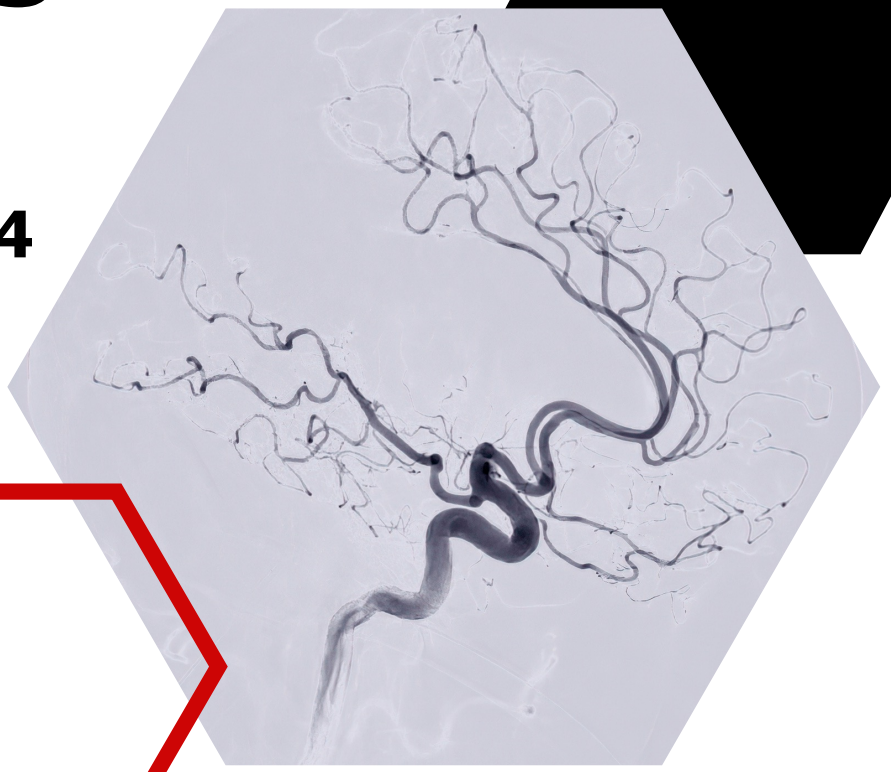
MTQIP pending ESO quote for licensing and reporting access for data export. Center staff training and vendor planning. Code/model updates work scheduled.

Jan 2025

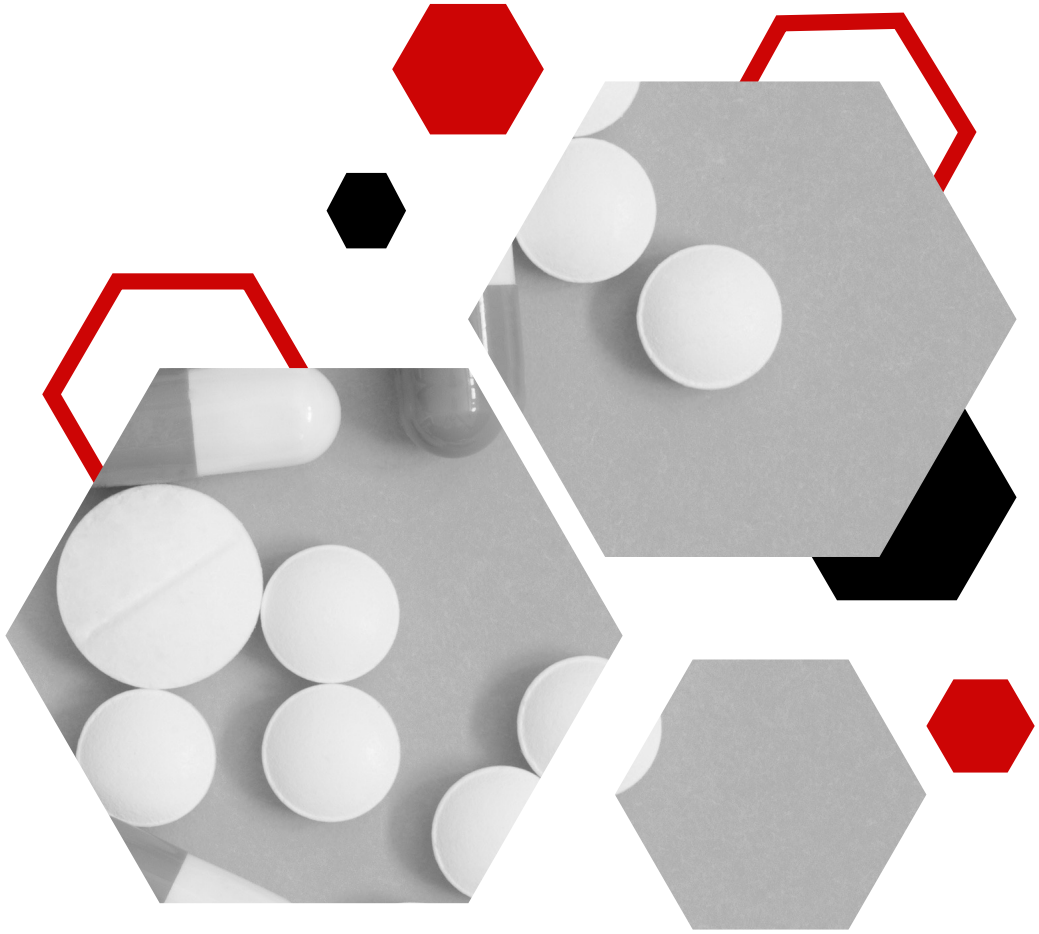
All MTQIP centers transition to AIS 2015 together for admissions starting on Jan 1, 2025.

Research in Progress

- ✓ **MTQIP collaborative dataset**
- ✓ **Highlights members work**
- ✓ **Updates deferred to Oct 2024**



Opioids IHF



Literature

Orthopaedic Surgery	Oxycodone 5mg
Total Hip Arthroplasty	0 - 30

Hannon et al. 2019 (Level 1 Evidence)

- DOI: 10.1016/j.arth.2019.01.065
- RCT prescribing either 30 (161 patients) or 90 (143 patients) 5mg OxyIR pills at discharge after undergoing THA and TKA.
- No difference in MME consumed at 90 days. No difference in pain scores at 30 days or outcome scores at 6 weeks.

OME Calculation

Rx: oxycodone 5 mg 1 tab PO Q 4 hours prn pain #30 tabs

Opioid Strength x Opioid Quantity x Conversion Factor

5 x 30 x 1.5 = 225 OME

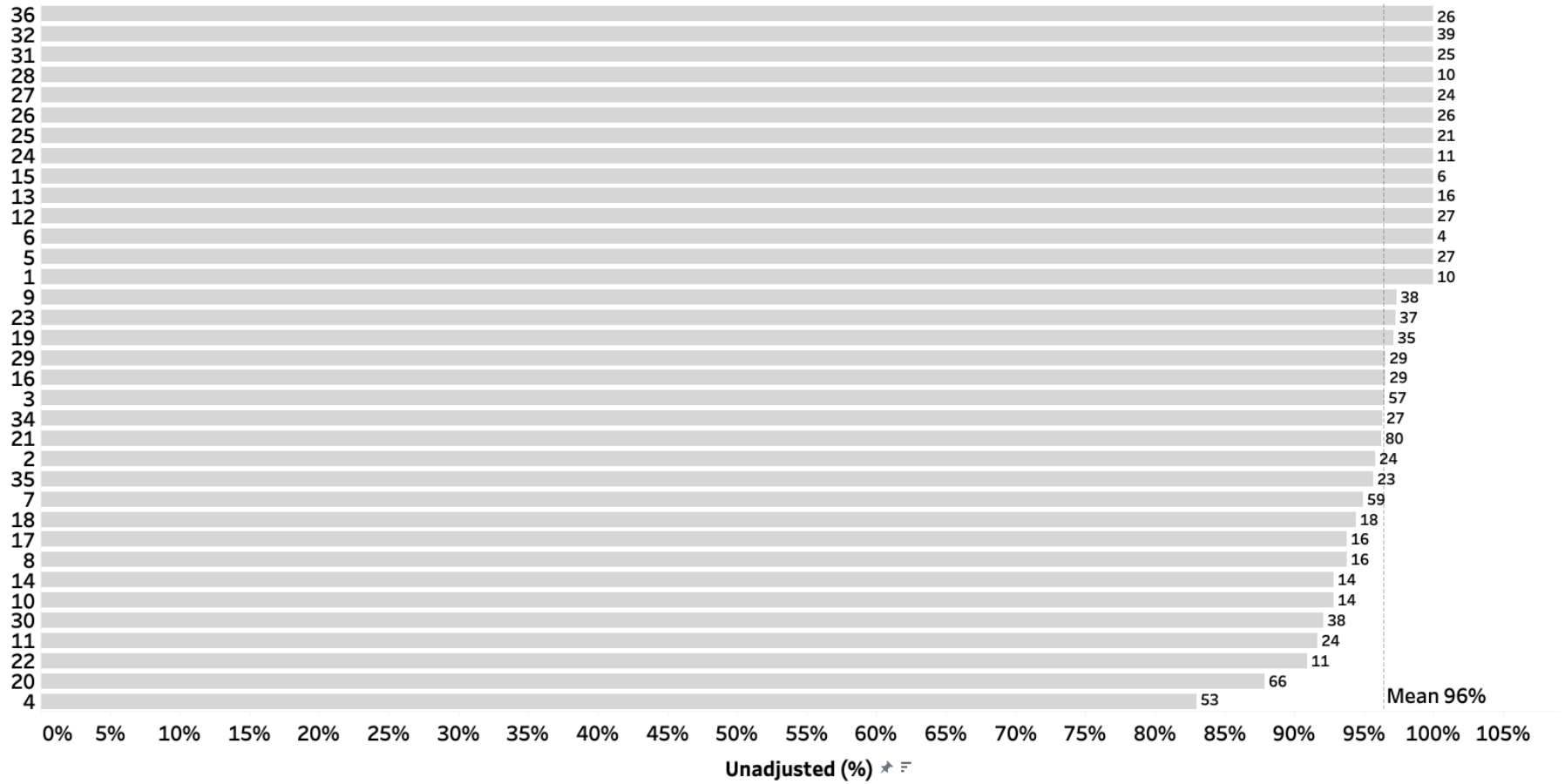
https://michigan-open.org/prescribing-recommendations/

Opioid Prescribing IHF | Percent of Patients <= 225 OME

Cohort 8 (Isolated Hip Fracture) | Age >= 65 | Discharged to home | 2/1/23 - 1/31/24

Exclude if Substance Use Disorder

980 N

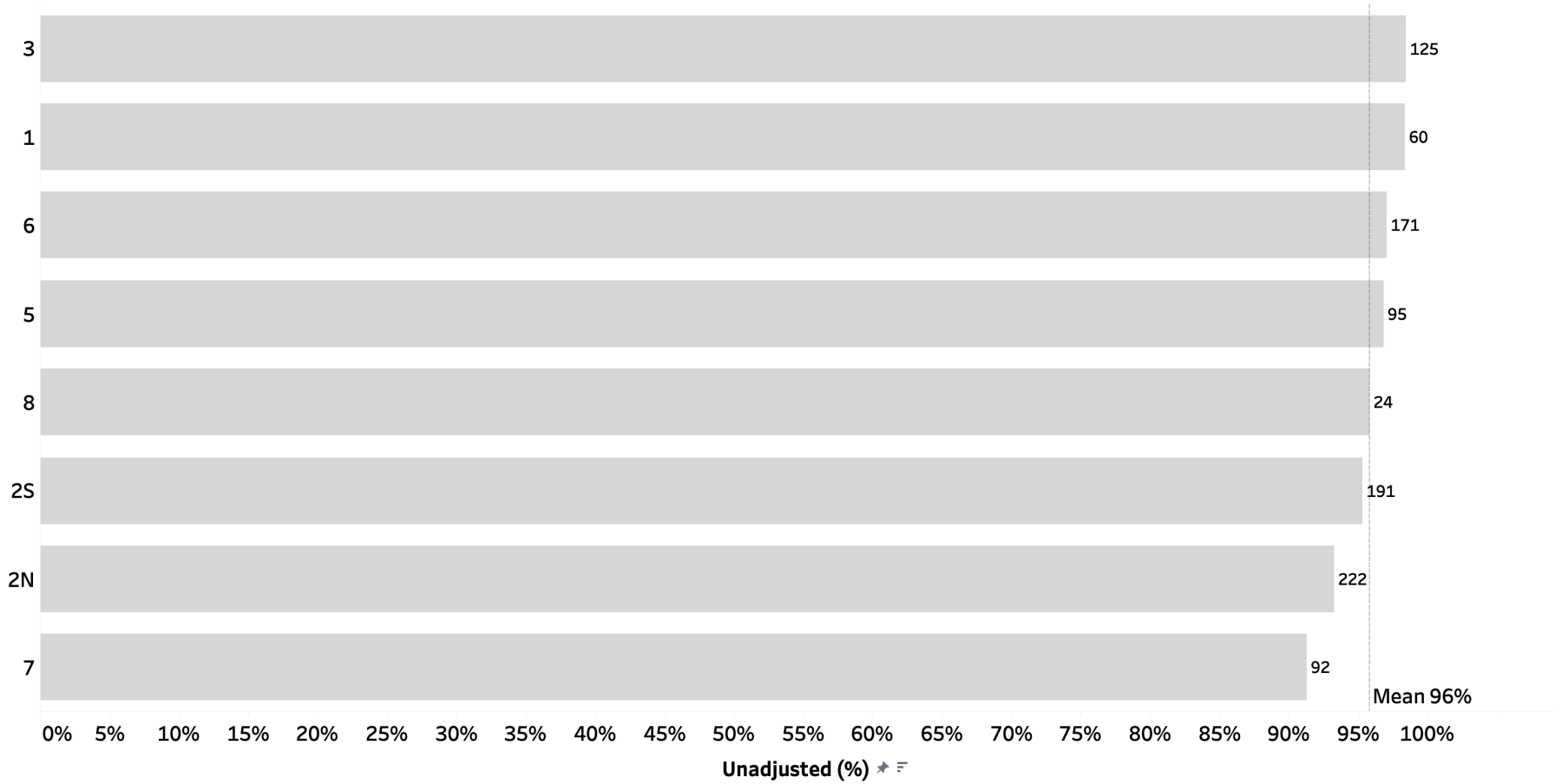


Opioid Prescribing IHF | Percent of Patients <= 225 OME

Cohort 8 (Isolated Hip Fracture) | Age >= 65 | Discharged to home | 2/1/23 - 1/31/24

Exclude if Substance Use Disorder

980 N



ESO Migration

Situation

ESO will be sending 12-month notifications to centers for new registry product migration

Background

1 MTQIP center is in the ESO Early Adopter Program. MTQIP limited budget and staff to allow multi-vendor configuration.

Assessment

Early Adopter feedback (Oct mtg)
ESO Wave Conference feedback

Strengths

- ✓ Security
- ✓ Epic Showroom
- ✓ FHIR
- ✓ USCDI
- ✓ Import demographics, labs
- ✓ Compliance matrix
- ✓ Configurability (not customization)
- ✓ Retention of legacy data
- ✓ Longitudinal record
- ✓ Record validation/control
- ✓ Provisioning
- ✓ EMS adoption
- ✓ EMS Apple native application
- ✓ EMS real-time feed

Weaknesses

- ✓ Not imported: injury codes
- ✓ Not imported: procedures
- ✓ No field content validation
- ✓ Cost compared to current product
- ✓ Insights reporting learning curve

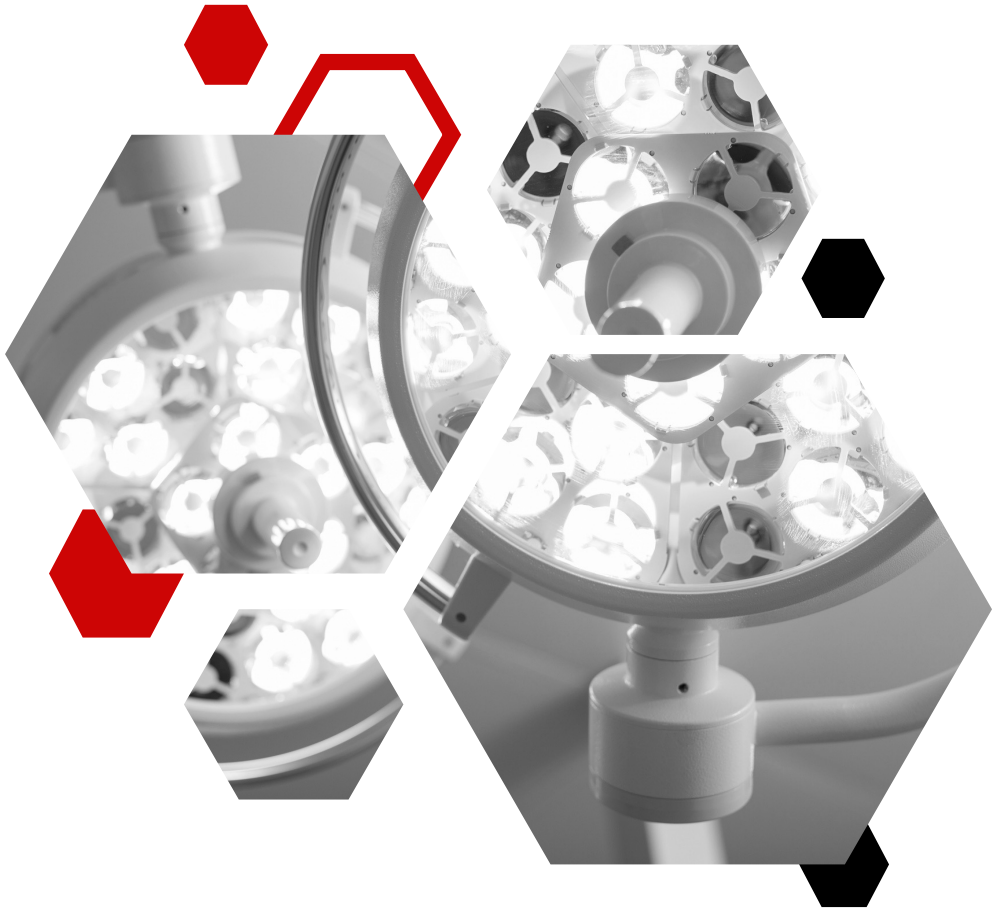
Opportunities

- ✓ MTQIP data aggregation and quality
- ✓ Center data aggregation and quality
- ✓ Move toward real-time reporting

Threats

- ✓ New product build
- ✓ Support as more centers ramp up
- ✓ Lack of vendor diversification

Feedback



M·TQIP

Thank you

Blue Cross Blue Shield Blue Care Network of Michigan

Nonprofit corporations and independent licensees of the Blue Cross and Blue Shield Association

Wrap Up

Jill Jakubus, PA-C, MHSA, MS

Conclusion

- Thank you for attending
- We will correspond about Hospital CQI Index
- Evaluations
  - Judy will send out email
- Questions?
- See you in October