The Michigan Trauma Quality Improvement Program

Ypsilanti, MI
February 14, 2017

Disclosures

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

Electronic Evaluation

- Link will be emailed to you following meeting
- You have up to 7 days to submit
- Physicians/Nurses/Advanced Practitioners:
  - Emailed certificate for 4.25 Category 1 CME
- Registrars (Non-RN):
  - Certificates will be at registration table

box

M·TQIP

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Introductions

- Blue Cross Blue Shield of Michigan
  - Tom Leyden, MBA
  - Director II, Value Partnerships Program
- Spectrum Health
  - Matthew Schreiber, MD
  - VP Hospital Quality and System Safety
- Michigan Health and Hospital Association
  - Brittany Bogan, MHSA
  - Vice President, Patient Safety & Quality

Introductions

- McLaren Lapeer
  - Barton Buxton, EdD MEd
  - President & CEO
- St. Joseph Mercy Ann Arbor
  - Wendy Wahl, MD
  - Vice-Chair of Surgery, Director of Surgical Quality

Data Submission

- Automated
  - DI
  - CDM
  - June 2016, October 2016, February 2017
- Lancet
  - PO, BM

Future Meetings

- Spring with MCOT
  - Wednesday May 17, 2017
  - Boyne Falls, Boyne Mountain Resort
- Spring (Registrars and MCR's)
  - Tuesday June 6, 2017
  - Ann Arbor, NCRC
- Fall
  - Tuesday October 10, 2017
  - Ann Arbor, NCRC

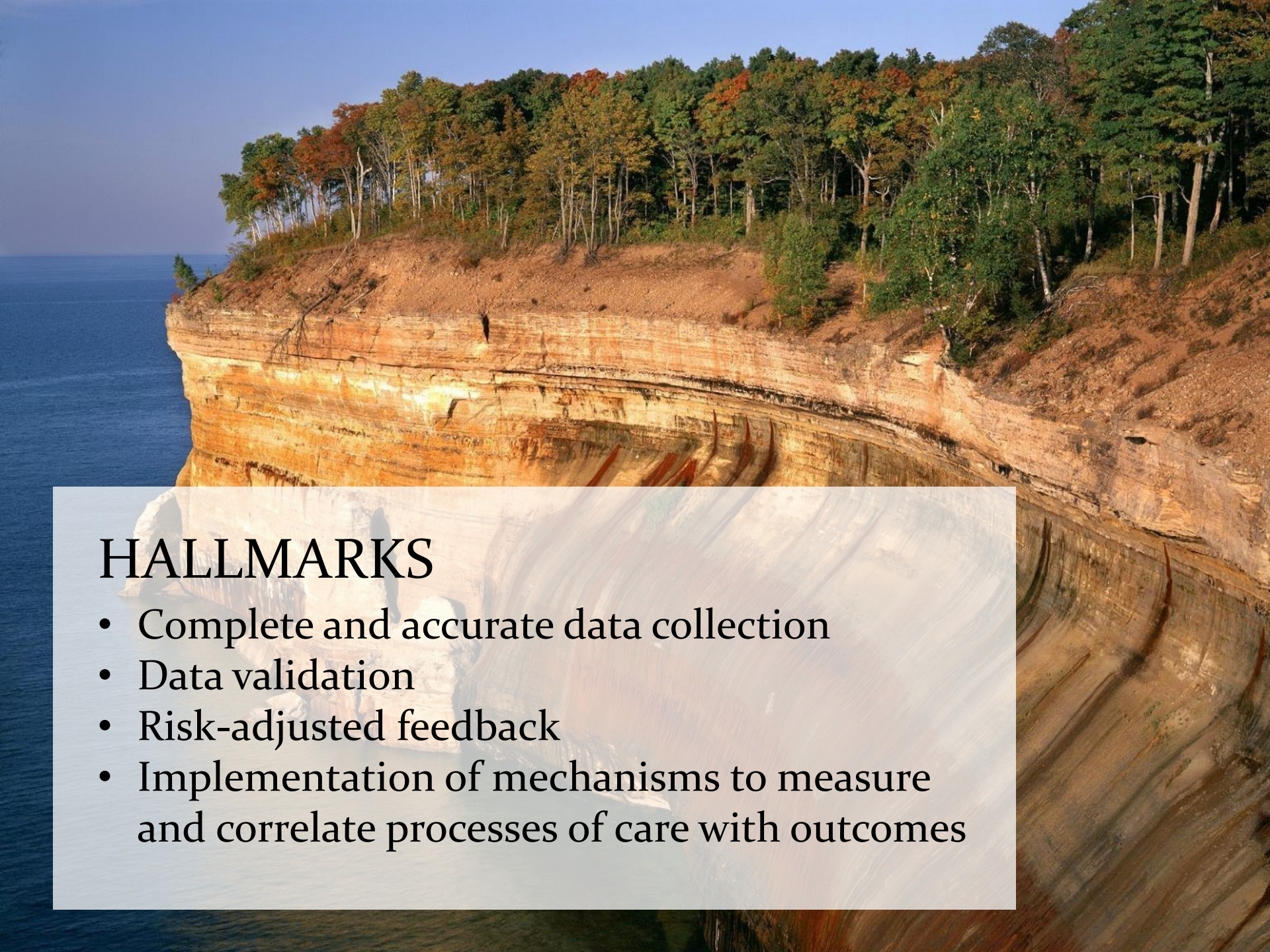
MTQIP Background

Jill Jakubus, PA-C MHSA

Dedicated to improving the quality of care delivered to trauma patients in Michigan

OBJECTIVES

- Foster trauma center collaboration
- Build on the registry infrastructure
- Promote trauma quality improvement
- Identify and promulgate best practices
- Create a system to improve care for trauma patients



HALLMARKS

- Complete and accurate data collection
- Data validation
- Risk-adjusted feedback
- Implementation of mechanisms to measure and correlate processes of care with outcomes

Blue Cross
Blue Shield
Blue Care Network
of Michigan

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

HOSPITAL EXPECTATIONS

- Data submission
- Trauma surgeon participation
- Administrative engagement
- Trauma registrar support
- Quality improvement integration
- Registry software compliance
- Data definition standardization
- Collaboration
- Confidentiality
- Collegiality

COORDINATING CENTER RESPONSIBILITIES

- Standardize data definitions
- Provide training
- Clean and collate data
- Analyze data
- Create feedback reports
- Data validation visits

COORDINATING CENTER RESPONSIBILITIES

- Organize collaborative meetings
- Facilitate collaboration
- Monitor participant performance
- Coordinate collaborative goals
- Disseminate information

COORDINATING CENTER RESPONSIBILITIES

- Organize collaborative meetings
- Facilitate collaboration
- Monitor participant performance
- Coordinate collaborative goals
- Disseminate information
- Partner

M·TQIP

Collaborative Quality Initiatives

Tom Leyden, MBA

VALUEPartnerships
Better Care. Better Outcomes. Better Value.

Blue Cross Blue Shield Blue Care Network of Michigan

Update on Collaborative Quality Initiatives (CQIs)

Presentation to MTQIP

February 14, 2017

Thomas D. Leyden, M.B.A., Director II, Value Partnerships
Blue Cross Blue Shield of Michigan

Overview of BCBSM

- Non profit mutual insurance company founded in **1939**
- Serving **4.5 million** Michigan members and **1.3 million** out of state members
- More than **8,100** employees state-wide
- Largest network in the state
  - **152 hospitals** *(100% of all MI hospitals)*
  - More than **33,000 physicians** *(95% of all MI physicians)*
- Paid **$21.2 billion or $58 million per day** in claims to doctors, hospitals and health care providers in 2015

Value Defined

$$\text{Value} = \frac{\text{Appropriateness} * (\text{Patient Experience} + \text{Quality})}{\text{Cost}}$$

Value Partnerships

Nationally Recognized
Award Winning
Statewide Programs

Value Partnerships View of the Health Plan Role

- Convene and catalyze; not engineer and control
- Assemble competitive hospitals/physicians and offer neutral ground for collaboration
- Provide resources to reward infrastructure development and process transformation – often includes provision of financial support for data gathering to participants
- Share data at facility, physician organization, physician practice and physician level
- Reward quality and cost results (improvement and optimal performance) at population level
- Leave management of individual patient care to providers
- A heavy hand prompts the provider community to do least necessary. Empowerment encourages the provider community to do "most possible"

Value Partnerships: View from 30,000 Feet

Value Partnerships programs incentivize providers to alter delivery of care by encouraging responsible and proactive physician/surgeon behavior, ultimately driving better health outcomes and financial impact

BCBSM provides the financing, tools and support…

…so physicians can engage in transformative initiatives…

…that change the way healthcare is delivered...

…and drive meaningful impact for our members.

Key Elements of Success of the CQI Program

Longstanding statewide QI programs that are sponsored by BCBSM and BCN and have significantly contributed to keeping benefit costs low

Developed and executed by Michigan physicians and hospital partners in areas of care with high costs, high variation and scientific uncertainty

Rely on a comprehensive clinical registry where procedure and outcome data is collected, analyzed, and then used to identify and share best practices

Collaborate to measure and improve, allowing physicians (primarily surgeons) to continually enhance their skills and provide the highest quality care to our members

CQIs Lead to Results

- Dramatically improves quality and outcomes
- Decreases cost of care
- Allows physicians to self-optimize
- Fast-tracks improvements in care
- Fosters strong relationships with providers (both for plan and member)
- Fulfills our social mission
- Results in coordinated, collaborative improvements

Astounding CQI Results Contribute to BCBM Being Positioned as a Premier Blues Plan

BlueCross BlueShield Association

CQIs have won 14 state and national awards, including multiple "Best of Blues" awards, the Association's premier award for quality improvement achievements.

AHRQ

Agency for Healthcare Research and Quality (AHRQ) identified our CQI program as a national best practice that improves health care quality; they asked us to host a webinar to discuss the successes.

The New York Times

The New York Times wrote an article highlighting the success of the bariatric CQI program's videotaping surgery and coaching efforts.

CQI influence extends beyond Michigan and the United States. CQI results have been presented nationally and internationally more than 120 times in last three years.

Beyond Improving Patient Care and Saving Lives, CQIs Also Save Money

Through the CQI program, we have been able to reduce complications for many commonly performed procedures. Over a 7 year period, **five longstanding CQIs** sponsored by BCBSM/BCN to improve quality of common medical procedures have produced over **$1 Billion in statewide health care cost savings** and have lowered complication and mortality rates for thousands of patients

$327.6 Million

in total savings on BCBSM/BCN/MA cases

$1 Billion

in total statewide savings

Savings represent only the five most established CQIs during the seven years (2008-2014) that savings have been certified.

Michigan Trauma Quality Improvement Program (MTQIP) – Avoiding Complications and Death

Due to work done by MTQIP, 345 patients avoided a serious complication or death

Trauma patients are known to have higher rates of complications than other surgical patients, due to a higher severity of injury or the difficulty of older patients to tolerate the burden of injury.

(From 2011-2015)

Michigan Society of Thoracic and Cardiovascular Surgeons (MSTCVS) – Reducing Prolonged Ventilation

Due to work done by MSTCVS, 826 patients did not experience prolonged ventilation

After surgery, patients spend time on a breathing machine (ventilator) as they recover. Prolonged ventilation refers to when patients spend more than 24 hours on a breathing machine; this has negative consequences for the patient.

(From 2008-2015)

Michigan Arthroplasty Registry Collaborative Quality Initiative - Blood Transfusions

5,200 patients avoided a blood transfusion due to MARCQI's work

Blood transfusions are associated with infections, allergic reactions, as well as potential for long term complications such as heart attack or kidney failure. Additionally, they are costly and associated with longer hospital stays.

(From 2012-2015)

CQIs Reducing Readmissions

CQIs contribute to BCBSM organizational goals and initiatives;
these CQIs have been working to reduce readmissions, an increasingly important focus.

MARCQI: Reducing 90 day readmission rates following total joint replacement with a goal of 4.95% (current rate of 6.6%).

MSTCVS: Decreasing 30 day readmission rates in isolated CABG patient have reduced rates from 13.9% to 9.6%.

MSQC: Using Enhanced Recovery Toolkits to maximize patients' ability for better outcomes.

MVC: Measuring 30-day readmissions across all 20 MVC service lines.

MUSIC: Looking at readmissions after radical prostatectomy. Goal is to reduce the rate of readmissions from 4.2% to 2.0% .

VIC: Reducing readmissions through best practices for antibiotic re-dosing and skin prep aimed at reducing surgical site infections.

I-MPACT: Creating a regional, care continuum approach to transitions of care where initial focus will be on readmissions.

MBSC: Reduced readmissions through patient education from ~5.8% of cases to ~3.2% of cases.

MSSIC: Reducing 90 day readmission rates following spine surgery by implementing best practices.

CQIs Addressing Emergency Department Use

In addition, many CQIs are working to address ED visits.
While the following CQIs are focusing specifically on ED, many quality initiatives (reducing complications, reducing surgical site infections) also lead to a reduction in ED visits.

MAQI2: Working to reduce number of bleeding events that result in an ER visit. Current rate is 8.7% with a goal of 6%.

MEDIC initial focus: 1. CT scan use in minor head injuries (adults and peds) and for the evaluation of pulmonary embolism (adults) 2. Chest x-rays for the evaluation of common respiratory illnesses (peds) 3. Improving the quality and value of hospital admission decisions based in the ED with the ultimate goal of connecting ED patients to outpatient services that provide safe, cost effective alternatives to acute hospitalization.

I-MPACT: An outcome of interest for the CQI will be ED admissions. Goal to be determined.

MBSC: Recently launched a new initiative to reduce ED visits for the bariatric surgery population. Current performance of 7.8% and goal to be determined.

CQIs Addressing Opioid Use

Multiple Hospital and Professional CQIs Adding Opioids to Focus

In addition to PGIP participating PCP and specialists, many CQIs are working to address pain management and the overprescribing/overuse/abuse of opioids.

MARCQI (knee/hip replacement): In 1Q16, MARCQI devoted entire quarterly meeting to discussion on opioids. Subsequently issued opioid use guidelines and protocol for weaning patients to lower narcotic doses pre-operatively

MROQC (radiation oncology of breast and lung cancer): Focus on treating pain while reducing treatment time and cost

MSSIC (spine surg): Collecting data – both from the chart and patient reported outcomes (after surgery) for use to develop QI efforts and best practices

MSQC (gen surg): Collects data relative to opioid use and has presented findings, best practices, and tools

MOQC (oncology): Focus on palliative care and advanced care planning, which is inclusive of symptom/pain relief

***NEW*:** 11 CQIs will begin a 5 year project working with MDHHS on a program called M-OPEN. Intent is to reduce amount of opioids prescribed to surgical patients by 50% and reduce new chronic post surgical opioid use by 50%

CQIs Give Voice to the Patients

Several programs have made the decision to incorporate the "voice of the patient." The intent is to provide patients the opportunity to impart a deeper understanding to the physicians involved about what it's like to be a patient.

MBSC

- The bariatric surgery collaborative has a panel comprised of **patients who provide feedback** to ensure the collaborative includes the patient perspective in all they do

MUSIC

- The prostate cancer collaborative has **patient advocates who provide input and participate** in all meetings

HMS

- The VTE prevention collaborative has **a patient advocate** who has **contributed input to** multiple quality improvement efforts including PICC line appropriateness which has led to the development of **guidelines that are now being used across the United States and internationally**

I-MPACT

- The transitions of care collaborative views patients as an integral part of the program. **Each participating physician organization/hospital partner must include a patient team member who participates** in all meetings and decisions in the collaborative.

MEDIC (new for 2017)

- The emergency department collaborative, which is new, intends to begin adding patient advocates in 2017

MOQC (new for 2017)

- The cancer quality collaborative is recruiting patient advocates to serve on an advisory panel, review patient-directed materials, and attend meetings.

Getting the Patients Involved

Several programs have used their findings to generate patient specific educational materials and ask for patient input in the process of developing them.

MAQI2

- The anticoagulation collaborative developed and disseminated a **patient-specific toolkit**, which was also released as a **mobile app**

MBSC

- The bariatric surgery collaborative developed an innovative, tailored**, patient decision aid to help patients navigate the many decisions associated with bariatric surgery** and recruited 875+ patients to test the tool

MUSIC

- The prostate cancer collaborative is developing a **patient education packet** in an effort to better educate patients and **reduce readmissions** after surgery

MSQC

- The surgical collaborative has implemented an enhanced recovery program. As part of this program, **patients are encouraged to take an active approach** in their overall health prior to surgery (for example, begin walking and quit **smoking). This aids in patients having a quicker recovery and fewer complications**.

CQI Efforts Improve Patient Care and Lives

- Shorter length of stay
- Reduced cost of care
- Reduced risk of death
- Reduced risk of infection

=

- Improved care for our members
- Cost Savings for BCBSM and BCN

Annual Hospital CQI Funding

Participation Payment

Data Abstraction

BCBSM/BCN Funds 80% of these costs, hospital participants are responsible for the other 20%

$33 Million in 2015

Coordinating Center Funding

Quality Initiative Leadership

Quality Initiative Infrastructure to advance the QI agenda with participants

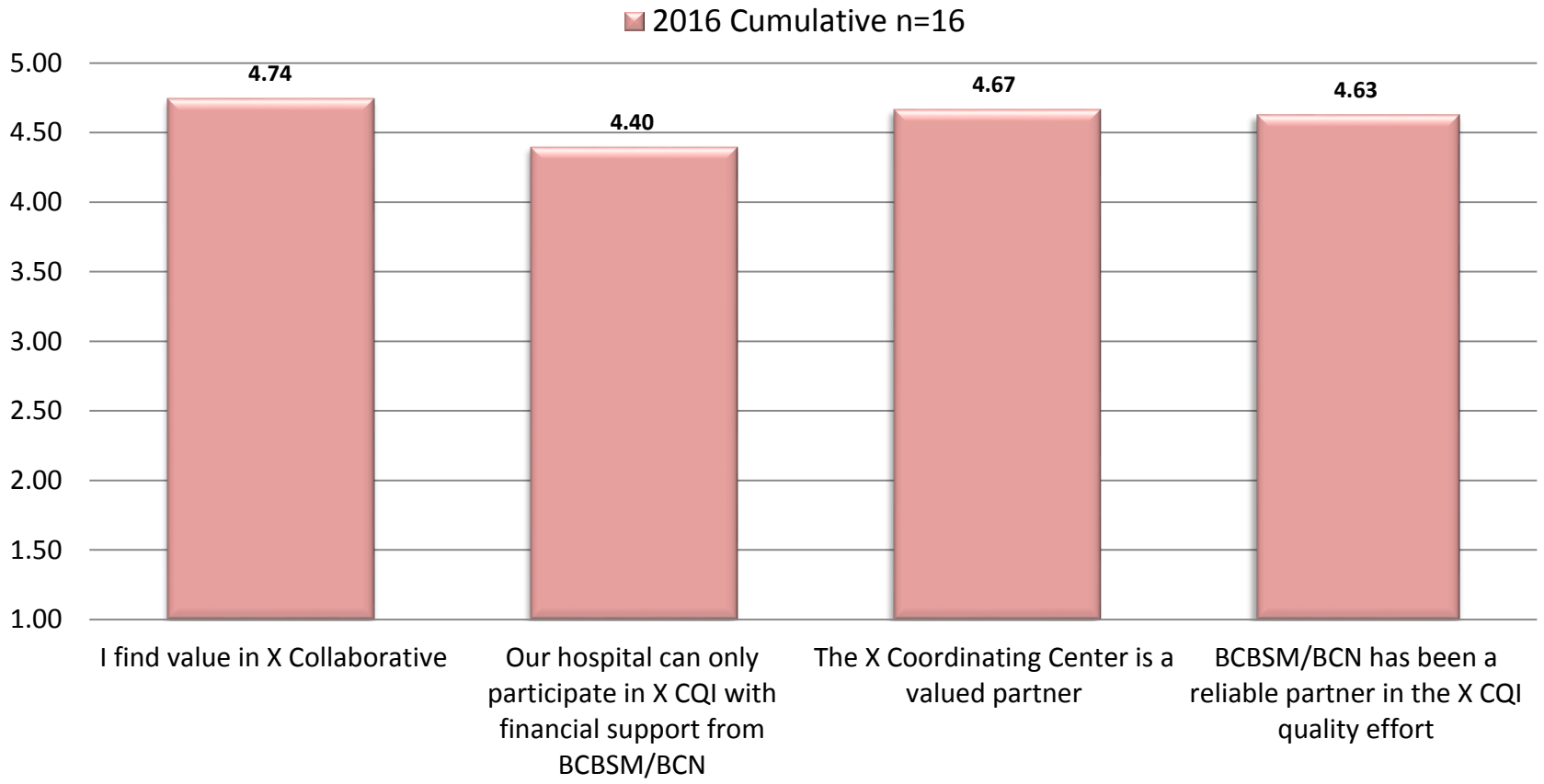
$20.7 Million in 2015

Pay for Performance Incentives

Rewarding hospital contributions to CQI related quality improvement efforts

$63.3 Million in 2015

Positive Perspectives from the CQI Participants



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

The CQIs are a Win

They are a win for those who seek care, because they receive better care

They are a win for those who provide care, because they are afforded the opportunity to continuously improve

Blue Cross Blue Shield Blue Care Network of Michigan

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

They are a win for those who pay for care, because they reduce costs, improve patient care, and strengthen the physician/insurer relationship

In Closing, Hospital CQIs:
Harnessing a Unique Asset to the State of Michigan

- **Strong hospital and physician engagement:** 90 Michigan hospitals actively participate in the CQIs
- **Largest collection of clinical data in the world:** Nearly 500,000 cases were submitted CQI registries in 2016, equating to more than 2.1 million cases total across all registries
- Placing Michigan in the national and international focus and positioning our surgeon leaders as national experts in their fields
- Making Michigan hospitals among the safest in the country
- Bringing federal dollars to Michigan to pilot additional improvement efforts
- CQIs are one of the biggest contributors to improved outcomes and averted costs for our members/customers
- Keeping benefit costs low and helping Michigan businesses remain profitable

THANK YOU!!!

The results are because of the strong work of dedicated consortiums like MTQIP!

Tom Leyden
Director II, Value Partnerships
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www.valuepartnerships.com

Spectrum Health

Matthew J. Schreiber, MD

SPECTRUM HEALTH

MTQIP Meeting

Change Management

Matthew J. Schreiber, MD
Spectrum Health VP Operations Acute Health
Feb 14, 2017

Underlying Axioms

- The “system” is the dynamic interface between imperfect people and imperfect process
- Perfection is not compatible with the human condition
- Complexity is the enemy
- Teamwork is the antidote to complexity
- Technical competency is unlikely to be the problem

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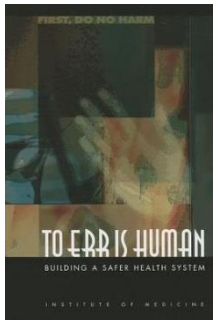
Veteran Experience

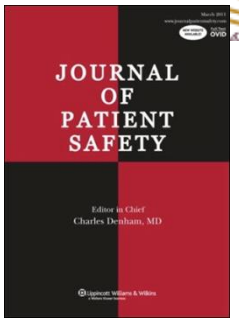
- Reject assertions of terminal uniqueness
- Learn from others experience as if they were your own
- No matter what your performance is, you can do better
- Don’t collect data you don’t use, use the data you collect
- Safety is hard bc it takes 100% of the people 100% of the time and that is a leadership issue
- Be disarming with your transparency
- What is your method for organizational improvement?
  - Reject Policy changes, education, and computer fixes
  - Focus on certification of std work, observation/auditing

Medical Error and Harm By the Numbers:

- *98,000*
- *5 minutes, 22 seconds*

- *200,000*
- *2 minutes, 38 seconds*





3rd-6th Leading Cause of Death!

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

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Why Are You Here?

To Do Meaningful Work that Makes A Difference in the Lives of Others

SPECTRUM HEALTH

Why Are You Here?

We are all here on earth to help others; what on earth the others are here for I don’t know.

--W.H. Auden

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Stand [And Stay Standing] If. . . .

- You have been a patient and experienced preventable harm
- You have a close friend or family member who has experienced preventable harm
- You have been part of a case where someone experienced preventable harm
- You would call our ER if the person closest to you had a serious condition and you would want to make sure particular doctors and nurses, and staff were involved in their care

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Why Am I Here?

SPECTRUM HEALTH

Why Am I Here?

- The system is broken
- I am part of the system
- Therefore, I must change if the system is to achieve meaningfully different results

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Change Is Hard—That's Why You Need to Go First

- If You want to change the world, you must first change the conversation.
- The world is listening—what are you going to say?
- Inspiration is the work of leadership
- We are the leaders

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Change is Hard—Leaders Need to Go First

- Is your culture passively or actively managed?
- How big is the gap between what you say and what you do?
- What is the purpose of your budget?
- How do you know what you think you know?
- Standardize the things that matter
- Are you inspiring or chasing with a clipboard?

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Change Competency

- Occupy the moral high-ground
- Tap into mission motivation
- Lead by example
- Take leadership risk and do things the culture doesn’t expect
- Show leadership humility
- Build teamwork until it is not possible to get it wrong via in situ simulation.

Managing the Conversation

- Use a “tightening ring of nausea”
- Local leaders lead
- Ask the staff and the providers the same questions and look for the difference in responses
- Dismantle the authority gradient by giving permission and expectations
- The hard part begins when the presentation ends

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Tobacco Kills 443,000 Annually

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Poll the audience

- Who thinks safety behavior is an important and meaningful part of our job that makes a difference to patients?
- Who thinks doctors think this is an important part of their job and makes a difference to patients?
- Who thinks doctors and staff *should* have similar expectations and accountability as it relates to safety?
- Who thinks doctors and staff *will* have similar expectations and accountability as it relates to safety?
- Who has been rewarded and recognized for “stopping the line” when they had a concern? Even if it was unfounded?

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Harm Happens

- We don’t just work here, we live here
- Harm can happen to anyone
- Harm affects everyone including the care team
- Preventable harm happens on our watch
- Simple, easily performed behaviors and habits can prevent the majority of harm
- High functioning multi-disciplinary teams are the antidote to complexity
- Teamwork is a trained skill that gets practiced until you can’t get it wrong.

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Poll The Audience

Will Seamless Integration of Digital Information Systems Make Healthcare Safer?

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The EHR Will Fix That??

- A fool with a tool…
- Computers breed work-arounds like poverty breeds theft
- Nexus will make error propagation frighteningly efficient
- Humans will become less likely to verify information contained within the tool
- Electronification reduces the demand for human congregation and conversation
- We need Nexus…AND so much more

- **Great Reads:** Digital Doctor by Wachter, The Patient Will See You Now by Topol

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Key Messages

- *Preventable* harm happens here on our watch
- No one is doing anything TO us, WE are doing this FOR ourselves
- It is amazing what people will tell you if only you ask
- Real leaders dismantle power distance and find and fix issues aggressively
- Whether or not we want to take this on, this work will get done and it will be done under the hot white light of public scrutiny. I don't like the odds of me against the world.
- Great work has happened and we have great people. This is an opportunity to focus and deliver even better results because at the end of the day, we don't just work here, we live here.

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What Do We Know?

Safety is hard because it takes 100% of people 100% of time

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Success Is A Balance of Inspiration And Perspiration

- Perhaps the most valuable result of all education is the ability to make yourself do the thing you have to do, when it ought to be done, whether you like it or not.

  --Thomas Henry Huxley

- Whatever we learn to do, we learn by actually doing it: men come to be builders, for instance, by building and harp players by playing the harp. In the same way,…by doing brave acts, we come to brave.

  --Aristotle

- When you were born you cried while the world rejoiced. Live your life in such a way that when you die the world cries while you rejoice.

  --Robin Sharma

MHA

Brittany Bogan, MHSA

MHA
Michigan Health & Hospital Association

Leading Healthcare

MTQIP Quarterly Meeting

Brittany Bogan
Vice President, Patient Safety and Quality
MHA Keystone Center

February 14, 2017

MHA Keystone Center

Vision

Healthcare that is safe, effective, efficient, patient centric, timely and equitable.

Mission

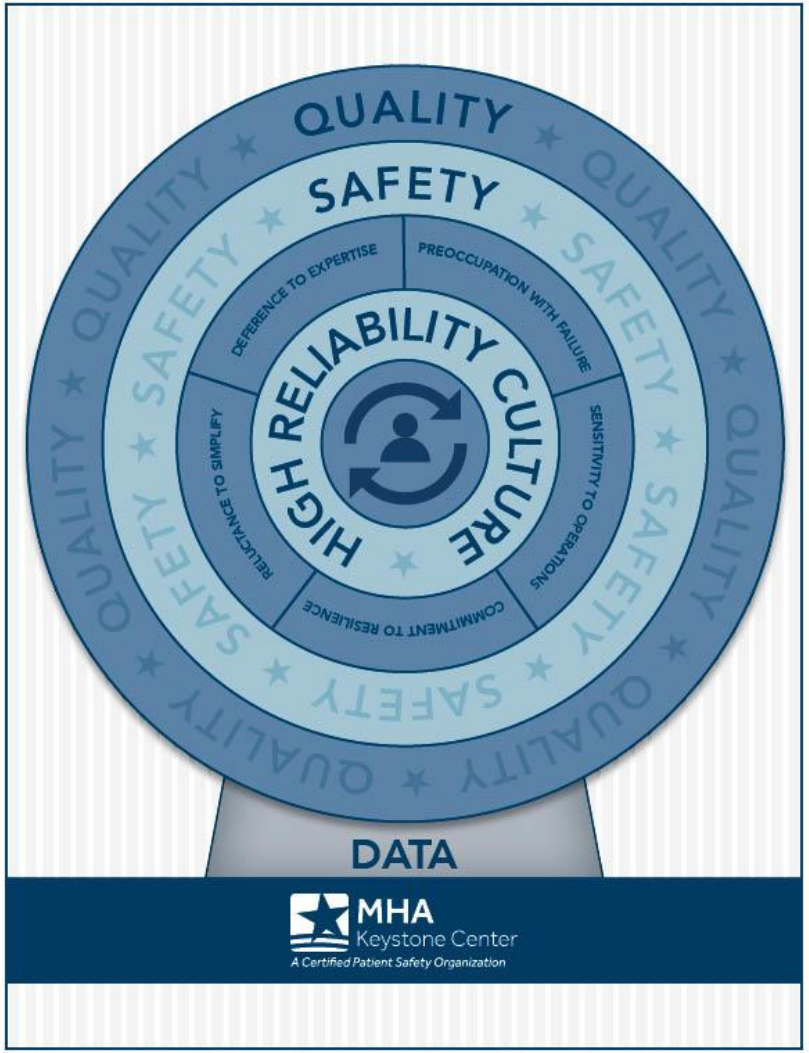
To lead the nation in quality and patient safety through the diffusion of change using patient-centered, evidence-based interventions supported by cultural improvement.

Values

Excellence ● Innovation ● Compassion ● Teamwork

Our Model

- **Why:** Person at the Center – Patients and Healthcare Workers
- **What:** High Reliability Culture is core to work
- **How:** Safety, Quality and Data



Quality Improvement

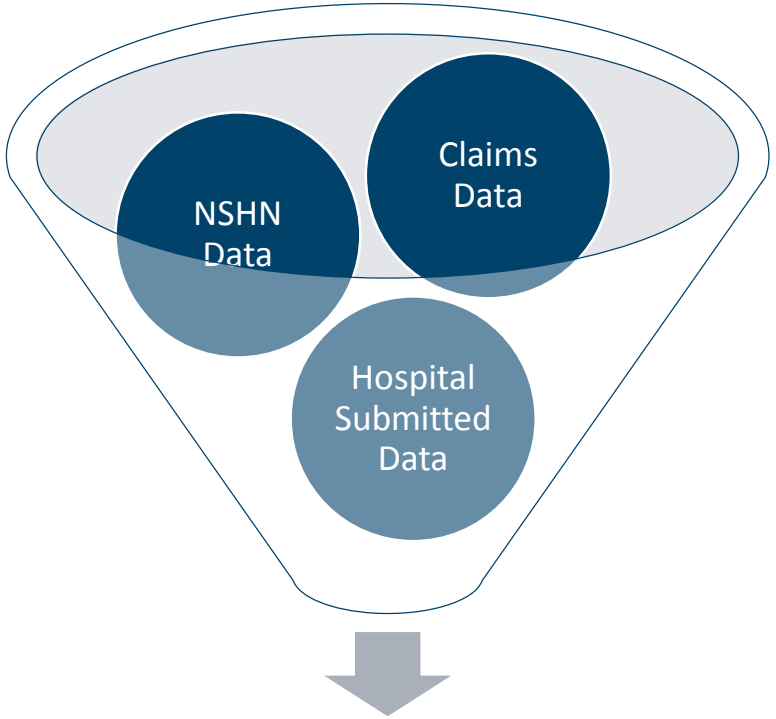
- MHA-member hospitals have avoided over $100 million in healthcare costs over the past few years due to quality improvement work funded by BCBSM and CMS
- The 12-month “HEN 2.0” initiative included 215 hospitals from Michigan and Illinois that among other accomplishments, achieved:
    - 45.1% reduction in catheter-associated urinary tract infections
    - 28.2% reduction in adverse drug events due to IV opioids
    - 20.2% reduction in early elective deliveries prior to 39 weeks gestation
    - 29.7% reduction in MRSA
- Lessons from MHA Keystone collaboratives have shaped future QI work

Hospital Improvement Innovation Network

- CMS Hospital Improvement Innovation Network (HIIN) contract awarded to the MHA on September 28, 2016
- Two-year federal contract with an optional third year based on performance
- Expanded work to include both Illinois and Wisconsin hospitals in partnership with respective state hospital associations (315 hospitals in total) = *Great Lakes Partners for Patients HIIN*
- New model for improvement will use data to identify hospitals with opportunities for improvement and then provide direct support or Improvement Action Networks (IANs)
- Short-term, focused effort versus historical large-scale collaborative model

Keystone Data System (KDS)

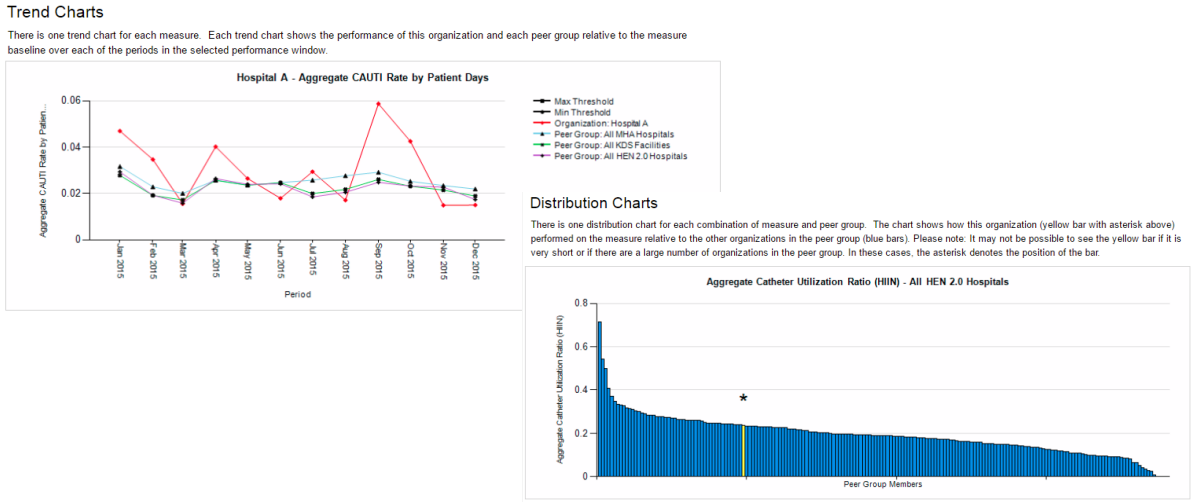
One-stop data repository



MHA Keystone Center
A Certified Patient Safety Organization
Keystone Data System

Performance Reports

Trends & Distribution Graphs
Comparisons to Peer Groups and participating facilities



Data Exports

Raw Data & Aggregate Totals
Allows users to do internal analysis

Safety

- The MHA Keystone Center has been listed as a certified Patient Safety Organization by the Agency for Healthcare Research and Quality since 2009.
- Michigan hospitals voluntarily report patient safety events for analysis and translation into actionable cultural and safety improvements.
- As a PSO, the MHA Keystone Center offers opportunities for hospital peers to learn about serious event trends, exchange patient safety experiences, discuss best practices, and learn in an open, uninhibited and legally protected environment.

Root Cause Analysis and Action (RCA^2)

- Across 2017, training on the National Patient Safety Foundation's RCA^2 process will be provided to MHA Keystone PSO members
  - Train-the-trainer sessions
  - Expert root-cause analysis review and feedback
  - Root cause analysis domain in adverse event portal

Safe & Reliable Healthcare's SCORE

A biennial integrated culture and employee engagement survey administration, the SCORE survey integrates safety culture, local leadership, learning systems, resilience/burnout and work-life balance.

Safe & Reliable Healthcare

The SCORE: Why Now? Why Us?

Dr. Allan Frankel | Dr. Bryan Sexton | Dr. Michael Leonard | Ms. Terri Christensen | Dr. Maleek Jamal

20 years ago
- Two decades ago, we created the SAQ and co-developed the AHRQ instrument
- National databases for both of these show an aggregate net improvement of <2% over the last 8 years in total

Δ [*Change*]
- Healthcare has undergone dramatic change and reform in the last two decades, dating these existing instruments
- The field has a far deeper understanding of how to drive improvement, including what to measure

>600 hospitals
- **Safe And Reliable Healthcare** works closely with hundreds of hospitals and ten of thousands of providers to improve culture and outcomes
- These ongoing insights have improved our understanding of how to best measure and improve culture in 2016, and beyond

S	Safety
C	Communication
O	Operational Risk
R	Reliability & Resilience
E	Engagement

- Survey offered to PSO member organizations twice per year, every other year
- 29 hospitals have committed to administering the SCORE in the Spring 2017 administration
- Starting with the Fall 2017 administration, hospitals will have the option of using the SCORE survey or the AHRQ Hospital Survey on Patient Safety (HSOPS)

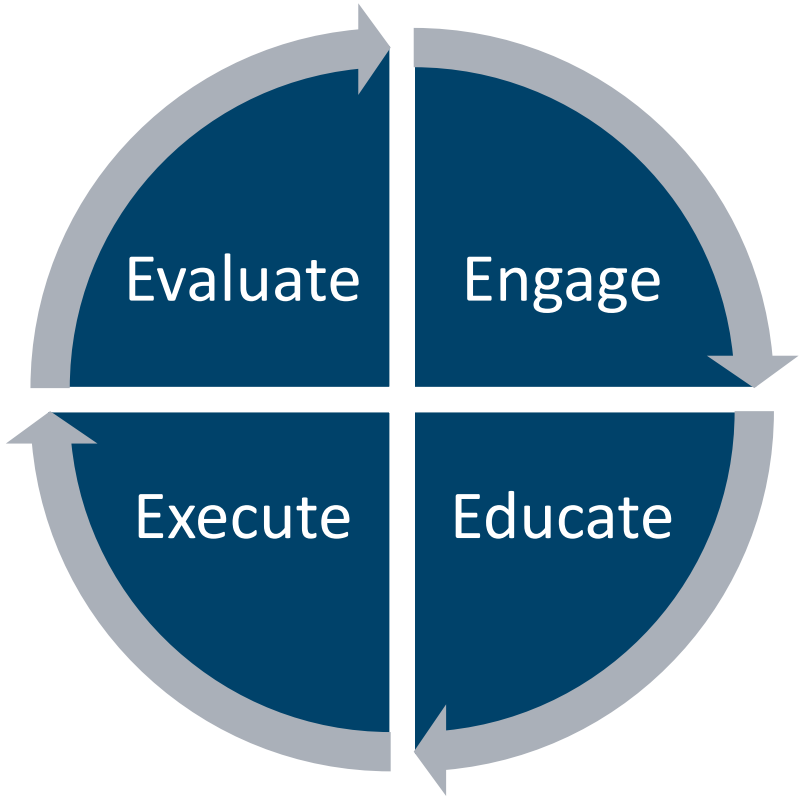
Speak Up! Award

- Quarterly award presented to staff from PSO-member organizations
- Engage staff, recognize and reward patient safety efforts
- Annual award winner to be recognized at 2017 MHA Patient Safety & Quality Symposium

High Reliability Culture

Principles of High Reliability Organizations (HROs):

- Deference to expertise
- Preoccupation with failure
- Sensitivity to operations
- Reluctance to simplify
- Commitment to resilience



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Pronovost, P., Berenholtz, S., Goeschel, C., Needham, D., Sexton, J.B., Thompson, D., . . . Hunt, E. Creating High *Reliability in Health Care Organizations. Health Serv Res. 2006 August; 41(4 Pt 2):* 15991617.

High Reliability Model

Joint Commission Center for Transforming Healthcare

Leadership Commitment

- Board
- CEO/Management
- Physicians
- Quality Strategy
- Quality Measures
- Safe Adoption of IT

Adoption of Safety Culture

- Trust
- Accountability
- Identifying Unsafe Conditions
- Strengthening Systems
- Assessment

Performance Improvement

- Methods
- Training
- Spread

Stages of Maturity: Beginning → Developing → Advancing → Approaching

High Reliability - Tier 1

- Partnered with The Joint Commission Center for Transforming Healthcare
- All MHA-member hospitals invited to participate
- Focus on education and sharing of principles and practices to move from low to high reliability
- Executive leadership (CEO) buy-in is critical to success
- Step 1: Administer baseline Oro 2.0 assessment
  - 90 percent of Michigan hospitals have completed this step
  - Across 2017, focus on assisting hospitals in the execution of HRO action plans

High Reliability Assessment

Baseline Oro 2.0

- The executive team, leadership, board members (suggested)
  - CEO
  - CMO, CNO, CQO
  - VPs/Directors of Quality, PI, Risk Manager, Patient Safety Office
  - Others to consider or for specific topics: Board member, COO, CFO
- Provides information about strengths, opportunities, and potential investment strategies for achieving performance
- Self-Assessment (49 questions with Branching Logic)
  - Followed by a consensus meeting, where senior leaders meet and take assessment as a group – alignment is critical

ORO™ 2.0
High Reliability Organizational Assessment and Resources

High Reliability

Tier 1

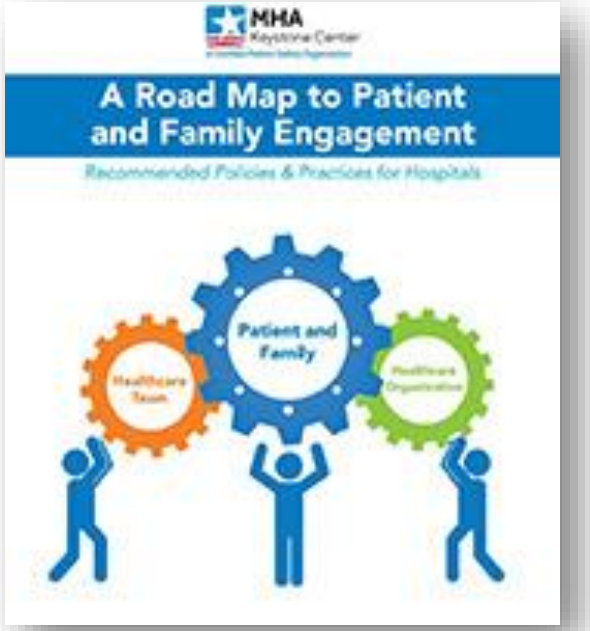
- Linked to HIIN and BCBSM P4P Initiatives – all MHA-member hospitals
- Focus on education and sharing of principles and practices to move from Low to High Reliability
- Oro 2.0 assessment process
  - Assessment
  - Consensus
  - Action Planning
- Educational Webinars with the experts
- Coaching Webinars began in June 2016, across three topic areas:
  - Safety culture
  - Leadership
  - Performance improvement
- In-person Workshop to be held May 24
- Repeat Oro 2.0 reassessment in 18 - 24 months

Tier 2

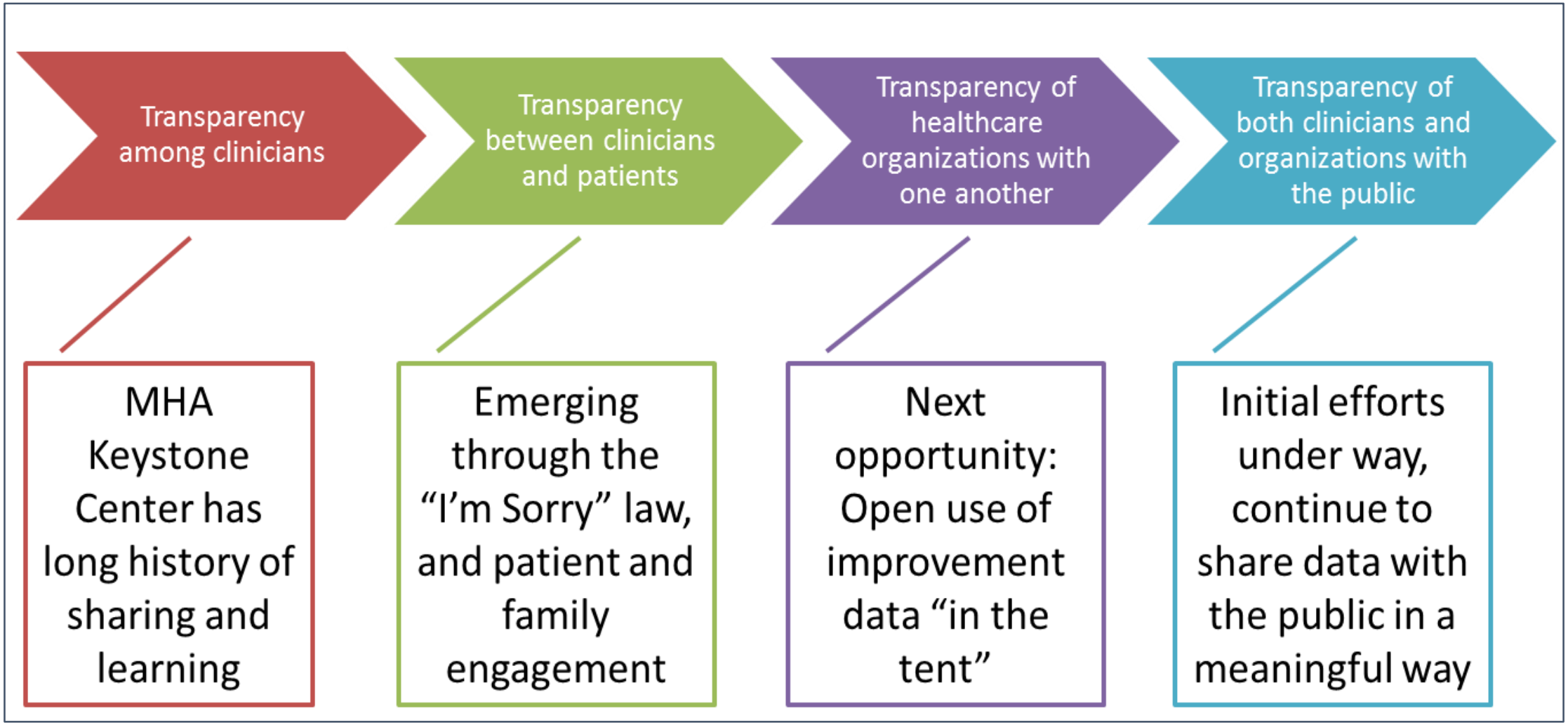
- Three year process with the goal of long term aim to Zero Harm – 9 Michigan hospitals
- Executive (CEO) committed to making change and holding themselves accountable – no delegating
- Executive leaders develop and commit to executing their own high reliability action plan
- Measures
  - Clinical outcomes
  - Financial performance
  - Safety Culture Data - From 2014 or 2015
- Onsite facilitated, in-depth high reliability assessment
- Annual Workshops – in person, off-site
- Two onsite visits per year
- Topic specific workgroup with an initial focus on transparency

Person & Family Engagement

- MHA Keystone Patient & Family Advisory Council
- Recommended practices and policies to increase patient engagement within the hospital
- 2017 Goal: All Michigan hospitals have a local patient and family advisory council or include patient advisors on existing quality improvement committees
  - 50 Michigan hospitals currently reporting fully implemented PFACs



Data & Transparency



MHA Keystone Center

A Certified Patient Safety Organization

Leading Healthcare

2112 University Park Drive | Okemos, MI 48864

(517) 323-3443 | www.mha.org

Brittany Bogan

bbogan@mha.org

(517)348-2238

McLaren Lapeer

Barton Buxton, EdD MEd

M·TQIP

McLaren

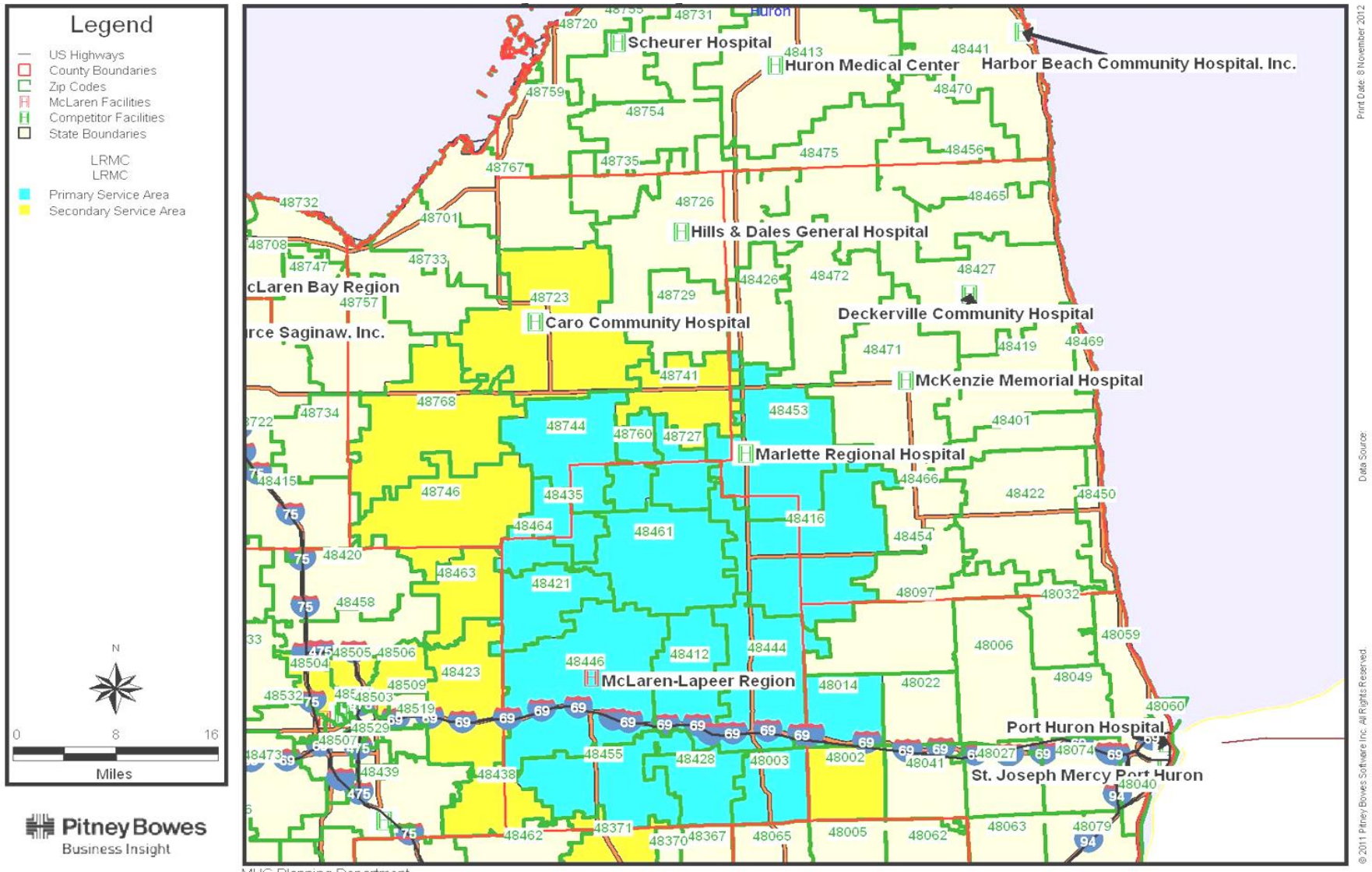
LAPEER REGION

Our Trauma Journey– *the positive unaccepted consequence of change*

February 14, 2017

Bart Buxton, EdD
President and CEO

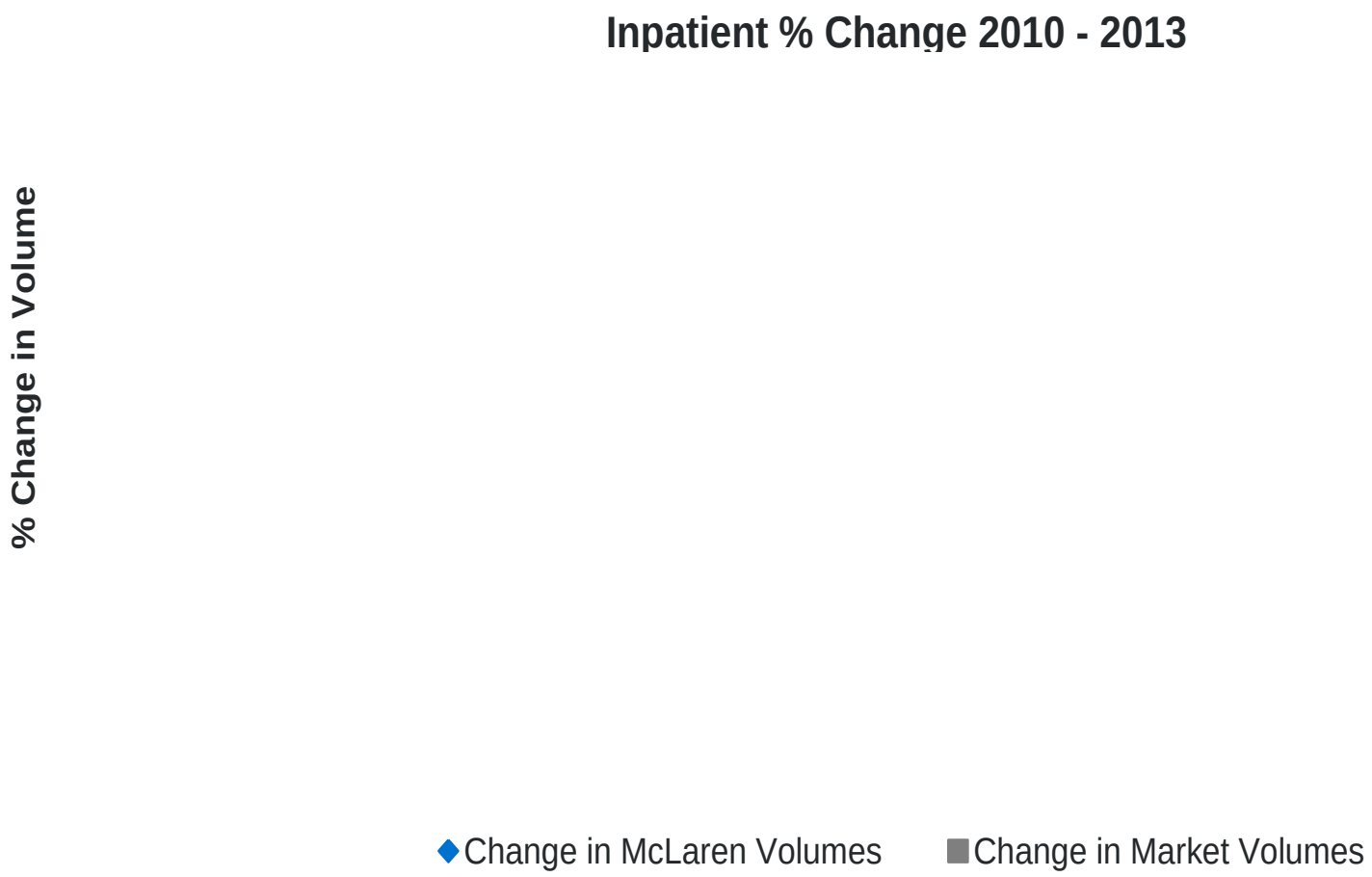
The Lapeer Market



MHC Planning Department

McLaren

Growth


Inpatient % Change 2010 - 2013
% Change in Volume
Change in McLaren Volumes
Change in Market Volumes

Source: Michigan Hospital Association MS data

Volume Change

2010 2016

What started off as a simple strategic initiative, changed the culture, the fabric and the delivery of care of the institution.

McLaren

Access Changed

- EMS Integration, Enhanced Protocols, Teaching. Quality, Response

Services Lines expanded offerings

Physicians Services

- General Surgery
- Orthopedics
- Neurosurgery
- Radiology
  - Interventional Radiology
- Critical Care
- Nephrology
- Thoracic Surgery
- Physiatry

Hospital Services

- Operating Room
- Emergency Room
- PT/OT/Speech Therapy
- Diagnostic Imaging
- ICU/PCU
- Wound Care
- Women’s Health
- Behavioral Health
- Transitional Care

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Improved Physician Communication

McLaren


Hypothermia


education
school
family
child
home
young
learn

McLaren

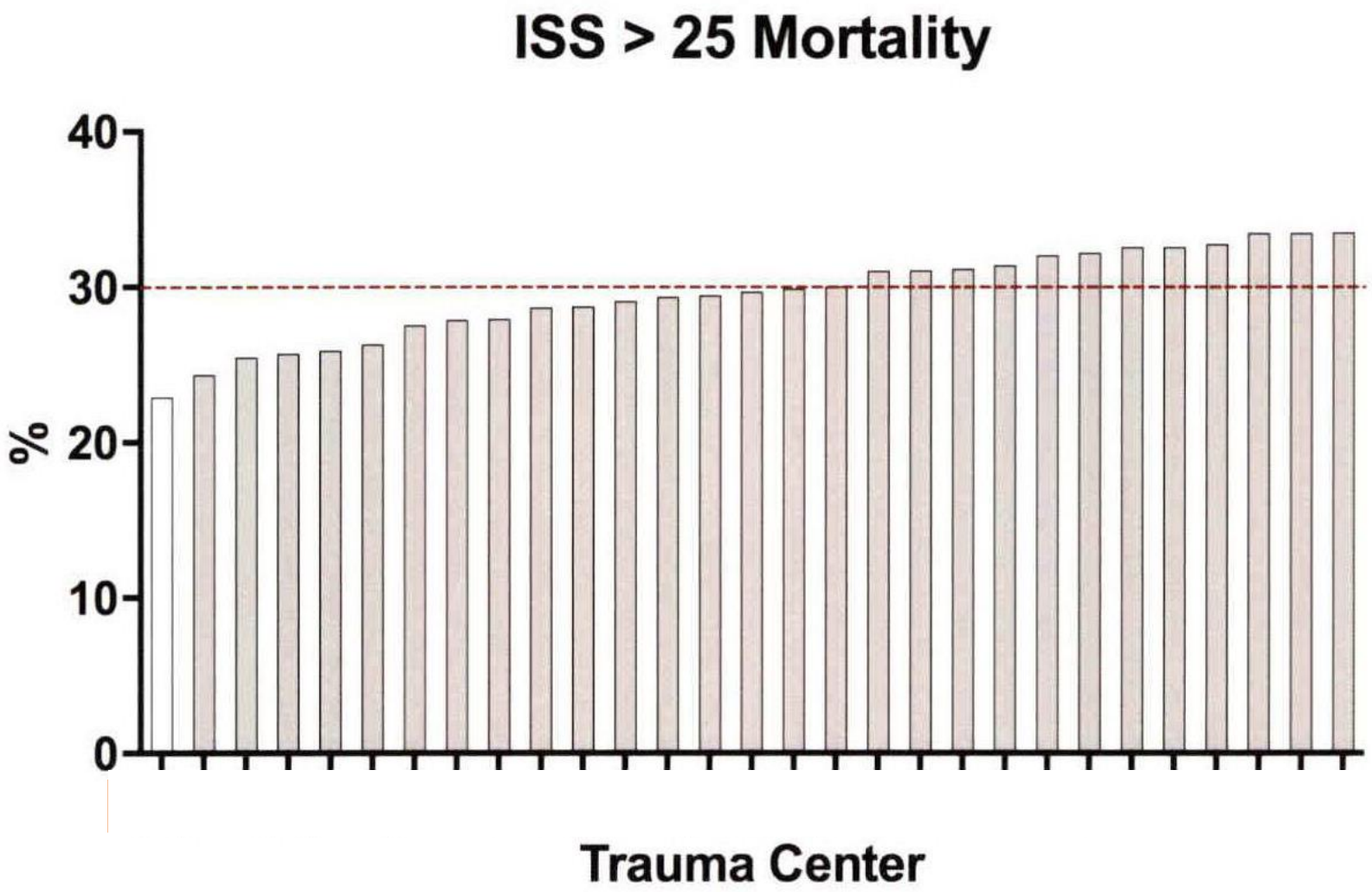
Community Perception changed


knowledge
student
development
wisdom
learning
value
school
proficiency
comprehension
education
motivation

McLaren

McLaren

Michigan Trauma Quality Improvement Program (MTQIP)



McLaren

McLaren LAPEER REGION

Low Molecular Weight Heparin Usage
2016 Project Improvement Plan

Ashley Brown BSN, RN, CEN, Alisha Sholtis BSN, RN, Erin Matusik RHIT, MCSTR

Nick Nunnally DO, Leonard Benitez MD, Maria Cumba MD, Prabhaker Reddy MD, Bradley Wernette PA-C

MICHIGAN HMS VTE CONSORTIUM
Accolades for Success

KEYSTONE- CUSP 4 MVP-VAP

- Effects of the Implementation of endOclear®

Ventilator Days
Patient Days (ICU)
ICU ALOS (Vented)
ICU Patients (all)
ICU ALOS (all)
CMI
Patients (vented)
Ventilator Utilization Ratio
VAP Rate
VAE Rate
Ventiltator Days per Case
Direct Cost per Case (Vented)
Hospital ALOS (Vented Patients)
Trachs

Direct Cost Per Vented Case		
No. of Vented Patients		

Reduced ICU LOS

Reduced VAE

Cost Reduction
FY15 to FY16

McLaren

BCBSM P4P Program

- Achievement of 100 points for the BCBSM P4P Program with the following Collaborative Quality Initiatives (CQIs): MVC, MSQC, MARCQI, VTE/PICC, Sepsis, and CAUTI. MTQIP achieved 96%. This includes timely data abstraction, quality audit of our abstraction, attendance at off-site meetings with physician champion and quality staff, coordinating meetings at the hospital, projects, etc.
- Achieved a BCBSM score of 4.55% out of 5%

McLaren

MICHIGAN HMS PICC CONSORTIUM

- Actions Taken for Improvement

Updated the order set to mimic The Michigan Appropriateness Guide for Intravenous Catheters (MAGIC) criteria

Increased use of Midlines

Reduced PICC catheter size lumen and gauge to decrease complications

Follow up and review when complications arise

KEYSTONE CAUTI

AHRQ PATIENT SAFETY INDICATORS

Teamwork

McLaren

McLaren

MTQIP Structure

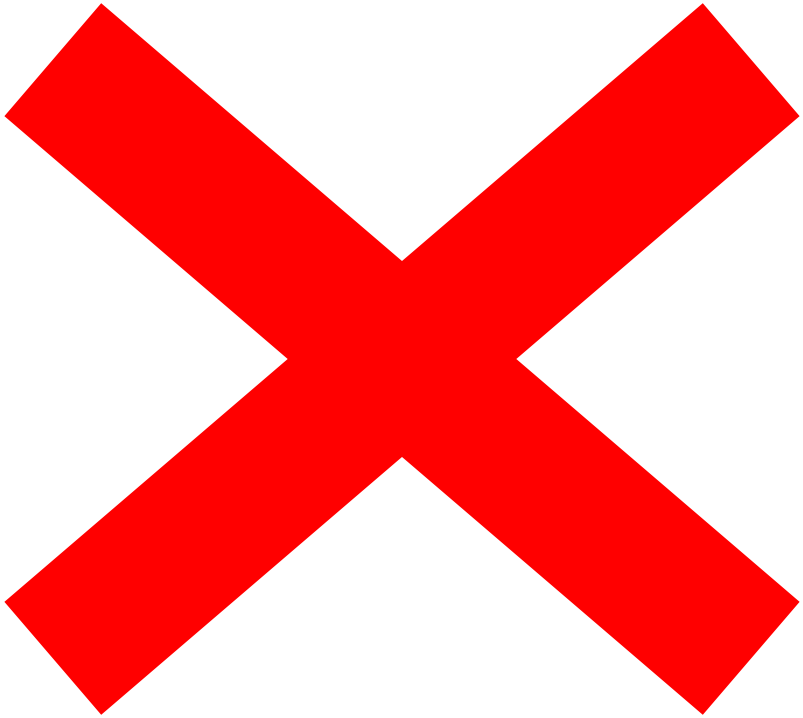
Mark R. Hemmila, MD

MTQIP Timeline

2004	2007	2008	2011	2015	2016
Data quality pilot	Surgery: NSQIP methodology as a means of tracking and reducing adverse outcomes in trauma	Surgery: Potential for cost reduction with improved quality of care MTQIP created as a pilot with 7 centers	MTQIP becomes a formal BCBSM/BCN Collaborative Quality Initiative	J Trauma ACS: Regional CQI improves outcomes and reduces cost	AAST: Results of a regional collaborative quality initiative for trauma

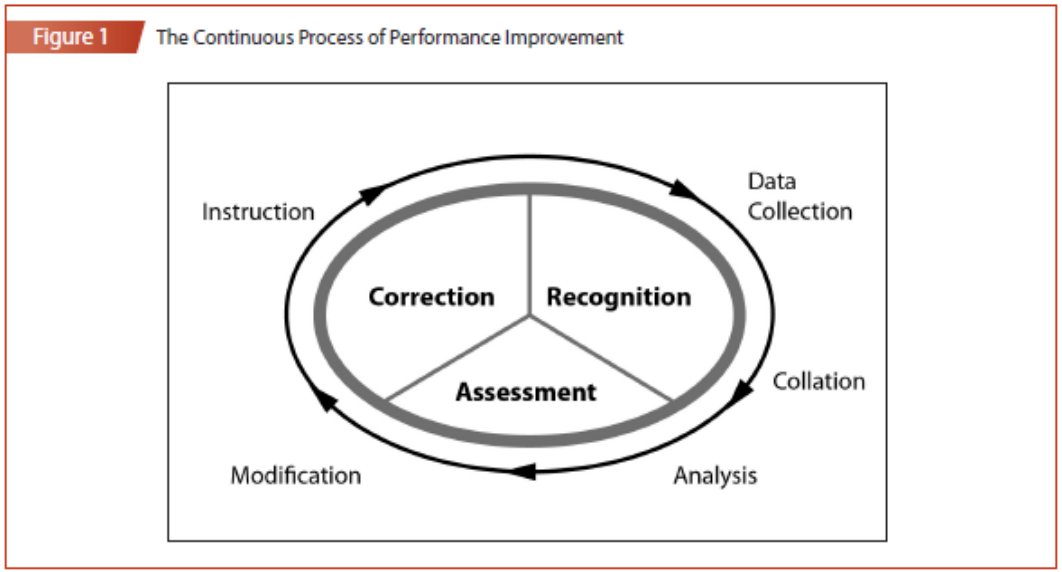
What it is not

- State trauma system
- Policeman
- Mortality
- Reports



What it is

- Performance improvement program
- Information
  - Exchange
  - Context
  - Discussion
- Education
  - Data
  - Peer Group
  - Experts

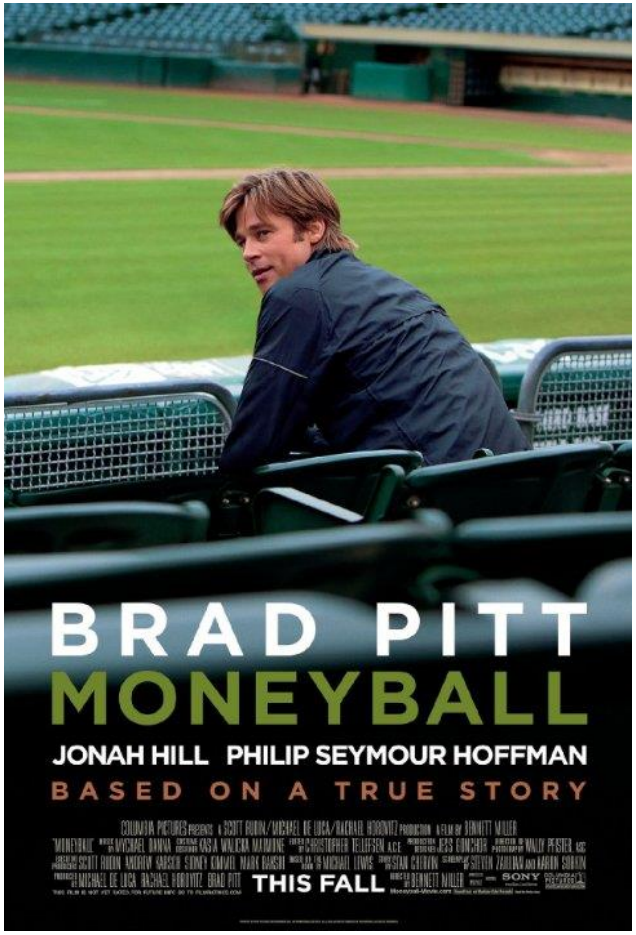


Change

- Some are fine
- Some are not
- How to get better?

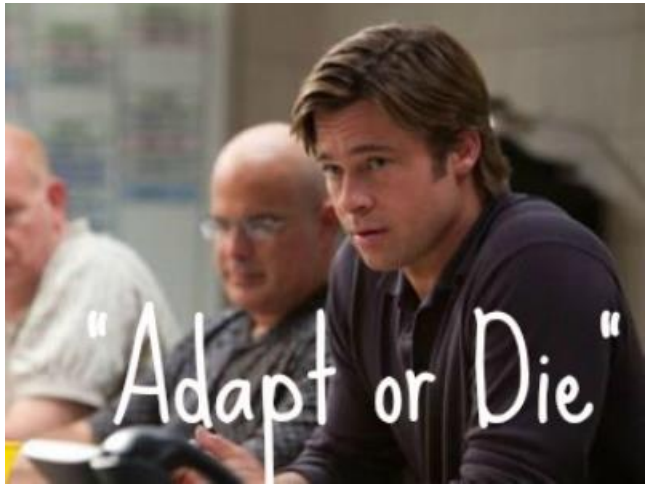
Change

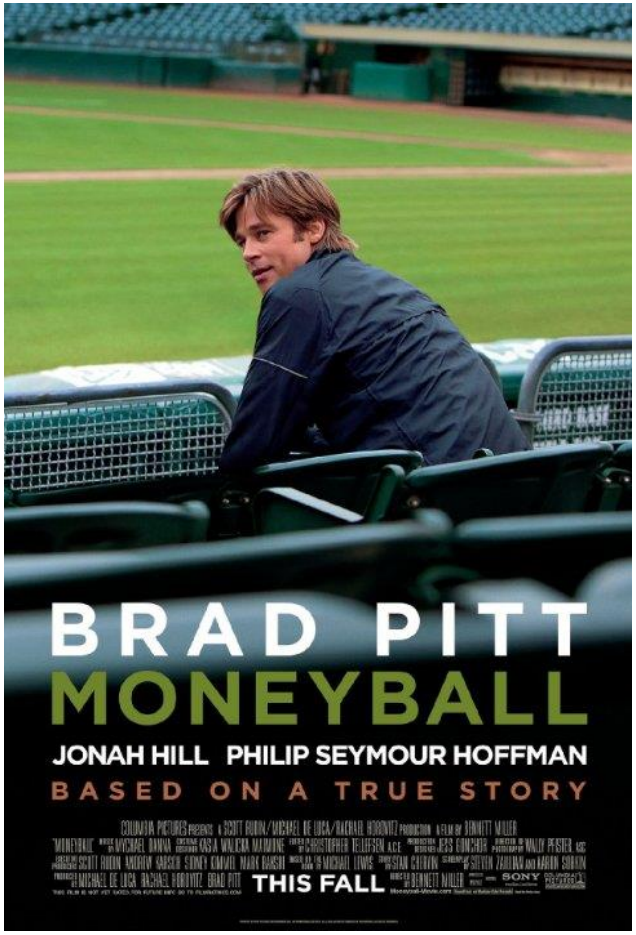
- Some are fine
- Some are not
- How to get better?
- Change



Change

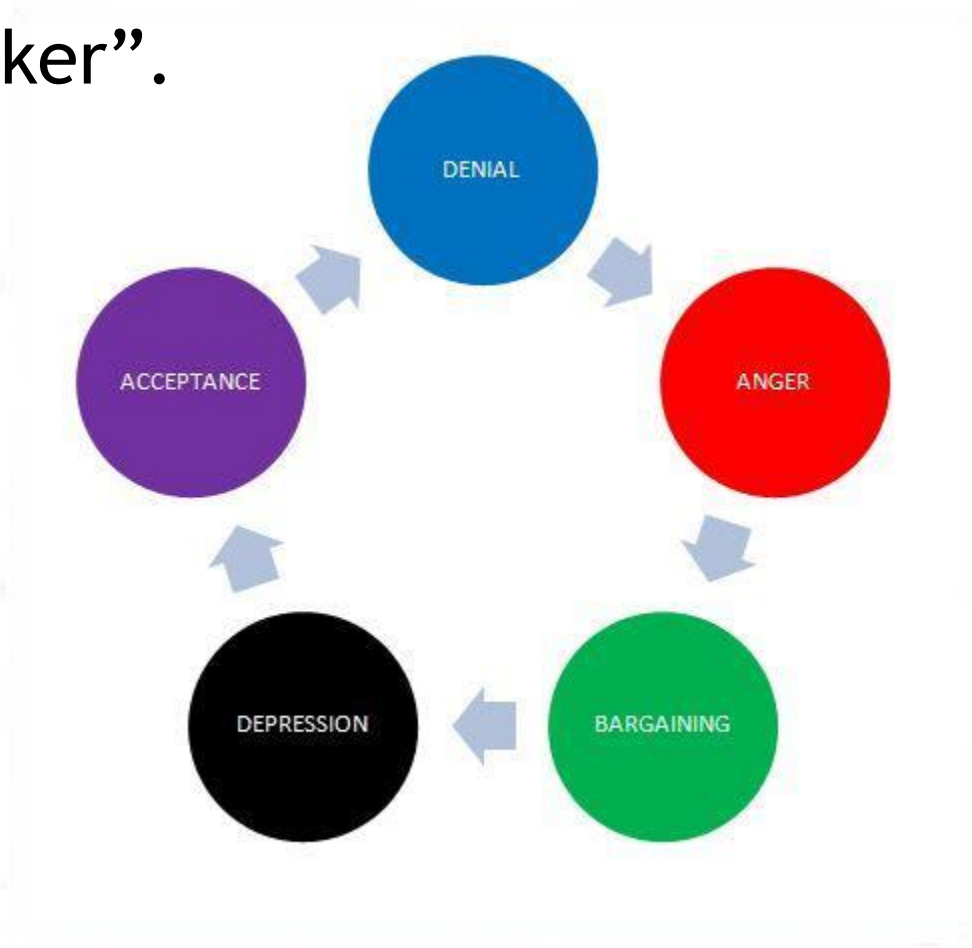
- Some are fine
- Some are not
- How to get better?
- Change
- Change is hard





How to create “change”

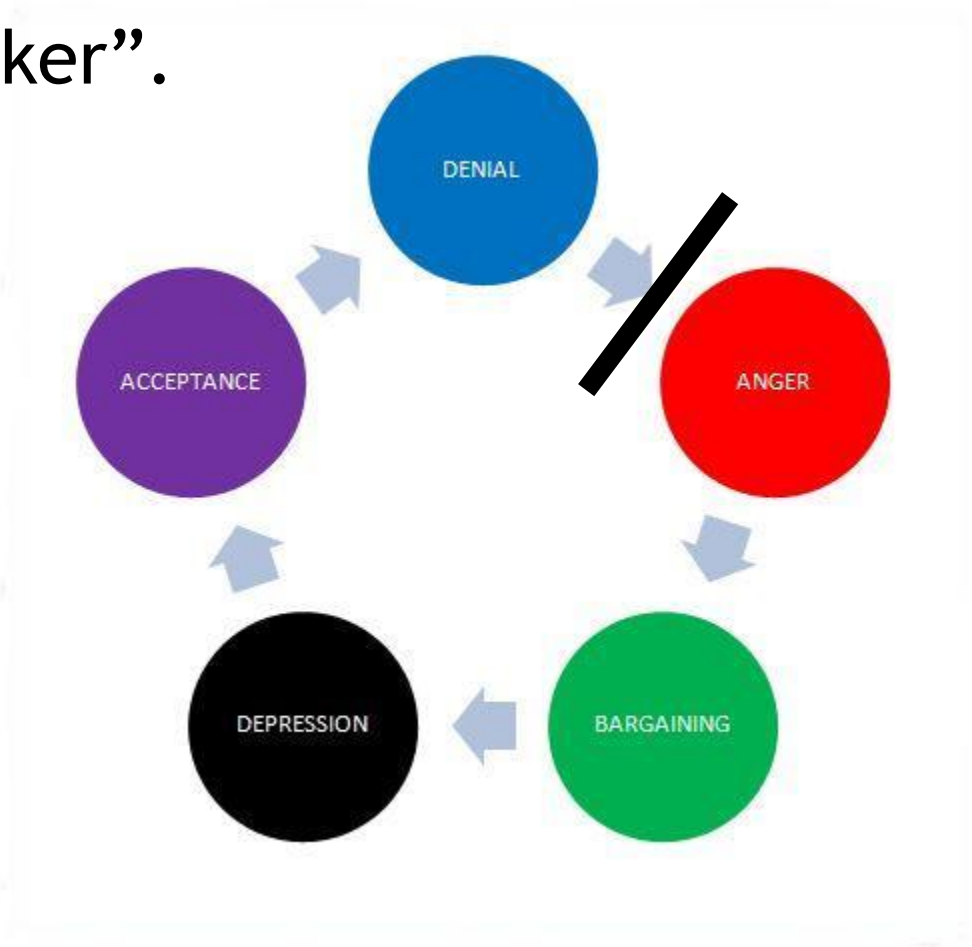
- Blinded Data
- “My patients are sicker”.
- I am different
- Who is that guy?



How to create “change”

- Blinded Data
- “My patients are sicker”.
- I am different
- Who is that guy?

- Stuck

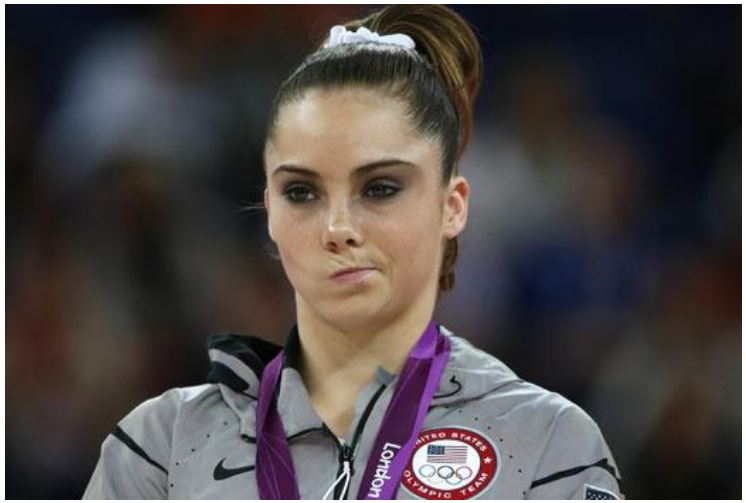


Why do I have these results?

- Feedback does not always correlate with performance.
  - Warning light
  - Delve into data

Why do I have these results?

- Data
  - Capture
    - Available in Medical Record
    - Source
  - Definition
    - MTQIP Data Dictionary
    - Validation



Why do I have these results?

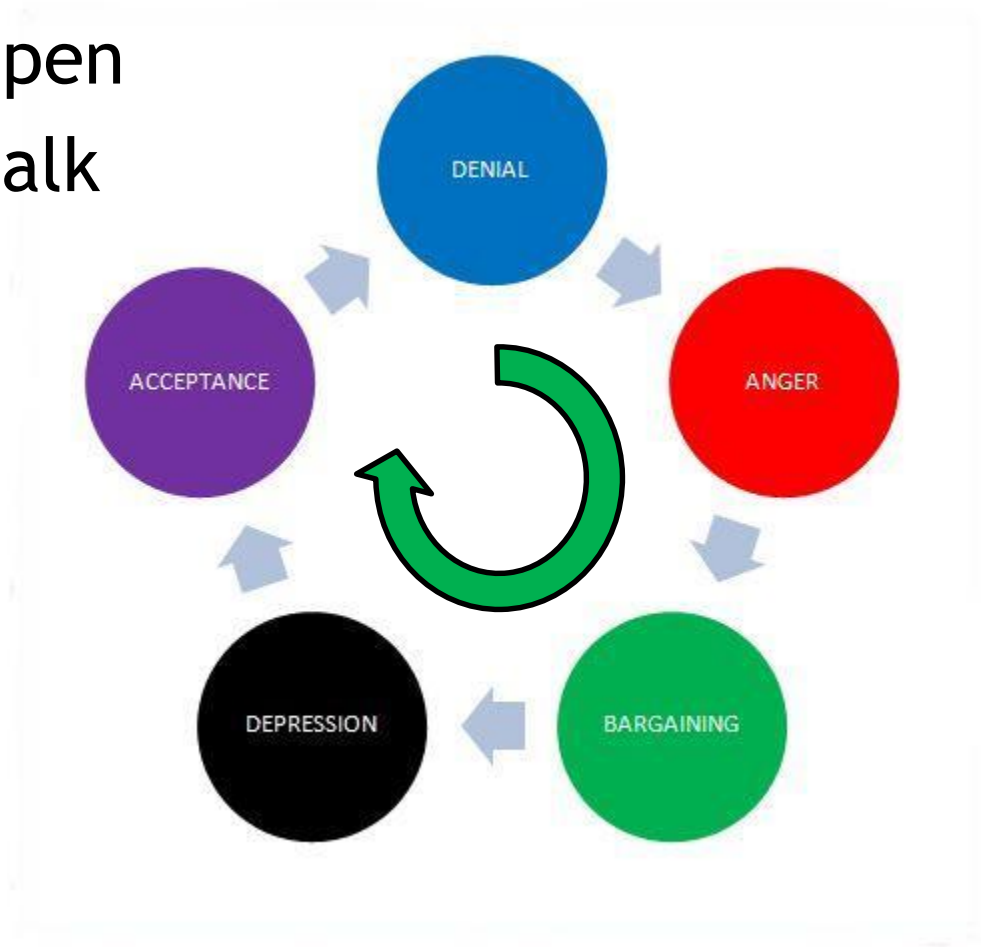
- Data
  - Capture
    - Available in Medical Record
    - Source
  - Definition
    - MTQIP Data Dictionary
    - Validation
- Real “It must be me”

Why do I have these results?

- Data
  - Capture
    - Available in Medical Record
    - Source
  - Definition
    - MTQIP Data Dictionary
    - Validation
- Real “It must be me”
  - Review Patients
  - Explanation? Yes or No
  - What do you do – process of care

How to create “change”

- Unblinded Data
- Get’s it out in the open
- Something we can talk about
- Trust



Motivation Levers

- Reports
  - Credible
  - Drill into data → Access
- Collaborative scoring
  - Accountability
  - Focus
- Unblinding
  - Discussion/Collegial Competition
  - Do more than drink the coffee and eat the donuts
- Site Visits
  - Customer service

Michigan Trauma Quality Improvement Program (MTQIP)
2016 Performance Index Results
January 1, 2016 to December 31, 2016

Measure	Weight	Measure Description			Points Possible	Points Earned	
#1	10	**Data Submission (Partial/Incomplete Submissions No Points)**				**10**	PARTICIPATION (50%)
		On time and complete 3 of 3 times			10		
		On time and complete 2 of 3 times			5		
		On time and complete 1 of 3 times			0		
#2	20	**Meeting Participation-Surgeon**				**20**	
		Participated in 3 of 3 meetings			20		
		Participated in 2 of 3 meetings			10		
		Participated in 1 of 3 meetings			5		
		Participated in 0 of 3 meetings			0		
#3	15	**Meeting Participation-Clinical Reviewer or Program Manager**				**15**	
		Participated in 3 of 3 meetings			15		
		Participated in 2 of 3 meetings			10		
		Participated in 1 of 3 meetings			5		
		Participated in 0 of 3 meetings			0		
#4	5	**Meeting Participation-Registrars (All Registrars Preferred)**				**5**	
		At least 1 Registrar participated in Registrar specific meeting			5		
		Did not participate			0		
#5	10	**Data Accuracy**	**First Validation Visit Error Rate**	**Two or > Validation Visits Error Rate**		**8**	PERFORMANCE (50%)
		5 Star Validation	0-4.5%	0-4.5%	10		
		4 Star Validation	4.6-5.5%	4.6-5.5%	8		
		3 Star Validation	5.6-8.0%	5.6-7.0%	5		
		2 Star Validation	8.1-9.0%	7.1-8.0%	3		
		1 Star Validation	>9.0%	>8.0%	0		
#6	10	**Site Specific Quality Initiative (Jan-Dec 2016)**				**10**	
		Developed and implemented with evidence of improvement			10		
		Developed and implemented with no evidence of improvement			5		
		Not developed or implemented			0		
#7	10	**Mean Ratio of Red Blood Cells to Plasma in Patients Transfused ≥5 Units In First 4 Hrs (1/1/15 – 6/30/16) (18 Months Data)**				**7.5**	
		Tier 1: ≤ 1.5			10		
		Tier 2: 1.6-2.0			10		
		Tier 3: 2.1-2.5			5		
		Tier 4: >2.5			0		
#8	10	**Venous Thromboembolism (VTE) Prophylaxis Initiated <48 Hrs After Arrival (Trauma Service Admissions) (1/1/15 – 6/30/16) (18 Months Data)**				**10**	
		>50%			10		
		≥40%			5		
		<40%			0		
#9	10	**COLLABORATIVE WIDE INITIATIVE: Inferior Vena Cava Filter Use**				**10**	
		≤1.5			10		
		>1.5			0		
				Total (Max Points) =	100	**96**	

MTQIP 2017 Hospital Metrics

- Participation 30%
- Performance 70%
  - VTE Prophylaxis Initiated within 48 hours
  - Use of LMWH for VTE Prophylaxis
  - PRBC to Plasma ratio in Resuscitation
  - Serious Complication Rate
  - Mortality Rate
  - IVC Filter Placement Rate
  - Site Specific Quality Improvement Project

Performance Improvement Examples

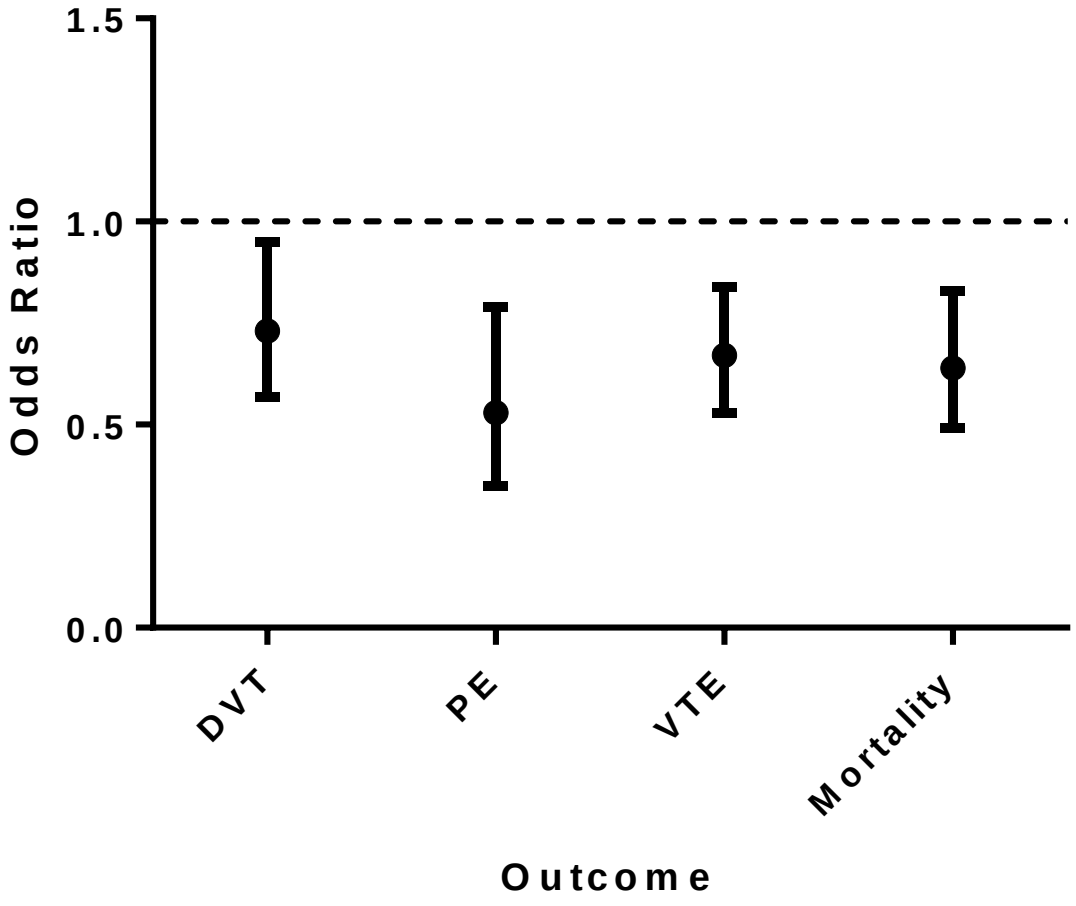
VTE Prophylaxis

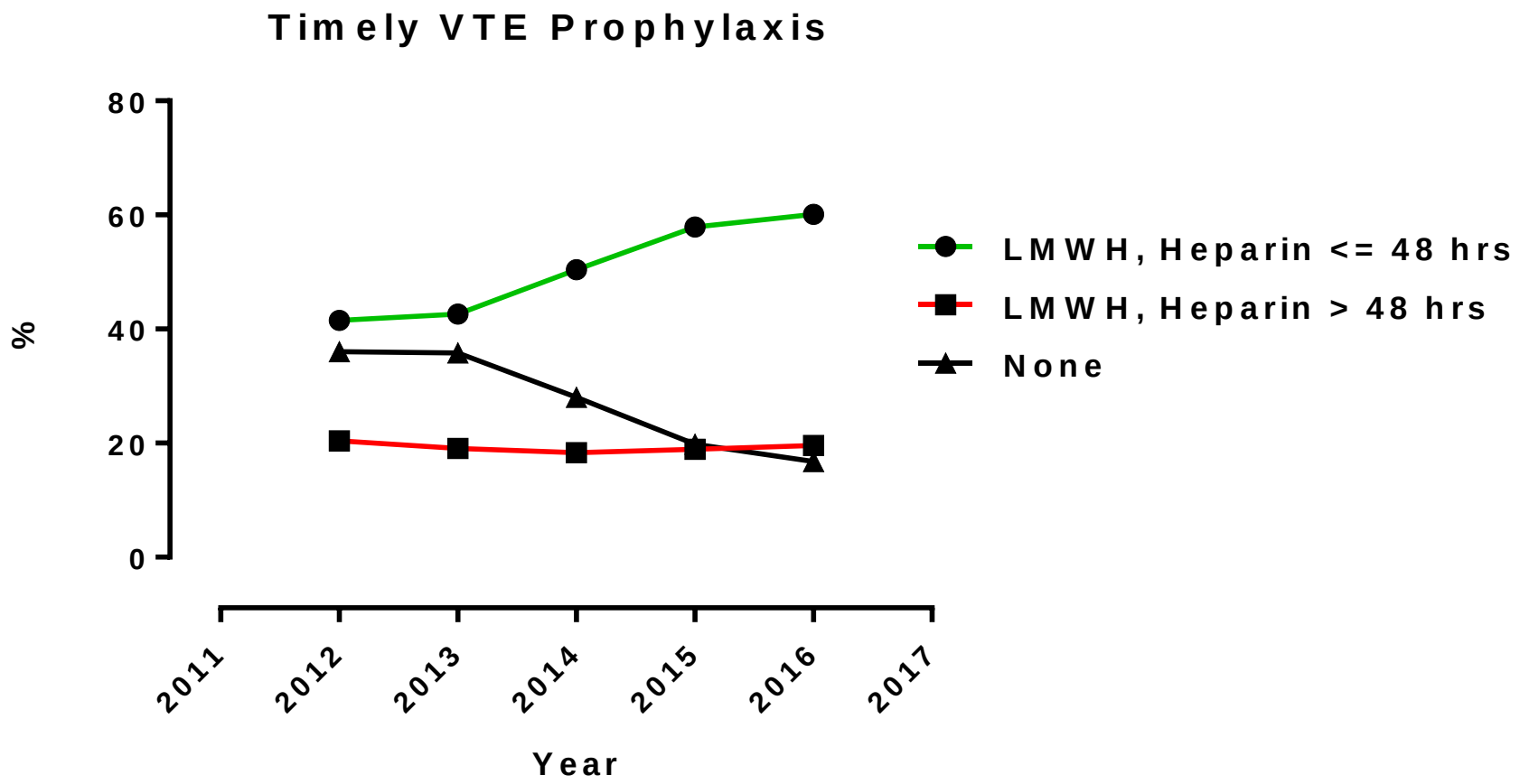
- MTQIP Data
- Heparin vs. LMWH
  - DVT
  - PE
  - VTE
  - Mortality
- Drug
- Dose

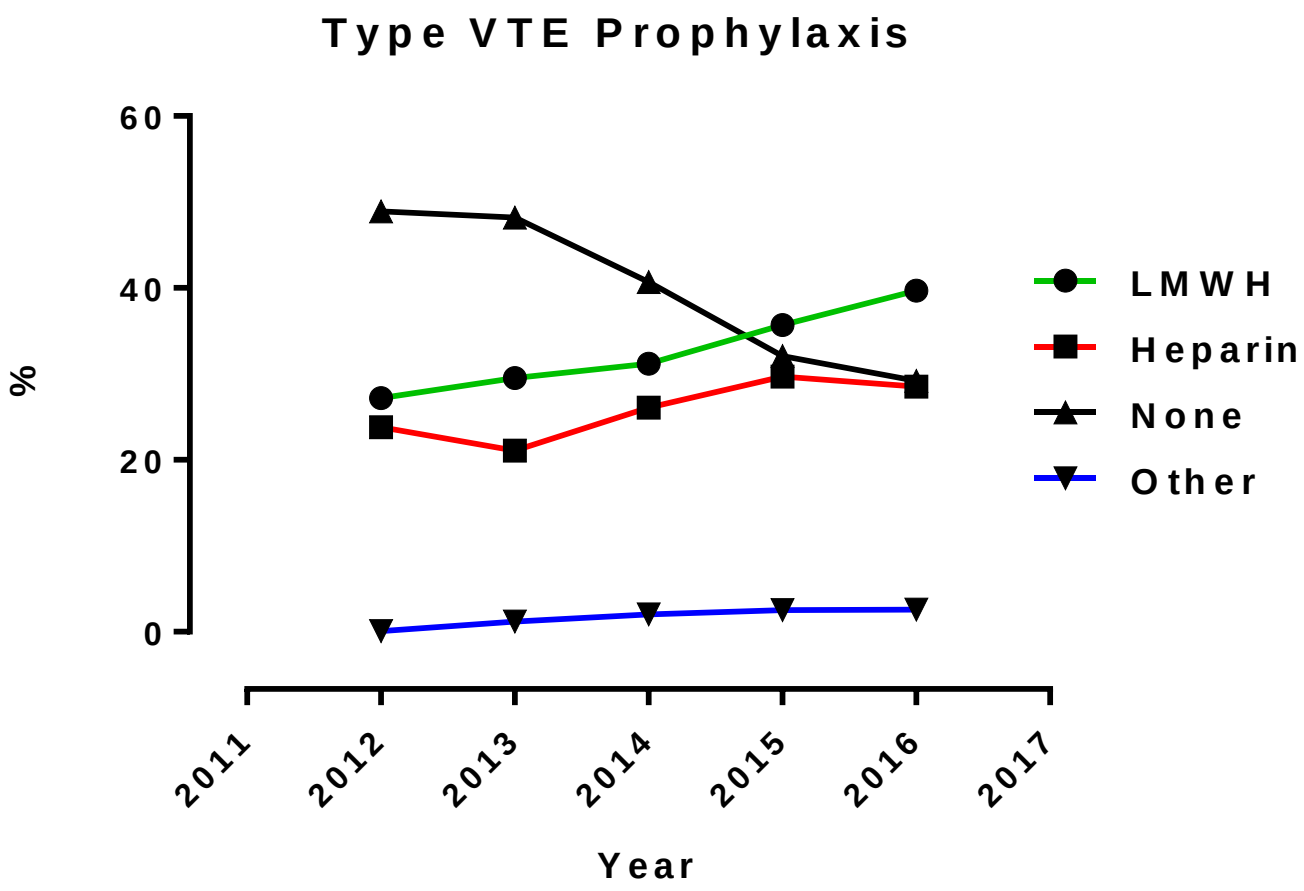
Risk Adjustment

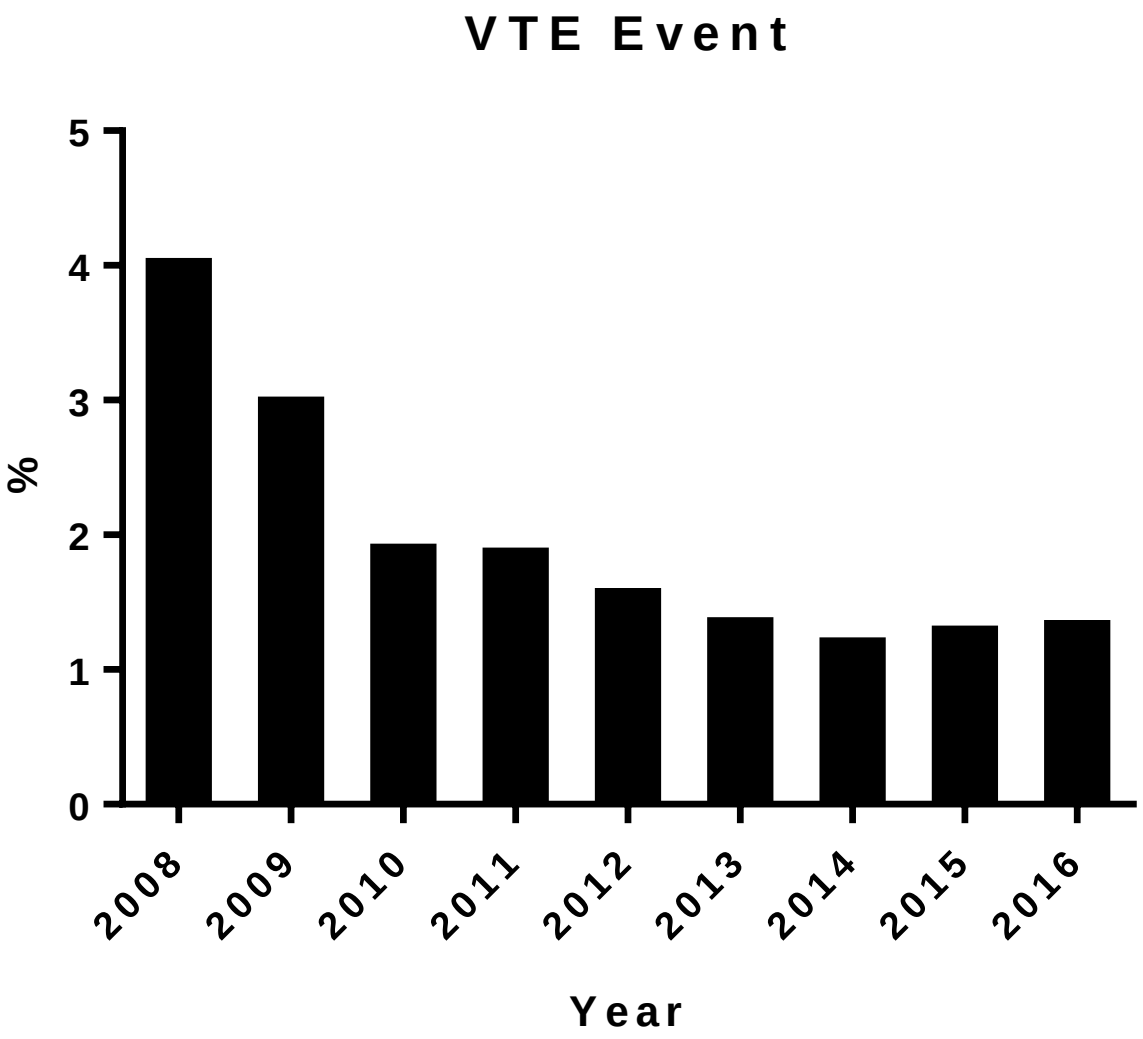
- Patient Characteristics
- Insurance status
- Physiology
- Injuries
- Comorbidities
- Intubation status
- Transfer status
- Timing of initiation of VTE prophylaxis

Adjusted Outcomes (LMWH vs. Heparin)




Timely VTE Prophylaxis
80
60
40
20
0
%
2011
2012
2013
2014
2015
2016
2017
Year
LMWH, Heparin <= 48 hrs
LMWH, Heparin > 48 hrs
None


Type VTE Prophylaxis
60
40
20
0
%
2011
2012
2013
2014
2015
2016
2017
Year
LMWH
Heparin
None
Other

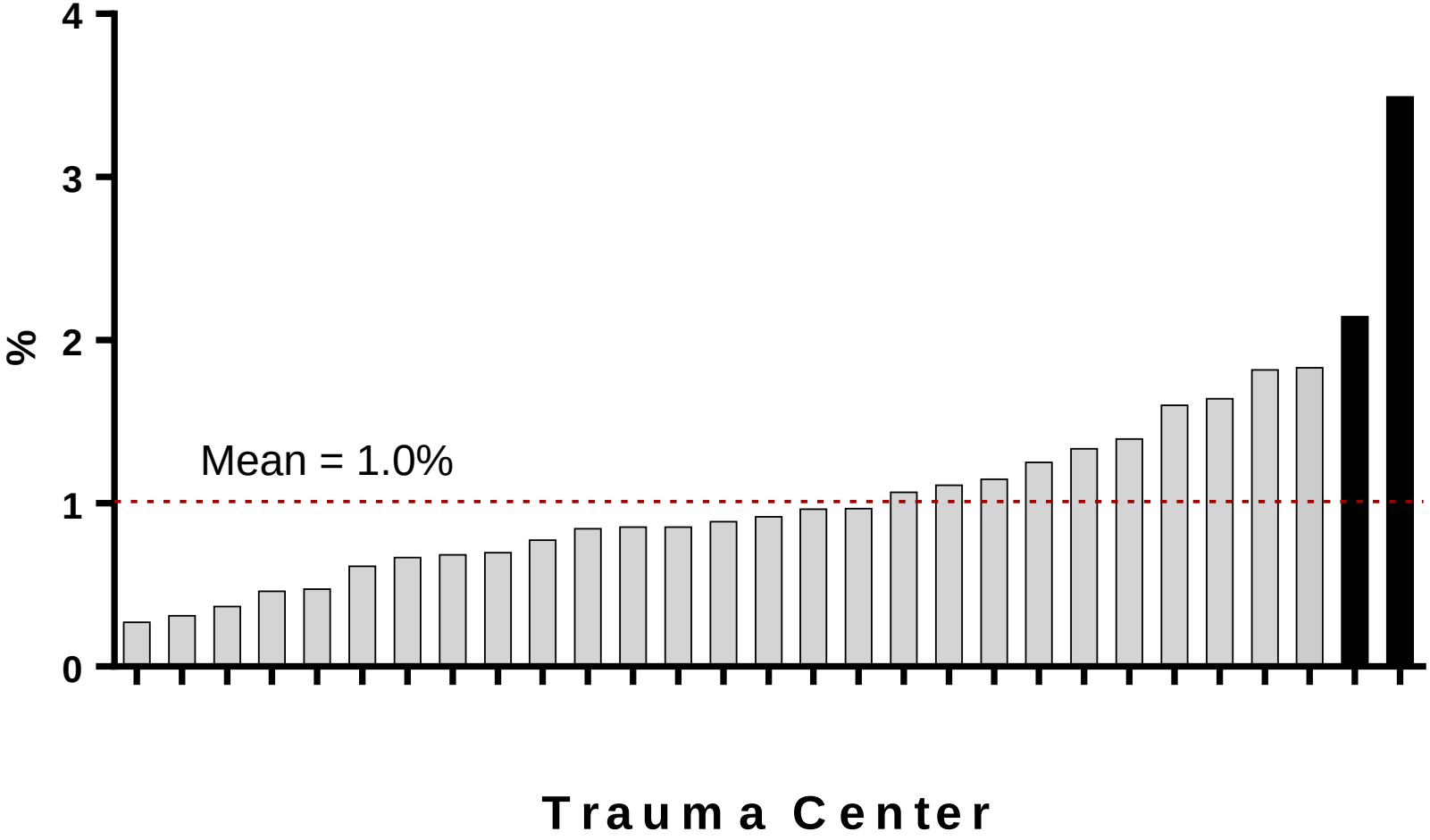

VTE Event
5
4
3
2
1
0
%
2008
2009
2010
2011
2012
2013
2014
2015
2016
Year

Heparin

IVC Filter Placement

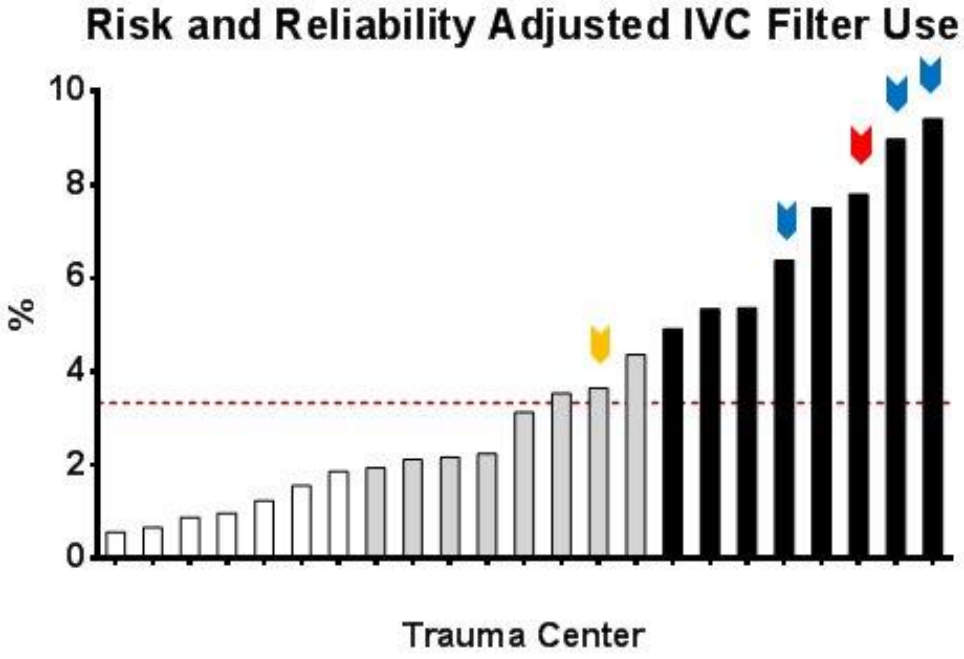
- Target is 1.2% for 2017 reporting
- If collaborative mean is ≤ 1.2% every center gets 10 points.
- If collaborative mean is > 1.2% every center gets 0 points.
- At or near target – maintain performance
- Above target
  - Educate providers
  - Assistance from collaborative members

Risk and Reliability Adjusted IVC Filter Use

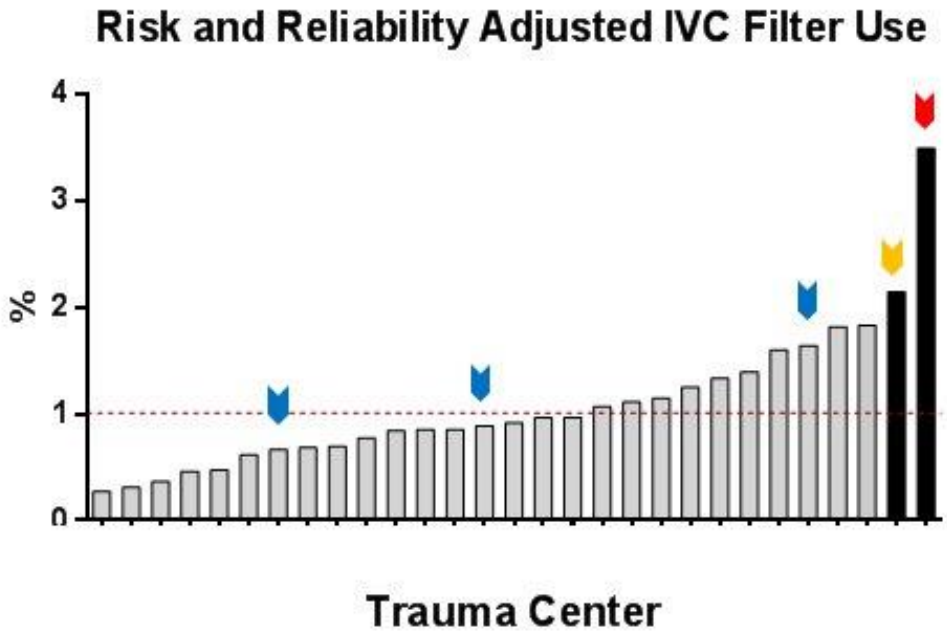


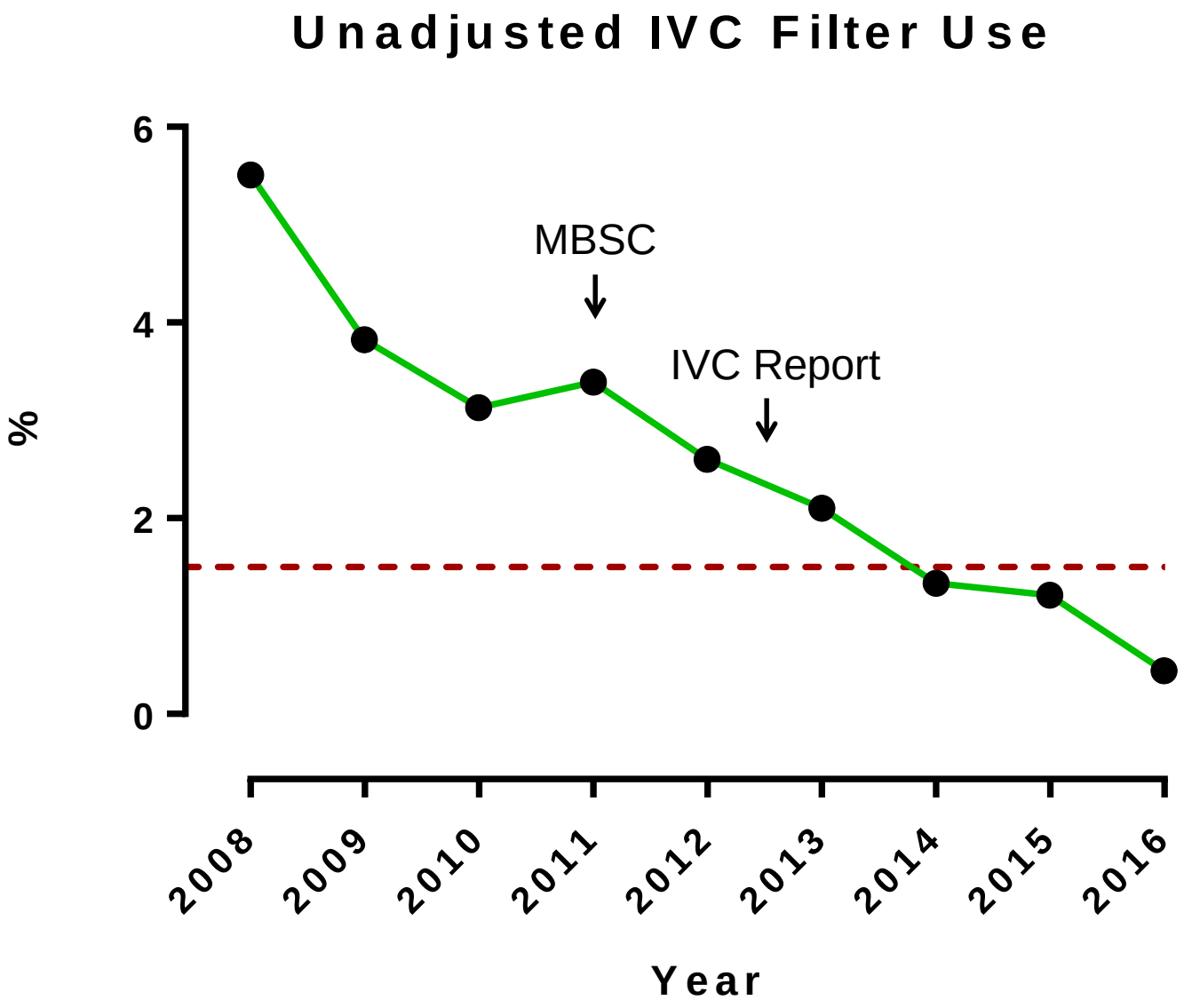
3/1/14 – 5/31/16

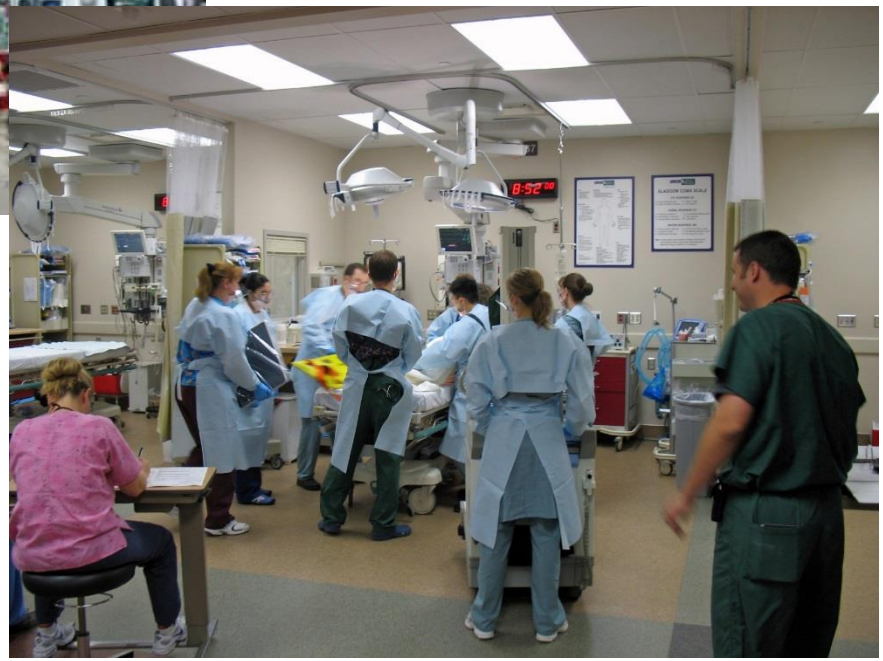
1/1/2010 to 12/31/2011



3/1/2014 to 5/31/2016




Unadjusted IVC Filter Use
6
4
2
0
%
MBSC
IVC Report
2008
2009
2010
2011
2012
2013
2014
2015
2016
Year



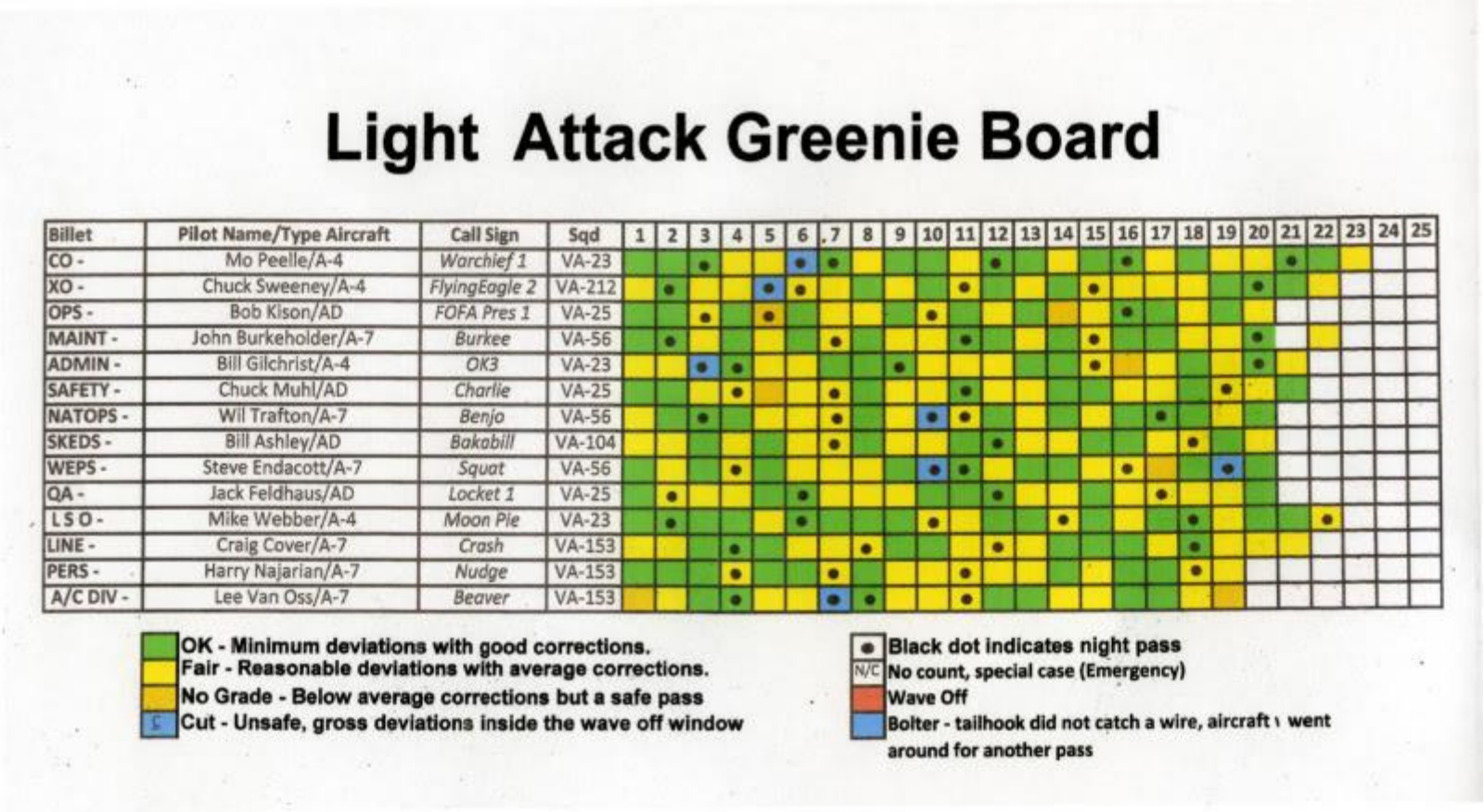
Bleeding

Scoring of Resuscitation

Scoring of Resuscitation

- "**OK Underline**" – a perfect pass, generally under unfavorable circumstances. Naval aviators often have hundreds of carrier landings without ever receiving this grade. Worth 5 points.
- "**OK**" – a pass with only very minor deviations from centerline, glideslope and angle of attack. Worth 4 points.
- "**Fair**" – a pass with one or more safe deviations and appropriate corrections. Worth 3 points.
- "**Bolter**" - a safe pass where the hook is down and the aircraft does not stop. Worth 2.5 point, but counts against pilot/squadron/wing "boarding rate".
- "**No Grade**" – a pass with gross (but still safe) deviations or inappropriate corrections. Failure to respond to LSO calls will often result in this grade. Worth 2 points.
- "**Technique Waveoff**" – a pass with deviations from centerline, glideslope and/or angle of attack that are unsafe and need to be aborted. Worth 1 point.
- "**Cut Pass**" – an unsafe pass with unacceptable deviations, typically after a wave off is possible. Worth zero points.
- "**Foul Deck Waveoff**" – a pass that was aborted due to the landing area being “fouled”. No points are assigned, and the pass is not counted toward the pilots landing grade average

Scoring of Resuscitation



Light Attack Greenie Board

Billet	Pilot Name/Type Aircraft	Call Sign	Sqd	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
CO -	Mo Peelle/A-4	*Warchief 1*	VA-23			•			•	•					•				•					•				
XO -	Chuck Sweeney/A-4	*FlyingEagle 2*	VA-212		•			•	•					•				•					•					
OPS -	Bob Kison/AD	*FOFA Pres 1*	VA-25			•		•					•						•									
MAINT -	John Burkeholder/A-7	*Burkee*	VA-56		•					•				•				•					•					
ADMIN -	Bill Gilchrist/A-4	*OK3*	VA-23			•	•					•						•					•					
SAFETY -	Chuck Muhl/AD	*Charlie*	VA-25				•			•				•								•						
NATOPS -	Wil Trafton/A-7	*Benjo*	VA-56			•				•			•	•						•								
SKEDS -	Bill Ashley/AD	*Bakabill*	VA-104							•					•						•							
WEPS -	Steve Endacott/A-7	*Squat*	VA-56				•						•	•					•			•						
QA -	Jack Feldhaus/AD	*Locket 1*	VA-25		•				•						•					•								
LSO -	Mike Webber/A-4	*Moon Pie*	VA-23		•				•				•				•				•				•			
LINE -	Craig Cover/A-7	*Crash*	VA-153				•				•				•						•							
PERS -	Harry Najarian/A-7	*Nudge*	VA-153				•			•				•							•							
A/C DIV -	Lee Van Oss/A-7	*Beaver*	VA-153				•			•	•			•														

- OK - Minimum deviations with good corrections.
- Fair - Reasonable deviations with average corrections.
- No Grade - Below average corrections but a safe pass
- C Cut - Unsafe, gross deviations inside the wave off window

- • Black dot indicates night pass
- N/C No count, special case (Emergency)
- Wave Off
- Bolter - tailhook did not catch a wire, aircraft went around for another pass

MTQIP Collaborative-Wide PI Projects

- Hemorrhage (≥ 5 u PRBC's first 4 hrs)
  - % of patients with 4hr PRBC/FFP ratio ≤ 2.5
    - Begin = 34 %
    - Previous = 64 %
    - Current = **78 %** (197/253)
    - Target = 80 %

Massive Transfusion Ratio

- Massive Transfusion
  - ≥ 5 units PRBC's in first 4 hrs
  - Average of tier points score for each patient
  - 0 units FFP places patient in tier 4

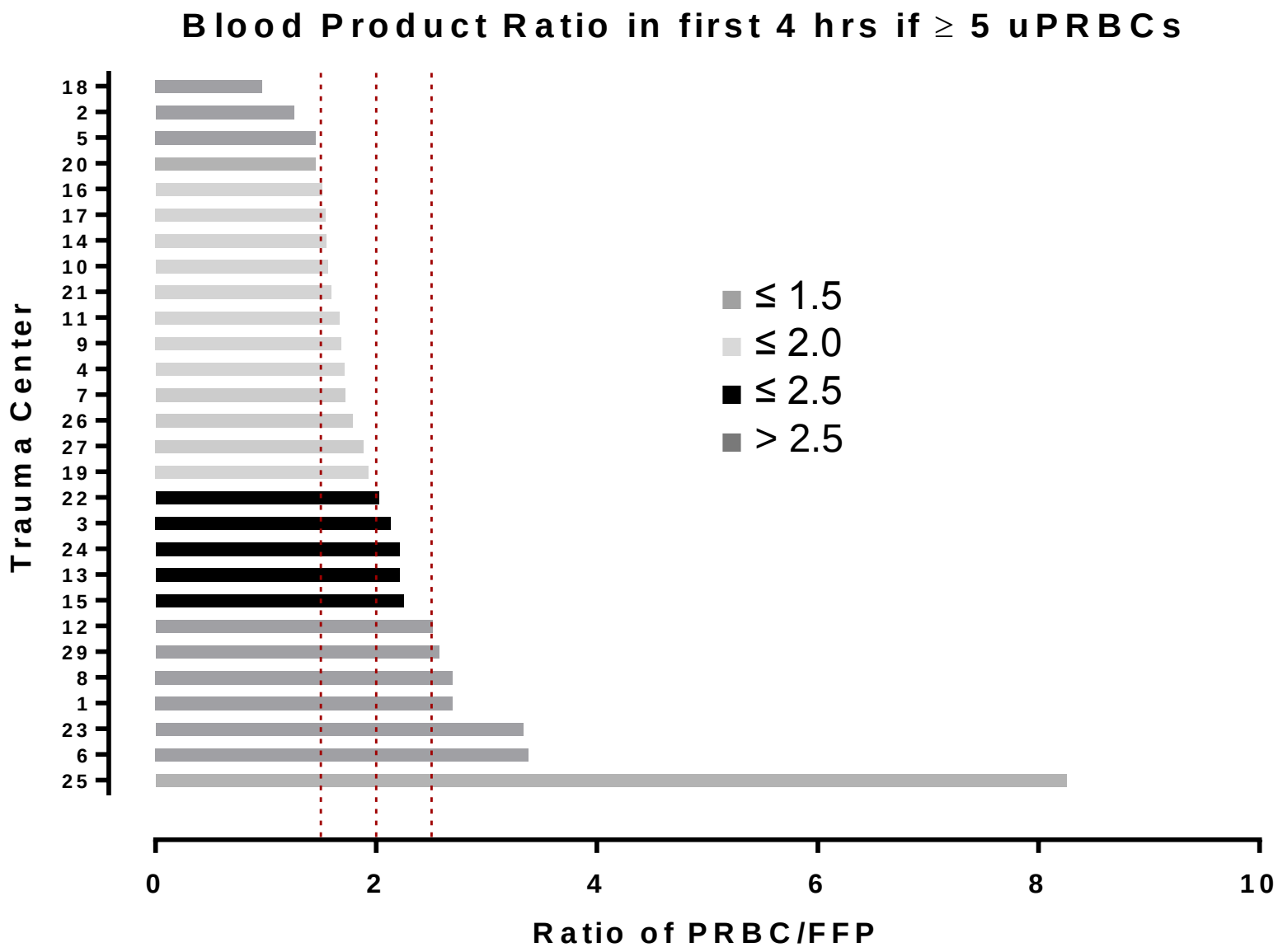
Ratio PRBC/FFP	Tier	Points
< 1.5	1	10
1.6 – 2.0	2	10
2.1 – 2.5	3	5
> 2.5	4	0

Massive Transfusion Metric Calculation Example

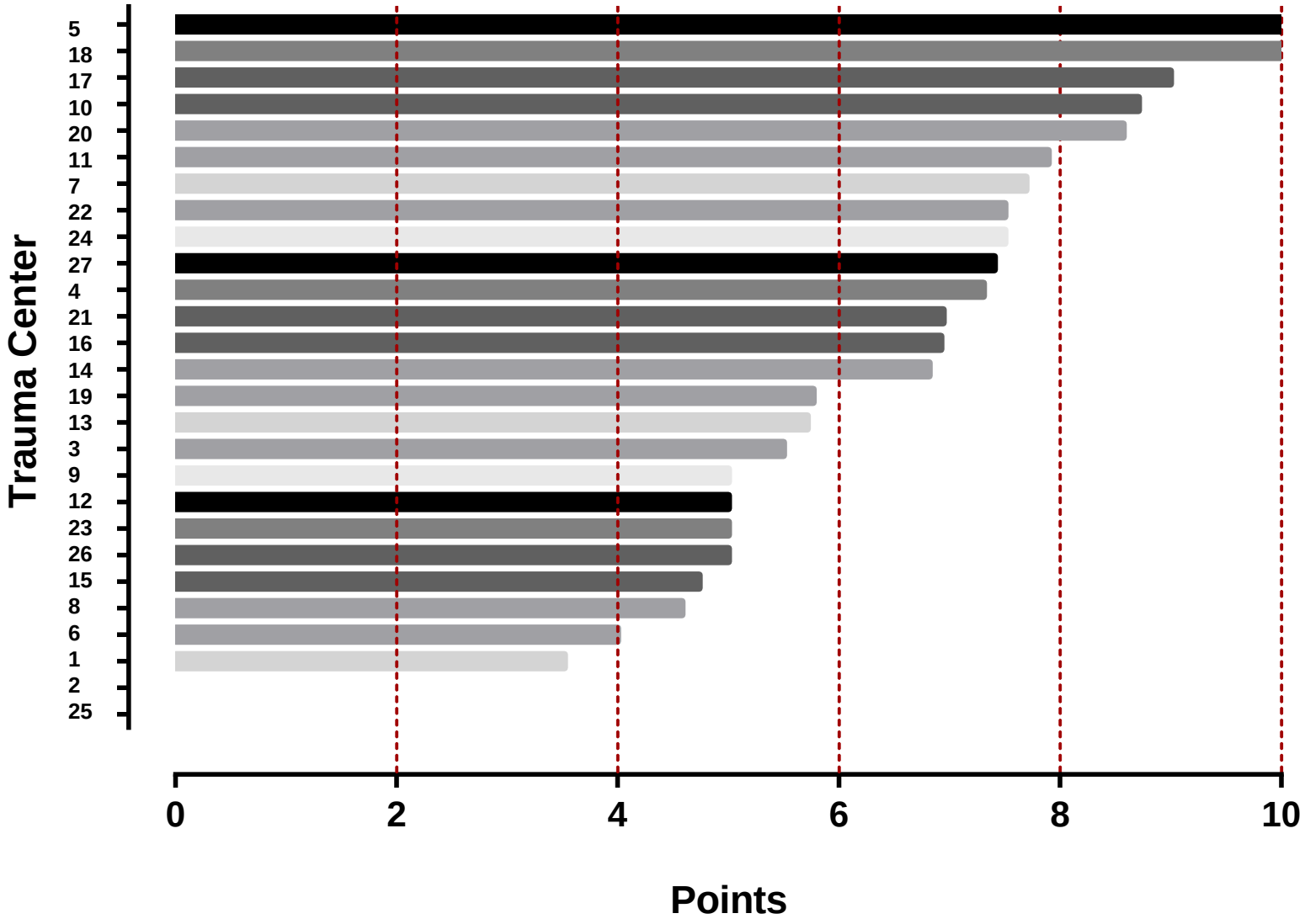
Patient	PRBC	FFP	PRBC/FFP	Tier	Points
1	10	10	1.0	1	10
2	5	4	1.3	1	10
3	7	4	1.8	2	10
4	8	5	1.6	2	10
5	5	2	2.5	3	5
6	7	3	2.3	3	5
7	9	2	4.5	4	0
8	5	1	5.0	4	0
9	11	0		4	0
10	6	0		4	0
					50

$$\frac{\text{Total Points}}{\text{Total Patients}} = \text{Metric Points}$$

$$\frac{50}{10} = 5$$


Blood Product Ratio in first 4 hrs if ≥ 5 uPRBCs
Trauma Center
18
2
5
20
16
17
14
10
21
11
9
4
7
26
27
19
22
3
24
13
15
12
29
8
1
23
6
25
≤ 1.5
≤ 2.0
≤ 2.5
> 2.5
0
2
4
6
8
10
Ratio of PRBC/FFP

Blood Product Ratio Points



MTQIP Blood Drill Down

3/1/14 - 9/30/15

M·TQIP

Trauma #	Age	ISS	PRBC 4hr	FFP 4 hr	PLT 4 hr	Cryo 4 hr	IVF 4 hr	4 hr PRBC/FFP Ratio	24 hr PRBC/FFP Ratio	Points	TXA	Mortality	Surgeon
			18	19	20	1	0	0.9	0.9	10	0	1	
			7	7	10	0	2	1.0	1.0	10	0	0	
			14	14	4	0	3	1.0	1.0	10	0	0	
			46	44	45	5	2	1.0	1.0	10	0	1	
			7	6	0	0	0	1.2	1.2	10	0	0	
			7	6	0	0	0	1.2	1.2	10	0	1	
			15	12	0	0	0	1.3	1.3	10	0	1	
			10	8	0	0	4	1.3	1.3	10	0	0	
			6	4	5	1	0	1.5	1.5	10	0	1	
			6	4	0	0	3	1.5	1.5	10	0	0	
			12	8	15	10	2	1.5	1.6	10	0	1	
			9	6	4	1	8	1.5	1.5	10	1	0	
			5	3	0	0	3	1.7	1.7	10	0	0	
			37	21	30	0	12	1.8	1.9	10	1	1	
			43	24	15	0	1	1.8	1.8	10	1	1	
			14	7	15	0	0	2.0	2.0	10	1	1	
			9	4	0	0	2	2.3	2.3	5	0	1	
			5	2	5	0	0	2.5	2.5	5	0	1	
			5	2	5	0	1	2.5	2.5	5	0	0	
			5	2	0	0	5	2.5	3.0	5	0	1	
			8	3	0	0	6	2.7	3.0	0	0	0	
			6	2	0	3	0	3.0	3.0	0	0	0	
			9	3	1	0	0	3.0	3.0	0	0	1	
			7	2	0	0	1	3.5	3.5	0	0	1	
			8	2	5	0	6	4.0	2.5	0	0	0	
			5	0	0	0	0			0	0	1	

Panel Discussion

Judy Mikhail, PhD

Administration Survey Feb 2017

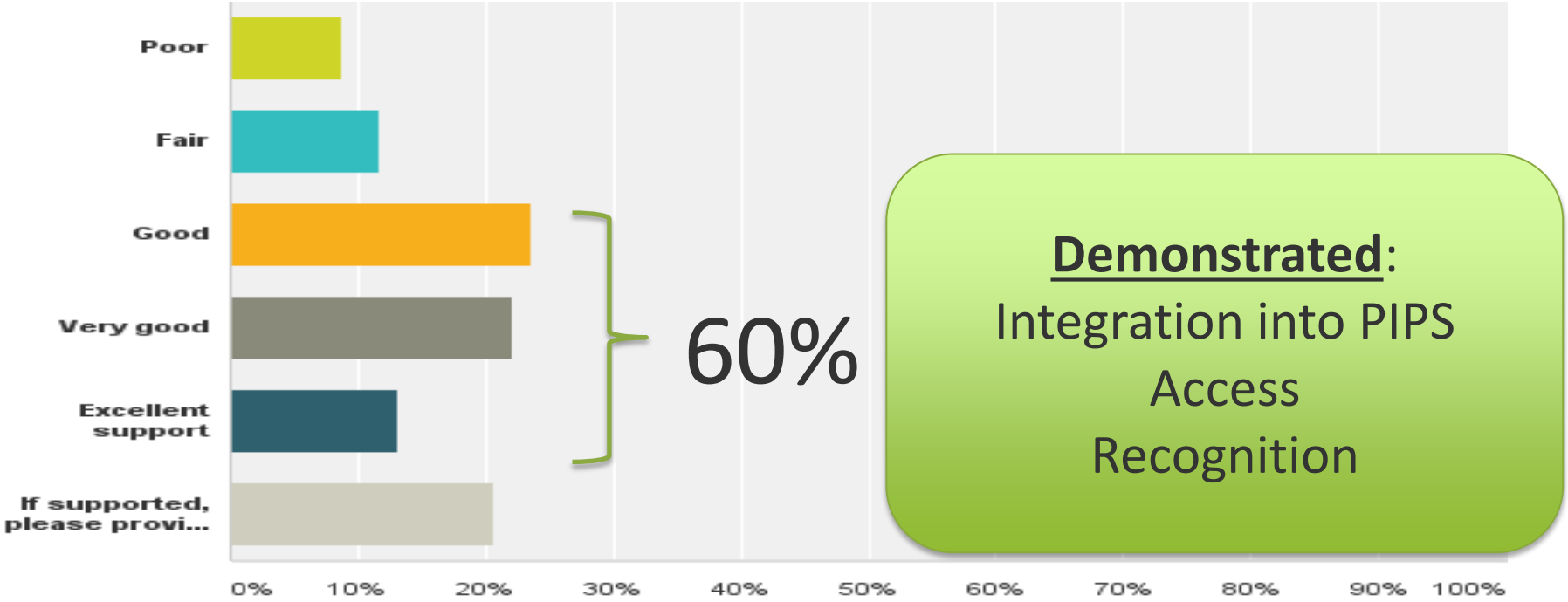
Tuesday, February 14, 2017

Q1: Please identify your MTQIP position

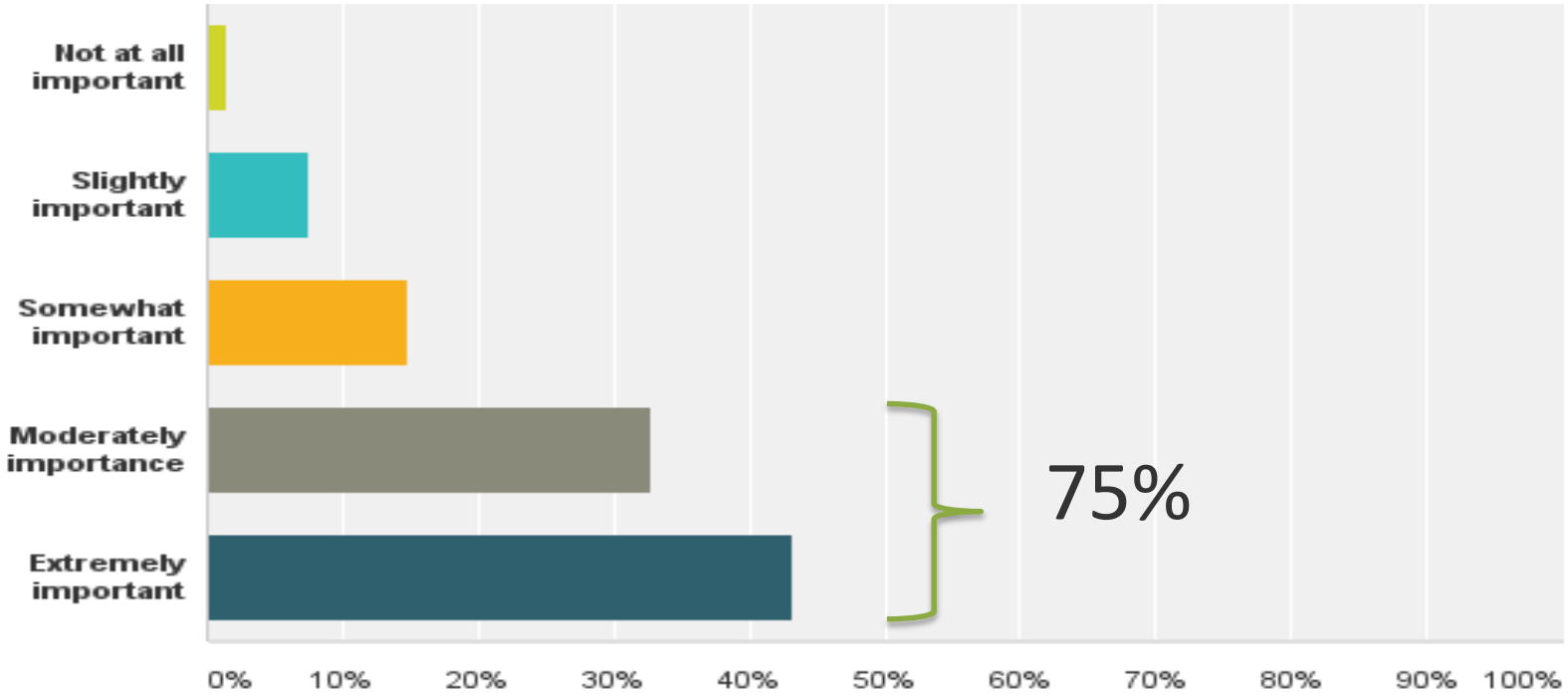
Answer Choices	Responses	
Trauma Surgeon	33.82%	23
Trauma Program Manager	35.29%	24
MTQIP Clinical Reviewer (MCR)	30.88%	21
Total		**68**

76% Response Rate

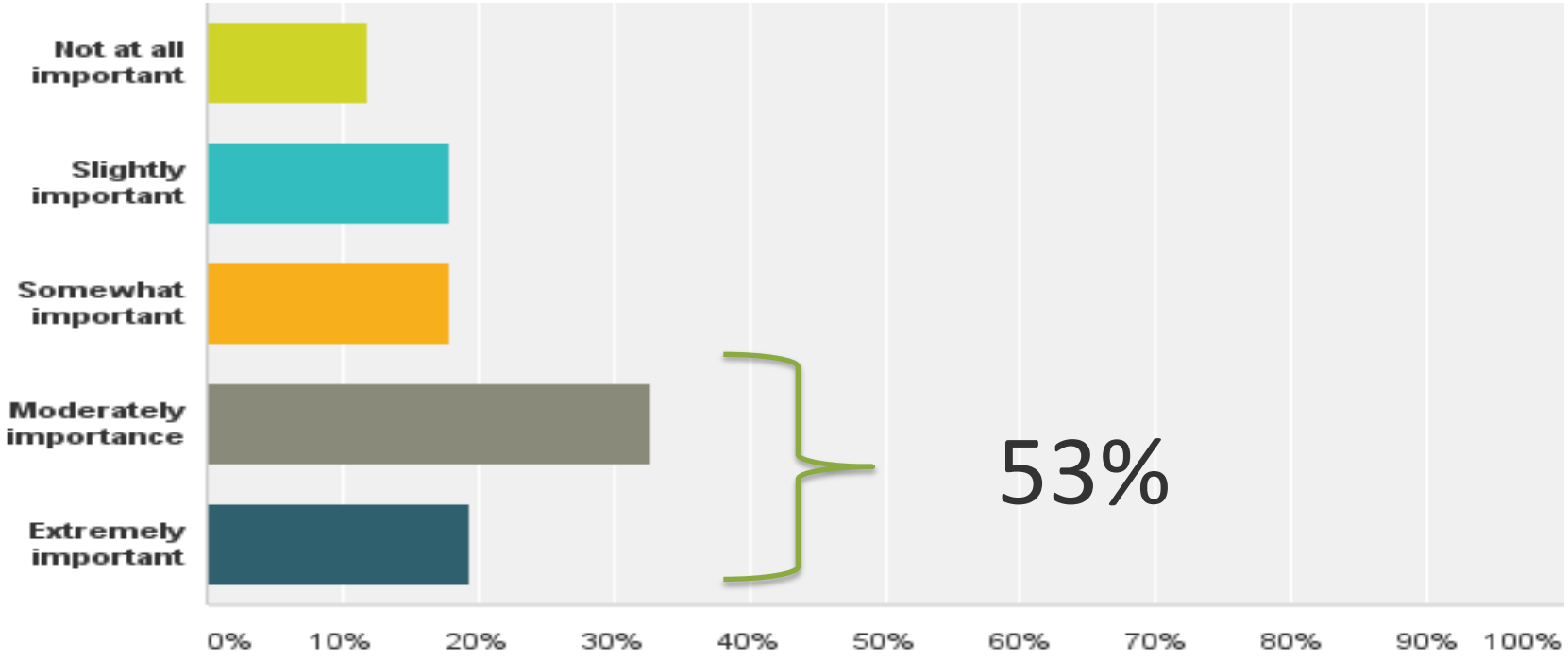
Q2: Rank the level of perceived support from your hospital senior administration for your trauma program QI efforts.



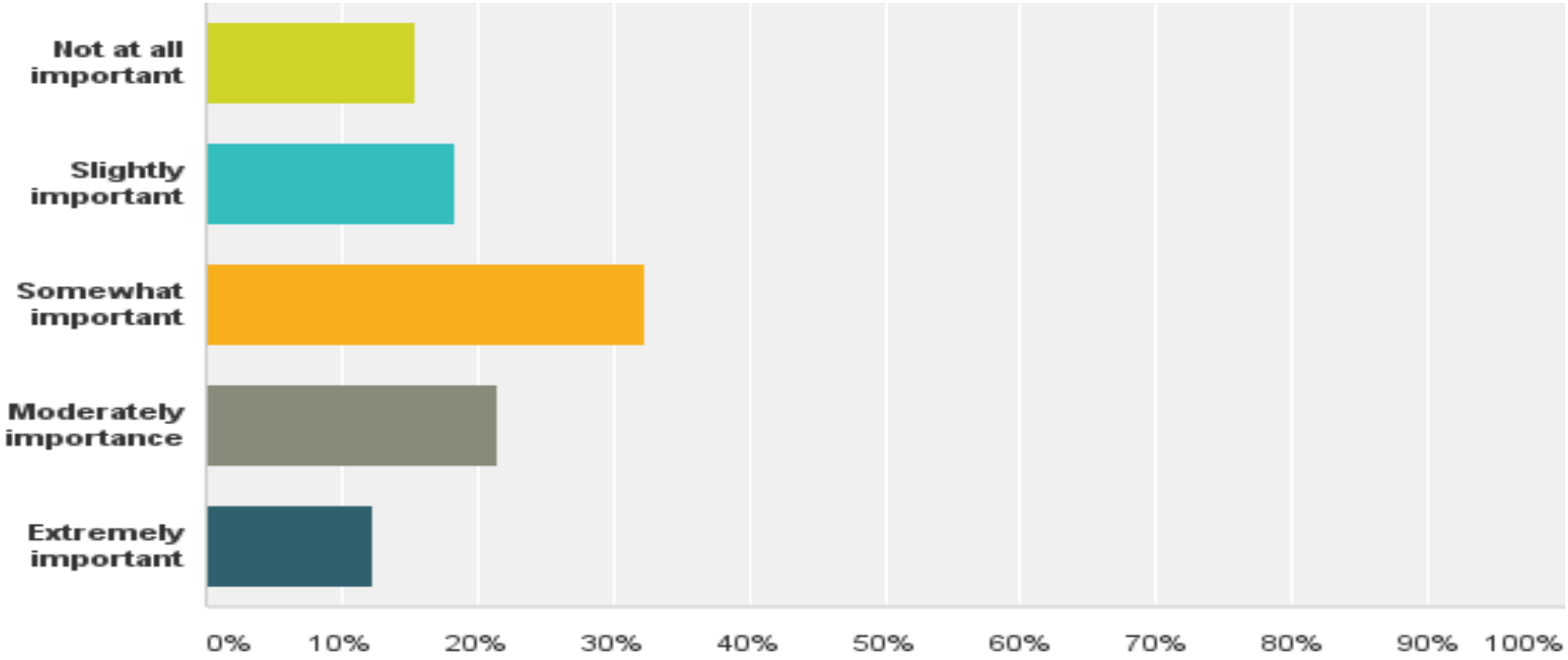
Q4: Rank the perceived importance of money as an incentive to hospital administration to improve trauma care?



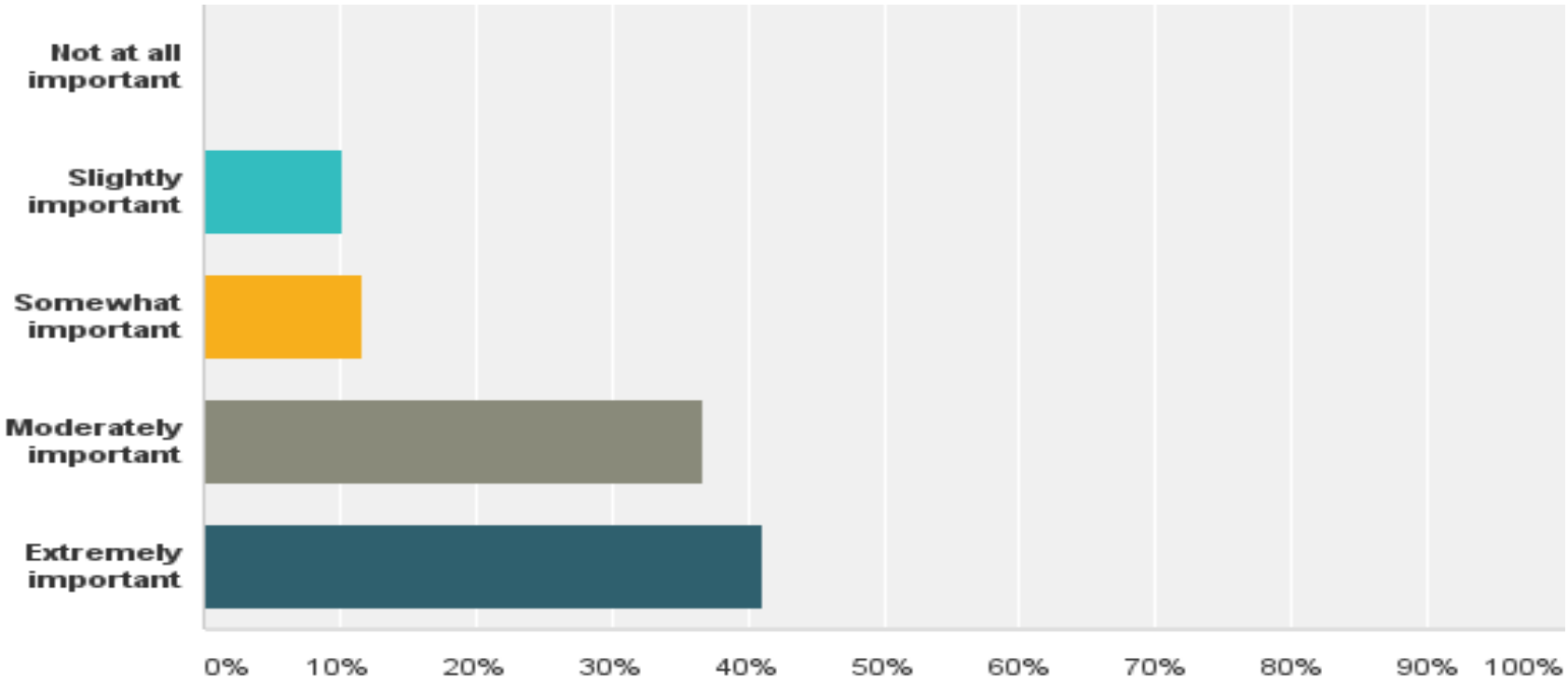
Q5: Rank the importance of the money as a lever for you to engage other hospital departments to improve trauma care?



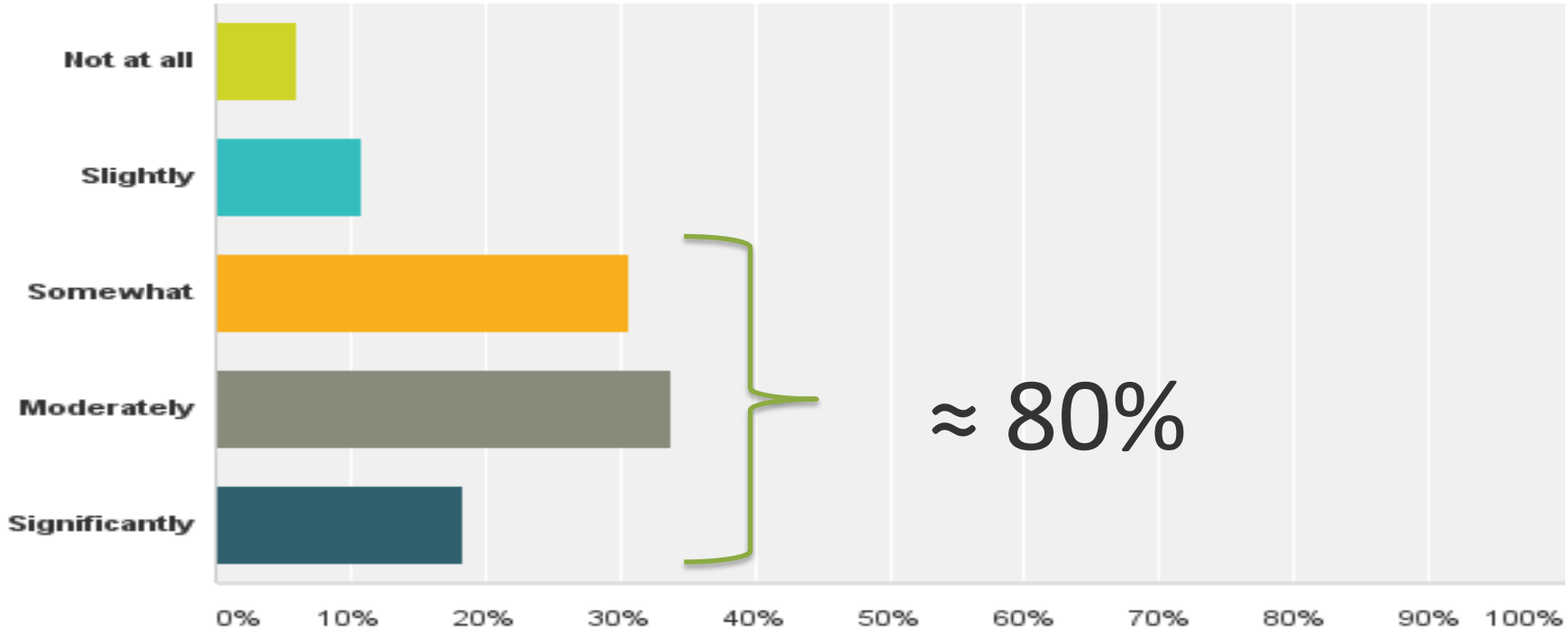
Q3: Rank the importance of money as an incentive to you individually as a clinician to improve trauma care?



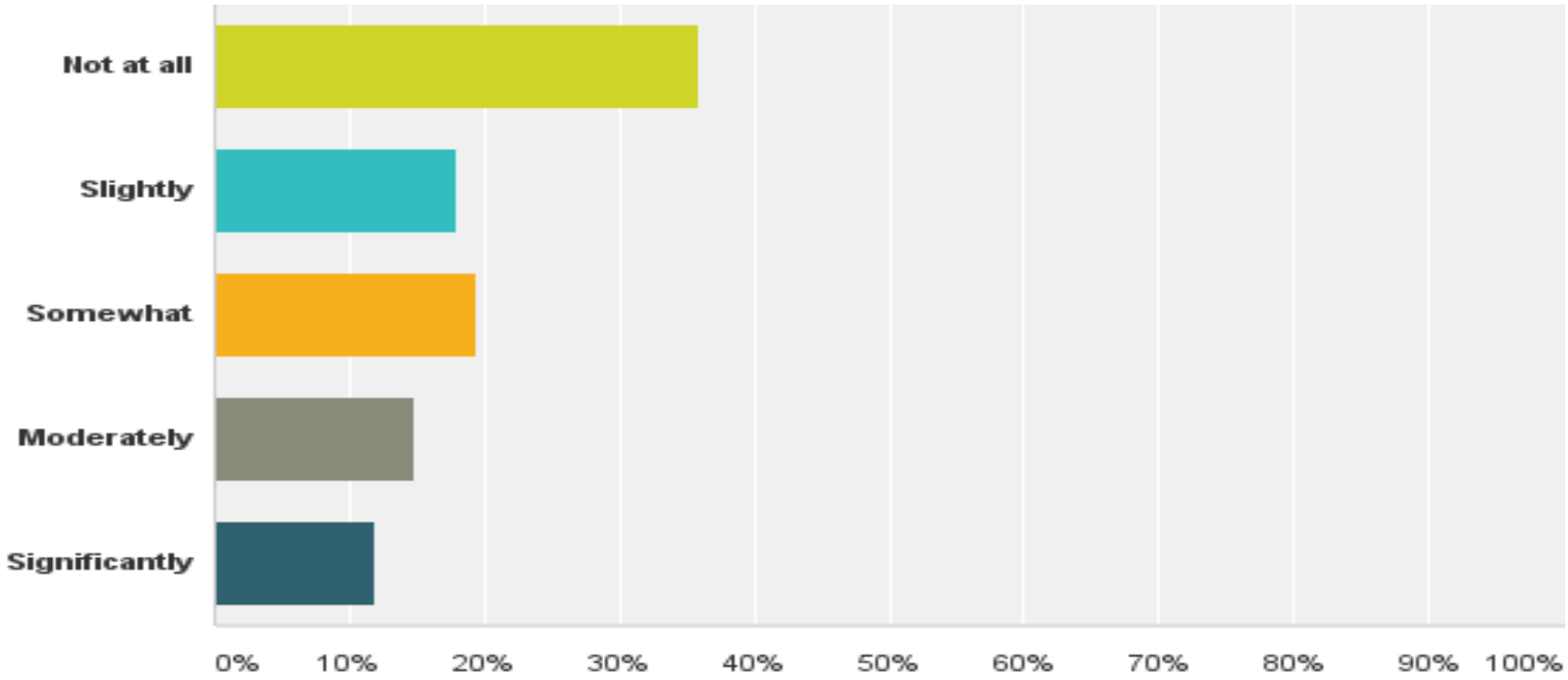
Q6: Rank the importance of showing your MTQIP results to engage other hospital departments to improve trauma care?



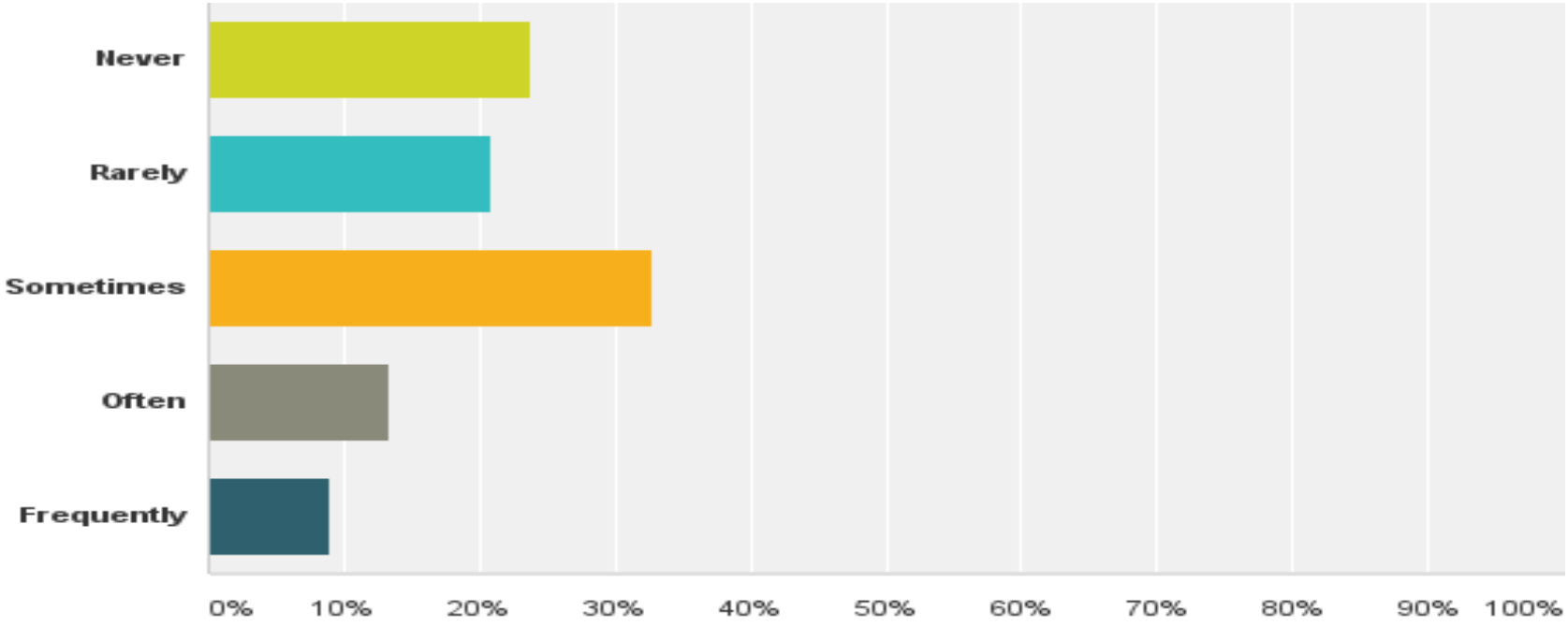
Q7: Has MTQIP participation resulted in increased communication between your trauma program QI efforts and the hospital's quality department?



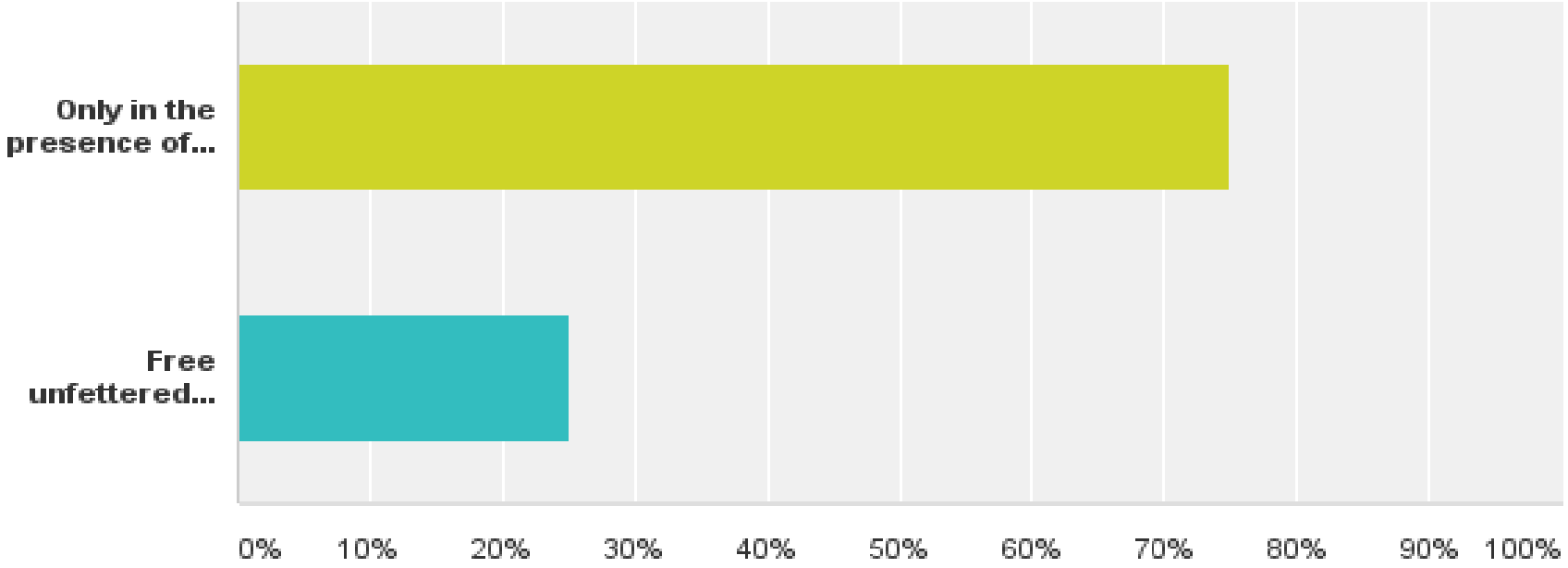
Q8: Influence of money incentive on selection of “stretch” goals



Q9: Have you ever experienced concern with hospital administrators interpretation of and/or reaction to your MTQIP results due to their lack of clinical knowledge and/or program context?



Q10: Should your hospital administrators have independent access to view your results on the MTQIP Website



Lunch

Back at 1:15pm

Program Manager

Judy Mikhail, PhD

Surgical Site Infection

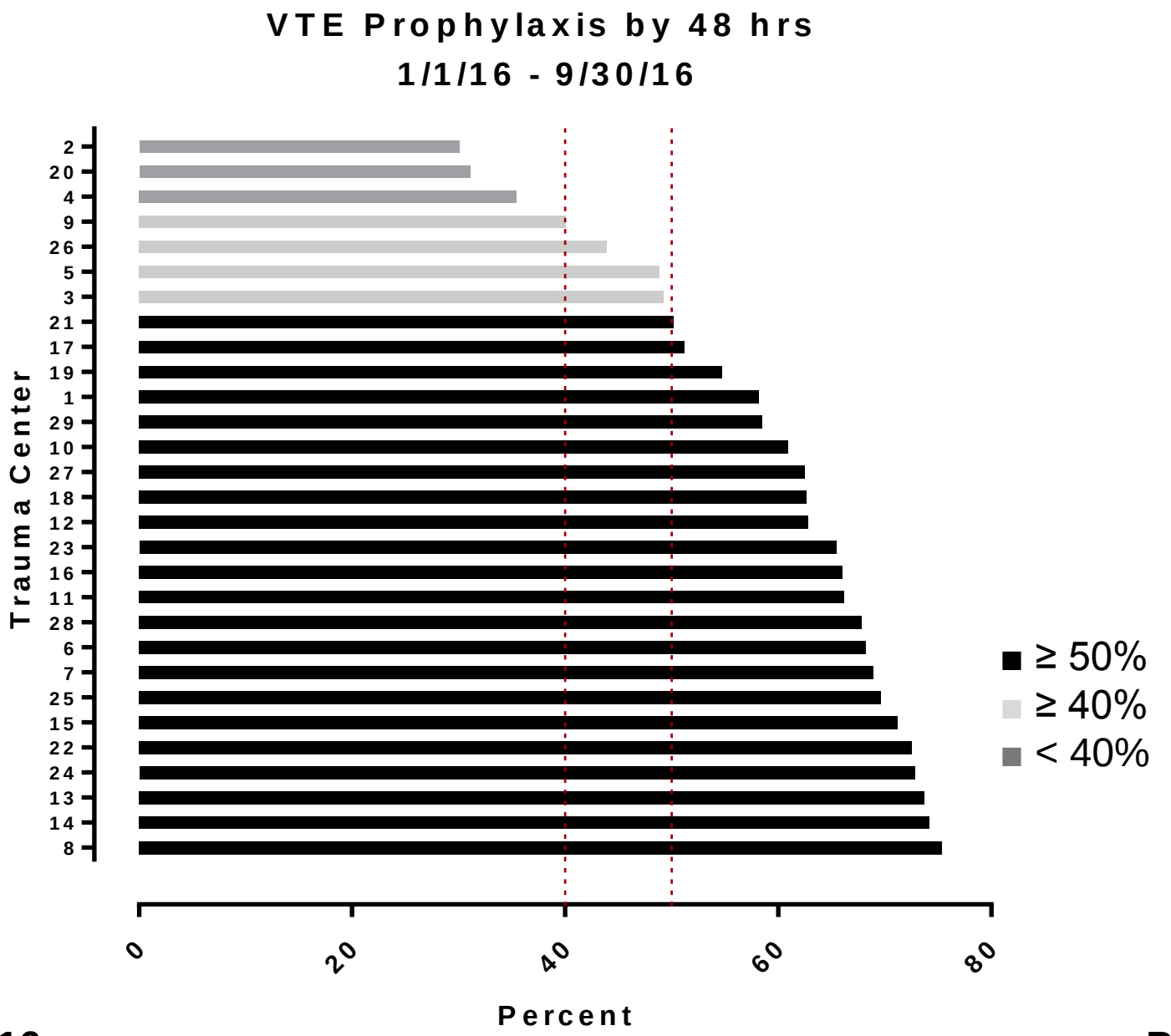
Wendy L. Wahl, MD

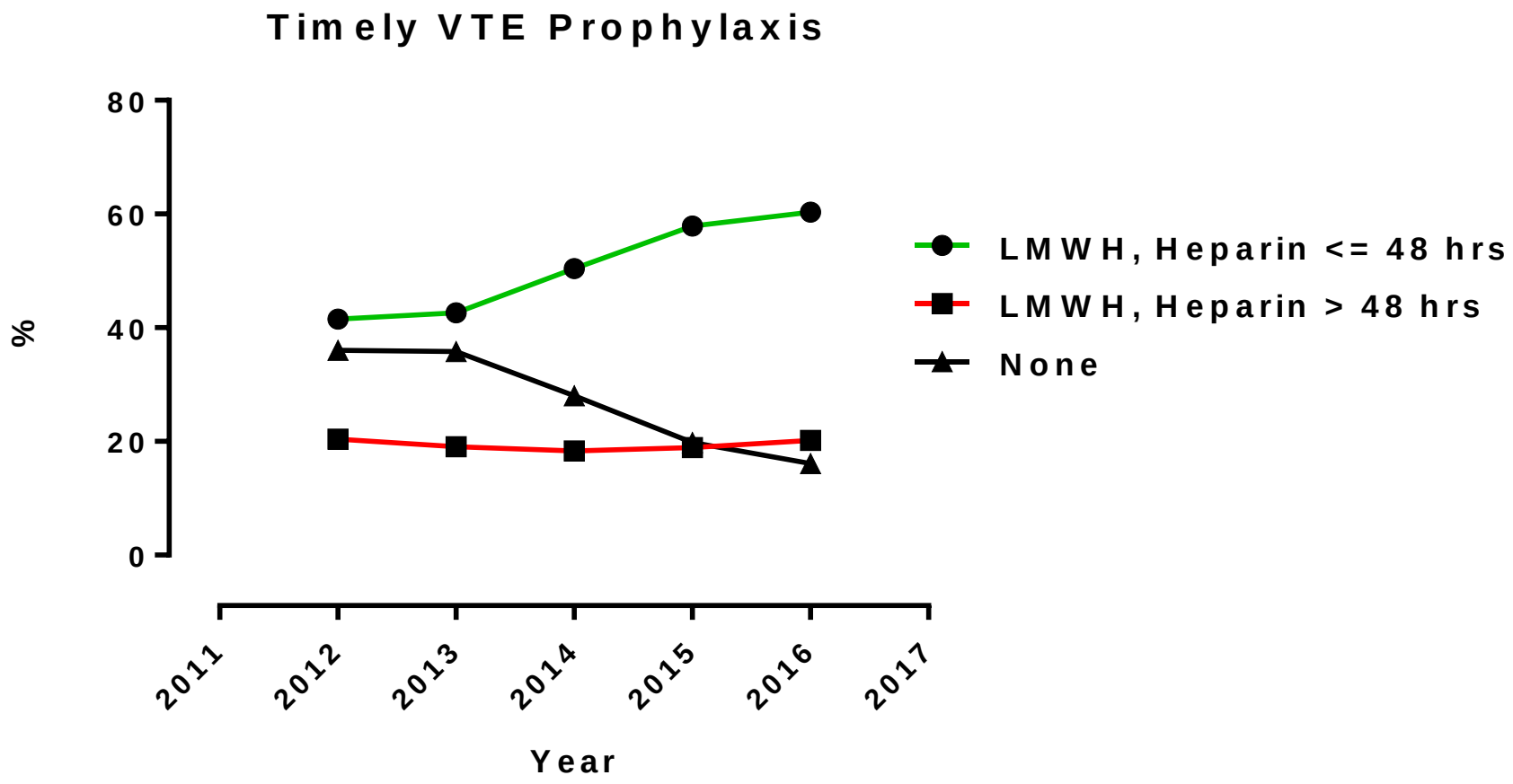
MTQIP Data

Mark Hemmila, MD
Jill Jakubus, PA-C

#4 VTE Prophylaxis Initiated ≤ 48 hrs

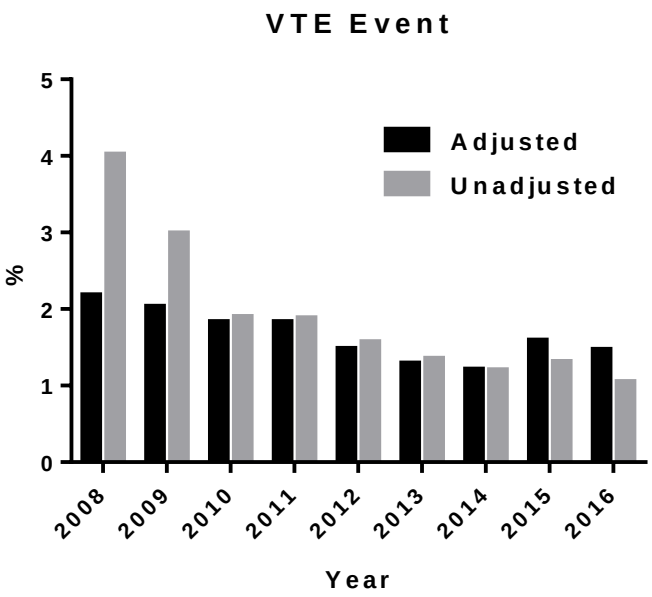
- Website
  - Practices > VTE Prophylaxis Metric
  - Cohort = Cohort 2 (admit to Trauma)
  - No Signs of Life = Exclude DOAs
  - Transfers Out = Exclude Transfers Out
  - Default Period = Set for CQI Index time period
- Heparin, LMWH <= 48 Hours
  - Hospital - Unadj %


VTE Prophylaxis by 48 hrs
1/1/16 - 9/30/16
Trauma Center
2
20
4
9
26
5
3
21
17
19
1
29
10
27
18
12
23
16
11
28
6
7
25
15
22
24
13
14
8
0
20
40
60
80
Percent
≥ 50%
≥ 40%
< 40%


Timely VTE Prophylaxis
80
60
40
20
0
%
2011
2012
2013
2014
2015
2016
2017
Year
LMWH, Heparin <= 48 hrs
LMWH, Heparin > 48 hrs
None

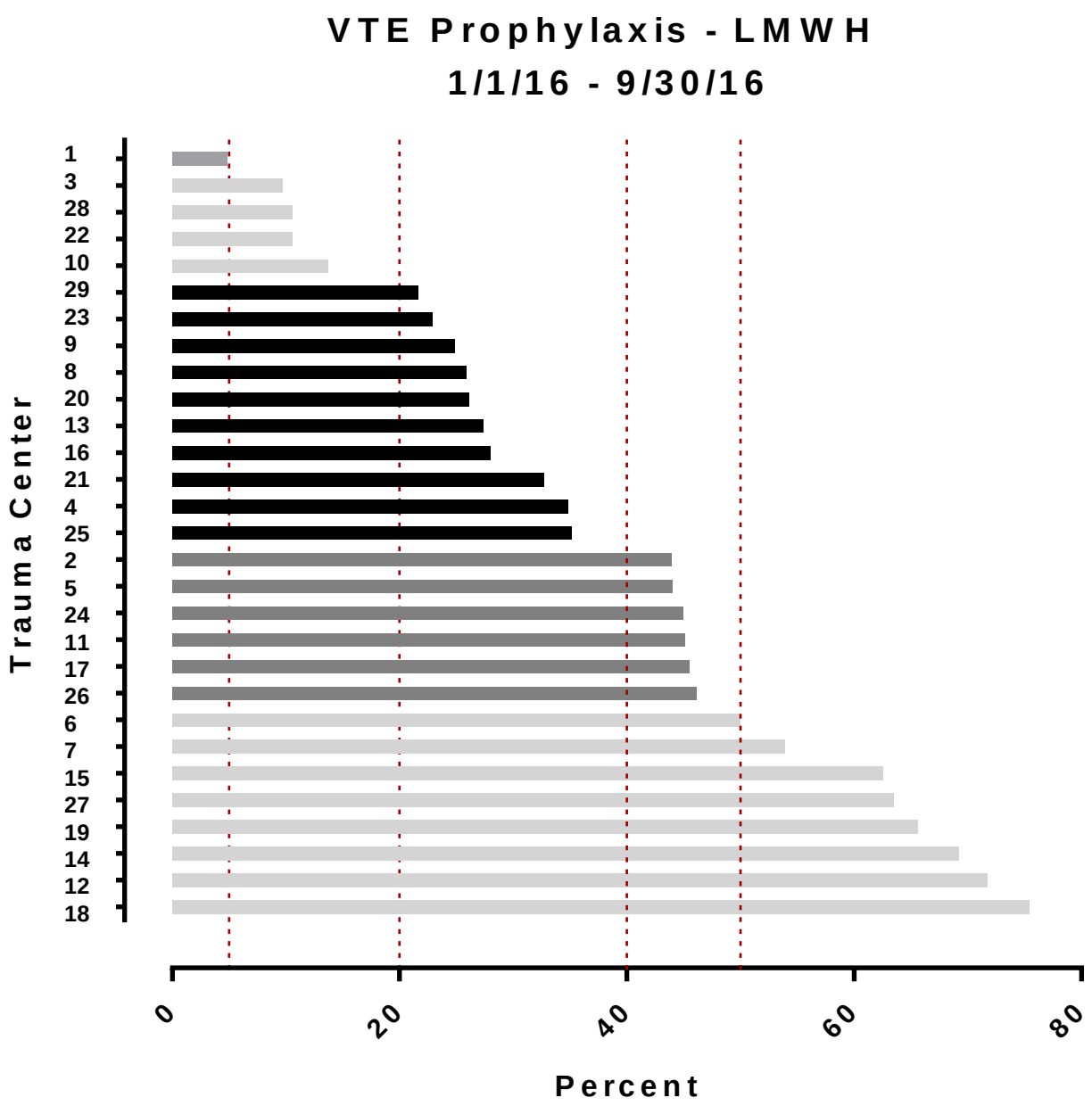
MTQIP VTE Prophylaxis

- VTE
  - VTE Rate
    - Begin = 2.5 %
    - Previous = 1.3 %
    - Current = **1.1 %**
    - Target = 1.5 %
  - 48 hr VTE Prophylaxis Rate
    - Begin = 38 %
    - Previous = 57 %
    - Current = **60 %**
    - Target = 50 %

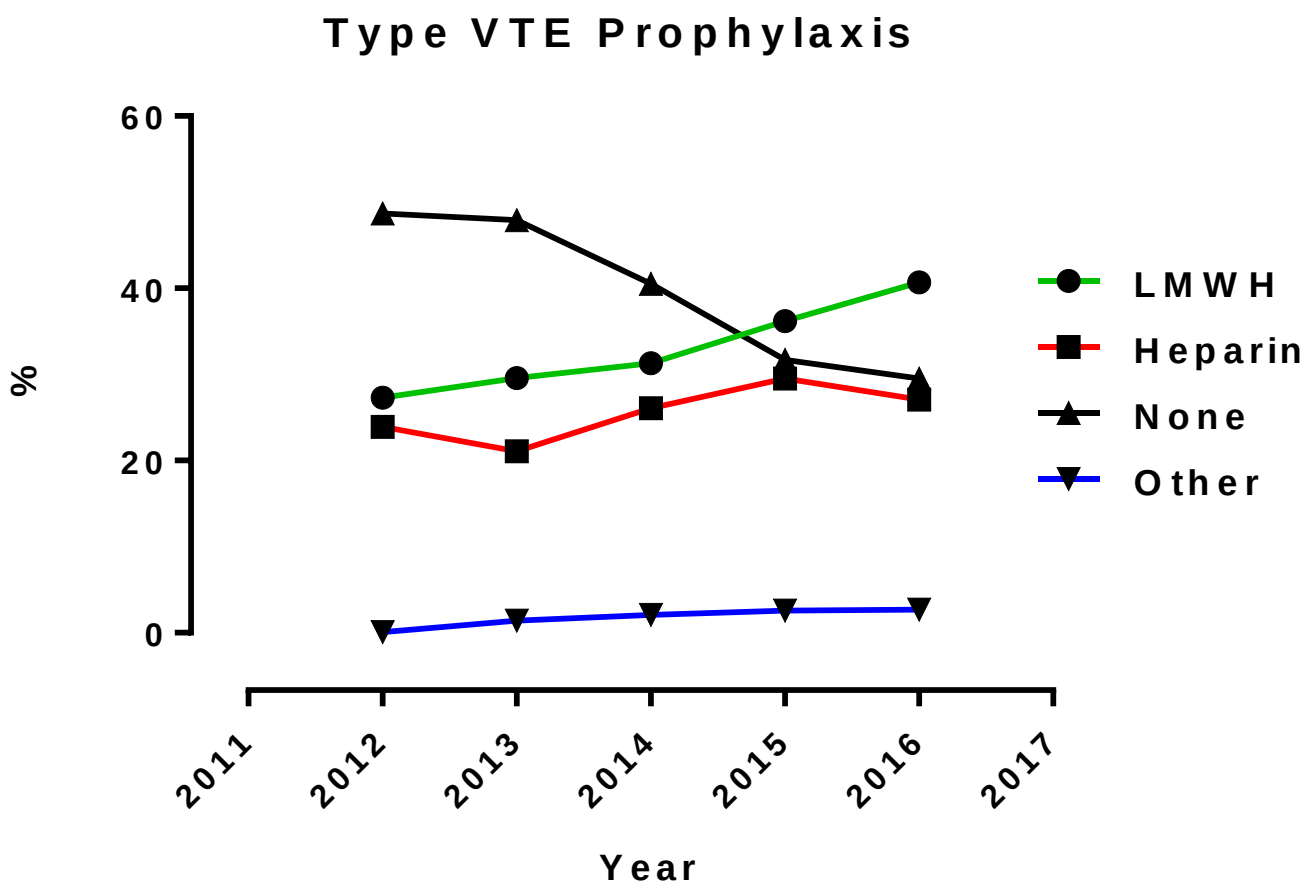


#5 VTE Prophylaxis with LMWH

- Website
  - Practices > VTE Prophylaxis Type
  - Cohort = Cohort 2 (admit to Trauma)
  - No Signs of Life = Exclude DOAs
  - Transfers Out = Exclude Transfers Out
  - Default Period = Set for CQI Index time period
- LMWH (Type)
  - Hospital - Unadj %

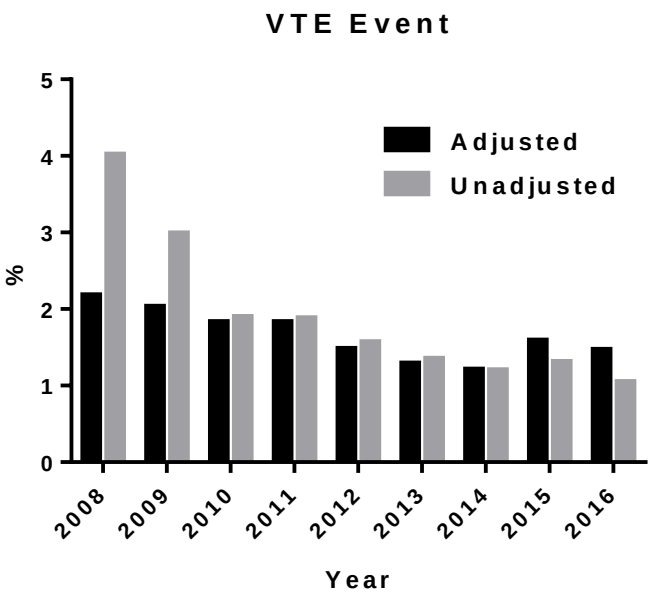

VTE Prophylaxis - LMWH
1/1/16 - 9/30/16
Trauma Center
1
3
28
22
10
29
23
9
8
20
13
16
21
4
25
2
5
24
11
17
26
6
7
15
27
19
14
12
18
0
20
40
60
80
Percent

1/1/16-9/30/16


Type VTE Prophylaxis
60
40
20
0
%
2011
2012
2013
2014
2015
2016
2017
Year
LMWH
Heparin
None
Other

MTQIP VTE Prophylaxis

- VTE
  - VTE Rate
    - Begin = 2.5 %
    - Previous = 1.3 %
    - Current = **1.1 %**
    - Target = 1.5 %
  - VTE Prophylaxis with LMWH
    - Begin = 27 %
    - Previous = 36 %
    - Current = **41 %**
    - Target = 50 %



#6 PRBC to Plasma ratio in Resuscitation

- Website
  - Practices > Hemorrhage
  - Cohort = Cohort 1
  - No Signs of Life = Include DOAs
  - Transfers Out = Include Transfers Out
  - Default Period = Set for CQI Index time period
- N, Eligible patients
  - List
  - PRBC/FFP Ratio

MTQIP 2016 Collaborative-Wide PI Projects

- Hemorrhage (≥ 5 u PRBC's first 4 hrs)
  - 1/1/16 to 9/3/16
  - % of patients with 4hr PRBC/FFP ratio ≤ 2.5
    - Begin = 34 %
    - Previous = 78 %
    - Current = **87 %** (113/129)
    - Target = 80 %

Massive Transfusion Ratio

- Massive Transfusion
  - ≥ 5 units PRBC's in first 4 hrs
  - Average of tier points score for each patient
  - 0 units FFP places patient in tier 4
  - 3/1/14 – 5/31/16

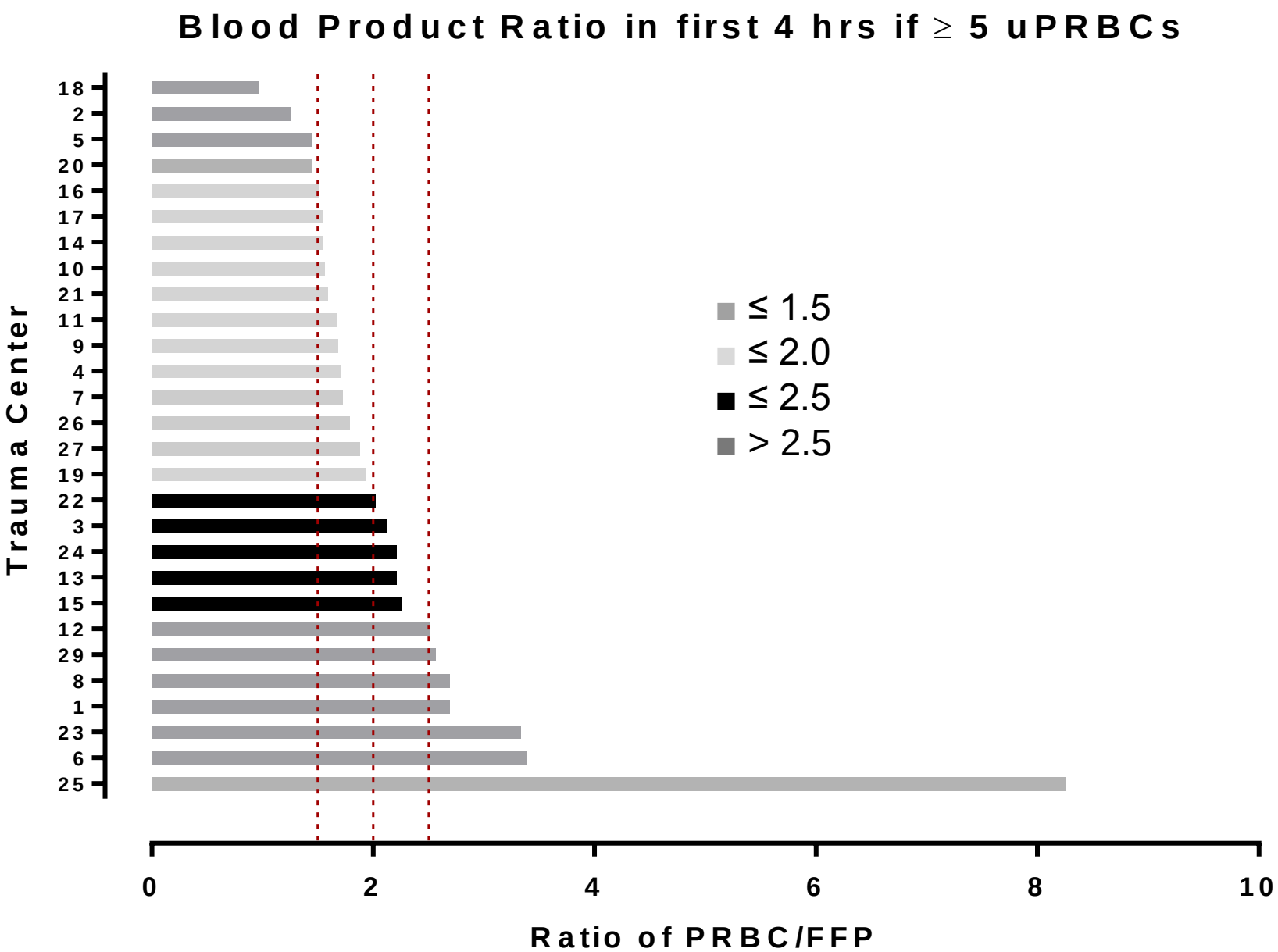
Ratio PRBC/FFP	Tier	Points
< 1.5	1	10
1.6 – 2.0	2	10
2.1 – 2.5	3	5
> 2.5	4	0

Massive Transfusion Metric Calculation Example

Patient	PRBC	FFP	PRBC/FFP	Tier	Points
1	10	10	1.0	1	10
2	5	4	1.3	1	10
3	7	4	1.8	2	10
4	8	5	1.6	2	10
5	5	2	2.5	3	5
6	7	3	2.3	3	5
7	9	2	4.5	4	0
8	5	1	5.0	4	0
9	11	0		4	0
10	6	0		4	0
					50

$$\frac{\text{Total Points}}{\text{Total Patients}} = \text{Metric Points}$$

$$\frac{50}{10} = 5$$


Blood Product Ratio in first 4 hrs if ≥ 5 uPRBCs
Trauma Center
18
2
5
20
16
17
14
10
21
11
9
4
7
26
27
19
22
3
24
13
15
12
29
8
1
23
6
25
≤ 1.5
≤ 2.0
≤ 2.5
> 2.5
0
2
4
6
8
10
Ratio of PRBC/FFP

1/1/16 – 9/30/16

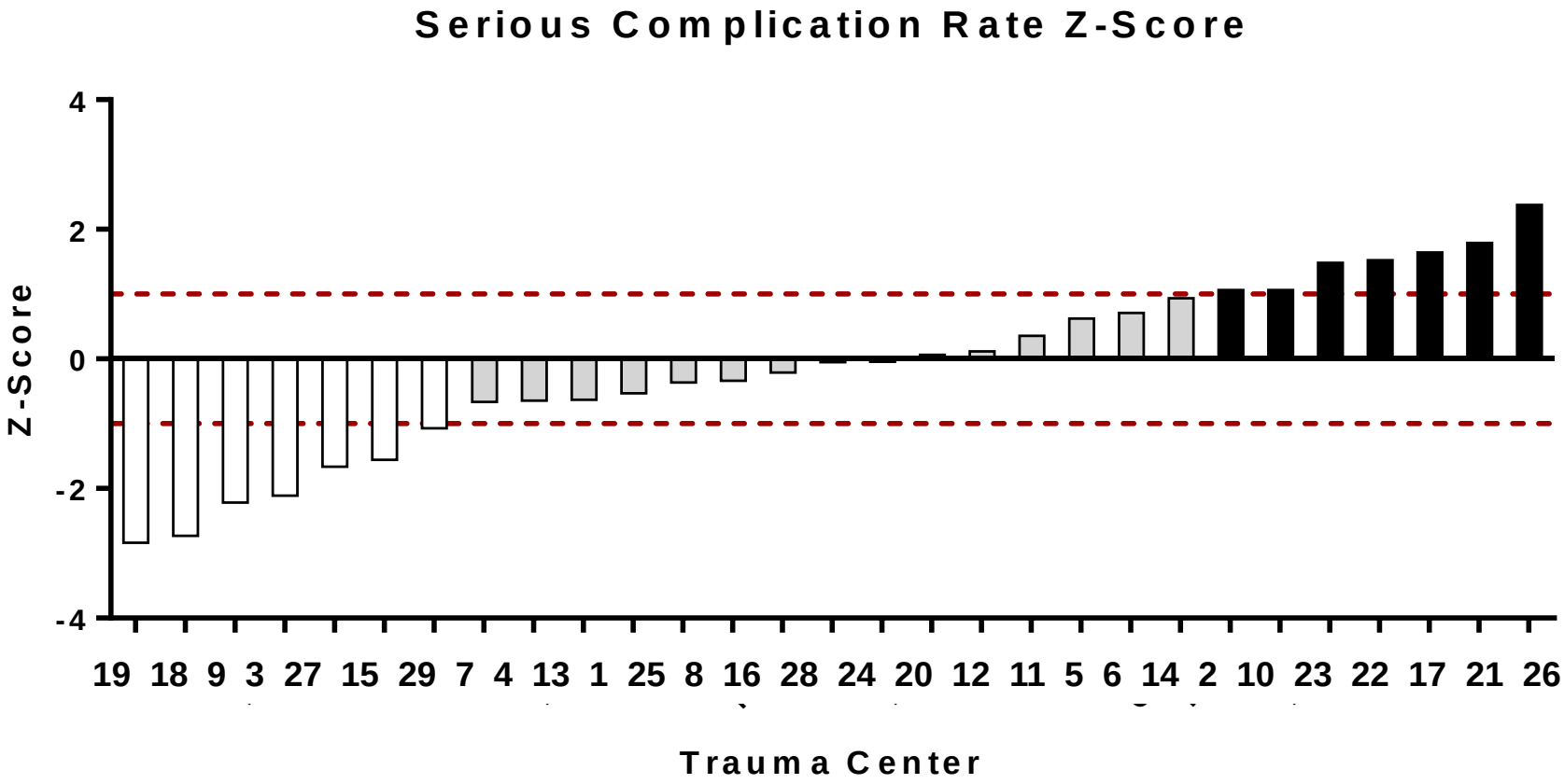
Z-score

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

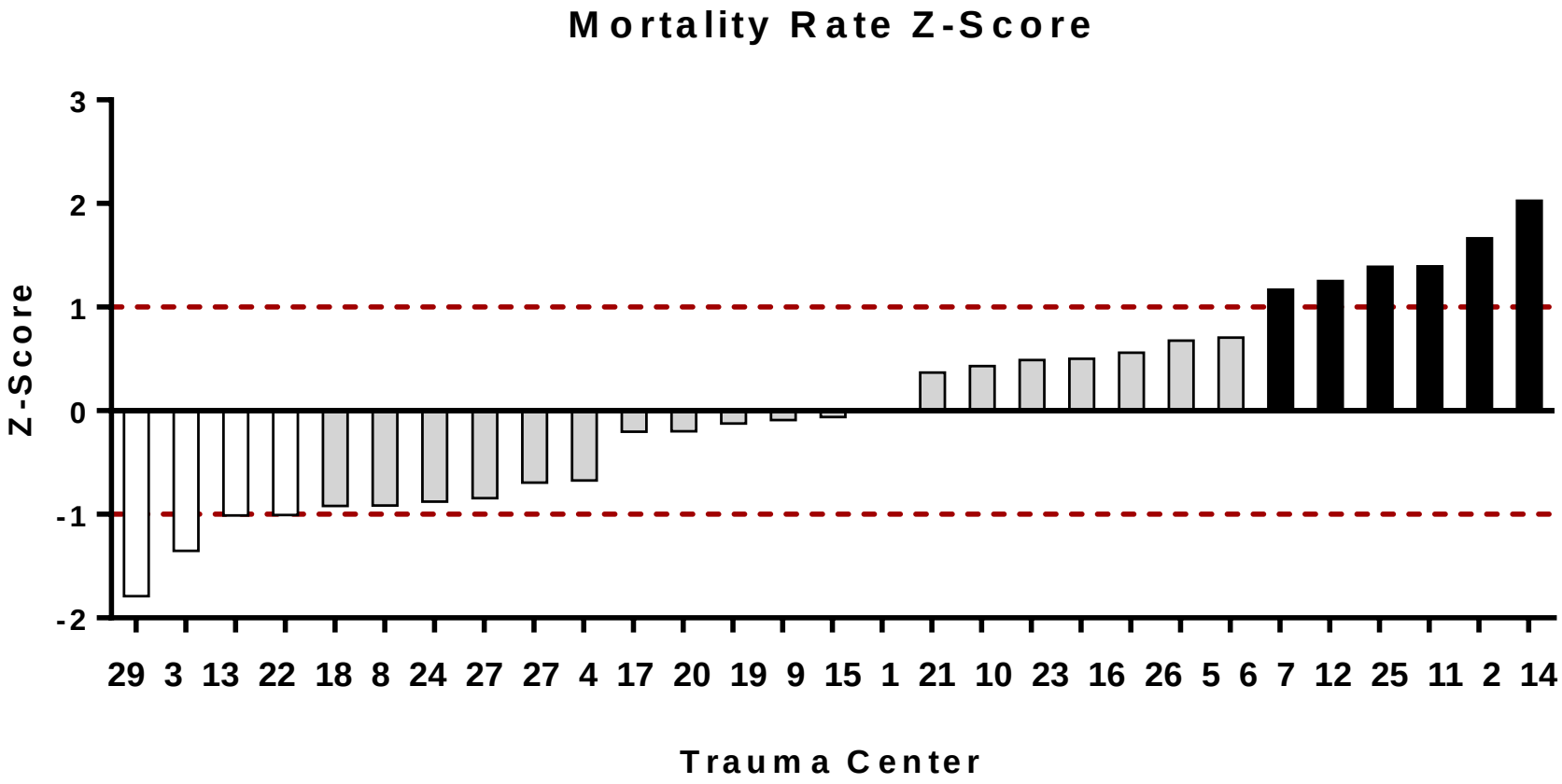
Z-score

- Time: 7/1/2014 to 9/30/16
- Cohort 2
- Exclude if no signs of life
- Exclude transfers out

#7 Serious Complication Rate (Z-score)



8 Mortality Rate (Z-score)



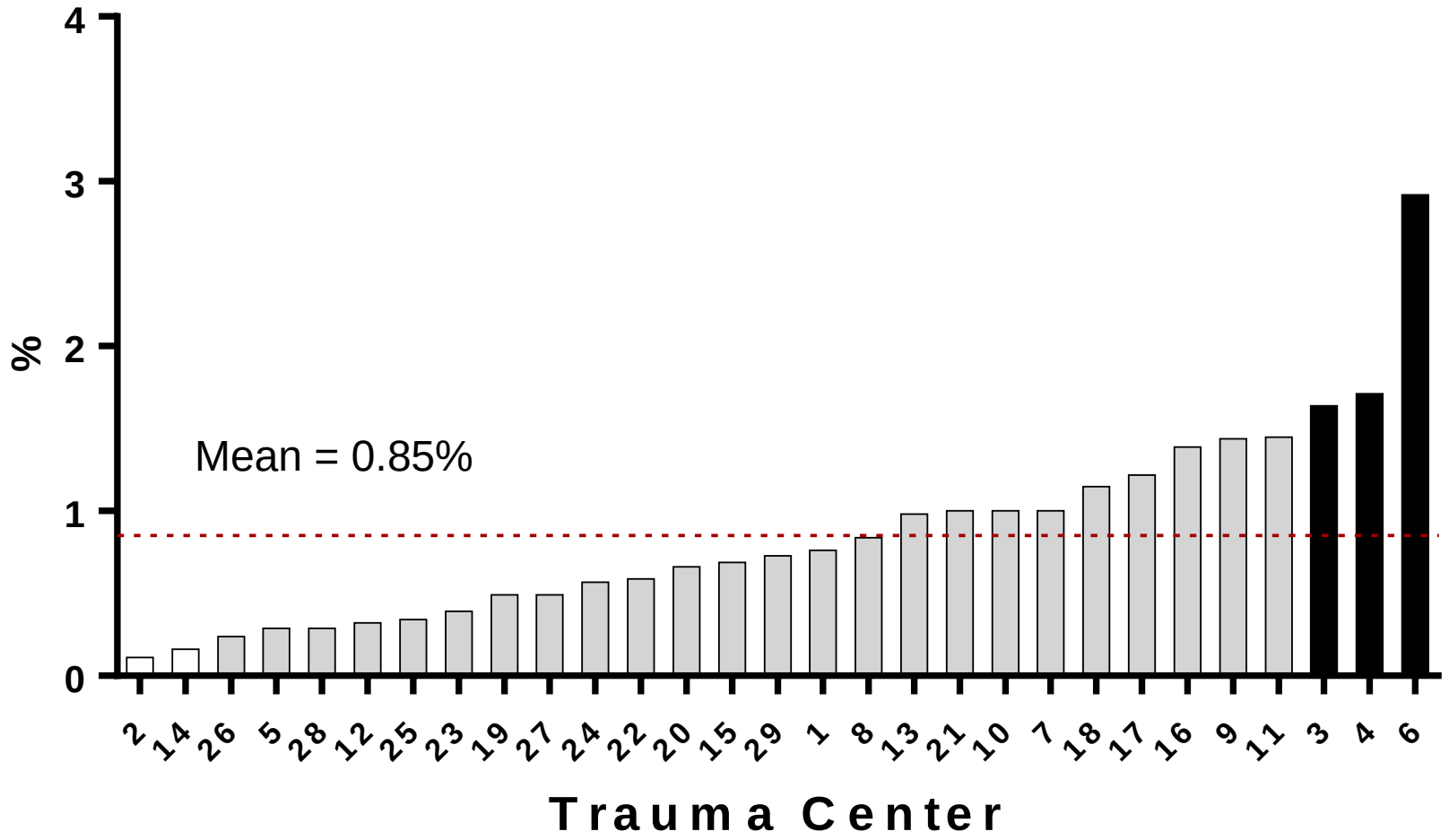
#9 IVC Filter Use

- Website
  - Practices > IVC Summary
  - Cohort = Cohort 1
  - No Signs of Life = Exclude DOAs
  - Transfers Out = Exclude Transfers Out
  - Default Period = Set for CQI Index time period
- IVC Filter Use
  - Group - Unadj %

2017 Group Project

- Target is 1.2% for 2017 reporting
- If collaborative mean is ≤ 1.2% every center gets 10 points.
- If collaborative mean is > 1.2% every center gets 0 points.
- At or near target – maintain performance
- Above target
  - Educate providers
  - Assistance from collaborative members

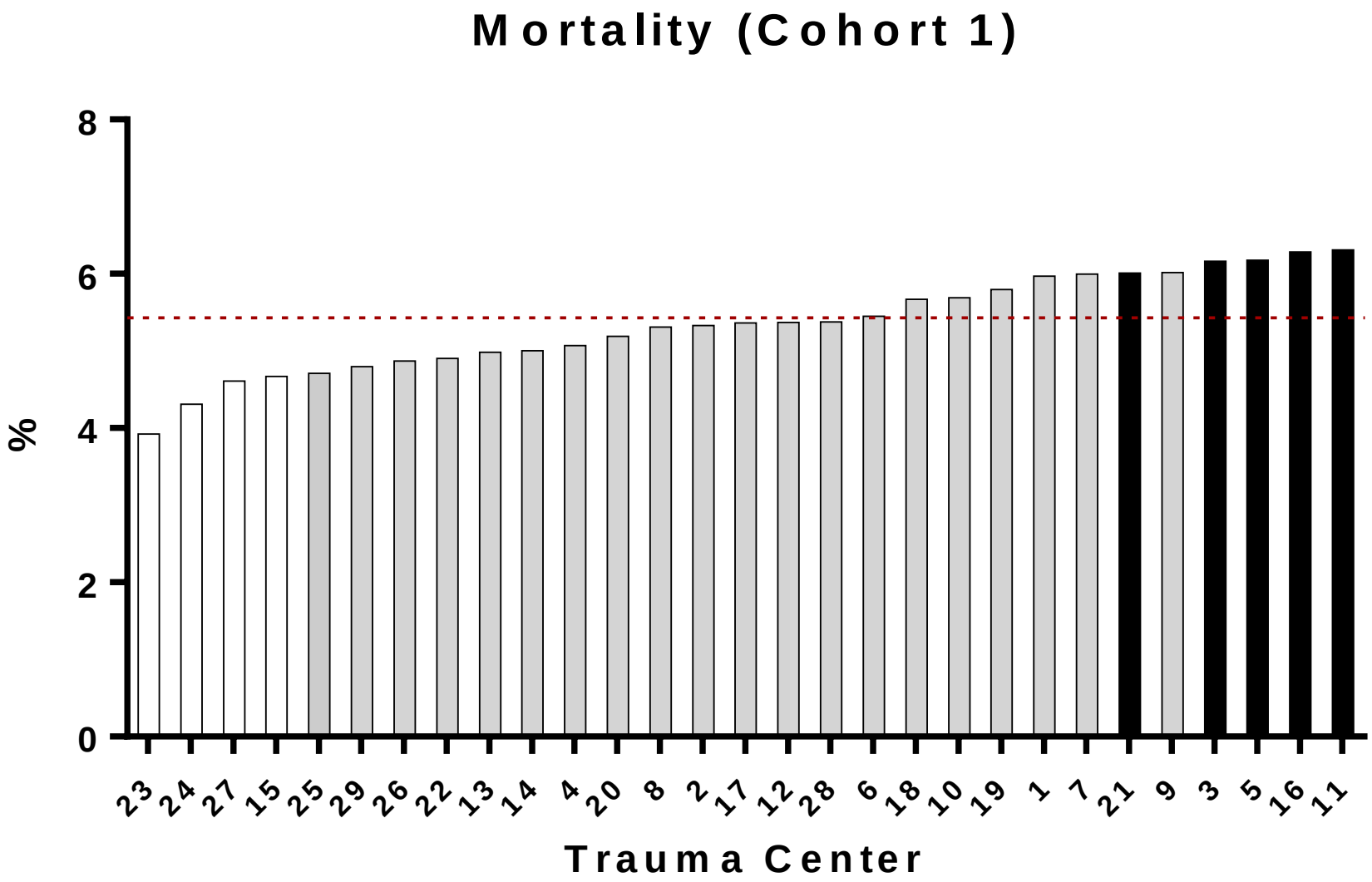
Unadjusted IVC Filter Use

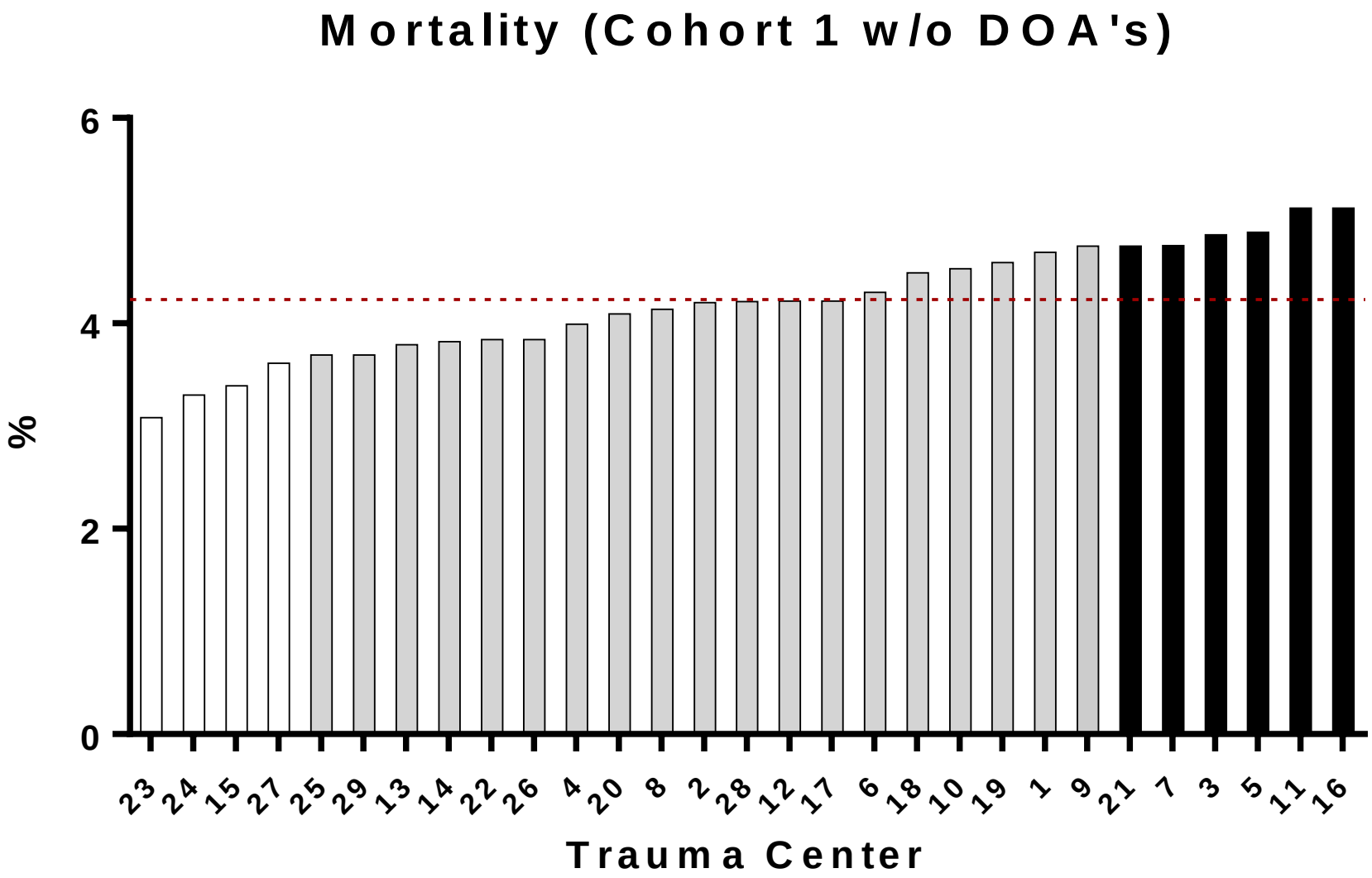


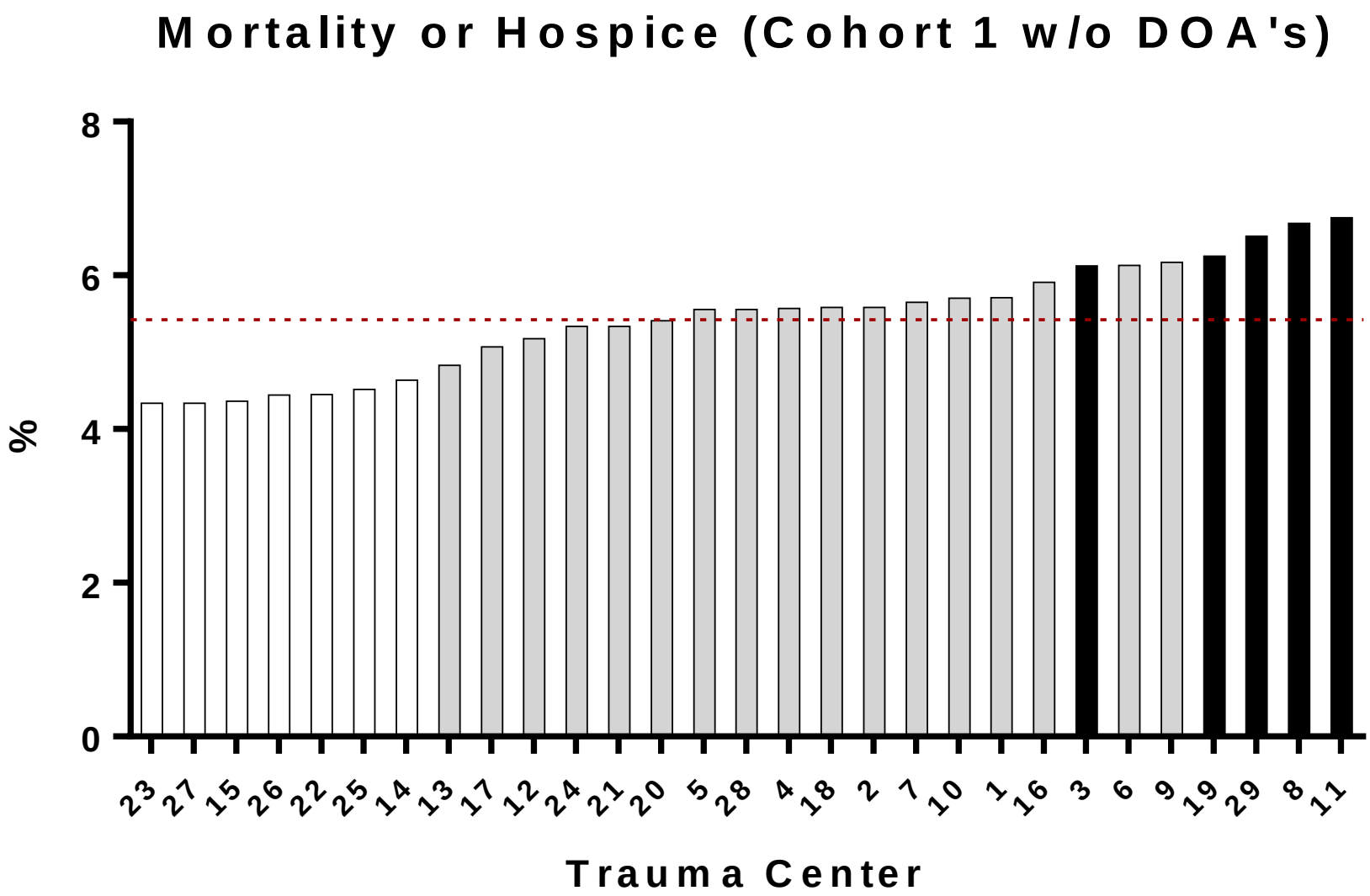
1/1/16 – 9/30/16

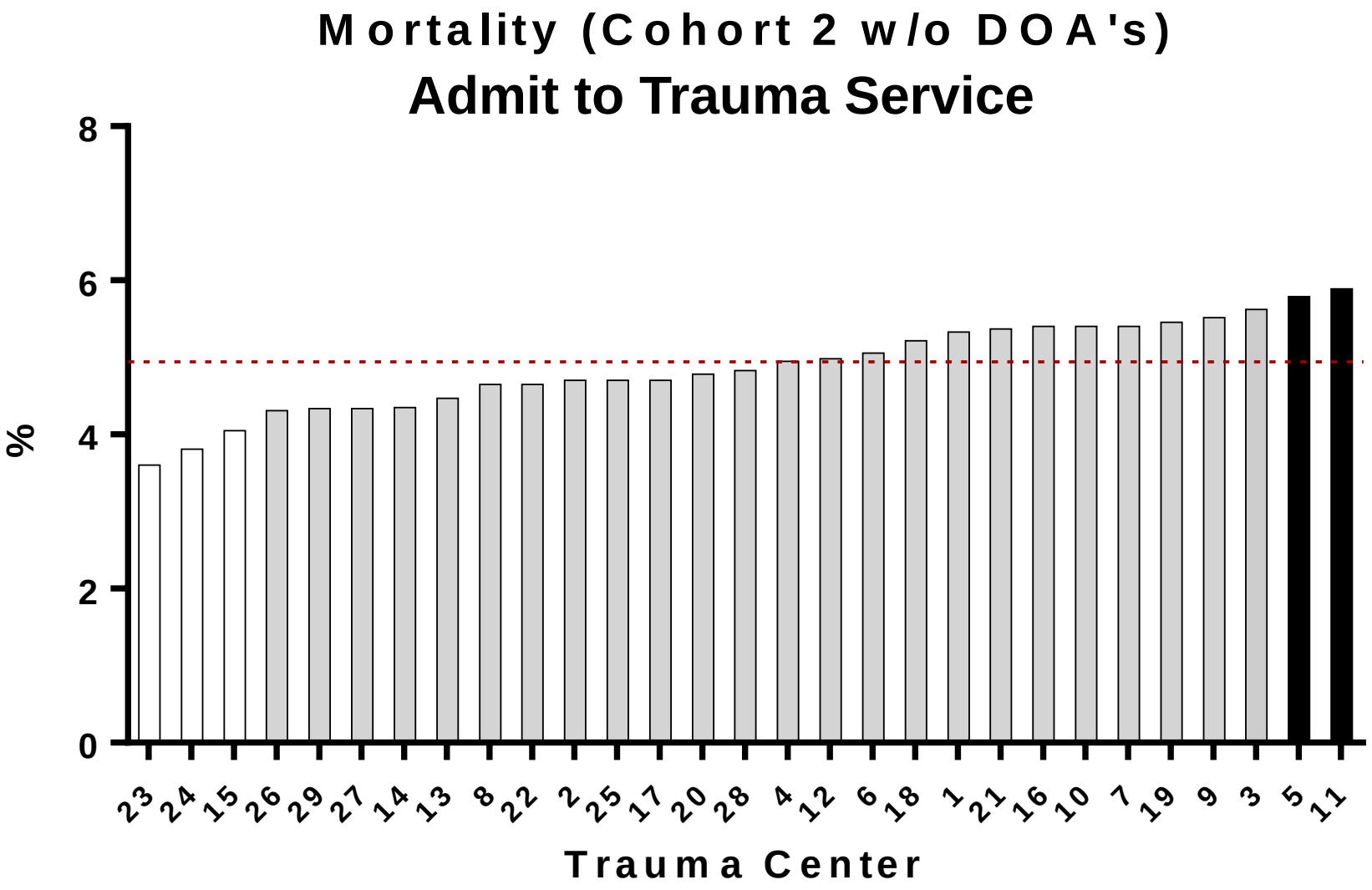
MTQIP Outcomes

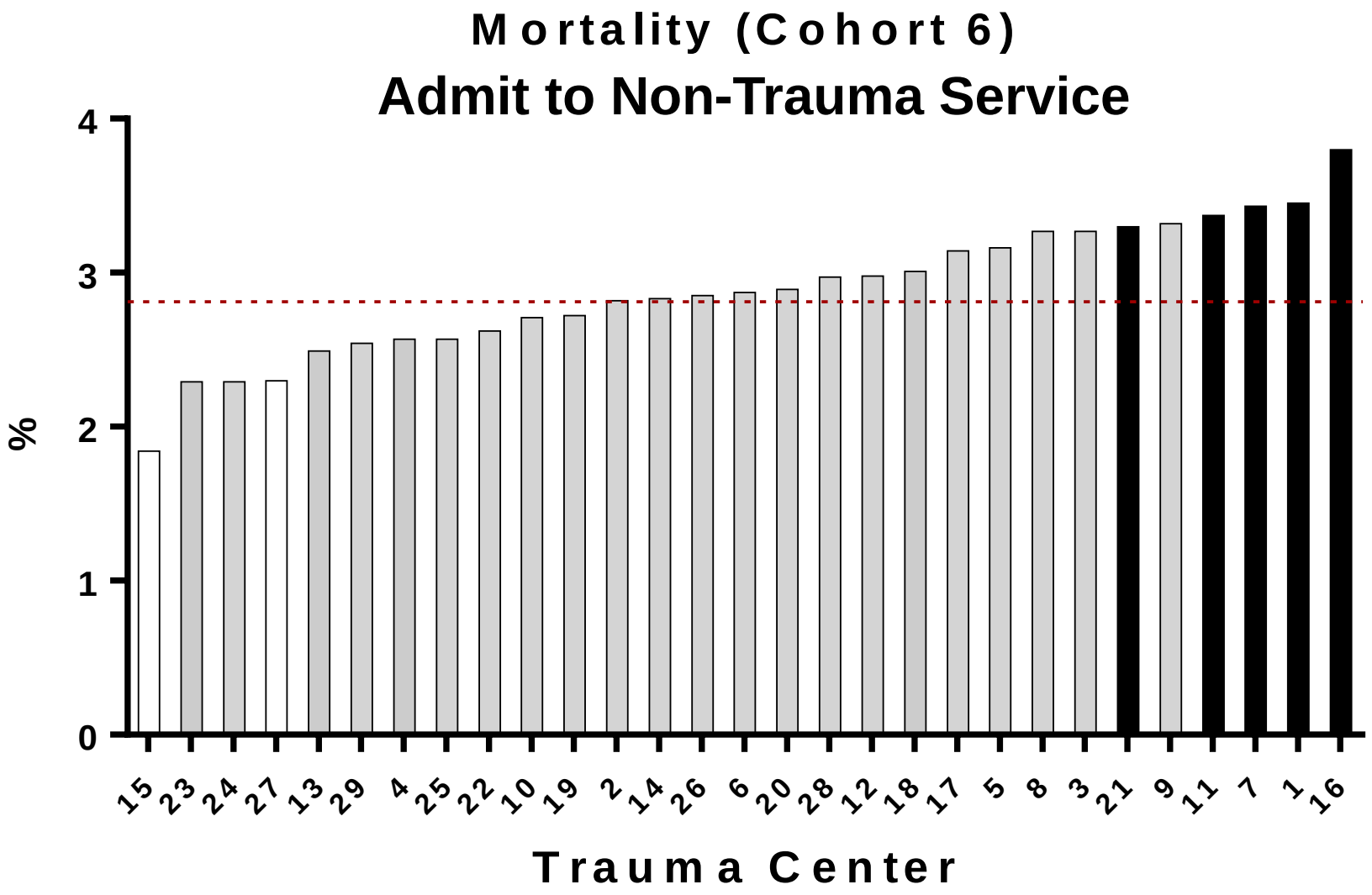
- Web-Site Report
  - 7/1/2014 to 9/30/2016
- Rates
  - Risk and Reliability-adjusted
  - Red dash line is collaborative mean
- Legend
  - □ Low-outlier status (better performance)
  - ▒ Non-outlier status (average performance)
  - ■ High-outlier status (worse performance)

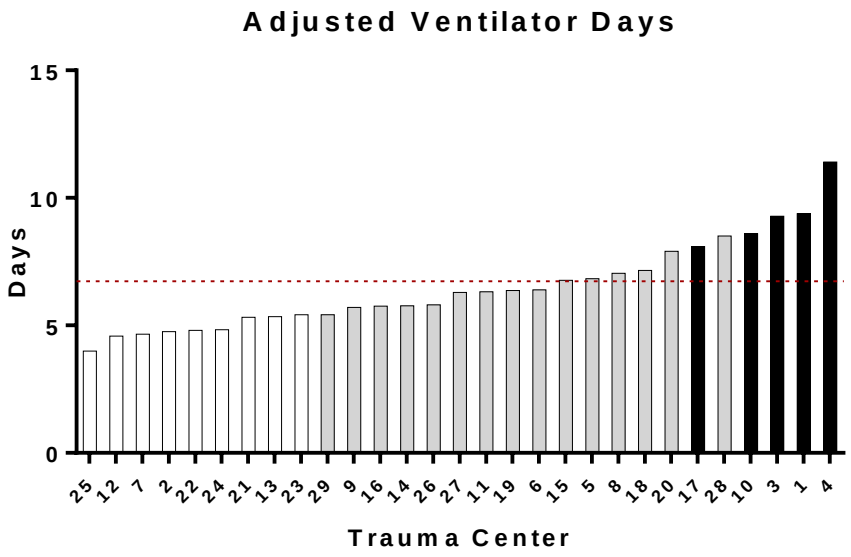

Mortality (Cohort 1)
%
0
2
4
6
8
23 24 27 15 25 29 26 22 13 14 4 20 8 2 17 12 28 6 18 10 19 1 7 21 9 3 5 16 11
Trauma Center


Mortality (Cohort 1 w/o DOA's)
6
4
2
0
%
23 24 15 27 25 29 13 14 22 26 4 20 8 2 28 12 17 6 18 10 19 1 9 21 7 3 5 11 16
Trauma Center

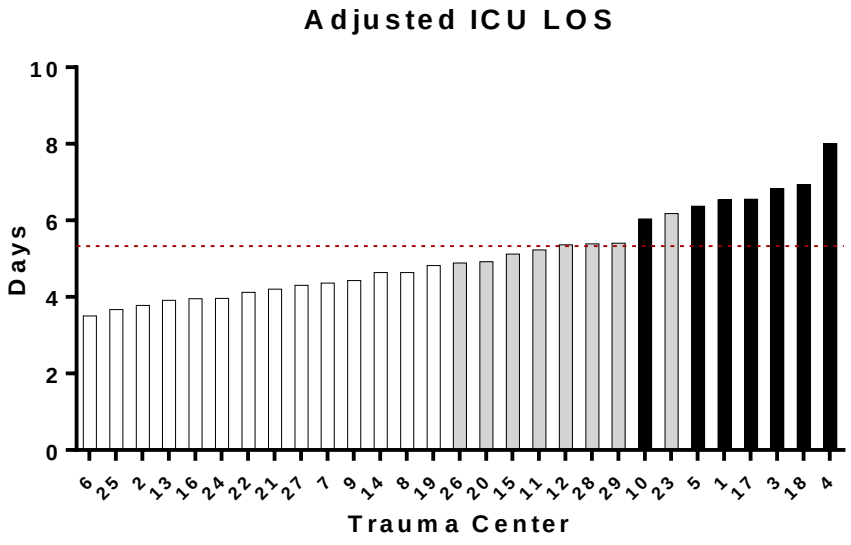

Mortality or Hospice (Cohort 1 w/o DOA's)
%
0
2
4
6
8
23 27 15 26 22 25 14 13 17 12 24 21 20 5 28 4 18 2 7 10 1 16 3 6 9 19 29 8 11
Trauma Center


Mortality (Cohort 2 w/o DOA's)
Admit to Trauma Service
%
0
2
4
6
8
23 24 15 26 29 27 14 13 8 22 2 25 17 20 28 4 12 6 18 1 21 16 10 7 19 9 3 5 11
Trauma Center

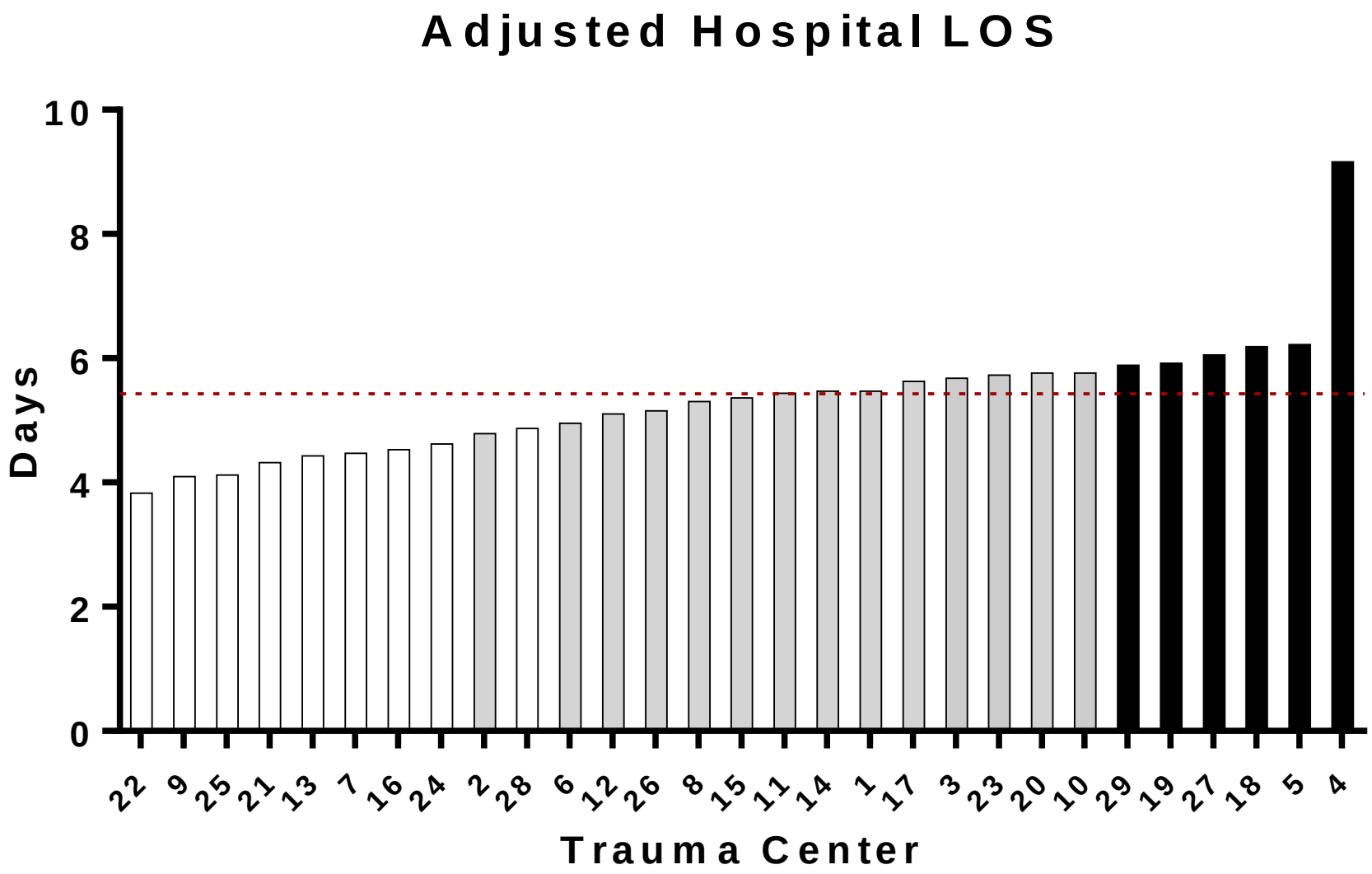

Mortality (Cohort 6)
Admit to Non-Trauma Service
%
0
1
2
3
4
15 23 24 27 13 29 4 25 22 10 19 2 14 26 6 20 28 12 18 17 5 8 3 21 9 11 7 1 16
Trauma Center


Adjusted Ventilator Days
Days
15
10
5
0
25 12 7 2 22 24 21 13 23 29 9 16 14 26 27 11 19 6 15 5 8 18 20 17 28 10 3 1 4
Trauma Center

Pg. 30


Adjusted ICU LOS
Days
10
8
6
4
2
0
6 25 2 13 16 24 22 21 27 7 9 14 8 19 26 20 15 11 12 28 29 10 23 5 1 17 3 18 4
Trauma Center

Pg. 28


Adjusted Hospital LOS
Days
10
8
6
4
2
0
22 9 25 21 13 7 16 24 2 28 6 12 26 8 15 11 14 1 17 3 23 20 10 29 19 27 18 5 4
Trauma Center

POP QUIZ

Unplanned Intubation

Pt is on vent for 1 week.
Pt taken to OR for tracheostomy.
Pt is off vent for 10 days.
Pt develops respiratory distress and placed back on vent via trach.

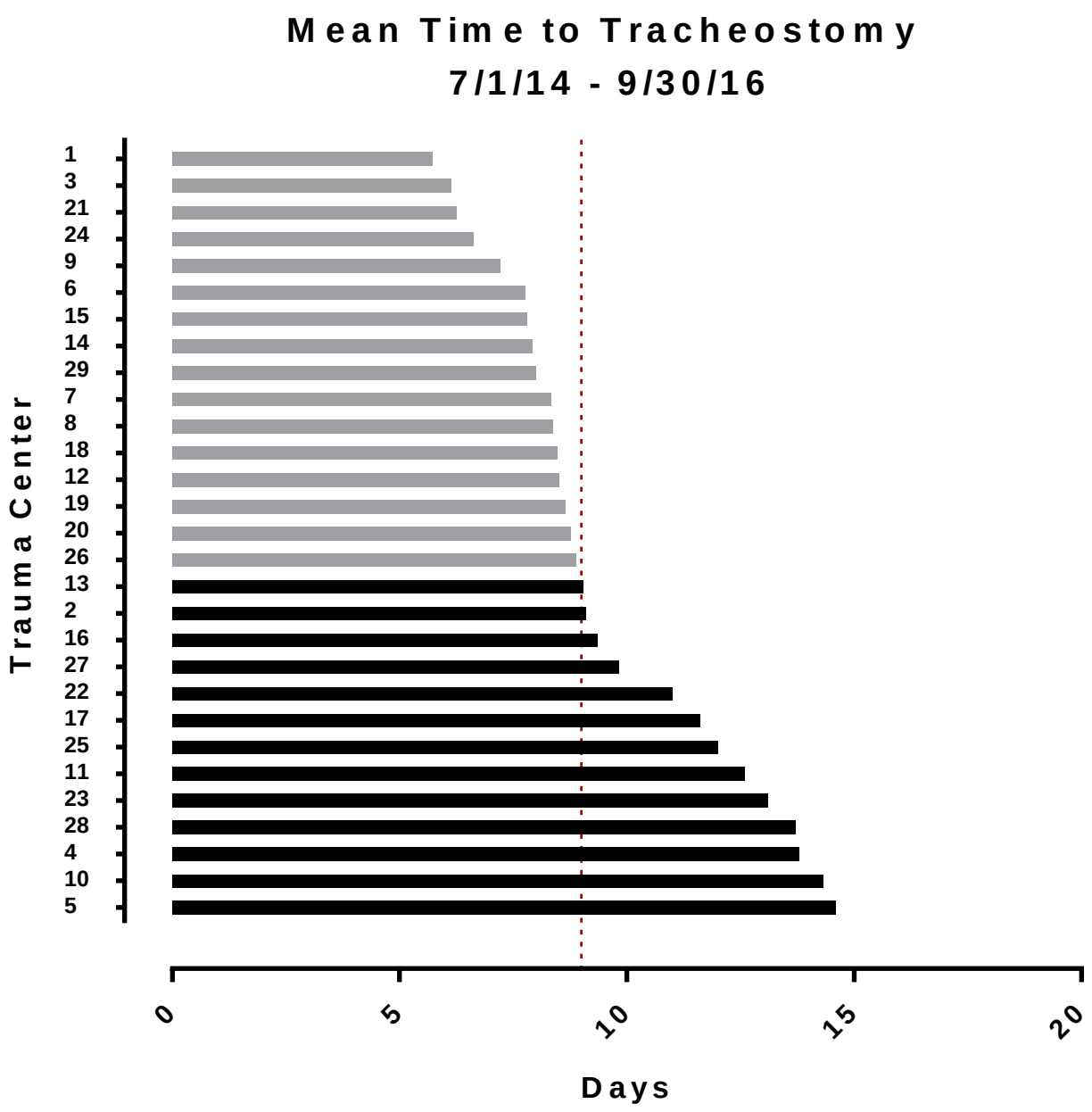
Unplanned Intubation

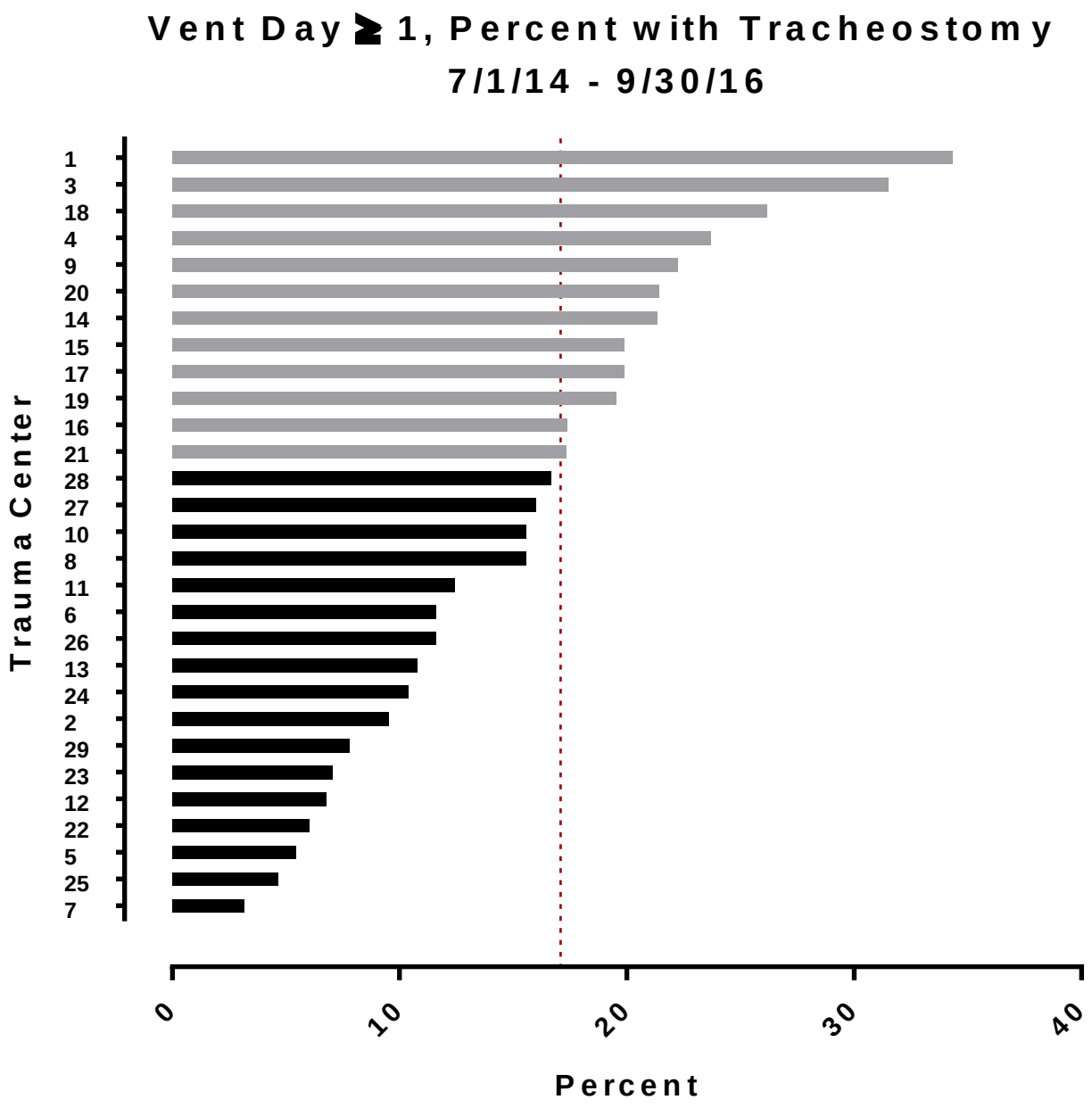
Should unplanned intubation be captured for this patient?

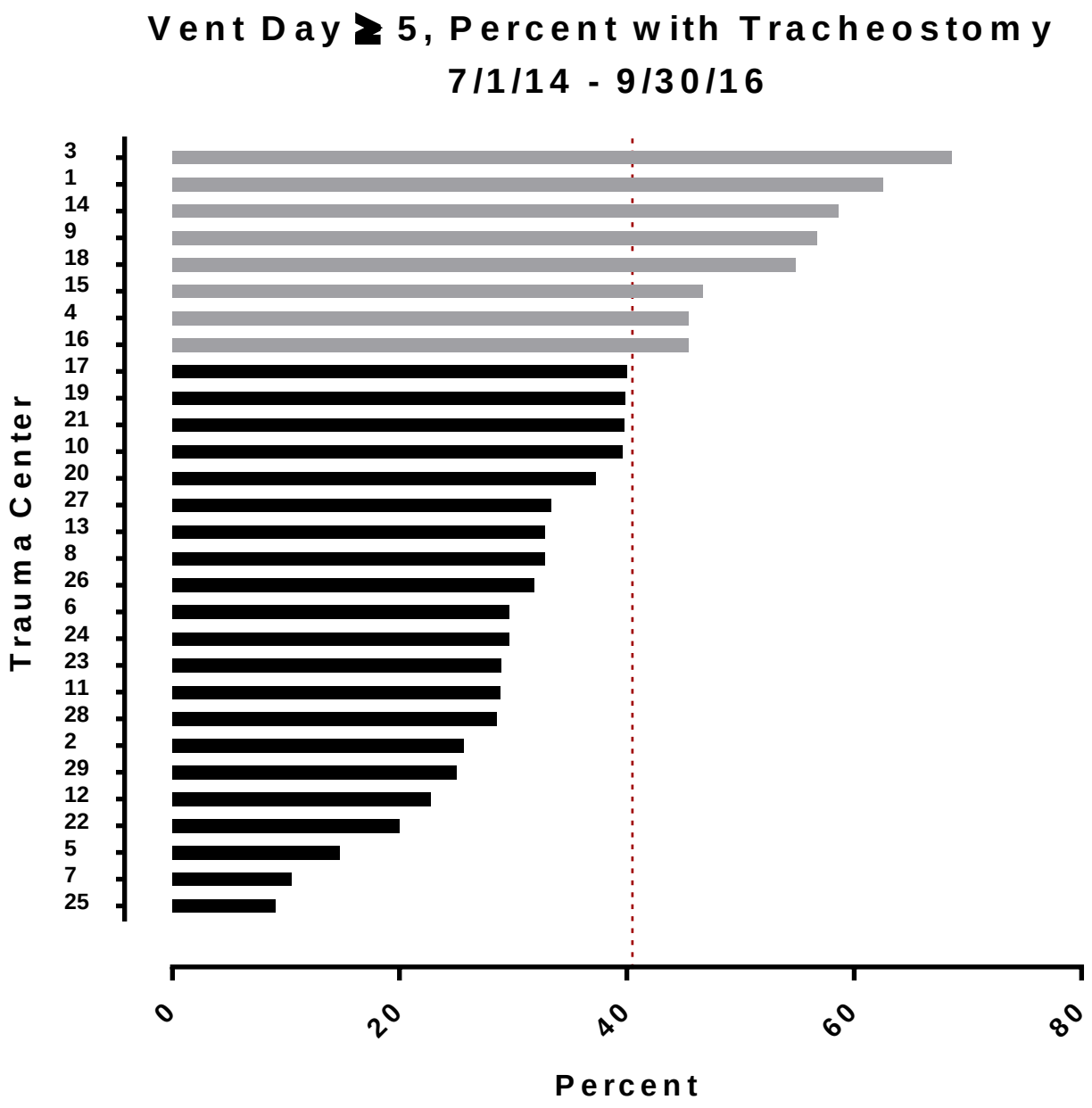
UNPLANNED INTUBATION

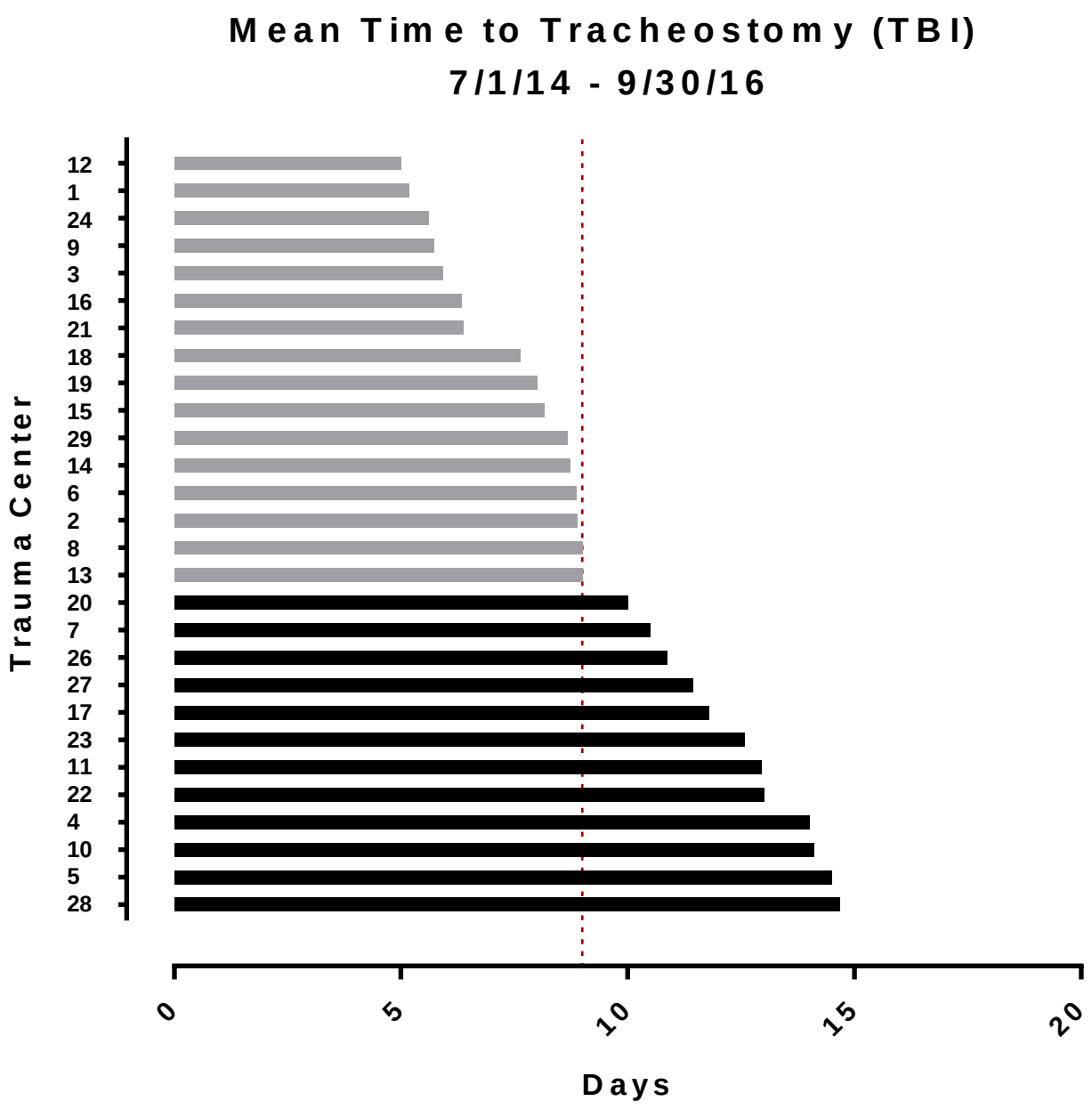
Patient requires placement of an endotracheal tube and mechanical or assisted ventilation because of the onset of respiratory or cardiac failure manifested by severe respiratory distress, hypoxia, hypercarbia, or respiratory acidosis. In patients who were intubated in the field, emergency department, or those intubated for surgery, unplanned intubation occurs if they require reintubation >24 hours after extubation.

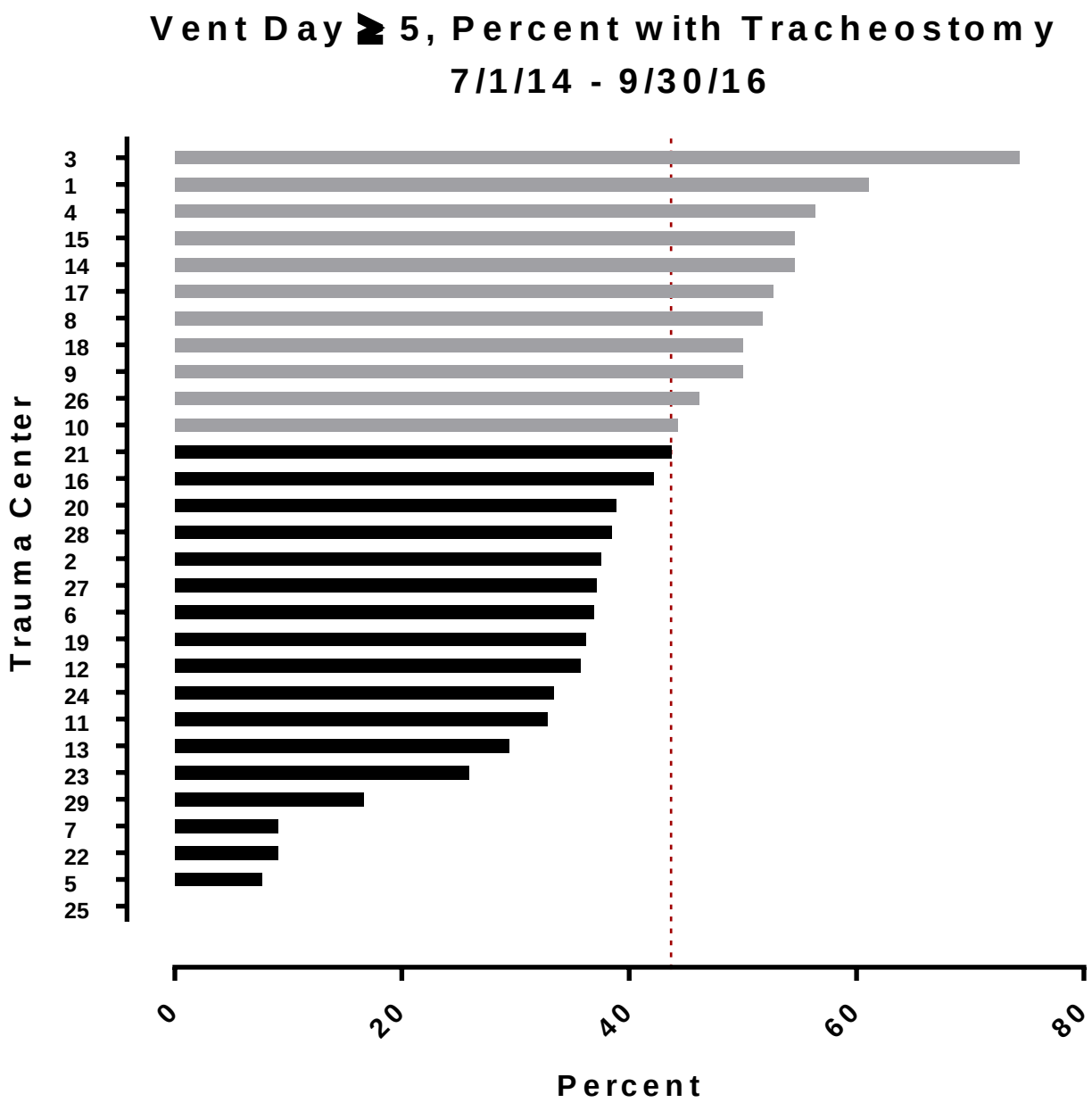
ANSWER: NO


Mean Time to Tracheostomy
7/1/14 - 9/30/16
Trauma Center
1
3
21
24
9
6
15
14
29
7
8
18
12
19
20
26
13
2
16
27
22
17
25
11
23
28
4
10
5
0
5
10
15
20
Days


Vent Day ≥ 1, Percent with Tracheostomy
7/1/14 - 9/30/16
Traum a Center
1
3
18
4
9
20
14
15
17
19
16
21
28
27
10
8
11
6
26
13
24
2
29
23
12
22
5
25
7
0
10
20
30
40
Percent


Vent Day ≥ 5, Percent with Tracheostomy
7/1/14 - 9/30/16
Trauma Center
3
1
14
9
18
15
4
16
17
19
21
10
20
27
13
8
26
6
24
23
11
28
2
29
12
22
5
7
25
0
20
40
60
80
Percent


Mean Time to Tracheostomy (TBI)
7/1/14 - 9/30/16
Trauma Center
12
1
24
9
3
16
21
18
19
15
29
14
6
2
8
13
20
7
26
27
17
23
11
22
4
10
5
28
0
5
10
15
20
Days


Vent Day ≥ 5, Percent with Tracheostomy
7/1/14 - 9/30/16
Trauma Center
3
1
4
15
14
17
8
18
9
26
10
21
16
20
28
2
27
6
19
12
24
11
13
23
29
7
22
5
25
0
20
40
60
80
Percent

ACS TQIP BENCHMARK REPORT:

TQIP Collaborative - Fall 2016

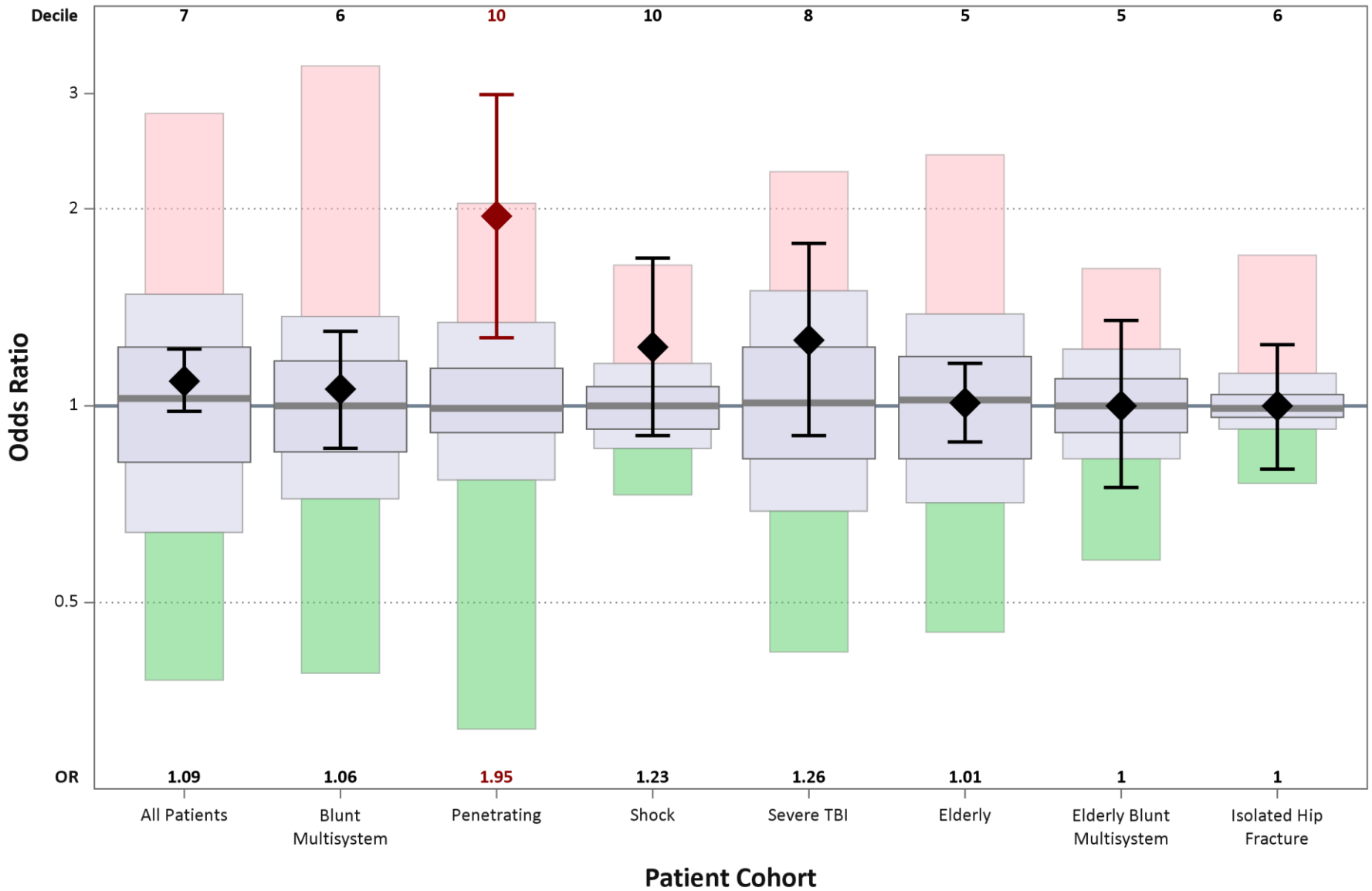
AMERICAN COLLEGE OF SURGEONS

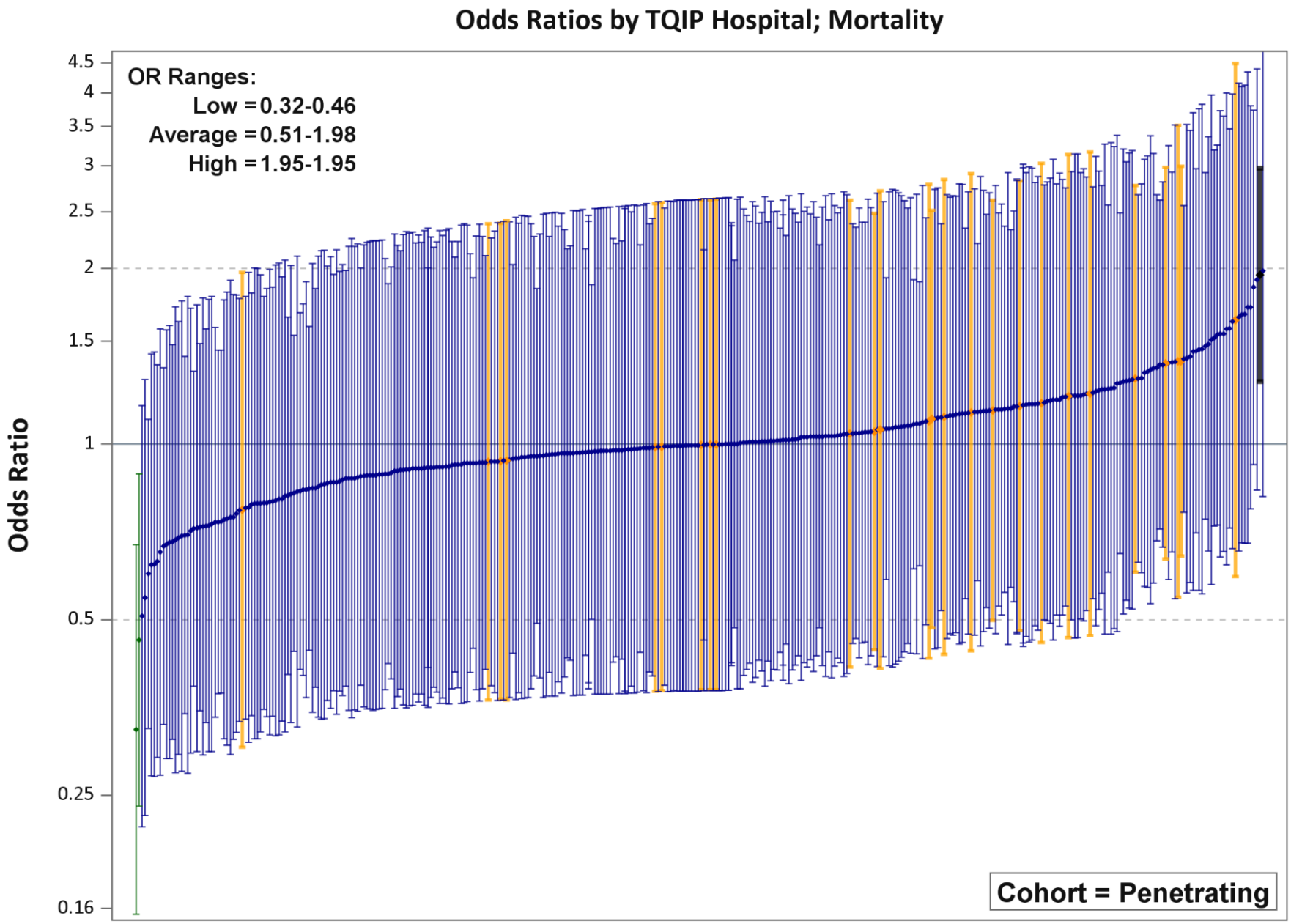
Inspiring Quality:
Highest Standards, Better Outcomes

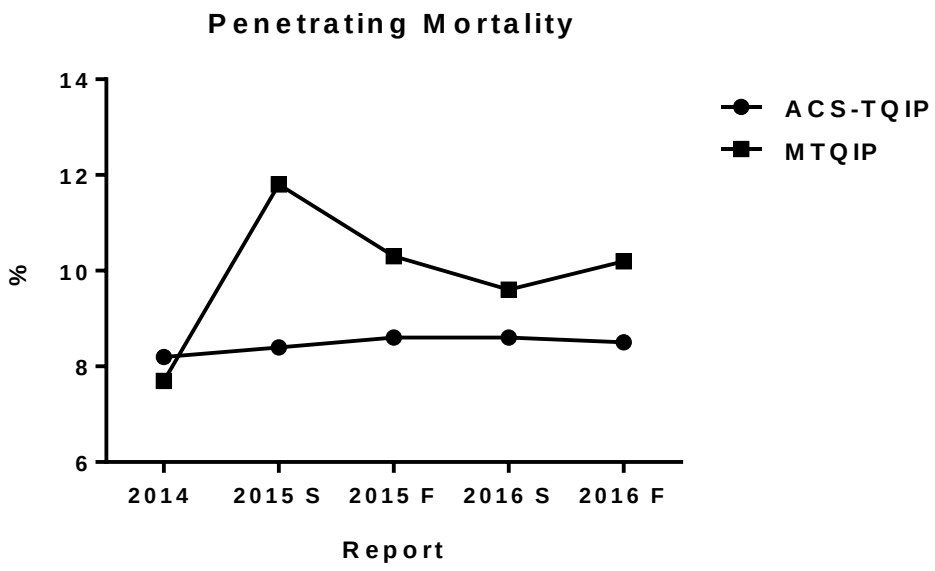
COMMITTEE ON TRAUMA

Released October 2016

Risk-Adjusted Mortality by Cohort




Odds Ratios by TQIP Hospital; Mortality
OR Ranges:
Low = 0.32-0.46
Average = 0.51-1.98
High = 1.95-1.95
Odds Ratio
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0.25
0.16
Cohort = Penetrating



Measure	2014	2015 S	2015 F	2016 S	2016 F
Odds Ratio	0.92	1.48	1.29	1.46	1.95
Outlier	Average	Average	Average	Average	High
Decile	3	10	10	10	10
Patients (n)	571	533	545	511	498
Dead (n)	44	63	56	49	51
Delta	--	18	10	6	9

Center	OR	Outlier	Rank	Dead	n	%
	0.77	Average	1	0	22	0.0%
	0.93	Average	3	0	13	0.0%
	0.93	Average	3	0	21	0.0%
	0.94	Average	4	0	4	0.0%
	0.99	Average	5	0	6	0.0%
	0.99	Average	5	0	4	0.0%
	1	Average	5	0	7	0.0%
	1	Average	5	0	2	0.0%
	1	Average	5	0	2	0.0%
	1.04	Average	7	1	7	14.3%
	1.05	Average	7	2	19	10.5%
	1.06	Average	7	1	5	20.0%
	1.09	Average	8	1	8	12.5%
	1.1	Average	8	4	70	5.7%
	1.11	Average	8	1	10	10.0%
	1.13	Average	8	1	2	50.0%
	1.14	Average	8	4	40	10.0%
	1.16	Average	8	4	31	12.9%
	1.18	Average	9	1	4	25.0%
	1.21	Average	9	1	2	50.0%
	1.22	Average	9	1	16	6.3%
	1.38	Average	10	8	48	16.7%
	1.39	Average	10	2	23	8.7%
	1.39	Average	10	10	64	15.6%
	1.42	Average	10	2	8	25.0%
	1.63	Average	10	2	4	50.0%
	--			0	0	
	--			0	0	
				5	56	8.9%
			Total	51	498	10.2%
				9		
				42	498	8.4%

MHA Data
No Signs of Life Criteria
Data Submission Schedule
Validation Variables
Reporting

Mark Hemmila, MD
Jill Jakubus, PA-C

MHA Data Linkage

Overview

- Administrative/claims level data
- Contains all hospitals in MI except few
- MARQI

MHA Data Linkage

Advantages

- Full continuum of care - readmissions
- National leaders in QI
- Validated

Disadvantages

- Cost dependent on complexity
- Limitations of probabilistic matching
- Expand PHI for deterministic matching

MHA Data Linkage

Discussion

- Interest
- Utility & goals
- Probabilistic vs. deterministic
- Concerns

Next steps, if interested

- Survey
- Identify goals
- DUA vs. BAA
- MHA Privacy Committee review

No Signs of Life

- Prior
  - SBP=0, HR=0, GCS=3
- ACS-TQIP
  - SBP=0, HR=0, GCS=3 (1686)
  - SBP=0, HR=0, mGCS=1 (2)
  - SBP=NK/NR, HR=0, mGCS=1 (48)
  - SBP=0, HR=0, mGCS=NK/NR (16)
  - SBP=0, HR=NK/NR, mGCS=1 (6)
  - SBP=NK/NR, HR=0, mGCS=NK/NR (3)
- Changed for consistency

Data Submission Schedule - Current

Year	Month	Date Range
2017	Febrary	7/1/15 – 10/31/16
2017	June	11/1/15 – 2/28/17
2017	October	3/1/16 – 6/30/17

Feedback

- **Surgeon request for actionable data**
- **PM/MCR request for PI project trending**
- **Registrar request for shorter report runs**

Data Submission Schedule - Proposed

Year	Month	Date Range
2017	Febrary	7/1/15 – 10/31/16
2017	June	11/1/15 – 2/28/17
2017	October	3/1/16 – 6/30/17

Data is due the 1st Friday of the month

Year	Month	Date Range
2017	Febrary	7/1/15 – 10/31/16
2017	April	9/1/15 – 12/31/16
2017	June	11/1/15 – 2/28/17
2017	August	1/1/16 – 4/30/17
2017	October	3/1/16 – 6/30/17
2017	December	5/1/16 – 8/31/17

Data is due the 1st Friday of the month

Red indicates optional submission

Data Submission Schedule - Proposed

Discussion

- Interest
- Concerns

Validation Variables 2017

ED Profile
Activation Level
First ED Temperature
First ED HR
First ED SBP
Intubation Location
First ED GCS Eye
First ED GCS Verbal
First ED GCS Motor
ED/Hospital GCS Total
Admit Service
ED Disposition
ED Discharge Date
ED Discharge Time
Trauma Surgeon NPI
Provider Arrival Date
Provider Arrival Time

Feeds from resuscitation surgeon variable

Validation Variables 2017

Preoperative Comorbidities
Advanced Directive Limiting Care
Alcohol Use Disorder
Current Smoker
Substance Abuse Disorder
Functionally Dep Health Status
COPD
Cirrhosis
CHF
Angina Pectoris
Myocardial Infarction
PVD (2016), PAD (2017)
Hypertention requiring Rx
Chronic Renal Failure
CVA
Dementia
Mental/Personality Disorder
Congenital Anomalies
Disseminated Cancer
Steroid Use
Bleeding Disorder
Current Chemotherapy
Diabetes Mellitus
Anticoagulation Therapy (2017)

Pharmacologically induced coagulopathy

Validation Variables 2017

Outcomes
Superficial Incisional SSI
Deep Incisional SSI
Organ/Space SSI
Wound Disruption
Abdominal Fascia Left Open
ARDS
VAP
Pneumonia
Unplanned Intubation
Pulmonary Embolism
Acute Kidney Injury
Acute Renal Insufficiency
CAUTI

Updated CDC definition Jan 2017

Validation Variables 2017

Infectious Disease
Antibiotic Days
Open Fracture - Antibiotic Type 1 (2017)
Open Fracture - Antibiotic Type 2 (2017)
Open Fracture - Antibiotic Date (2017)
Open Fracture - Antibiotic Time (2017)

Reporting – Open Fractures

Additional Programmatic Core Measures That Will Be Requested as Part of the Prereview Questionnaire

E. Orthopaedic surgery.

- Number of pelvis and acetabular cases performed annually.
- Number of pelvis and acetabular cases transferred out.
- Time to open reduction, internal fixation for femur fractures.
- Time to washout for all open fractures.
- Appropriateness and timing of intravenous antibiotics for all open fractures.

Orange Book page 125

Open Fracture Antibiotic Timing
Time to Antibiotic Administration Mean (hrs)
Time to Antibiotic Administration Median (hrs)
0 - 0.5 Hr (n)
0.51 - 1 Hr (n)
1.1 - 2 Hr (n)
> 2 Hr (n)
Time to Antibiotic Administration Mean Upper Extremity (hrs)
Time to Antibiotic Administration Median Upper Extremity (hrs)
0 - 0.5 Hr Upper Extremity (n)
0.51 - 1 Hr Upper Extremity (n)
1.1 - 2 Hr Upper Extremity (n)
> 2 Hr Upper Extremity (n)
Time to Antibiotic Administration Mean Lower Extremity (hrs)
Time to Antibiotic Administration Median Lower Extremity (hrs)
0 - 0.5 Hr Lower Extremity (n)
0.51 - 1 Hr Lower Extremity (n)
1.1 - 2 Hr Lower Extremity (n)
> 2 Hr Lower Extremity (n)
Time to Antibiotic Administration Mean Femur (hrs)
Time to Antibiotic Administration Median Femur (hrs)
0 - 0.5 Hr Femur (n)
0.51 - 1 Hr Femur (n)
1.1 - 2 Hr Femur (n)
> 2 Hr Femur (n)
Time to Antibiotic Administration Mean Tibia (hrs)
Time to Antibiotic Administration Median Tibia (hrs)
0 - 0.5 Hr Tibia (n)
0.51 - 1 Hr Tibia (n)
1.1 - 2 Hr Tibia (n)
> 2 Hr Tibia (n)
Missing Time

Reporting – Open Fractures

Open Fracture Antibiotic Timing
Time to Antibiotic Administration Mean (hrs)
Time to Antibiotic Administration Median (hrs)
0 - 0.5 Hr (n)
0.51 - 1 Hr (n)
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> 2 Hr (n)

Reporting – Open Fractures

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Reporting – Open Fractures

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> 2 Hr Lower Extremity (n)

Reporting – Open Fractures

Time to Antibiotic Administration Mean Femur (hrs)
Time to Antibiotic Administration Median Femur (hrs)
0 - 0.5 Hr Femur (n)
0.51 - 1 Hr Femur (n)
1.1 - 2 Hr Femur (n)
> 2 Hr Femur (n)
Time to Antibiotic Administration Mean Tibia (hrs)
Time to Antibiotic Administration Median Tibia (hrs)
0 - 0.5 Hr Tibia (n)
0.51 - 1 Hr Tibia (n)
1.1 - 2 Hr Tibia (n)
> 2 Hr Tibia (n)
Missing Time

Reporting – Open Fractures

Time to Antibiotic Administration Mean Femur (hrs)
Time to Antibiotic Administration Median Femur (hrs)
0 - 0.5 Hr Femur (n)
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0.51 - 1 Hr Tibia (n)
1.1 - 2 Hr Tibia (n)
> 2 Hr Tibia (n)
Missing Time

Reporting – Open Fractures

Time to Antibiotic Administration Mean Femur (hrs)
Time to Antibiotic Administration Median Femur (hrs)
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0.51 - 1 Hr Femur (n)
1.1 - 2 Hr Femur (n)
> 2 Hr Femur (n)
Time to Antibiotic Administration Mean Tibia (hrs)
Time to Antibiotic Administration Median Tibia (hrs)
0 - 0.5 Hr Tibia (n)
0.51 - 1 Hr Tibia (n)
1.1 - 2 Hr Tibia (n)
> 2 Hr Tibia (n)
Missing Time

Remote Validation

Transition

- 2017 recommended
- 2018 required

Agreements

- RAA uploaded to Box 10/18/16
- Center signature due on 10/2/17

Non-receipt of RAA

- On-site validation offered
- $2K removed from next reimbursement

CQI Scoring

- Approach
  - Generate Ideas
  - Suggestion to change target
  - Suggestion to add
  - Suggestions to drop
  - Poll collaborative
- Timing
  - Finalize CQI scoring index at May meeting
  - July 1 start

State of Michigan

- Approached
  - Synergy
  - Synchronization
- Questions?
- See you in May

Electronic Evaluation

- Link will be emailed to you following meeting
- You have up to 7 days to submit
- Physicians/Nurses/Advanced Practitioners:
  - Emailed certificate for 4.25 Category 1 CME
- Registrars (Non-RN):
  - Certificates will be at registration table