

The Michigan Trauma Quality Improvement Program

**Ypsilanti, MI
February 11, 2014**



Agenda

- ◆ Paul Taheri, MD MBA
 - How decisions are made, navigating your health system
- ◆ Panel Discussion
 - John Kepros, MD MBA
 - Pat Patton, MD
 - Paul Taheri, MD MBA

Agenda

- ◆ QI Projects
 - Covenant
 - Detroit Receiving
 - Henry Ford
 - McLaren Macomb
 - Oakwood Dearborn
- ◆ Break
- ◆ Wayne Vander Kolk, MD
 - Diving into MTQIP data

Agenda

- ◆ Mark Hemmila
 - MTQIP Data
 - Future Directions
 - ◆ New Data Elements
 - ◆ Data Collection and Transfer
 - ◆ ICD-9 and ICD-10
 - ◆ TQIP State Report

Agenda

- ◆ Judy Mikhail
 - Individual PI Projects
 - Abbreviated Data Abstract
 - 2014 MTQIP Hospital Metrics
 - Guidelines/Protocols
- ◆ Reception

Confidentiality Agreement

- ◆ Everyone signs a confidentiality agreement for entry to the meeting
- ◆ Every meeting
- ◆ No photos
- ◆ Reports distributed at the end of the meeting

Confidentiality Agreement

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

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

Confidentiality Agreement

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

How Decisions Are Made, Navigating Your Health System

Paul A. Taheri, MD MBA



How decisions are made- navigating your health system

Paul A. Taheri MD, MBA
Deputy Dean for Clinical Affairs
CEO, Yale Medical Group

Michigan Trauma Quality Improvement Program
February 11, 2014

Who am I?

- Trauma Surgeon
- University of Michigan 1994-2007
 - Trauma Director
 - Associate Dean of Academic Business Development
- University of Vermont 2007-2013
 - President/CEO of University of Vermont Medical Group
- Yale University March 2013 - Current



Goal for today

- Provide some framework
- Provide a bit of perspective
- Have real dialogue

So how are decisions made inside our organizations

- Significant variation in actual process, but information and common themes are evident
- So what are the key issues/considerations and what is the optimal process for decision making?
- Who really are the decision makers?
- What happens when you leave the room – what is the Sr. Leadership discussion?
- Let's start with the important considerations you need to be aware of

You need to be mindful of two issues

- **Money**
- **Governance**

Understand your environment

- What is the role of your organization in the larger landscape of the State's health care
 - Academic, regional or local focus?
 - Is your hospital part of a larger system? If so where does it fit?
 - Are you “integrated” clinically, organizationally, financially...
- What is the current status of your organization vis a vis your local environment
 - Is it making money? Is the leadership stable? Is the press chasing some story down?
- This is very important to understand. So take a moment to “inventory” your institution. Assess where it is and what is has going for it.
 - Be brutally honest in this assessment.

Understand the basic vision for the organization

- **Of course the mission is quality compassionate care....but what is the direction of the enterprise?**
 - Locally focused on primary/secondary, OP care?
 - Quaternary care driven (University /teaching institutions?)
 - Are you moving toward true capitation/population health or are you going to “milk the current fee for service environment for a while longer?”
 - Understanding these types of considerations is very important in where your proposal “fits in” and how you are viewed by Sr. Leadership.

Governance a few basic ground rules - triage

- Decisions must be triaged just like clinical decisions are:
 - Operative decisions are determined by surgeon (of course), but smaller decisions are made all along the way....registration, which pre-op room does the patient go to....
 - So what you present to whom matters. For example, do not ask the CEO for a printer, new furniture, or to cover a lease for \$500/month. I have been asked for each of these mentioned...
 - So, truly think about what you are asking to whom.

Governance – more ground rules - information

- Come when you are fully prepared = have the financial, operational, timeframes, and the like all clarified.
 - Executives value their time just like you do.
- Write it all down in a document.
- Provide lots of background information about your service, the relevance of your service, volumes, number of faculty/employees....
 - This can all be in an appendix of your presentation
 - You would be stunned how little the Sr. Leadership knows about individual programs/MD's

Governance – what do we really want to see

- Your presentation should focus on the operational impact, how/why you can actually get this done, how you will measure success/failure, who is accountable for what.
- Financial impact/ROI – you do not need to do this! Have the hospital do it for you.
 - If you use their people, data, and processes, there is nothing to debate about the validity of the numbers.

Institutional considerations - Money

- Volume of patients and hospital capacity
 - Will this grow volume? Is the hospital full of the right patients?
- Access to capital – What truly is the financial status of the organization?
 - Metrics of success – days cash on hand, bond ratings, debt/capital ratio...there are many others
 - Operating Margin
 - Capital expenditures
 - Collectively these tell a financial story – you do not need to know them, but you should have a sense of how things are going financially?
 - If you are asking for \$10M and the hospital is losing \$50M, likely a tough ask...

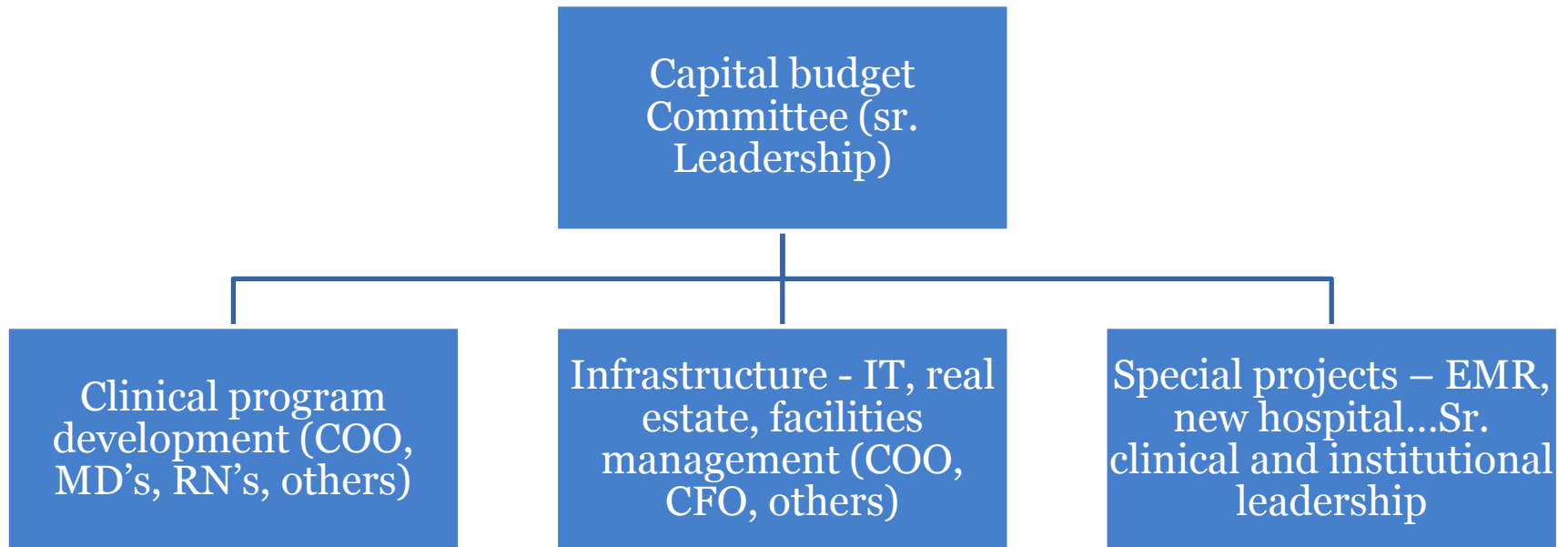
The numbers

- We know most initiatives lose money, but some have to make money.
- We look at the portfolio of investments to have an Net Present Value (NPV) ≥ 0 .
- One of the key issues is RISK – who bears it where and when in the length of the initiative.
 - So outline where, when the risks occur and who owns them and how you will work to mitigate these and other risks throughout the initiative.

Capital Budget process – Timing matters

- When is the budget cycle? How does it work at your hospital
 - Harder to ask for money if the budget was just approved last month.
- The capital budget process is complicated and time consuming, but relevant...you'll likely need to deal with this.
- Remember others are requesting \$\$\$ - there is competition for money

Capital budget decision making (template)



The requesting individual

- The “subjective” component of decision making
- Is the requester credible?
- Have they done it before and succeeded?
 - The best predictor of the future is the past.
- Is this truly benefiting the organization, or is this just a “pet project” of the individual?

The individual requestor (you)

- You have to be honest with yourself
 - What is your track record?
 - Best to start with small projects, then to bigger ones....graded responsibility, just like residency (your first case is not a transplant!)
 - Be transparent
- Vet your presentation with some colleagues and folks with whom you will be impacting.
 - So if you are proposing expanding your program (code word “turf”) executives will want to understand where all of the constituents are on your proposal.

What are your strengths

- Providers bring a lot to the table:
 - Patients = volume = money
 - Information – your information is much better than the executives
 - Ability to implement – you are the only ones who can implement a clinically based initiative
 - Collectively these actions will help build the hospital's brand.

When you leave the room

- Here are the basic questions we ask:
 - Does this project/initiative make strategic sense?
 - Was the presentation legitimate/credible or BS?
 - Can we actually execute on this initiative?
 - Are you the right person/team to get it done?
 - What are the other initiatives we have that are similar can they be combined?
 - Are the finances as presented reliable/credible?
 - What are the politics of this decision?
 - What happens if we say No or Yes – both answers have implications

Summary

- Be prepared
- Be forthright
- Be persistent
- Write it down and plan on following through

QI Projects

Covenant HealthCare
Sujal Patel, Deb Falkenberg



MTQIP Hospital Specific Indicator: ED-ICU LOS



The Problem

- ▶ We identified that our ED-ICU LOS was higher than expected
- ▶ We reviewed our 2009-2011 data to identify the baseline
- ▶ We set our goal to decrease it by 30 minutes

Intervention (s)

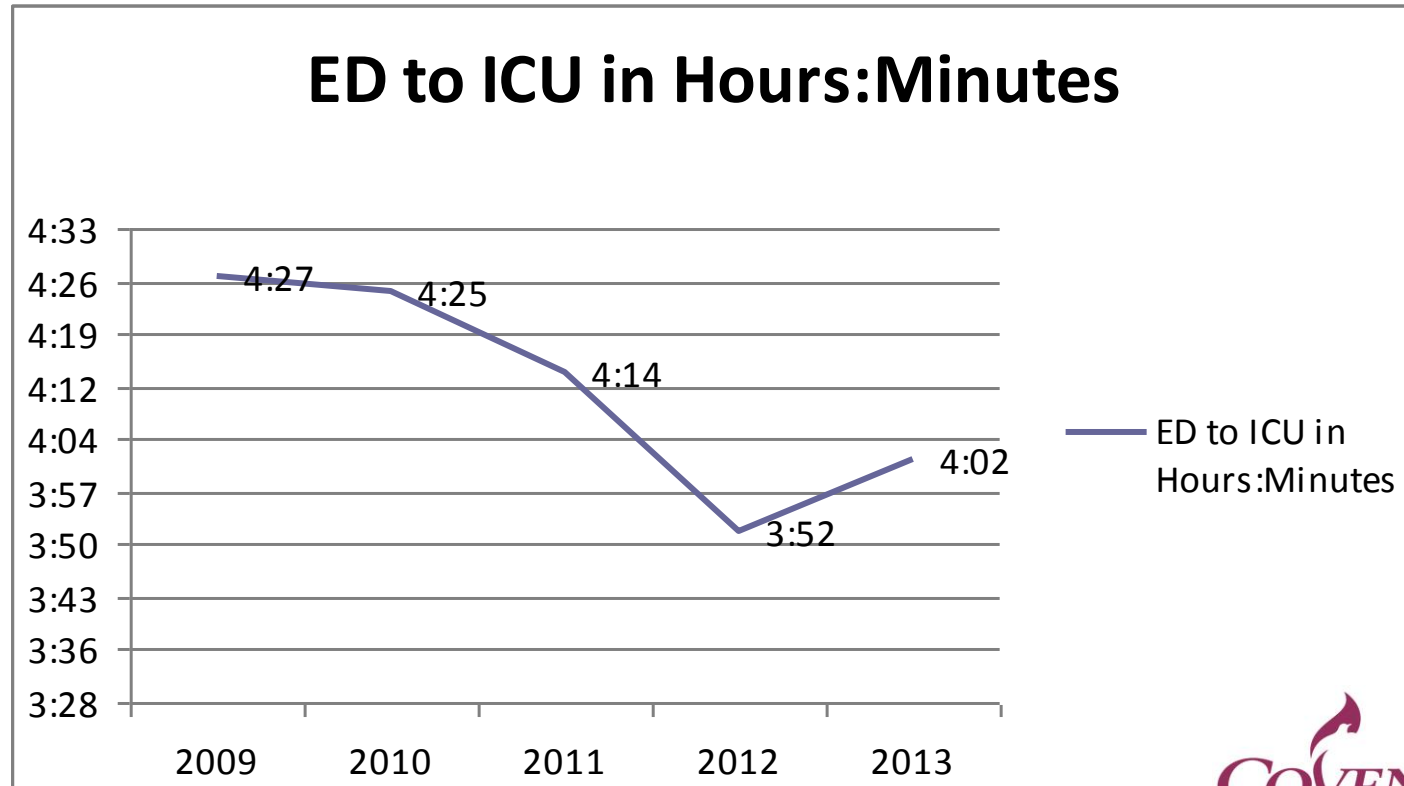
- ▶ Added to monthly Trauma Scorecard

Quality & Service Pillar	Goal	13-Jul	13-Aug	13-Sep	13-Oct	13-Nov	13-Dec
ED-ICU LOS (goal decrease by 15min)	3.95	3.44	3.37	4.08	3.87	4.73	4.04

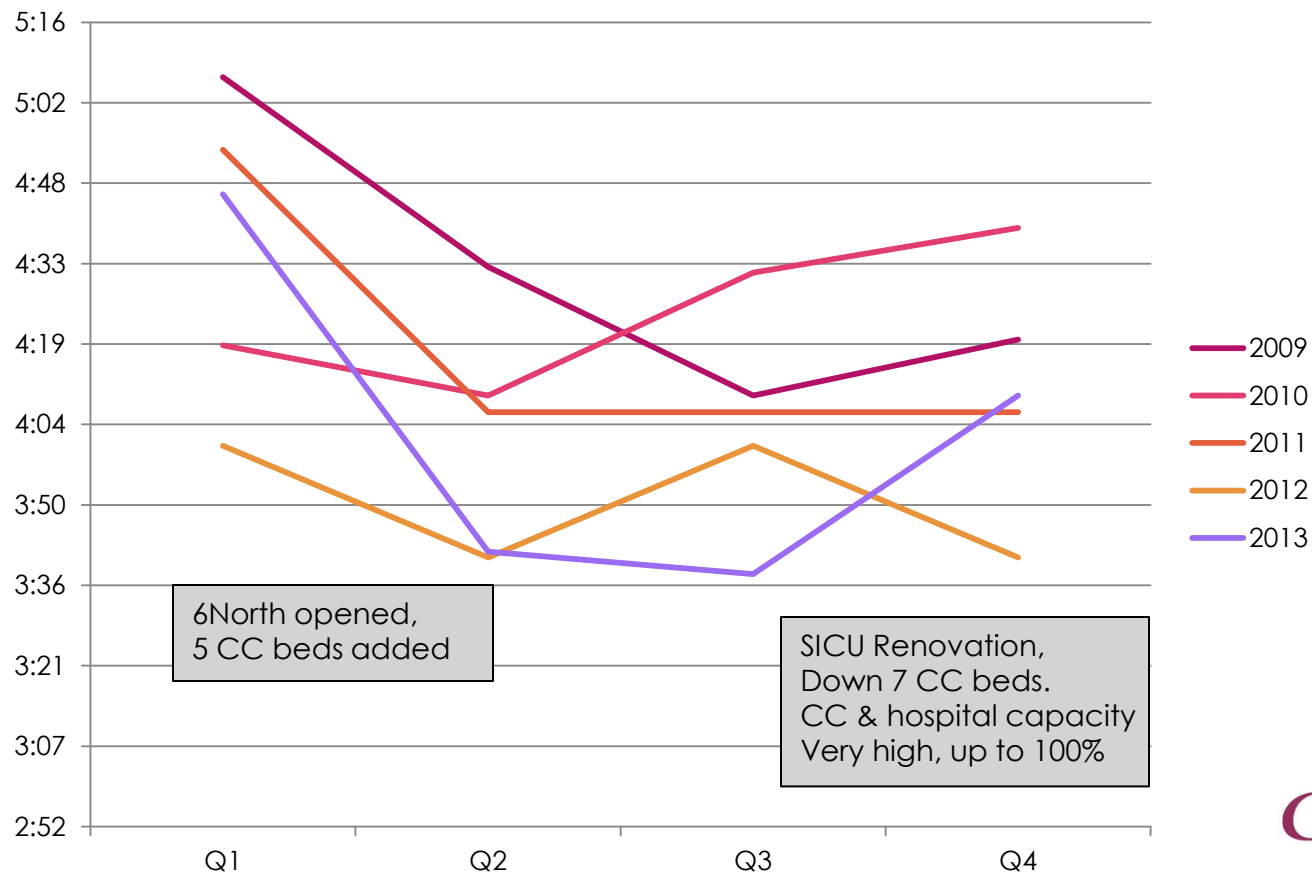
- ▶ Keystone ICU Meetings
- ▶ Critical Care Director
- ▶ NTICU Manager
- ▶ ED Managers
- ▶ ED/Trauma Director
- ▶ CNO
- ▶ TPOPP

Outcome (Results)

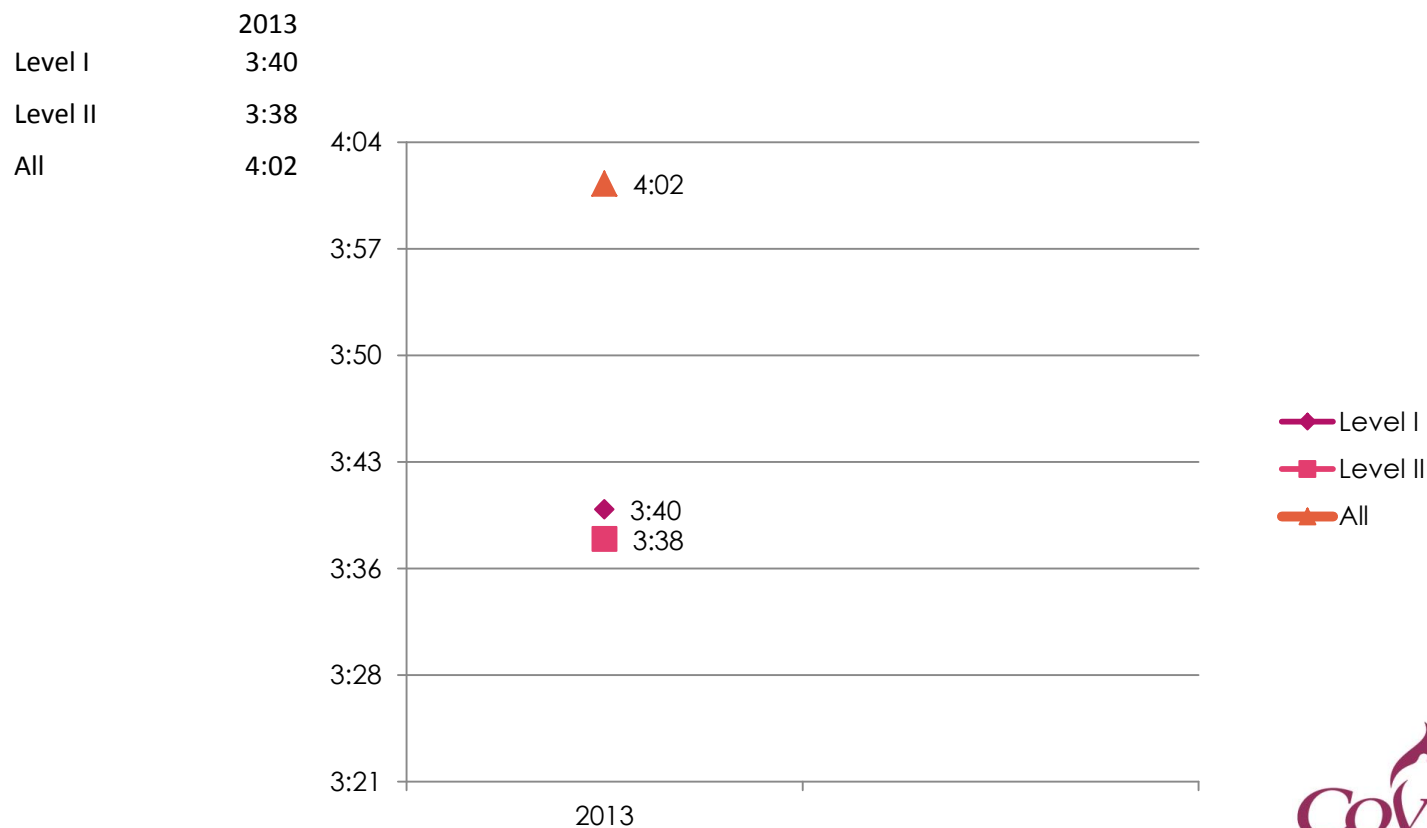
ED-ICU by Year



Outcome (Results) ED-ICU by Quarter

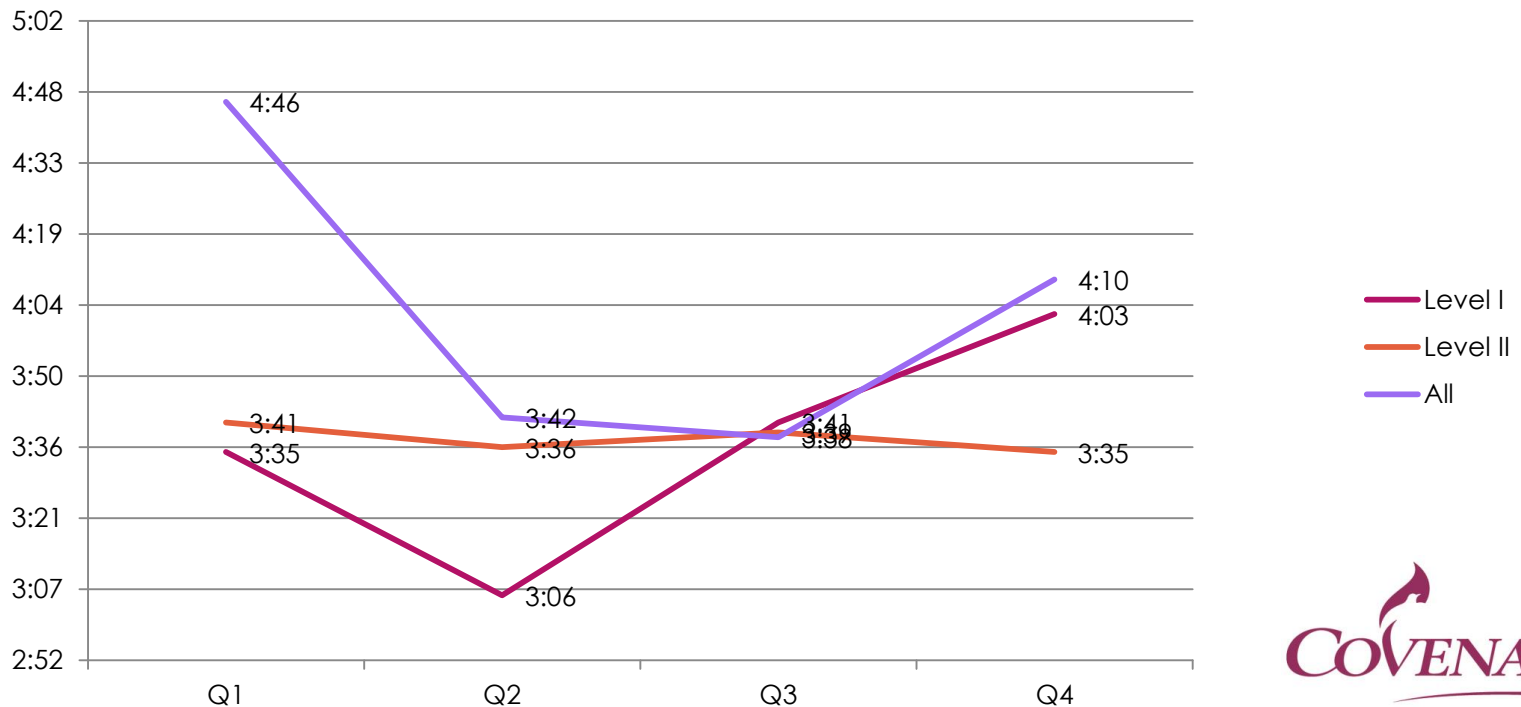


ED-ICU LOS by Activation Level: 2013



ED-ICU LOS: Activation Level by Quarter

	Q1	Q2	Q3	Q4
Level I	3:35	3:06	3:41	4:03
Level II	3:41	3:36	3:39	3:35
All	4:46	3:42	3:38	4:10



Sustaining The Change

▶ What Worked

- ▶ Adding to Scorecard
- ▶ Reporting out at TPOPP
- ▶ Distributing to CC Director/
NTICU Manager
- ▶ Distributing to ECC Manager
- ▶ Adding CC Surge Beds for
throughput

▶ What Didn't

- ▶ High CC/Hospital Census
- ▶ Renovating SICU, eliminating
surge capacity for CC
- ▶ Holding transfer for testing
- ▶ Holding transfer for orders
- ▶ Holding transfer for transport
(bed not ready)

Future Directions

- ▶ Break data into smaller elements
 - ▶ ED-ICU LOS for Level I Activations
 - ▶ ED-ICU LOS for Level II Activations
 - ▶ As well as overall ED-ICU LOS
- ▶ Break data into smaller elements and analyze
 - ▶ Look for opportunities in ED throughput
 - ▶ Look for opportunities in CC throughput
 - ▶ Time of DC out of ICU to TTA in stepdown
 - ▶ Evaluate need for NT progressive unit

QI Projects

Detroit Receiving Hospital

Anna Ledgerwood, Markyta Armstrong-Goldman



Emergency Department LOS for Trauma ICU throughput

Dr. A. Ledgerwood, M.D., TPM &
M. Armstrong-Goldman, RN, TPC
Detroit Receiving Hospital

The Problem

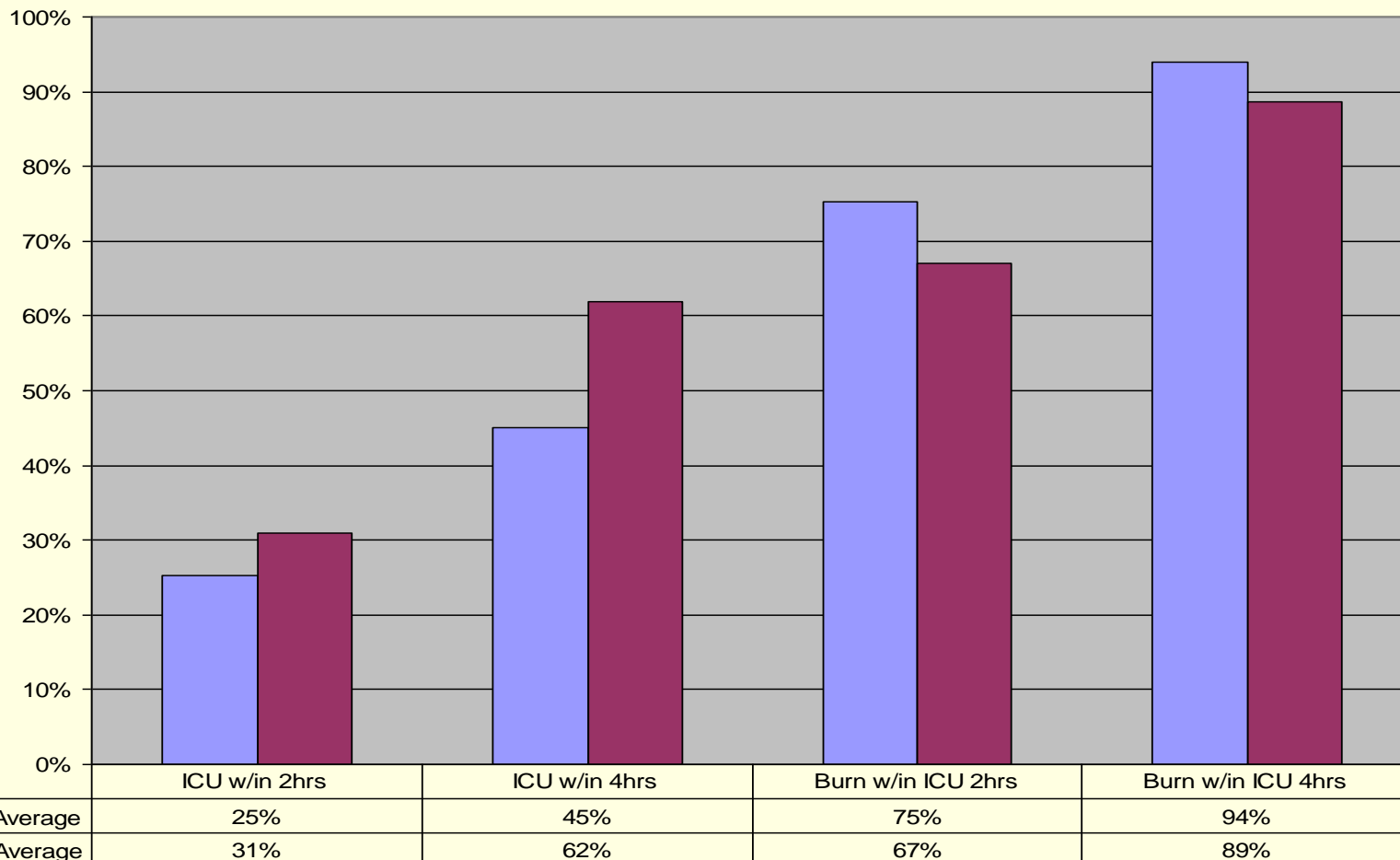
- Trending of prolonged ED LOS – over 6hrs to 12 hrs - noticed in the weekly PIPS Trauma Rounds meeting while reviewing all the trauma cases in 2012.
- Issue became a standing topic for monitoring and reporting in the monthly PIPS Trauma Systems Meetings in 2012.
- 2013 - ED LOS was discussed in weekly trauma rounds, with a focus on ICU cases with ED LOS times greater than 4hrs - time of arrival to time of departure from ED.

Intervention (s)

- ED LOS discussed in detail at weekly trauma rounds to identify issues/barriers for resolution/loop closure.
- Issues with prolonged ED or hospital LOS with trauma cases are reported to the attending physician on record and/or department head, and VPMA by the Trauma Program Medical Director.
- Trauma Program Coordinator was added to daily am “huddle meetings” and bi-monthly hospital administration Patient Throughput meetings to report issues discussed in trauma rounds regarding ED LOS of ICU trauma cases.

Outcome (Results)

2012 & 2013 Year-End-Average



Sustaining The Change

Changes

- Increases awareness of the issue and it's impact on care and bed availability throughout the hospital
- Quicker movement to move patients from ICU to acute care or discharge
- Streamlining processes to improve efficiency and communication

Barriers/Challenges

- Construction renovations that decreased the number of physical beds available
- Physician Decision making and changing of decisions.
- Institution of new processes and limited resources – changes and staffing cuts

Future Directions

- Multiple variables and barriers/challenges exist that must be addressed on a global issue within the hospital system
- Most of these global variances have been determined to be outside the scope and authority of the trauma program
- The Trauma Program Coordinator and Trauma Program Medical Director will continue current efforts to assist hospital administration in improving patient throughput of the trauma and surgical patients

QI Projects

Henry Ford Hospital

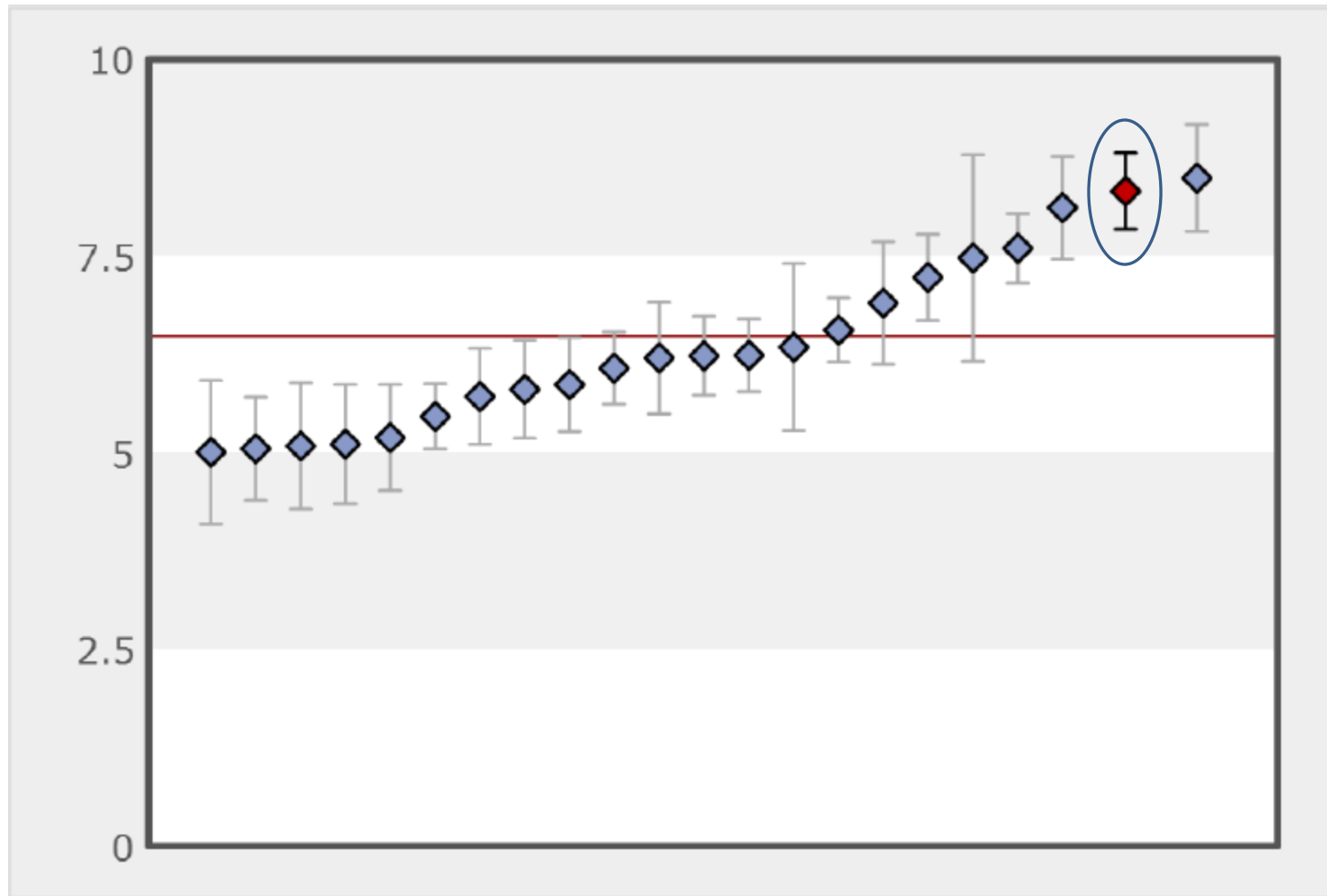
Jerry Stassinopoulos, Beth Fasbinder



MTQIP LOS QI Project

Henry Ford Hospital

MTQIP LOS Data 2010



Discharge Rounds

- Daily on general practice unit
- Multidisciplinary
 - Nursing
 - Acute Care Surgeon
 - Trauma Services
 - PT/OT
 - Case Management

Data Collection Tool

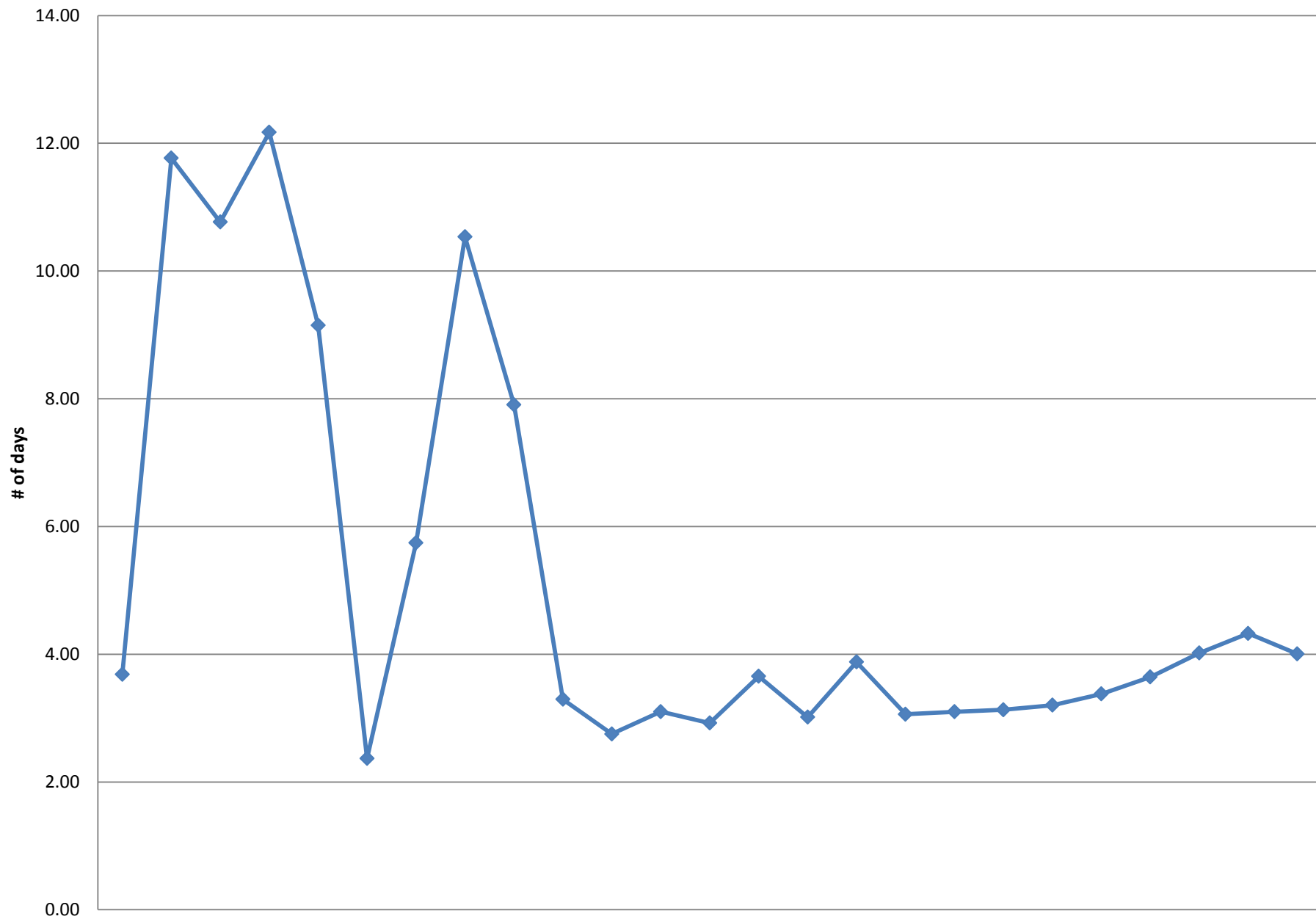
MRN:	INSURED: Y / N	DATE READY FOR DISCHARGE:	
INITIALS:	ROOM#	ADMIT DATE:	DISCHARGE DATE :

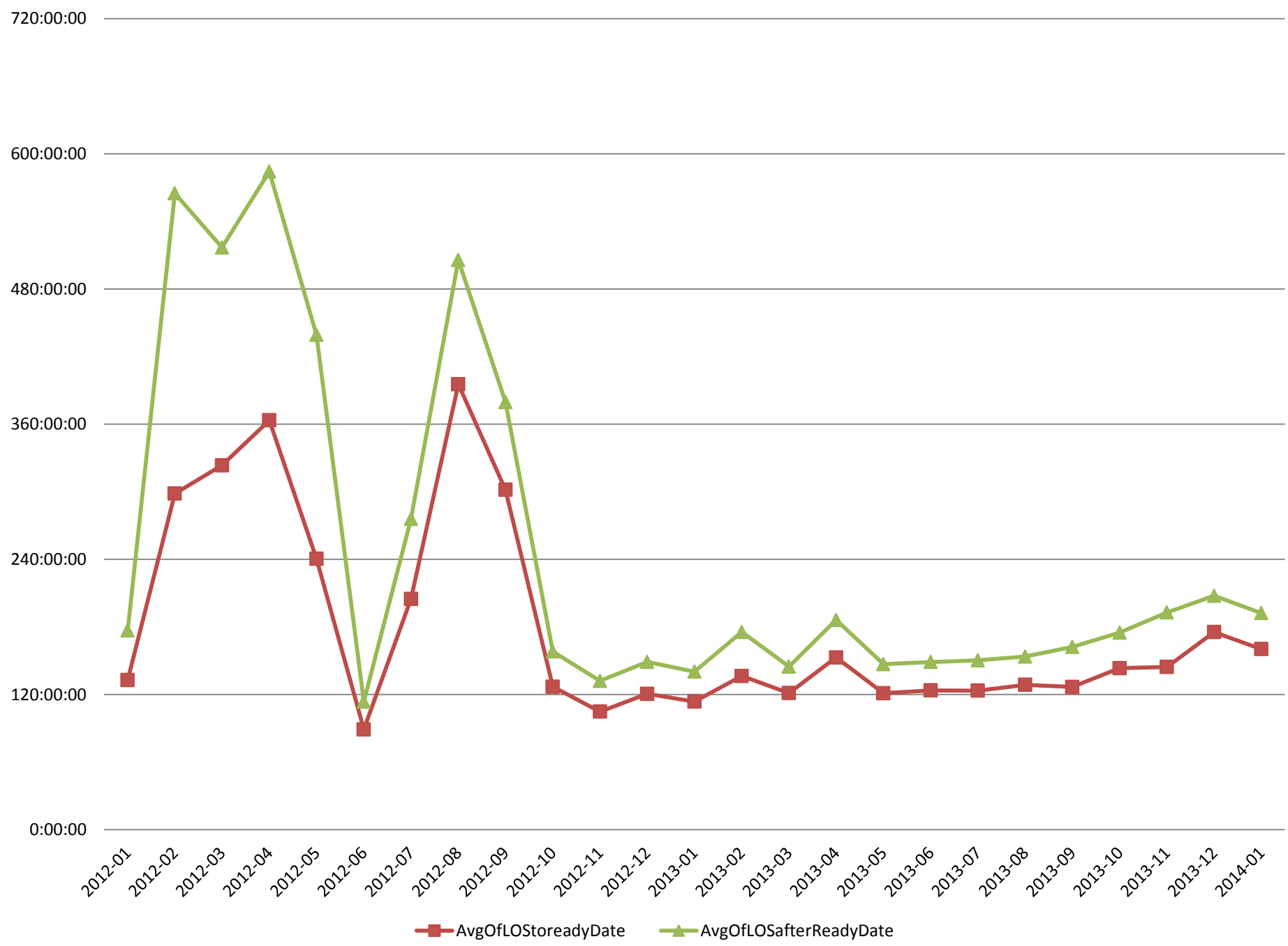
MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY	
PT/OT RECs:		PT/OT RECs:		PT/OT RECs:		PT/OT RECs:		PT/OT RECs:	
DELAY		DELAY		DELAY		DELAY		DELAY	
Family		Family		Family		Family		Family	
PT/OT		PT/OT		PT/OT		PT/OT		PT/OT	
Case Mgmt		Case Mgmt		Case Mgmt		Case Mgmt		Case Mgmt	
Bed Placement		Bed Placement		Bed Placement		Bed Placement		Bed Placement	
Insurance		Insurance		Insurance		Insurance		Insurance	
Misc.		Misc.		Misc.		Misc.		Misc.	
NOTES		NOTES		NOTES		NOTES		NOTES	

Reasons for Delay

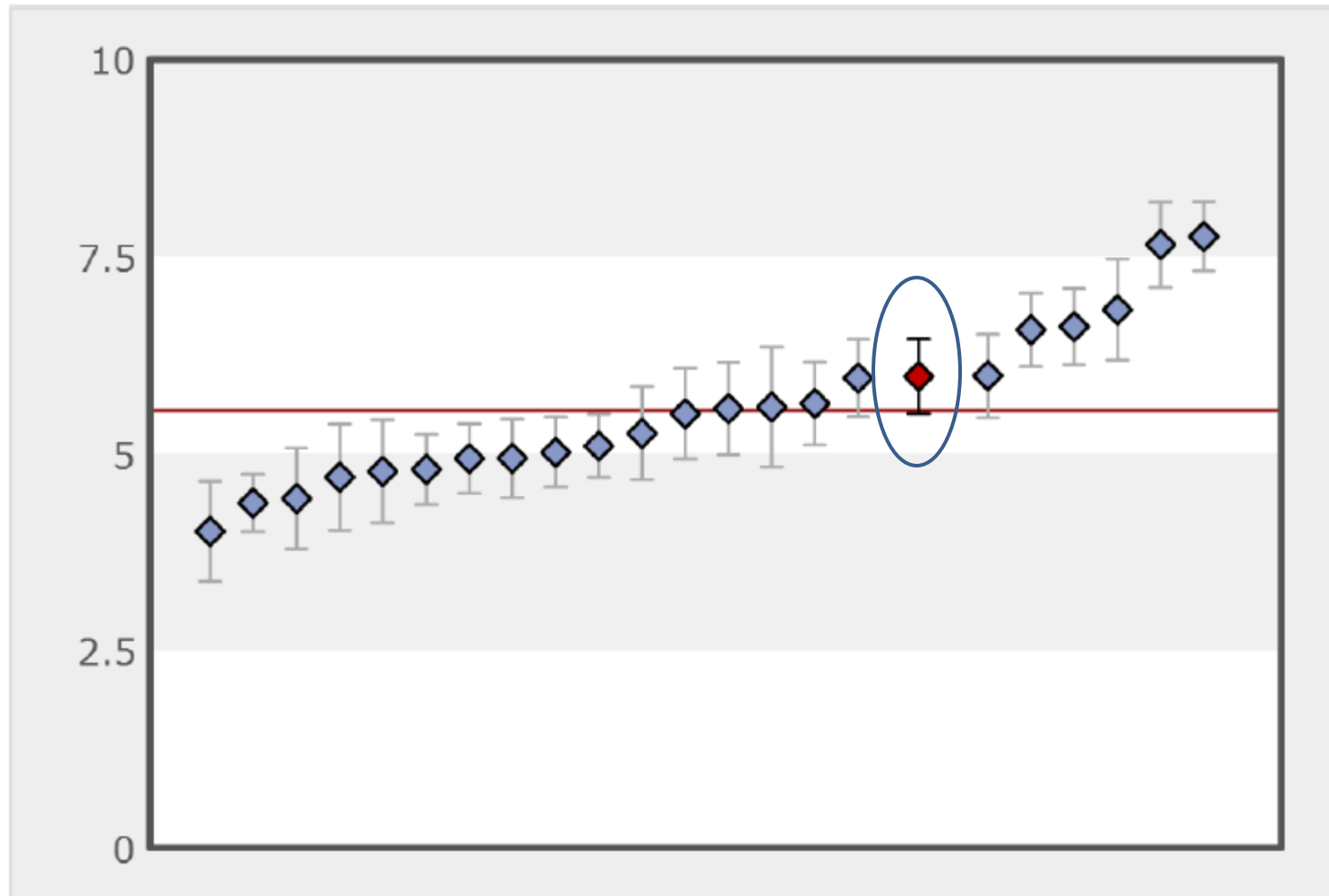
- Case Mgmt
- PT/OT
- Placement
- Insurance
- Family
- Patient
- Failure
 - Team
 - Process
 - Other
 - Ambulance
 - Consult
- Rehab Coordinator

Average LOS, Jan 12-Jan14





MTQIP LOS Data 2012



QI Projects

McLaren Macomb Hospital
Douglas Paulk, Sue Schafer



ED to ICU LOS

PI Initiative MTQIP

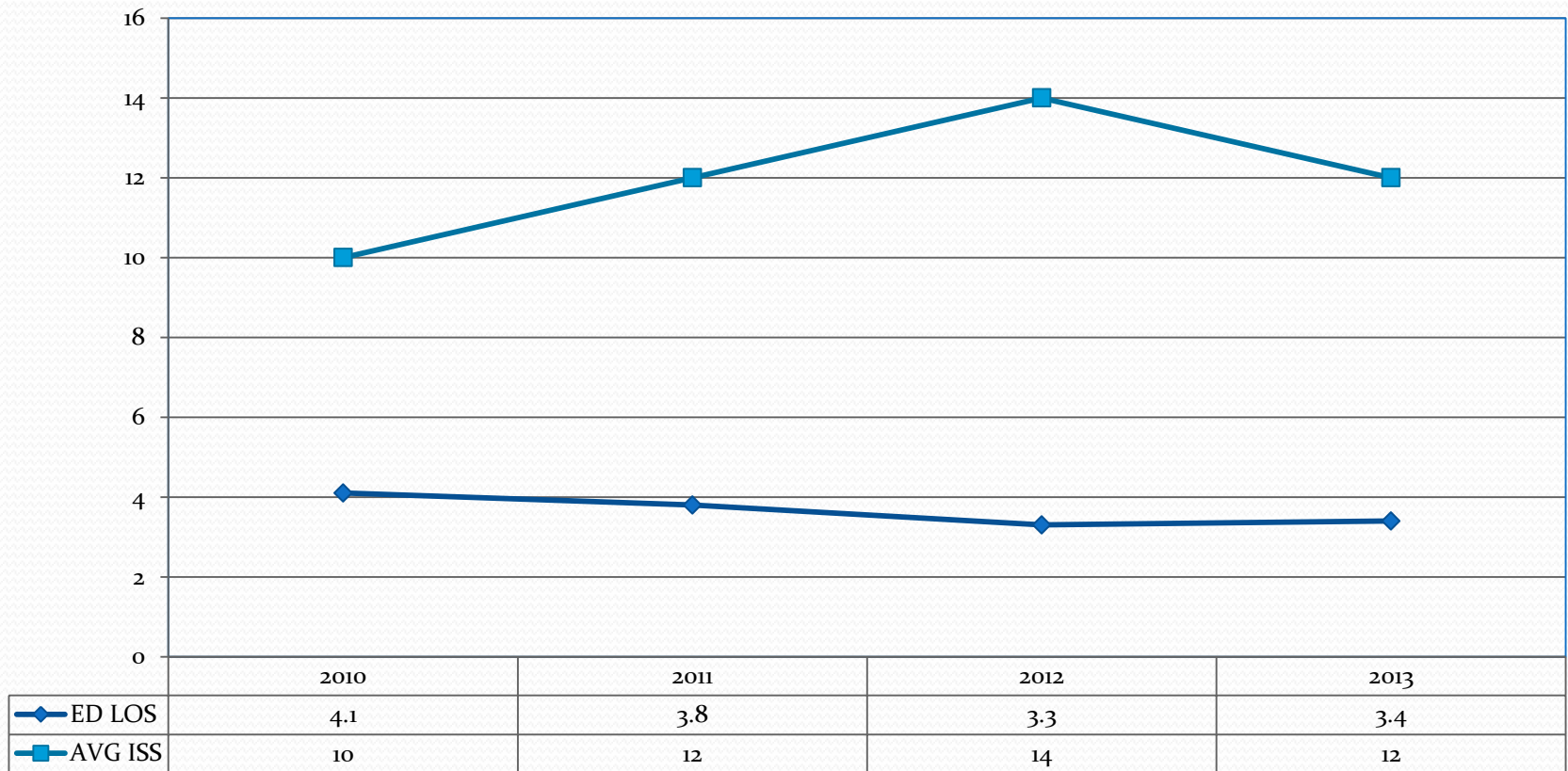
McLaren Macomb

Douglas Paulk, DO, TMD

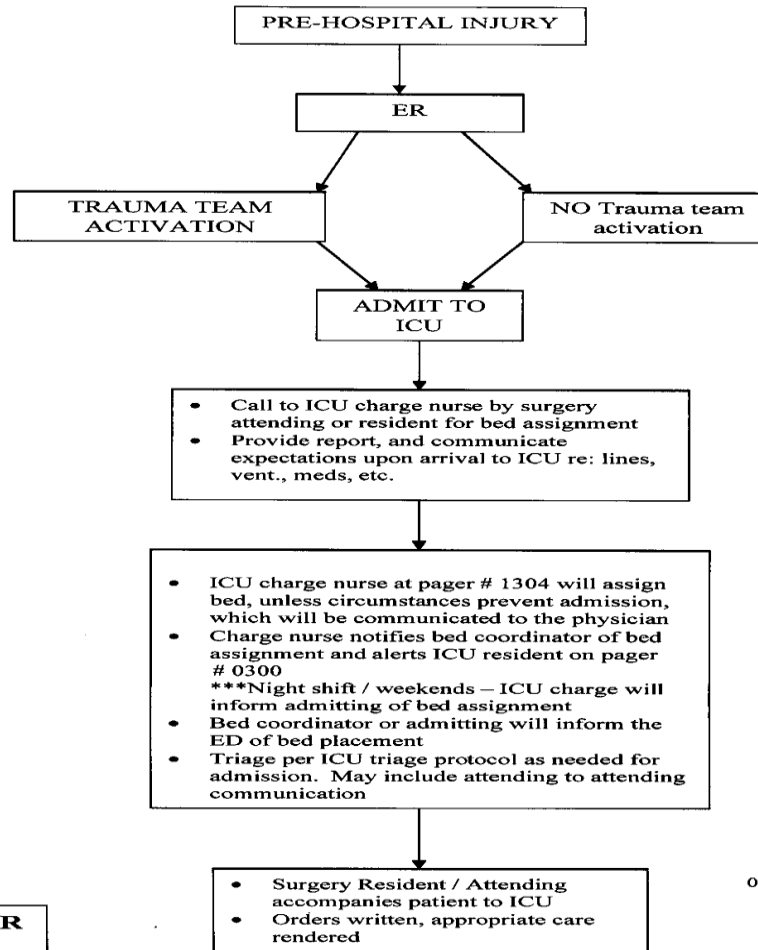
Susan Schafer, RN, MSN, TPM

The Problem

ED to ICU / Year



Process Change



**ALGORITHM FOR
TRAUMA
PATIENTS
Admitted to ICU**

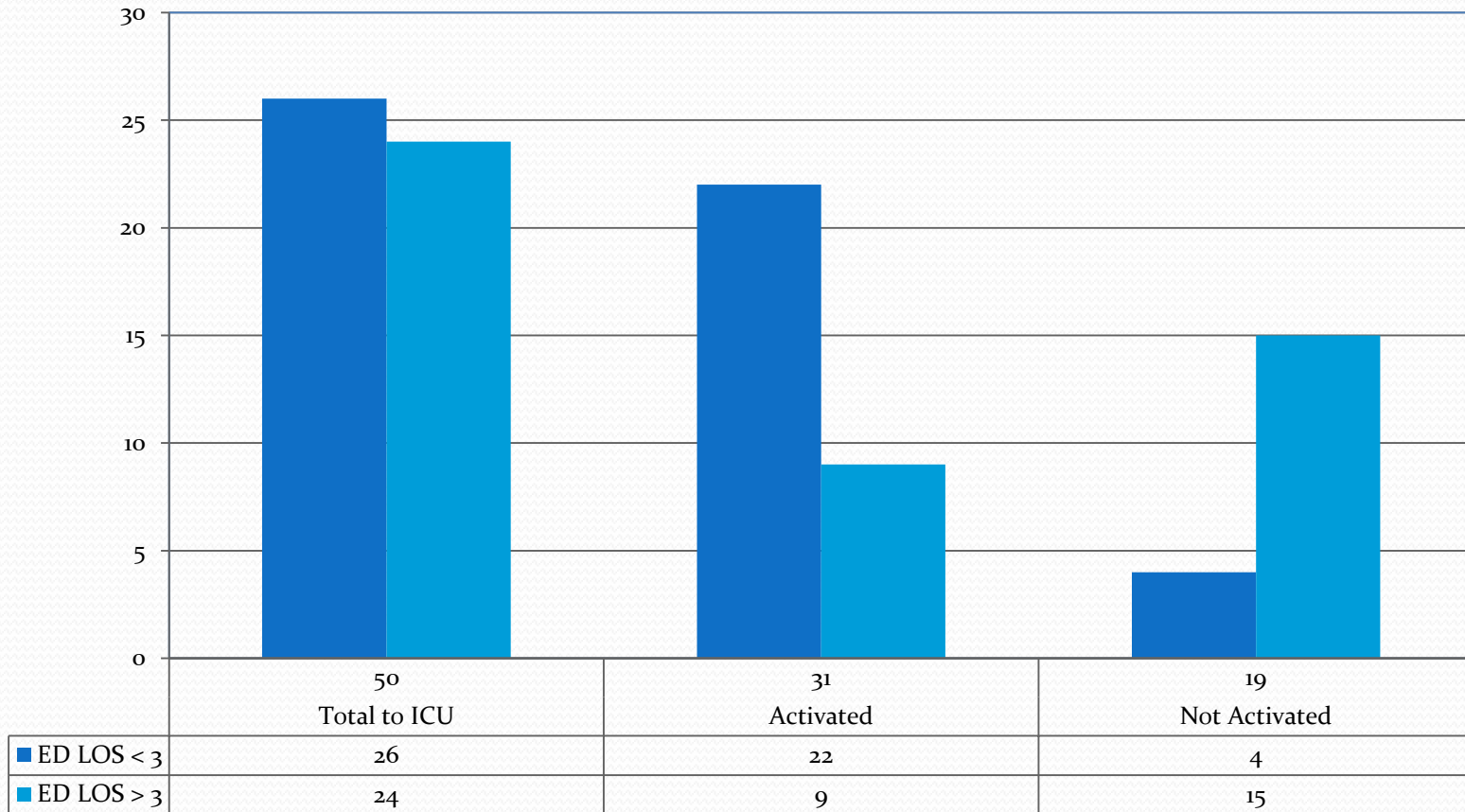
03/18/2011

Interventions

- Education RE: TTA criteria
- “WHY” critical patients to ICU quickly:
 - Better for patient care
 - Off load the ED staff
 - Maintain “ready” perception in ED for EMS
- Future - Review Trauma Activation Criteria
 - Include geriatric population
 - Fall From Standing
 - Age > 65
 - Anticoagulation therapy

Outcome (Results)

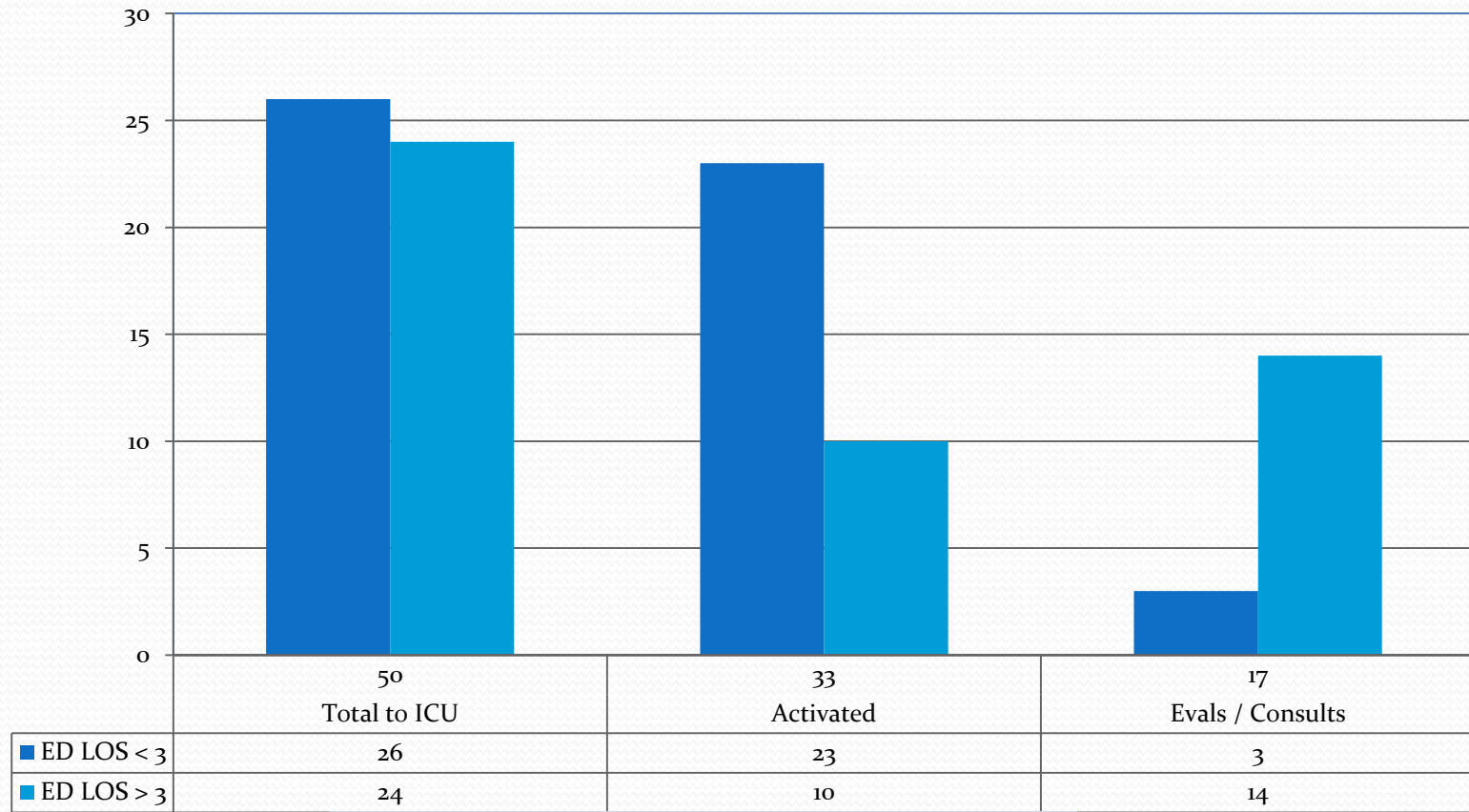
MTQIP ED to ICU Time Oct / Jan 2013



		ED LOS < 3hrs	ED LOS > 3 hrs
Total to ICU	50	52%	48%
Activated	31	71%	29%
Not Act.	19	21%	79%

Outcome (Results)

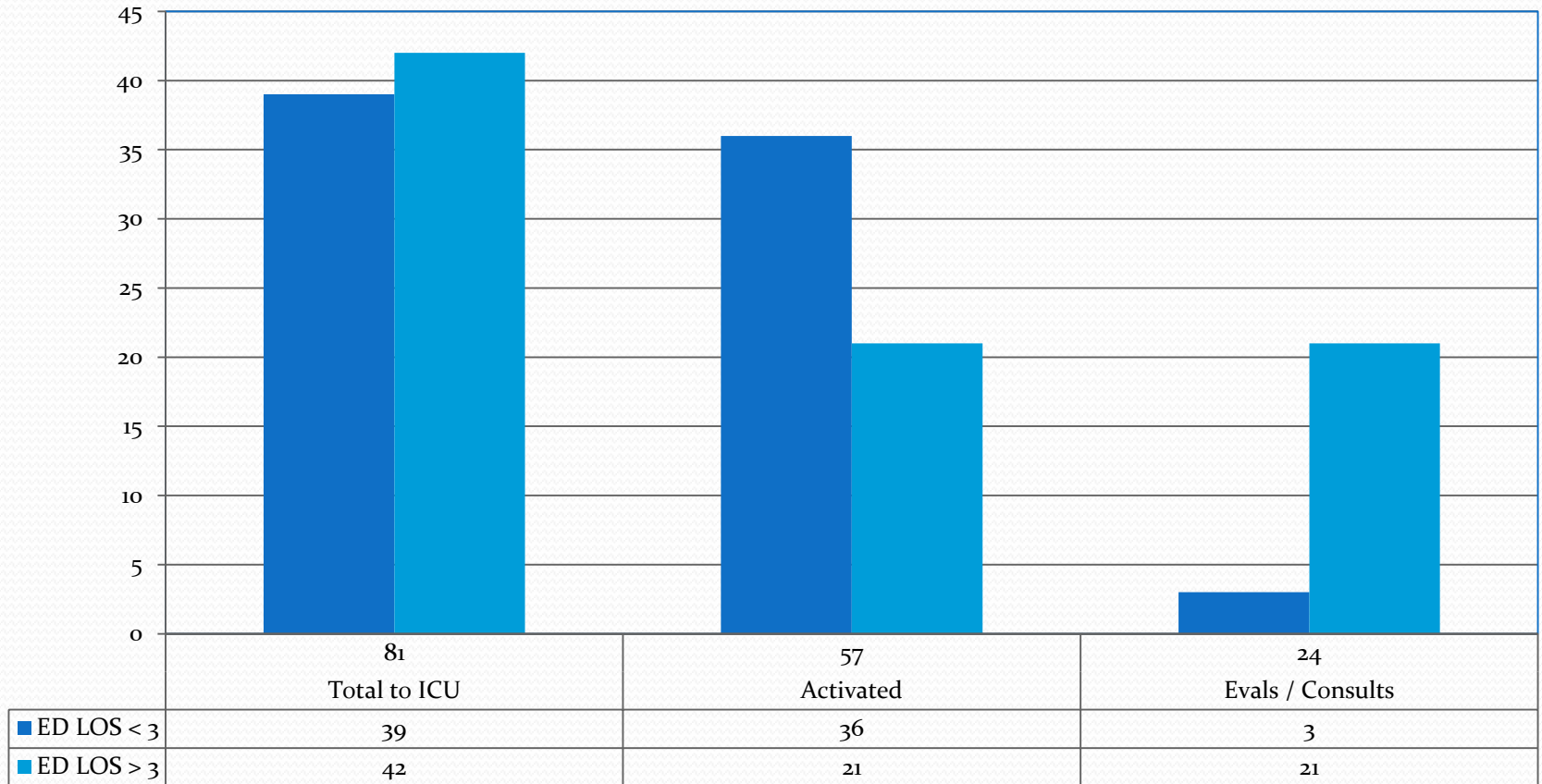
MTQIP ED to ICU Time Feb / May 2013



		ED LOS < 3	ED LOS > 3
Total to ICU	50	52%	48%
Activated	33	70%	30%
Evals / Consult	17	18%	82%

Outcome (Results)

MTQIP ED to ICU Time June / Sept 2013



		ED LOS < 3	ED LOS > 3
Total to ICU	81	48%	52%
Activated	57	63%	37%
Evals / Consults	24	12%	88%

Sustaining The Change

What Worked:

- ED to ICU algorithm
- Education:
 - Attendings
 - Residents
 - Nursing

Obstacles:

- CPOE – June '13
- June / July – new residents
- ICU nurses:
 - New ICU manager
 - Need to educate
- Better documentation for evals / consults

Future Directions

- Measure Trauma Activations ED – ICU
- Revise H & P:
 - Include time of notification when consulted
 - Include time of arrival when consulted
- Review Trauma Activation Criteria
 - Include geriatric population
 - Fall From Standing
 - Age > 65
 - Anticoagulation therapy

Questions??

QI Projects

**Oakwood Dearborn Hospital
James Wagner, Barb Ferrari**



ED to ICU Placement

James Wagner, MD

Barb Ferrari, RN, MBA

Oakwood Dearborn

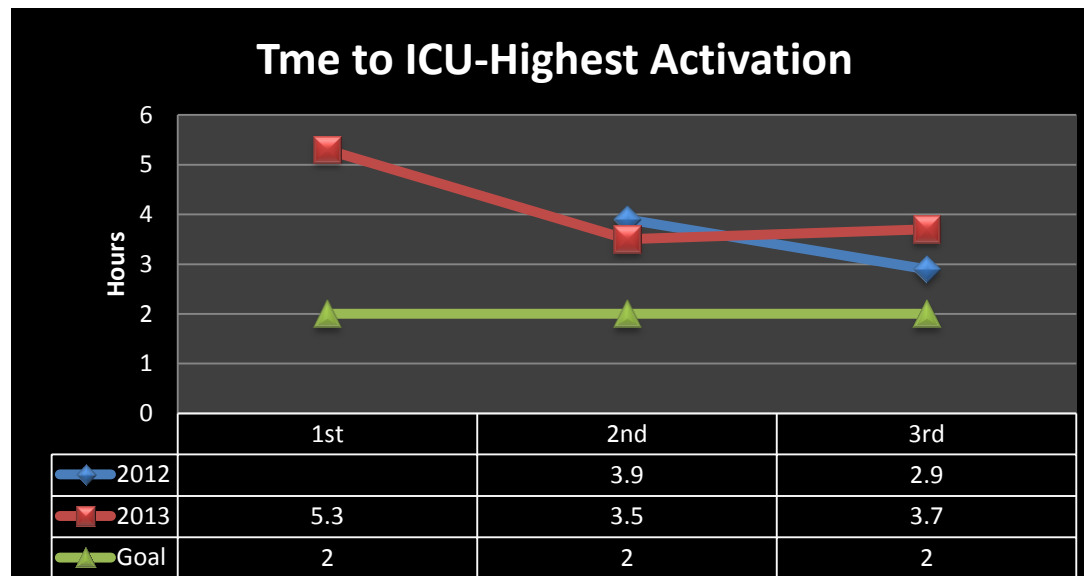
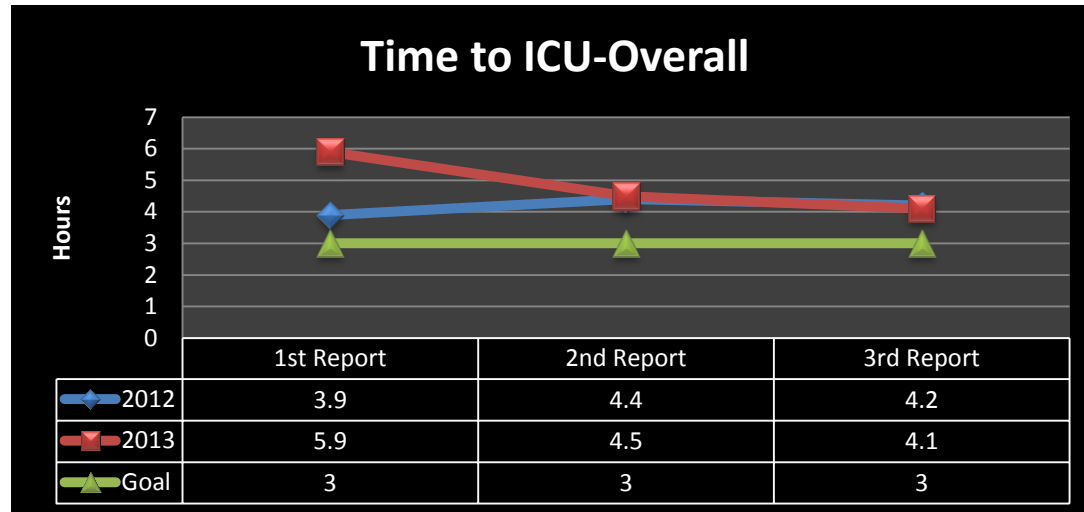
The Problem

- ED boarding is associated with higher mortality and hospital length of stay
- On-going resuscitation is more appropriate in the ICU setting
- Our goal is to have the highest level activations placed within 2 hours of arrival

Intervention (s)

- Collaborated with ICU to develop a process for rapid placement of trauma patients
- ICU on the activation pager
- Review of all cases going to the ICU for delays
- ICU comes to ED to coordinate care/communication on highest level activations
- Placement dependent on bed availability:
 - Open Bed-Priority to trauma patient
 - ICU Full- Every 12hrs potential transfers out are identified.

Outcome (Results)



Sustaining The Change

- Having an empty bed available allowed placement quickly.
- We were able to get the patient from CT to the bed with no delays.
- Not having a bed available created delays.
- Open unit design fragments the ability to move pts. out quickly.

Future Directions

- Currently doing an analysis regarding high level activation timing. Possibly “holding” a bed during peak need.
- Moving towards a closed ICU
- Suggestions?

Break



Diving Into MTQIP Data

Mercy Health Saint Mary's – Grand Rapids
Wayne Vander Kolk, MD



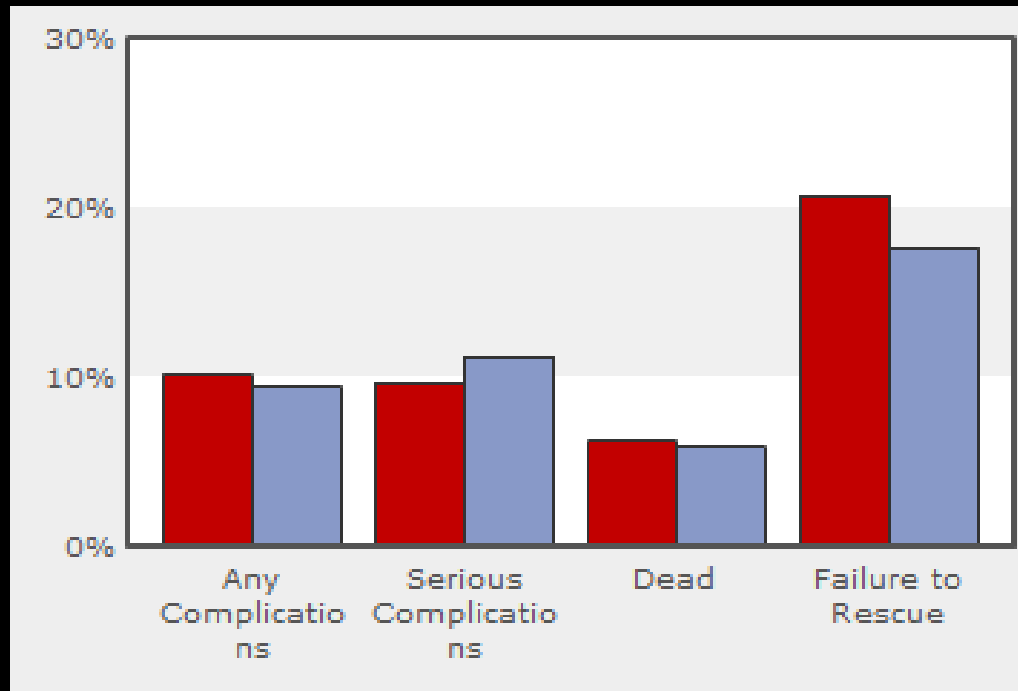
Failure to Rescue

- Do WE really suck?
- Do the statistics suck?

Wayne Vander Kolk MD FACS

St Mary's Medical Center

Grand Rapids



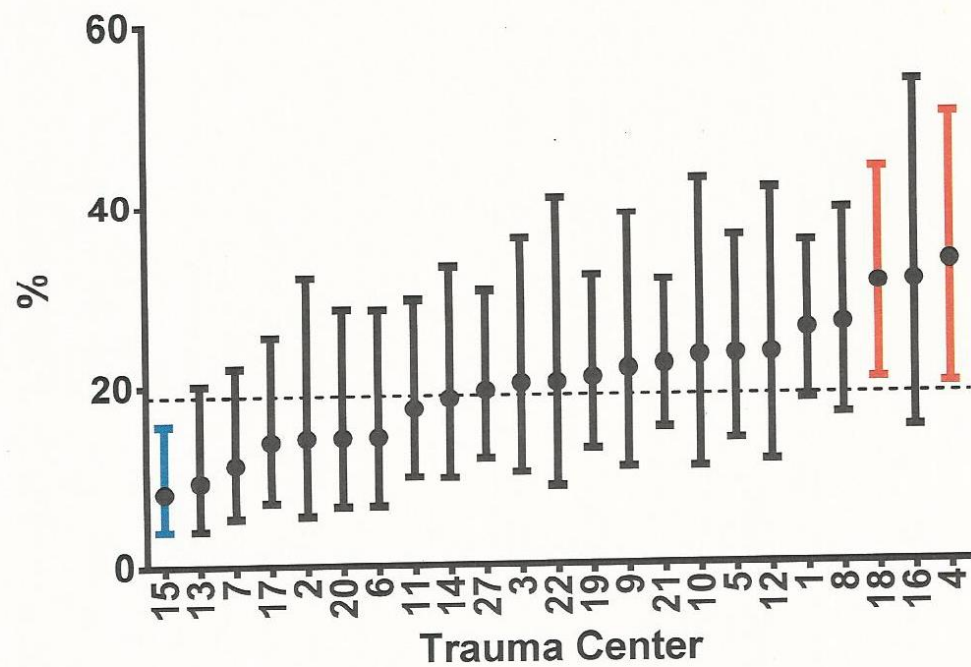
November 1, 2011 – October 31, 2012

■ Mercy Health Saint Mary's

■ All MTQIP

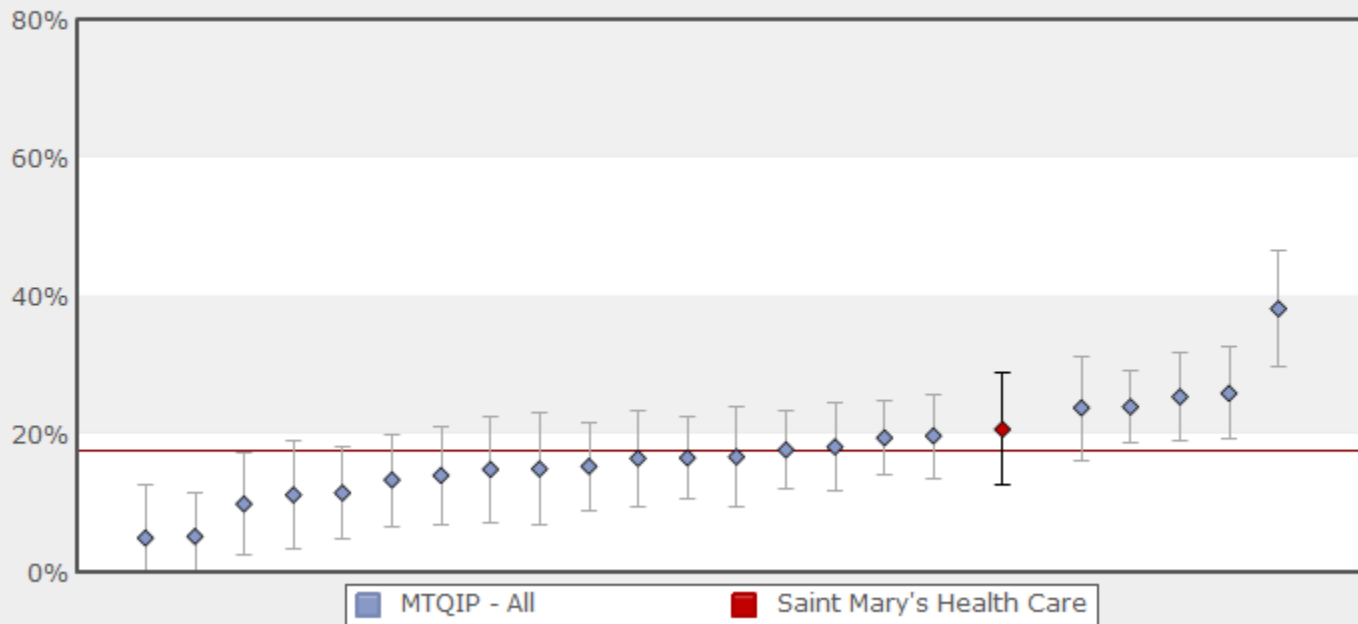
Time Period: 11/1/2011 to 10/31/2012

Failure to Rescue



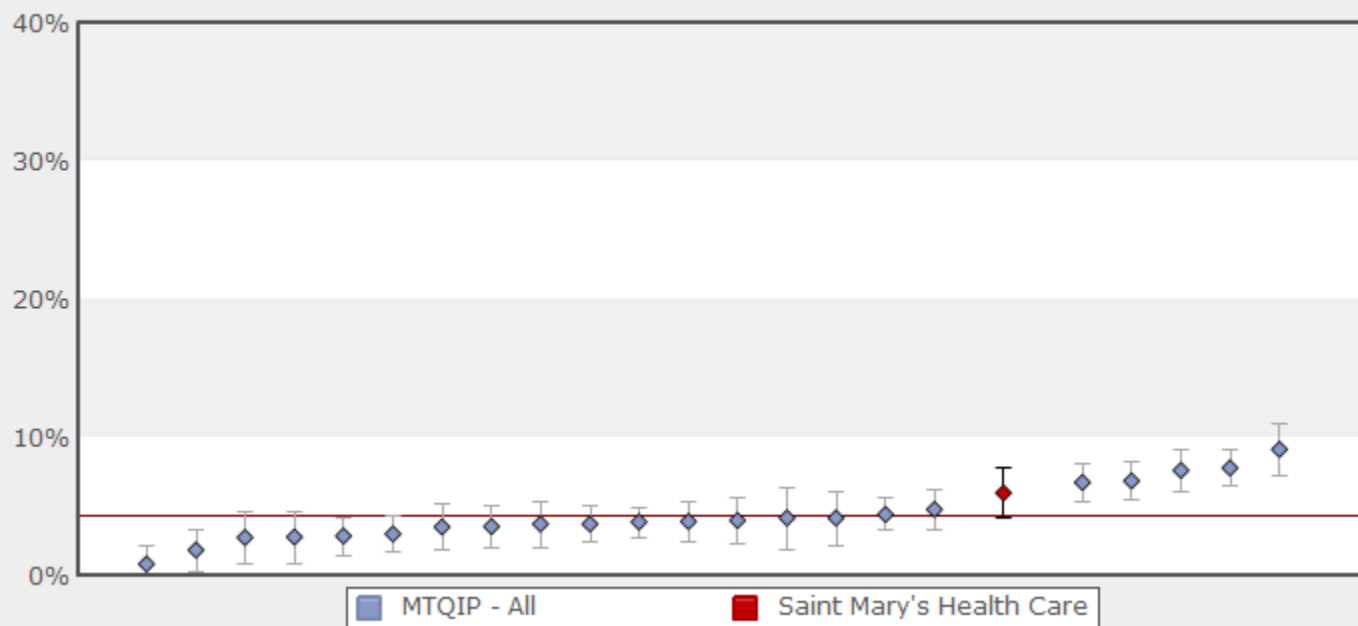
Outcomes Overview - Failure to Rescue

Provider: Saint Mary's Health Care, Period: 11/01/2011 - 10/31/2012, Peer Group: MTQIP - All,
Report Date: 12/20/2013



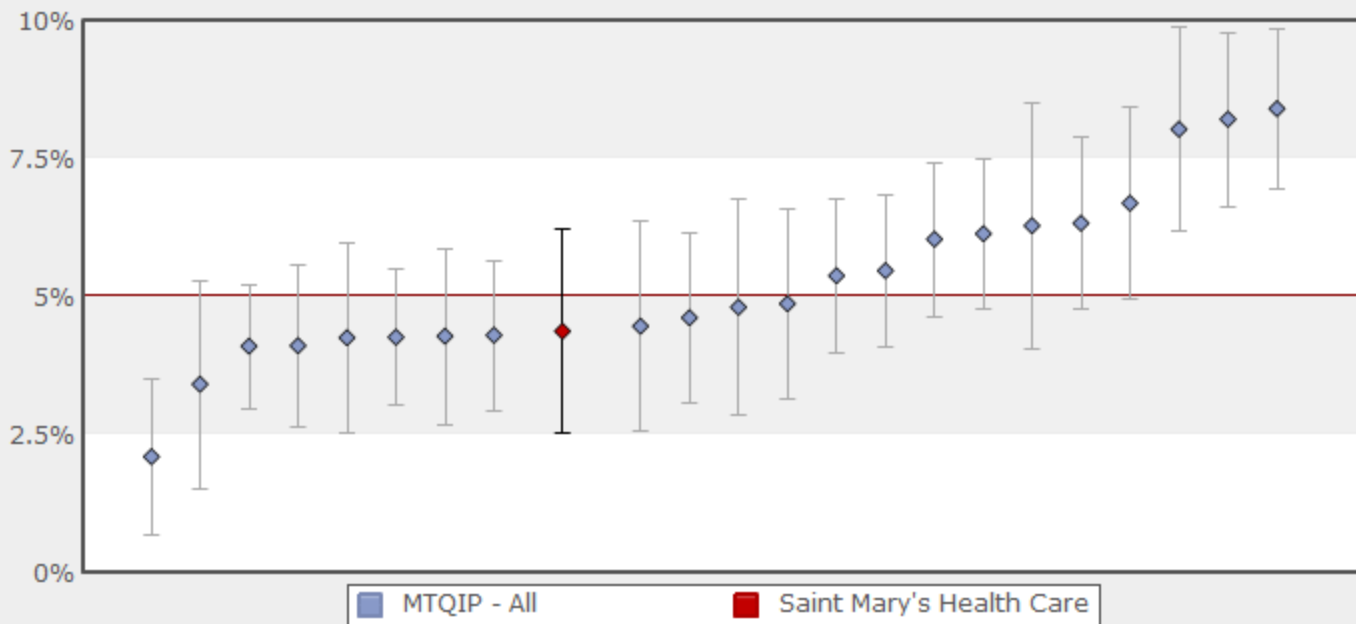
Complications by Severity - Grade I

Provider: Saint Mary's Health Care, Period: 11/01/2011 - 10/31/2012, Peer Group: MTQIP - All,
Report Date: 12/20/2013



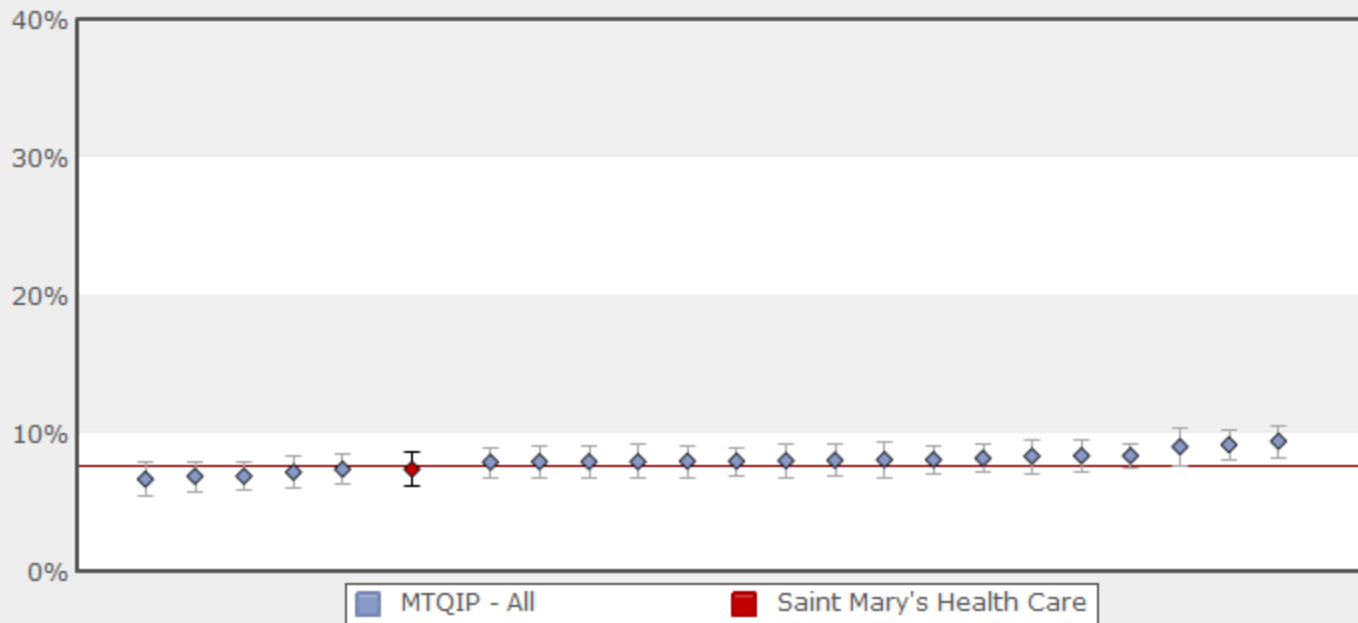
Complications by Severity - Grade II

Provider: Saint Mary's Health Care, Period: 11/01/2011 - 10/31/2012, Peer Group: MTQIP - All,
Report Date: 12/20/2013



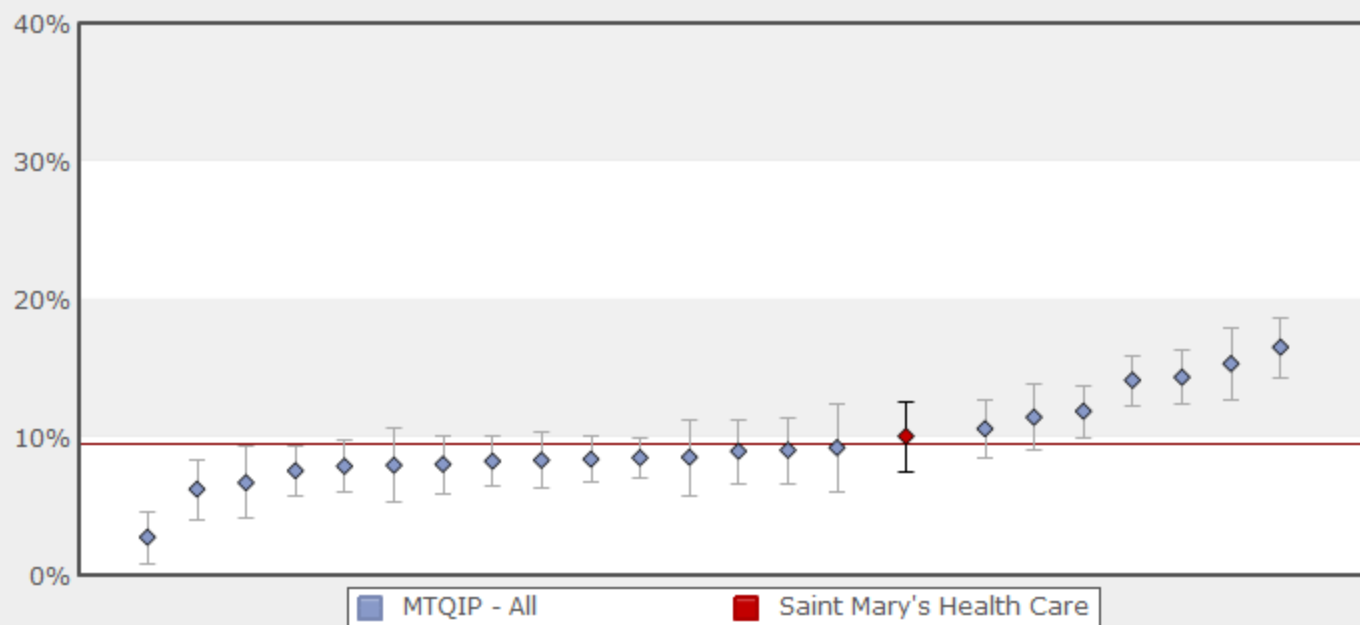
Complications by Severity - Grade III

Provider: Saint Mary's Health Care, Period: 11/01/2011 - 10/31/2012, Peer Group: MTQIP - All,
Report Date: 12/20/2013



Complications by Severity - Any Complications

Provider: Saint Mary's Health Care, Period: 11/01/2011 - 10/31/2012, Peer Group: MTQIP - All,
Report Date: 12/20/2013



Failure to Rescue

- Definitions:
 - FTR In the setting of Grade II or III complication the patient expires
 - Failure The lack of success or the omission of an expected or required action
 - Rescue the act of saving from distress

The statistics

- St Mary's
 - Off the caterpillar graph
 - We were the one on the bad side

Initial Reaction

- Unbelief
- Hemmila screwed up the math
- We need a new registrar
- Must be the program managers fault
- Is it the trauma directors patients?
 - Probably my partners!
 - Probably my partners covering my patients!

Patient One

- 19 y.o male involved in mvc
- Arrival GCS of 3
- Some free fluid seen on the initial CT scan
- Expected mortality of .52
- Probability of survival 22%

Patient One

- Taken for emergent craniotomy
- Later in the morning within the first 8 hours not improving acidosis
- Repeat CT shows more fluid abdomen and tiny amount of free air
- Emergent laparotomy shows jejunal injury

Patient One

- Spent 15 days in hospital without significant neurological improvement and family withdrew support
- MTQIP Complications
 - Unplanned return to OR
 - UTI
 - No evidence of UTI
 - an intern's note bringing up the possibility

Patient Two

- 24 y.o female hit by car
- Arrival GCS of 3
- Taken to operating room for emergent craniotomy
- Initiation of massive transfusion during surgery

Patient Two

- During craniotomy
 - She had basically divided her brain in two hemispheres traumatically with a corresponding injury to central sinus
 - Massive blood loss during surgery
 - Initiation of massive transfusion
 - Period of asystole responded to brief period of CPR

Patient Two

- Expected mortality of 0.11
- Probability of survival 48%
- Patient with massive brain swelling and family withdrew support less than 24 hours later
- MTQIP complication
 - CPR

Patient 3

- 30 year old pedestrian struck by car
- ISS of 33
- Severe closed head injury
- Placement of ICP monitor

Patient 3

- Patient had aggressive support.
- Patient failed to progress and with the assistance of palliative care family withdrew support
- Expected mortality of 15%
- Expected survival of 96%

Patient 4

- Patient a pedestrian hit by car
- Patient sustained a tib/fib fracture.
- Patient had repair of fracture and POD #1 on trip to bathroom had a fatal PE and died
- Patient on anticoagulation from arrival

Patient 4

- Expected mortality of 0%
- Expected survival of 100%

What did I learn?

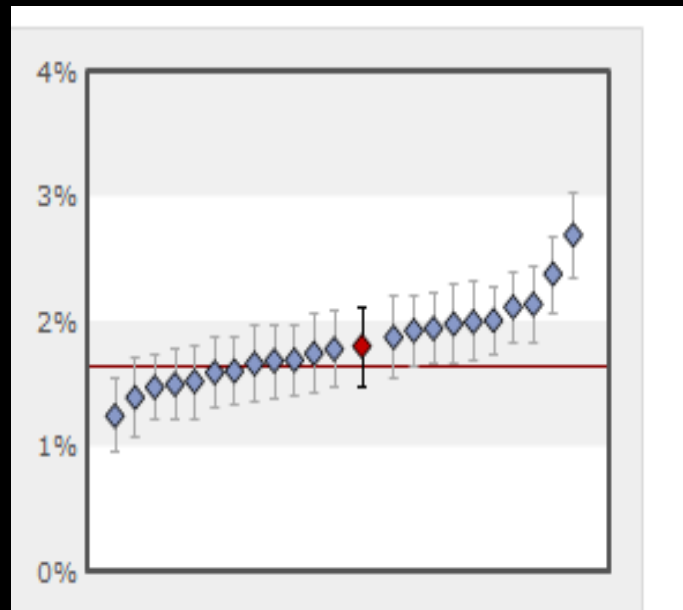
- I love the program
 - It is easy to play with
 - The graphs are helpful
 - It is easy to narrow the focus on your searches.

What did I learn?

- My initial reactions
 - I have to clear all complications before they go in
 - The definitions need reworking
 - This is not accurate reflection of our practice

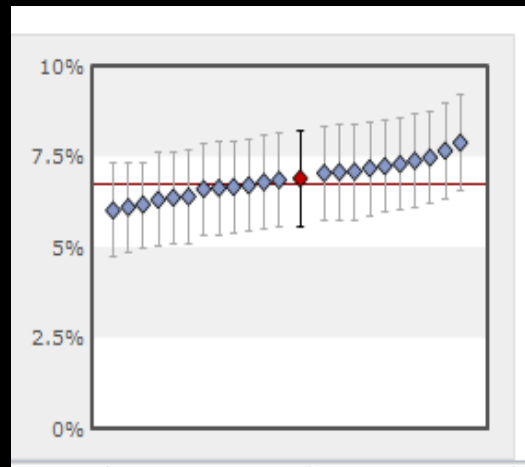
Mortality November 2011 – October 2012

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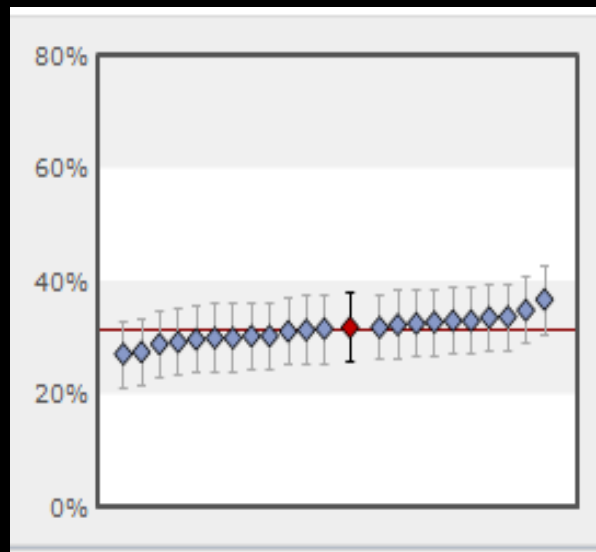
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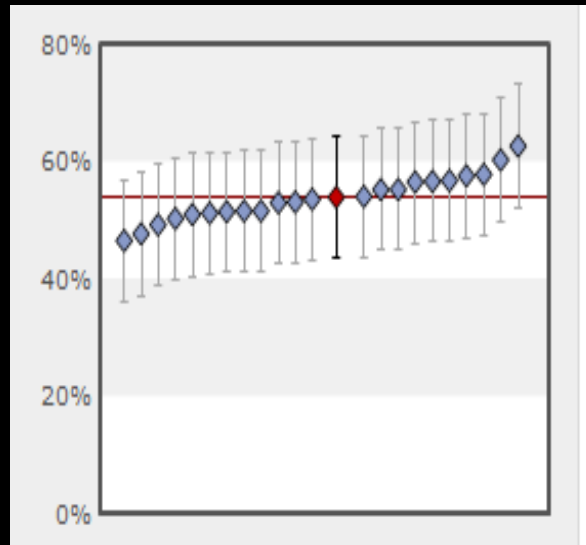
Mortality November 2011 – October 2012

ISS 26-35



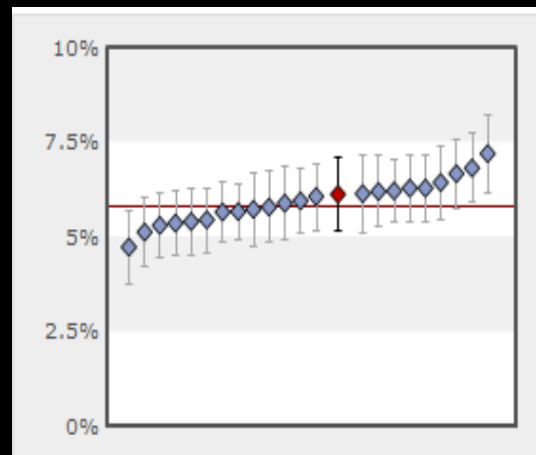
Mortality November 2011 – October 2012

ISS > 35



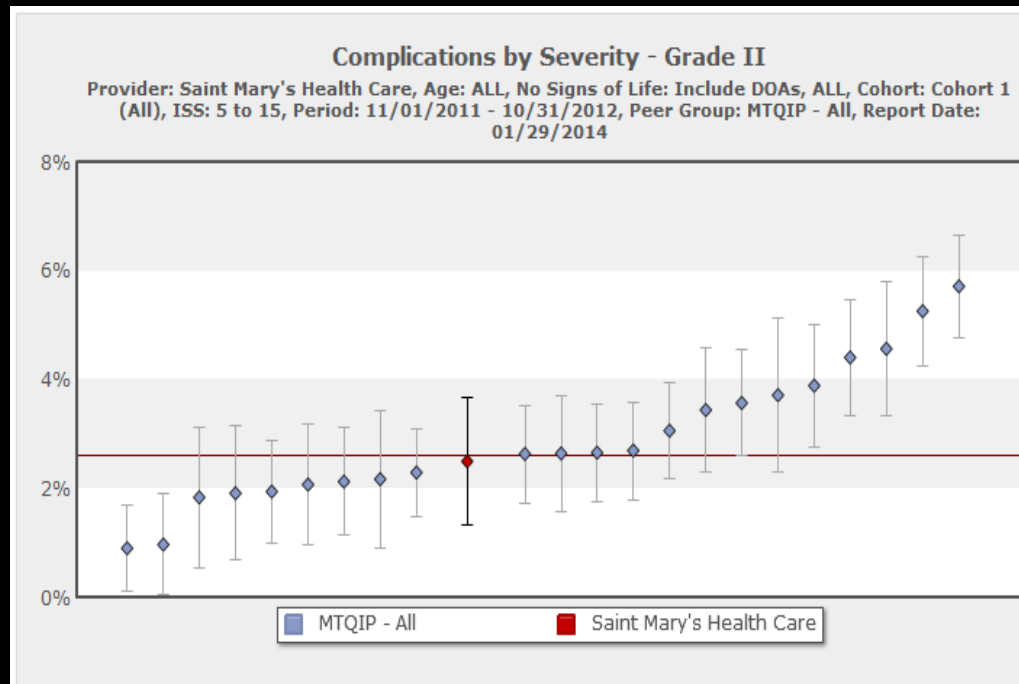
Mortality November 2011 – October 2012

All ISS

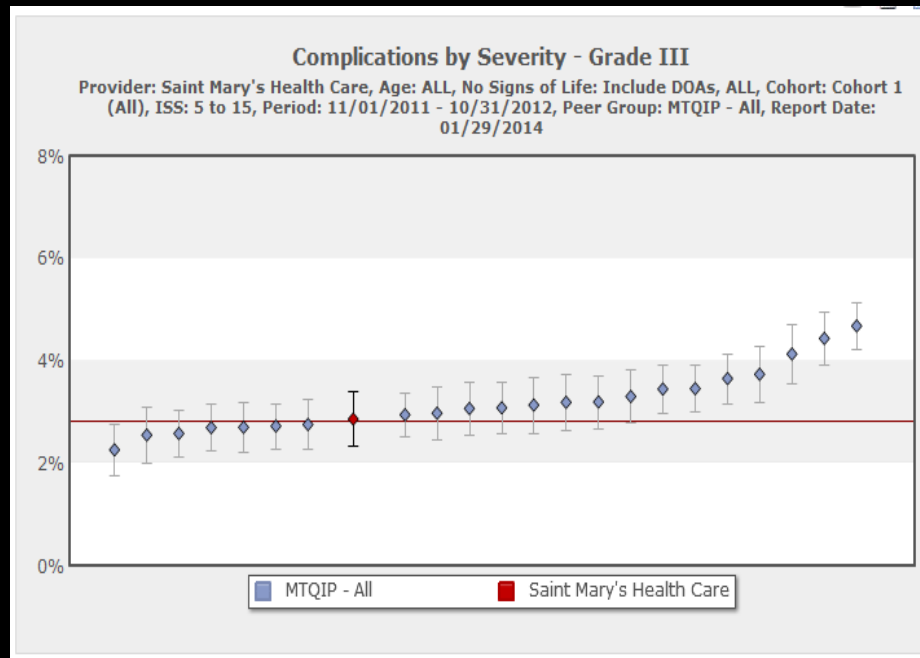


Complications Grade 2

ISS 5-15

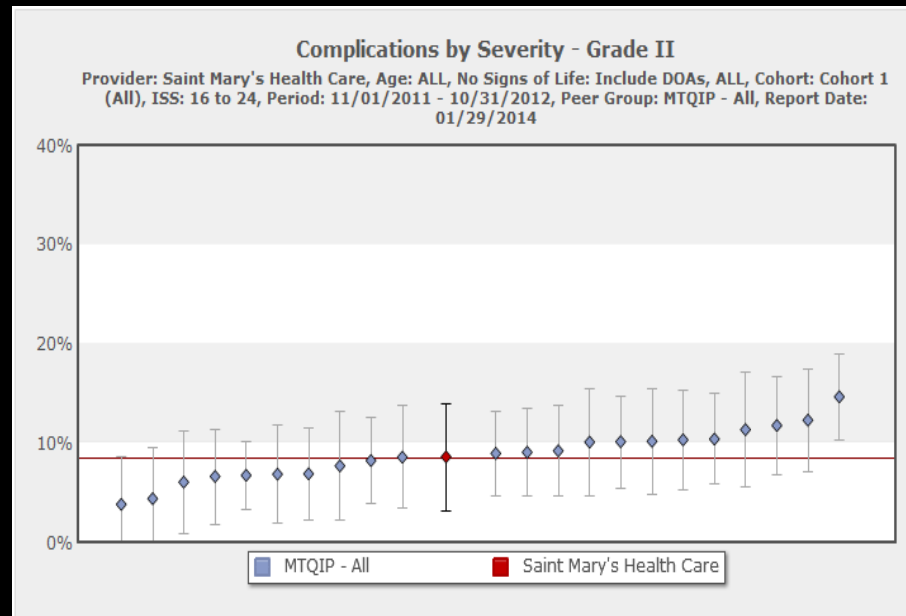


Complications Grade 3 ISS 5-15



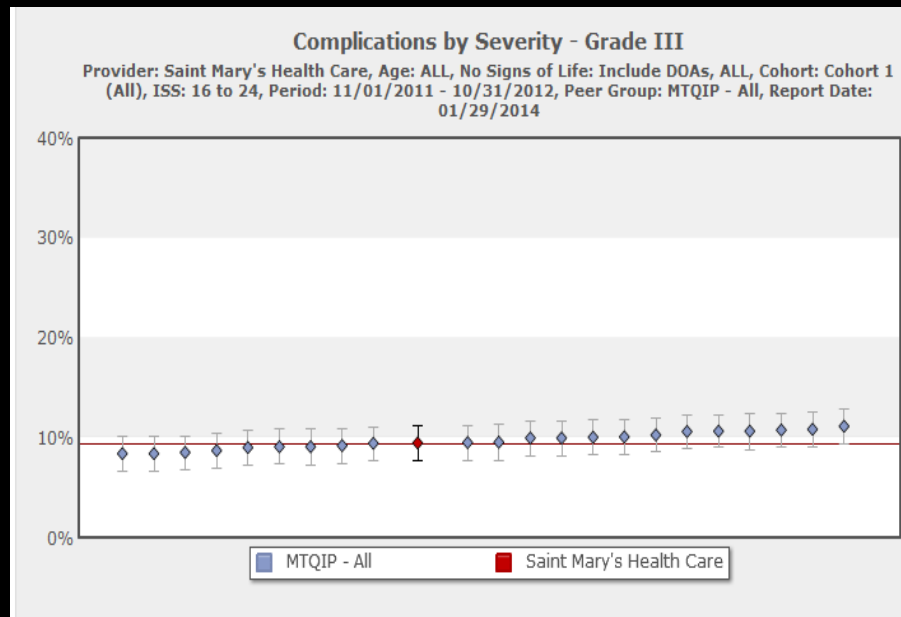
Complications Grade 2

ISS 16-24



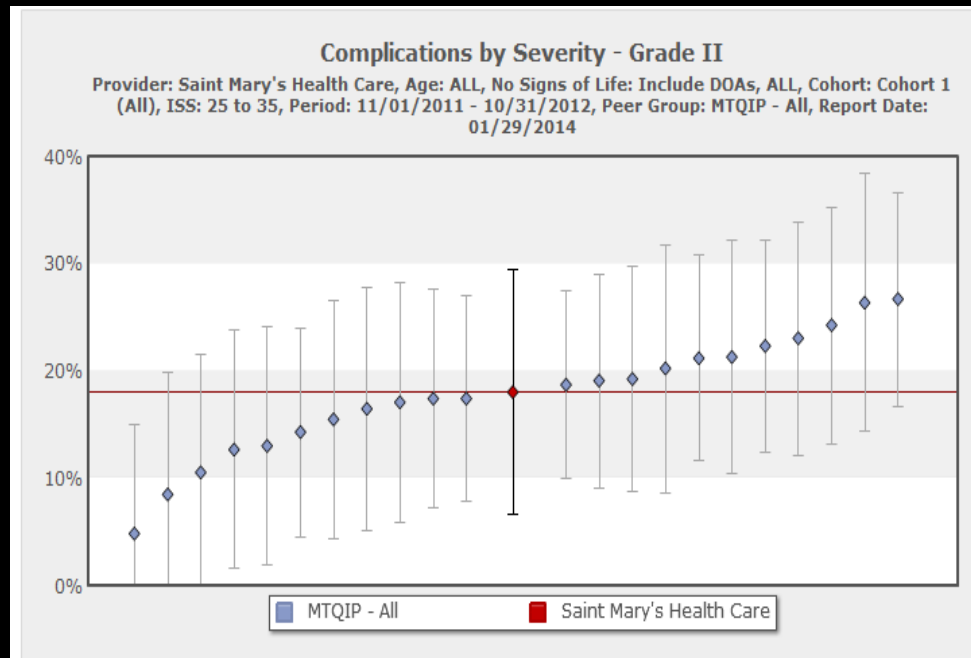
Complications Grade 3

ISS 16-24

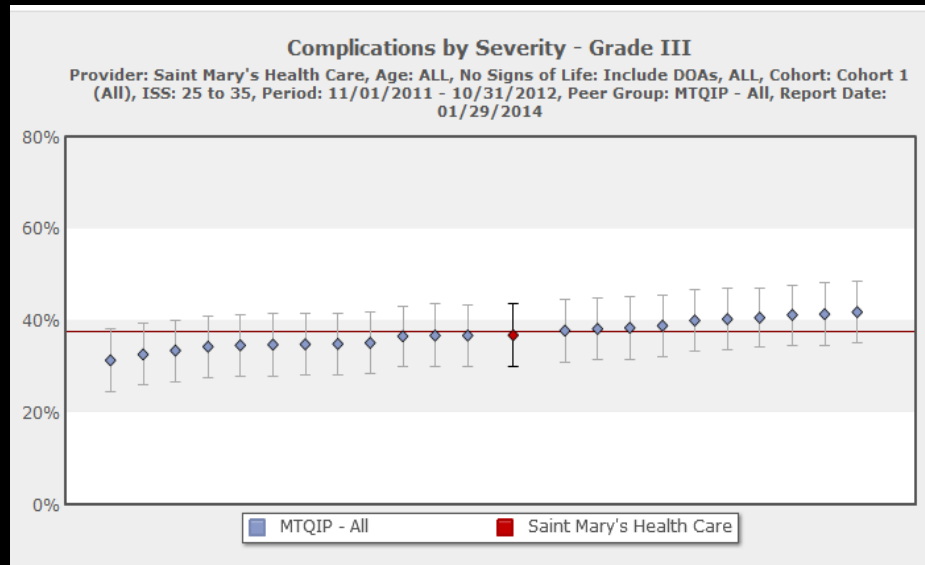


Complications Grade 2

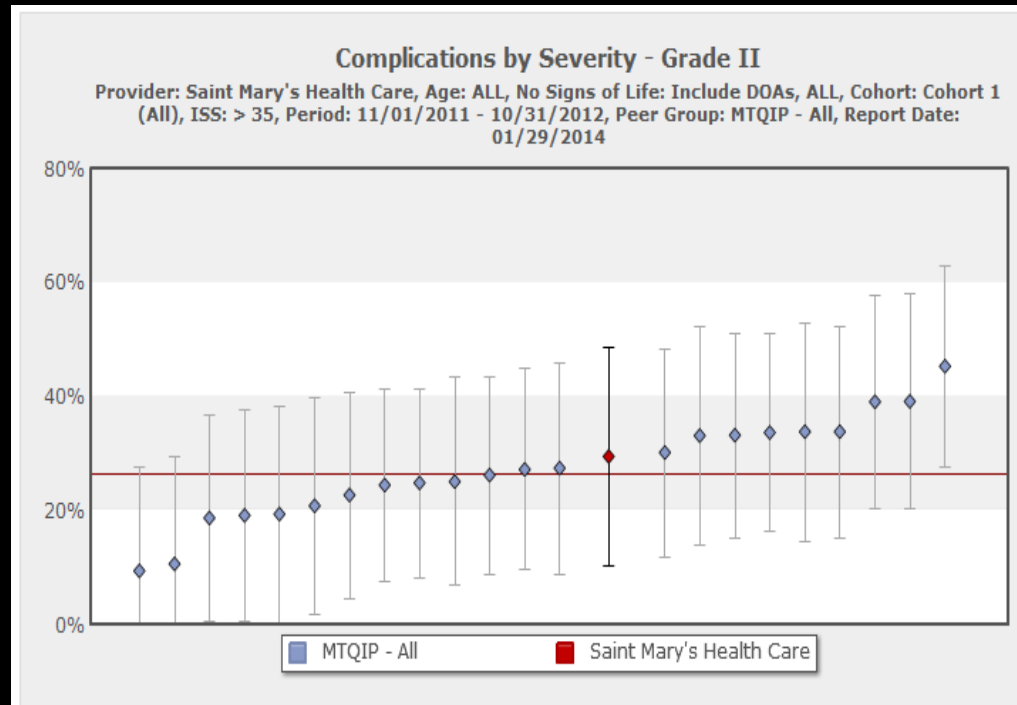
ISS 25-35



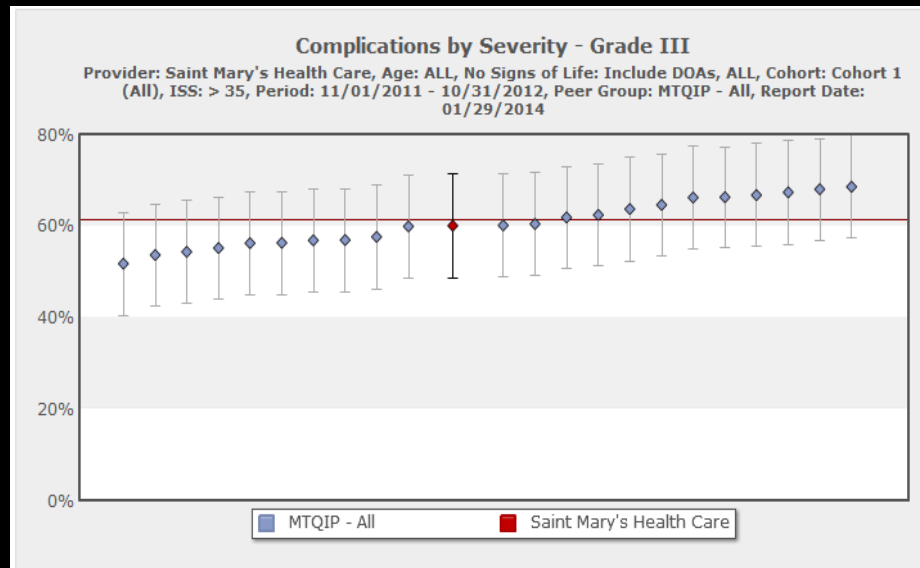
Complications Grade 3 ISS 25-35



Complications Grade 2 ISS > 35



Complications Grade 3 ISS > 35



What did I learn?

- Final reaction
 - I like the complications (obviously not for patients)
 - I can see this tool very helpful in tracking tendencies
 - i.e. are we missing injuries with craniotomies
 - Are we late with massive transfusions
 - Are we withdrawing support too often
 - » Age related
 - » Outcomes related

Conclusion

- Will have to figure out a way in the program to track that which is important for me
- Grade II complications seem to be the area that we in Michigan should attack with the most vigor
- Will we be able to customize our views to provide report cards.
 - Can I look at partners with care subdivided by injury patterns, ISS, and etc.

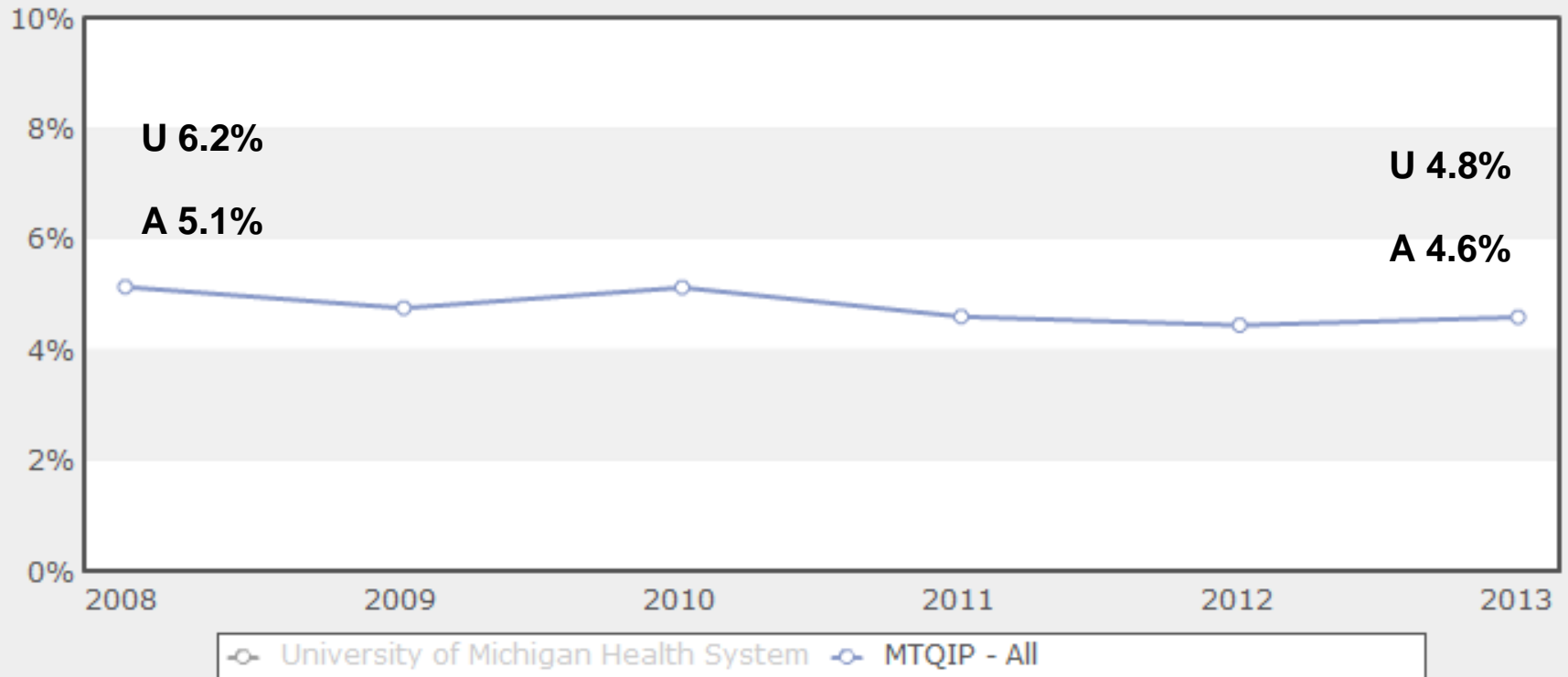
MTQIP Data

Mark Hemmila



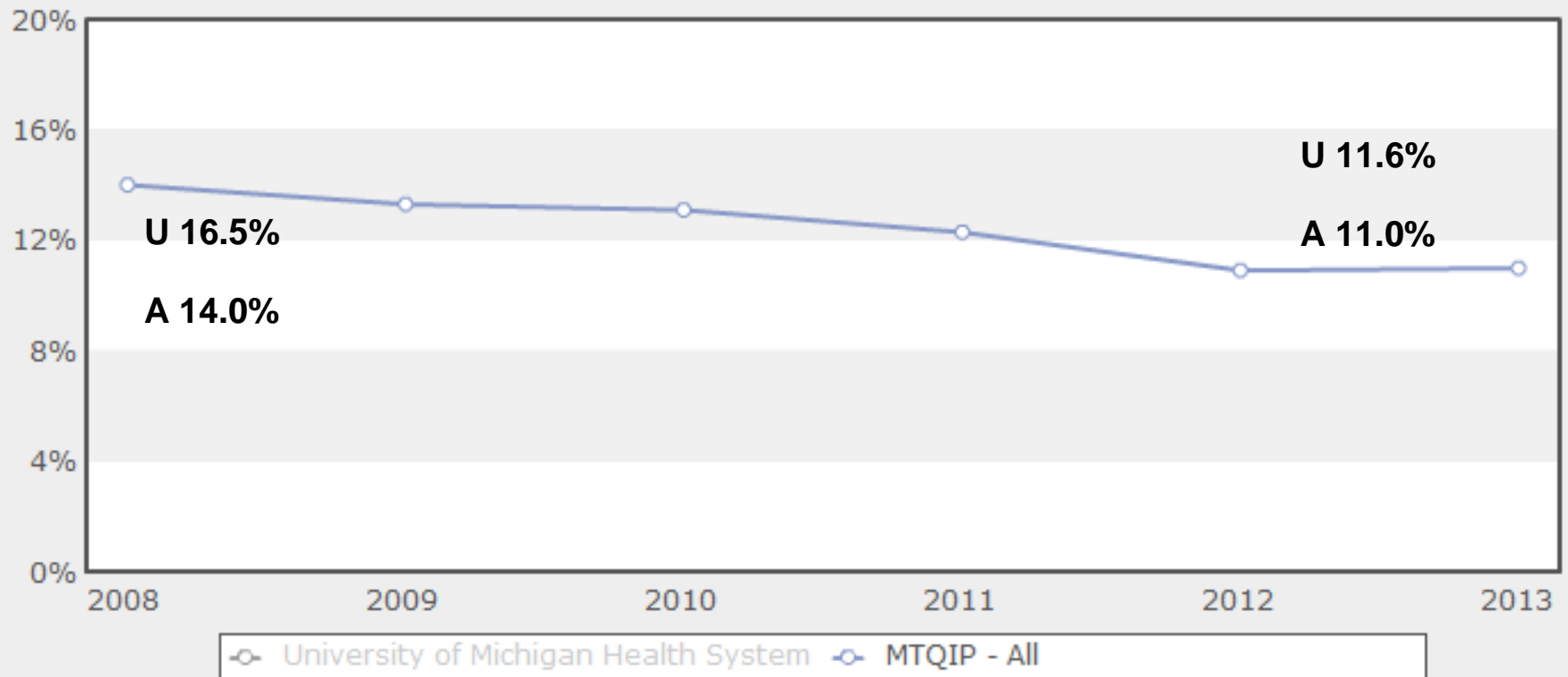
Outcomes Overview - Dead

Provider: University of Michigan Health System, Age: ALL, ISS: ALL, ALL, Cohort: Cohort 2 (Admit to Trauma Service), No Signs of Life: Exclude DOAs, Period: Program To Date, Peer Group: MTQIP - All, Report Date: 01/27/2014



Outcomes Overview - Serious Complications

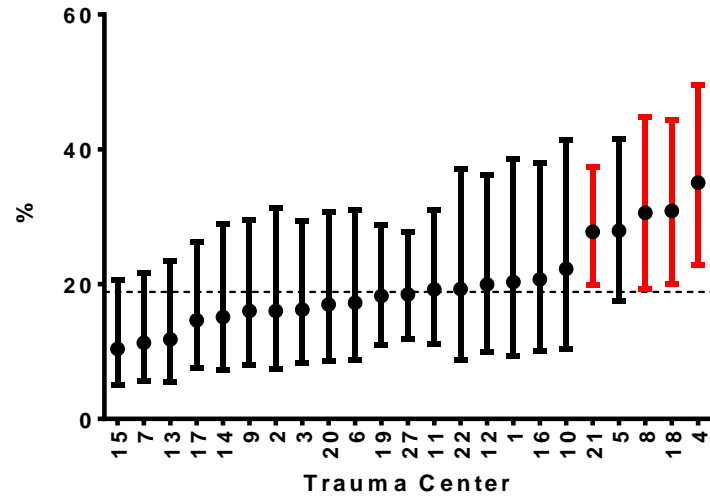
Provider: University of Michigan Health System, Age: ALL, ISS: ALL, ALL, Cohort: Cohort 2 (Admit to Trauma Service), No Signs of Life: Exclude DOAs, Period: Program To Date, Peer Group: MTQIP - All, Report Date: 01/27/2014



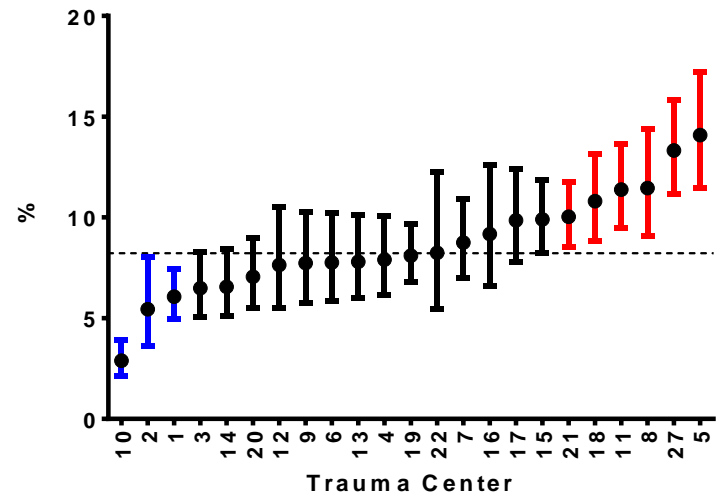
Failure to Rescue

- ◆ Failure to Rescue
 - Severity Grade 2 or 3 Complication
 - $\text{FTR} = \frac{\text{Dead with Severity Grade 2 or 3 Complication}}{\text{N with Severity Grade 2 or 3 Complication}}$
 - 5/1/2011 to 4/30/2013

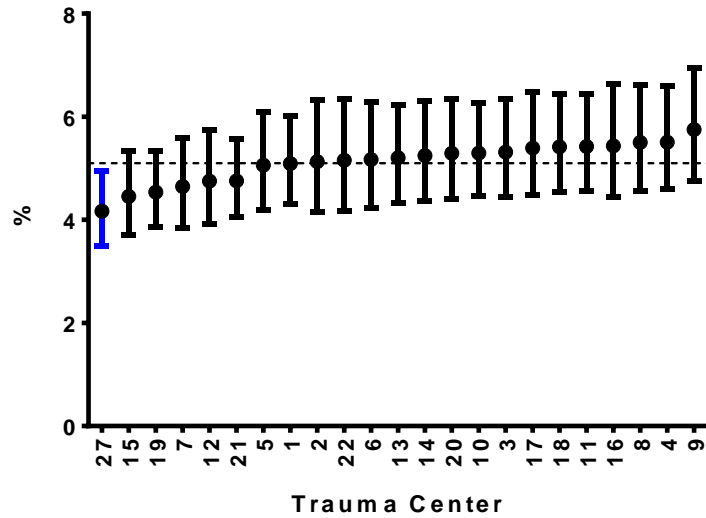
Failure to Rescue



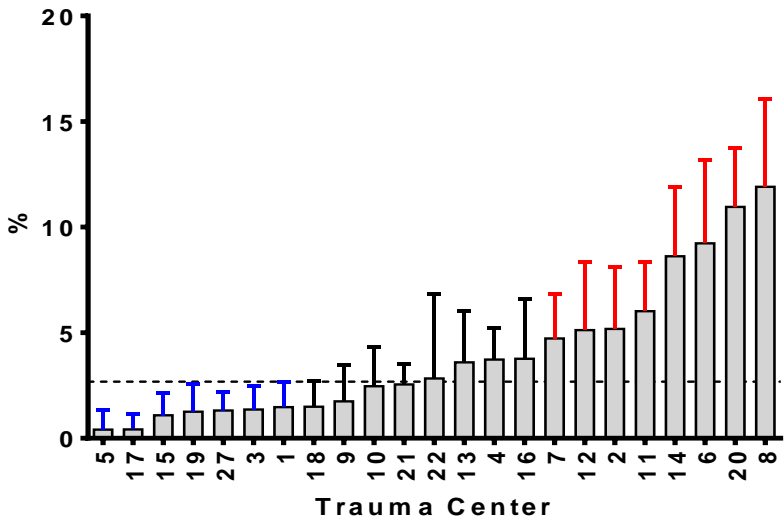
Complications (FTR)



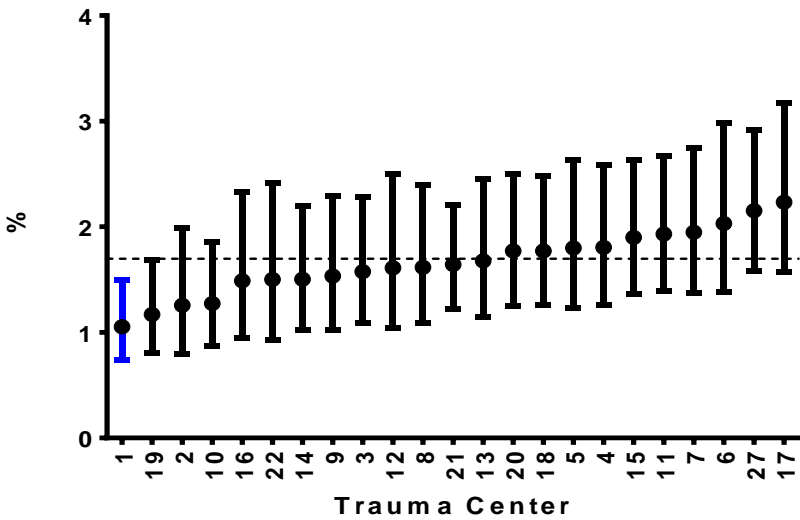
Mortality (Cohort 2 w/o DOA's)



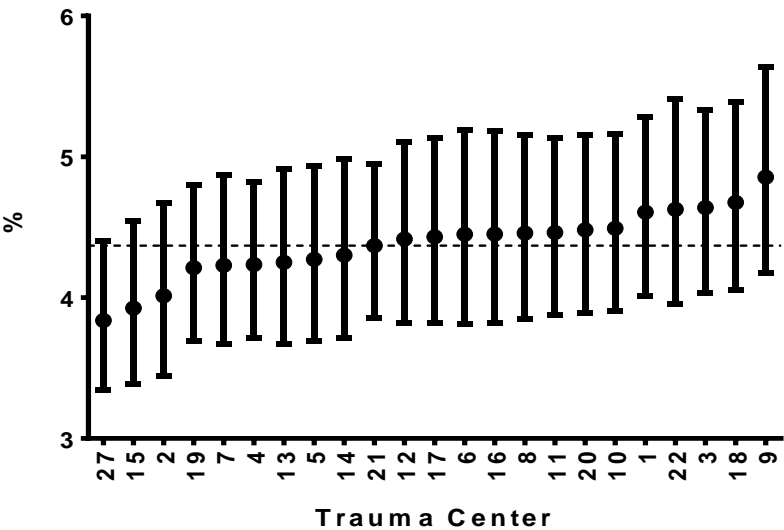
Risk and Reliability Adjusted IVC Filter Use



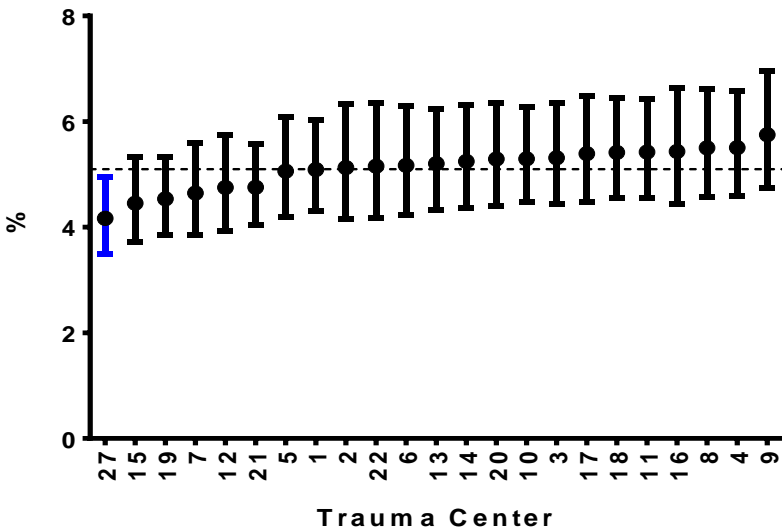
DVT/Pulmonary Embolus



Mortality (Cohort 1 w/o DOA's)



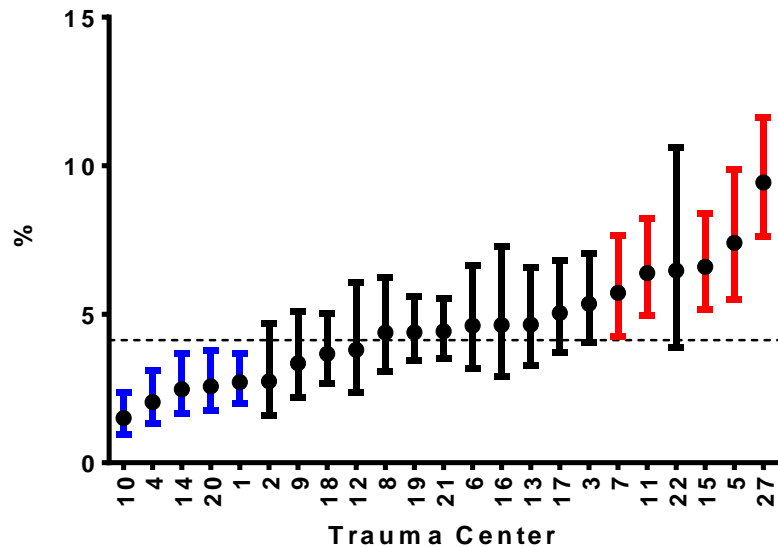
Mortality (Cohort 2 w/o DOA's)



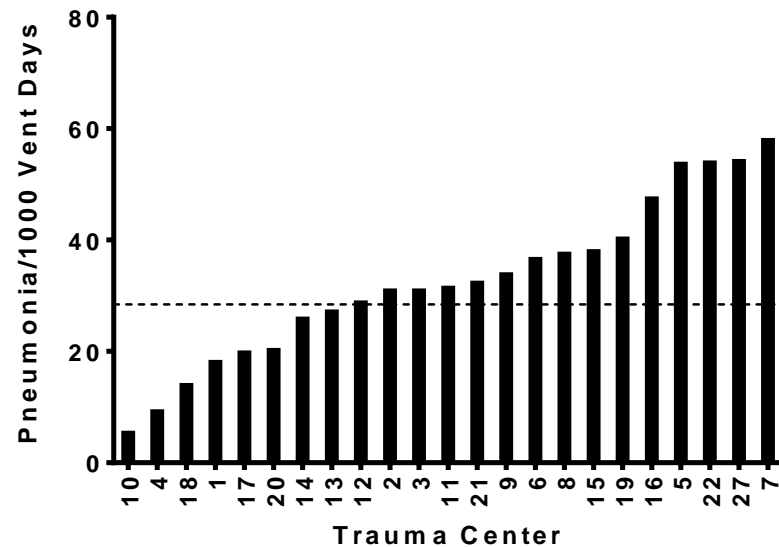
VAP

- ◆ 5/1/11 to 4/30/13
- ◆ Cohort 2 (Admit to Trauma)
- ◆ Exclude patients with no signs of life
- ◆ Exclude patients with Vent Day < 1

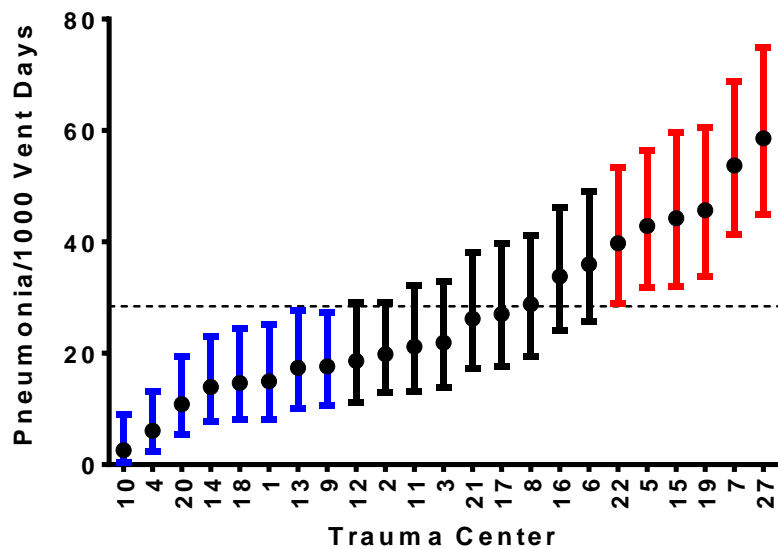
Pneumonia



Raw VAP



Adjusted VAP



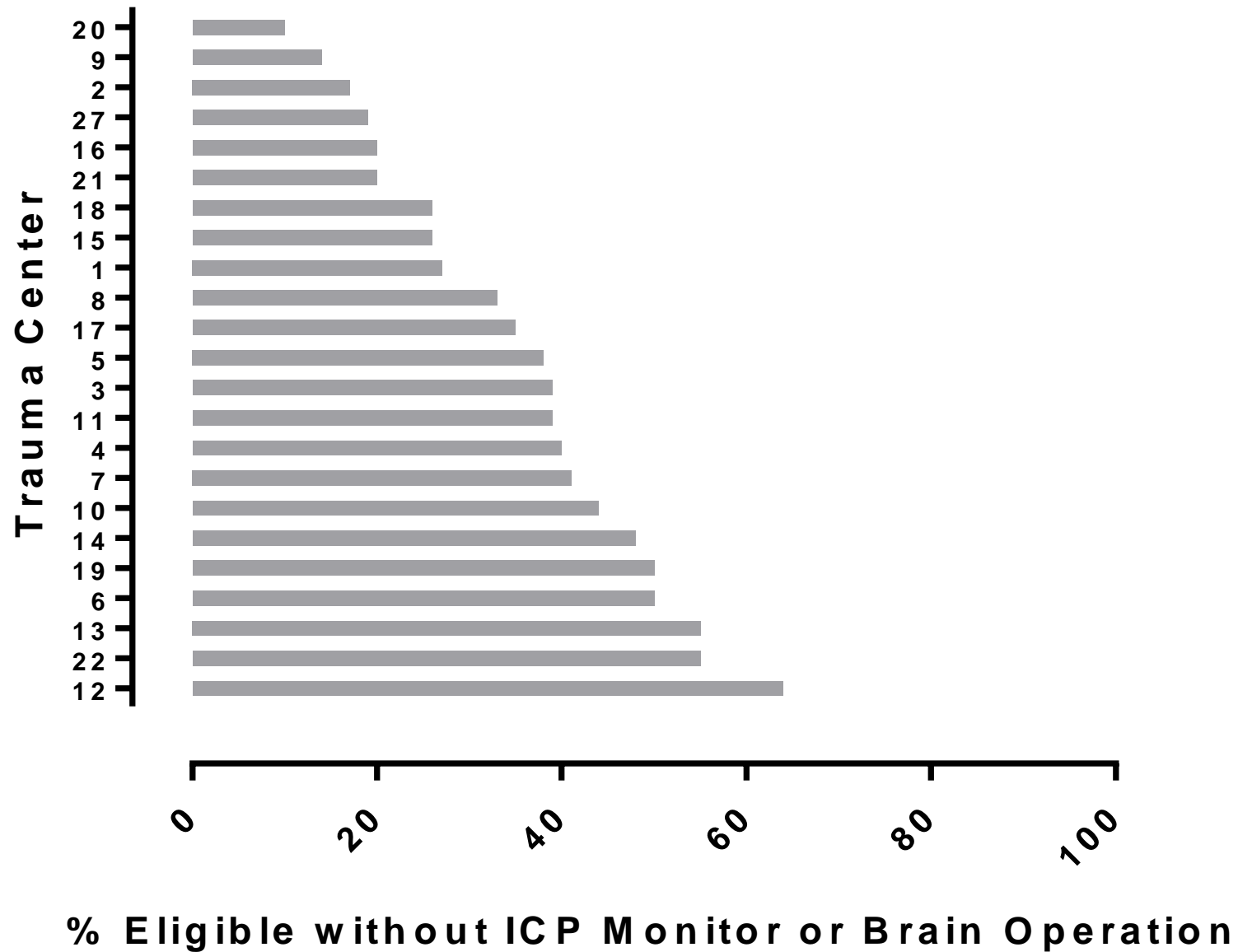
Brain Injury

- ◆ 5/1/11 to 4/30/13
- ◆ Cohort 1
- ◆ Mechanism = Blunt
- ◆ AIS Head ≥ 1
- ◆ Exclude if ED GCS > 8 and TBI GCS > 8
- ◆ Exclude patients with no signs of life
- ◆ Exclude patients transferred late (Direct admit)
- ◆ Procedure Data – (ICD-9)
 - Ventriculostomy (2.20, 1.26, 1.28)
 - Intraparenchymal pressure monitor (1.10)
 - Brain tissue oxygen monitor (1.16)
 - Brain operation (1.18, 1.24, 1.25, 1.31, 1.39, 1.51, 1.53, 1.59, 2.11, 2.13, 2.92)

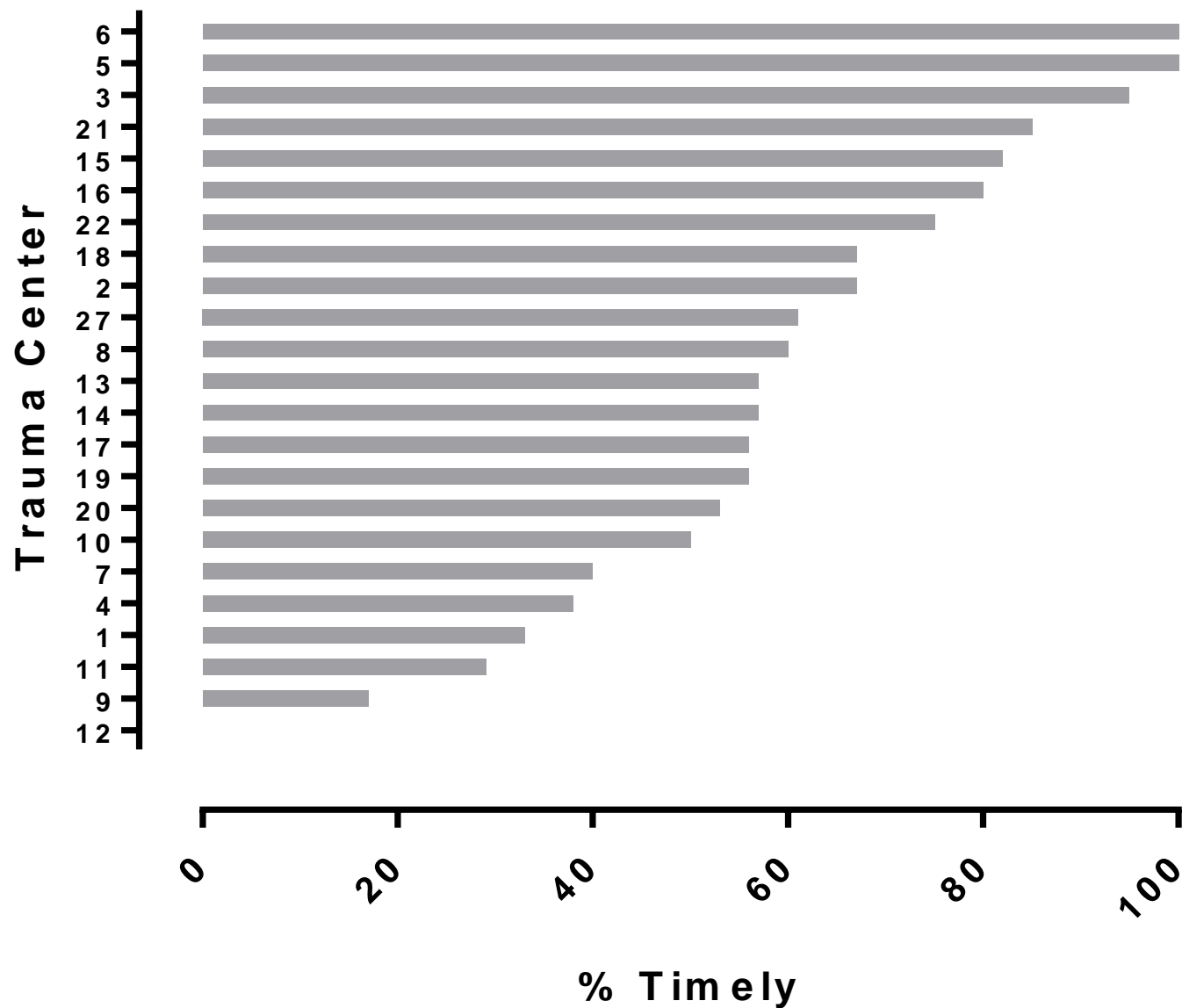
Intervention for Head Injury

- ◆ Eligible = N - Alive w/o intervention - Dead and monitor withheld for reason
- ◆ Eligible and no intervention = N - Alive w/o intervention - Alive with intervention - Dead with intervention - Dead and monitor withheld for reason
- ◆ Timely = Intervention within 8 hrs of arrival to ED

TBI Intervention

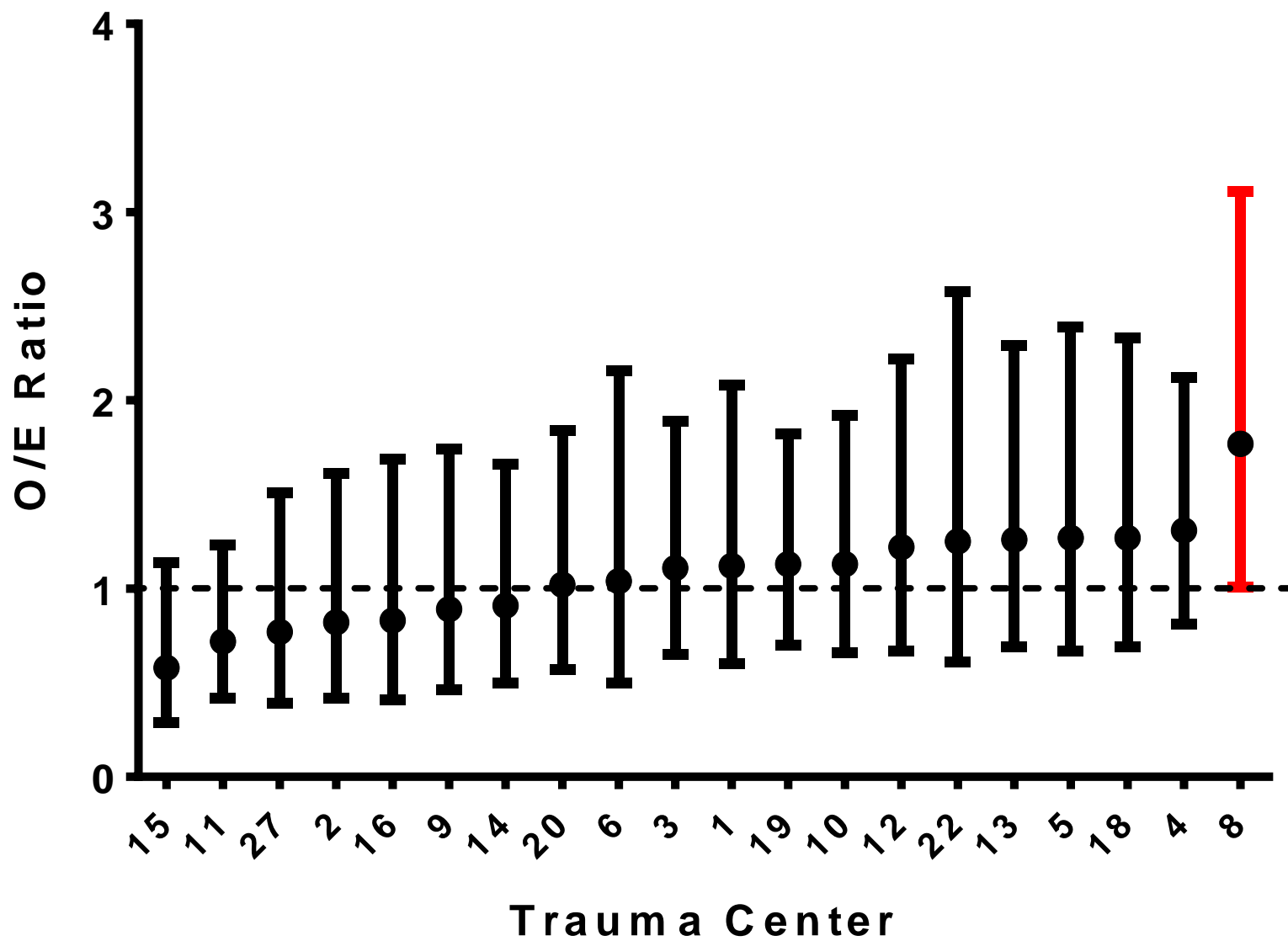


TBI Intervention Timing

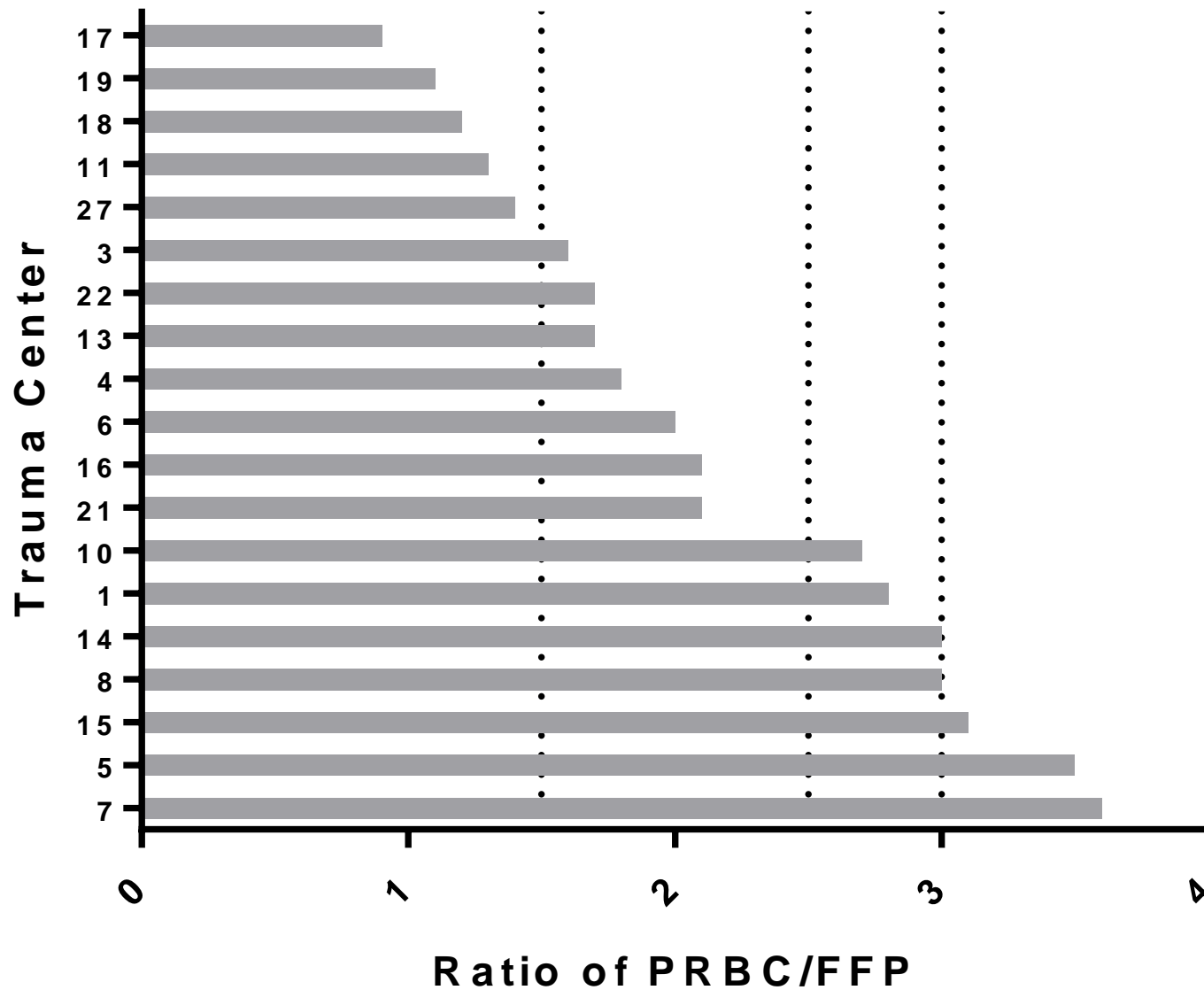


Trauma Center	N	Dead	<u>Alive w/o Intervent</u>	<u>Alive with Intervent</u>	<u>Dead w/o Intervent</u>	<u>Dead with Intervent</u>	<u>Dead and Monitor Withheld</u>	<u>Eligible & no Intervent</u>	Eligible	<u>% Eligible w/no Intervent</u>	<u>% Dead / N</u>
21	153	67	34	52	36	31	15	21	104	20%	44%
19	108	35	57	16	26	9	1	25	50	50%	32%
27	105	31	41	33	18	13	7	11	57	19%	30%
4	81	34	29	18	25	9	7	18	45	40%	42%
3	80	28	34	18	18	10	0	18	46	39%	35%
1	78	25	28	25	18	7	6	12	44	27%	32%
17	73	16	49	8	11	5	4	7	20	35%	22%
18	69	25	24	20	13	12	2	11	43	26%	36%
13	60	26	27	7	18	8	0	18	33	55%	43%
15	56	11	26	19	10	1	3	7	27	26%	20%
11	51	16	22	13	12	4	1	11	28	39%	31%
10	51	15	26	10	11	4	0	11	25	44%	29%
14	51	19	26	6	12	7	0	12	25	48%	37%
20	46	16	12	18	7	9	4	3	30	10%	35%
6	42	18	16	8	13	5	0	13	26	50%	43%
2	41	16	12	13	9	7	5	4	24	17%	39%
7	38	15	16	7	12	3	5	7	17	41%	39%
5	36	9	23	4	5	4	0	5	13	38%	25%
8	32	15	12	5	10	5	5	5	15	33%	47%
9	30	14	10	6	8	6	6	2	14	14%	47%
16	22	9	9	4	5	4	3	2	10	20%	41%
12	19	10	6	3	9	1	2	7	11	64%	53%
22	16	9	4	3	7	2	1	6	11	55%	56%
Total	1338	479	543	316	313	166	77	236	718	33%	36%

TQIP TBI Mortality



Blood Product Ratio in first 4 hrs if ≥ 4 uPRBCs



recordno	age	ed_arrdate	mech	ed_bp	iss	prbc4	ffp4	plt4	cryo4	ratio4	prbc24	ffp24	plt24	cryo24	ratio24	txa	dead
47934	35	4-Jul-11	Penetrating	52	41	0	0	0	0		14	6	3	0	2.3		1
48029	52	16-Jul-11	Blunt	65	43	0	0	0	0		6	6	2	0	1		0
48050	48	19-Jul-11	Blunt	112	30	0	0	0	0		5	2	5	0	2.5		0
48054	50	19-Jul-11	Blunt	60	66	0	0	0	0		9	8	2	0	1.1		1
48214	19	15-Aug-11	Blunt	75	66	0	0	0	0		37	16	21	0	2.3		1
48387	52	11-Sep-11	Blunt	108	34	0	0	0	0		6	4	0	0	1.5		0
48628	75	1-Nov-11	Blunt	113	26	0	0	0	0		14	8	6	0	1.8		1
48679	19	9-Nov-11	Blunt	99	45	0	0	0	0		7	0	0	0			0
48701	26	12-Nov-11	Penetrating	150	19	0	0	0	0		8	2	2	0	4		0
48847	42	19-Dec-11	Blunt	87	45	0	0	0	0		37	14	10	0	2.6		0
49085	67	8-Feb-12	Blunt	159	50	0	0	0	0		23	17	7	0	1.4		1
49131	63	17-Feb-12	Blunt	143	34	0	0	0	0		5	0	0	0			0
49263	57	20-Mar-12	Blunt	117	33	0	0	0	0		12	6	1	0	2		1
49264	27	20-Mar-12	Blunt	131	36	0	0	0	0		13	6	1	0	2.2		1
49319	39	2-Apr-12	Blunt	127	59	0	0	0	0		11	0	0	0			0
49335	28	4-Apr-12	Blunt	93	24	0	0	0	0		6	4	1	0	1.5		0
49402	20	21-Apr-12	Blunt		75	0	0	0	0		14	8	4	0	1.8		1
49462	24	3-May-12	Blunt	110	57	0	0	0	0		16	7	5	0	2.3		0
49530	26	17-May-12	Penetrating	86	20	7	6	1	0	1.2	7	6	1	0	1.2		0
49531	49	18-May-12	Blunt	128	42	0	0	0	0		14	8	2	0	1.8		1
49532	50	19-May-12	Blunt	89	19	0	0	0	0		5	2	0	0	2.5		1
49820	40	5-Jul-12	Penetrating	141	17	8	14	5	0	0.6	8	14	5	0	0.6		0
49841	29	6-Jul-12	Blunt	138	66	0	0	0	0		13	8	2	0	1.6		0
49878	20	14-Jul-12	Penetrating	90	26	0	0	0	0		14	10	3	0	1.4		0
49932	33	22-Jul-12	Blunt	99	38	6	2	1	0	3	12	7	3	0	1.7		0
49977	75	29-Jul-12	Blunt	76	29	0	0	0	0		5	0	0	0			0
50046	48	12-Aug-12	Penetrating	136	27	18	0	0	0		18	0	0	0			1
50160	25	3-Sep-12	Penetrating	90	18	0	0	0	0		22	4	5	0	5.5		0
50187	62	9-Sep-12	Blunt	104	50	0	0	0	0		9	6	2	0	1.5		0
50431	65	25-Oct-12	Blunt	159	29	0	0	0	0		7	5	1	0	1.4		0

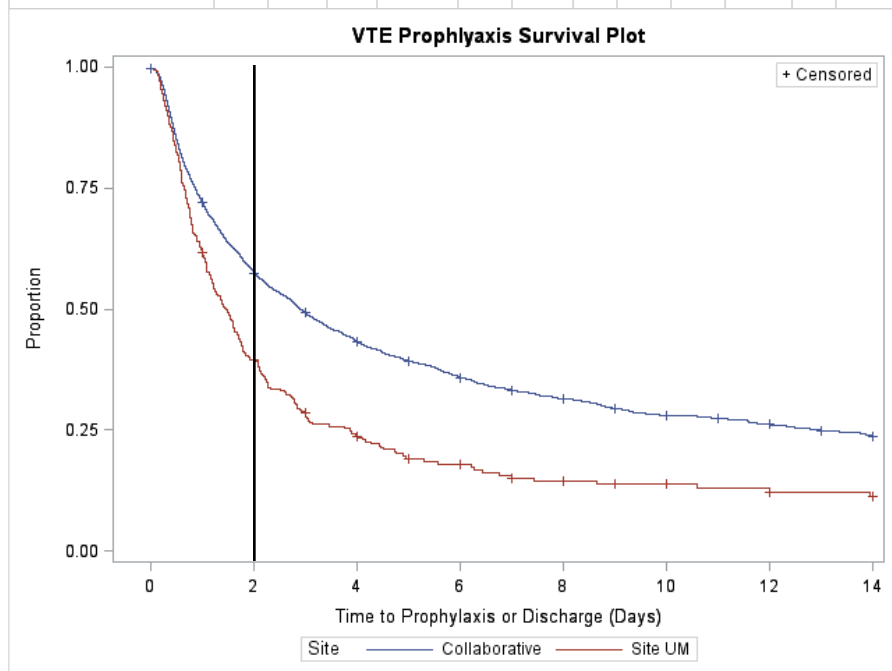
VTE

- ◆ Type Prophylaxis
 - None
 - Heparin SQ
 - LMWH SQ
- ◆ Timing
 - Timely (< 48 hrs after admission)

A bar chart comparing the percentage of patients with various complications between the UM (red bars) and Aggregate (blue bars) groups. The y-axis represents the percentage (%), ranging from 0 to 5. The x-axis lists four complications: Dead, VTE, DVT, and PE. The data is as follows:

Complication	UM (%)	Aggregate (%)
Dead	4.0	4.5
VTE	2.5	1.8
DVT	2.0	1.5
PE	0.9	0.5

VTE Prophylaxis Type	VTE				DVT				PE			
	Aggregate		Center		Aggregate		Center		Aggregate		Center	
	n	%	n	%	n	%	n	%	n	%	n	%
None	24	0.6	1	0.7	17	0.4	1	0.7	9	0.2	0	0.0
Heparin	66	3.0	6	10.7	56	2.6	6	10.7	11	0.5	1	1.8
LMWH	64	0.0	5	0.03	56	2.2	2	0.7	14	0.6	4	1.4
Total	154	1.7	12	2.5	129	1.4	9	1.8	34	0.4	5	1.0



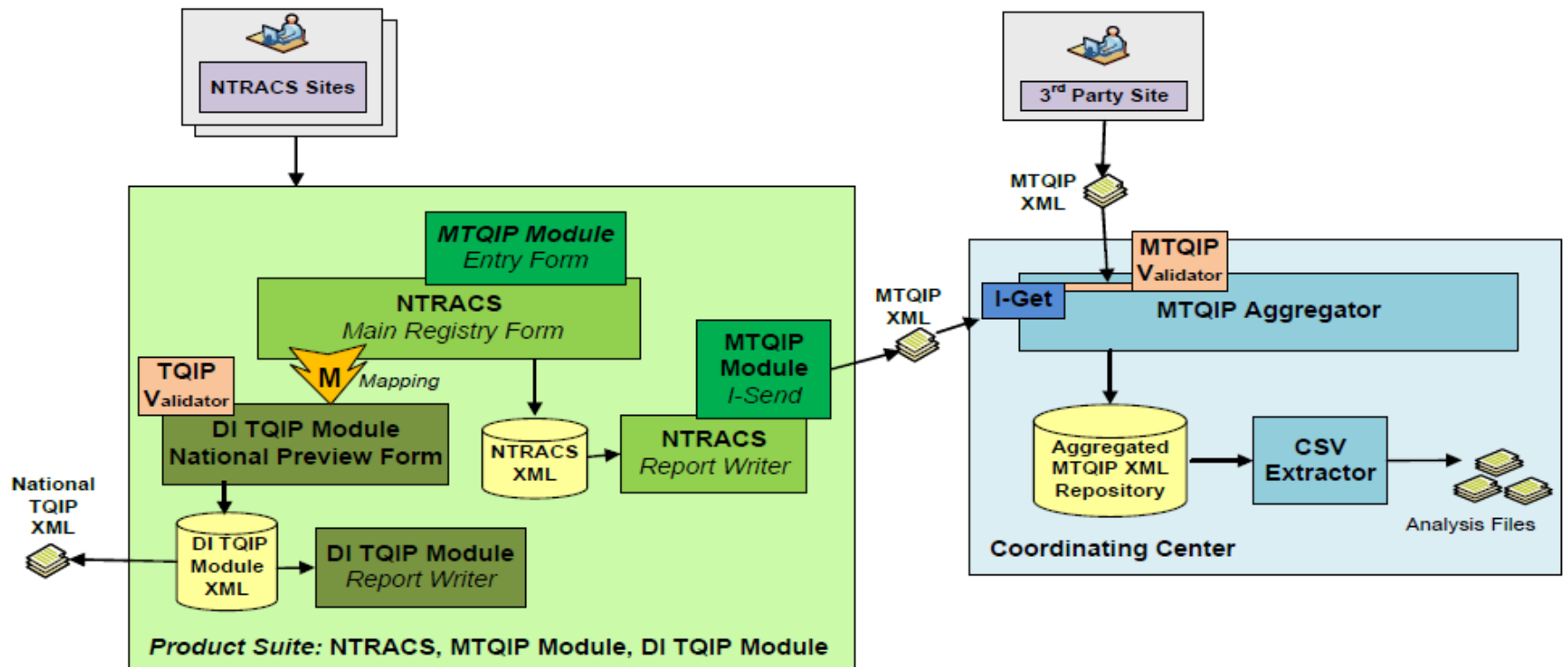
New Data Elements for 2014 (MTQIP)

- ◆ Responding/Admitting Surgeon
- ◆ Crystalloid
 - Only patients receiving blood in **first 4 hrs**
 - Total IVF in 0-4hrs
 - Total IVF in 0-24hrs
 - Conversion table for colloids
 - Nearest liter
- ◆ Complication
 - Renal Insufficiency

Future Directions

- ◆ Data Transfer
- ◆ Need to run faster
- ◆ Currently lags 6-9 months
- ◆ Solution
 - DI xml
 - ◆ iSend
 - ◆ Completed cases, modified
- ◆ Target completion Summer 2014
 - DI (NTRACS, V5)
 - CDM ?
 - Lancet ?

Future Directions



Future Directions

- ◆ ICD-9 to ICD-10
 - January 1, 2015
 - AIS 2005
- ◆ TQIP State Report
 - Michigan as a Center
 - May Meeting



Program Manager
Update
2.11.14

Judy Mikhail

CME Clarification

- Physician CME
 - Today's meeting 3.75 AMA PRA Category 1 Credits
- Nurse CME
 - CME credit may be used by nurses for re-licensure
- Registrars
 - Certificate of participation with hours listed

MTQIP Site Visits

- Dr. Hemmila & J. Mikhail
- Purpose
 - Customer Service Visit
 - Face to face
 - Identify concerns
 - Answer questions
 - Discuss MTQIP reports
 - How can MTQIP improve?

13 Completed to Date:

Beaumont
Borgess
Botsford
Bronson
Detroit Receiving
Genesys
Henry Ford
Hurley
Munson
McL Oakland
Sinai Grace
Sparrow
St Joseph Ann Arbor

2014 Site Specific QI Reports

- Meaningful QI issue to you
- Complements
 - ACS Verification
 - Hospital QI efforts
- Everyone should be involved:
 - Surgeons, TPM's, Registrars
- Ongoing data collection
- Submit data 3 times a year
 - April 1, September 1, January 1
- Periodically present at MTQIP

Past Projects

1. Anticoagulant reversal
 2. Complications
 3. Length of stay
 4. Clinical management
- **New project for 2014?**

Best Practices

Learning From Others



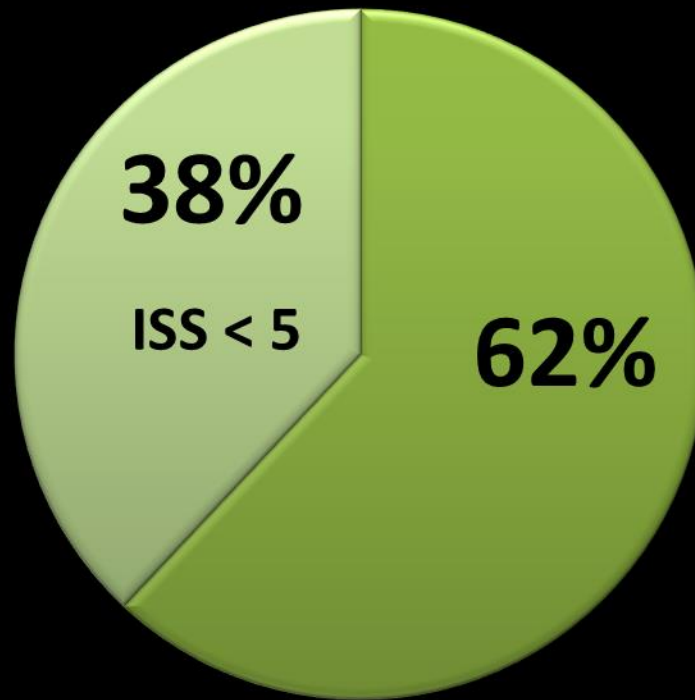
Identifying Positive Deviants...

Abbreviated Abstract for ISS<5



The 38%

Trauma Patients



Abbreviated Abstract

- Ad Hoc Committee

1. Kelly Burns, Registrar, Spectrum Health
2. Kathy Kempf, TPM, St. Joseph Mercy
3. Donna Tommelein, Registrar, St. Joseph Mercy
4. Cece Roiter, Registrar, Univ of Michigan
5. Liz Sarwar, Registrar, Bronson
6. Penny Stevens, TPM, Sparrow
7. Judy Mikhail, Manager, MTQIP

Goal

- Determine feasibility of using an abbreviated abstract for patients with ISS<5
- Without sacrificing program integrity
- Still meeting the needs of stakeholders
 - ACS (NTDB, TQIP)
 - State Registry
 - Hospital Administration
 - Injury prevention, PI, Research, etc...

Surveillance
Injury Prevention
Resource Utilization
Trauma System Review

100%

↑
Numbers
of
Patients

38%

INJURY SEVERITY →→

Quality Improvement
Complications
Failure to Rescue

62%

Minor injuries:
Other acute care
facilities that are
part of trauma
system

Minor and
moderate
injuries: Level III
and IV centers

Moderate and
severe injuries:
Level II centers

Most severe
injuries: Level I
centers

Key National Stakeholders

- Melanie Neal
 - NTDB Manager, ACS
- Michael Nance, MD
 - Chair Quality & Data Resources Subcommittee ACS
- Clay Mann, PhD
 - Epidemiologist, Univ. of Utah
- Rob Seesholtz
 - Chair, Data Managers Council National Assoc. State EMS Officials
- Heidi Hotz, MSN
 - Immediate Past President, American Trauma Society
- Amy Koestner, MSN
 - Society of Trauma Nurses, Liaison to the ACS

ISS < 5 Examples

- Closed FX of UE and LE (except femur)
- Concussion with LOC less than 1 hour
- Brain contusions (tiny)
- Minor lacerations
- Facial fractures
- Abdominal contusions, minor lacerations
- Spinal FX without cord involvement

NTDB Validator Minimum Requirement

- All data points in data dictionary required to pass NTDS Validator
- Common sense approach
- **Step 1: Stratify by ISS**
 - No MTQIP or TQIP data points
- **Step 2: Set your net-how tight?**
- Analogous to non-surgical admits
- Must fit your program needs
- Options:
 - A. Procedures na
 - B. Complications na
 - C. Co-Morbidities na
- With Exemptions:
 - Deaths
 - Transfers
 - Major filter failures
 - Transfer back to ICU
 - LOS greater than X
- Incorporate into PI Plan
- Review annually

ISS<5

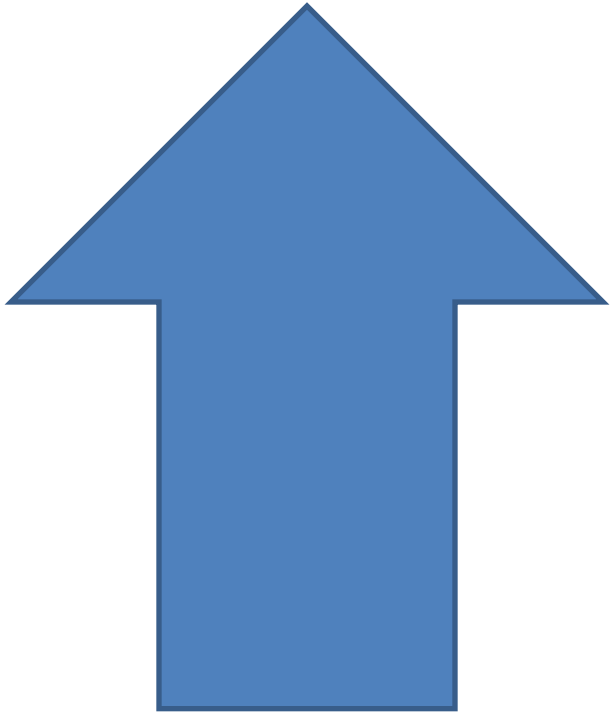


2014 BCBSM Hospital Performance Metrics

2014 MTQIP Hospital Performance Index				
#	Wt	Measure Description	Points Existing Participants	Points New 2014 Participants
PARTICIPATION (70%)				
#1	10	Data Submission		
		On time 3 of 3 times	10	10
		On time 2 of 3 times	5	5
		On time 1 of 3 times	0	0
#2	20	Meeting Participation – Surgeon Lead		
		Participated in 3 of 3 meetings	20	20
		Participated in 2 of 3 meetings	10	10
		Participated in 1 of 3 meetings	5	5
#3	20	Meeting Participation – Trauma Manager/Registrar (Avg)		
		Participated in 3 of 3 meetings	20	20
		Participated in 2 of 3 meetings	10	10
		Participated in 1 of 3 meetings	5	5
#4	10	Site Specific Quality Improvement Project Implementation		
		Project data submitted	10	10
		Project data not submitted	0	0
#5	10	Surgeon Lead Presents MTQIP Reports at Hospital Meetings		
		Presented at 3 meetings	10	10
		Presented at 2 meetings	8	8
		Presented at 1 meeting	5	5
		Did not present	0	0
		*Signed attestation required		

PERFORMANCE (30%)						
		Data Accuracy	Visit #1	Visit #2 or More		
#6	10	5 star validation	0-4.5%	0-4.5%	10	na
		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%	> 8.0%	0	
#7	10	Massive Transfusion (defined as ≥4 u PRBC in 1st 4 hrs) Mean PRBC to Plasma Ratio for 1st 4 hrs of admission				na
		≤ 1.5			10	
		1.6 - 2.5			7.5	
		> 2.5			5	
		> 3.0			0	
#8	10	Timely VTE Prophylaxis (< 48 hours of admission)				na
		> 50%			10	
		≥ 40%			5	
		< 40%			0	
Total Points Possible					100	70

Guidelines/Protocols



- Increased significance
- Tackle variation in care
- Integrate into PI
- MTQIP can help



Future Meetings

- ◆ Wednesday May 14, 2014
 - Location: Petoskey
- ◆ Tuesday June 3, 2014
 - Location: Ann Arbor
 - Registrar's
- ◆ Tuesday October 14, 2014
 - Location: Ann Arbor/Ypsilanti

Conclusion

- ◆ CME
 - On way out
- ◆ MTQIP Reports
 - On way out
- ◆ Evaluations
 - Fill out and turn in