M.TQIP

Ann Arbor, MI June 7, 2016

Welcome and Introductions

10:00-10:10



Member Introductions

- Name
- Center
- Title

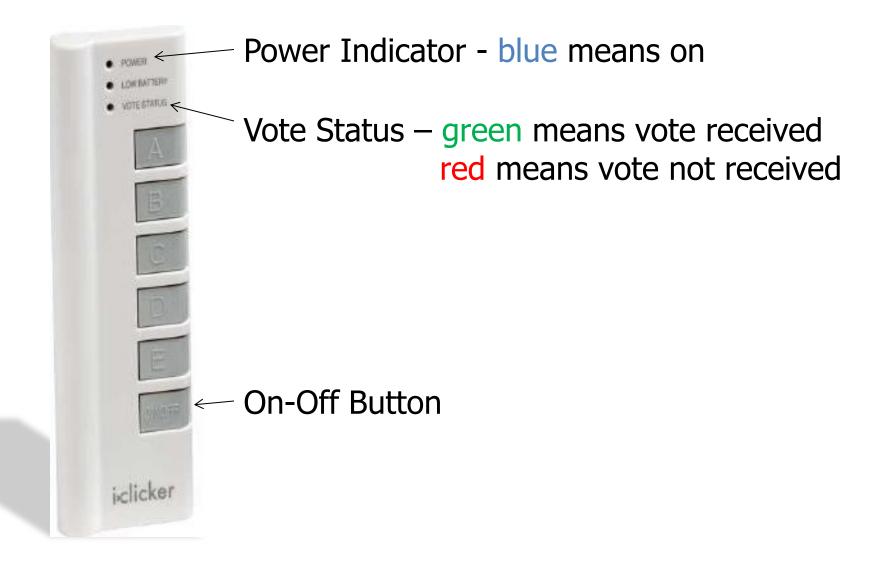
Administrative

10:10 - 10:20



Administrative

- MTQIP Collaborative Mentoring Program
- Newsletter staff questions
- Antibiotic days
- Hospital disposition
- New member debriefing
- iClickers



What is your title?

- A. Registrar B. MCR
- C. Other

Opening – Delivering Value

10:20-10:40



SUCCESS USUALLY COMES TO THOSE WHO ARE TOO BUSY TO LOOK FOR IT.



- Henry David Thoreau

Does the data you collect improve the care delivered to trauma patients?

A. Yes B. No Decubitus Ulcer - 46% Extended LOS - 19%

ICU LOS - 9%

RBC:FFP <u><</u> 2.5 - 13%

Does the data you collect improve the care delivered to trauma patients?

A. Yes B. No

Hans Rosling https://youtu.be/jbkSRLYSojo Statistics are like bikinis.

What they reveal is suggestive, but what they conceal is vital.



Decubitus Ulcer 80 Patients

Extended LOS 236 Patients

ICU LOS 2637 Days

RBC:FFP < 2.5 16 Patients

Does the data you collect improve the care delivered to trauma patients?

A. Yes B. No

VTE Prophylaxis with LMWH Any Complications Severe Sepsis Urinary Tract Infection Blood to Plasma Ratio <= 2.5 ICU LOS Prophylactic IVC Filter Placement Extended Hospital LOS VTE Prophylaxis Initiated <= 48 Hours **Pneumonia** Serious Complications Decubitus Ulcer Hospital LOS Venous Thromboembolism

Does the data you collect improve the care delivered to trauma patients?

A. Yes B. No

How do you define success?

Data Import from Epic Erica Nagra, BSN, RN

10:40-11:00



Data on the Move: Data Automation Designed to Benefit Collaborative Quality Initiatives

Erica Nagra, BSN, RN

Patient Safety and Quality, Bronson M

this success.

to deceased patients.

IT developers and Epic analysts were critical to

Soraida Montova from our IT department

and former SCOR Kristen Kruzich, BSN, RN.

added as an additional screen to block mailings

An automated variable for date of death was

· Similar efforts have been made to replicate

this internal application for other quality collaboratives at Bronson Methodist Hospital, e.g., Michigan Arthroplasty Registry Collaborative Quality Initiative (MARQI).

- Special thanks to David Sibbersen and

Background

According to a recent article published in the Neurosurgery Clinics of North America, *EMRs [electronic medical records] allow numerous surgical quality initiatives to be implemented efficiently: examples are the Joint Commission's Surgical Care Improvement Program (SCIP), surgical timeout, and care hand-offs. Such quality initiatives are otherwise difficult or impossible to realize with paper processes."

The Epic system emerged as Bronson Methodist Hospital's advanced healthcare EMR in 2012. This system functionality has allowed our surgical clinical quality reviewers (SCQRs) the opportunity to automate definitive information to databases, including the Michigan Surgical Quality Collaborative (MSQC) database.

Automated data abstraction allowed improved efficiency and accuracy of specific variables and helped to identify consistent sources of truth within the documentation record of those variables. In turn, this efficiency allows a much more robust sample of general and vascular surgeries in which to base quality improvement (QI) measures for our site.

Reference

Carter, J. T. (2015). Electronic Medical Records and Quality Improvement. Neurosung Clin N Am, 26 (2), 245-251.

ality, Bronson Methodist Hospital	
	DO
F	PLAN
	Televise (management)
Lessons Learned	
 Identifying a source of truth in Epic for variables such as sequential compression devices (SCDs) in place, has stimulated changes for the bedside nurse. Promoting a consistent location and procedure for SODs charting 	ACT
has raised awareness to the importance of accurate charting which helps drive quality improvements.	Future
 Automated data abstraction is only as good as the team that supports the process. Dedicated 	Considerations

- Development of additional uploads for case-specific variables, e.g., Colorectal Project, Enhanced Recovery Program and Hysterectomy Project
 - Potential program development to cross reference MSOC selected patients with the County Clerk's Office's list of recently deceased patients

Bronson Methodist Hospital 601 John Street Kalamazoo, MI 49007 bronsonhealth.com

PLAN

Identified the key stakeholders in developing automated data abstraction:

- SCQR
- Information Technology (IT) program developer
- Surgical Services representatives
- Clinical support analysts-site specific/Epic Clarity specialist

DO

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102.002

UD.

- Secured the structured query language (SQL) data dictionary (provided by the database server company, e.g., QC Metrix, Quintitiles, Arbor Metrix) · SCQR reviewed the 'Core Variable Manual'
- Specific to the quality collaborative
- Identified which variables could be automated. e.g., demographics, lab values, dates and times
- Determined the consistent charting location for intended automated variables (referred to as source of truth)
- Met as a collaborative team and reviewed each variable to be automated and any potential challenges
- IT developed an internal application which offered: - A filtered operative log based on

program-specific critera

- An interface with Epic to extract data into an Extensible Markup Language (XML) file based on the intended automated variables, e.g.: Demographics
- Admission/discharge date and time
- · Lab results
- Diagnosis codes
- Utilized a vendor supplied software (Cather's Mitt) where the XML document is uploaded to the specific quality collaborative (MSOC) workstation

STUDY

- Tested the application and programming revisions were made to account for a variety of errors
- Important to note that regardless of errors in the data upload (e.g., missing height/weight of patient), the program was written to allow the remaining variables to upload

ACT

- Spot checked automated variables to ensure highly-reliable data
- Continued updates made to the data abstraction tool as the collaborative variables changed

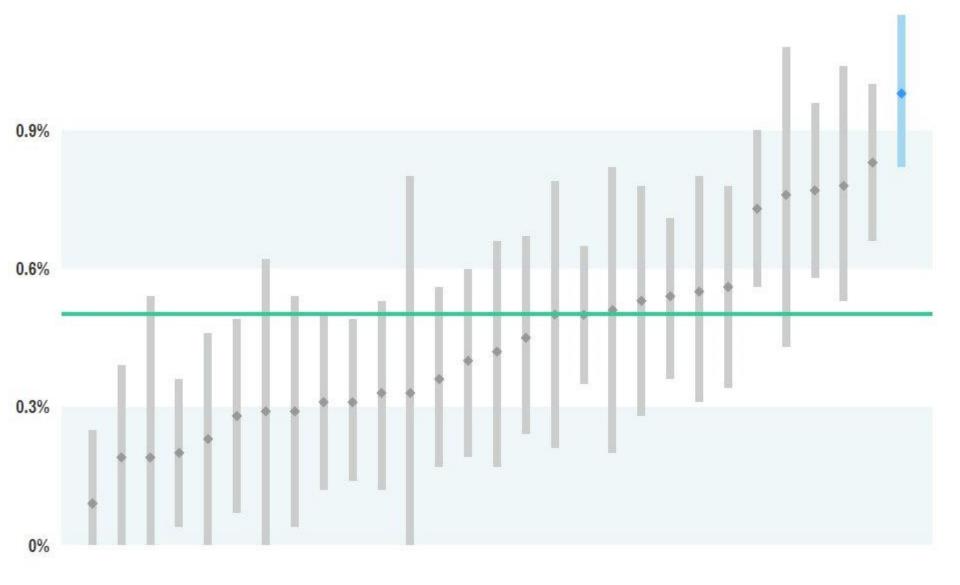


POP QUIZ Statistics

Question:

What does the green line on the graph on the next slide from MTQIP online reporting indicate?

- A. Collaborative median
- **B. Collaborative mean**
- C. Collaborative mode
- **D. Collaborative standard deviation**



Answer:

What does the green line on this graph from MTQIP online reporting indicate?

- A. Collaborative median
- **B. Collaborative mean**
- **C. Collaborative mode**
- **D. Collaborative standard deviation**

MCR Round Table Michelle Jaskot Sara Samborn Alisha Sholtis Donna Tommelein

11:05-11:20



Format

- All panelists will share experience
- Audience collaboration

MCR Round Table

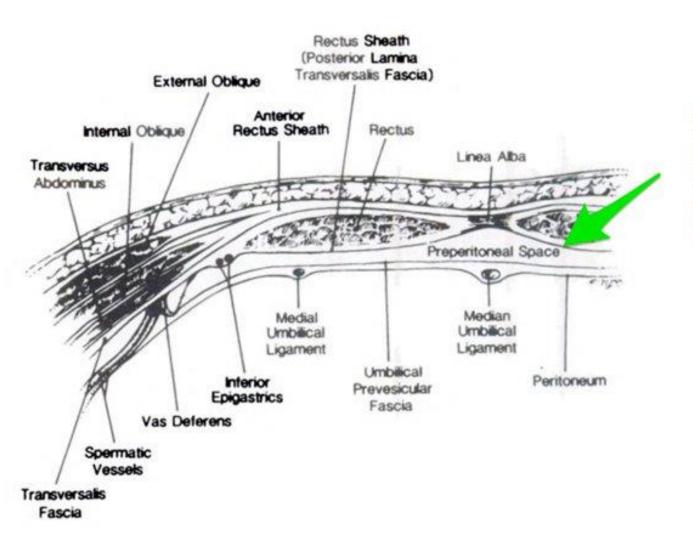
- How did you identify and choose your PI project?
- What was your approach to figure out the root source cause of the problem?
- What worked?
- What didn't work?

POP QUIZ Complications

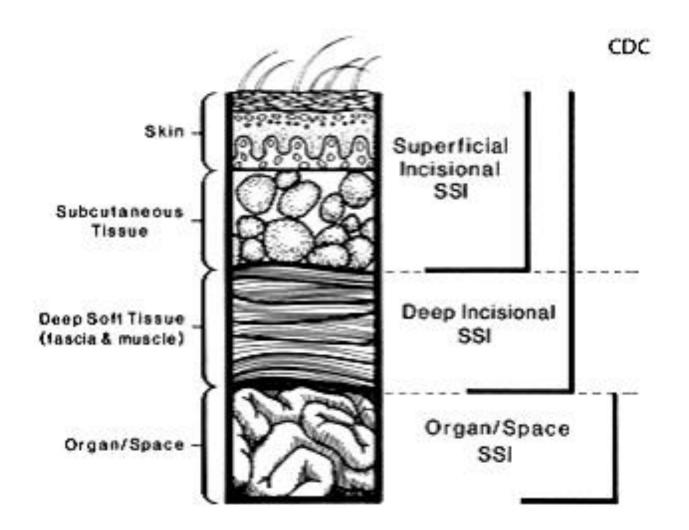
Question:

Pt has PEG placed on X/X/XX. Pt pulls PEG on X/X/XX and MIC replacement performed. On X/XX/XX, wound culture from purulence draining from old PEG wound reveals E.coli. I&D in OR reveals an abdominal abscess in pre-peritoneal space requiring extension of incision of old PEG site. What complication does this patient have?

- **A. Superficial SSI**
- **B. Deep SSI**
- C. Organ/space SSI
- **D. Wound disruption**
- E. None



Pre-peritoneal space lies in the abdominal cavity between the peritoneum and transversalis fascia.



Answer:

Pt has PEG placed on X/X/XX. Pt pulls PEG on X/X/XX and replacement performed. On X/X/XX, tube dislodged from stomach to abd wall. Wound culture from purulence draining from wound reveals E.coli. I&D in OR reveals an abdominal abscess in pre-retroperitoneal space requiring extending incision of old PEG site. What complication does this patient have?

- **A. Superficial SSI**
- **B. Deep SSI**
- C. Organ/space SSI
- **D. Wound disruption**
- E. None

DEEP INCISIONAL SURGICAL SITE INFECTION

Defined as a deep incisional SSI must meet one of the following criteria:

 Infection occurs within 30 days after the operative procedure if no implant is left in place or within one year if implant is in place and the infection appears to be related to the operative procedure and involves deep soft tissues (e.g., fascial and muscle layers) of the incision.

AND patient has at least one of the following:

- a. Purulent drainage from the deep incision but not from the organ/space component of the surgical site.
- b. A deep incision spontaneously dehisces or is deliberately opened by a surgeon and is culture positive or not cultured when the patient has at least one of the following signs or symptoms: fever (> 38C), or localized pain or tenderness. A culture-negative finding does not meet this criterion.
- c. An abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination
- d. Diagnosis of a deep incision SSI by a surgeon or attending physician

NOTE: There are two specific types of deep incisional SSIs:

Deep Incisional Primary (DIP): a deep incisional SSI that is identified in a primary incision in a patient that has had an operation with one or more incisions (e.g., C- section incision or chest incision for CBGB) Deep Incisional Secondary (DIS): a deep incisional SSI that is identified in the secondary incision in a patient that has had an operation with more than one incision (e.g., donor site [leg] incision for CBGB.)

Reporting Instructions:

Classify infection that involves both superficial and deep incision sites as deep incisional SSI. <u>Report an organ/space SSI that drains through the incision as a deep incisional SSI.</u> If an incision spontaneously opens as a result of infection, code for deep incisional SSI. Reporting Instructions:

Classify infection that involves both superficial and deep incision sites as deep incisional SSI. <u>Report an organ/space SSI that drains through the incision as a deep incisional SSI.</u> If an incision spontaneously opens as a result of infection, code for deep incisional SSI.

Discussion – Time to First Antibiotic

11:30-11:40



Time to First Antibiotic Open Fx - Intro

- Variable is currently in Orange Book (pg. 125)
- Identify current practice
- Explore capture options
- Elicit user preference

Are you currently capturing time to first antibiotic?

For centers currently capturing this only-

How are you capturing time to first antibiotic?

A. Custom elementB. ProcedureC. Other

For centers currently capturing this only-

The Orange Book also mentions the "appropriateness" of the IV antibiotic administered. Are you capturing the name of the antibiotic?

One response per center -

Where would you prefer this be captured?

A. Custom element/MTQIP tabB. ProcedureC. Other

Registrar Round Table

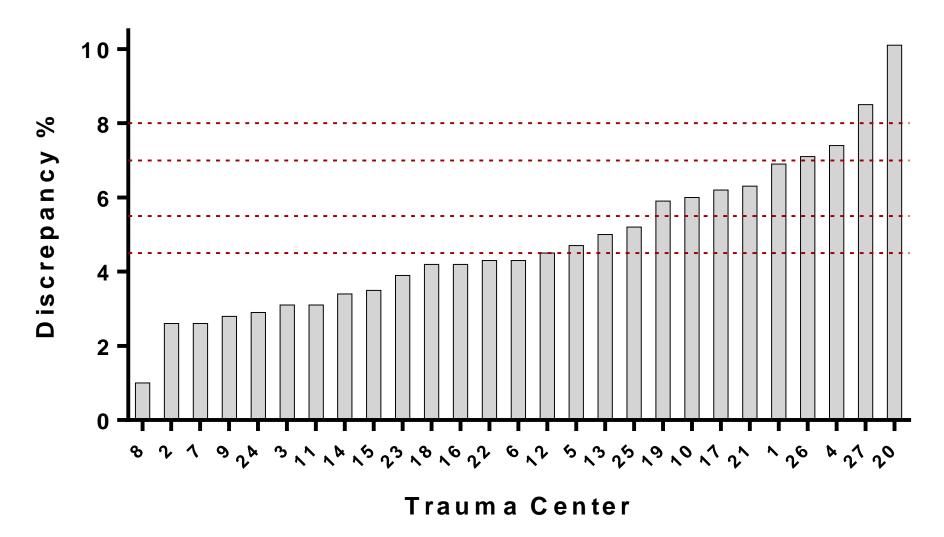
11:40-12:00



What topic provides the highest value for you?

A. Workflow coordination B. Concurrent capture practices

Validation



Workflow Coordination

- Describe your workflow?
- How did you integrate the MCR role?
- How do you know when a case can be closed?
- Do you do any internal validation?

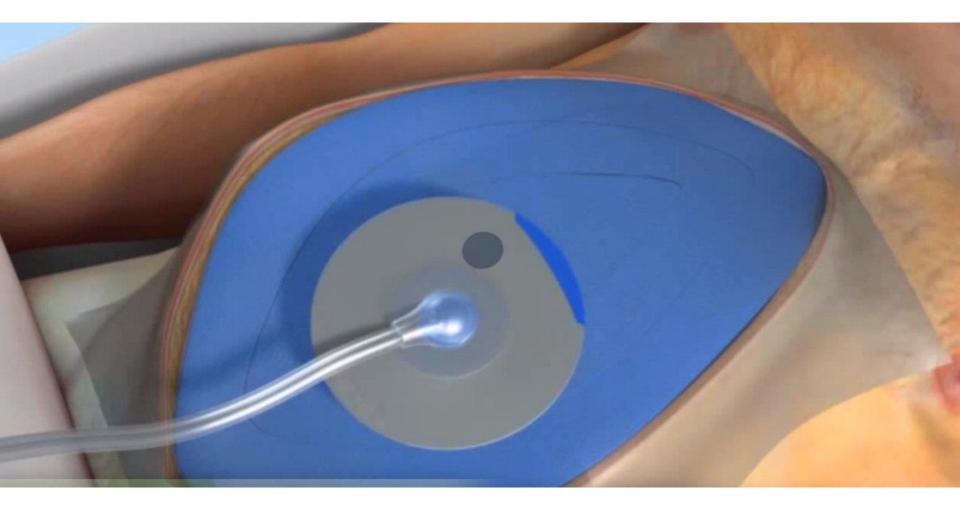
Concurrent Capture Practices

- How did you become concurrent?
- How do you stay concurrent?
- Describe your workflow.
- How do accommodate vacations, etc.?

POP QUIZ Devices

What is the blue thing on the next slide?

- A. Bair hugger
- **B. ABThera wound vac**
- **C. Abdominal binder**
- **D. Lumbar corset**



Answer:

What is this blue thing?

A. Bair hugger
B. ABThera wound vac
C. Abdominal binder
D. Lumbar corset

Lunch

12:05-12:45



Reporting Relay

12:45 - 1:05



What online reporting topic would be most valuable for you to learn more about?

A. IVC Filters B. VTE



Retrieve the most correct values in the shortest period of time

Instructions:

- **1. Divide room in half**
- 2. One member from each side comes up to front
- 3. Read the task on the paper out loud
- 4. Member completes task and writes answer on sheet
- 5. Team can provide verbal guidance from seat only
- 6. After the answer is written, member then chooses the member for next task

Validation Analysis

1:05 – 1:10



Validation Modeling

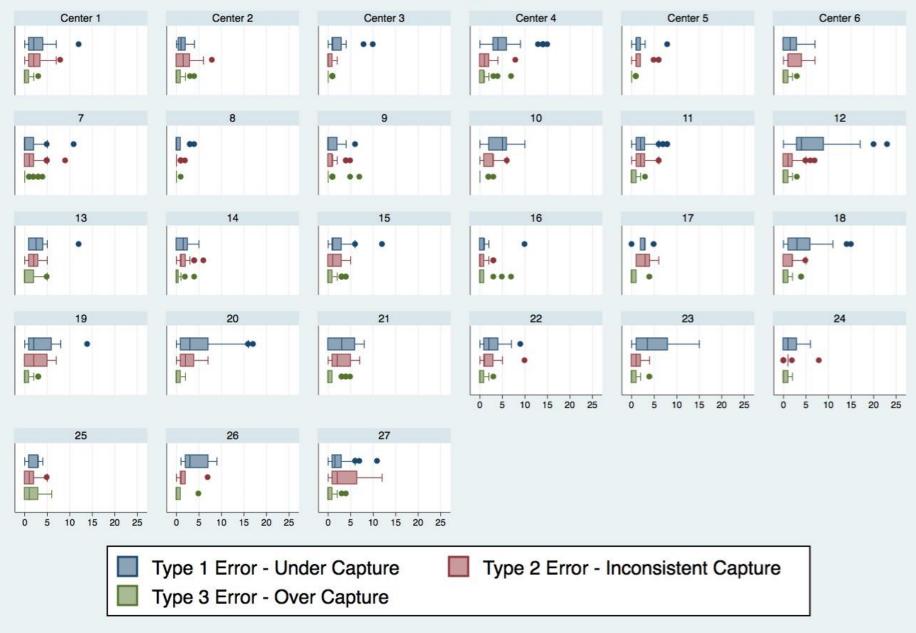


Validation Modeling

M•TQIP



Box Plot of Validation Error Type by Center Numeric ID



POP QUIZ Data

Pt was admitted from home hospice. Admission order indicates comfort care status. Undergoes a palliative procedure then expires on POD #4.

Is this patient a withdrawal of care?

WITHDRAWAL OF CARE

Care was withdrawn based on a decision to either remove or withhold further life sustaining intervention. This decision must be documented in the medical record and is often, but not always associated with a discussion with the legal next of kin.

- DNR not a requirement.
- A note to limit escalation of care qualifies as a withdrawal of care. These interventions are limited to: ventilator support (with or without extubation), dialysis or other forms of renal support, institution of medications to support blood pressure or cardiac function, or a specific surgical, interventional or radiological procedure (e.g. decompressive craniectomy, operation for hemorrhage control, angiography). Note that this definition provides equal weight to the withdrawal of an intervention already in place (e.g. extubation) and a decision not to proceed with a life-saving intervention (e.g. intubation).
- Excludes the discontinuation of CPR and typically involves prior planning.
- DNR order is not the same as withdrawal of care.
- The field value 'No' should be used for patients whose time of death, according to your hospitals definition, was prior to the removal of any interventions or escalation of care.
- Includes brain dead patients where care is withdrawn in coordination with Gift of Life.

Discussion – Standardized Sampling

1:15 – 1:35



Can you say with 100% certainty that you capture 100% trauma patients per the inclusion criteria?

If you answered yes to the previous question, what is your source?

A. Wildcard B. Wildcard C. Wildcard D. Wildcard

How many different sources do you use to capture trauma patients at your center?

- **A. 1**
- **B.** 2
- **C**. 3
- **D.** 4

E. <u>></u> 5

Does your center have an automatic case list feed run out of your EMR?

For the mortality log submission, did you review the list provided my medical records?

If you reviewed the list, how many additional patients did you find?

- A. 0
- **B.** 1-5
- **C.** 6-10
- D. 11-15

Do you plan on continuing this practice of reviewing the medical record mortality list?

Now that you've obtained this log once, how difficult would this be to obtain in the future?

- A. Less than 1 hour
- B. 1-2 hours
- **C. 3-4 hours**
- D. 4-5 hours

E. I'd rather get a yearly wisdom tooth extraction

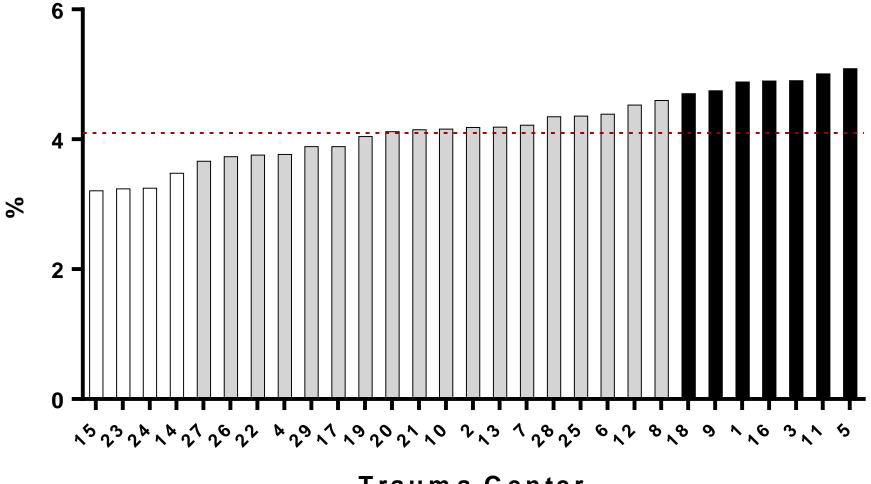
Data

1:35 – 1:55

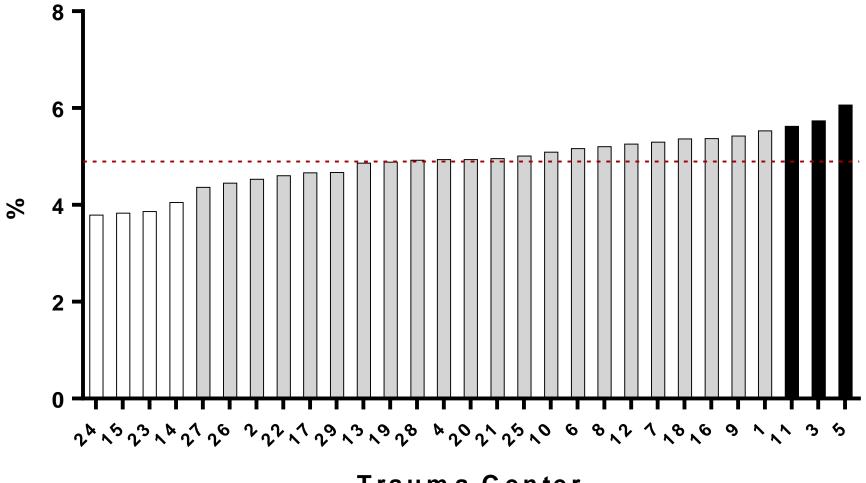


Find Your Opportunity for Improvement

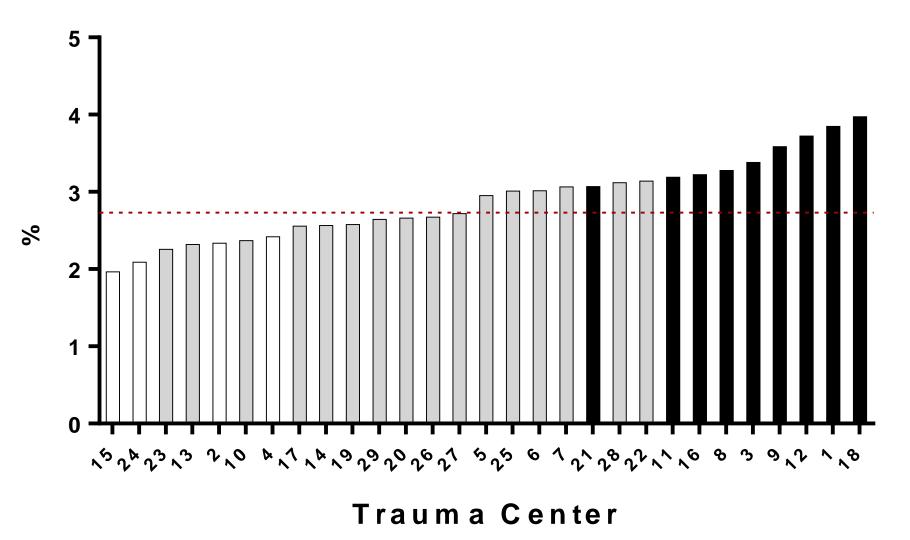
Mortality (Cohort 1 w/o DOA's)



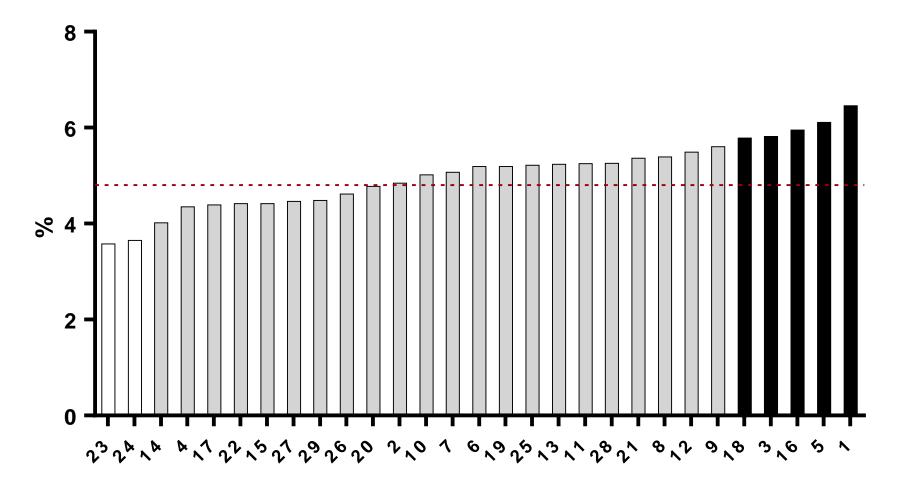
Mortality (Cohort 2 w/o DOA's)



Mortality (Cohort 6)

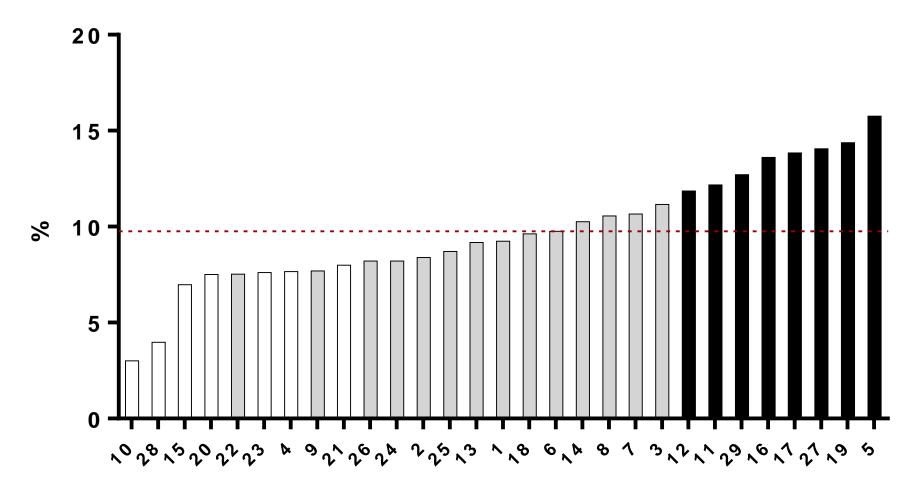


Mortality (≥ 65 yo)

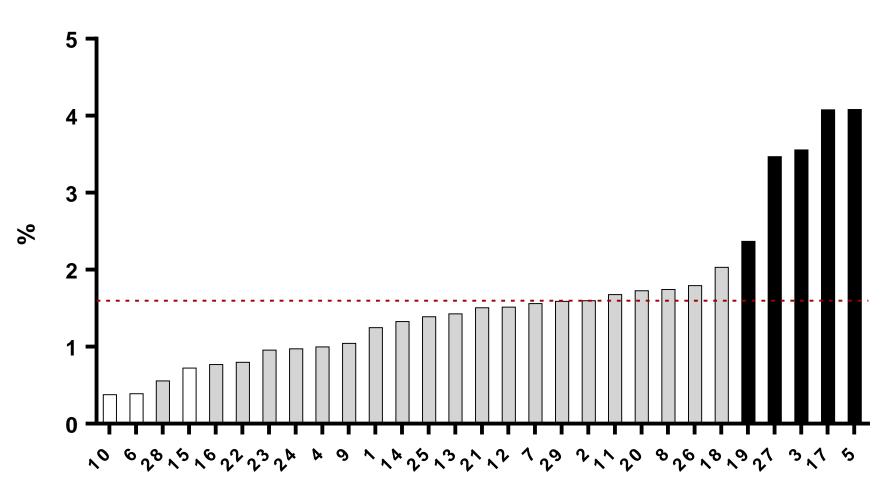


Understand Your Capture Practices

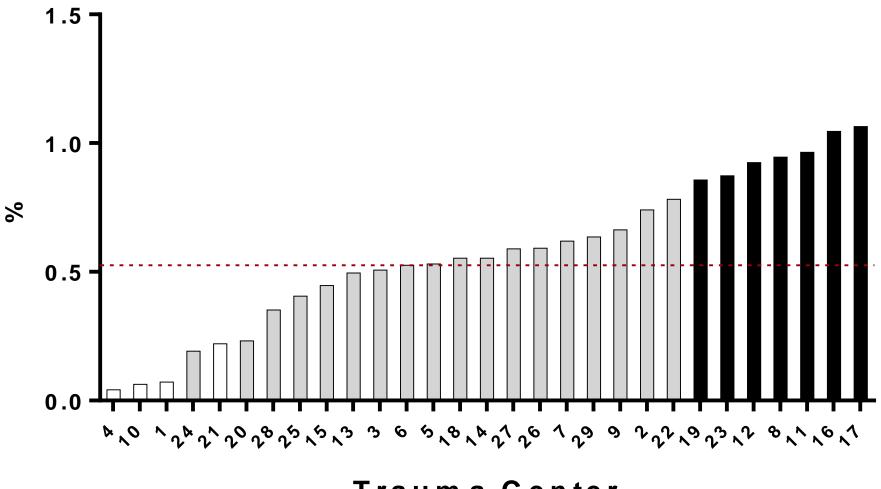
Complications (Any)



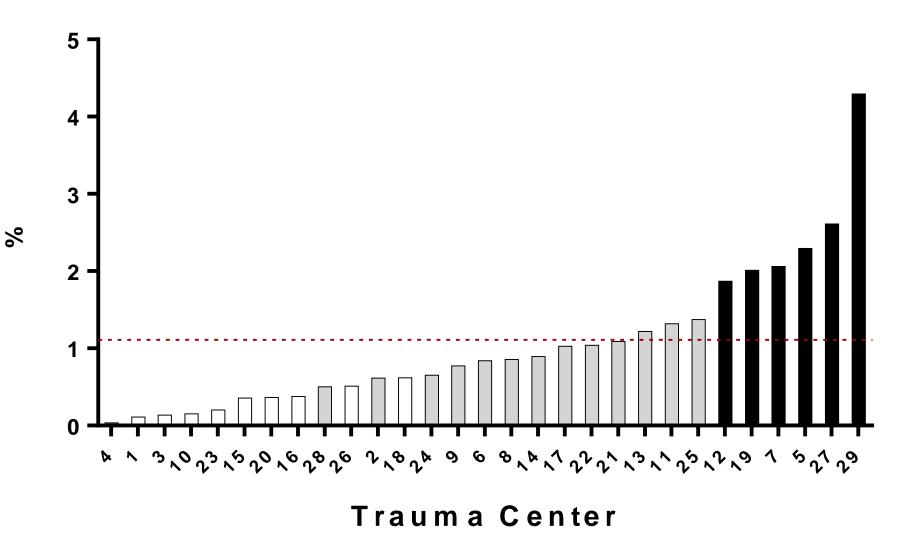
UTI



Unplanned Return to OR



Unplanned Admit or Return to ICU

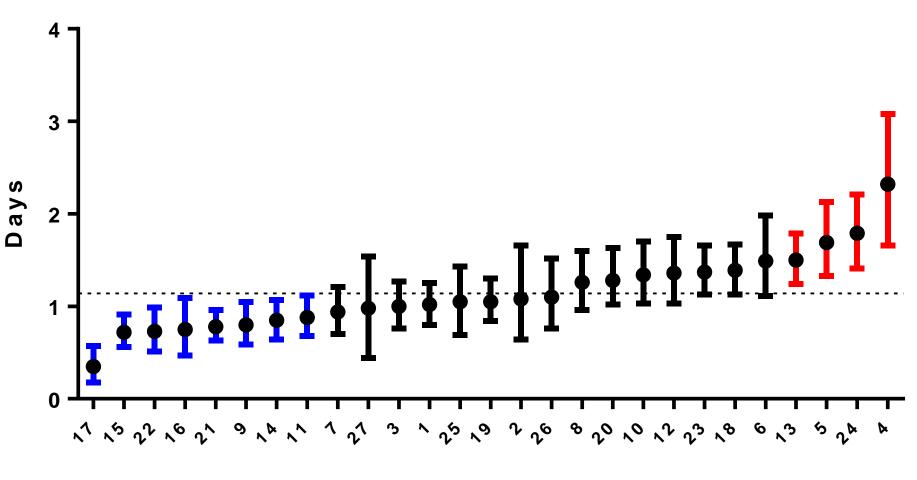


New Analysis

Antibiotic Days

- Two-part model
 - Accounts for patients who get no antibiotics
- Analysis
 - First part is a logistic regression that predicts the probability of a patient getting any antibiotic day.
 - Second part is a negative binomial model that predicts the expected number of antibiotic days.
 - These two estimates get multiplied together to get a predicted # of antibiotic days for each patient.

Adjusted Antibiotic Days



Pg. 31

ED LOS

- Live demonstration
 - Available now under Utilization Drill-Down
- Projected for October
 - ED LOS for activations
 - ED LOS by disposition location

Discussion – Performance Index Validation Scoring

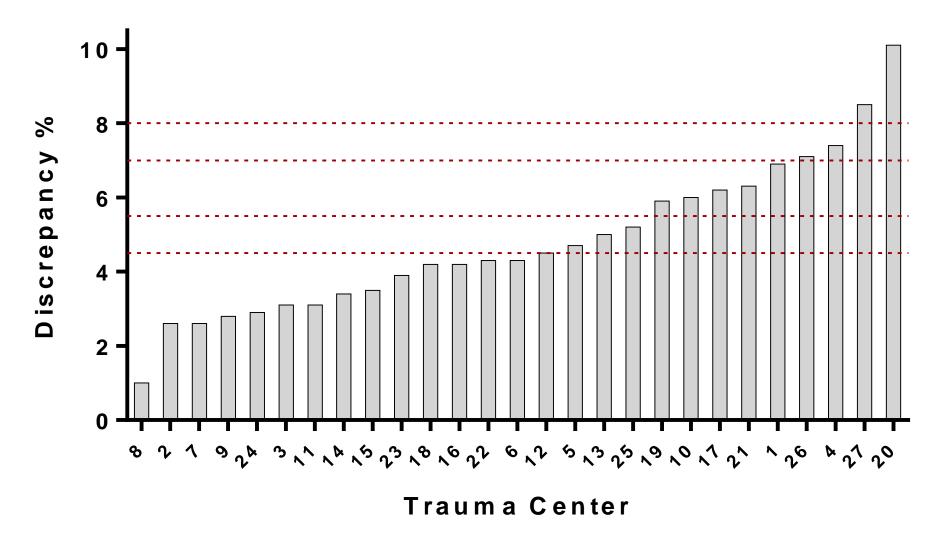
1:55 – 2:15



Data Validation - Current

Data Accuracy	Error Rate (%) Visit 1	Error Rate (%) Visit 2+	Points
5 Star	0 – 4.5	0 – 4.5	10
4 Star	4.6 – 5.5	4.6 – 5.5	8
3 Star	5.6 - 8.0	5.6 – 7.0	5
2 Star	8.1 - 9.0	7.1 – 8.0	3
1 Star	> 9.0	> 8.0	0

Validation



Current

Data Validation – Option A Data-driven solution

Data Accuracy	Error Rate (%)	Points
5 Star	0 - 3.0	10
4 Star	3.1 - 4.0	8
3 Star	4.1 - 5.0	5
2 Star	5.1 – 7.0	3
1 Star	> 7.0	0

Data Validation – Option B Progressive growth solution

Data Accuracy	Error Rate (%)	Points
5 Star	0 - 4.0	10
4 Star	4.1 - 5.0	8
3 Star	5.1 – 7.0	5
2 Star	7.1 – 8.0	3
1 Star	> 8.0	0

Data Validation – Option C Progressive growth solution

Data Accuracy	Error Rate (%)	Points
5 Star	0 - 4.0	10
4 Star	4.1 - 5.0	8
3 Star	5.1 - 6.0	5
2 Star	6.1 - 7.0	3
1 Star	> 7.0	0

Data Validation – All Options

Data Accuracy	Current Error Rate (%)	Option A Error Rate (%)	Option B Error Rate (%)	Option C Error Rate (%)	Points
5 Star	0 – 4.5	0 – 3.0	0 - 4.0	0 - 4.0	10
4 Star	4.6 – 5.5	3.1 – 4.0	4.1 – 5.0	4.1 – 5.0	8
3 Star	5.6 – 7.0	4.1 – 5.0	5.1 – 7.0	5.1 – 6.0	5
2 Star	7.1 – 8.0	5.1 – 7.0	7.1 – 8.0	6.1 – 7.0	3
1 Star	> 8.0	> 7.0	> 8.0	> 7.0	0

Question:

What validation is the most reasonable, equitable and attainable?

A. Option AB. Option BC. Option CD. Other

New Tools

2:15 - 2:20



Analytics – Cohort 7 (Benchmark Filter)

Cohort 1 (All)	*
Cohort 1 (All)	
Cohort 2 (Admit to 1	Trauma Service)
Cohort 3 (Blunt Mul	lti-System)
Cohort 4 (Blunt Sing	gle-System)
Cohort 5 (Penetratir	ng)
Cohort 6 (Admit to r	non-Trauma Service
Cohort 7 (Benchma	rk)

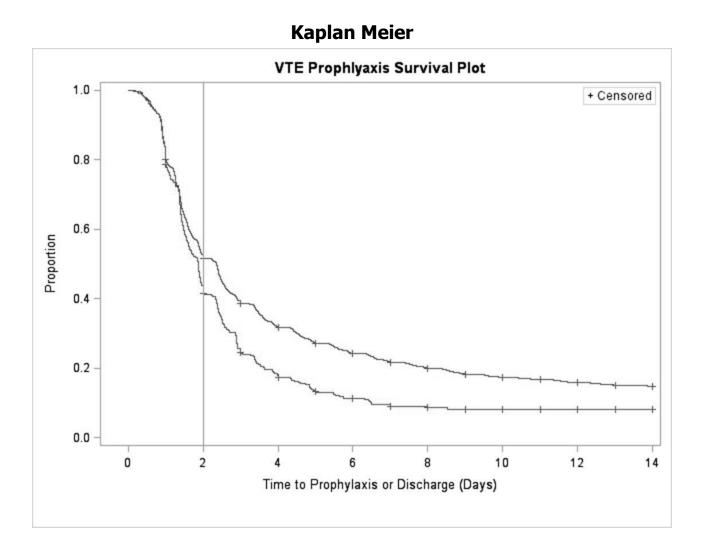
Available Now

Analytics – Cohort 7 (Benchmark Filter)

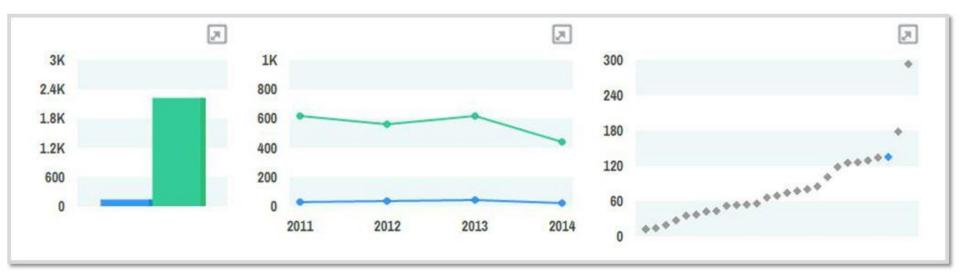
- Age <u>></u> 16
- ISS <u>></u> 9
- Exclude if DOA
- Exclude if transferred out
- Exclude if discharged directly from ED alive
- Exclude if has advanced directive limiting care
- Exclude if hip fx and fall and age \geq 65
- Will not match ACS-TQIP exactly
 - MTQIP AIS 2005
 - ACS-TQIP ICD9 \rightarrow AIS 1998

Available Now

Analytics – VTE Performance Metric



Retired



VTE Prophylaxis at 48 Hours	Cases Numerator	Cases Demoninator	X Hospital - Unadj	MTQIP All - Unadj	P Value - Unadj
Heparin, LMWH < 48 Hours	N	N	%	%	
Heparin, LMWH > 48 Hours	N	N	%	%	
Coumadin, Xa, DTI, Other ≤ 48 Hours	N	N	%	%	
Coumadin, Xa, DTI, Other > 48 Hours	N	N	%	%	
No VTE Prophylaxis	N	N	%	%	
Missing Time	N	N	%	%	

VTE Prophylaxis at 48 Hours

Heparin, LMWH < 48 Hours

Heparin, LMWH > 48 Hours

Coumadin, Xa, DTI, Other < 48 Hours

Coumadin, Xa, DTI, Other > 48 Hours

No VTE Prophylaxis

Missing Time



Heparin, LMWH < 48 Hours

Heparin, LMWH > 48 Hours

Coumadin, Xa, DTI, Other < 48 Hours

Coumadin, Xa, DTI, Other > 48 Hours

No VTE Prophylaxis

Missing Time

VTE Prophylaxis at 48 Hours

Heparin, LMWH < 48 Hours

Heparin, LMWH > 48 Hours

Coumadin, Xa, DTI, Other < 48 Hours

Coumadin, Xa, DTI, Other > 48 Hours

No VTE Prophylaxis

Missing Time

VTE Prophylaxis at 48 Hours

Heparin, LMWH < 48 Hours

Heparin, LMWH > 48 Hours

Coumadin, Xa, DTI, Other < 48 Hours

Coumadin, Xa, DTI, Other > 48 Hours

No VTE Prophylaxis

Missing Time

Discussion – Online Age Filters

2:20 - 2:25



PRQ

Facility treats what type of patients:

- 1. Adults Only (age equal to or greater than 15 years of age)
- 2. Children Only (age equal to or less than 15 years of age)
- 3. Adults and Children (ages)

ALL	-
ALL	
16 to 24	
25 to 34	
35 to 44	
45 to 54	
55 to 64	
< 65	
>= 65	
65 to 74	
75 to 84	
> 84	

ArborMetrix

Question:

For an online PRQ, would the addition of the age filters 0-15 and \geq 16 represent the patient populations you are asked to run reports on as an adult, peds or adult+peds center?

A. Yes B. No

Survey Results Judy Mikhail

2:25 - 2:35



BCBSM MTQIP 2015 Performance Review Results

Judy Mikhail, Program Manager

MTQIP 2015 Performance Evaluation Results

<u>Part I</u>

- Performed q 2 years
- Collected on the October MTQIP Meeting Evaluation
 - Surgeons/TPMs
 - Registrars/MCRs
- 4 Questions
- Response Rate
 - 80/98 (82%)

<u>Likert Scale</u>

- Strongly Agree = 5
- Agree = 4
- Neutral = 3
- Disagree = 2
- Strongly Disagree = 1

#	BCBSM Annual Fall 4 Questions	Average 4 Agree 5 Strongly Agree
1	I find value in MTQIP	4.7
2	Our hospital can only participate in MTQIP CQI with BCBSM financial support	4.5
3	The MTQIP coordinating center is a valued partner	4.7
4	BCBSM/BCN has been a reliable partner in the MTQIP CQI quality effort	4.7
	Total	4.65

MTQIP 2015 Performance Evaluation Results

Part II

- Performed q 2 years in the Fall
- Electronic evaluation sent by BCBSM
- Multiple Questions
- To MTQIP Physicians, TPMs, Registrars
- 2015 Response Rate 51%

MTQIP Evaluation 2015

Staff Scores	2013	2015	Change
Leadership & Guidance	4.3	4.6	0.3
Accessibility	4.5	4.7	0.2
Collaborative Meetings	4.1	4.5	0.4
Individual Working Group Team Meetings	4.2	4.4	0.1
Data Registry	3.9	4.3	0.4
Data Reports	3.8	4.2	0.4
On-Site Data Audits	4.7	4.5	-0.2
Facility Related Questions	3.7	4.3	0.6
BCBSM Related Questions	4.1	4.5	0.4
Overall Average Score Per CQI	4.1	4.4	0.3

Physician Scores	2013	2015	Change
Leadership & Guidance	4.3	4.5	0.2
Collaborative Meetings	4.0	4.2	0.2
Individual Working Group Team Meetings	4.3	4.3	0.0
Data Reports	3.9	4.1	0.2
Facility Related Questions	3.9	4.3	0.4
Overall Average Score Changes Per CQI	4.1	4.31	0.21



Discussion – Central Site Data Submission

2:35 – 2:55



Central Site Submission

- 2:35 2:45
- What worked?
- What didn't work?
- What's a better approach/solution?

2:45 - 2:55

• Share with group

Closing Comments

Evaluations
 Fill out and turn in

- Feedback
- Questions?

Thank you



New Member Debriefing

3:00-3:15

