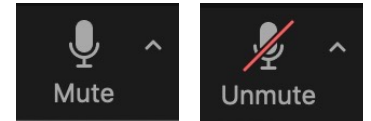


Data Abstraction Staff Education Event

Virtual, MI
December 15, 2021





Meeting Logistics

- **Join via computer**
- **Please use full name**
- **Mute all microphones**
- **Feedback opportunities at section ends**
- **Unmute your own microphone**

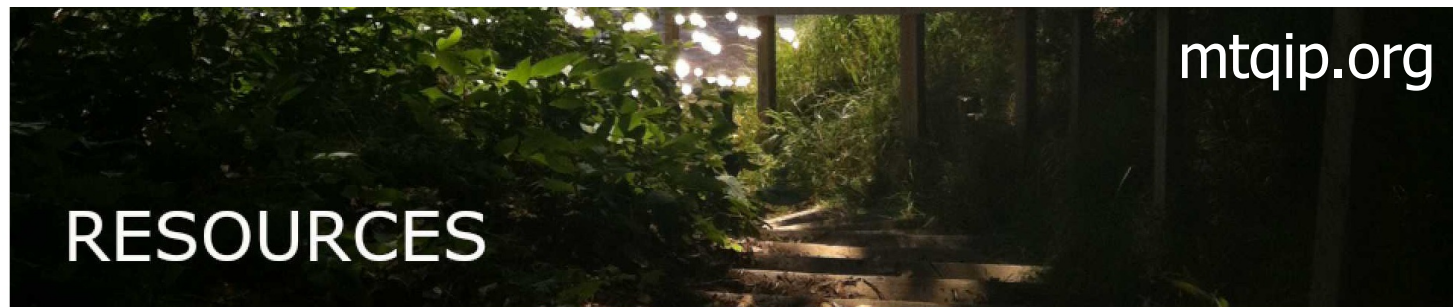
Disclosures

**Salary support for MTQIP from BCBSM/BCN
and the State of Michigan**

Updates

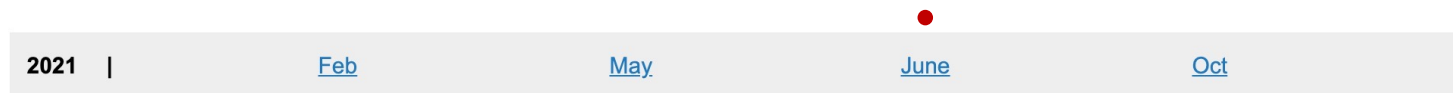
- **Announcements**
New analytics
Research in Progress

Slides



SLIDES

MEETING SLIDES



Available Now

New Staff Transition

- **MTQIP/MACS data validation**
- **Education curation**
- **Member resource**



Shauna Di Pasquo
Data Quality Specialist

MTQIP Orientation

- **Introduction**
- **Demographic Information**
- **Injury Information**
- **Pre-Hospital Information**



Shauna Di Pasquo
Data Quality Specialist

2022 Validation Center Selection



Shauna Di Pasquo
Data Quality Specialist



Data Dictionary Hyperlinks

4.4 PRE-HOSPITAL CARDIAC ARREST

Description

Indication of whether the patient experienced cardiac arrest prior to ED/Hospital arrival.

Element Values

1. Yes
2. No

Additional Information

- A patient who experienced a sudden cessation of cardiac activity. The patient was unresponsive with no normal breathing and no signs of circulation.
- The event must have occurred outside of the index hospital. Pre-hospital cardiac arrest could occur at a transferring institution.
- Any component of basic and/or advanced cardiac life support must have been initiated.

Resources

- [Orientation](#)



Jill Jakubus
Program Manager - Data

Zoom Meeting Polls/Quizzes

- **Maiden voyage**
- **Engaging experience**
- **No software to download**



Jill Jakubus
Program Manager - Data

Alcohol Use Disorder – DSM V Criteria Video

ALCOHOL USE DISORDER

DESCRIPTION

Descriptors documented in the medical record consistent with the diagnostic criteria of alcohol use disorder OR a diagnosis of alcohol use disorder documented in the patient's medical record.

ELEMENT VALUES

1. Yes
2. No

ADDITIONAL INFORMATION

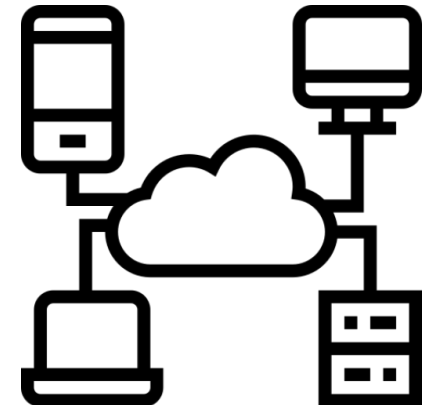
- Present prior to injury. ●
- Consistent with American Psychiatric Association (APA) DSM 5, 2013.
- The null value "Not Known/Not Recorded" is only reported if no past medical history is available.



Sara Samborn
MTQIP Auditor & SOM Lead


Data Submission


- **Due: 2/4/22**
- **Minimum interval: 7/1/20 – 10/31/21**
- **First submission: 1/1/16**





Updates


- **Announcements**
 - **New analytics**
- Research in Progress**



Home



MTQIP List



MTQIP Reports



PRQ Reports



MACS List


MACS Reports


Push Reports


Resources


Help

 FILTERS

HOSPITALS

Hospital X

☐ Select All

APPLY

COHORT

Cohort 00 (All)

DEAD

No Filter

AGE

All

ASA SCORE

No Filter

TRANSFERS IN

Include Transfers In

PERIOD GROUP

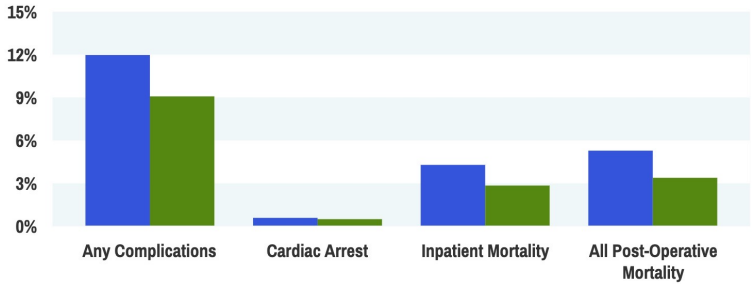
Default Periods

DEFAULT PERIODS

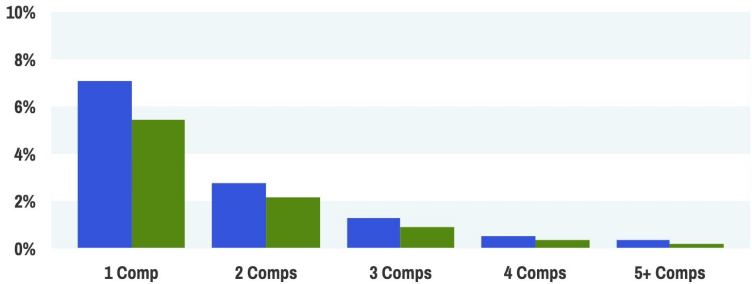
Program To Date

LEGEND Hospital X MTQIP - All

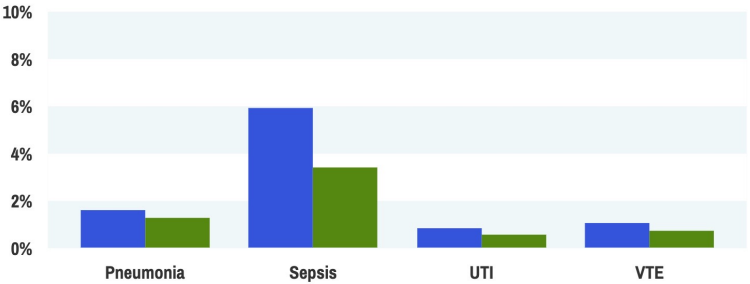
Outcomes Overview



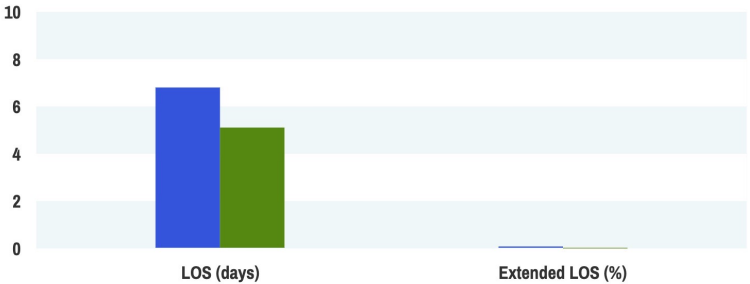
of Complications




Complications by Type



Service Utilization



 FILTERS

HOSPITALS

Hospital X

☐ Select All

APPLY

COHORT

Cohort 00 (All)

DEAD

No Filter

AGE

All

ASA SCORE

No Filter

TRANSFERS IN

Include Transfers In

PERIOD GROUP

Default Periods

DEFAULT PERIODS

Program To Date



Updates

- **Announcements**
- **New analytics**
- **Research in Progress**

Research in Progress

Center	PI	Topic	Phase
Detroit Receiving	Oliphant	The accuracy of orthopedic data in a trauma registry	Analysis
Henry Ford	Johnson	EMS vs. private car effect on outcomes	
Michigan Medicine	Anderson	Trauma outcomes	New
Michigan Medicine	Hemmila	Pedestrian protection	
• Michigan Medicine	Oliphant	Decreasing time to antibiotic administration in open fractures of the femur and tibia through PI in CQI	Presented CSA/MSA Accepted <i>Surgery</i>
Michigan Medicine	Oliphant	Trauma center characteristics that drive quality, cost and efficiency in lower extremity injuries	New
Michigan Medicine	Ward	Clinical decision support tools	
Spectrum Health	Chapman	Outcomes in operative fixation of rib fractures	Analysis
Spectrum Health	Little	Traumatic frontal sinus fractures	Transitioning to center level analysis only
• Spectrum Health	Miller	Outcomes in IMN of long bone fractures	Preparing for submission
• St Joseph Mercy Ann Arbor	Curtiss	Infection rates in operative trauma patients	New
St Joseph Mercy Ann Arbor	Hecht	Time to anticoagulant reversal	
St. Joseph Mercy Ann Arbor	Hoesel	Rib fractures in the elderly	Analysis
St. Joseph Mercy Ann Arbor	Keyes	Impact of COVID-19 on trauma in the ED	
• U of M Health - West	Mitchell	Blunt cerebral vascular injury	Analysis

Feedback



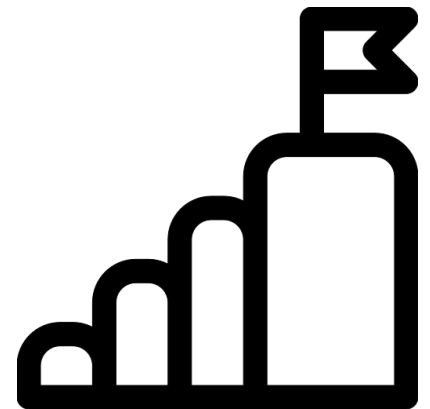
Data Bytes

Jill Jakubus



Data Gremlins

- **Issue/Inquiry**
- **Impact/Rationale**
- **Solution**
- **Feedback**



Issue | Missing ED Date/Time

ed_arrdate _missing	CDM	DI	Total
0	117,309	143,976	261,285
1	5	504	509
Total	117,314	144,480	261,794

year	CDM	DI	Total
15	0	9	9
16	0	97	97
17	5	159	164
18	0	137	137
19	0	86	86
20	0	12	12
21	0	4	4
Total	5	504	509

Oct Data Submission

Impact | Missing ED Date/Time

- **Benchmark fidelity**
- **Quality improvement impact**
- **Hospital support based on volume**

Solution | Missing ED Date/Time

- **Hospital feedback**
- **Dropbox list**
- **Transfer patients**

year	CDM	DI	Total
15	0	9	9
16	0	97	97
17	5	159	164
18	0	137	137
19	0	86	86
20	0	12	12
21	0	4	4
Total	5	504	509

Data Dictionary
ED/Hospital Arrival Date

The screenshot shows the 'Trauma Data Editor' window with several tabs: Demographic, Injury, Prehospital, Referring Facility, ED/Resus, and Patient Tracking. The 'ED/Resus' tab is active, showing sub-tabs for Arrival/Admission, Initial Assessment, Vitals, Labs, and Notes. Under the 'Arrival/Admission' sub-tab, there is a 'Direct Admit' checkbox which is checked. Below this, there are two date/time fields: 'ED Arrival' and 'ED Departure/Admitted'. A red arrow points to the 'ED Arrival' field, which is currently empty. The 'ED Departure/Admitted' field shows a date of 11/11/11 and a time of 12:11.

Feedback

Inquiry | Acute Kidney Injury

9.6 ACUTE KIDNEY INJURY

Description

A patient who did not require chronic renal replacement therapy prior to injury, who has worsening renal dysfunction after injury requiring renal replacement therapy.

Element Values

- Acute Kidney Injury (NTDS 4)

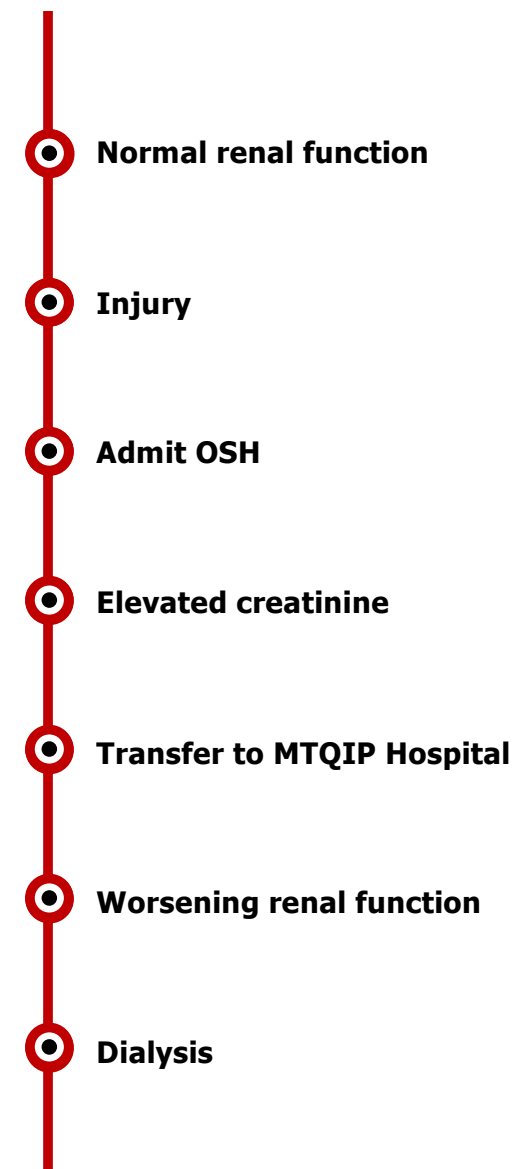
Additional Information

- If the patient or family refuses treatment (e.g., dialysis), the condition is still considered to be present if a combination of renal function and urine output criteria are present.
 - Renal function criteria: Increase creatinine x 3 or GFR decrease > 75%.
 - Urine output criteria: Urine output < 0.3ml/kg/hr x 24 hr. or Anuria x 12 hrs.
- Exclude renal replacement therapy for the sole indication of drug clearance.

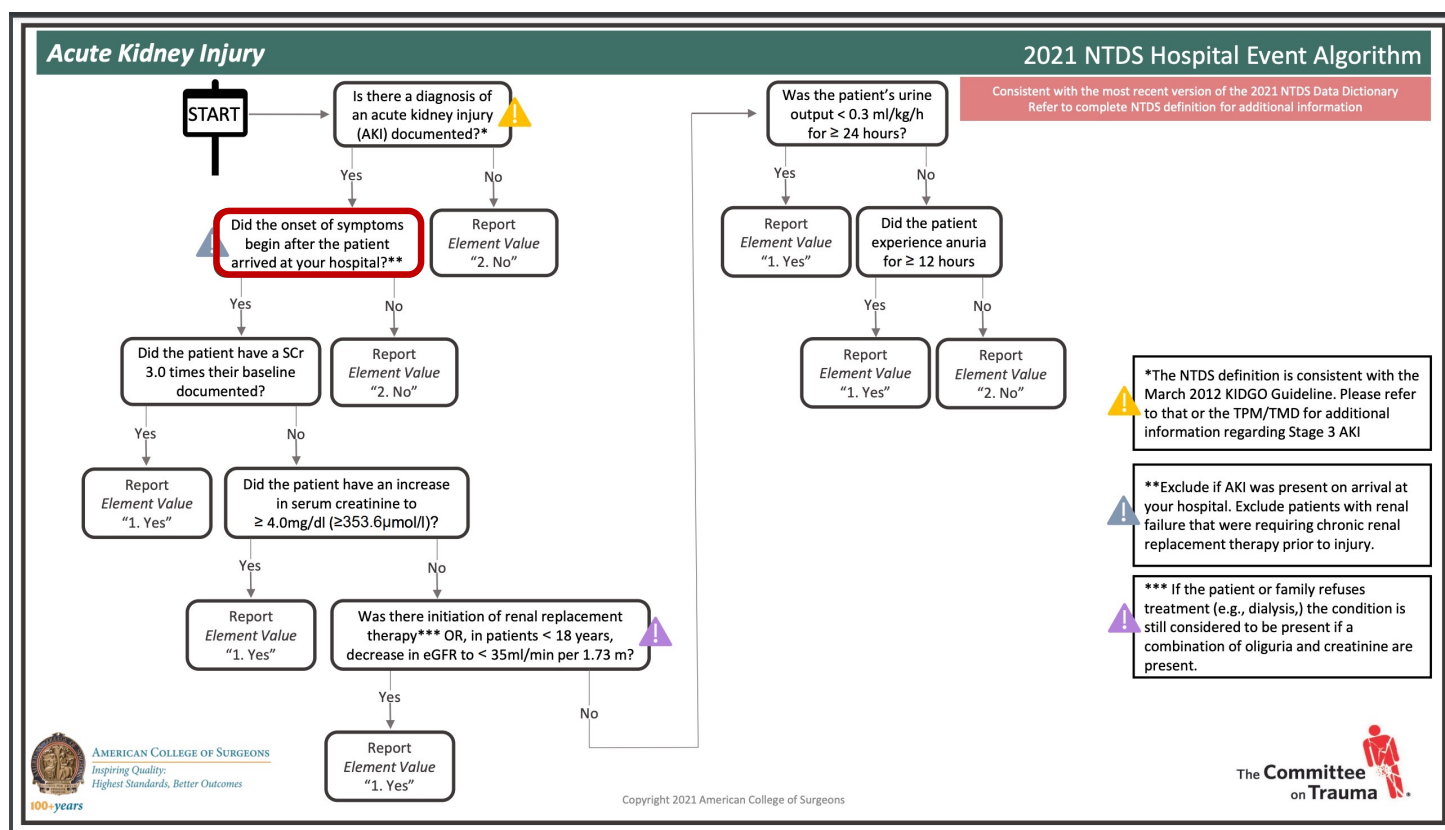
Resources

Codebook

- Source: **MTQIP**, NSQIP



Inquiry | Acute Kidney Injury



Inquiry | Acute Kidney Injury

M·TQIP

Data Standardization Process

Overview

MTQIP's mission is to measure and improve the quality of care administered to trauma patients in Michigan. To pursue this mission the data must reflect the actual care delivered to patients. Additionally, it is recognized that data abstraction is a limited and valuable resource.

MTQIP is committed to the capture of a parsimonious data set with definitions that are consistent across multiple entities and will attempt to minimize inconsistencies. However, when the data or definitions of an outside entity negatively impact the collaborative's ability to capture actionable data MTQIP's data dictionary may deviate.

Objective

To provide a standardized and transparent methodology for handling data elements and definitions where an outside entity's definition compromises data integrity consistent with the mission of MTQIP.

Framework

MTQIP will use the following criteria to guide decisions regarding data succession where variables that may deviate from an outside entity.

1. Data is being used in MTQIP reporting or analytics to drive quality improvement
2. Data reflects actual care being delivered to the patient
3. Data definition is objective and promotes data integrity

Variables or definitions that possess an affirmative answer to any of the above may deviate from an outside entity's and will be identified in red font in the data dictionary.

Issue | AAAM Hypothermia

AIS 2005	Injury Description
010000.1	Hypothermia NFS (primary injury, not treatment -related or sequela)
010002.1	34 - 35 °C
010004.2	33 - 32 °C
010006.3	31 - 30 °C
010008.4	29 - 28 °C
010010.5	< 28 °C

2012 Clarification: Hypothermia code hypothermia to whole number temperature only; do not round up or down. For example, 31.7 C should be assigned to 010006.3

2019 Clarification: Hypothermia codes for Fahrenheit provided.

Issue | AAAM Hypothermia

AAAM 2013

The intent of the direction “primary injury” means the patient comes in with it – it isn’t the result of cooling in the OR or therapeutic hypothermia. In the example you give you may code the anatomic injuries **and** the hypothermia.

AAAM 2021

Hypothermia should be coded when it is a result of the primary injury – not treatment related or sequelae. In order to code hypothermia in AIS 2005 you **should have an acknowledgment (documentation) of hypothermia** in the medical record by the MD. Also, you should only code hypothermia in patients who come in **“cold due to exposure”**. A temperature < 36C should not result in automatically coding hypothermia. As always when in doubt code conservatively, or at times don’t code.

Impact | AAAM Hypothermia

- **Risk-adjustment modeling**

Solution | AAAM Hypothermia

- **Pending AAAM feedback**
- **Response to scenarios requested**
- **Collaborative distribution upon receipt**

Feedback

Inquiry | TXA Type

12.17 TRANEXAMIC ACID ADMINISTRATION TYPE (DOSE 1-3)

Reporting Criterion

Report on all patients.

Description

The administration type of each of the tranexamic acid (TXA) doses.

Element Values

1. IV drip
2. IV bolus

Additional Information

- Report up to 3 doses.
- Report ordered doses to be given over ≤ 1 hour as a bolus.
- Reported ordered doses to be given over multiple hours as a drip.
- Exclude doses administered via non-IV routes.
- Literature-supported administration: 1 gram loading (bolus) dose given over 10 minutes followed by an infusion (drip) of 1 gram given over 8 hours or until the bleeding stops.

Resources

Codebook

Source: [MTQIP](#), [CRASH-2](#)



Injury



EMS TXA Administration



Admit MTQIP Hospital

Impact | TXA Type

- **Abstraction staff burden**
- **High frequency missing data potential**
- **Creation of limited utility analytics**

Solution | TXA Type

- **2022 Validation: Unknown or bolus accepted**
- **2023 MTQIP Data Dictionary update**

Per EMS protocol, EMS can only administer TXA via bolus, please report bolus unless contradicting documentation.


Solution | TXA Type



Initial Date: 10/25/2017

Michigan MEDICATION SECTION TRANEXAMIC ACID (TXA)(OPTIONAL)

Dosing:

1. Adults
 - a. 1 g of TXA mixed in 100 ml of normal saline
 - b. Administered over 10 minutes
-  2. Pediatrics (only appropriate inside a formal research study)
 - a. 15 mg/kg TXA
 - b. Administered over 10 minutes

Precautions:

1. Must be administered within 3 hours of injury
2. Do not delay transport for administration of TXA
3. TXA delivered in the field is a loading dose
 - a. It is not effective if a second dose is not given at the appropriate time in the hospital
 - b. It is very important that the administering provider make note of the time that the loading dose is given

Bonus | Data TXA Type 1

	No Mortality	Mortality	Total
IV Drip	235	12	247
IV Bolus	1,645	124	1,769
Total	1,880	136	2,016

Missing Type = 8 Patients

Feedback

Inquiry | Cardiac Arrest with CPR

9.11 CARDIAC ARREST WITH CPR

Description

Cardiac arrest is the sudden cessation of cardiac activity after hospital arrival. The patient becomes unresponsive with no normal breathing and no signs of circulation. If corrective measures are not taken rapidly, this condition progresses to sudden death.

Element Values

- Cardiac Arrest with CPR (NTDS 8)

Additional Information

- Cardiac arrest must be documented in the patient's medical record.
- Include patients who, after arrival at your hospital, had an episode of cardiac arrest evaluated by hospital personnel and received compressions or defibrillation or cardioversion or cardiac pacing to restore circulation.
- Exclude patients whose ONLY episode of cardiac arrest with CPR was on arrival to your hospital.
- Enter date and location of CPR or similar advanced measures (e.g., open cardiac massage in the procedures section).

Resources

Codebook

Source: NTDS

GSW to chest

OR Thoracotomy

Asystole

Cardiac massage

Epinephrine

Solution | Cardiac Arrest with CPR

- **Yes, please report Cardiac Arrest with CPR.**
- **The provided scenario documents cessation of cardiac activity by the presence of "asystole" and that the patient received internal compressions by the presence of "massaged by hand." Please also find attached an excerpt from the NTDS FAQ supporting use of documentation of verbiage consistent with cessation of cardiac activity.**

NTDS FAQ | Cardiac Arrest with CPR

After arriving at the trauma center, if a patient had documented loss of heart rate and had compressions started, but "cardiac arrest" was not documented in the chart, what should be reported for the **Cardiac Arrest with CPR** data element?

In this instance, report the *Element Value* "1. Yes" for the **Cardiac Arrest with CPR** data element because there is documentation of the cessation of cardiac activity after hospital arrival and the patient received compressions.

Feedback

Inquiry | Medical Record Number

- **Medical Record Number**
- **FIN**
- **CSN**
- **Hospital Account Number**

Impact | Medical Record Number

- **Leverage linkage**
- **Data validation**

Solution | Medical Record Number

2.14 PATIENT'S MEDICAL RECORD NUMBER

Description

The medical record number of the patient at your hospital.

Element Values

- Relevant value for data element.

Additional Information

- This number should be the unique identifier to the patient at your hospital.
- This identifier should be able to identify the patient across all their care visits at your center and should not be unique for a single encounter.

avoid numbers associated with a single visit

Resources

- [Orientation](#)

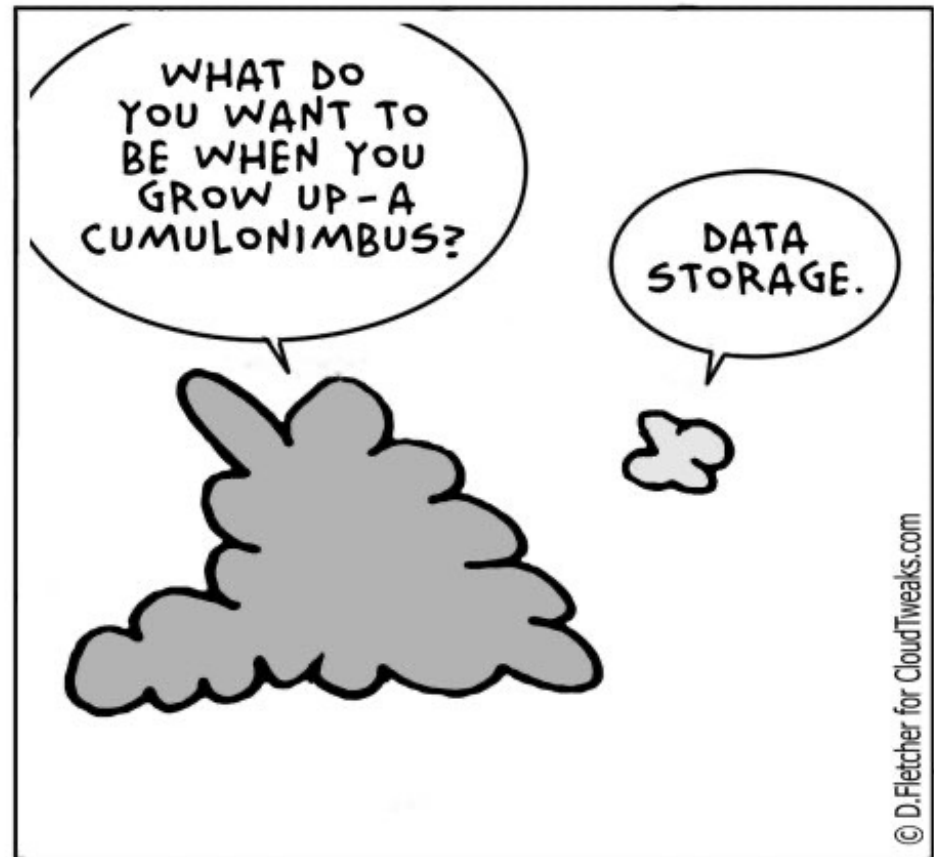
Codebook

Source: **MTQIP**

Feedback

Break

5 minutes

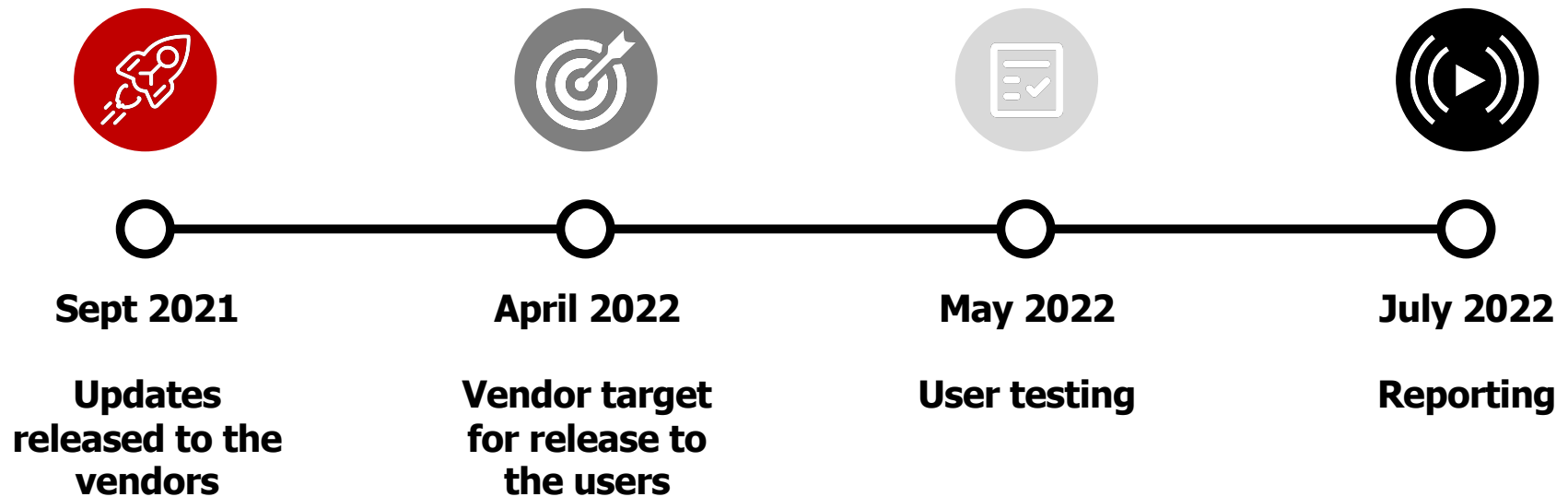


Opioid Process Measures Workshop

Jill Jakubus

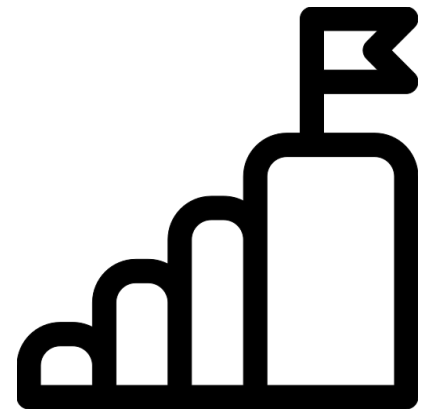


Opioid Implementation Timeline



Opioids

- **Definitions/PRO tips**
- **Quiz**
- **Answers**
- **Feedback**



12.28 OPIOID USE

Do not include positive drug screen results

Reporting Criterion

Report on all patients.

Description

Descriptors documented in the patient's medical record consistent with opioid use within a 5-day-timeframe prior to admission at the index hospital.

Element Values

0. None
1. Prescribed
2. Recreational
3. Both
4. Unknown indication

For opioids not prescribed to the patient

Additional Information

- All routes of opioid administration are included.
- Exclude opioid administration provided as part of care for traumatic injuries.

Resources

- [Drug search](#)

Same Picklist

**TABLET TYPE 2
SOLUTION TYPE 1
OTHER TYPE 1**

12.29 TABLET TYPE 1

Reporting Criterion

Report on all patients.

Description

The type of opioid tablet prescribed at discharge.

Element Values

0. None
1. Buprenorphine
2. Codeine
3. Dihydrocodeine
4. Fentanyl
5. Hydrocodone
6. Hydromorphone
7. Meperidine
8. Methadone
9. Morphine
10. Oxycodone
11. Pentazocine
12. Tapentadol
13. Tramadol
14. Other

Additional Information

- Report capsules in the tablet data fields.
- Only report the opioid component of the prescription (e.g., oxycodone/acetaminophen 5 mg/325 mg, report oxycodone).

If patient prescribed 2 different tabs, doesn't matter which one is entered into Type 1

If you see a brand name like Norco, use the drug search hyperlink in the dictionary to verify the opioid components, i.e., hydrocodone

12.30 STRENGTH

This is the number before the units such as mg

Reporting Criterion

Report on all patients.

Description

The strength of opioid prescribed at discharge.

Element Values

- Relevant value for data element.

Additional Information

- Only report the opioid component of the prescription (e.g., oxycodone/acetaminophen 5 mg/325 mg, report the number 5).
- Round to the tenth decimal place where applicable (e.g., strength = 8.25 mg, report 8.3)

**Order
should
match**

**Can
verify
here**

Resources

- [Drug search](#)

12.30.1 UNITS

Reporting Criterion

Report on all patients.

Description

The drug units of opioid prescribed at discharge.

Element Values

Fentanyl patches

Powders

1. Milligrams (mg)
2. Micrograms (mcg)
3. Grams (g)
4. Percent (%)
5. Other (other)

Most common

Cartridges

Additional Information

- Only report the opioid component of the prescription.

Resources

- [Drug search](#)

12.31 MILLILITERS OF SOLUTION

This is the number before “mL”

Reporting Criterion

Report on all patients.

Description

The milliliters of solution (mL) of opioid prescribed at discharge.

Element Values

- Relevant value for data element.

Additional Information

- Example 1: acetaminophen/codeine solution 120 mg/12 mg per 5 mL is prescribed.
 - Report the numeric value 5.
- Round to the tenth decimal place where applicable.

**Can
verify
here**

Resources

- [Drug search](#)

12.31 MILLILITERS OF SOLUTION

Reporting Criterion

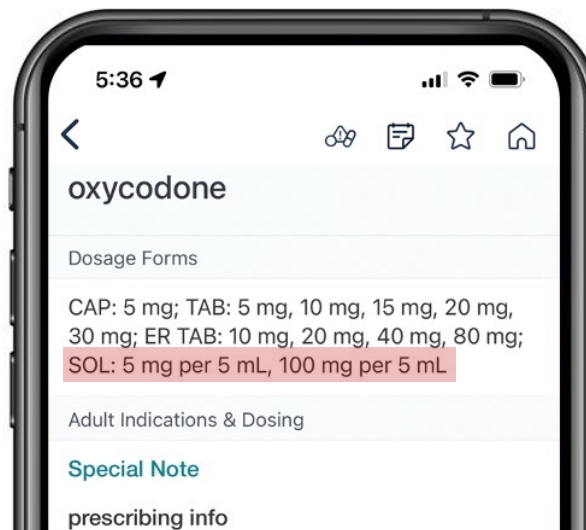
Report on all patients.

Description

The milliliters of solution (mL) of opioid prescribed at discharge.

Element Values

- Relevant value for data element.



12.31.1 FORM

Reporting Criterion

Report on all patients.

Description

The form of other opioid prescribed at discharge.

Element Values

0. None
1. Film
2. Lozenge
3. Nasal spray
4. Oral spray
5. Patch
6. Powder
7. Suppository
8. Other

Additional Information

Resources

- [Drug search](#)

12.32 MAXIMUM PER DOSE

What is the most a patient can take at a time?

Reporting Criterion

Report on all patients.

Description

The maximum per dose opioid prescribed at discharge.

Element Values

- Relevant value for data element.

Additional Information

- Round to the tenth decimal place where applicable.
- Example 1 (Tablets): oxycodone 5 mg 1-2 tabs PO Q 4-6 h prn pain is prescribed.
 - The patient can take a maximum amount of 2 tabs for each dose.
 - Report the numeric value 2.
- Example 2 (Tablets): oxycodone 10 mg 1 tab PO Q 12 h pain is prescribed.
 - The patient can take a maximum amount of 1 tab for each dose.
 - Report the numeric value 1.
- Example 3 (Solution): acetaminophen/codeine solution 120 mg/12 mg per 5 mL take 5-10 mL Q 6 h prn pain.
 - The patient can take a maximum amount of 10 mL for each dose.
 - Report the numeric value 10.
- Example 4 (Other): fentanyl transdermal 50 mcg/h 1 patch Q 72 h is prescribed.
 - The patient can apply 1 patch for each dose.
 - Report the numeric value 1.

Examples to help

A little tricky here

12.32.1 MAXIMUM FREQUENCY PER DAY

How often can the patient take their pain med?

Reporting Criterion

Report on all patients.

Description

The maximum frequency opioid per day prescribed at discharge.

Element Values

- Relevant value for data element.

Additional Information

- Round to the tenth decimal place where applicable.
- Example 1 (Tablets): oxycodone 5 mg 1-2 tabs PO Q 4-6 h prn pain is prescribed.
 - The patient can take a maximum number of doses per day of 6.
 - Report the numeric value 6.
- Example 2 (Tablets): oxycodone 10 mg 1 tab PO Q 12 h pain is prescribed.
 - The patient can take a maximum number of doses per day of 2.
 - Report the numeric value 2.
- Example 3 (Solution): acetaminophen/codeine solution 120 mg/12 mg per 5 mL take 5-10 mL Q 6 h prn pain.
 - The patient can take a maximum number of doses per day of 4.
 - Report the numeric value 4.
- Example 4 (Other): fentanyl transdermal 50 mcg/h 1 patch Q 72 h is prescribed.
 - The patient can wear a maximum number of patches of 1 per day.
 - Report the numeric value 1.

Examples to help

12.33 QUANTITY

Reporting Criterion

Report on all patients.

Description

The quantity of opioids prescribed at discharge.

Element Values

- Relevant value for data element.

Additional Information

- Round to the tenth decimal place where applicable.
- For tablets, report the total number of tablets prescribed.
- For solution, report the total milliliters (mL) of solution prescribed.
- For other, report the total number of units (e.g., patches, lozenges, etc.) prescribed.
- Patients discharged to acute rehabilitation or facility may have an opioid prescription listed on their discharge summary, but no quantity listed because the providers at the facility will continue to dispense. For these scenarios, report the opioid listed with zero for the quantity.

Resources

- [Drug search](#)

Quiz | Opioid Process Measures

Discharge Summary

XX-year-old female presents status post motor vehicle crash. EMS notes a bottle of oxycodone present in the patient's vehicle that was not prescribed to the patient which the patient reported using for a toothache yesterday.

Catalogue of injuries includes a left scapula fracture, left 3-7 rib fractures, and chest wall abrasions. All injuries are managed non-operatively. Patient is discharged to home.

Discharge medications

- 1. Oxybutynin 2.5 mg 2 tabs PO TID #21 Refill 0**
- 2. Norco 5 mg/325 mg 1 tab PO Q 6h prn #28 Refill 0**
- 3. Ativan 2 mg 0.5 tab PO BID prn pain from muscle spasm #14 Refill 0**

Feedback



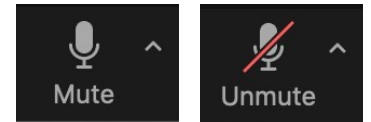
M·TQIP



WELCOME

**Please sign the electronic
confidentiality agreement**

M·TQIP



Meeting Logistics

- **Join via computer and enter full name**
- **Mute all microphones**
- **Discussion opportunities at section ends**
- **Use chat to signal contribution**
- **You'll unmute your own microphone**

Disclosures

**Salary support for MTQIP from BCBSM/BCN
and the State of Michigan**

- **Anne Cain-Nielsen**
- **Shauna DiPasquo**
- **Laura Gerhardinger**
- **Jill Jakubus**
- **Julia Kelm**
- **Judy Mikhail**
- **Sara Samborn**

No Photos Please



**Welcome
Announcements
New Analytics
Research in Progress**

Jill Jakubus

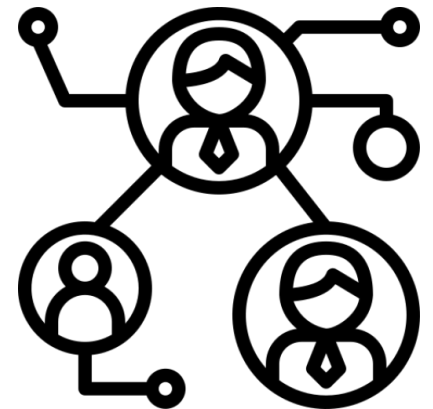


Topics

- **Welcome**
Announcements
New analytics
Research in Progress

New Members

- **McLaren Northern Michigan**

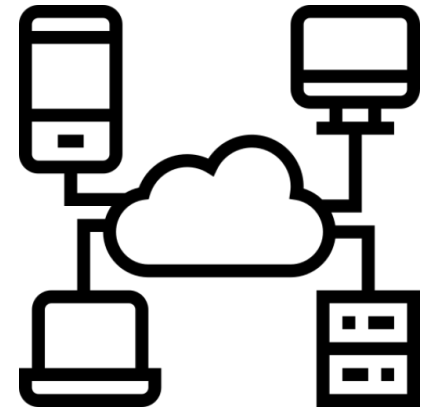


Topics

- **Welcome**
- **Announcements**
New analytics
Research in Progress

Data Submission

- **Due: ~~June 4~~, June 18, 2021**
- **Minimum interval: 11/1/19 – 2/28/21**
- **First submission: 1/1/16**



Performance Index – Metric #9 Head CT Timing

Intent



TBI + Anticoag Rx



Index Hospital



Head CT Date/Time

Performance Index – Metric #9 Head CT Timing

Reality



TBI + Anticoag Rx



Primary Care MD



Head CT Date/Time

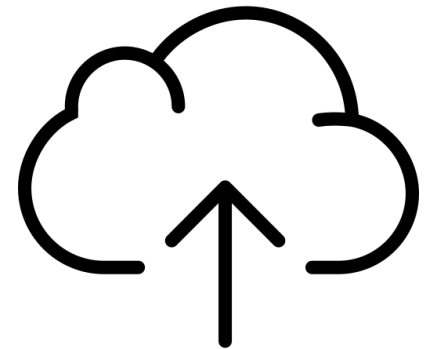


Index Hospital

Report Head CT Code/Date/Time – Prior to arrival

Performance Index Points

- **Review: online analytics, case lists, push reports**
- **Only able to provide credit for data received**
- **Final opportunity Dec submission**





June/July 2021
Email notification

AIS 2015 Update

- **Plan - Reevaluate yearly in Oct**
- **New yearly fees**
- **Analytic considerations**

AIS 2015 – New Yearly Fees

MTQIP

Center

License Type	Annual License Fee (SRP)
System License	
National	\$3,000
State	\$1,000
Regional	\$500
Coding License	
<i>Individual/Single Center:</i>	
Level III, IV, V	\$250
Level I, II	\$500
<i>Multi-Center:</i>	
<i>Level IV, V</i>	
0-50 centers (per center)	\$100
>51 centers (per center)	\$80
<i>Level I, II, III</i>	
0-5 centers (per center)	\$400
6-15 centers (per center)	\$300
>16 centers (per center)	\$200

+

+

Annual Subscription Fee
\$300
\$300

**MTQIP Total
\$1,300**

**Center Total
\$800**

AIS 2015 – Analytic Considerations

- **Crosswalk AIS 2005 > ICD-10**
- **Vendor testing**
- **MTQIP programming**
- **Model re-calibration**
- **Cohort formation instability**

Topics

- **Welcome**
- **Announcements**
- **New analytics**
Research in Progress

ArborMetrix Triage

- **Over/under triage**
- **Triage matrix drilldown**
- **Interventions**

Triage Methods

Cribari

- Major Trauma = ISS>15
- Exclude direct admit
- Exclude no signs of life

	Not Major Trauma	Major Trauma	Total
Highest Level TTA	A	B	C
Midlevel TTA	D	E	F
No TTA	G	H	I

NFTI

- Transfusion of packed red blood cells within 4 hrs of arrival
- Discharge from ED to OR within 90 minutes of arrival
- Discharge from ED to interventional radiology
- Discharge from ED to ICU with a stay ≥ 3 days (72 hrs)
- Mechanical ventilation within 3 days, not including OR or procedures
- Death within 60 hrs of arrival
- Exclude direct admit
- Exclude no signs of life

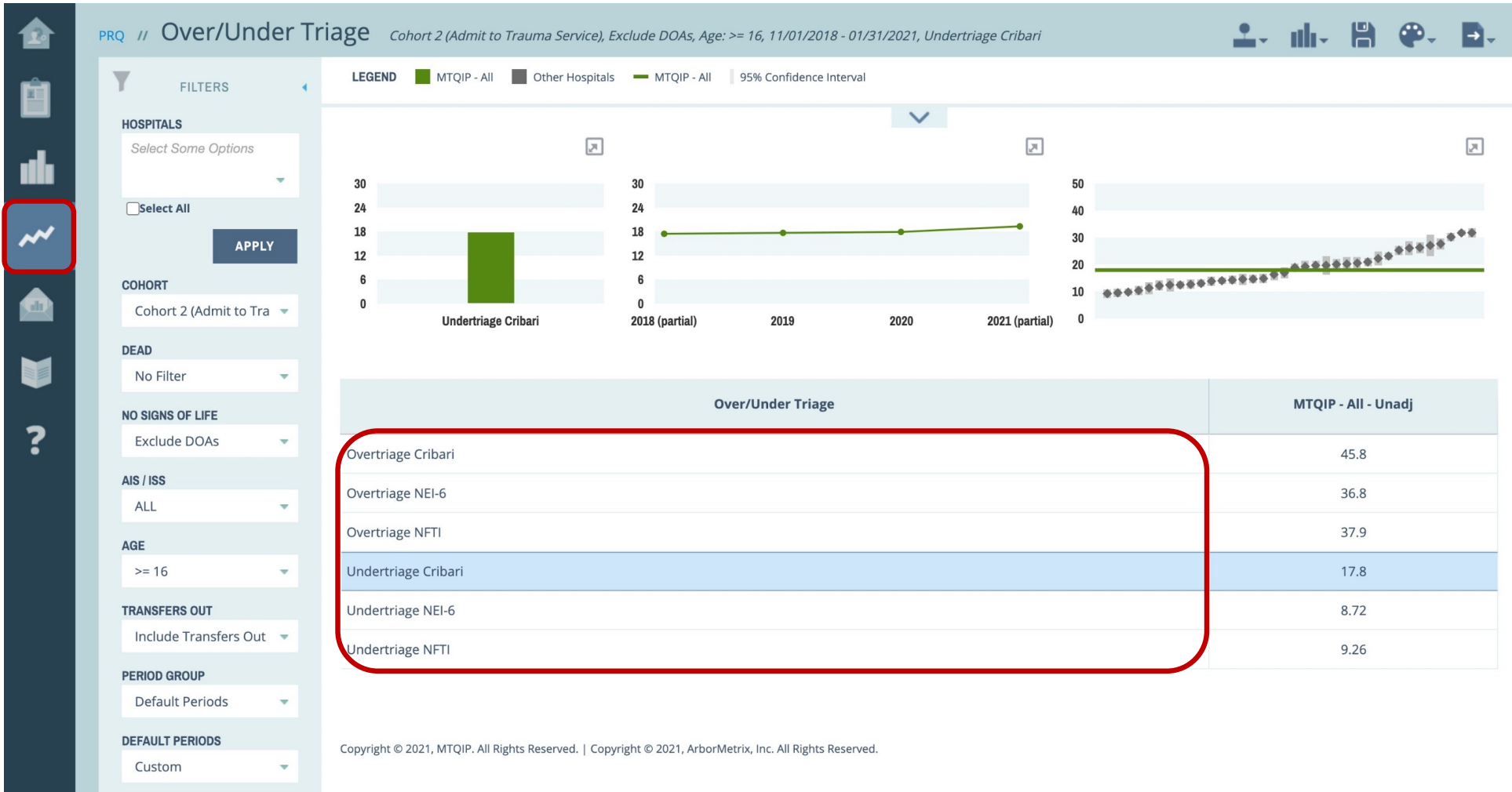
	No Intervention	Intervention	Total
Highest Level TTA	A	B	C
Midlevel TTA	D	E	F
No TTA	G	H	I

NEI-6

- Receive ≥ 5 units of packed red blood cells within the first 4 hrs of arrival
- Any operation within 6 hrs of arrival
- Any angiography within 6 hrs of arrival
- Chest tube within 6 hrs of arrival
- Central line placement within 6 hrs of arrival
- Emergent intubation
- Placement of ICP monitor or intracranial OR within the first 24 hrs of arrival
- Exclude direct admit
- Exclude no signs of life

	No Intervention	Intervention	Total
Highest Level TTA	A	B	C
Midlevel TTA	D	E	F
No TTA	G	H	I

Overtriage	$A/C \times 100$	25-35%
Undertriage	$(E+H)/(F+I) \times 100$	$\leq 5\%$



PRQ // Interventions Drill Down

Cohort 2 (Admit to Trauma Service), Exclude DOAs, Age: ≥ 16 , 11/01/2018 - 01/31/2021, NFTI - Discharge ED to ICU w/LOS ≥ 72 hours

FILTERS

HOSPITALS

Select Some Options

☐ Select All

APPLY

COHORT

Cohort 2 (Admit to Tra

DEAD

No Filter

NO SIGNS OF LIFE

Exclude DOAs

AIS / ISS

ALL

AGE

>= 16

TRANSFERS OUT

Include Transfers Out

PERIOD GROUP

Default Periods

DEFAULT PERIODS

Custom

TRENDING INTERVAL

Quarterly

PEER GROUPS

MTQIP - All



Interventions Drill Down	MTQIP - All - Unadj
NEI-6 - Transfusion >= 5 units RBC 0-4 hrs arrival	1.46
NEI-6 - Any operation 0-6 hours of arrival	8.18
NEI-6 - Any angiography 0-6 hours of arrival	1.25
NEI-6 - Chest tube 0-6 hours of arrival	3.82
NEI-6 - Central line placement 0-6 hrs arrival	1.34
NEI-6 - Emergent intubation	7.72
NEI-6 - ICP or intracranial OR 0-24 hrs arrival	0.46
NFTI - Transfusion RBC within 0-4 hrs arrival	5.03
NFTI - Discharge ED to OR within 90 min arrival	3.17
NFTI - Discharge ED to IR	0.0023
NFTI - Discharge ED to ICU w/LOS >= 72 hours	9.23
NFTI - Mechanical ventilation within 3 days	6.56
NFTI - Death within 60 hours of arrival	1.89

Topics

- **Welcome**
- **Announcements**
- **New analytics**
- **Research in Progress**

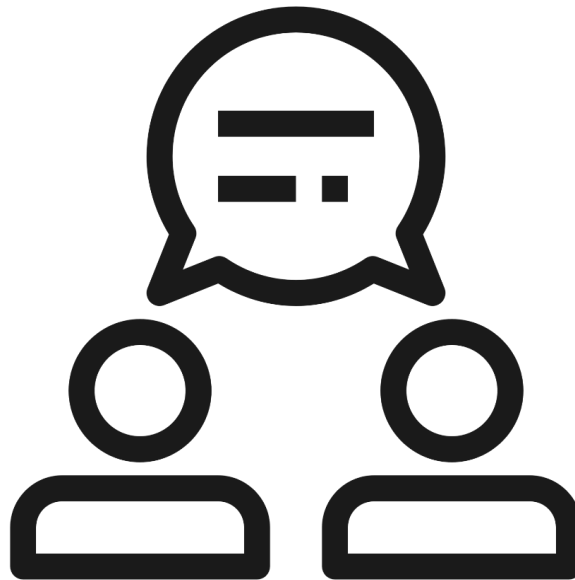
Research in Progress

Update	Center	PI	Topic	Phase
	Detroit Receiving	Oliphant	The accuracy of orthopedic data in a trauma registry	Analysis
	Henry Ford	Johnson	EMS vs. private car effect on outcomes	
	Michigan Medicine	Oliphant	Timeliness of antibiotic administration	Abstract being submitted Central/Midwest Surgical
	Michigan Medicine	Hemmila	Pedestrian protection	Analysis
	Michigan Medicine	Wang	Injury prevention in vulnerable populations	Analysis
	Michigan Medicine	Ward	Clinical decision support tools	
	Spectrum Health	Chapman	Outcomes in operative fixation of rib fractures	
	Spectrum Health	Little	Development of secondary compartment syndrome	
	Spectrum Health	Miller	Outcomes of simultaneous versus staged intramedullary nailing fixation of multiple long bone lower extremity fractures	Presented Michigan Chapter of American College of Surgeons May 12-14
	St Joseph Mercy Ann Arbor	Hecht	Time to anticoagulant reversal	Analysis
	St. Joseph Mercy Ann Arbor	Hoesel	Rib fractures in the elderly	Analysis
	St. Joseph Mercy Ann Arbor	Keyes	Impact of COVID-19 on trauma in the ED	
	University of Minnesota	Parr	Effects of novel coronavirus on neurotrauma	
	University of Minnesota	Tignanelli	NEI-6 modeling prospective validation	Abstract being submitted Journal of Surgical Research

Topics

- **Welcome**
- **Announcements**
- **New analytics**
- **Research in Progress**

Discussion Opportunity



Performance Index Updates Triage Concepts

Judy Mikhail



Judy Mikhail, PhD, MBA, RN
MTQIP Program Manager
6/1/21

Topics

Performance Index Updates
Triage Concepts

M•TQIP

[Home](#)[Membership](#)[Calendar](#)[Resources](#)[Leadership](#)[Contact Us](#)

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



MISSION

The program aims to measure and improve the quality of care administered to trauma patients through a statewide collaborative of participating trauma centers in



RESOURCES

ADMINISTRATIVE RESOURCES

AGREEMENTS

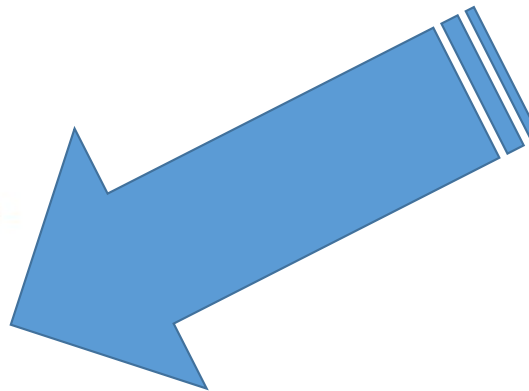
[Level 1, 2 - Membership Application Form](#)
[Level 1, 2 - Participation Agreement](#)
[Level 1, 2 - Remote Access Agreement](#)
[Level 3 - Data Use Agreement](#)
[Level 3 - Remote Access Agreement](#)

STAFFING

[MCR Job Description](#)
[MTQIP Emergency General Surgery Survey](#)
[MTQIP Hospital Survey](#)

PERFORMANCE INDEX

[2021 Performance Index](#)
[2020 Performance Index](#)
[2019 Performance Index](#)
[2018 Performance Index](#)
[2017 Performance Index](#)
[2016 Performance Index](#)
[2015 Performance Index](#)
[2014 Performance Index](#)
[2013 Performance Index](#)
[2012 Performance Index](#)



Performance
Index
Updated
Version
Always
Available


**Michigan Trauma Quality Improvement Program (MTQIP)
2021 Performance Index
January 1, 2021 to December 31, 2021**

Measure	Weight	Measure Description	Points	
#1	10	Data Submission On-time and complete 3 of 3 times On-time and complete 2 of 3 times On-time and complete 1 of 3 times	10 5 0	PARTICIPATION (30%)
#2	10	Meeting Participation Surgeon and (TPM or MCR) participate in 3 of 3 Collaborative meetings (9 pt) Surgeon and (TPM or MCR) participate in 2 of 3 Collaborative meetings (6 pt) Surgeon and (TPM or MCR) participate in 0-1 of 3 Collaborative meetings (0 pt) Registrar or MCR participate in the Annual June Data Abstractor meeting (1 pt)	0-10	
#3	10	Data Validation Error Rate 0.0-3.0% 3.1-4.0% 4.1-5.0% > 5.0%	10 8 5 0	
#4	10	Timely LMWH VTE Prophylaxis in Trauma Admits (18 mo: 1/1/20-6/30/21) ≥ 52.5 % of patients (≤ 48 hr) ≥ 50.0 % of patients (≤ 48 hr) ≥ 45.0 % of patients (≤ 48 hr) < 45.0 % of patients (≤ 48 hr)	10 8 5 0	PERFORMANCE (70%)
#5	10	Timely Surgical Repair in Geriatric (Age ≥ 65) Isolated Hip Fxs (12 mo: 7/1/20-6/30/21) ≥ 92.0 % of patients (≤ 48 hr) ≥ 87.0 % of patients (≤ 48 hr) ≥ 85.0 % of patients (≤ 48 hr) < 85.0 % of patients (≤ 48 hr)	10 8 5 0	
#6	10	RBC to Plasma Ratio in Massive Transfusion (18 mo: 1/1/20-6/30/21) Weighted Mean Points in Patients Transfused ≥ 5 Units 1st 4 hr	0-10	
#7	10	Serious Complication Z-Score Trend in Trauma Admits (3 yr: 7/1/18-6/30/21) < -1 (major improvement) -1 to 1 or serious complications low-outlier (average or better rate) > 1 (rates of serious complications increased)	10 7 5	
#8	10	Mortality Z-Score Trend in Trauma Admits (3 yr: 7/1/18-6/30/21) < -1 (major improvement) -1 to 1 or mortality low-outlier (average or better) > 1 (rates of mortality increased)	10 7 5	
#9	10	Timely Head CT in TBI Patients on Anticoagulation Pre-Injury (12 mo: 7/1/20-6/30/21) ≥ 90% patients (≤ 120 min) ≥ 80% patients (≤ 120 min) ≥ 70% patients (≤ 120 min) < 70% patients (≤ 120 min)	10 7 5 0	
#10	10	Timely Antibiotic in Femur/Tibia Open Fractures - COLLABORATIVE WIDE MEASURE (12 mo: 7/1/20-6/30/21) ≥ 85% patients (≤ 120 min) < 85% patients (≤ 120 min)	10 0	
MACS Enrollment Bonus			5	
Total (Max Points) =			100	

30% Participation

70% Performance

**Michigan Trauma Quality Improvement Program (MTQIP)
2021 Performance Index
January 1, 2021 to December 31, 2021**

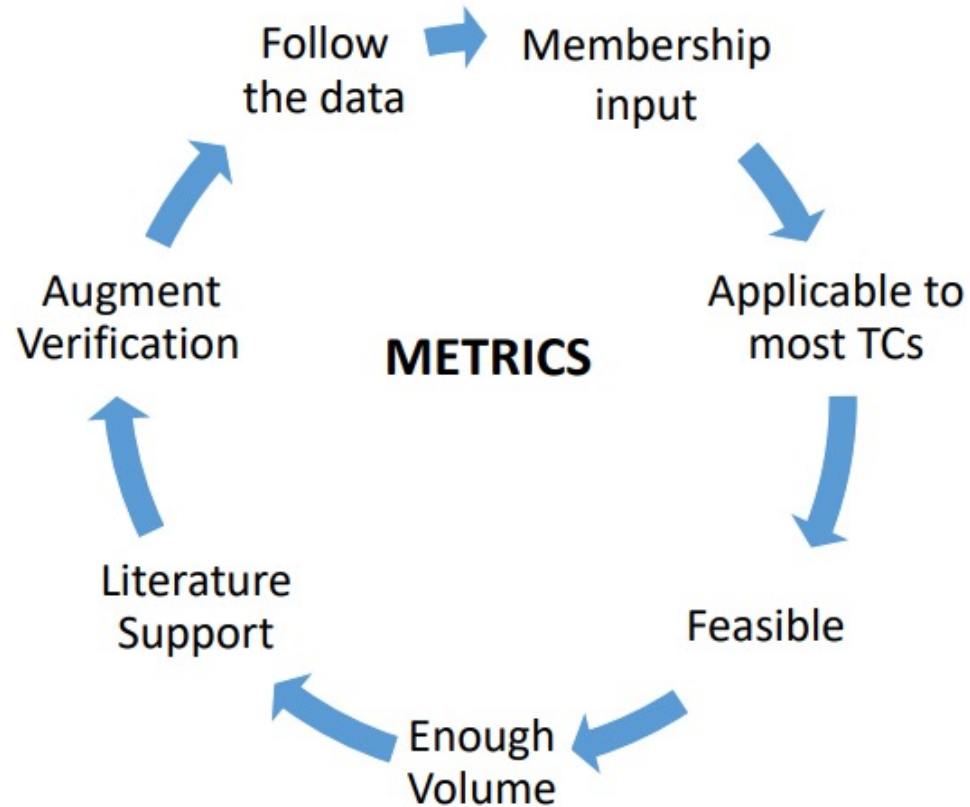
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#4	10	Timely LMWH VTE Prophylaxis in Trauma Admits (18 mo: 1/1/20-6/30/21) ≥ 52.5 % of patients (≤ 48 hr)	10 8 5 0	PERFORMANCE (70%)
#5			10 8 5 0	
#6			0-10	
#7			10 7 5	
#8			10 7 5	
#9			10 7 5 0	
#10			10 0	
MACS Enrollment Bonus			5	
Total (Max Points) =			100	

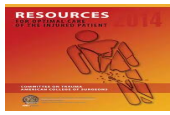
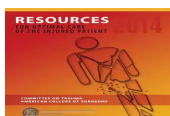
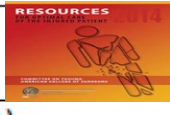
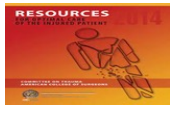



30% Participation

70% Performance

Evidence Based Metrics Development

Annual
New Measure
Selection or
Advancement
Is
Contingent
On
BCBSM
Approval

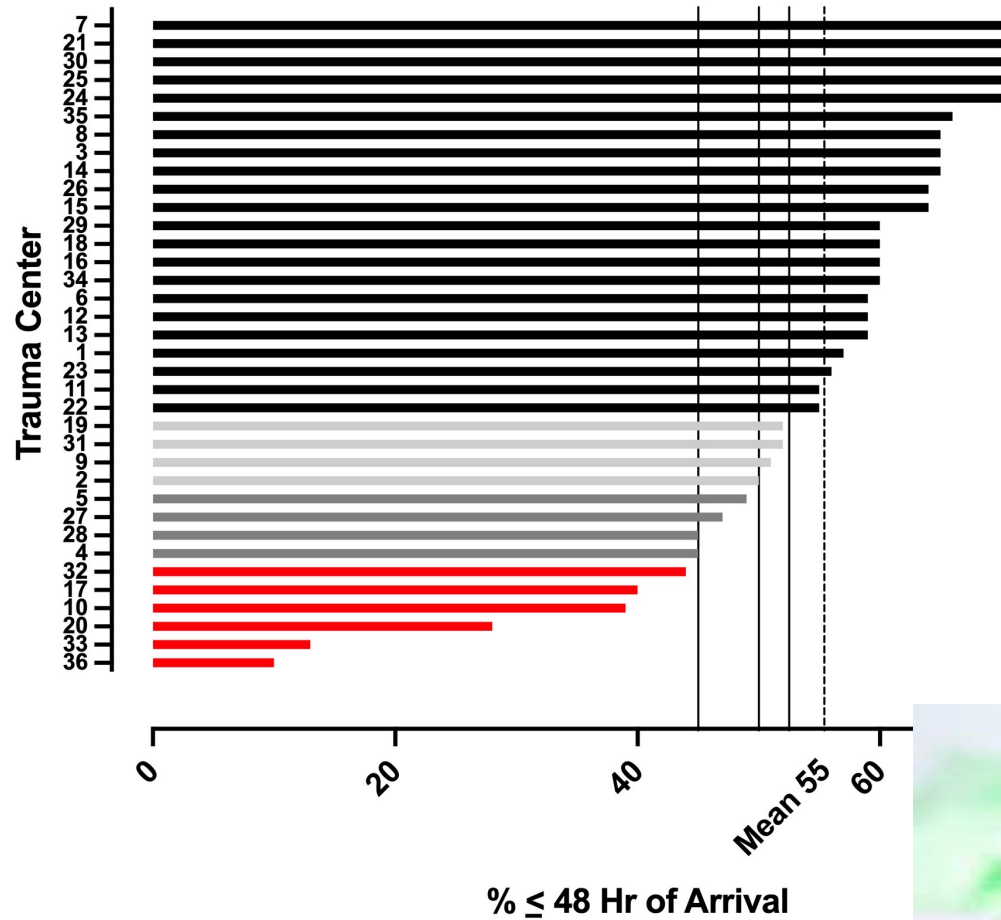


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V
E
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Metric #4 - VTE Prophylaxis LMWH Timeliness
Cohort 2 - Admit to Trauma
1/1/20 - 1/31/21

Target $\geq 52.5\%$



22/35 Centers $\geq 52.5\%$

Mean 55.4%

2017 39%

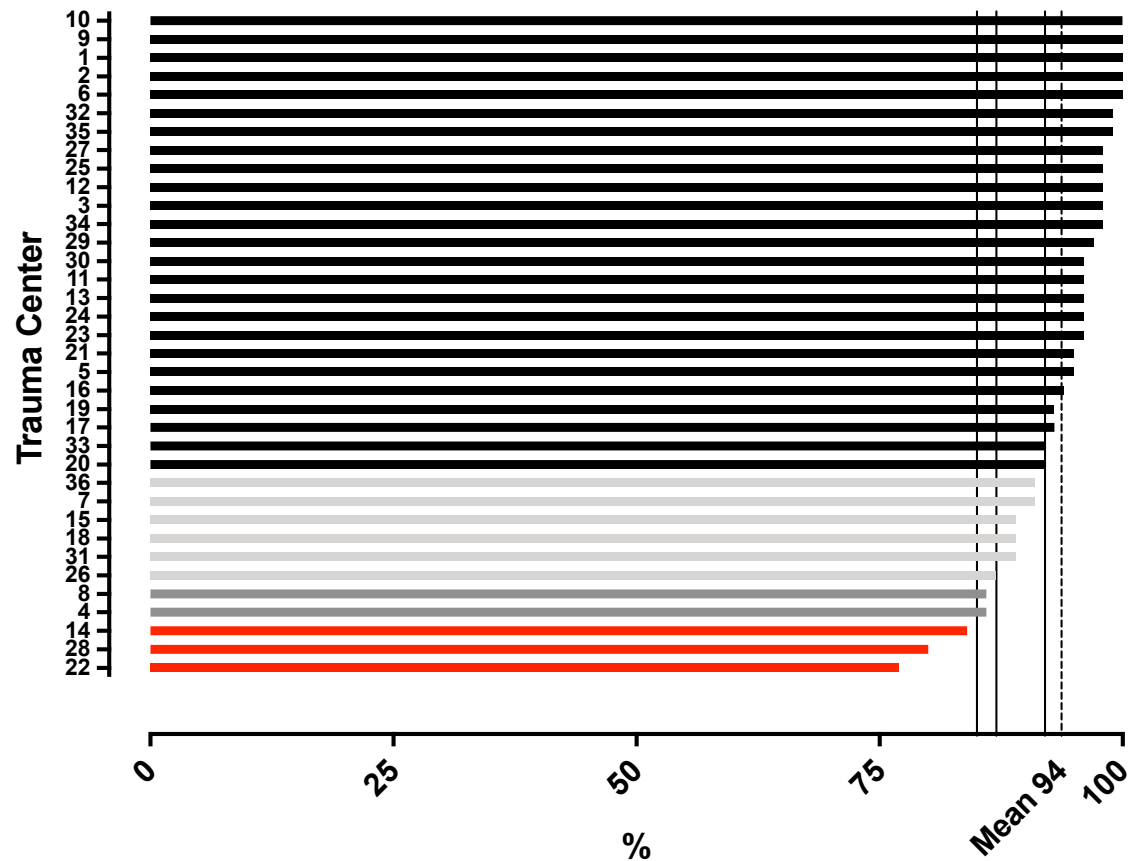
2018 50%

2019 55%

- $\geq 52.5\%$
- $\geq 50\%$
- $\geq 45\%$
- $< 45\%$



Metric #5 - Timely Surgical Hip Repair \geq 65 years
Cohort 8 - Isolated Hip Fracture
7/1/20 - 1/31/21



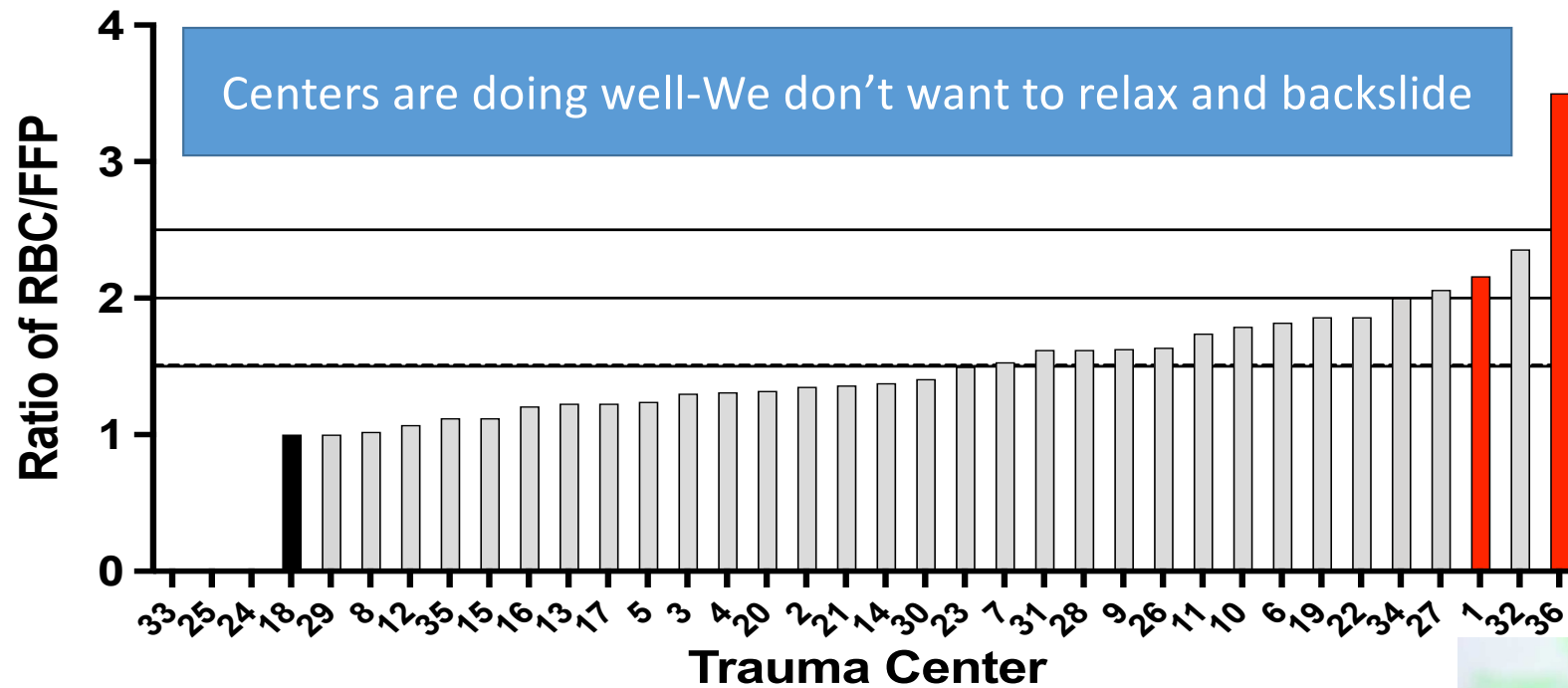
Target $\geq 92\%$

Within 48 hrs

Mean 94%



Metric #6 - RBC to FFP Ratio - Mean **Cohort 1 - MTQIP All** **1/1/20 - 1/31/21**



Mean 1.51 - ↓1.56



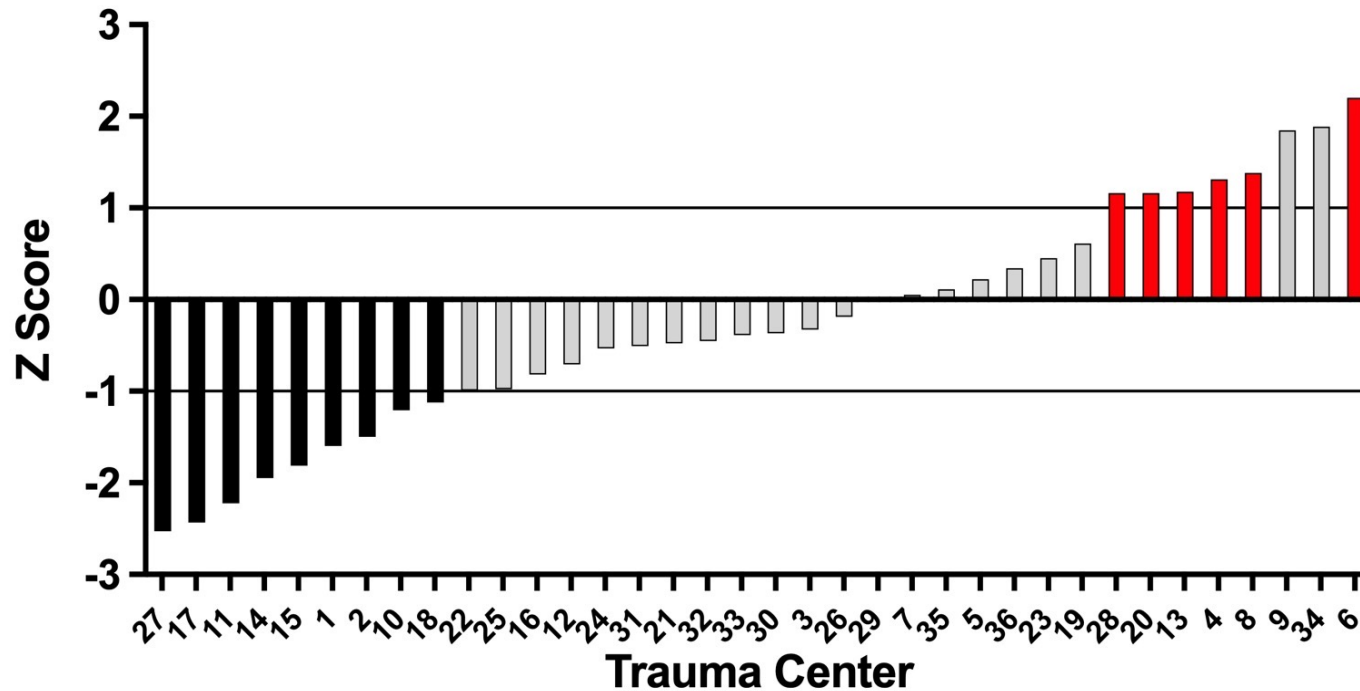
Z-score Methodology (#7 Comps & #8 Mortality)

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



#7 Serious Complication Rate (Z-score)

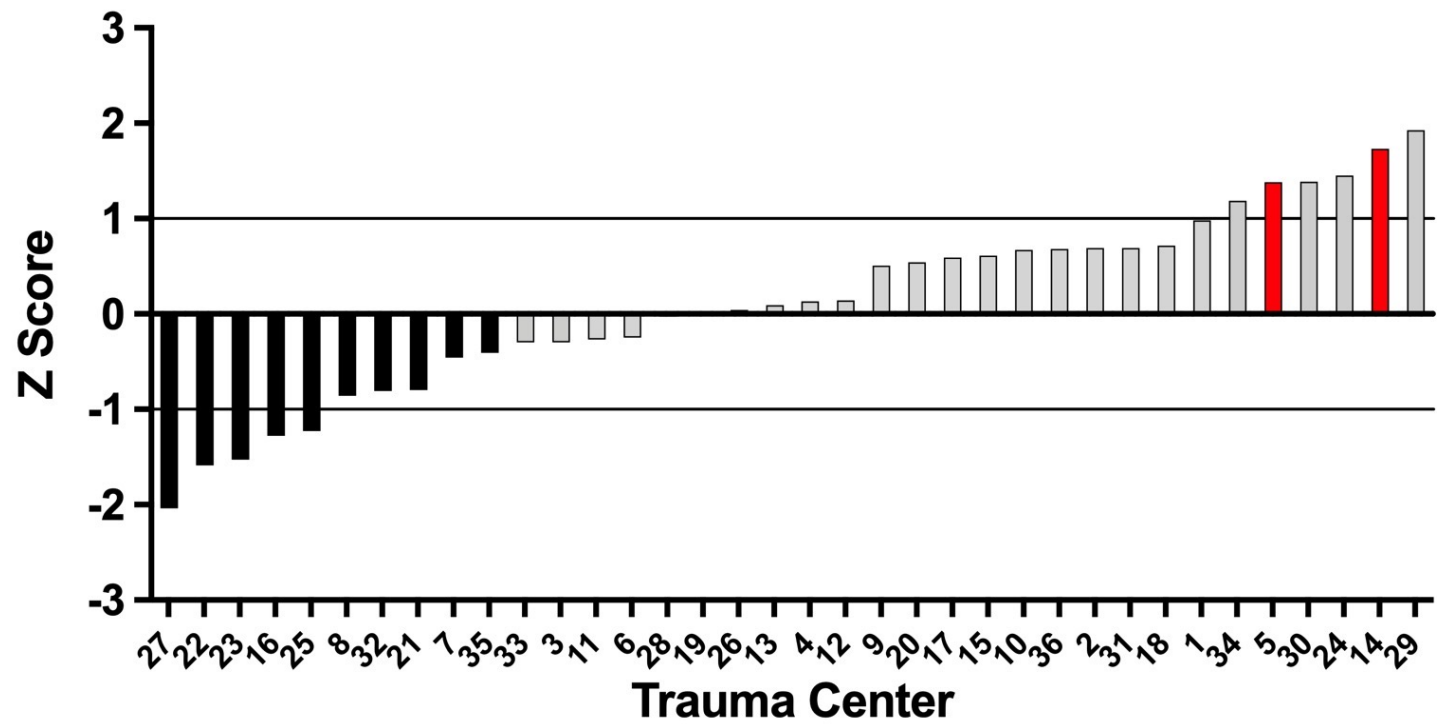
Metric #7 - Z Score - Serious Complication Rate
Cohort 2 - Admit to Trauma
7/1/18 - 1/31/21



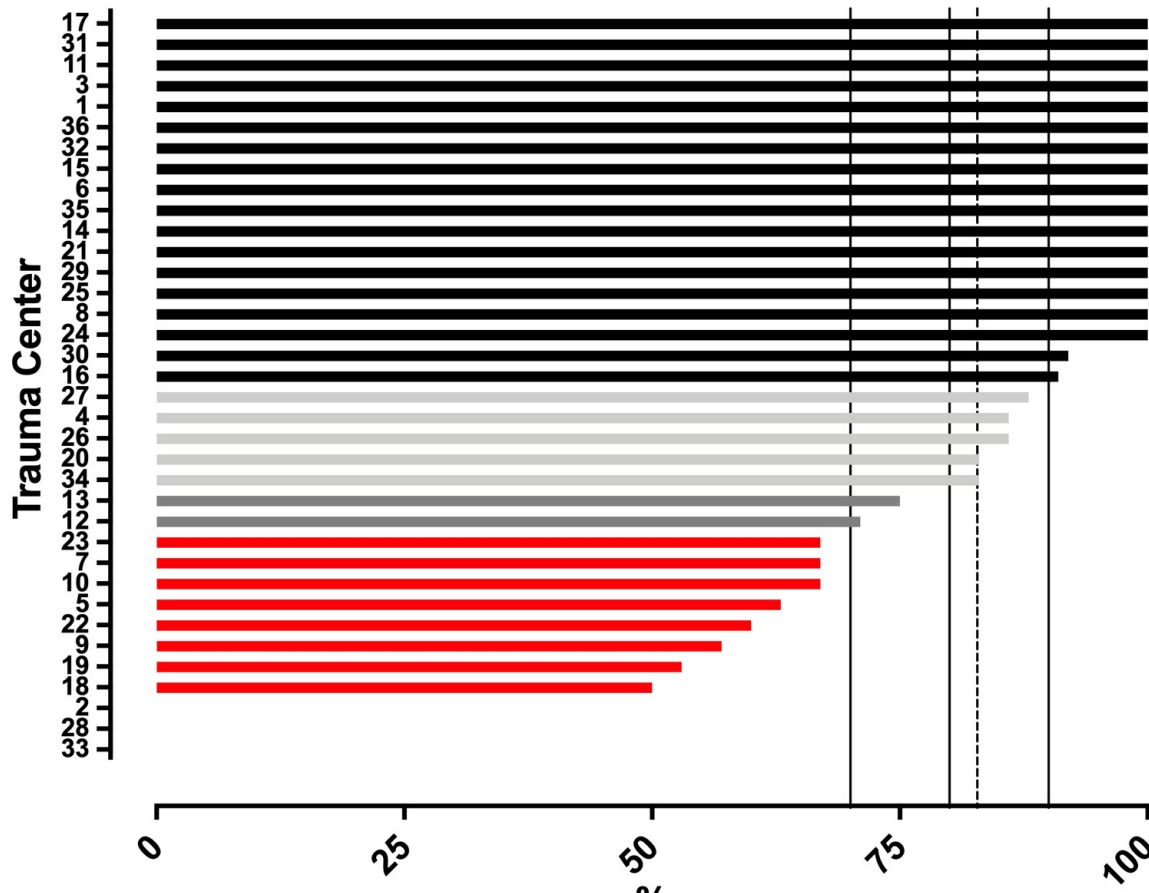
#8 Mortality Rate (Z-score)



Metric #8 - Z Score - Mortality Rate
Cohort 2 - Admit to Trauma
7/1/18 - 1/31/21



Metric #9 - ED Head CT \leq 120 min
Cohort 1 - MTQIP All on Anticoagulant (Excluding ASA)
7/1/20 - 1/31/21



Target $\geq 90\%$

Mean 82.8% ↓

18/35 Centers $\geq 90\%$ (-1)

Opportunity: Engage with ED Collaborative?

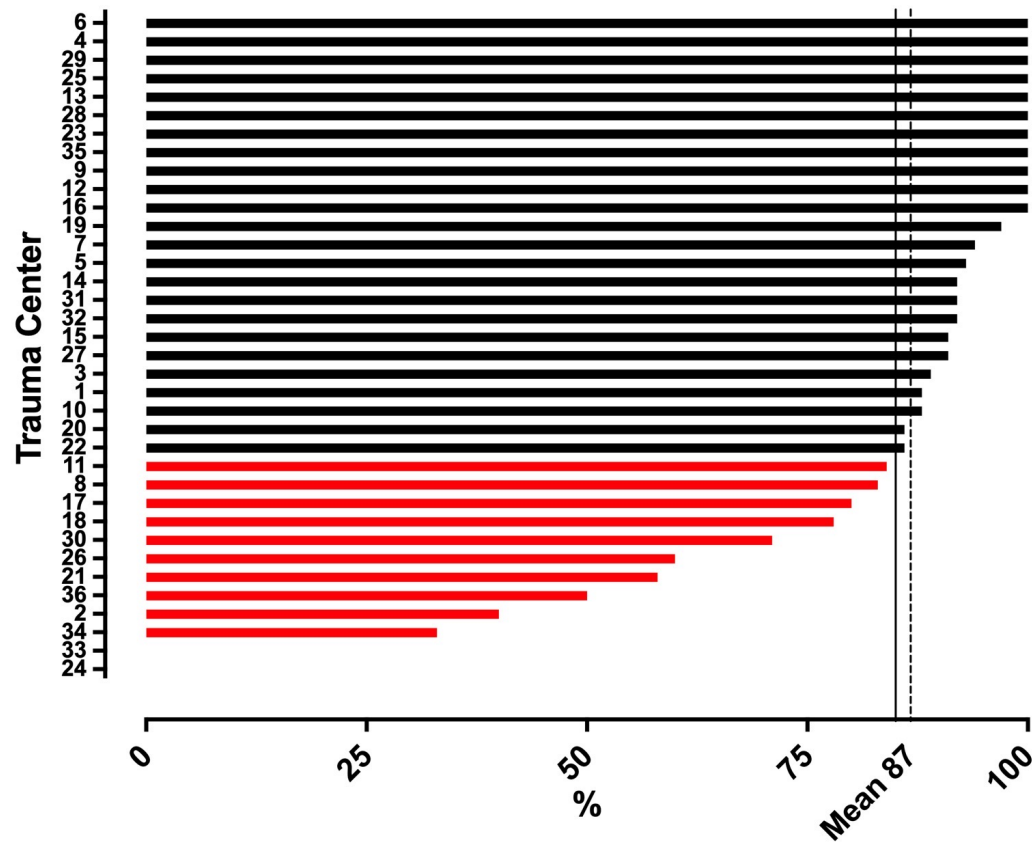


Collaborative Wide Measure

Metric #10 - Open Fracture - Time to Abx \leq 120 min

Cohort 1 - MTQIP All

7/1/20 - 1/31/21



Target $\geq 85\%$

24/35 Centers $\geq 85\%$ (+8)

Collaborative Mean = 86.7%

Advance?

#10 Open Fracture Antibiotic Usage

- Measure = % of patients with antibiotic type, date, time recorded ≤ 120 minutes
 - $\geq 85\%$ patients (≤ 120 min) > 10 points
 - All or nothing
- ACS-COT Orange Book – VRC resources
 - Administration within 60 minutes
 - ACS OTA Ortho Update
 - ACS TQIP Best Practices Orthopedics



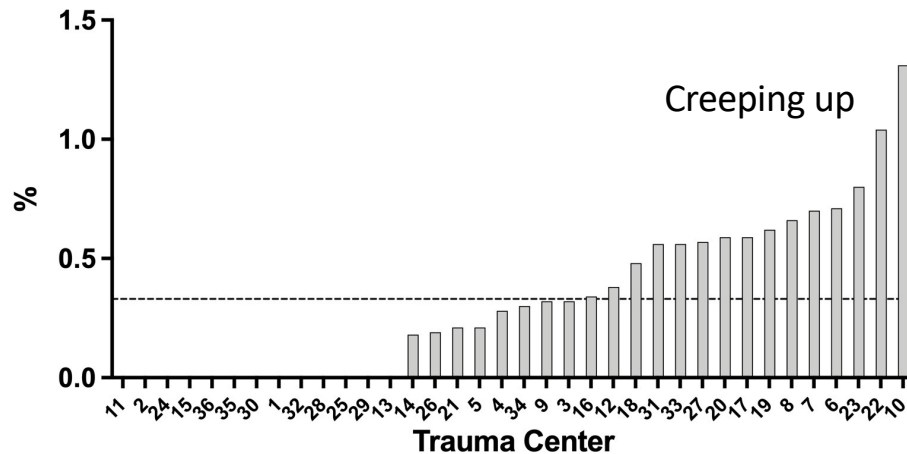
Plan to approach BCBSM : Change to 90 min for 2022

Maintenance Mode

Future Consider: Reinstating IVC Filter

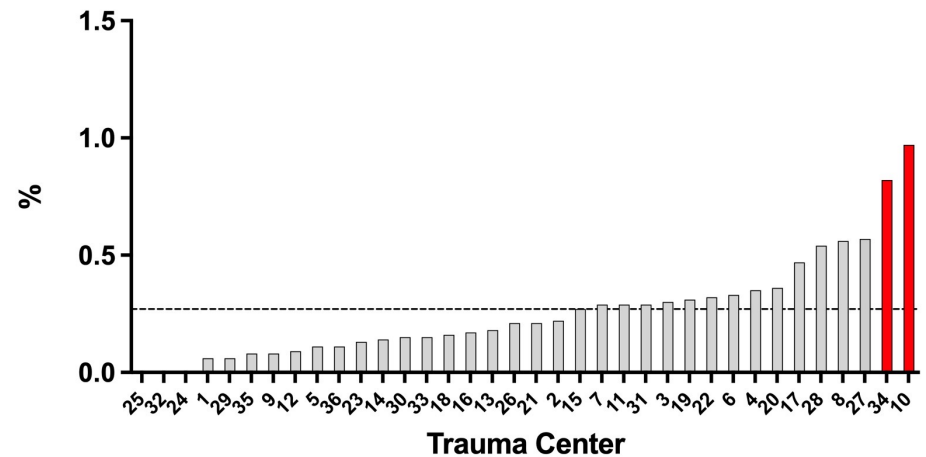
Current

Unadjusted IVC Filter Use
Cohort 1 - MTQIP All
7/1/20 - 1/31/21



2019 - 2020

Unadjusted IVC Filter Use
Cohort 1 - MTQIP All
11/1/18 - 1/31/21



Future consideration:

- Time to intervention for hemorrhage
- Time to anticoagulant reversal
- TXA



TBD

ACS TQIP BENCHMARK REPORT:

TQIP Collaborative Spring 2021



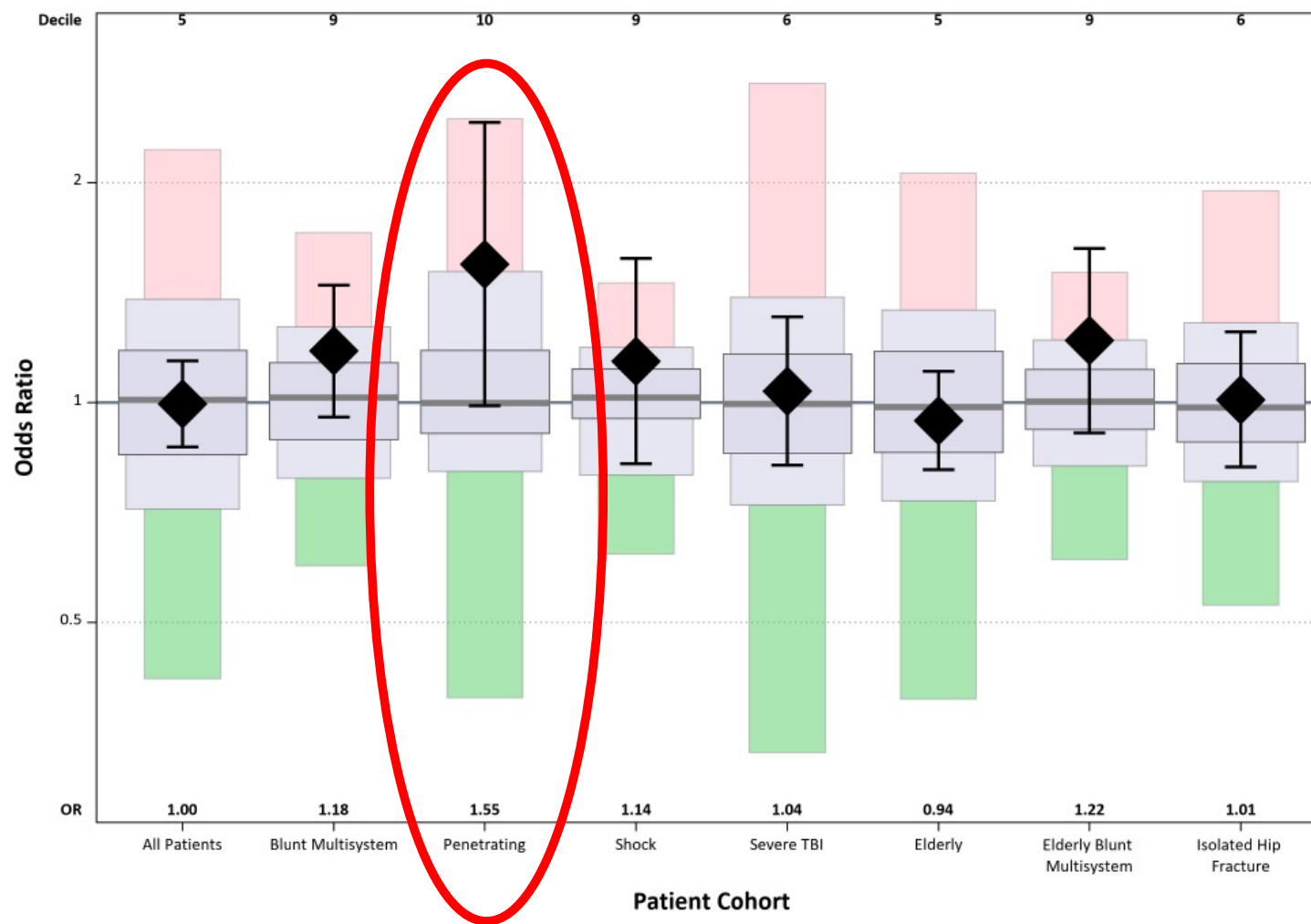
Time
To
Intervention
For
Hemorrhage



AMERICAN COLLEGE OF SURGEONS
*Inspiring Quality:
Highest Standards, Better Outcomes*



Figure 2: Risk-Adjusted Mortality by Cohort






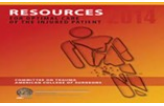



Spring
2021

MI Penetrating Trauma Outlier Status Over Time

Table 2a: Risk-Adjusted Mortality by Reporting Period and Cohort

Cohort	Spring 2016	Fall 2016	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021
All Patients	0.96	1.09	1.22	1.25	1.17	1.01	1.02	0.98	0.96	0.96	1.00
Blunt Multisystem	1.06	1.06	1.11	1.23	1.17	1.00	0.97	0.94	0.95	0.91	1.18
Penetrating	1.46	1.95	1.60	1.78	1.42	1.69	2.75	2.09	2.08	1.76	1.55
Shock	1.15	1.23	1.15	1.27	1.34	1.12	1.03	0.79	0.95	1.05	1.14
Severe TBI	1.49	1.26	0.97	0.93	1.23	1.00	0.81	1.03	1.15	1.07	1.04
Elderly	0.88	1.01	1.16	1.15	1.09	1.02	1.00	0.97	0.89	0.92	0.94
Elderly Blunt Multisystem	0.95	1.00	1.04	1.13	1.08	1.08	1.17	1.03	0.76	0.83	1.22
Isolated Hip Fracture	1.09	1.00	1.08	1.20	1.02	1.06	0.97	1.06	1.09	1.08	1.01

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2022

Change to 90 min
Pending BCBSM approval

Triage



tri·age

noun: **triage**

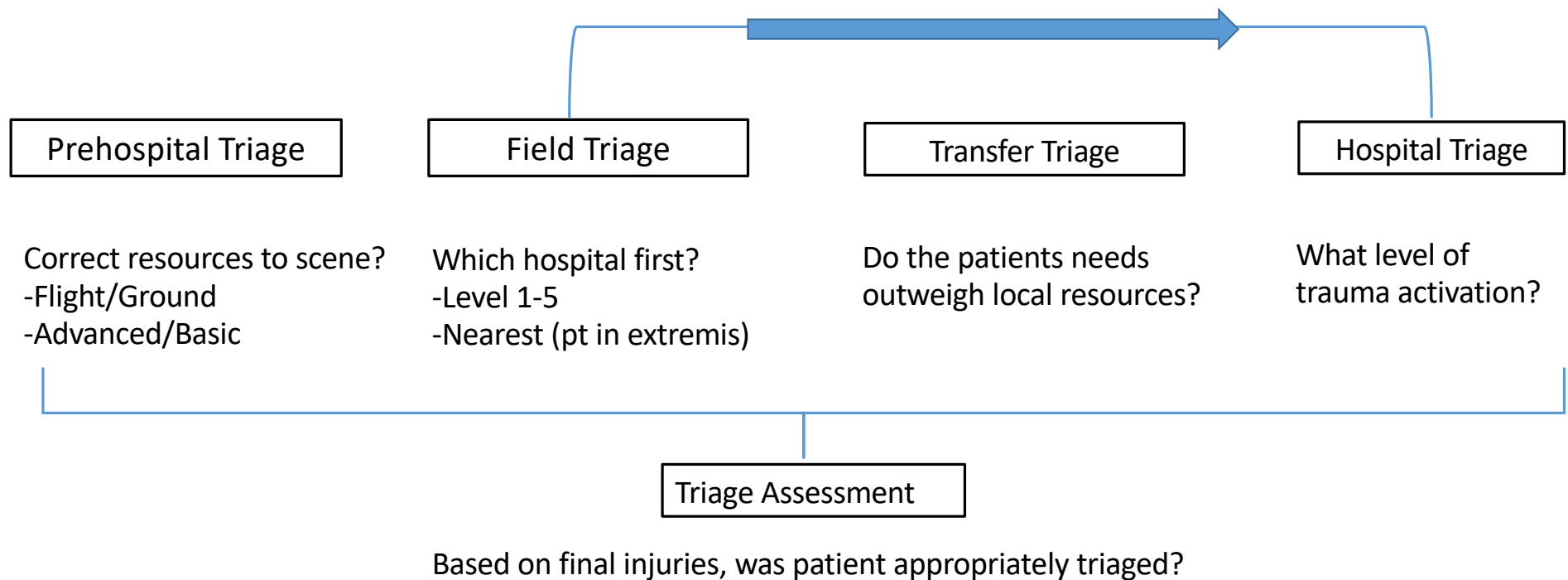
Origin

FRENCH

trier	→	triage
separate out		the action of sorting items according to quality <i>early 18th century</i>

early 18th century (in the sense 'the action of sorting items according to quality'): from French, from *trier* 'separate out'. The current sense dates from the 1930s, from the military system of assessing the wounded on the battlefield.

PI all Trauma Triage Phases



Morris et al J Trauma Acute Care Surg. 2021 Jun 1;90(6):e138-e145.

Triage Definitions

- **Overtriage**

- Minimally injured patients taken to highest level of care
(25-35% Acceptable)

- **Undertriage**

- Severely injured patients taken to lower level of care
(Optimal Goal < 5%)

What constitutes a major trauma pt?

- No national definition
- ISS \geq 16 Historical proxy
 - Anatomic only
 - Lacks mechanism or physiologic criteria
 - Delayed calculation -- only after injuries known

ISS Method

Activation Level	ISS 1 -15	ISS 16-75	Total	
Full/Highest	10	20	30	10/30=33% Overtriage
Limited/No Team	185	15	200	15/200=7.5% Undertriage



Do a deep dive into the 15 undertriage cases for
extenuating circumstances

Comparison of Triage Assessment

Morris et al 2021 J Trauma 90(6): e138

	Modified Cribari Matrix	Need for Trauma Intervention (NFTI)	Standard Triage Assessment Tool (STAT)	Need for Emergent Intervent in 6 hours (NEI-6)
ISS	X		X	
Death in 60 hrs		X	X	
Vent in 3 dys		X	X	
ICU Disposition		X	X	
PRBC Transfusion		X	X	X
OR Disposition		X	X	X
Angiography/IR		X	X	X
ICP Monitor				X
Intubation				X
Central Line				X
Chest Tube				X

MTQIP Gives You the Needed Tools to Examine Triage

PRQ // Over/Under Triage Cohort 2 (Admit to Trauma Service), Exclude DOAs, Age: >= 16, 11/01/2018 - 01/31/2021, Undertriage Cribari



FILTERS

HOSPITALS
Select Some Options
☐ Select All
APPLY

COHORT
Cohort 2 (Admit to Trauma Service)

DEAD
No Filter

NO SIGNS OF LIFE
Exclude DOAs

AIS / ISS
ALL

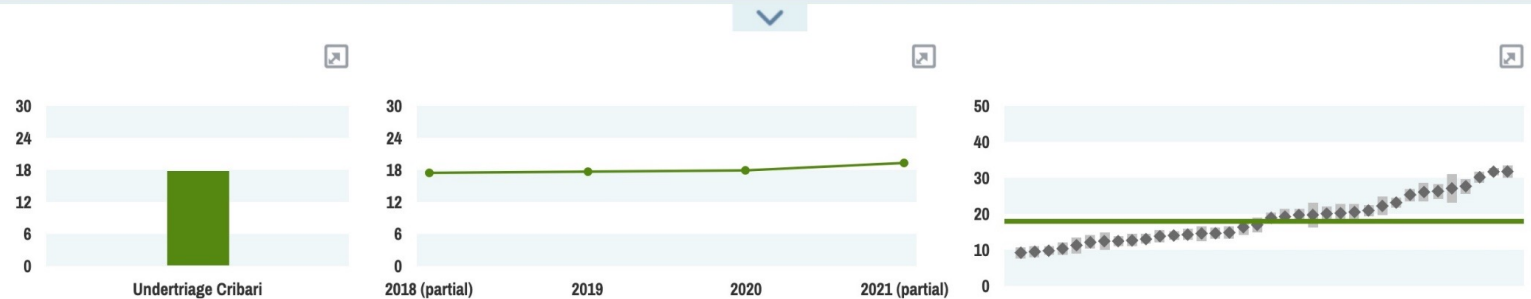
AGE
>= 16

TRANSFERS OUT
Include Transfers Out

PERIOD GROUP
Default Periods

DEFAULT PERIODS
Custom

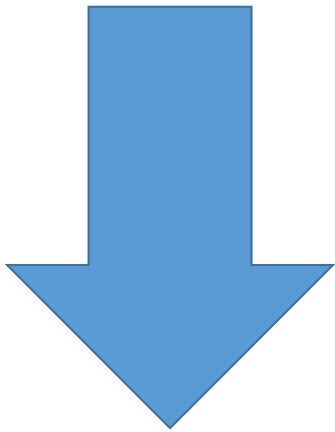
LEGEND MTQIP - All Other Hospitals MTQIP - All 95% Confidence Interval



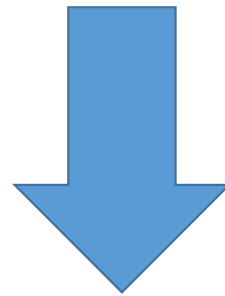
Over/Under Triage	MTQIP - All - Unadj
Overtriage Cribari	45.8
Overtriage NEI-6	36.8
Overtriage NFTI	37.9
Undertriage Cribari	17.8
Undertriage NEI-6	8.72
Undertriage NFTI	9.26

Activation Review Criteria

Cribari Matrix



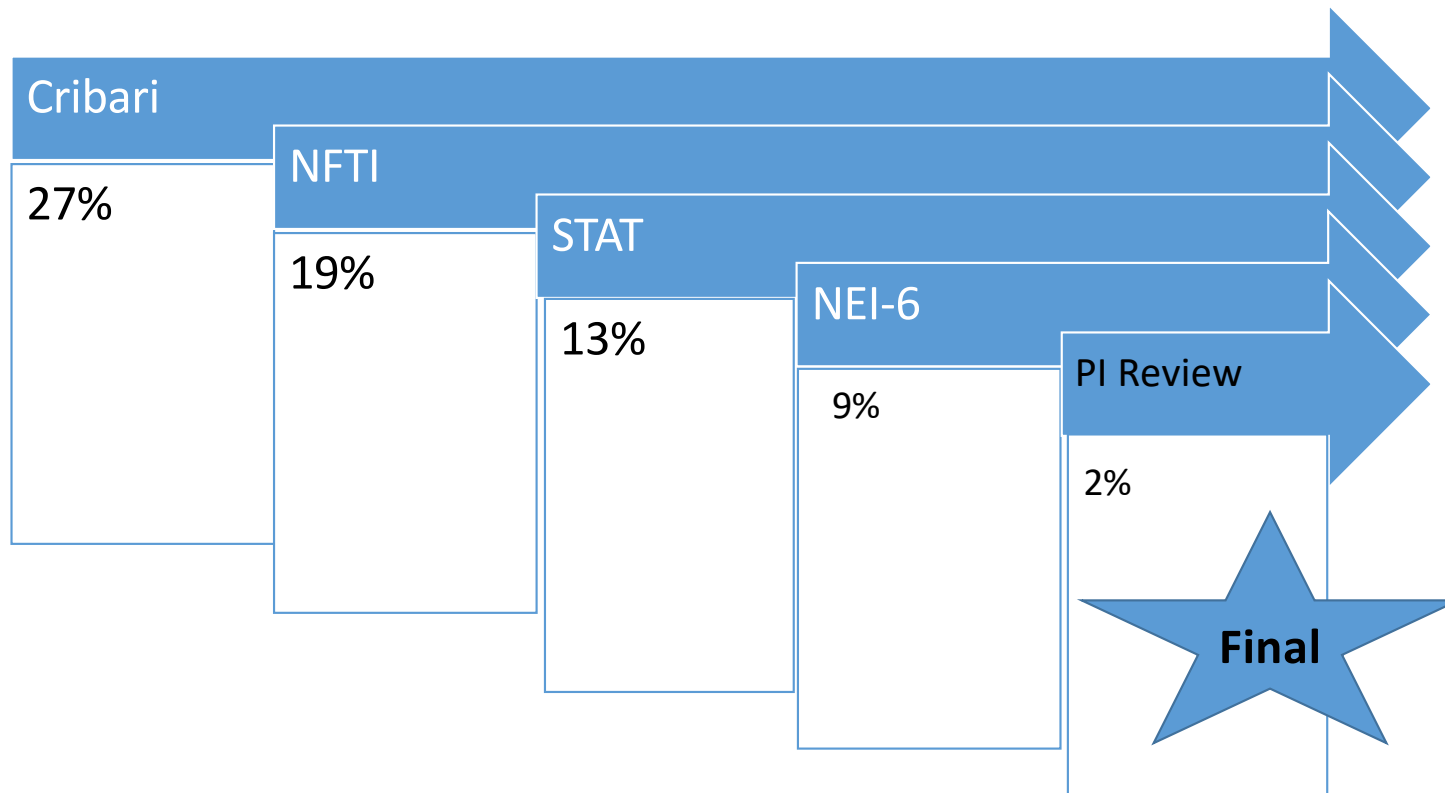
NFTI



NEI-6

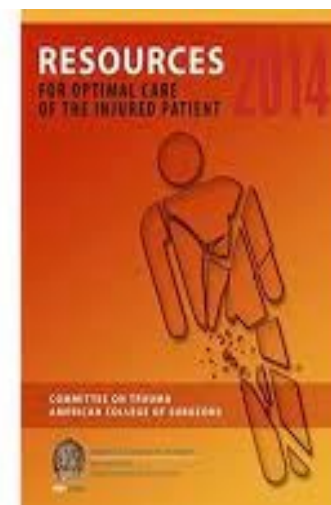


Undertriage Rate Varies by Method



Undertriage/Overtriage (CD 3-3)

- **Rigorous multidisciplinary performance improvement** is essential to evaluate overtriage and undertriage rates to attain the optimal goal of less than 5 % undertriage.
- Examine your monthly rates
- Regularly do deep dives with PI
- Use Registry to reassess activation criteria annually (Level I-IV CD 5-16)
- Best Practice → Add geriatric criteria



M·TQIP

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MISSION

The program aims to measure and improve the quality of care administered to trauma patients through a statewide collaborative of participating trauma centers in



Trauma Data Validation at Munson Medical Center

Tina Horn, BSN, RN, MCR





Trauma Data Validation at Munson Medical Center

Tina Horn BSN, RN, MCR



Trauma Registry Staff

- ▶ Sarah Helveston BSN, RN, CCRN, TPM
- ▶ Cindy Christiansen MSN, RN, MCR
- ▶ Tina Horn BSN, RN, MCR
- ▶ April Pizzo Lead Trauma Registrar
- ▶ Brandi Morgan Registrar, RHIT
- ▶ Tina Loren Registrar, CPC
- ▶ Carol Thompson Registrar
- ▶ Jan Winowiecki Program and EMS support

Why Validate data?

- ▶ Registry data is the basis for;
 - ✓ Performance improvement / Patient safety
 - ✓ Identifying weakness and strengths
 - ✓ Measuring performance
 - ✓ Research
 - ✓ Public policy
 - ✓ Injury prevention
- ▶ Drilldowns identified wrong and missing data in the registry
- ▶ Munson Medical Center had no formal process for data validation
- ▶ MTQIP data validation results 2018 4.6% error rate
- ▶ ACS expectation not met

Assumption – To Err is Human

- Skill based Performance
 - ✓ Use safety tool STAR
- Rule Based Performance
 - ✓ Use safety tool
Verify /Validate
- Knowledge Based Performance
 - ✓ Use Peer checking/Peer coaching

Three Ways Humans Perform

Generic Error Modeling System (GEMS) of James Reason

Skill Based Performance

Auto Pilot Mode:
Routine, familiar tasks
1:1000 Slips/lapses

Rule Based Performance

If-Then-Response Mode:
Respond to situation using rule we
were taught or learned through
experience
1:100 Mistakes

Knowledge Based Performance

Figuring-It-Out Mode:
Problem solving in an
unfamiliar situation
3:10 to 6:10 Mistakes



Generic Error Modeling System (GEMS) of James Reason

MUNSON HEALTHCARE



Goals for Data Improvement

- Write a validation process with steps
- Develop worksheets for capturing validation
- Re-abstract at least 5-10% of registry charts per month
- Implement January of 2019
- Identify opportunities for continual improvement and education
- Data will have an error rate of 3% or less
- Data will adhere to dictionary definitions

Process at Munson Medical Center

- MCRs will re-abstract 5 closed charts for each registrar monthly.
- MCRs will alternate the registrar being validated to avoid validator bias.
- The selection of charts is based on criteria that reflect MTQIP validation selection criteria.
- All registrars will be validated using the same data elements.
- Results are sent to the registrar for review prior to discussion.
- Discussion with Registrar, MCR and TPM to review results.
- Any needed corrections to the registry are done by the registrar.
- Accuracy rate is # of correct data elements/ # of data elements reviewed multiplied by 100. Example: $(429/440) * 100 = 97\%$
- A summary report of the monthly data validation will be given to the registrar and Trauma Program Manager.

Validation Case Selection Criteria

- ISS < 16 and mortality.
- ISS > 24 and no complications and hospital days > 1.
- Length of stay > 14 days and no complications or mortality.
- Mechanical ventilator days > 7 and no pneumonia.
- Motor GCS = 1 and no complications and hospital days > 1.
- ISS > 24 and no complications and ICU days > 7.
- ISS > 9 and no injury in the AIS head and no VTE prophylaxis and length of stay > 2 days.
- ED BP < 90 and lowest SBP < 90 and PRBC within 4 hours = 0.
- Antibiotic days > 6 and no complications.

Secondary Criteria

- Mortality
- LOS >= 7 days.
- Mechanical ventilator days > 0 days.
- ED BP < 90.

Excerpt from Worksheet

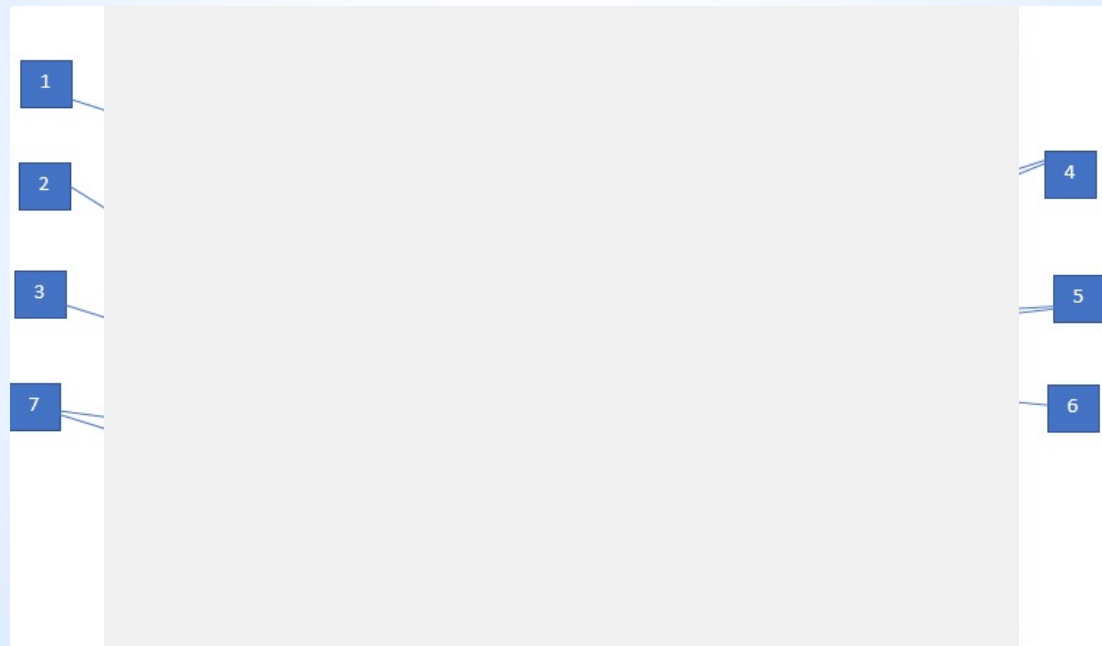
1	Registry Validation for 2021				
2	Month Validated				
3	Person Validated				
4	Validator				
5	Registry Number				
6	Registry data points				
7	Arrival date				
8	Arrival time				
9	Arrived from_				
10	Date of Birth				
11	Gender				
12	Race				
13	ICD 10 Injury Location Code				
14	Primary ICD 10 Mechanism				
15	injury type				
16	activity code ICD 10 alcohol involvement ICD 10				
17	EMS UUID #				
18	response level				
19	ED Disposition				
20	First ED Temp.				
21	Alcohol C-Score				
22	CAC Consult (if C-Score positive)				
23	Warming measures				
24	Intubation date/Time				
25	Extubation date/time				
26	Surgeon arrival date				
27	Surgeon arrival time				
28					

66	MTQIP tab 1				
67	Operation	no	yes	no	yes
68	Intubation staus	never	OR	Field	ED
69	emergent surgery	no	no	no	yes
70	VTE prophylaxis type	unfrac. hep	Warfarin	none	lovenox
71	Date given			na	na
72	Time given			na	na
73	Abx for open fracture Class given	na	na	na	na
74	date given	na	na	na	na
75	Time given	na	na	na	na
76	antibiotic type 2 class given	na	na	na	na
77	antibiotic days	0	1	0	8
78	Withdrawal of care	no	no	yes	no
79	MTQIP tab 2				
80	Highest GCS total	na	na	3	na
81	Motor component of highest GCS total	na	na	1	na
82	Highest GCS 40 motor	na	na	?	na
83	assessment qualifier component of highest GCS total	na	na	intubated	na
84	Pupillary response	na	na	none	na
85	midline shift	na	na	no	na
86	Cerebral monitor type	na	na	none	na
87	date	na	na	na	na
88	time	na	na	na	na
89	TBI beta blocker treatment	no	no	no	na
90	Reason Cerebral Monitor with held	?	?	NSR discret.	
91	MTQIP tab 3				
92	INR	na	na	na	na

What have we learned?

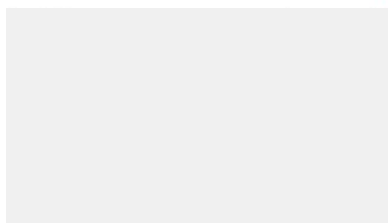
- Staff had different interpretations of dictionary definitions
- ✓ Definitions are discussed at team meeting
- ✓ A Munson specific instruction manual was created and is continually updated
- The process needs to be evaluated and updated continually
- The process identifies educational needs for entire staff
- Learning occurs for both the validator and the registrar.

Excerpt From Munson Dictionary



Munson Dictionary

2. The medical record & account numbers should auto fill. If they do not fill them in.
3. Fill in where the patient arrived from. Here is an example of the drop down that appears when this box is clicked.
 - a. At MMC we use home when the patient come in by private vehicle.



4. Arrival date and time needs to be filled in. The date is the date the patient arrives at our facility. The time is the time the patient arrived at our facility. Time is located:
 - a. Located on the top of the banner bar for NT and consults
 - b. Found on the trauma flow sheet for level 1 and level 2's

Exception to the rule: if the time on the flow sheet is later than the time on the banner bar in Cerner take the earlier time.

5. The first and last name should already be filled in. If it is not, fill them in.



Other considerations

- Process could seem disciplinary
- Can cause anxiety
- It is done in the spirit of learning and teamwork
- Remember to recognize a job well done
- It takes a team
- Validation by this process is not enough

Other Methods to Validate Data

- ▶ Data drilldowns provided by MTQIP
- ▶ TQIP Benchmark Report
- ▶ Run data reports at end of month
- ✓ Look for missing data
- ✓ Look for data that doesn't make sense

audit-c	Audit-C 5 or greater	Participatory	Education Given
Positive	Score of 5 or g	Yes	Patient Refused
Positive	Score of 5 or g	Yes	Patient Refused
Negative	Score of 0-4	Yes	Not Applicable
Negative	Score of 0-4	Yes	Not Applicable
Negative	Score of 0-4	Yes	Not Applicable
-	-	-	-
Negative	Score of 0-4	Yes	Not Applicable
Negative	Score of 0-4	Yes	Not Applicable
Negative	Score of 0-4	Yes	Not Applicable
Negative	Score of 0-4	Yes	Not Applicable



Have we improved?

- 2018 MTQIP validation X.X% error rate
- 2019 No MTQIP Validation done
- 2020 MTQIP validation X.X% error rate
- 2021 MTQIP validation X.X% error rate

State of Michigan Updates

Sara Samborn



State of Michigan Updates Level 3 Project

Sara Samborn, MSN, RN
MTQIP Clinical Reviewer

M•TQIP

Overview

- 22 designated level 3 centers participating
- Reports distributed January / July
- Data Validation opportunities

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Data Validation

- 2021 – 12 centers
- 4 have had second validation visits
- Scheduling through September
- If new centers return agreements, centers with higher error rates will be prioritized for return visits

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Data Validation - findings

- Comorbidity and injury capture returned the most errors
- ED profile (VS/GCS)
 - Definition review
- Mapping issues
- Registry software “quirks”

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Questions?

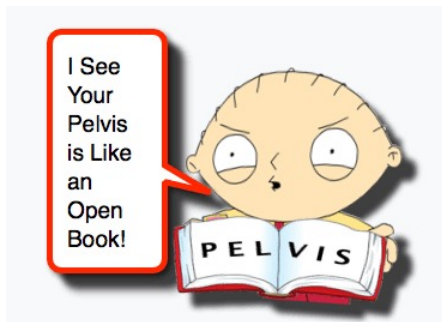
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Pelvic Fracture Coding Tips & Tricks

Shauna Di Pasquo



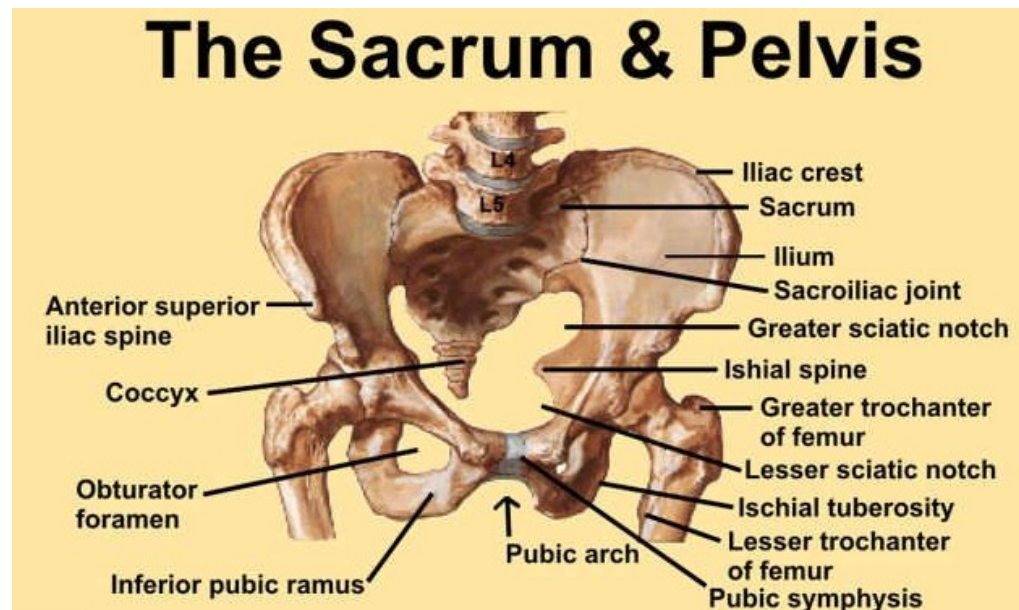
Pelvic Ring Fractures



Shauna Di Pasquo RN, BSN
Trauma Data Coordinator – Beaumont Farmington Hills
MTQIP Validator

The Pelvic Arches

The pelvic ring consists of two arches: the **posterior arch**, a stronger arch that extends behind the acetabular surfaces and includes the **sacrum, SI joints, and posterior ilium (this is the main weight bearing portion of the pelvis)**, and the anterior arch, a weaker arch made of the pubic rami bones and symphysis



AIS Coding (Abbreviated Injury Scale 2005 - Update 2008)

Coding Guidelines: PELVIS

The Pelvis is divided into two anatomic structures for AIS coding: the Pelvic Ring and the Acetabulum. The Pelvic Ring is a single anatomical structure and is assigned only one fracture code depending upon the specific nature of the injury according to each fracture category as described in the dictionary. The Acetabulum may be assigned two fracture codes depending upon whether the injury is unilateral or bilateral.

Pelvic Ring

The Pelvic Ring has two arches: the posterior arch is behind the acetabular surface and includes the sacrum, sacroiliac joints and their ligaments, and posterior ilium; the anterior arch is in front of the acetabular surface and includes the pubic rami and the symphyseal joint (i.e., the line of union of the bodies of the pubic bones in the median plane).

The severity of a pelvic ring fracture is directly related to the extent of damage to the posterior arch rather than solely to which specific anatomic components are involved. However, because the recording of pelvic ring fractures is not standardized globally, some examples of anatomic descriptors are included in each injury category. These examples are not exhaustive and should be used only as guidelines. To the extent possible, the coder should seek information about the stability or instability of the fracture, described as follows, in assigning an AIS code.

Stable: fracture not involving the posterior arch; pelvic floor intact and able to withstand normal physiological stresses without displacement.

Partially Stable: posterior osteoligamentous integrity partially maintained and pelvic floor intact.

Unstable: complete loss of posterior osteoligamentous integrity; pelvic floor disrupted.

CODING RULE: Pelvis

For patients who die before any radiology is done and no autopsy is performed, a clinical diagnosis of a pelvic fracture made by detecting obvious instability is acceptable for AIS coding. In such cases, use pelvic ring fracture NFS, 856100.2.

AIS 2005	Injury Description
----------	--------------------

856100.2	Pelvic ring fracture NFS
856101.3	open but NFS

Use one of the following two descriptors for any one or combination of the following fracture descriptions *if the fracture is stable*: ischial tuberosity; pubic ramus with or without symphysis pubis involvement; undisplaced sacrum; transverse fracture of sacrum and coccyx with or without sacrococcygeal dislocation.

856151.2	Pelvic ring fracture, posterior arch intact; isolated fracture not destroying the integrity of the pelvic ring
----------	---

856152.3	open
----------	------

Use one of the following four descriptors for any one or combination of the following fracture descriptions *if the fracture is partially or vertically stable*: lateral compression; "open book"; symphysis pubis separation; sacroiliac joint anterior disruption; anterior compression of sacrum.

856161.3	Pelvic ring fracture, incomplete disruption of posterior arch NFS
----------	--

856162.4	open
----------	------

856163.4	blood loss \leq 20% by volume
----------	---------------------------------

856164.5	blood loss $>$ 20% by volume
----------	------------------------------

Use one of the following four descriptors for any one or combination of the following fracture descriptions *if the fracture is totally unstable*: vertical shear; pubic rami fractures with sacroiliac fracture/dislocation.

856171.4	Pelvic ring fracture, complete disruption of posterior arch and pelvic floor NFS
----------	---

856172.4	blood loss \leq 20% by volume
----------	---------------------------------

856173.5	blood loss $>$ 20% by volume
----------	------------------------------

856174.5	open
----------	------

AIS 2005/2008 Update Dictionary - Clarification Document



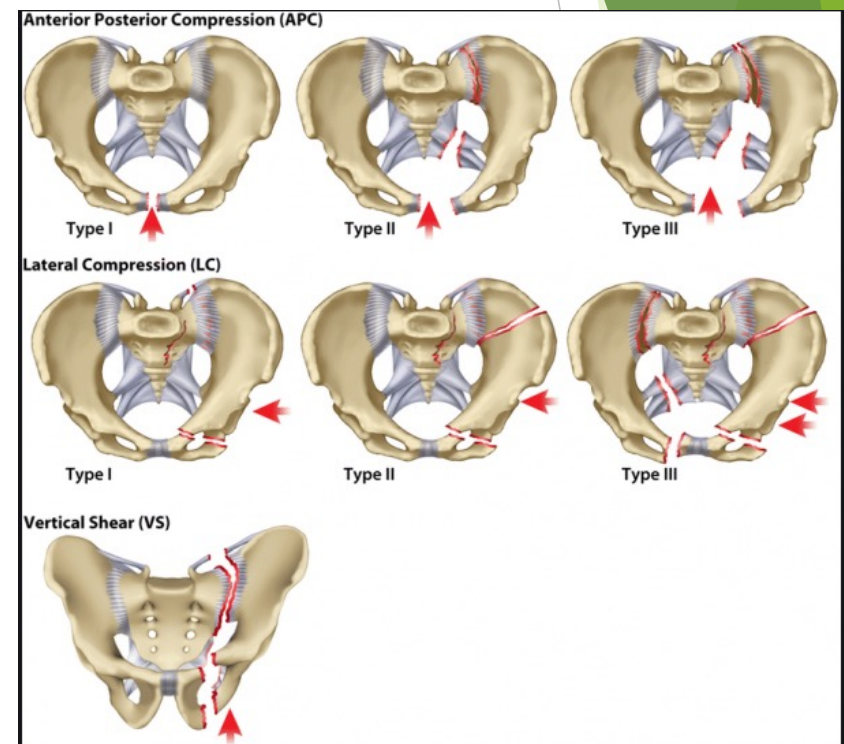
2013 - Pelvic Ring Fracture Stability and Medical Documentation / AIS Code Applicability

STABLE	PARTIALLY UNSTABLE	TOTALLY UNSTABLE
Isolated simple fracture of: Pubic ramus Ilium Ischium Sacral ala	Wide symphysis pubis Separation (>2.5cm)	Pubic ramus fracture with sacroiliac fracture/dislocation
Transverse fracture of sacrum and coccyx - with or without sacrococcygeal dislocation	Anterior compression fracture of sacrum	Fracture involving posterior arch with complete loss of posterior osteoligamentous integrity
Minor symphysis pubis separation (<2.5cm)	Fracture involving posterior arch with posterior ligamentous integrity partially maintained	Fracture involving posterior arch with pelvic floor disruption
Tile Classification - A	Fracture involving posterior arch, but pelvic floor intact	Tile Classification - C
OTA Classification - A	Bilateral fractures with posterior ligamentous integrity partially maintained	OTA Classification - C
Young/Burgess Classification - AP1	Tile Classification - B	Young/Burgess Classification - LC3, AP3 and VS
	OTA Classification - B	Vertical Shear Malgaigne Fracture
	Young/Burgess Classification - LC1, LC2, AP2	Sacroiliac joint with posterior disruption
	Sacroiliac joint with anterior disruption	
	"Open book" fracture <2.5cm	

Classifications of Pelvic Fractures

• Young-Burgess Classification 📷 ⚙️ ?

Anterior Posterior Compression (APC)	
APC I	Symphysis widening < 2.5 cm
APC II ? ? ?	Symphysis widening > 2.5 cm. Anterior SI joint diastasis. Posterior SI ligaments are intact. Disruption of sacrospinous and sacrotuberous ligaments.
APC III ? ?	Disruption of anterior and posterior SI ligaments (SI dislocation). Disruption of sacrospinous and sacrotuberous ligaments. APCIII associated with vascular injury
Lateral Compression (LC)	
LC I	Oblique or transverse ramus fracture and ipsilateral anterior sacral ala compression fracture.
LC II ?	Rami fracture and ipsilateral posterior ilium fracture dislocation (crescent fracture).
LC III ?	Ipsilateral lateral compression and contralateral APC (windswept pelvis). Common mechanism is rollover vehicle accident or pedestrian vs auto.
Vertical Shear (VS)	
Vertical shear	Posterior and superior directed force. Associated with the highest risk of hypovolemic shock (63%); mortality rate up to 25%



- **Tile classification**

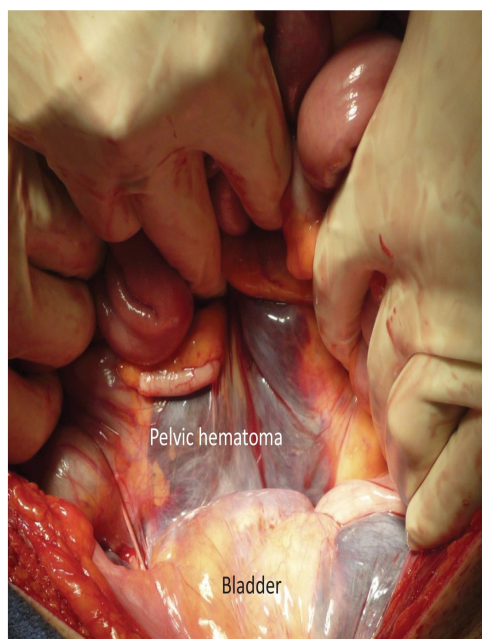
Tile classification	
A: Stable	
	A1: fracture not involving the ring (avulsion or iliac wing fracture)
	A2: stable or minimally displaced fracture of the ring
	A3: transverse sacral fracture (Denis zone III sacral fracture)
B: Rotationally unstable, vertically stable	
	B1: open book injury (external rotation)
	B2: lateral compression injury (internal rotation)
	B2-1: with anterior ring rotation/displacement through ipsilateral rami
	B2-2: with anterior ring rotation/displacement through contralateral rami (bucket-handle injury)
	B3: bilateral
C: Rotationally and vertically unstable	
	C1: unilateral
	C1-1: iliac fracture
	C1-2: sacroiliac fracture-dislocation
	C1-3: sacral fracture
	C2: bilateral with one side type B and one side type C
	C3: bilateral with both sides type C



Coding pelvic hematomas

ALL - AIS 2005/2008 Update Dictionary - Clarification Document - Most Current Clarification Date At the Top

YEAR	CHAPTER	ITEM	DISCUSSION
2013	LOW EXTREM	<i>Pelvic Fracture With Hematom</i>	Incomplete or Complete disruption with blood loss Blood loss $\leq 20\%$ by volume may be used for documented small/moderate pelvic hematoma Blood loss $>20\%$ by volume may be used for documented large/extensive pelvic hematoma.



Can you code that pelvic hematoma somewhere??

► Email to AAAM:

Hi Kathy –

With the partial and complete unstable pelvic fxs, pelvic hematomas if present are included in those pelvic fx AIS codes as blood loss but if we have a stable pelvic fx and mention of a pelvic hematoma would we code that hematoma separately under external? – The question came up the other day and I'm thinking we wouldn't as it seems more internal or sequela from the actual fx but I'm not sure.

For example:

1. Complex left acetabular fractures involving the posterior and anterior columns with mild displacement.
2. Minimally displaced fracture involving the inferior left pubic ramus
3. Hematoma involving the left pelvic wall and along along the left superior pubic ramus.

Thanks for your help.

Shauna,

If the patient has a "Stable" pelvic fracture, the pelvic hematoma would be lost to coding.

In your example, you would code the left acetabular fracture, 2 columns; you would code the stable inferior pubic rami fracture and the hematoma would be lost.

Ask the Experts...

Pubic root fracture?? - How do I code that?

CT:

FINDINGS:

MUSCULOSKELETAL: There is redemonstration of nondisplaced fracture at the right superior anterior acetabulum and the mid inferior pubic ramus. No additional fractures are seen.

ORTHO CONSULT:

Imaging:

Multiple views AP pelvis and right hip demonstrating non displaced fracture of the right inferior pubic rami

CT Rt hip and Pelvis demonstrating minimally displaced fracture of the right inferior pubic rami and right pubic root. **No injury to columns** or posterior ring.

Assessment:

yo M s/p fall

Right inferior pubic rami fracture

Right pubic root fracture

Ask the doc...

Hi Dr. X -

Quick question - is a pubic root fracture an acetabulum fracture or would it be part of the pelvic bone? I'm not sure how to code this for an injury severity score.

Sincerely,

X



And the correct answer (*usually*) is...

X,

Pubic root typically falls under the *pelvis ring category*. It's usually referring to the superior ramus. Sometimes radiology will call it "anterior wall" which is part of the acetabulum.... but *almost always*, it's more of a ring/ramus injury.

Hope that helps!

Dr. X -



“Stable(??) LC1 fracture”

- ▶ What do you do with this type of description in an ortho consult note?
- ▶ Email to AAAM:

Hi Jan,

Quick question re: pelvic fractures. I see that under the “Incomplete disruption” coding for pelvis fractures it includes “lateral compression” as a descriptor and in the 2013 AIS clarification documents a LC1 is categorized under the “partially unstable” category. I have a patient who ortho is classifying as having a “**stable**” LC1 pelvic fracture”. I would think by description I could use the partially unstable code (in which I could include the pelvic hematoma also present) but wanted to double check.

X,

From the information you provided it is difficult to determine exactly what type of fracture your orthopedic surgeons are describing. If the fracture is stable, meaning that the posterior arch is intact and the integrity of the pelvic ring is intact, you would code it as 856151.2, although **if they truly believe that it is partially unstable (as described in the AIS dictionary) and a lateral compression injury, then you may use the code 856161.3.** If you can’t clarify it with your orthopedist you should use Rule # 1 - code conservatively (856151.2). ***It sounds like more information and clarity may be necessary for you to code this to the correct area,*** but based on what you’ve told us we would code it as stable.

Jan and Vic

“Stable(??) LC1 fracture”

► Followed by email to our ortho doc who in turn answered...

“So... **LC1 pelvic fractures**, by definition **involve ramus fractures with an associated sacral fracture (usually an impaction fracture of the sacral ala)**... of course, the sacral fracture can come in a variety forms... A displaced complete sacrum fracture with pubic ramus fractures is significantly more unstable than a very small sacral impaction fracture w ramus fractures.... both however, are considered LC1 pelvis fractures”

“LC1s can be partially unstable, but often still treated non-op. It really depends on the individual fracture and pt characteristics. To me a “stable” LC1 injury is one that doesn’t need an operation and can allow immediate return to weight bearing in some capacity with minimal risk of progressive displacement.

So in conclusion....(several emails later)...

“So in my head: (this being the ortho doc’s head)

Stable LC1 - ramus + posterior injury with less than 1-2 cm displacement of the sacrum, may be complete or incomplete fracture.”

“Unstable LC1 - those with ramus fx and complete sacral fx with more than 1-2 cm displacement. OR..... any LC1 injury that has failed non op management due to persistent pain or progressive displacement.”

So now what?...

- ▶ We review all radiographic reports that describe the pelvic fractures
- ▶ Does the description include some posterior arch involvement (ie: anterior compression sacral fxs)?
- ▶ Is ortho classifying the injury as an LC or APC fracture?
- ▶ Is there an OR report? If so read through it.
- ▶ Email your ortho surgeon or resident for clarification if needed (hopefully they will answer you)
- ▶ If there is still question as to the degree of stability - CODE CONSERVATIVELY

References

- ▶ Association for the Advancement of Automotive Medicine (2008). Abbreviated Injury Scale 2005 - Updated 2008
- ▶ AIS 2005 / 2008 Update Dictionary - Clarification Document (2019)
- ▶ Brian Weatherford. Ortho Bullets. Pelvic Ring Fractures.
<https://www.orthobullets.com/trauma/1030/pelvic-ring-fractures>

Patient-Reported Outcomes Updates

**Julia Kelm
Jill Jakubus**

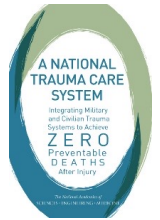


Concept

**Measuring
what matters
to the patient**



**Measured by
the patient**



The Ask

Review

A National Trauma Care System: Integrating Military and Civilian Trauma Systems to Achieve Zero Preventable Deaths

Committee on Military Trauma
Sector;

Board on Health Sciences Policy
Health and Medicine Division; I

Donald Berwick, Autumn Down

Washington (DC): National Aca

PMID: 27748086 Bookshelf ID

Recommendation 5: The Secretary of Health and Human Services and the Secretary of Defense, together with their governmental, private, and academic partners, should work jointly to ensure that military and civilian trauma systems collect and share common data spanning the entire continuum of care. Within that integrated data network, measures related to prevention, mortality, disability, mental health, patient experience, and other intermediate and final clinical and cost outcomes should be made readily accessible and useful to all relevant providers and agencies.

To implement this recommendation, the following specific actions should be taken:

- Existing trauma registries should develop mechanisms for incorporating long-term outcomes (e.g., patient-centered functional outcomes, mortality data at 1 year, cost data).

Future Ask



SPECIAL ARTICLE

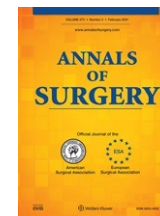
Proceedings from the Consensus Conference on Trauma Patient-Reported Outcome Measures

Check for updates

Joseph V Sakran, MD, MPH, MPA, FACS, Hiba Ezzeddine, MD, C William Schwab, MD, FACS, Stephanie Bonne, MD, FACS, Karen J Brasel, MD, MPH, FACS, Randall S Burd, MD, PhD, FACS, Joseph Cuschieri, MD, FACS, James Ficke, MD, FACS, Barbara A Gaines, MD, FACS, Joseph T Giacino, PhD, Nicole S Gibran, MD, FACS, Adil Haider, MD, MPH, FACS, Erin C Hall, MD, FACS, Juan P Herrera-Escobar, MD, MPH, Bellal Joseph, MD, FACS, Lillian Kao, MD, FACS, Brad G Kurowski, MD, MS, FACS, David A. Lippman, MD, MPH, FACS, Deepika Nehra, MD, FACS, Babak Sarani, MD, MPH, FACS, Ben Zarzaur, MD, MPH, FACS, Ronald S. Burch, MD, MPH, PhD, FACS, Avery B Nathens, MD, MPH, PhD, FACS;

Our goal was to identify a limited number of measures to incorporate into the ACS National Trauma Data Standard.²² The National Trauma Data Standard specifies field definitions for data to be captured by trauma centers to evaluate their quality of care. Most trauma centers have limited capacity to take on additional large-scale data

Literature



ORIGINAL ARTICLE

Patient-reported Outcomes at 6 to 12 Months Among Survivors of Firearm Injury in the United States

Juan Pablo Herrera-Escobar, MD, MPH,✉ Elzerie de Jager, MBBS(Hons),*
Justin Conrad McCarty, DO, MPH,* Stuart Lipsitz, ScD,* Adil H. Haider, MD, MPH,*
Ali Salim, MD,† and Deepika Nehra, MD†*

Objective: Assess outcomes in survivors of firearm injuries after 6 to 12 months and compared them with a similarly injured trauma population.

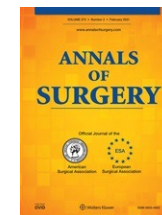
Background: For injury in 2017, there were 33,000 firearm research largely while neglecting the

largely focuses on mortality and short-term health outcomes,^{5,6} while neglecting the long-term consequences.⁷

Survivors of injury as a whole commonly suffer from reduced

Conclusions: This study highlights the need for targeted long-term follow-up care, physical rehabilitation, mental health screening, and interventions for survivors of firearm violence.

Literature



ORIGINAL ARTICLE

Factors Associated With Long-term Outcomes After Injury *Results of the Functional Outcomes and Recovery After Trauma Emergencies (FORTE) Multicenter Cohort Study*

Adil H. Haider, MD, MPH,*† Juan P. Herrera-Escobar, MD, MPH,* Syeda S. Al Rafai, MD,*
Alyssa F. Harlow, MPH,* Michel Apoj, BS,‡ Deepika Nehra, MD,† George Kasotakis, MD, MPH,‡
Karen Brasel, MD, MPH,§ Haytham M. A. Kaafarani, MD, MPH,|| George Velmahos, MD, PhD,||
and Ali Salim, MD†

Objective: The aim of this study was to determine factors associated with patient-reported outcomes, 6 to 12 months after moderate to severe injury.

Summary of Background Data: Patients with trauma often have an incomplete understanding of their injury and the potential long-term outcomes. Several entities in the literature have been associated with poor outcomes, but the impact of these factors on long-term outcomes is not well understood.

This suggests that social support systems are potentially at the core of recovery rather than traditional measures of injury severity.

Conclusion: The long-term sequelae of trauma are more significant than previously expected. Collection of postdischarge outcomes identified patient factors, such as female sex and low education, associated with worse recovery.

Literature



BRIEF REPORT

Pain across traumatic injury groups: A National Institute on Disability, Independent Living, and Rehabilitation Research model systems study

Dagmar Amtmann, PhD, Alyssa M. Bamer, MPH, Kara McMullen, MPH, Nicole S. Gibran, MD, Jeanne M. Hoffman, PhD, Charles H. Bombardier, PhD, and Gretchen J. Carrougher, MN, RN, *Seattle, Washington*

BACKGROUND: Pain is a common problem after traumatic injury. We describe pain intensity and interference at baseline and 1 year postinjury in burn, traumatic brain injury (TBI), and spinal cord injury (SCI) survivors and compare them with the general population (GP). We tested a custom Patient Reported Outcomes Measurement Information System (PROMIS) pain interference short form developed for use in trauma populations.

METHODS: We administered a pain intensity numerical rating scale and custom PROMIS pain interference short forms at baseline and/or 1 year postinjury in burn, TBI, and SCI survivors and compared them with the GP.

CONCLUSION: The custom pain interference short forms functioned well and demonstrated the utility of the custom PROMIS pain interference short forms in traumatic injury. Results indicate that, for many people with burn, TBI and SCI, pain remains an ongoing concern long after the acute injury phase is over. This suggests a need to continue to assess pain months or years after injury to provide better pain management for those with traumatic injuries. (*J Trauma Acute Care Surg.* 2020;89: 829–833. Copyright © 2020

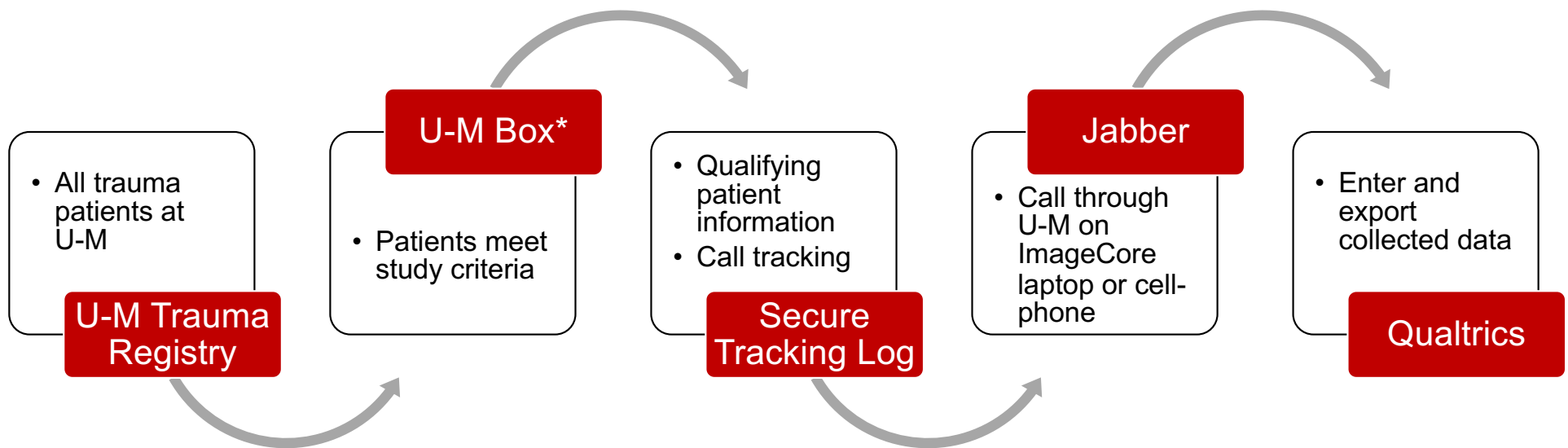
PRO Opportunity

- **Offer MTQIP staff to perform your PRO reporting**
- **Contact on your behalf**
- **PRO data available to center**
- **PRO collaborative feedback**
- **Guide clinical care**
- **Verification resource**

- **Email: jjakubus@umich.edu**
- **Amendment required**



Data Collection



*U-M Box is transitioning to Dropbox in July 2021

Protocol



**Hospital
Review**



EQ-5D-5L



Opioid



Economic



**Caregiver
Burden**

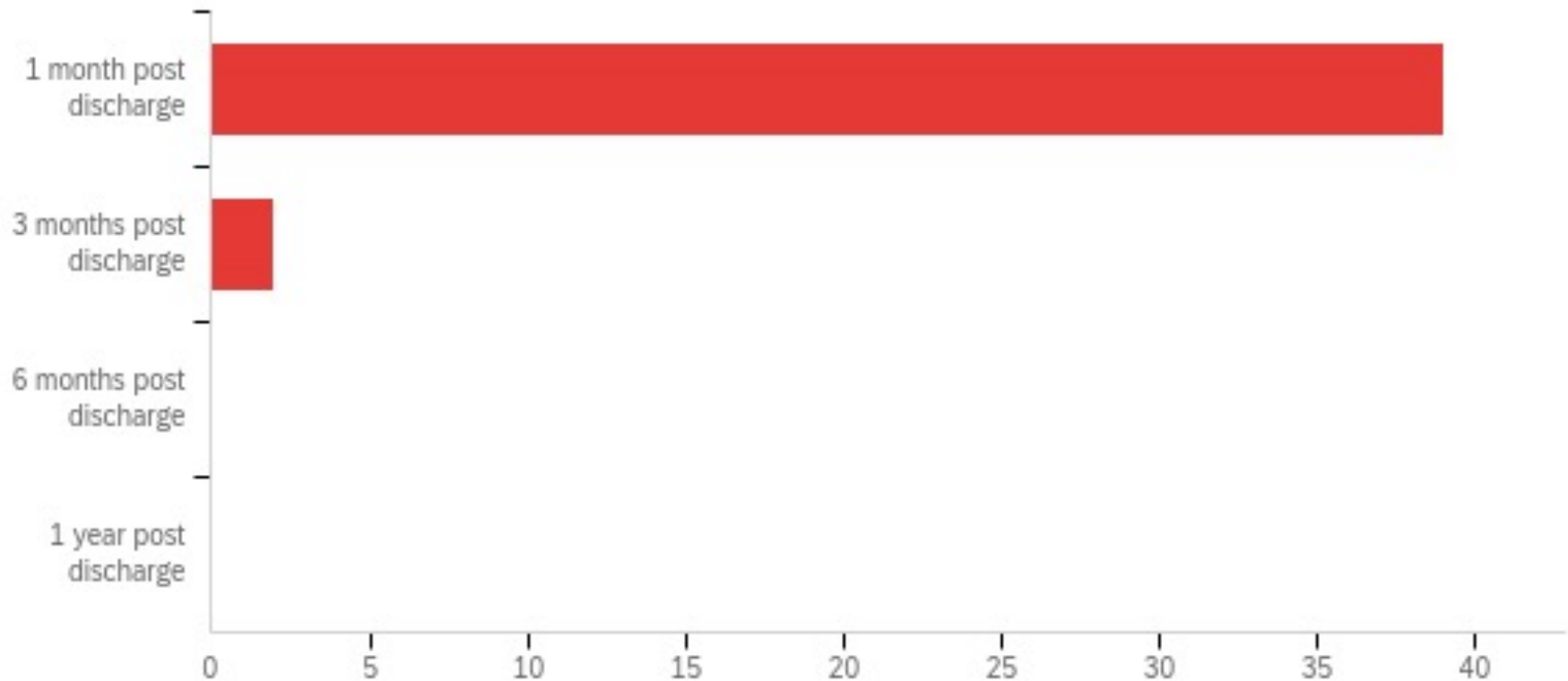
PRO Current Criteria

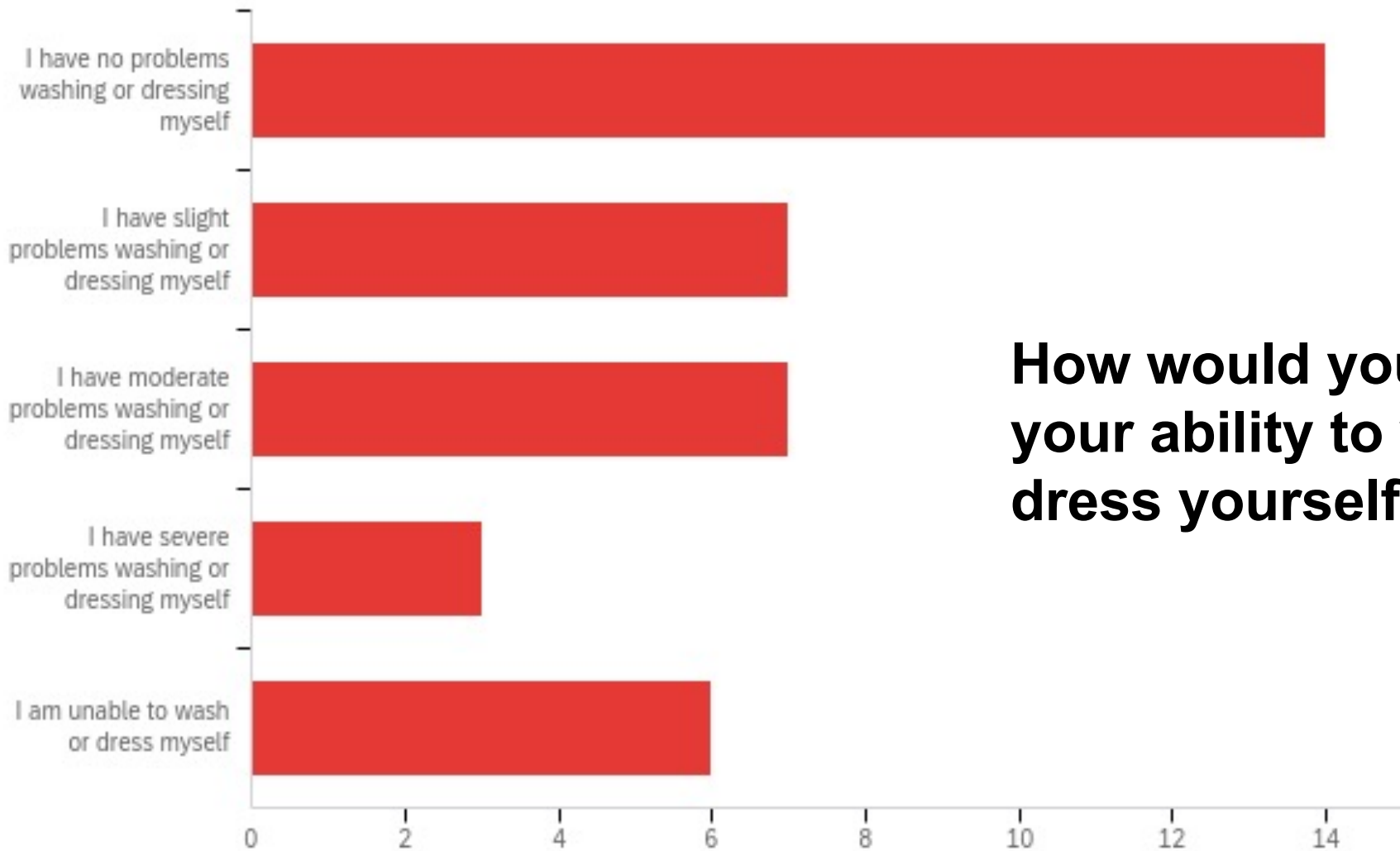
- Age ≥ 18 years
- Inclusion criteria
 - ISS ≥ 15
 - Fracture
 - Humerus, radius, femur, tibia, pelvis, 2+ ribs
 - Trauma Operation
 - Intubation
- Exclusion criteria
 - ISS ≤ 7

42

Responses

What time point call is this?

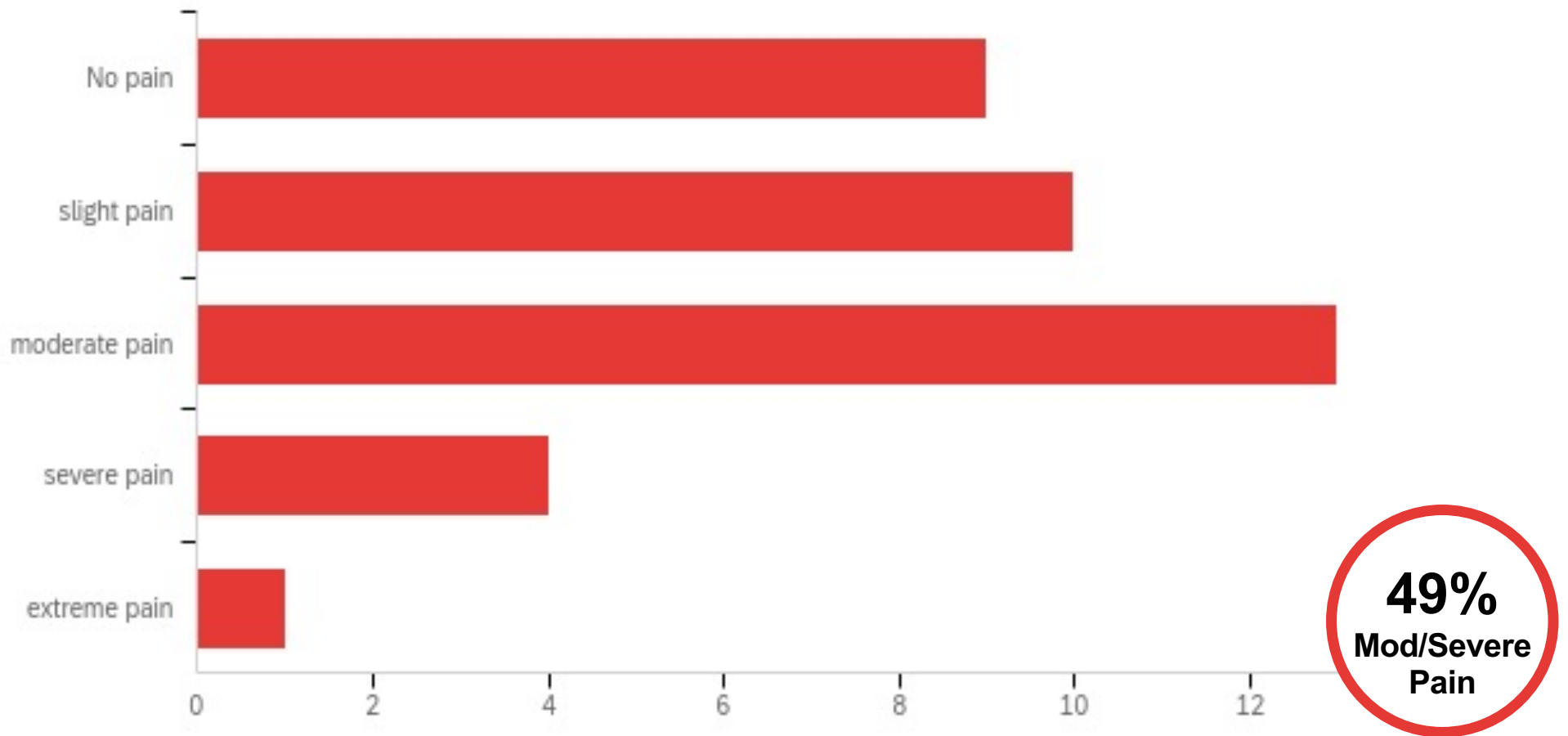




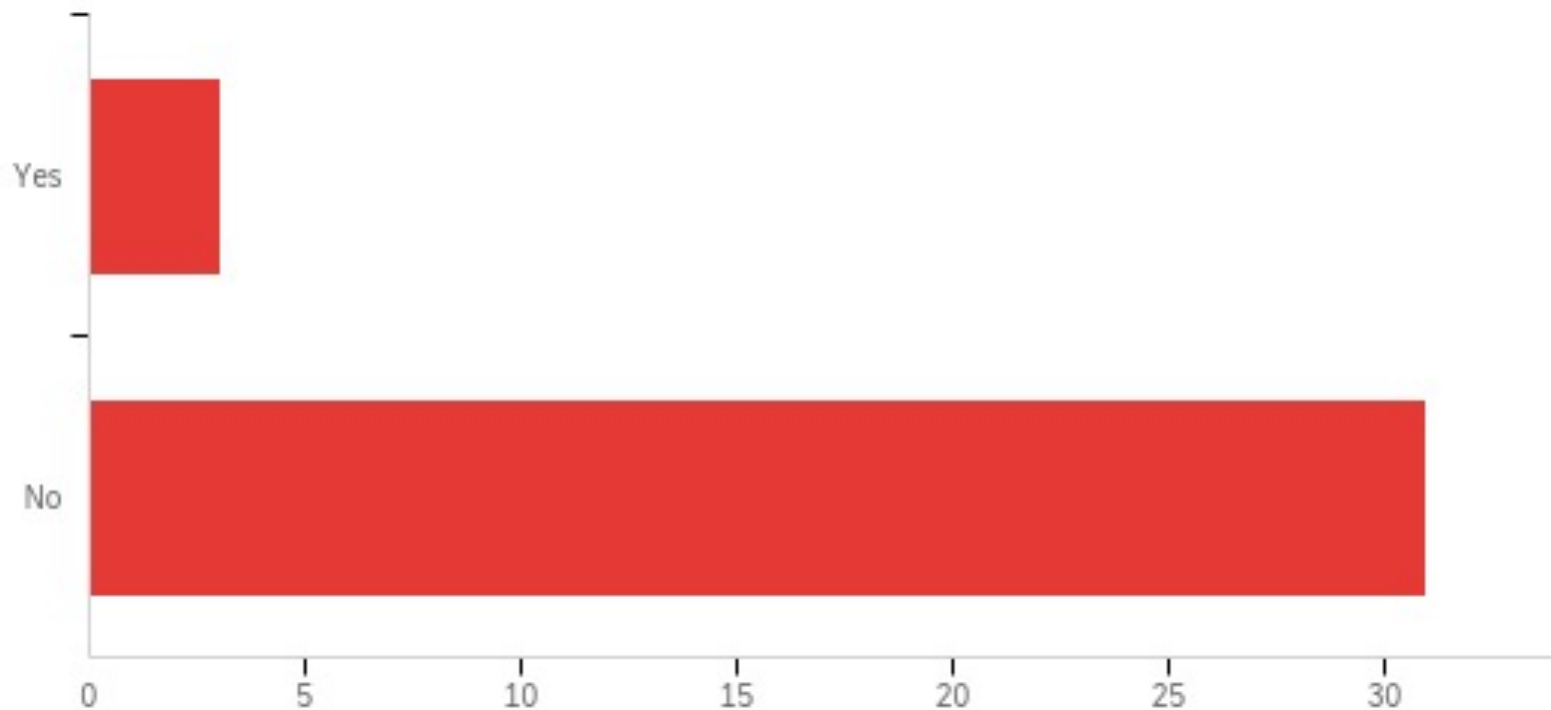
**How would you rate
your ability to wash or
dress yourself?**

62%
Impairment

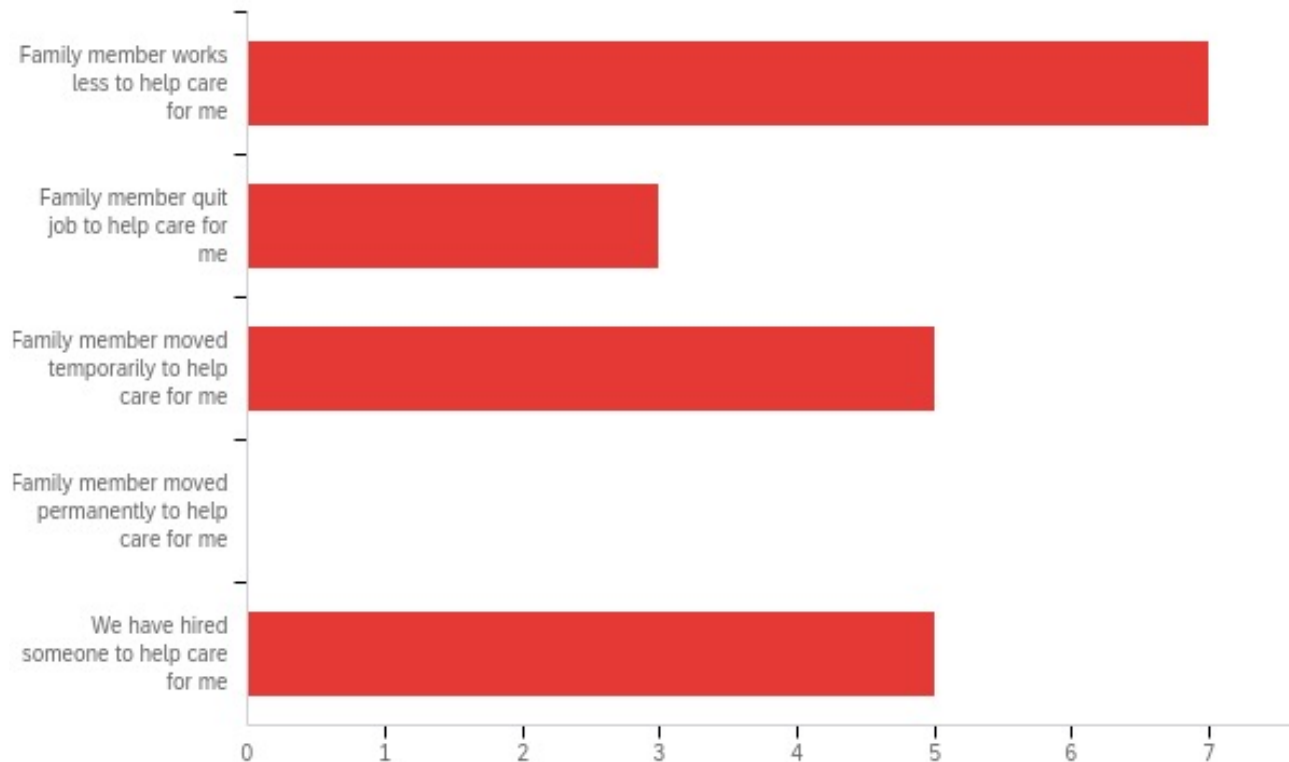
How would you rate your level of pain or discomfort?



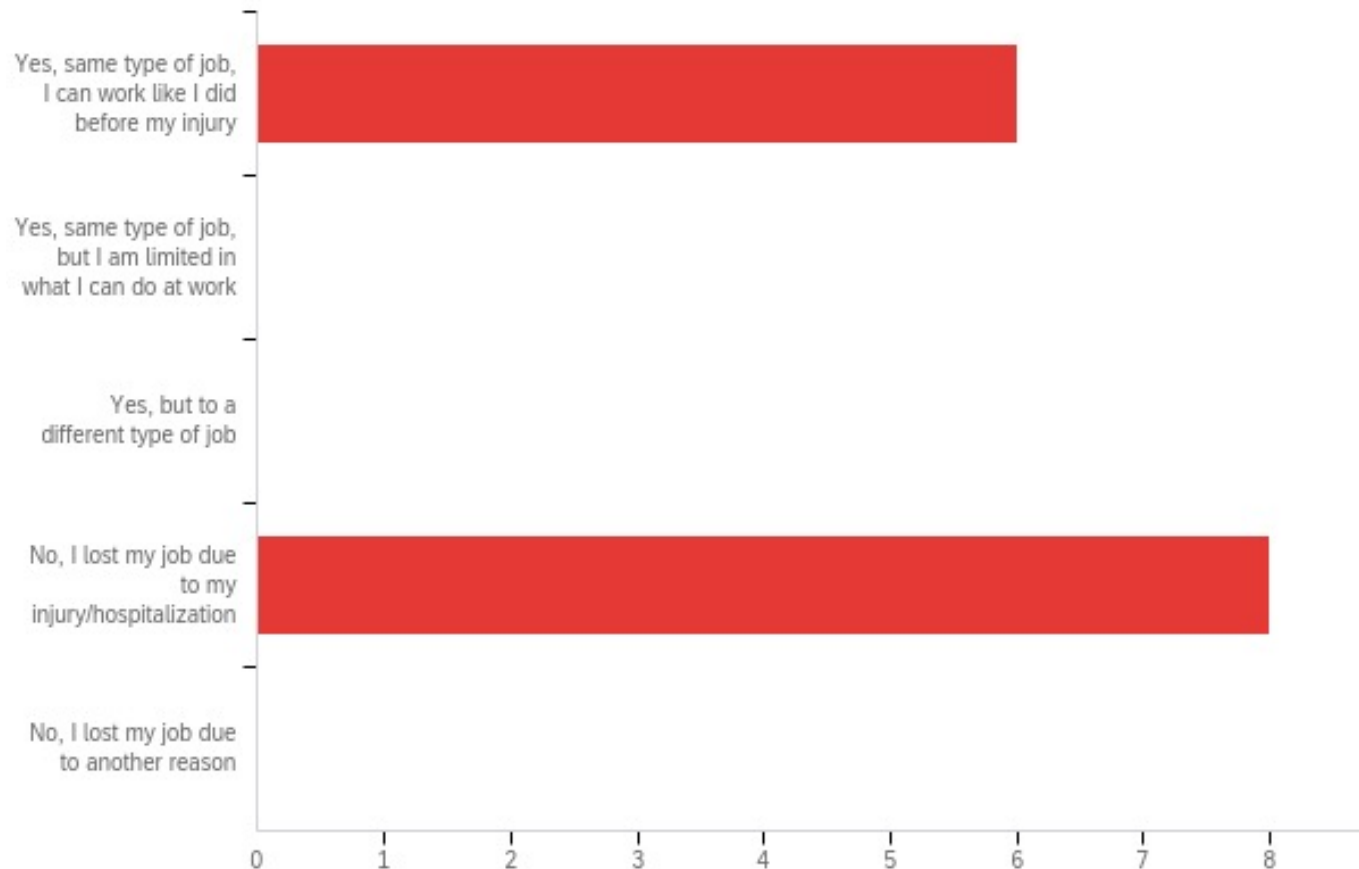
Did you take any opioid pain medication at any time in the year before your traumatic injury?



Since the time that you were hospitalized for your injury, have any of the following events occurred so that other people can help care for you?

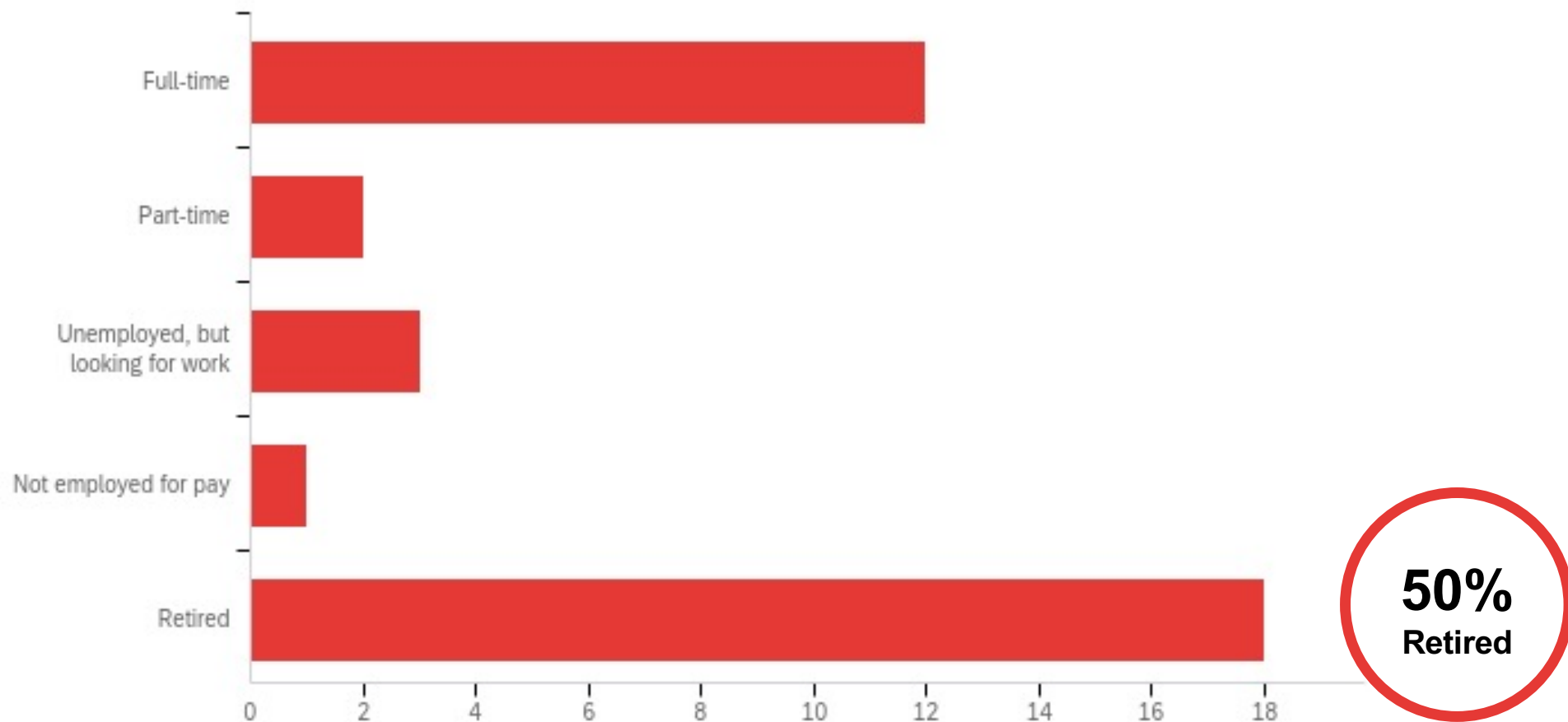


Since the time that you were hospitalized for your injury, have you gone back to working again?

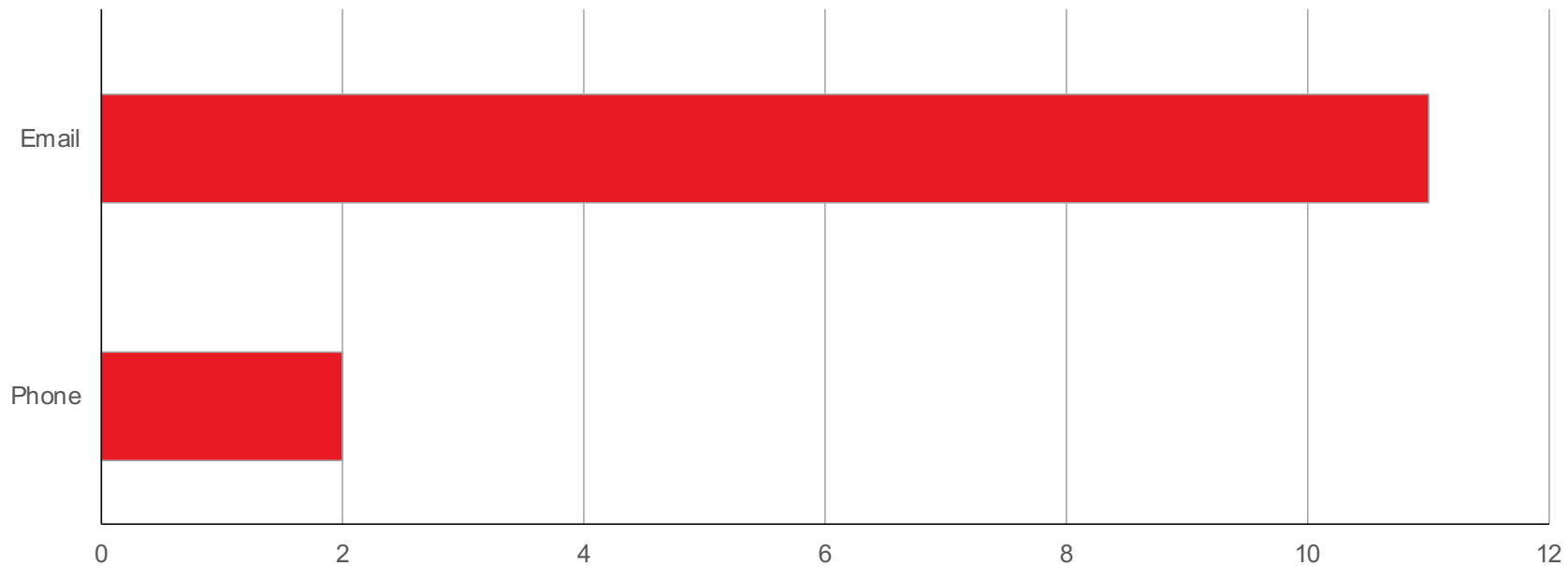


57%
Workers
Job Loss

At the time of your injury, what was your employment status?

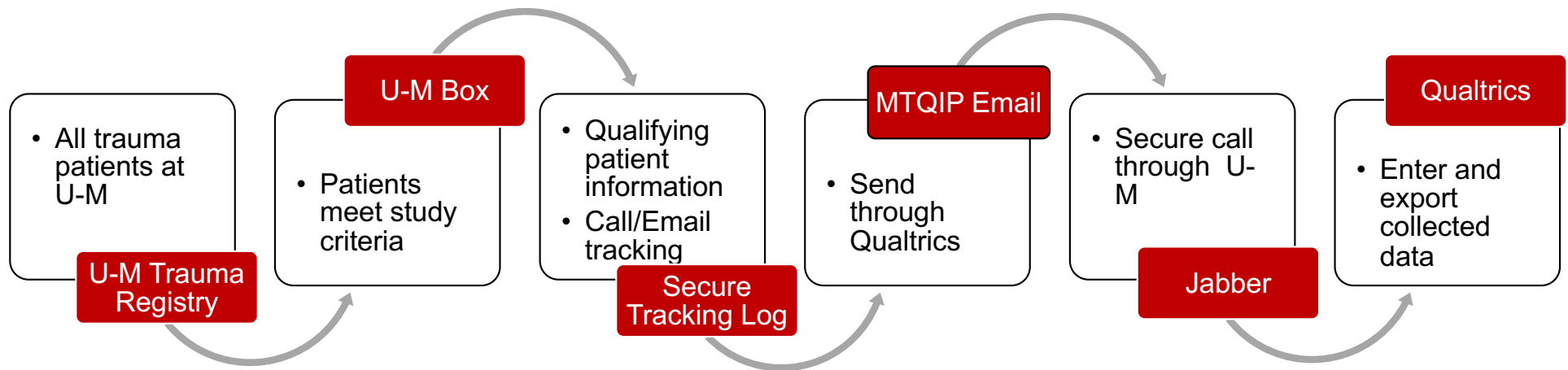


Would you prefer to be contacted via email or phone?

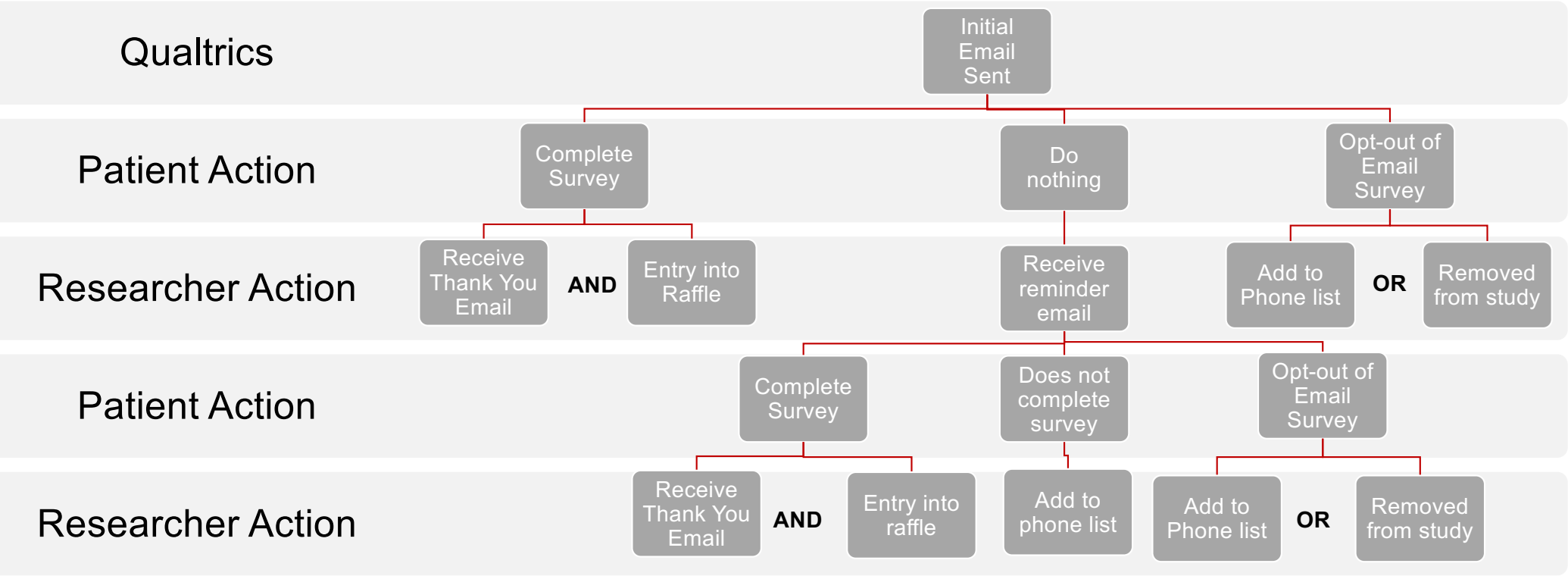


79%
Prefer email

Future Data Collection



Future Data Collection





Hello !

You are about to begin the trauma quality improvement survey from the *Michigan Trauma Quality Improvement Program (MTQIP)*. This survey is meant solely to improve patient care and long term recovery for those who experience traumatic injury.

We thank you for your time and interest! All information collected will remain private and anonymous. You may skip any question you would like. All information collected will be solely used to improve the care and future outcomes of patients who have experience traumatic injury.

If you are willing to participate and want to enter the raffle, kindly press the next arrow at the bottom of the page to begin the survey.



Did you take any opioid pain medication at any time in the year before your traumatic injury?

Yes

No



Michigan Trauma Quality Improvement Program



Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?

0 1 2 3 4 5 6 7 8 9 10

Hospital Rating



Would you recommend this hospital to your friends and family?

Definitely no

Probably no

Probably yes

Definitely yes



Michigan Trauma Quality Improvement Program





Discussion Opportunity

Break

Return 11:55



Level 3 Reporting

**Anne Cain-Nielsen
Laura Gerhardinger**

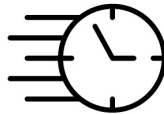


LEVEL 3 SITE REPORTS - UPDATES

Anne Cain-Nielsen, MS + Laura Gerhardinger, MA
MTQIP Analysts

LEVEL 3 SITE REPORTS - UPDATES

- Received feedback from group that you wanted to be evaluated on more recent data



- Initially, Level 3 site reports used all data starting from Jan 2017. This was leading to long reporting timeframes.

Michigan Level 3 Trauma Center Report

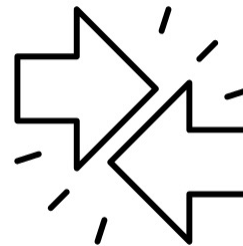
(Date Range 1/17 - 2/20)

(Site XY compared to all sites)

HOW TO CHOOSE A TIMEFRAME?

- We want to find a time frame that is:
 - 1) As recent as possible
 - 2) Able to detect differences between sites

- 1) and 2) tend to be at odds



HOW TO CHOOSE A TIMEFRAME?

- If we shorten our time frames, will we still see differences between sites, or will those disappear?
- Can use **power calculations** to answer this question.

POWER

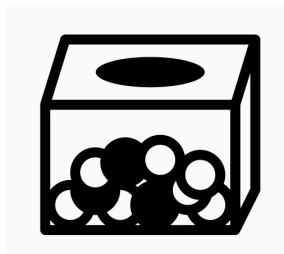
- Power: the probability of finding an effect, if that effect actually exists.
- ‘True positive’
- Assuming there **truly is** a difference, power is the probability that we **observe** that difference
- Usually want at least 80% power (tradition).

POWER

- Statistical Jargon: Probability of rejecting the null hypothesis, if alternative hypothesis is true
- One example:
 - Null: All Level 3 site trauma center mortality rates are the same.
 - Alternative: At least one Level 3 center's mortality rate is different.
- Assuming there **truly is** a difference between sites, power is the probability that we **observe** a difference between sites.

HOW TO CALCULATE POWER?

- Often formula-based for simpler statistics – ours aren't simple!
- Can use **bootstrapping** to simulate data, and then calculate power:
 - Create many simulated datasets (randomly re-sample cases).
 - For each simulated dataset, test whether we observe a difference.
 - Count how many times we observe a difference.
 - Power = % of simulated datasets where we observe a difference.



WHAT WE TESTED

- Tested for differences in four different outcomes within each cohort (All, 65+, Hip fracture, All excluding transfers out):
 - Mortality
 - Mortality/hospice
 - Major complications
 - Transfer under 12h
- Calculated power for four different time frames:
 - Most recent 1 year
 - Most recent 1.5 years
 - Most recent 2 years
 - All time period

RESULTS

Simulated power (% of bootstrapped datasets with ≥ 1 trauma center having a statistically significant difference from the mean)					
Cohort	Outcome	Proposed reporting time period			
		1 year	1.5 years	2 years	All years
All patients	Mortality	94	98	100	100
	Mortality or hospice	100	100	100	100
	Major complications	100	100	100	100
	Transfer ≤ 12 hours	82	96	96	100
Patients ≥ 65 years	Mortality	78	86	98	100
	Mortality or hospice	88	84	98	100
	Major complications	88	90	94	100
	Transfer ≤ 12 hours	66	74	96	100
Patients with isolated hip fracture	Mortality	68	78	80	66
	Mortality or hospice	70	76	92	94
	Major complications	94	100	100	100
	Transfer ≤ 12 hours	0	28	52	96
All patients, excluding transfers to higher level of care	Mortality	98	98	100	100
	Mortality or hospice	94	98	100	100
	Major complications	98	100	100	100

FINDINGS

- For all-time and two-year reporting intervals, 80% power was achieved for 14/15 outcomes
- Using 1 or 1.5-year intervals, 80% power was achieved for fewer outcomes (10/15 for a 1-year timeframe, 11/15 for 1.5-year timeframe)
- **The two-year reporting timeframe was the best balance between achieving 80% power and reporting timely data.**

CHANGES TO REPORTS

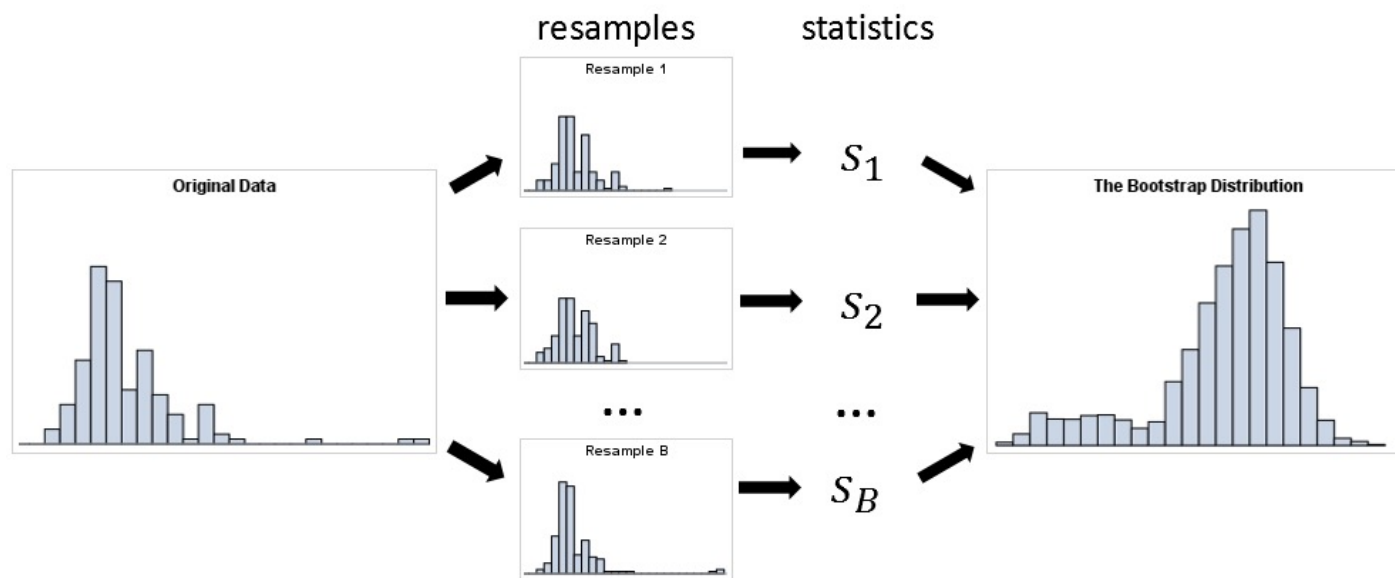
- Starting with Winter 2021 reports, we are using a two-year reporting time frame (two most recent years of data).
- Starting with Summer 2021 reports, we will remove 'Prior 12 Months' outcomes sections. (Not enough power to report a one-year period).

Table 6. Outcomes, all patients

All Patients					
Outcome: # (%)	Site XX				All Sites 9/18-8/20
	All time period 9/18-8/20	P*	Prior 12 Months 9/19-8/20	P**	
Number of Cases	539		179		17927
Mortality					
Unadjusted	12 (2.2)	0.09	6 (3.3)	0.04	244 (1.4)
Risk-Adjusted	8 (1.5)	0.56	1 (2.0)	0.00	228 (1.3)

QUESTIONS?

MORE ON BOOTSTRAPPING..



<https://blogs.sas.com/content/iml/2018/12/12/essential-guide-bootstrapping-sas.html>

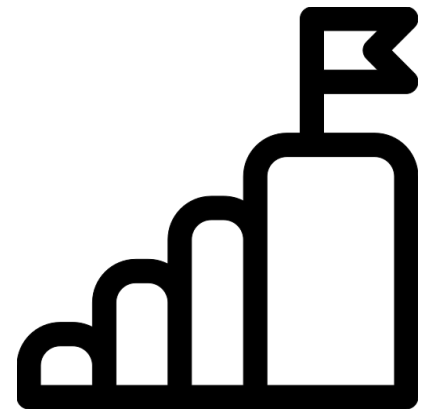
Challenging Questions

Jill Jakubus



Instructions

- **Show questions submitted to MTQIP**
- **Definition**
- **Your response via poll**
- **Provided response**
- **Commentary at section breaks**



Challenges



Prepared for Success



A 3D white ribbon with the text "THANK YOU" in a bold, black, sans-serif font. The ribbon is curved and has a slight shadow on the teal background. The entire scene is framed by a dark grey border.

THANK YOU

Test Poll

- **App**
 - **Enter the username mtqip910**
 - **Enter your full name**
- **Browser**
 - **PollEv.com/mtqip910**
 - **Enter your full name**
- **Text**
 - **Text MTQIP910 to 22333**



Question 0

Hemarthrosis is not a codable injury.

A. True

B. False

Response

Answer: True

Response: On www.mtqip.org > Resources > Data > Education



ALL - AIS 2005/2008 Update Dictionary - Clarification Document - Most Current Clarification Date At the Top

10/9/2019 15:16

YEAR	CHAPTER	ITEM	DISCUSSION	REFERENCE/EXAMPLE
2019	GENERAL DEFINITION	<i>Hemarthrosis</i>	Hemarthrosis is not a codable injury.	

ACS TQIP



Question 1

For the Initial ED/Hospital GCS - Eye, what should be reported?

The EMR only documents the patient is “alert.”

- A. 1 (No eye movement when assessed)**
- B. 2 (Opens eyes in response to pain)**
- C. 3 (Opens eyes in response to verbal stimulation)**
- D. 4 (Opens eyes spontaneously)**
- E. Not Known/Not Recorded**

5.16 INITIAL ED/HOSPITAL GCS-EYE

Definition

First recorded Glasgow Coma Score (Eye) in the ED/hospital within 30 minutes or less of ED/hospital arrival.

Element Values

1. No eye movement when assessed
2. Opens eyes in response to painful stimulation
3. Opens eyes in response to verbal stimulation
4. Opens eyes spontaneously

Additional Information

- If a patient does not have a numeric GCS score recorded, but written documentation closely (or directly) relates to verbiage describing a specific level of functioning within the GCS scale, the appropriate numeric score may be listed. E.g. the chart indicates: "opens eyes spontaneously," an Eye GCS of 4 may be recorded, IF there is no other contradicting documentation.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.
- The provider evaluation time, staff arrived time, and similar assessment time should be used when the specified provider's note documents this assessment.
- The null value "Not Known/Not Recorded" is reported if Initial ED/Hospital GCS 40 – Eye is documented.
- The null value "Not Known/Not Recorded" is reported if the patient's Initial ED/Hospital GCS - Eye was not measured within 30 minutes or less of ED/hospital arrival.
- If the patient has a cardiopulmonary arrest prior to arrival or within 15 minutes of arrival, and no GCS is ever able to be obtained then report this GCS variable as 1.

TQIP Response

Answer: 4 (Opens eyes spontaneously)

Response: If the center's standard documentation practice is to document patients with a GCS-Eye score of "4" as "alert," then Element Value "4. Opens eyes spontaneously" may be reported because it (or directly) relates to **verbiage describing a specific level of functioning within the GCS scale.**

Question 2

For **Initial ED/Hospital GCS – Eye, Verbal, Motor, Total**, what should be reported for all four variables given the below scenario?

Arrival 21:00

ED MD 21:00. GCS = 13 but no breakdown and incomplete verbiage

ED RN 21:06. GCS = 14 with no breakdown and no verbiage

ED RN 21:24. GCS = 12 with documented breakdown of Eyes = 3; verbal = 4; motor = 5

- A. NK/NR x 4**
- B. NK/NR x 3, 13**
- C. 3, 4, 5, 12**
- D. 3, 4, 5, 13**

5.19 INITIAL ED/HOSPITAL GCS-TOTAL

Definition

First recorded Glasgow Coma Score (total) within 30 minutes or less of ED/hospital arrival.

Element Values

- Relevant value for data element.

Additional Information

- If a patient does not have a numeric GCS recorded, but there is documentation related to their level of consciousness such as "AAOx3," "awake alert and oriented," or "patient with normal mental status," interpret this as GCS of 15 IF there is no other contradicting documentation.
- Please note that first recorded/hospital vitals do not need to be from the same assessment.
- The provider evaluation time, staff arrived time, and similar assessment time should be used when the specified provider's note documents this assessment.
- The null value "Not Known/Not Recorded" is reported if Initial ED/Hospital GCS 40 is reported.
- The null value "Not Known/Not Recorded" is reported if Initial ED/Hospital GCS – Eye, Initial ED/Hospital GCS – Motor, Initial ED/Hospital GCS – Verbal were not measured within 30 minutes or less of ED/Hospital arrival.
- If the patient has a cardiopulmonary arrest prior to arrival or within 15 minutes of arrival, and no GCS is ever able to be obtained then report GCS total as 3.

TQIP Response

Answer: NK/NR, NK/NR, NK/NR, 13

Response: The reason why is that this reflects the first recorded GCS component and total documented within 30 minutes or less of ED/hospital arrival.

Arrival 21:00

ED MD 21:00. GCS = 13 but no breakdown and incomplete verbiage

ED RN 21:06. GCS = 14 with no breakdown and no verbiage

ED RN 21:24. GCS = 12 with documented breakdown of Eyes = 3; verbal = 4; motor = 5

Question 3

For **pre-existing conditions**, what sources are acceptable for reporting?

- A. EMS run sheet documentation**
- B. Previous ED or hospital visits**
- C. Care Everywhere (OSH documents in your EMR)**
- D. None of the above**
- E. All the above**

TQIP Response

Answer: All the above

Response: The three sources you mentioned may be used as data sources if they are part of the patient's health record at the index hospital.

Question 4

For **Peripheral Arterial Disease**, what should be reported?

The EMR only documents the patient has coronary artery disease (CAD). Should the hospital report this atherosclerosis as **Peripheral Arterial Disease**?

A. Yes

B. No

7.29 PERIPHERAL ARTERIAL DISEASE (PAD)

Definition

The narrowing or blockage of the vessels that carry blood from the heart to the legs, present prior to injury. It is primarily caused by the buildup of fatty plaque in the arteries, which is called atherosclerosis.

Element Values

- Peripheral Arterial Disease (NTDS 35)

Additional Information

- PAD can occur in any blood vessel, but it is more common in the legs than the arms.
- Include peripheral vascular disease (PVD) which is used interchangeably with PAD unless vein-only disease is specified.
- Exclude disease processes not caused by atherosclerosis such as Raynaud's and Buerger's disease.

TQIP Response

Answer: No

Response: The reason why is that coronary artery disease (CAD) is different than peripheral arterial disease (PAD), and these diagnoses are not interchangeable.

Question 5

For **Substance Use Disorder**, is there a time limitation for reporting?

Example: EMR documents a patient has opioid use disorder 6 years prior to injury. Patient was treated with methadone and now is no longer on methadone for opioid use disorder. EMR has opioid use disorder as resolved.

A. Yes

B. No

7.34 SUBSTANCE USE DISORDER

Definition

Descriptors documented in the patient's medical record consistent with the diagnostic criteria of substance use disorders specifically cannabis, hallucinogens, inhalants, opioids, sedative/hypnotics, and stimulants (e.g., patient has a history of drug use; patient has a history of opioid use) OR diagnosis of any of the following documented in the patient's medical record.

Element Values

- Substance Abuse Disorder (NTDS 36)

Additional Information

- Present prior to arrival.
- The word "disorder" is not required to be present for capture.
- Include patients who have a positive drug screen for a non-prescribed drug.

TQIP Response

Answer: No

Response: There is **no time limit for reporting. If the patient was diagnosed with a substance use disorder that was present prior to injury, then the Element Value "1. Yes", must be reported.**

Question 6

For **delirium**, are patients with dementia or sundowning present on admission excluded from reporting?

A. Yes

B. No

9.16 DELIRIUM

Definition

Acute onset of behaviors characterized by restlessness, delusions, and incoherence of thought and speech. Delirium can often be traced to one or more contributing factors, such as a severe or chronic medical illness, changes in your metabolic balance (e.g., low sodium), medication, infection, surgery, or drug withdrawal.

OR

Patient tests positive after using an objective screening tool like the Confusion Assessment Method (CAM) or the Intensive Care Delirium Screening Checklist (ICDSC).

OR

A diagnosis of delirium documented in the patient's medical record.

Element Values

- Delirium (NTDS 39)

Additional Information

- Must have occurred during the patient's initial stay at your hospital.
- Exclude patients whose delirium is due to alcohol withdrawal.

TQIP Response

Answer: No

Response: Patients with dementia are not excluded from the definition, only patients who experience delirium due to alcohol withdrawal.

Question 7

For **Unplanned ICU, what should be reported?**

Patient on floor.

Patient has planned ORIF femur.

Patient unable to wean from ventilator.

Patient requires ICU post-op.

A. Yes

B. No

9.29 UNPLANNED ADMISSION TO ICU

Definition

Patients admitted to the ICU after initial transfer to the floor, and/or patients with an unplanned return to the ICU after initial ICU discharge.

Element Values

- Unplanned Admission to ICU (NTDS 31)

Additional Information

- Include patients who deteriorate in the post-anesthesia care unit (PACU) or intra-operatively with new resultant requirement for ICU admission.
- Exclude patients in which ICU care was required for postoperative care of a planned surgical procedure.

TQIP Response

Answer: Yes

Response: Assuming the original intent was for the patient to return to the floor post-operatively, you must report Element Value "1. Yes" **because they experienced an event in either the OR or PACU that required the patient to go to the ICU instead of back to the floor.**

Question 8

For **Withdrawal of Life Supporting Treatment, what should be reported in the following scenario?**

A. Yes

B. No

- **Patient was on hospice care before admission, and she had a full DNR in place.**
- **Patient admitted for a hip fracture.**
- **While waiting for surgery, patient aspirated and developed respiratory distress.**
- **The physician verified with the son at bedside that the patient was a DNR. The son **did not want care to be escalated**, and no life-saving interventions were performed.**
- **Patient expired.**

12.5.1 WITHDRAWAL OF LIFE SUPPORTING TREATMENT

Reporting Criterion

Report on all patients.

Definition

Treatment 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.

Element Values

- Yes
- No

Additional Information

- DNR not a requirement.
- A note to limit escalation of treatment qualifies as a withdrawal of life supporting treatment. 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 element value 'No' should be reported for patients whose time of death, according to your hospital's definition, was prior to the removal of any interventions or escalation of care.
- Include brain dead patients where care is withdrawn in coordination with Gift of Life.
- Include patients changed to comfort care status, which may be documented in notes or orders.

TQIP Response

Answer: Yes

Response: There was a documented discussion indicating the son **did not want care to be escalated. Therefore, if the life-saving intervention that was withheld is included in the list, 2nd bullet of the Additional Information section (ex. intubation,) then you must report Element Value "1. Yes"**

Discussion Opportunity



Performance Index



Question 9

For **ICD-10 Hospital Procedures**, what should be reported?

- 8/1/21 01:00 Pt on anticoagulant medication falls on head
- 8/1/21 08:05 PCP orders head
- 8/1/21 09:15 CT performed reveals subdural hematoma
- 8/1/21 10:15 Pt presents to index hospital w/o clinical change
- 8/2/21 09:00 Repeat head CT performed

6.1 ICD-10 HOSPITAL PROCEDURES

Definition

Operative and selected non-operative procedures conducted during hospital stay. Operative and selected non-operative procedures are those that were essential to the diagnosis, stabilization, or treatment of the patient's specific injuries or complications. The list of procedures below should be used as a guide to desired non-operative procedures that should be provided to NTDB.

Element Values

- Major and minor procedure ICD-10 PCS procedure codes.
- The maximum number of procedures that may be reported for a patient is 200.

Additional Information

- The null value "Not Applicable" is used if the patient did not have procedures.
- The null value "Not Applicable" reported if not coding ICD-10.
- Include only procedures performed at your institution.
- Report all procedures performed in the operating room.
- Report all procedures in the ED, ICU, ward, or radiology department that were essential to the diagnosis, stabilization, or treatment of the patient's specific injuries or their complications.
- Procedures with an asterisk have the potential to be performed multiple times during one episode of hospitalization. In this case, report only the first event.
- If there is no asterisk, report each event even if there is more than one.
- Procedures with a double asterisk are required reporting. Required reporting of first head/brain CT procedure code, date, and time on all patients who are on anticoagulant therapy or aspirin with at least one injury in AIS head region, excluding patients with isolated scalp abrasion(s), scalp contusion(s), scalp laceration(s) and/or scalp avulsion(s).
- Note that the hospital may report additional procedures.

Diagnostic & Therapeutic Imaging

Computerized tomographic Head *, **

Computerized tomographic Brain *, **

Clarification coming 7/1/21
Include head CT code, date, time
when done by PCP prior to arrival

MTQIP Response

Answer: Both 8/1/21 08:05 and 8/2/21 09:00 Head CT's

Response: Patient on anticoagulant that sustained TBI. Head CT just done prior to arrival by PCP. Repeating a head CT an hour later when the patient arrived at the index hospital is not indicated. Entering the imaging done just prior to arrival reflects the care that was delivered and allows for MTQIP to drop the case correctly from the performance index calculation.

Question 10

For **Antibiotic 1 Type**, what should be reported?

Patient transferred from scene to index hospital.
EMS administers a cephalosporin IV.

A. None

B. Cephalosporin

12.4.2 ANTIBIOTIC 1 TYPE

Reporting Criterion

Report on all patients with open fractures.

Definition

The first IV antibiotic class administered to the patient during EMS transfer from scene through 24 hours of arrival **at your hospital**.

Element Values

0. None
1. Penicillin
2. Monobactam
3. Carbapenem
4. Macrolide
5. Lincosamide
6. Aminoglycoside
7. Quinolone
8. Sulfonamide
9. Tetracycline
10. Cephalosporin
11. Other

Additional Information

- Must be administered, not just ordered.

Resources

- [Antibiotic Classes](#)
- [Drug search](#)
- [Open Fracture Codebook](#)

MTQIP Response

Answer: Cephalosporin

Response: Please report antibiotics administered during EMS transfer from scene through 24 hours of arrival at your hospital

Question 11

For **Antibiotic 1 Type, what should be reported?**

Patient transferred from scene to outside hospital.

Outside hospital administers a cephalosporin IV.

Patient transferred from outside hospital to your hospital.

A. None

B. Cephalosporin

12.4.2 ANTIBIOTIC 1 TYPE

Reporting Criterion

Report on all patients with open fractures.

Definition

The first IV antibiotic class administered to the patient during EMS transfer from scene through 24 hours of arrival **at your hospital**.

Element Values

0. None
1. Penicillin
2. Monobactam
3. Carbapenem
4. Macrolide
5. Lincosamide
6. Aminoglycoside
7. Quinolone
8. Sulfonamide
9. Tetracycline
10. Cephalosporin
11. Other

Additional Information

- Must be administered, not just ordered.

Resources

- [Antibiotic Classes](#)
- [Drug search](#)
- [Open Fracture Codebook](#)

MTQIP Response

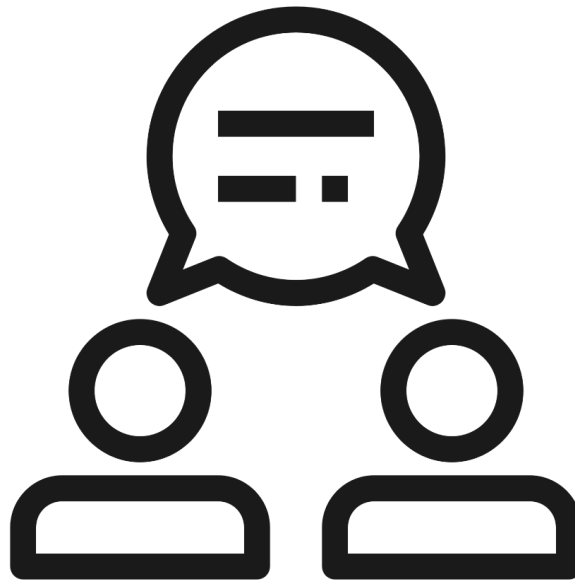
Answer: None

Response: The original intent of this definition was to report antibiotics administered by your hospital. During the pilot the availability of outside hospital data was limited.

Last year, we updated this definition based on feedback that scene to index hospital transfer involved antibiotic administration.

The definition was updated with the intent of antibiotics administered at index hospital and antibiotics administered scene to index hospital. We can use the June meeting to confirm if a dictionary update is needed.

Discussion Opportunity



Process Measures



Question 12

For **Initial ED/Hospital Pupillary Response**, what should be reported for patient with an acute SDH?

The EMR documents "Pupils are equal. Extraocular movements are intact."

- A. Both Reactive**
- B. One Reactive**
- C. Neither Reactive**
- D. Not Known/Not Recorded**
- E. Not Applicable**

12.1.5 INITIAL ED/HOSPITAL PUPILLARY RESPONSE

Reporting Criterion

Report on patients with at least one injury in AIS head region, excluding patients with isolated scalp abrasion(s), scalp contusion(s), scalp laceration(s) and/or scalp avulsion(s). **Exclude injuries where the code is not included in the AIS head region of the AAAM book such as isolated asphyxiation/suffocation injuries.**

Definition

Physiological response of the pupil size within 30 minutes or less of ED/hospital arrival.

Element Values

1. Both Reactive
2. One Reactive
3. Neither Reactive

Additional Information

- Please note that the first recorded hospital vitals do not need to be from the same assessment.
- **The provider evaluation time, staff arrived time, and similar assessment time should be used when the specified provider's note documents this assessment.**
- If a patient does not have a listed element value recorded, but there is documentation related to their pupillary response such as PERRL "Pupils Equal Round Reactive to Light", **both cranial nerves II & III intact, or no cranial nerve deficit** submit element value 1. Both reactive IF there is no other contradicting documentation.
- **Documentation of a "blown pupil" indicates a non-reactive pupil.**
- The null value "Not Known/Not Recorded" should be reported if this information is not documented or if assessment is unable to be obtained due to facial trauma and/or foreign object in the eye.
- Element value 2. One reactive should be reported for patients who have a prosthetic eye.
- The null value "Not Applicable" is reported for patients who do not meet the reporting criterion.

MTQIP Response

Answer: Not Known/Not Recorded

Response: The provided documentation does not provide any information regarding pupil reactivity.

Please be sure to look further down in the neuro section of the physical exam. This may be documented in the neurologic exam with the cranial nerve documentation.

Discussion Opportunity



TXA



MTQIP Data Dictionary clarifications pending 7/1/21

Question 13

For **TXA Type**, what should be reported?

Patient received an oral dose of TXA.

- A. IV drip**
- B. IV bolus**
- C. Not Known/Not Recorded**
- D. Leave default (no action needed)**

12.3.13 TRANEXAMIC ACID ADMINISTRATION TYPE (DOSE 1-3)

Reporting Criterion

Report on all patients.

Definition

The administration type of each of the tranexamic acid (TXA) doses.

Element Values

1. IV drip
2. IV bolus

Additional Information

- Report up to 3 doses.

MTQIP Response

Answer: Leave default (no action needed)

Response: Oral (PO) administration is **not included at this time. We used the literature to guide the initial variable creation. If you are seeing oral used for reversal frequently for treatment of hemorrhage, please submit a dictionary suggestion.**

Question 14

For **TXA Type**, what should be reported?

Patient received an intranasal dose of TXA for treatment nosebleed.

- A. IV drip**
- B. IV bolus**
- C. Not Known/Not Recorded**
- D. Leave default (no action needed)**

12.3.13 TRANEXAMIC ACID ADMINISTRATION TYPE (DOSE 1-3)

Reporting Criterion

Report on all patients.

Definition

The administration type of each of the tranexamic acid (TXA) doses.

Element Values

1. IV drip
2. IV bolus

Additional Information

- Report up to 3 doses.

MTQIP Response

Answer: Leave default (no action needed)

Response: Intranasal administration is **not included at this time.
If you are seeing oral used for reversal frequently for treatment of hemorrhage, please submit a dictionary suggestion.**

Question 15

For **TXA Type**, what should be reported?

Patient received a dose over 10 minutes for acute hemorrhage. Information regarding drip or bolus was not documented.

- A. IV drip**
- B. IV bolus**
- C. Not Known/Not Recorded**
- D. Leave default (no action needed)**

12.3.13 TRANEXAMIC ACID ADMINISTRATION TYPE (DOSE 1-3)

Reporting Criterion

Report on all patients.

Definition

The administration type of each of the tranexamic acid (TXA) doses.

Element Values

1. IV drip
2. IV bolus

Additional Information

- Report up to 3 doses.

MTQIP Response

Answer: Bolus

Response: A bolus is usually given over 10 minutes. A drip (gtt) is usually given over 8 hours or until the bleeding stops.

Question 16

For **TXA Dose**, what should be reported?

Patient received a dose of 100 mg for acute hemorrhage.

- A. 1 gram**
- B. 2 grams**
- C. 3 grams**
- D. Unknown**
- E. Leave default (no action needed)**

12.3.14 TRANEXAMIC ACID DOSAGE (DOSE 1-3)

Reporting Criterion

Report on all patients.

Definition

The administration dosage of each of the tranexamic acid (TXA) doses.

Element Values

1. 1 gram
2. 2 grams
3. 3 grams

Additional Information

- Report up to 3 doses.

Resources

MTQIP Response

Answer: Unknown

Response: Center confirmed this was administered and not a child. Appears to be a provider opportunity for improvement.

Ordered doses between grams should be rounded. For example,

- **1499 grams = 1 gram**
- **1500 grams = 2 grams**
- **≤ 499 mg = Unknown (since no zero-gram option)**

Question 17

For **TXA Dosage**, what should be reported?

Ordered: TXA 1 gram IV bolus x 1

Administered: TXA 0.5 gram IV at 8/1/21 01:00

TXA 0.5 gram IV at 8/1/21 01:30

- A. 1 gram 8/1/21 01:00**
- B. 1 gram 8/1/21 01:00 and 1 gram 8/1/21 01:30**
- C. 2 grams 8/1/21 01:00**

12.3.14 TRANEXAMIC ACID DOSAGE (DOSE 1-3)

Reporting Criterion

Report on all patients.

Definition

The administration dosage of each of the tranexamic acid (TXA) doses.

Element Values

1. 1 gram
2. 2 grams
3. 3 grams

Additional Information

- Report up to 3 doses.

Resources

MTQIP Response

Answer: 1 gram 8/1/21 01:00

Response: Based on the below, the patient was ordered to be given TXA 1 gram IV bolus. The RN administered this one ordered dose as two doses.

We wouldn't want to record the doses separately though since each of the 0.5 grams would round to 1 gram each and would make it appear as though the patient received two 1-gram doses (totaling 2 grams).

Question 18

For **TXA Pre-Hospital**, how is pre-hospital defined?

- A. EMS > Index**
- B. EMS > Referring**
- C. Referring > EMS**
- D. All the above**

12.3.17 TRANEXAMIC ACID PRE-HOSPITAL (DOSE 1-3)

Reporting Criterion

Report on all patients.

Definition

The administration of each of the tranexamic acid (TXA) doses in the pre-hospital setting when pre-hospital date/time is not documented.

Element Values

1. Yes
2. No

Additional Information

- Report up to 3 doses.
- Only reported when the pre-hospital date/time is not documented.

MTQIP Response

Answer: All the above

Response: Please **report all documented IV TXA administrations.
This will help us understand and improve care**

Discussion Opportunity



Wild Cards



Question 19

For **Patient's First Name and Last Name**, how should a suffix be reported?

- A. Report in Suffix field**
- B. Report with First Name**
- C. Report with Last Name**
- D. Report the legal name reported by patient**
- E. Do not report**

2.1 PATIENT'S FIRST NAME

Definition

The first name of the patient.

Element Values

- Relevant value for data element.

Additional Information

Resources

2.2 PATIENT'S LAST NAME

Definition

The last name of the patient.

Element Values

- Relevant value for data element.

Additional Information

Resources

MTQIP Response

Answer: Report the legal name reported by the patient

Response: Possible resources are their driver's license, insurance card or legal documents imaged into your EMR.

Legally, I could not find any legislation that required a suffix to be associated with first or last name. Most legal forms have this as a separate field.

Lastly, I did confirm that there wasn't a field in the registry for this and there is not, which you likely already knew.

MTQIP Data

For context, we queried (i.e., Jr, Sr) all submitted data

- **0.11%** (n = 134) had a suffix entered w/first name
- **0.49%** (n = 573) had a suffix entered w/last name

First Name Suffix	Freq.	Percent	Cum.
Present	134	0.11	0.11
Missing	116,465	99.89	100.00
Total	116,599	100.00	

Last Name Suffix	Freq.	Percent	Cum.
Present	573	0.49	0.49
Missing	116,026	99.51	100.00
Total	116,599	100.00	

Question 20

For **Congenital Anomaly, what should be reported?**

Patient has Factor V Leiden bleeding disorder.

A. Yes

B. No

7.16 CONGENITAL ANOMALIES

Definition

Documentation of a cardiac, pulmonary, body wall, CNS/spinal, GI, renal, orthopedic, or metabolic congenital anomaly.

Element Values

- Congenital Anomalies (NTDS 6)

Additional Information

- Present prior to injury.
- Include anomalies that have been operatively fixed prior to injury.

MTQIP Response

Answer: No

Response: No, please do not report Factor V Leiden as Congenital Anomaly. The definition does not include hematologic anomalies.

Friendly reminder, please report Factor V Leiden as Bleeding Disorder.

Question 22

For **Chemotherapy, what should be reported?**

Patient is on Ibrance (palbociclib) prior to injury.

A. Yes

B. No

7.12 CHEMOTHERAPY FOR CANCER

Definition

A patient who is currently receiving chemotherapy treatment for cancer.

Element Values

- Chemotherapy for Cancer (NTDS 5)

Additional Information

- Prior to injury.
- Chemotherapy may include, but is not restricted to, oral and parenteral treatment with chemotherapeutic agents for malignancies such as colon, breast, lung, head and neck, and gastrointestinal solid tumors as well as lymphatic and hematopoietic malignancies such as lymphomas, leukemia, and multiple myeloma.
- **Exclude if treatment consists solely of hormonal therapy.**

Resources

- [Drug search](#)

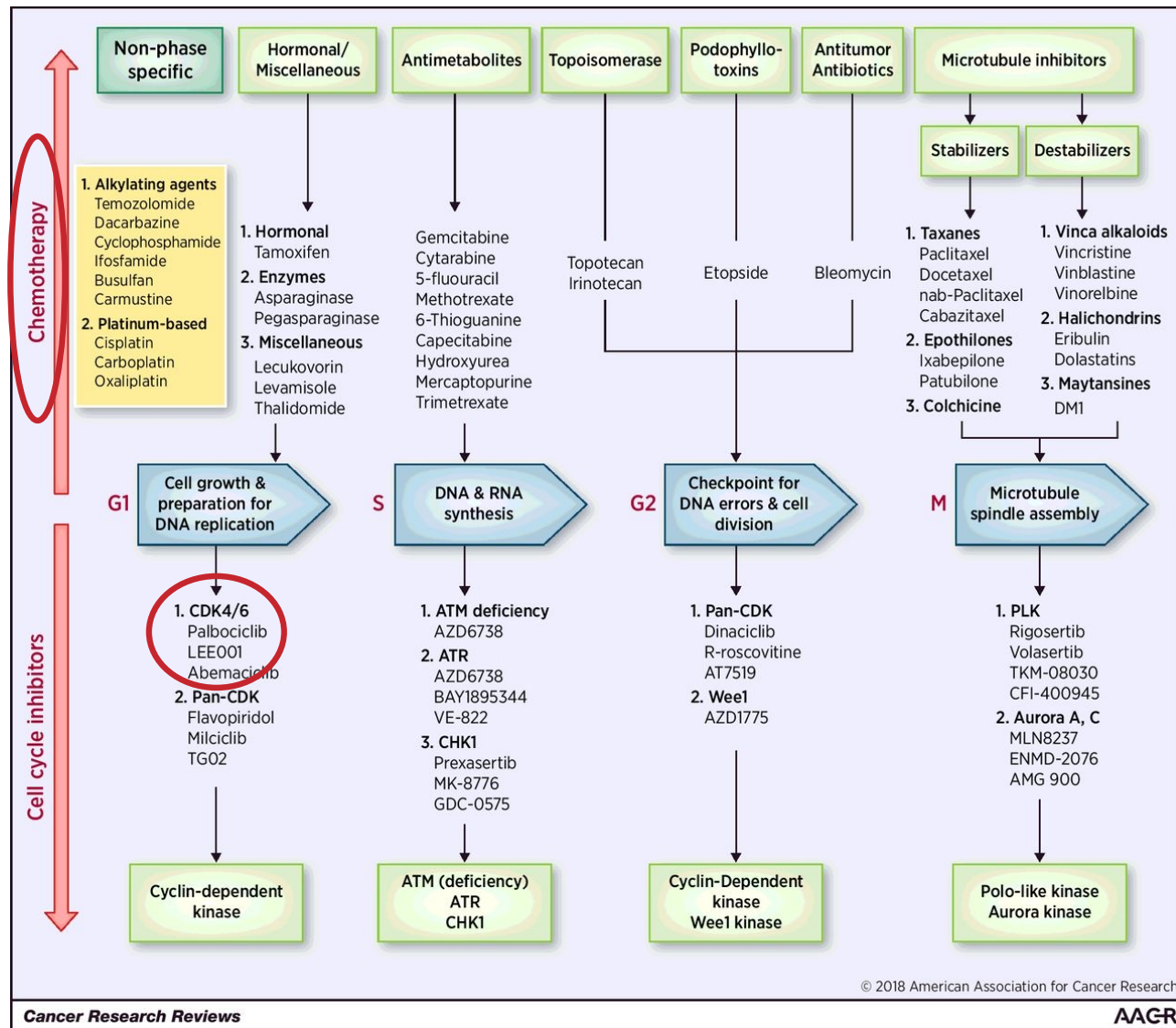
palbociclib - Drug Summary

Jump to Section		Related Drug Information ▼
CLASSES	CLASSES	
DEA CLASS	Small Molecule Antineoplastic Cyclin-Dependent Kinase (CDK) Inhibitors	
DESCRIPTION		
COMMON BRAND NAMES	DEA CLASS	
HOW SUPPLIED	Rx	
▼ View All Sections...	DESCRIPTION	
Advertisement	Cyclin-dependent kinase (CDK) 4 and 6 inhibitor Used for the treatment of HR-positive, HER2-negative metastatic breast cancer in combination with an aromatase inhibitor in men and postmenopausal women who have not yet received an endocrine-based therapy, and in combination with fulvestrant in patients with disease progression following endocrine therapy Monitor complete blood counts; an interruption of therapy, dose reduction, or discontinuation may be necessary for neutropenia	
	COMMON BRAND NAMES	
	Ibrance	
	HOW SUPPLIED	
	Ibrance Oral Cap: 75mg, 100mg, 125mg	
	DOSAGE & INDICATIONS	
	For the treatment of breast cancer. For the treatment of hormone receptor (HR)-positive, HER2-negative advanced breast cancer, in combination with an aromatase inhibitor as initial endocrine-based therapy. Oral dosage	

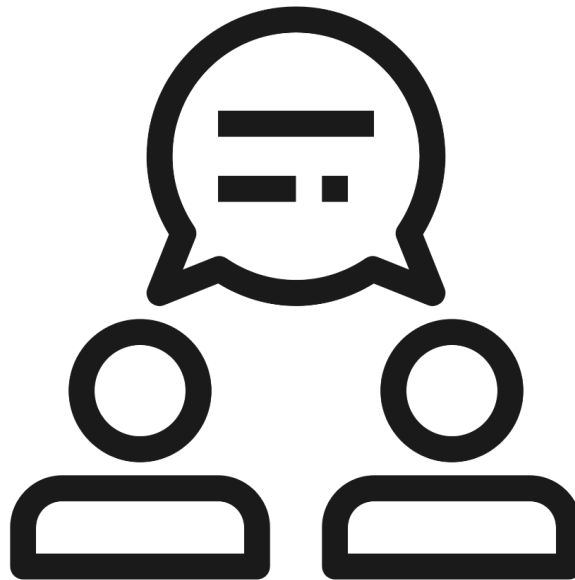
MTQIP Response

Answer: No

Response: This agent is not conventional chemotherapy, but a cell cycle inhibitor.



Discussion Opportunity



Conclusion

- **Fill out and turn in evaluations**
- **Questions**
- **See you at the abstraction staff education event this fall**

thank you!