

# Trauma Data Validation at Munson Medical Center

**Tina Horn, BSN, RN, MCR**





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## 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*

<b>Skill Based Performance</b> Auto Pilot Mode: Routine, familiar tasks 1:1000 Slips/lapses	<b>Rule Based Performance</b> If-Then-Response Mode: Respond to situation using rule we were taught or learned through experience 1:100 Mistakes
<b>Knowledge Based Performance</b> 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

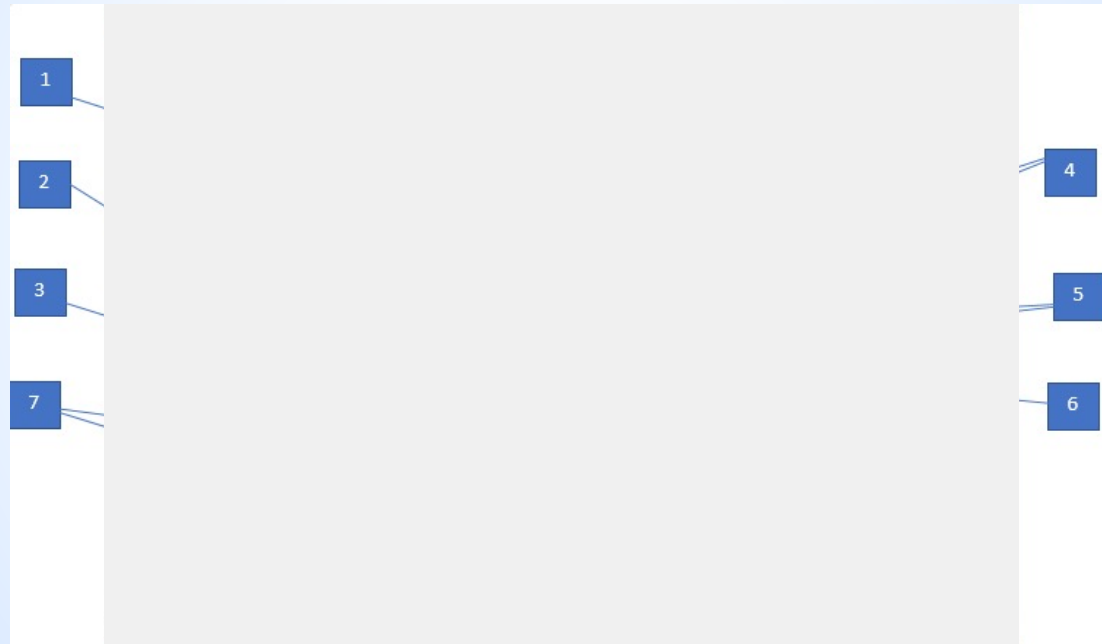
1	<b>Registry Validation for 2021</b>				
2	Month Validated				
3	Person Validated				
4	Validator				
5	Registry Number				
6	Registry data points				
7	Arrival date				
8	Arrival time				
9	Arrived from_				
10	Date of Birth				
11	Gender				
12	Race				
13	ICD 10 Injury Location Code				
14	Primary 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?

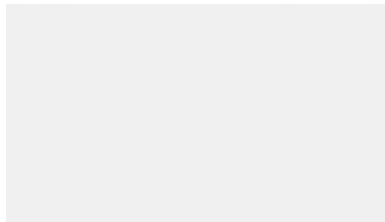
- ▶ Staff had different interpretations of dictionary definitions
- ✓ Definitions are discussed at team meeting
- ✓ A Munson specific instruction manual was created and is continually updated
- ▶ The process needs to be evaluated and updated continually
- ▶ The process identifies educational needs for 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