

How to Read the Benchmark Report

December 2018

The benchmark report was created to address the indicators that were deemed as priority areas of improvement for the Kansas Trauma Program by the American College of Surgeons and adopted by the Advisory Council on Trauma. Appendix A is an example of the benchmark report and can be referred to throughout this document.

At the top of the benchmark report is:

- your hospital name
- the period of assessment in discharge quarter by the calendar year
- the number of cases your hospital submitted to the state trauma registry
- the number of cases in your region that were submitted to the state trauma registry
- the total number of cases in the state trauma registry
- when the data was pulled from the registry

Data Report

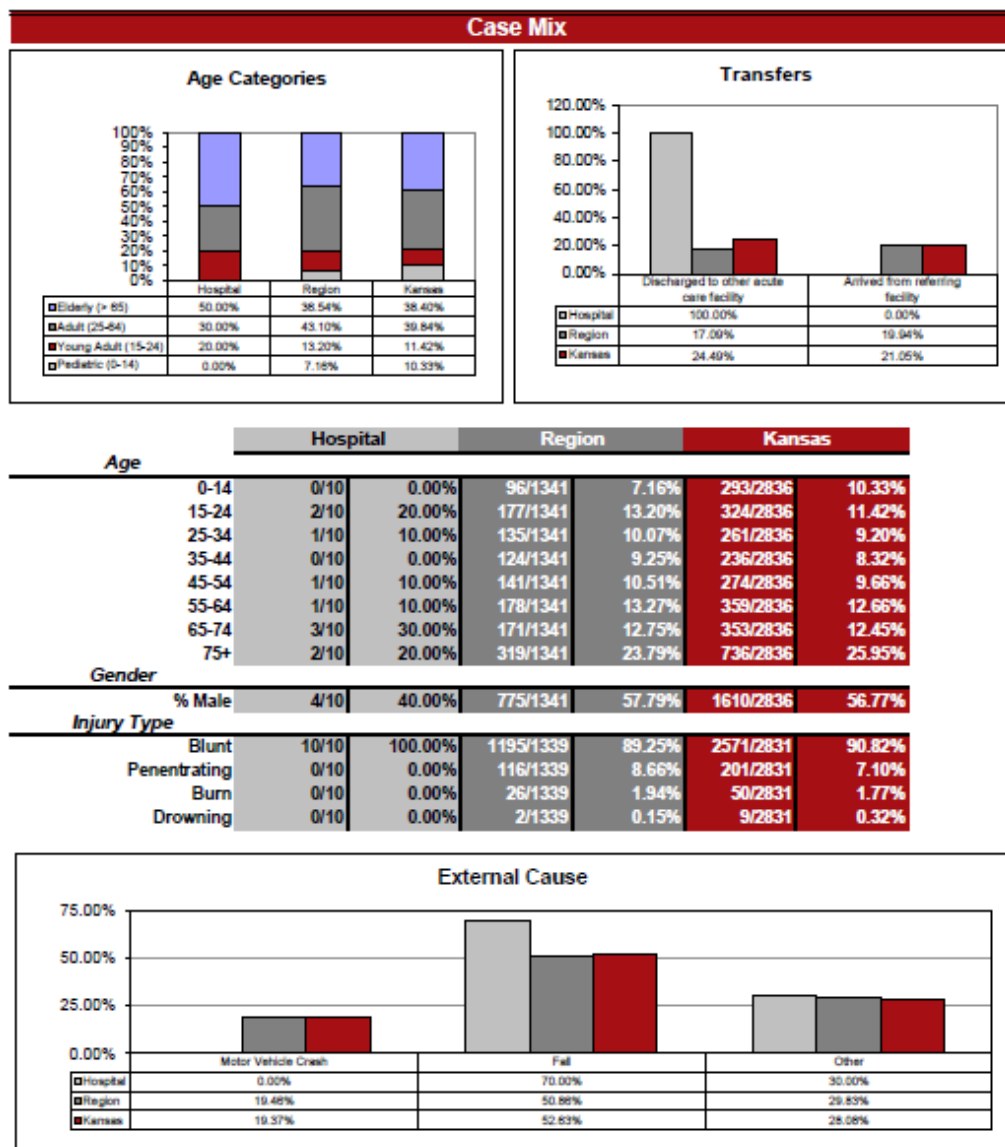
Your Hospital

Institution ID: 170000
Period: Year Quarter



10 cases submitted, 1341 in Region, 2836 in Kansas
Prepared on 12/7/2018

The following section describes the case mix of patients that were submitted for the quarter based on age, transfers to/from, gender, injury type, and external cause code. All factors allow for comparison between your hospital, your region, and the state with percent and some count information.



Next is the performance review indicators; these are areas that are being focused on for improvement. Not meeting the indicators does not imply less than standard or care, they are just areas for review by the hospital staff, and based on review findings, possible areas for improvement for hospitals, regions, and the state.

TRANSFERS

For all transferred patients, elapsed time between emergency department arrival and discharge to another acute care facility does not exceed 6 hours.

Variables that determine indicator:

- ED Arrival Date
- ED Arrival Time
- Discharge Date
- Discharge Time
- ED Discharge Disposition

Institution		
Met Indicator:	# of qualified cases where time between arrival and discharge was 6 hours or less.	% of qualified cases
Outlier:	# of qualified cases where time between arrival and discharge was greater than 6 hours.	% of qualified cases
Qualified for Benchmark (cases):	# of cases that were transferred out to another acute care facility	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	
Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	

CRITICAL TRANSFERS

For transfers with Initial Systolic Blood Pressure < 90 [10 years and under, SBP < (Age x 2) + 70 mmHg] or Glasgow Coma Score ≤ 8, elapsed time between emergency department arrival and discharge to another acute care facility does not exceed 1 hour.

Variables that determine indicator:

- ED Arrival Date
- ED Arrival Time
- Discharge Date
- Discharge Time
- ED Discharge Disposition
- Systolic BP
- GCS (Eye, Verbal, Motor, Total, Qualifier: Paralytic Agent, Sedated, Intubated, Eye Obstruction)

Institution		
Met Indicator:	# of qualified cases where time between arrival and discharge was 1 hour or less.	% of qualified cases
Outlier:	# of qualified cases where time between arrival and discharge was greater than 1 hour.	% of qualified cases
Qualified for Benchmark (cases):	# of transfers with Initial Systolic Blood Pressure < 90 [10 years and under, SBP < (Age x 2) + 70 mmHg] or Glasgow Coma Score ≤ 8	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	
Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	

AIRWAY

A definitive airway will be established before transfer of a comatose patient (GCS \leq 8). Definitive airways include: oral endotracheal tube, nasal endotracheal tube, and tracheostomy/cricothyroidotomy.

Variables that determine indicator:

- ED Discharge Disposition
- GCS (Eye, Verbal, Motor, Total, Qualifier: Paralytic Agent, Sedated, Intubated, Eye Obstruction)
- Airway (Provider, Initial Assessment)
- ICD-10 Procedure Code (Acceptable below):
 - 0BH13EZ, Insertion of Endotracheal Airway into Trachea, Percutaneous Approach
 - 0BH17EZ, Insertion of Endotracheal Airway into Trachea, Via Natural or Artificial Opening
 - 0BH18EZ, Insertion of Endotracheal Airway into Trachea, Via Natural or Artificial Opening Endoscopic
 - 0B110F4, Bypass Trachea to Cutaneous with Tracheostomy Device, Open Approach
 - 0B113F4, Bypass Trachea to Cutaneous with Tracheostomy Device, Percutaneous Approach
 - 0B114F4, Bypass Trachea to Cutaneous with Tracheostomy Device, Percutaneous Endoscopic Approach
- Intubation

	Institution	
Met Indicator:	# of qualified cases that had a definitive airway	% of qualified cases
Outlier:	# of qualified cases that did not have a definitive airway	% of qualified cases
Qualified for Benchmark (cases):	# of comatose patients (GCS \leq 8) transferred	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	
Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	

HEAD INJURY

Patients with suspected traumatic brain injury (moderate to severe coma, GCS \leq 12), who are transferred to a level I trauma center, level II trauma center, or Salina Regional Health Center for treatment.

Variables that determine indicator:

- ED Discharge Disposition
- GCS (Eye, Verbal, Motor, Total, Qualifier: Paralytic Agent, Sedated, Intubated, Eye Obstruction)
- Transfer Facility

Institution		
Met Indicator:	# of qualified cases that were transferred to facility with a neurosurgeon	% of qualified cases
Outlier:	# of qualified cases that were not transferred to facility with a neurosurgeon	% of qualified cases
Qualified for Benchmark (cases):	# of patients transferred with suspected traumatic brain injury (moderate to severe coma, GCS ≤ 12)	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	
Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	

CHEST TUBE

Patients with pneumothorax (or hemopneumothorax) receive a chest tube before transfer to another acute care facility.

Variables that determine indicator:

- ED Discharge Disposition
- ICD-10 Procedure Codes (Acceptable below):
 - 0W9930Z – Drainage of Right Pleural Cavity with Drainage Device, Percutaneous Approach
 - 0W9B30Z – Drainage of Left Pleural Cavity with Drainage Device, Percutaneous Approach
- AIS PreDot Codes

Institution		
Met Indicator:	# of qualified cases that received a chest tube	% of qualified cases
Outlier:	# of qualified cases that did not receive a chest tube	% of qualified cases
Qualified for Benchmark (cases):	# of patients with pneumothorax (or hemopneumothorax) transferred to another acute care facility	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	
Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	

ON TIME

Trauma team leader response is timely (within 30 minutes). *7 hospitals with a required 15-minute response time do not have data included in this indicator.

Variables that determine indicator:

- Trauma Activation
- Team Leader Called Date
- Team Leader Called Time
- Team Leader Arrived Date
- Team Leader Arrived Time
- Team Leader Response Time
- Team Leader Timely Response

	Institution	
Met Indicator:	# of qualified cases where trauma team leader arrived in 30 minutes or less	% of qualified cases
Outlier:	# of qualified cases where trauma team leader arrived after 30 minutes	% of qualified cases
Qualified for Benchmark (cases):	# of trauma activation cases	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	
Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	

EMS DELAY AT TRANSFER

EMS arrival is within 1 hour for transfers.

Variables that determine indicator:

- EMS Called Date
- EMS Called Time
- EMS Arrival Date
- EMS Arrival Time
- ED Discharge Disposition

	Institution	
Met Indicator:	# of qualified cases where arrival was within an hour	% of qualified cases
Outlier:	# of qualified cases that did not meet indicator	% of qualified cases
Qualified for Benchmark (cases):	# of cases with EMS transport for transfer	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	

Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	
---	---	--

DISLOCATION

Patients with hip, knee, shoulder, elbow or ankle dislocation receive reduction within 6 hours of ED arrival. Excludes patients who died or who were discharged within 6 hours of ED arrival.

Variables that determine indicator:

- ICD-10 Procedure Codes (Acceptable below):
 - ORS_XZZ – closed, joint without fixation body part (4th character) shoulder J or K, elbow L or M, wrist N or P
 - ORS_0ZZ – open joint without fixation body part (4th character) shoulder J or K, elbow L or M, wrist N or P
 - ORS_04Z – ORS_04Z open joint with fixation body part (4th character) shoulder J or K, elbow L or M, wrist N or P
 - OSS_XZZ – closed, joint without fixation body part (4th character) hip 9 and B, knee C and D, Ankle F and G
 - OSS_0ZZ – open joint without fixation body part (4th character) hip 9 and B, knee C and D, Ankle F and G
 - OSS_04Z – open joint with fixation body part (4th character) hip 9 and B, knee C and D, Ankle F and G
- AIS PreDot Codes
- ED Arrival Date
- ED Arrival Time
- Discharge Date
- Discharge Time
- ED Discharge Disposition
- Procedure Date
- Procedure Time
- Discharge Status

Institution		
Met Indicator:	# of qualified cases that received reduction	% of qualified cases
Outlier:	# of qualified cases that did not receive reduction	% of qualified cases
Qualified for Benchmark (cases):	# of patients with hip, knee, shoulder, elbow or ankle dislocation not discharged within 6 hours of ED arrival.	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	

Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	
---	---	--

HYPOVOLEMIC

Patients with penetrating abdominal injury and SBP \leq 90 mmHg undergo laparotomy within 60 minutes of ED arrival.

Variables that determine indicator:

- AIS PreDot Codes
- ICD-10 Procedure Code (Acceptable below):
 - 0WJG0ZZ Inspection of Peritoneal Cavity, Open Approach
- Discharge Status
- ED Arrival Date
- ED Arrival Time
- Procedure Date
- Procedure Time
- Systolic BP
- Injury Type

Institution		
Met Indicator:	# of qualified cases that had a laparotomy within 60 minutes of arrival	% of qualified cases
Outlier:	# of qualified cases that did not have a laparotomy within 60 minutes of arrival	% of qualified cases
Qualified for Benchmark (cases):	# of patients with penetrating abdominal injury and SBP \leq 90 mmHg	
Did Not Qualify (cases):	# of cases that did not meet qualification criteria	
Couldn't Evaluate Due to Missing Data:	# of cases unable to determine based on missing data in variables that determine indicator	

The Documentation section looks at selected variables for completeness of cases submitted for the quarter.

Documentation

The following clinical measures will be documented in the hospital medical record.

Institution		
Glasgow Coma Scale	# of cases with GCS information filled in/Total number of submitted cases	%
Injury Date & Time	# of cases with Injury Date & Time information filled in/Total number of submitted cases	%

How to Read the Benchmark Report

Respiratory Rate	# of cases with Respiratory Rate information filled in/Total number of submitted cases	%
Systolic Blood Pressure	# of cases with SBP information filled in/Total number of submitted cases	%
Temperature	# of cases with Temperature information filled in/Total number of submitted cases	%
First Diagnosis	# of cases with at least one Diagnosis Code filled in/Total number of submitted cases	%
Discharge Date & Time	# of cases with Discharge Date & Time information filled in/Total number of submitted cases	%

The table at the end of the report provides the trauma numbers of the cases that were outliers for each indicator. This should be utilized for review of the outliers.

How to Read the Benchmark Report

APPENDIX A. Sample Benchmark Report

Data Report



Your Hospital

Institution ID: 170000

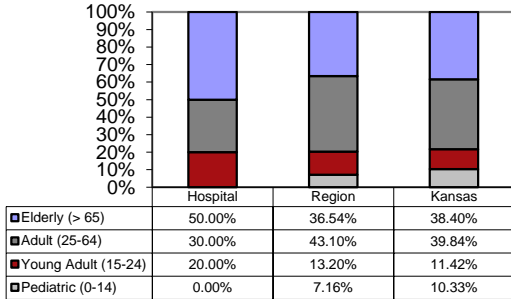
10 cases submitted, 1341 in Region, 2836 in Kansas

Period: Year Quarter

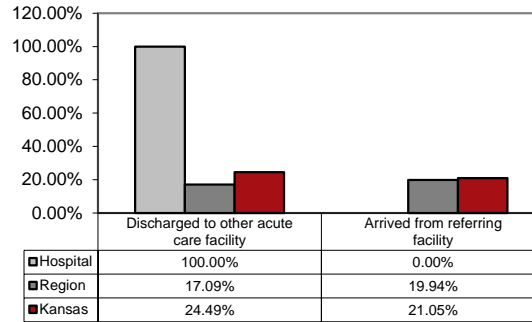
Prepared on 12/7/2018

Case Mix

Age Categories



Transfers



	Hospital	Region	Kansas
--	----------	--------	--------

Age

Age	Hospital	Region	Kansas
0-14	0/10 0.00%	96/1341 7.16%	293/2836 10.33%
15-24	2/10 20.00%	177/1341 13.20%	324/2836 11.42%
25-34	1/10 10.00%	135/1341 10.07%	261/2836 9.20%
35-44	0/10 0.00%	124/1341 9.25%	236/2836 8.32%
45-54	1/10 10.00%	141/1341 10.51%	274/2836 9.66%
55-64	1/10 10.00%	178/1341 13.27%	359/2836 12.66%
65-74	3/10 30.00%	171/1341 12.75%	353/2836 12.45%
75+	2/10 20.00%	319/1341 23.79%	736/2836 25.95%

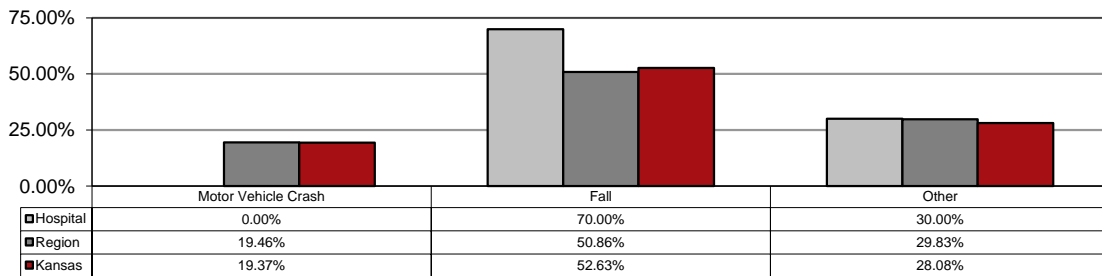
Gender

% Male	4/10 40.00%	775/1341 57.79%	1610/2836 56.77%
--------	-------------	-----------------	------------------

Injury Type

Blunt	10/10 100.00%	1195/1339 89.25%	2571/2831 90.82%
Penetrating	0/10 0.00%	116/1339 8.66%	201/2831 7.10%
Burn	0/10 0.00%	26/1339 1.94%	50/2831 1.77%
Drowning	0/10 0.00%	2/1339 0.15%	9/2831 0.32%

External Cause



Performance Review Indicators

The following clinical indicators have been chosen as filters for institutional performance review. The number of records that met, did not meet or could not be evaluated for the indicator are shown for your institution, your region and for the state. Outliers are patient records that did not meet the indicator and should be reviewed by medical/nursing staff. *Outliers do not imply less than standard of care but serve to identify cases where clinical review is warranted.* The trauma number for each outlier is reported in the attached spreadsheet. Details on outlier determination can be found in the report documentation.

Transfers

For all transferred patients, elapsed time between emergency department arrival and discharge to another acute care facility does not exceed 6 hours.

	Hospital		Region		Kansas	
Met Indicator:	10/10	100.00%	208/229	90.83%	646/694	93.08%
Outlier:	0/10	0.00%	21/229	9.17%	48/694	6.92%
Qualified for Benchmark (cases):	10		229		694	
Did Not Qualify (cases):	0		1112		2142	
Couldn't Evaluate Due to Missing Data:	0		0		0	

Critical Transfers

For transfers with Initial Systolic Blood Pressure < 90 or Glasgow Coma Score ≤ 8, elapsed time between emergency department arrival and discharge to another acute care facility does not exceed 1 hour.

	Hospital		Region		Kansas	
Met Indicator:	N/A	--	0/8	0.00%	4/43	9.30%
Outlier:	N/A	--	8/8	100.00%	39/43	90.70%
Qualified for Benchmark (cases):	0		8		43	
Did Not Qualify (cases):	10		1320		2719	
Couldn't Evaluate Due to Missing Data:	0		13		74	

Airway

An advanced airway will be established before transfer of a comatose patient (GCS ≤ 8). Advanced airways include: LMA, Combitube, oral endotracheal tube, nasal endotracheal tube, tracheostomy/cricothyroidotomy.

	Hospital		Region		Kansas	
Met Indicator:	N/A	--	2/2	100.00%	16/28	57.14%
Outlier:	N/A	--	0/2	0.00%	12/28	42.86%
Qualified for Benchmark (cases):	0		2		28	
Did Not Qualify (cases):	10		1333		2750	
Couldn't Evaluate Due to Missing Data:	0		6		58	

Head Injury

Patients with suspected traumatic brain injury (moderate to severe coma, GCS ≤ 12), who are transferred, are transferred to a level I or level II trauma center for treatment.

	Hospital		Region		Kansas	
Met Indicator:	N/A	--	7/7	100.00%	28/31	90.32%
Outlier:	N/A	--	0/7	0.00%	3/31	9.68%
Qualified for Benchmark (cases):	0		7		31	
Did Not Qualify (cases):	10		1328		2751	
Couldn't Evaluate Due to Missing Data:	0		6		54	

Chest Tube

Patients with pneumothorax (or hemopneumothorax) receive a chest tube before transfer to another acute care facility.

	Hospital		Region		Kansas	
Met Indicator:	N/A	--	0/7	0.00%	3/22	13.64%
Outlier:	N/A	--	7/7	100.00%	19/22	86.36%
Qualified for Benchmark (cases):	0		7		22	
Did Not Qualify (cases):	10		1334		2812	
Couldn't Evaluate Due to Missing Data:	0		0		2	

On Time

Trauma team leader response is timely (within 30 minutes).

	Hospital		Region		Kansas	
Met Indicator:	9/10	90.00%	433/500	86.60%	988/1089	90.73%
Outlier:	1/10	10.00%	67/500	13.40%	101/1089	9.27%
Qualified for Benchmark (cases):	10		500		1089	
Did Not Qualify (cases):	0		111		712	
Couldn't Evaluate Due to Missing Data:	0		730		1035	

EMS Delay at Transfer

EMS arrival is within 1 hour for transfers.

	Hospital		Region		Kansas	
Met Indicator:	10/10	100.00%	215/229	93.89%	649/694	93.52%
Outlier:	0/10	0.00%	14/229	6.11%	45/694	6.48%
Qualified for Benchmark (cases):	10		229		694	
Did Not Qualify (cases):	0		1112		2142	
Couldn't Evaluate Due to Missing Data:	0		0		0	

Dislocation

Patients with hip, knee, shoulder, elbow, wrist or ankle dislocation receive reduction within 6 hours of ED arrival. Excludes patients who died or who were discharged within 6 hours of ED arrival.

	Hospital		Region		Kansas	
Met Indicator:	N/A	--	12/30	40.00%	20/43	46.51%
Outlier:	N/A	--	18/30	60.00%	23/43	53.49%
Qualified for Benchmark (cases):	0		30		43	
Did Not Qualify (cases):	10		1308		2783	
Couldn't Evaluate Due to Missing Data:	0		3		10	

Non-Operative Management of Low-Grade Spleen Injuries

Patients with low-grade splenic laceration, AIS ≤ 3, do not undergo splenectomy.

	Hospital		Region		Kansas	
Met Indicator:	N/A	--	9/9	100.00%	32/33	96.97%
Outlier:	N/A	--	0/9	0.00%	1/33	3.03%
Qualified for Benchmark (cases):	0		9		33	
Did Not Qualify (cases):	10		1329		2800	
Couldn't Evaluate Due to Missing Data:	0		3		3	

Hypovolemic

Patients with penetrating abdominal injury and SBP ≤ 90 mmHg undergo laparotomy within 60 minutes of ED arrival.

	Hospital		Region		Kansas	
Met Indicator:	N/A	--	0/1	0.00%	0/1	0.00%
Outlier:	N/A	--	1/1	100.00%	1/1	100.00%
Qualified for Benchmark (cases):	0		1		1	
Did Not Qualify (cases):	10		1336		2816	
Couldn't Evaluate Due to Missing Data:	0		4		19	

Documentation

The following clinical measures will be documented in the hospital medical record.

	Hospital		Region		Kansas	
Glasgow Coma Scale	10/10	100.00%	1301/1341	97.02%	2644/2836	93.23%
Injury Date & Time	8/10	80.00%	1109/1341	82.70%	2246/2836	79.20%
Respiratory Rate	9/10	90.00%	1298/1341	96.79%	2753/2836	97.07%
Systolic Blood Pressure	10/10	100.00%	1313/1341	97.91%	2749/2836	96.93%
Temperature	10/10	100.00%	1253/1341	93.44%	2660/2836	93.79%
ISS (Injury Severity Score)	9/10	90.00%	1312/1341	97.84%	2746/2836	96.83%
Discharge Date & Time	10/10	100.00%	1340/1341	99.93%	2832/2836	99.86%

Trauma Numbers for Outliers

Transfer Flow	Critical Transfers	Airway	Traumatic Brain Injury	Chest Tube	Timely Response	EMS Timely Transfer	Dislocation	Low-Grade Spleen Injuries	Abdominal Injuries
.	5000000
.