

KENTUCKY TRAUMA REGISTRY

2015 ANNUAL REPORT

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Julia Costich, JD, PhD
Peter Rock, MPH

Kentucky Injury Prevention and Research Center
333 Waller Avenue, Suite 202
Lexington, Kentucky 40504-2915
(859) 257-4954
www.kiprc.uky.edu



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Forward

The Kentucky Trauma Registry (KTR) was established by state law (KRS 211.490 et seq.; 902 KAR 28:040) to be the statewide repository for trauma data. It is housed administratively in the Kentucky Department for Public Health and managed by the Kentucky Injury Prevention Research Center (KIPRC), a unit of the University of Kentucky's College of Public Health. All trauma centers designated by the Commissioner of Public Health in the Kentucky Trauma Care System maintain trauma registries that are compatible with the National Trauma Data Bank (NTDB) standards established in the National Trauma Data Standard Data Dictionary. The trauma centers upload their trauma data electronically at least quarterly to the KTR. Clinical Data Management, Inc. (CDM) is the vendor that manages the downloading and compilation of data from participating trauma centers, including unverified facilities that report to the registry, and supplies the data to the Kentucky Injury Prevention and Research Center.

With support from the National Highway Traffic Safety Administration through the Kentucky Transportation Cabinet, KIPRC analyzes the statewide trauma registry data and provides a detailed profile of the traumatic injuries treated in the state's trauma facilities.

Requests for copies of this publication and any other inquiries should be directed to:

Julia F. Costich
Kentucky Injury Prevention and Research Center
333 Waller Avenue, Suite 242
Lexington, Kentucky 40504
(859) 257-6712 office
(859) 257-2821 fax
julia.costich@uky.edu

This report and previous trauma reports are posted on KIPRC website:

<http://www.mc.uky.edu/kiprc/projects/trauma/index.html>

Introduction

Kentucky law (KRS 311A.010) defines “trauma” as a single or multi-system life-threatening or limb-threatening injury requiring immediate medical or surgical intervention or treatment to prevent death or permanent disability. The body of this report summarizes data on trauma patients cared for during calendar year 2015 at Kentucky trauma centers, both verified and in applicant status, and reported to the Kentucky Trauma Registry as of July 31, 2016. A list of these facilities appears on the next page. It is important to note several characteristics of the data reported here:

- One participating hospital reported 2015 data too late to be included in the original report; this updated version includes complete data from all reporting hospitals.
- Governing state law (KRS 211.490 (6)) protects patient privacy by forbidding the identification of individual trauma patients in KTR data. Patients transferred between hospitals have separate records for treatment at each reporting facility that cannot be merged in the absence of personal identifiers. Thus, the number of records in KTR reflects total episodes of care in reporting facilities and is greater than the number of patients treated. The rest of this report refers to each episode of trauma care as a “case”.
- These data represent the most serious injuries—those that meet national inclusion criteria—rather than all traumatic injuries in the state.
- Trauma that results in death at the scene of the event is not part of the reported data: KTR data entries are reported by hospital staff for patients who reach a hospital.
- If a traumatic injury occurs in Kentucky but the patient is treated in an out-of-state facility, the case is not included in KTR data. Border areas are thus under-represented in this report.

A broad overview of the hospital care provided to Kentucky residents whose primary diagnosis was some form of physical trauma appears in the Kentucky Inpatient and Emergency Department Traumatic Injury Data Report, available at <http://www.kiprc.uky.edu/projects/trauma/index.html>.

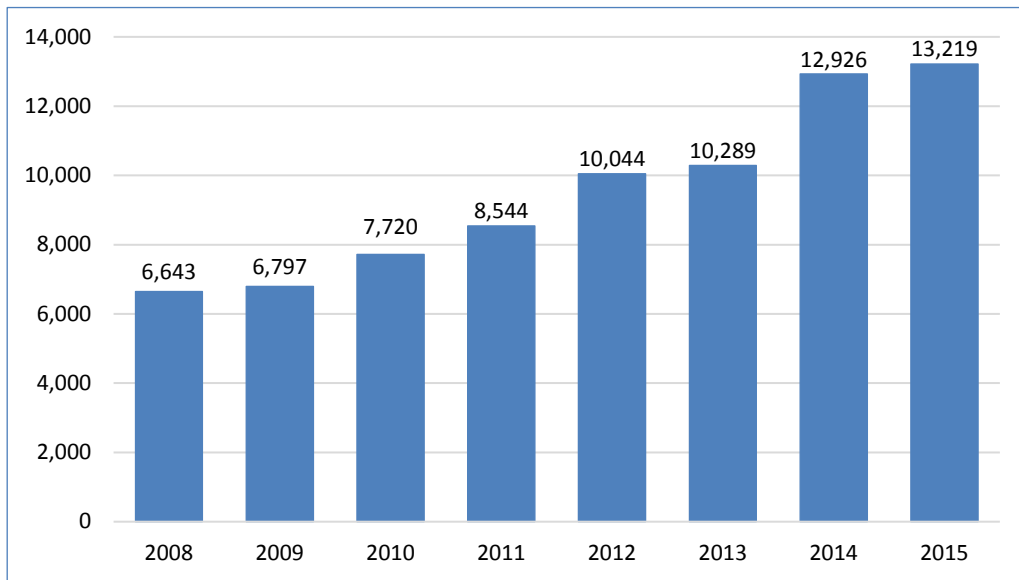
Kentucky's Reporting Trauma Centers, 2015

Trauma Center	Designation/Status
Ephraim McDowell Regional Medical Center	Level III
Ephraim McDowell Fort Logan Hospital	Level IV
Frankfort Regional Medical Center	Level III
Harlan ARH Hospital	Level IV in progress
Harrison Memorial Hospital	Level IV
Hazard ARH	Level III in progress
James B. Haggin Memorial Hospital	Level IV
Kosair Children's Hospital	Level I Pediatric
Livingston Hospital	Level IV
Marcum Wallace Memorial Hospital	Level IV
McDowell ARH Hospital	Level IV in progress
Methodist Hospital Union County	Level IV
Middlesboro ARH Hospital	Level IV in progress
Morgan County ARH Hospital	Level IV
Owensboro Medical Center	Level III
Pikeville Medical Center	Level II
Rockcastle Hospital	Level IV
Russell County Hospital	Level IV in progress
St. Claire Medical Center	Level IV
St. Joseph Berea	Level IV in progress
St. Joseph Hospital (Mt. Sterling)	Level IV in progress
St. Joseph London	Level IV in progress
Taylor Regional Medical Center	Level III
Trigg County Hospital	Level IV in progress
University of Kentucky – Children's	Level I Pediatric
University of Kentucky Medical Center	Level I
University of Louisville Hospital	Level I
Whitesburg ARH Hospital	Level IV in progress
Williamson ARH Hospital	Level IV in progress

Kentucky Trauma Registry Records 2008-2015

The Kentucky Trauma Registry has grown from 5 reporting facilities in 2008 to 29 in 2015, although Parkway Regional Hospital in Fulton discontinued inpatient service in early 2015. A total of 13,219 records were reported in 2015, nearly double the 2008 total (Figure 1).

Figure 1: Total records, 2008-2015



The transition in coding systems from ICD-9-CM to ICD-10-CM beginning October 1, 2015 has given rise to some anomalies in data reporting that are the subject of ongoing work by the Centers for Disease Control and Prevention and the Council of State and Territorial Epidemiologists. We therefore base the following analysis on data from the four calendar quarters beginning with the fourth quarter of 2014 in order to assure consistency in code interpretation.

Table 1: Records by reporting trauma center, 2014Q4-2015Q3

Hospital	Records
Ephraim McDowell Regional Medical Center	295
Ephraim McDowell Fort Logan Hospital	73
Frankfort Regional Medical Center	372
Harlan ARH Hospital	52
Harrison Memorial Hospital	104
Hazard ARH	719
James B. Haggin Memorial Hospital	240
Kosair Children's Hospital	977
Livingston Hospital	70
Marcum Wallace Memorial Hospital	228
McDowell ARH Hospital	34
Methodist Hospital Union County	87
Middlesboro ARH Hospital	111
Morgan County ARH Hospital	73
Owensboro Medical Center	689
Pikeville Medical Center	943
Rockcastle Hospital	119
Russell County Hospital	71
St. Claire Medical Center	222
St. Joseph Berea	47
St. Joseph Hospital (Mt. Sterling)	90
St. Joseph London	364
Taylor Regional Medical Center	328
Trigg County Hospital	26
University of Kentucky – Children’s	485
University of Kentucky Medical Center	3,068
University of Louisville Hospital	3,109
Whitesburg ARH Hospital	23
Williamson ARH Hospital	35
Total	13,054

Demographic Information

Gender

Injuries to males comprised 61% of KTR records (Table 2). The ACS trauma classification excludes hip fractures, the most common traumatic injury in older adults, and a category that is therefore predominantly female. Thus, KTR demographics are significantly different from those of the related report on injuries as a whole, in which males and females are roughly equally represented (see Kentucky Inpatient and Emergency Department Traumatic Injury Data Reports, <http://www.mc.uky.edu/kiprc/projects/trauma/index.html>).

Table 2: Records by gender, 2014Q4-2015Q3

Gender	Number	%
Female	5,112	39.16%
Male	7,941	60.84%
Total	13,054	100%

Race/Ethnicity

Most (88%) of the records reported treatment for white patients, while 7% were for black patients (Table 3). Nearly all records list the patient's race, but 7% are missing information on ethnicity.

Table 3: Records by race and ethnicity, 2014Q4-2015Q3

Race	Ethnicity			Total
	Hispanic/Latino	Non-Hispanic/Latino	Missing	
Asian	0	22	*	**
Native Hawaiian or Other Pacific Islander	*	13	5	**
Other Race	116	44	0	160
American Indian	5	0	0	5
Black or African American	*	887	24	**
White	29	11,002	502	11,533
Missing	12	28	358	398
Total	**	12,001	**	**

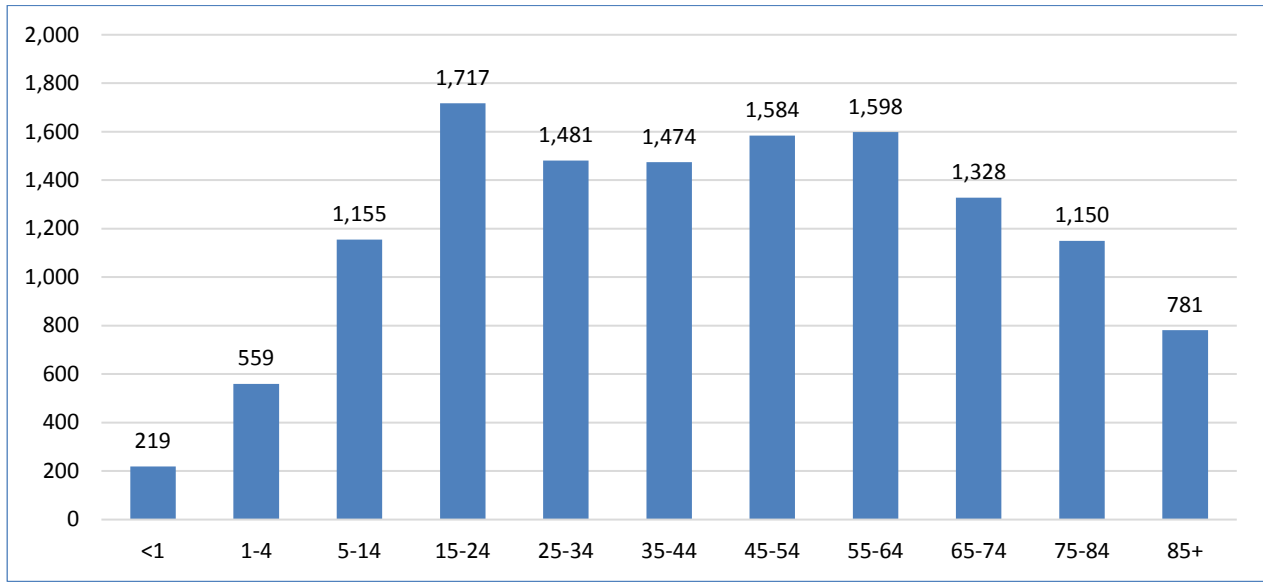
*Totals less than 5 were suppressed by state data management policy

**Suppressed totals to maintain censoring

Age

Inclusion criteria influence the distribution of trauma records by age group. The statewide hospitalization data for traumatic injury is skewed towards older age groups due to inclusion of hip fractures, whereas the KTR records are mainly for working-age adults (Figure 2).

Figure 2: Records by age group, 2014Q4-2015Q3



Note: Missing information on age for 8 records

Patient County of Residence

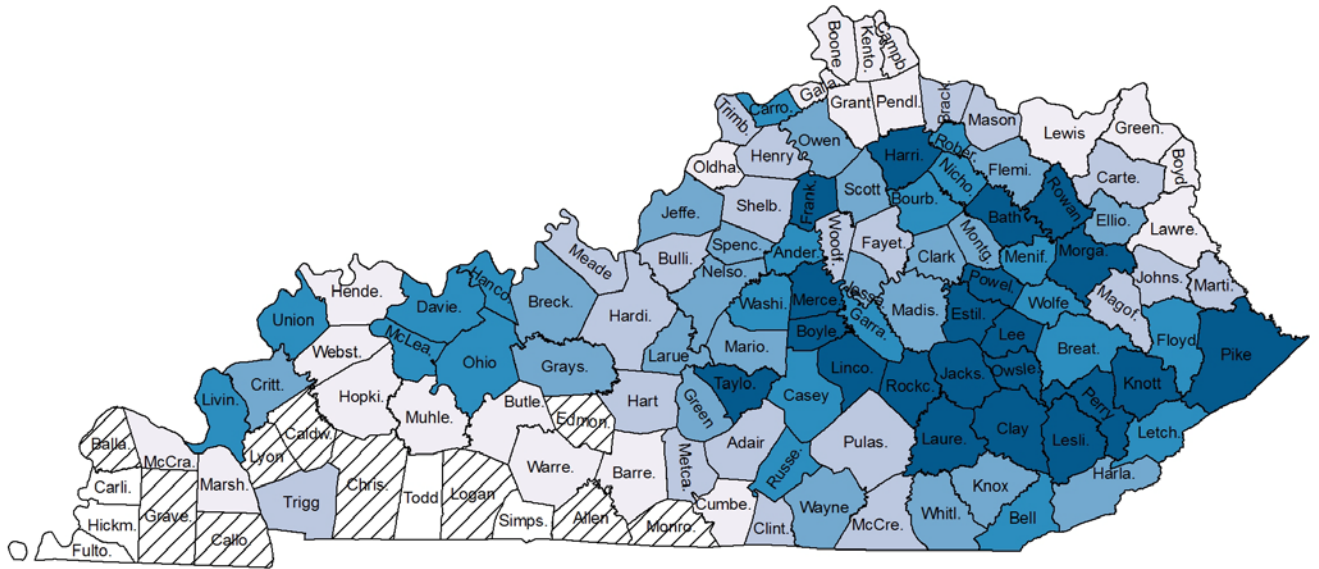
Table 4 sets out the number and proportion of KTR records for the counties with the highest number of reports. About one-fifth (18.78%) of the records were for patients residing in Jefferson or Fayette counties, which is expected as these are the most populous counties in the state. About one in eight (11.73%) of the total KTR records were for out-of-state patients. There were almost as many records from the top 10 counties as from the rest of the state’s counties combined (42% vs. 46%).

Table 4: Records by county of residence, 2014Q4-2015Q3

Top 10 KY counties based on volume	Number	%
Jefferson	1,819	13.93
Fayette	633	4.85
Perry	505	3.87
Pike	485	3.72
Daviess	427	3.27
Taylor	409	3.13
Laurel	352	2.7
Franklin	345	2.64
Mercer	309	2.37
Hardin	243	1.86
All other KY counties combined	5,996	45.93
Out-of-state residents	1,531	11.73

A map of rates per 1,000 residents follows. It must be interpreted with the caveat that it is not an accurate rendering of counties’ incidence of trauma: low rates in the counties in the southwest and northern parts of the state reflected the lack of acute care hospitals reporting to the KTR in those regions. It is also possible that the residents of these counties are treated in out-of-state trauma centers such as the University of Cincinnati Hospital, Cincinnati Children’s Hospital, or Vanderbilt University Hospital.


Map: Trauma Registry Records per 1,000 County Population in Quintiles



Rate



0.1 - 1.6
 1.7 - 3.2
 3.3 - 4.1
 4.2 - 7.3
 7.4 - 22.5

 Censored*

*Rates censored for counts <5

Injury Information

Work-related Cases

Work-related trauma is defined as injury that occurs during paid employment. A total of 528 work-related trauma cases were recorded in the KTR dataset in 2015. Over one-third (34%) of the injuries were due to falls (Figure 3).

Figure 3: Work-related trauma records by cause of injury, 2014Q4-2015Q3

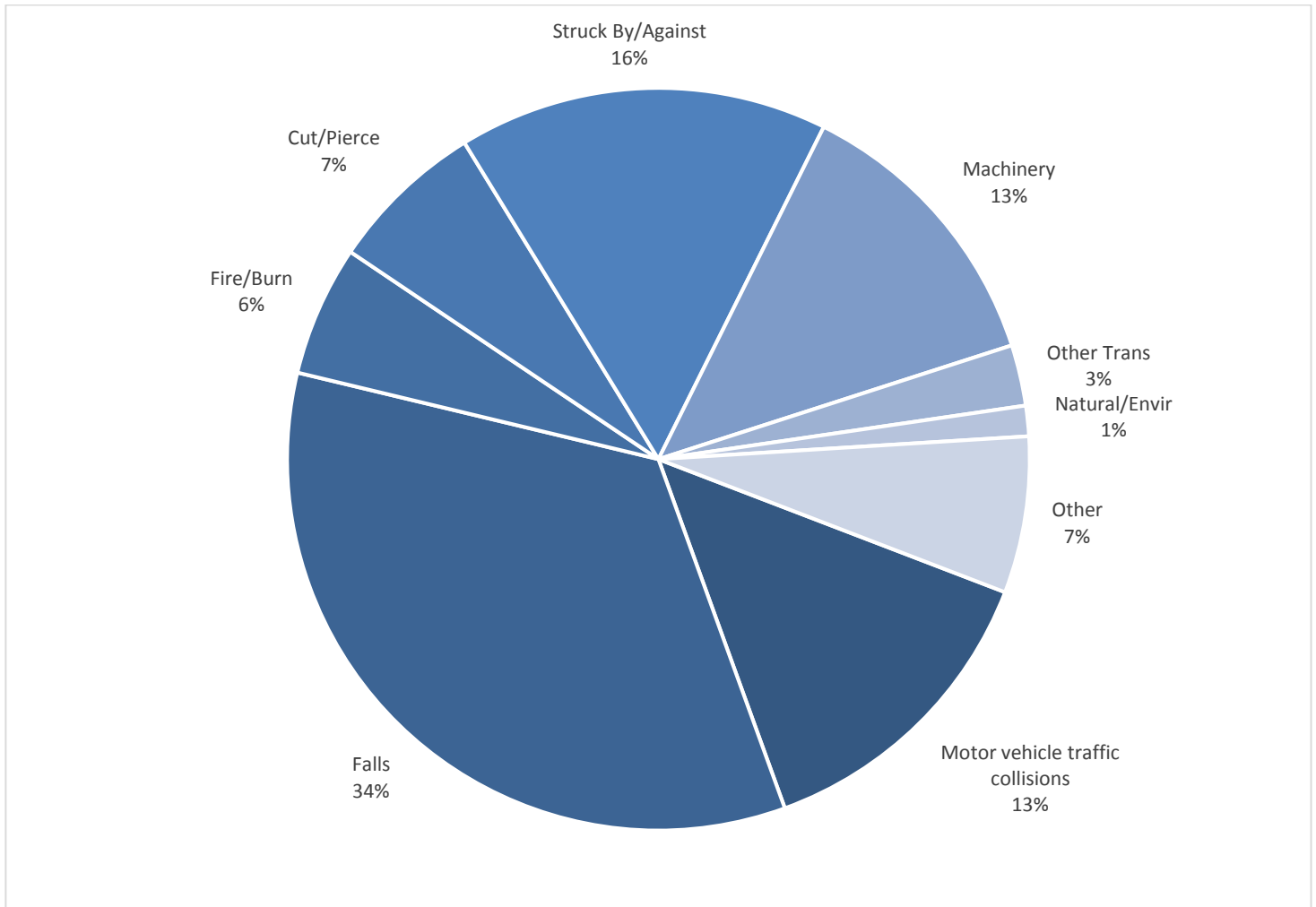


Table 5 shows the industry associated with the patient’s work environment for work-related trauma records. Construction and manufacturing are two of the largest industry categories, representing over one quarter (25.95%) of work-related trauma in the KTR.

Table 5: Work-related trauma records by industry, 2014Q4-2015Q3

Industry	Number	%
Other Services	82	15.53%
Construction	81	15.34%
Transportation and Public Utilities	58	10.98%
Manufacturing	56	10.61%
Agriculture, Forestry, Fishing	46	8.71%
Natural Resources and Mining	40	7.58%
Retail Trade	21	3.98%
Education and Health Services	18	3.41%
Government	12	2.27%
Leisure and Hospitality	10	1.89%
Information Services	5	0.95%
Finance, Insurance, and Real Estate	*	*
Wholesale Trade	*	*
Professional and Business Services	*	*
Missing/not available	90	17.05%
Total	528	100.00%

*Counts less than 5 were suppressed by state data management policy

Cause and Intent of Injury

E-codes indicating mechanism and intent were provided for nearly all (99.7%) of the records. Unintentional falls (n=5,053) and unintentional motor vehicle traffic collisions (n=3,792) were the leading causes of injuries reported to KTR (Table 6).

Table 6: Records by cause and intent of injury, 2014Q4-2015Q3

Cause	Unintentional	Intentional	Other/ Undetermined
Falls	5,053	12	31
Motor vehicle traffic collisions	3,792	5	14
Other transportation	904	0	0
Struck by/against	469	283	*
Fire/Burn	364	17	*
Cut/Pierce	277	227	*
Machinery	199	0	0
Natural/Envir	167	0	0
Other Spec	156	119	0
Other Pedal Cyc	147	0	0
Firearm	131	353	23
Not Specified	55	31	15
Overexertion	50	0	0
Other Pedestrian	33	0	0
NEC	23	23	*
Poisoning	*	0	0
Drowning	*	5	*
Suffocation	*	12	0
Total	11,828	1,087	98

*Counts less than 5 were suppressed by state data management policy

Note: Missing information on cause and intent for 41 records

Cause/Intent of Injury by Age Group

Patients aged 15-24 accounted for over one-fifth (20.68%) of motor vehicle crash-related trauma, followed by those aged 25-34 (15.85%). This finding is similar to those of previous years. Falls among those 55 and older accounted for nearly two-thirds (60.64%) of all unintentional falls treated in trauma centers. Almost two-fifths (38.38%) of the injuries attributed to being unintentionally struck by or against an object were experienced by patients 5-24 years of age. An earlier review of the struck by/against injuries in this group found that more than half of these injuries were sport-related. About half (44.43%) of the assault injuries were to adults aged 15-34 (Table 7).

Table 7: Records by age and major causes of injury, 2014Q4-2015Q3

Age	Unintentional Injuries										Intentional Injuries			
	Motor vehicle traffic collisions		Other transport Injuries		Falls		Struck by/against		All other unintentional		Assault		Self-harm	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Missing	0	0	0	0	*	0.06	0	0	*	0.11	*	0.35	0	0
<1	12	0.32	*	0.22	86	1.70	9	1.92	51	2.92	58	6.73	*	0.44
1-4	72	1.90	21	2.32	237	4.69	30	6.40	166	9.50	31	3.60	*	0.88
5-14	232	6.12	114	12.61	450	8.91	93	19.83	234	13.39	29	3.36	*	1.32
15-24	784	20.68	190	21.02	205	4.06	87	18.55	217	12.42	197	22.85	37	16.30
25-34	601	15.85	128	14.16	216	4.27	46	9.81	250	14.31	186	21.58	54	23.79
35-44	546	14.40	149	16.48	315	6.23	55	11.73	219	12.54	149	17.29	41	18.06
45-54	540	14.24	118	13.05	477	9.44	61	13.01	212	12.14	136	15.78	40	17.62
55-64	474	12.50	100	11.06	726	14.37	53	11.30	181	10.36	43	4.99	21	9.25
65-74	287	7.57	53	5.86	818	16.19	18	3.84	111	6.35	25	2.90	16	7.05
75-84	190	5.01	24	2.65	838	16.58	13	2.77	74	4.24	*	0.46	7	3.08
85+	54	1.42	5	0.55	682	13.50	*	0.85	30	1.72	*	0.12	5	2.20

*Counts less than 5 were suppressed by state data management policy

Motor Vehicle Traffic Collision Involvement

Among the unintentional motor vehicle traffic collision (MVTC) records, 75.83% were coded as vehicle occupants, 14.06% as motorcyclists, and 6.34% as pedestrians (Table 8).

Table 8: Motor vehicle collision involvement, 2014Q4-2015Q3

Role in motor vehicle traffic collision	Number	%
Motor vehicle occupant	2,870	75.83
Motorcyclist	532	14.06
Pedestrian	240	6.34
Unknown	73	1.93
Other	36	0.95
Pedal cyclist	34	0.9
Total	3,785	100

Protective Devices

There were 2,870 records for vehicle occupants injured in motor vehicle traffic collision. Protective devices were not used in 26.72% of the cases. Information on the use of protective devices was not available to the registrars in 6.66% of the cases (Table 9). It is notable that this proportion of missing information decreased from 11.9% from the previous year, indicating data quality improvements.

Table 9: Use of occupant protective devices in motor vehicle traffic collisions, 2014Q4-2015Q3

Protective device	Use of protective devices by occupants in unintentional MVTC (n=3,607)	
	Number	%
Shoulder and Lap belt	1,181	41.15%
Shoulder belt only	12	0.42%
Lap belt only	412	14.36%
Child restraint	64	2.23%
Airbag	1,084	37.77%
Available but not used	767	26.72%
Missing information on protective device use	191	6.66%

Note: In some records two or more protective devices were listed; therefore, counts do not add up to the total number of MVTC cases

Pre-Hospital Information

Transportation Mode

The mode of transportation and inter-facility transfers are presented in Table 10. The inter-facility transfer variable indicates whether the patient was transferred to the reporting facility from another acute care facility. Helicopter ambulance was used in 664 (18.57%) of the 3,576 inter-facility transfers and in 1,112 (11.78%) of the 9,438 non-transfer records. Ground ambulance was listed in 8,022 (61.64%) of all KTR cases.

Table 10: Transportation mode, 2014Q4-2015Q3

Transportation mode	Inter-facility Transfer		
	Yes	No	Total
Missing	6	32	38
Ground Ambulance	2,721	5,301	8,022
Helicopter Ambulance	664	1,112	1,776
Fixed-wing Ambulance	0	*	**
Private/Public Vehicle/Walk-in	182	2,936	3,118
Police	*	50	**
Other	*	6	**
Total	3,576	9,438	13,014

*Cells with counts of less than 5 were suppressed by state data management policy

Note: Missing information on inter-facility transfer for 40 records

EMS Information

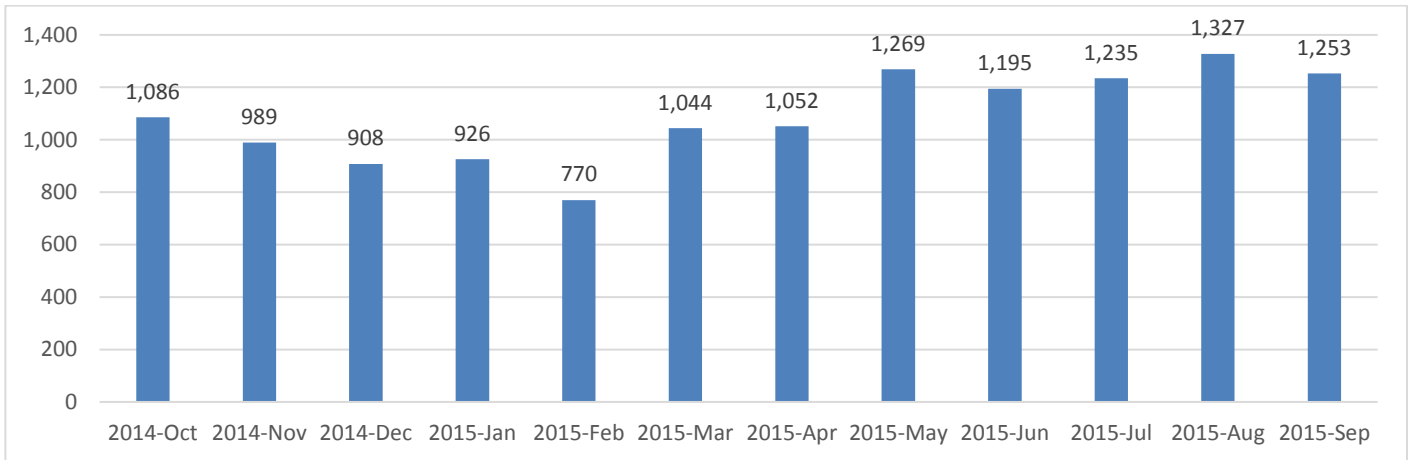
EMS notification, departure, and arrival times are not applicable data elements for patients who arrived at the trauma facility by private vehicle, and they may not be known for patients transferred from another acute care facility. It is reasonable to expect, however, that EMS information will be available for patients who were not inter-facility transferees and were transported to the trauma facility by ground ambulance (n=5,301) or helicopter ambulance (n=1,112) (Table 10). About 37% of these records did not include complete EMS notification, arrival, and scene departure dates and times, an improvement over the 2014 rate of 45%. With regard to complete patient status, EMS pulse, and respiratory rate, blood pressure and Glasgow Coma Scale scores were missing for 37% of direct transfers.

Emergency Department Information

Month of Arrival at ED/Hospital

Trauma volume varies by season, with a higher volume during summer months (Figure 4), mainly due to the increased number of motor vehicle traffic collision injuries and falls.

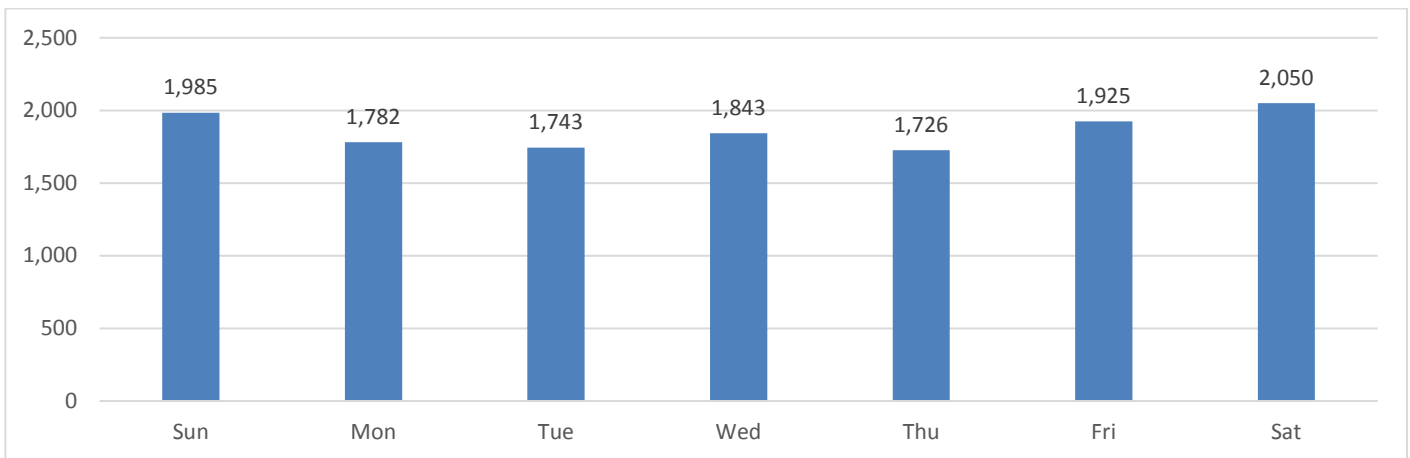
Figure 4: Month of ED/hospital arrival, 2014Q4-2015Q3



Weekday of Arrival to ED/Hospital

A higher volume of trauma cases was recorded on weekend days (Figure 5).

Figure 5: Day of ED/hospital arrival, 2014Q4-2015Q3



Time to ED/Hospital Arrival

The distribution of KTR records by time from the injury incident to hospital arrival and inter-facility transfer status is presented in Table 11. Patients are considered inter-facility transfers if they are transferred to the reporting facility from another acute care facility. Due to the lack of personal identifiers in trauma registry data collection, we cannot track specific patients from one facility to another. The incident time is unknown in 36.89% of cases.

Table 11: Time to ED/hospital arrival, 2014Q4-2015Q3

Time to hospital	Inter-facility Transfer	
	Yes	No
<1 hour	24	2,426
1-2 hours	124	1,886
2-5 hours	1,026	669
5-12 hours	885	203
12-24 hours	120	133
24+ hours	217	357
Same day (exact incident time unknown)	907	3,367
Next day or later (exact incident time unknown)	259	268
Incorrect (negative, zero, missing time)	14	129
Total	3,576	9,438

Note: Missing information on inter-facility transfer for 40 records

Alcohol Use Indicator

Alcohol use beyond legal limits was confirmed by test for 829 (6.35%) of all records (Table 12). However, it is important to note that over 60% of cases were not tested for alcohol use, so the true extent of this problem is unknown.

Table 12: Alcohol use indicators, 2014Q4-2015Q3

Alcohol Use Indicators	Number	%
No (not tested)	7,900	60.52
No (confirmed by test)	2,570	19.69
Yes (confirmed by test [trace levels])	272	2.08
Yes (confirmed by test [beyond legal limit])	829	6.35
Not Applicable	1,244	9.53
Not documented	116	0.89
Missing	123	0.94
Total	7,900	60.52

Drug Use Indicators

Illegal drug use was confirmed in 818 (6.27%) of the records (Table 13). However, it is again important to note that 62.4% of cases were not tested for drug use, so the true extent to which drug use is involved in trauma is unknown. The category “illegal drug use” includes use of illicit drugs or illegal use of a prescription drug according to the National Trauma Data Standard Data Dictionary.

Table 13: Drug use indicators, 2014Q4-2015Q3

	Number	%
No (not tested)	8,142	62.37
No (confirmed by test)	1,327	10.17
Yes (confirmed by test [prescription drug])	1,069	8.19
Yes (confirmed by test [illegal use of prescription drug])	71	0.54
Yes (confirmed by test [illegal use drug])	747	5.72
Not Applicable	610	4.67
Not documented	1,088	8.33
Total	13,054	100

Locally Calculated Injury Severity Scores

The Injury Severity Score (ISS) is an anatomical rating system that provides numerical values for patients with multiple and varying injuries. The National Trauma Data Bank characterizes ISS scores of 1-9 as mild, 10-15 as moderate, 16-24 as severe, and over 24 as very severe. Using this metric, 68.24% of trauma registry injuries were mild, 14.30% moderate, 10.52% severe and 6.27% very severe. ISS was missing for less than 1% of the records (Table 14).

Table 14: Records by ISS, 2014Q4-2015Q3

Injury Severity Score Range	Category	Number	%
1-9	Mild	8,908	68.24
10-15	Moderate	1,867	14.3
16-24	Severe	1,373	10.52
25-75	Very Severe	817	6.27
Missing	Missing	89	0.68
Total		13,054	100

Outcome Information

Table 15: Discharge status, 2014Q4-2015Q3

Facility	ED Discharge	Inpatient Discharge
	Number (% facility)	Number (% facility)
Ephraim McDowell Regional Medical Center	123 (41.7%)	172 (58.3%)
Fort Logan Hospital	73 (100%)	0 (0%)
Frankfort Regional Medical Center	179 (48.1%)	193 (51.9%)
Harlan ARH Hospital	30 (57.7%)	22 (42.3%)
Harrison Memorial Hospital	85 (81.7%)	19 (18.3%)
Hazard ARH	134 (18.6%)	585 (81.4%)
James B. Haggin Memorial Hospital	237 (98.8%)	*
Kosair Children's Hospital	10 (1%)	967 (99%)
Livingston Hospital	38 (54.3%)	32 (45.7%)
Marcum Wallace Memorial Hospital	227 (99.6%)	*
McDowell ARH Hospital	33 (97.1%)	*
Methodist Hospital Union County	60 (69%)	27 (31%)
Middlesboro ARH Hospital	95 (85.6%)	16 (14.4%)
Morgan County ARH Hospital	73 (100%)	0 (0%)
Owensboro Medical Center	94 (13.6%)	595 (86.4%)
Pikeville Medical Center	103 (10.9%)	840 (89.1%)
Rockcastle Hospital	110 (92.4%)	9 (7.6%)
Russell County Hospital	71 (100%)	0 (0%)
St. Claire Medical Center	162 (73%)	60 (27%)
St. Joseph Berea	47 (100%)	0 (0%)
St. Joseph Hospital (Mt. Sterling)	90 (100%)	0 (0%)
St. Joseph London	209 (57.4%)	155 (42.6%)
Taylor Regional Medical Center	279 (85.1%)	49 (14.9%)
Trigg County Hospital	26 (100%)	0 (0%)
University of Kentucky – Children's	12 (2.5%)	473 (97.5%)
University of Kentucky Medical Center	472 (15.4%)	2596 (84.6%)
University of Louisville Hospital	79 (2.5%)	3030 (97.5%)
Whitesburg ARH Hospital	21 (91.3%)	*
Williamson ARH Hospital	23 (65.7%)	12 (34.3%)
Total	3195 (24.5%)	9859 (75.5%)

Note: Totals less than 5 were suppressed in keeping with state data management policy.

Three quarters (74.97%) of the records indicated discharge from ED to a bed or operating room in the same hospital, while 14.5% were transferred to another hospital. The latter number is somewhat higher than the 11.46% transfer rate reported in 2014 and may reflect the addition of several Level IV facilities to the trauma registry this year. Deaths are recorded for 150 (1.2%) ED patients (Table 16).

Table 16: ED discharge disposition, 2014Q4-2015Q3

	Number	%
Same hospital	9,787	74.97%
Floor bed (general admission, non-specialty unit bed)	5,289	40.5
Operating Room	1,940	14.9
Transferred to another hospital	1,892	14.5
Intensive Care Unit	1,824	14.0
Home without services	1,000	7.7
Telemetry/step-down unit (less acuity than ICU)	489	3.8
Observation unit (< 24 hour stays)	245	1.9
Died	150	1.2
Home with services	30	0.2
Other (jail, institutional care, mental health, etc.)	19	0.2
Left against medical advice	12	0.1
Missing	164	1.3
Total	13,054	100

Inpatient Hospital Discharge

Almost two-thirds (62.73%) of trauma registry records on patients discharged from inpatient care indicated that the patient was well enough to go home without formal home health services, but over one in four (27%) required some kind of post-acute care. Deaths were recorded for 354 (3.67%) records of patients who died in the Hospital (Table 17).

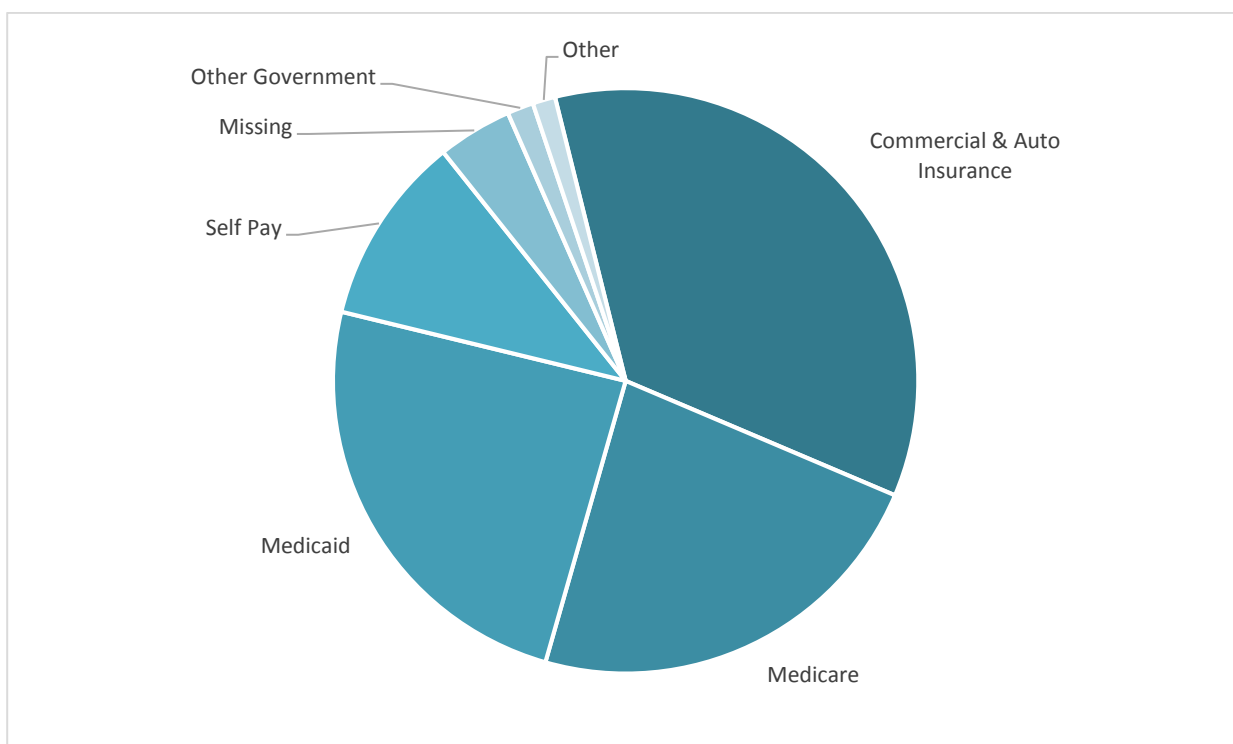
Table 17: Inpatient hospital discharge disposition, 2014Q4-2015Q3

Discharge Destination	Number	%
Home with self-care	6,046	62.73
Home health	1,224	12.7
Inpatient rehab	929	9.64
Skilled Nursing Facility & Intermediate Care Facility	820	8.5
Expired	354	3.67
Another acute care hospital (Long Term Care Hospital, Inpatient, Psychiatric)	146	1.51
Other	119	1.23
Total	9,638	100.00

Financial Information

The expected source of payment was not reported for 538 records, about 4.1% of the total KTR volume. Among the encounters listing expected payer, commercial/auto insurance (35.28%) was the leader, followed by Medicare (23.03%), and Medicaid (24.38%) (Fig. 6). The proportion of “self-pay” (i.e., uninsured) patients in 2015, 10.49%, is very close to the 11% in this category in 2014. Both reflect the impact of Medicaid expansion, as the “self-pay” category was previously in the 40% range. This decline is significant because “self-pay” patients are rarely able to pay for their trauma care, and the federal funding that has historically provided some offset to uncompensated care will be reduced under the Affordable Care Act.

Figure 6: Primary source of payment, 2014Q4-2015Q3



Conclusion

The Kentucky Trauma Registry continues to grow steadily and has added reporting facilities that serve new areas over the past year. As the proportion of Kentucky hospitals in the KTR grows, it will become more representative of major trauma in the state as a whole. The state Trauma Advisory Council continues to work closely with candidate facilities as they progress towards state or national verification, and funding from the National Highway Traffic Safety Administration, made available through a grant from the Kentucky Office of Highway Safety, supports software or portal activation costs for their first year in the KTR. Thanks to the Kentucky Commissioner of Public Health, funding was made available during the 2015-2016 state fiscal year to support extensive educational programming and a full system-wide evaluation (summary available at <http://www.mc.uky.edu/kiprc/programs/trauma-registry/Kentucky-trauma-system-evaluation-2016.pdf>). We look forward to increasing the value of KTR data for system-wide and facility-specific quality improvement initiatives through the addition of new variables.

The progress made by Kentucky's trauma system is particularly noteworthy because during the time covered by this report, the system had no state funding and would not have existed without the professionalism and dedication of clinical and support staff. The sustainability of statewide trauma care on this tenuous basis is a constant concern that has been brought before state policy makers repeatedly. The value added by the state's trauma system--saving lives and avoiding catastrophic trauma-related disability--must be recognized and given proportionate support if the state trauma system is to continue its record of growth and effectiveness.

Acknowledgements:

In addition to our invaluable support from Trauma Advisory Council leadership and our grant funders, KTR facilities' trauma registrars have worked diligently to assure continuous quality improvement for KTR data as well as trauma care across the state.