

KENTUCKY TRAUMA REGISTRY

2018 ANNUAL REPORT

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Table of Contents

Forward	4
Introduction	5
Kentucky’s Reporting Trauma Centers, 2018	7
Kentucky Trauma Registry Records 2008-2018	8
Figure 1: Total records, 2008-2018	8
Table 1: Records by reporting trauma center, 2018	9
Demographic Information	10
Table 2: Records by gender, 2018	10
Table 3: Records by race and ethnicity, 2018	10
Figure 2: Records by age group, 2018	11
Table 4: Records by county of residence, 2018	12
Map of Travel Times to Kentucky Trauma Facilities	13
Injury Information	14
Figure 3: Work-related trauma records by cause of injury, 2018	14
Table 5: Work-related trauma records by industry, 2018	15
Table 6: Records by cause and intent of injury, 2018	16
Table 7: Records by age and major causes of injury, 2018	17
Table 8: Motor vehicle collision involvement, 2018	18
Table 9: Use of occupant protective devices in motor vehicle traffic collisions, 2018	18
Pre-Hospital Information	19
Table 10: Transportation mode, 2018	19
EMS Information	19
Emergency Department Information	20
Figure 4: Month of ED/hospital arrival, 2018	20
Figure 5: Day of ED/hospital arrival, 2018	20
Table 11: Time to ED/hospital arrival, 2018	21
Table 12: Alcohol use indicators, 2017	22
Table 13: Drug use indicators, 2017	22
Locally Calculated Injury Severity Scores	23
Outcome Information	24
Table 15: Discharge status, 2018	24
Table 16: ED discharge disposition, 2018	25
Table 17: Inpatient Hospital Discharge Destination	26

Financial Information 27

Conclusion..... 28

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 and 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.

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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 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 calendar year 2018 at Kentucky trauma centers, both verified and in applicant status, and reported to the Kentucky Trauma Registry as of July 2019. A list of these facilities appears on the next page. It is important to note several characteristics of the data reported here:

- 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.

On October 1, 2015, U.S. hospitals were required to switch from the International Classification of Diseases, 9th edition, Clinical Modification, to the 10th edition (ICD-9-CM to ICD-10-CM). One prominent feature of ICD-10-CM is a much more nuanced array of injury diagnoses. While trauma registries do not rely on ICD coding to the same extent as broader hospital and emergency department datasets, the implementation of ICD-10-CM was disruptive and may have led to some inconsistencies in coding across reporting facilities and periods of time.

Definitions (per 902 KAR 28:010):

- (18) "Level I trauma center" means a regional trauma center that:
 - (a) Provides total care of every aspect of injury from prevention through rehabilitation; and
 - (b) Meets the requirements established in 902 KAR 28:020.
 - (19) "Level II trauma center" means a regional trauma center that:
 - (a) Provides screening and initial trauma care of the injured patient regardless of the severity of injury; and
 - (b) Meets the requirements established in 902 KAR 28:020.
 - (20) "Level III trauma center" means a regional trauma center that:
 - (a) Provides prompt assessment, resuscitation, emergency operations and stabilization;
 - (b) Arranges for transfer to a facility that can provide trauma care at a higher level;
 - (c) Serves communities that do not have immediate access to a Level I or Level II trauma center; and
 - (d) Meets the requirements established in 902 KAR 28:020.
 - (21) "Level IV trauma center" means a regional trauma center that:
 - (a) Provides advanced trauma life support before a patient is transferred to a higher level of care;
 - (b) Is located in a hospital emergency department; and
 - (c) Meets the requirements established in 902 KAR 28:030.
-

Kentucky's Reporting Trauma Centers, 2018

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
James B. Haggin Memorial Hospital	Level IV
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
Norton Children's Hospital	Level I Pediatric
Owensboro Medical Center	Level III
Pikeville Medical Center	Level II
Rockcastle Regional Hospital	Level IV
St. Joseph Berea	Level IV in progress
Taylor Regional Medical Center	Level III
Tug Valley ARH (formerly Williamson ARH)	Level IV
Twin Lakes Regional Medical Center	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

Kentucky Trauma Registry Records 2008-2018

The Kentucky Trauma Registry has grown from five reporting facilities in 2008 to 29 in 2018, although some smaller hospitals have left the trauma system in recent years. A total of 12,784 records were reported in 2018, more than double the 2008 total (Figure 1) but a slight decrease from 2017. The decline reflects gaps in reporting from smaller facilities and better alignment with National Trauma Data Bank standards with regard to reporting low-acuity injuries (see Tables 1 and 15).

Figure 1: Total records, 2008-2018

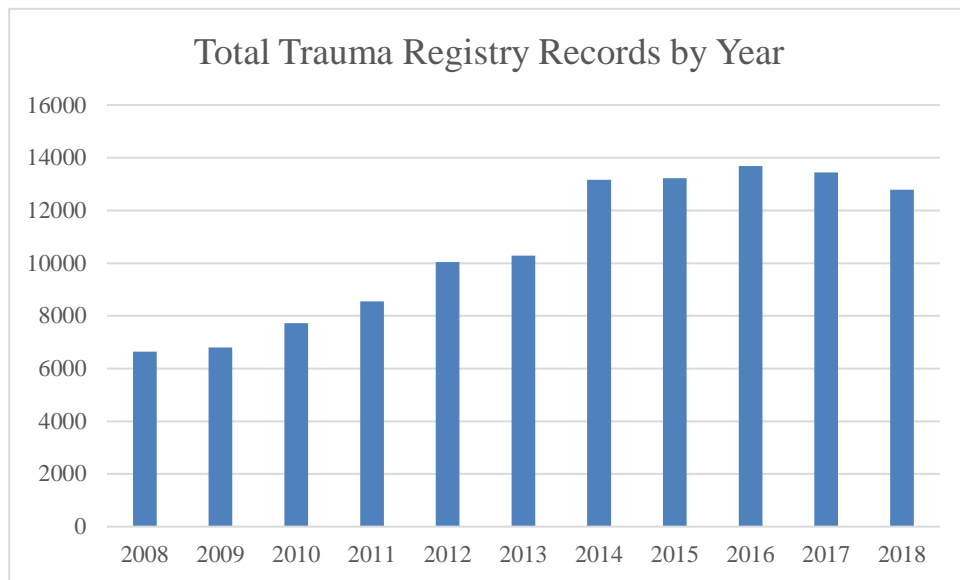


Table 1: Records by reporting trauma center, 2018

Hospital	Records
Ephraim McDowell Regional Medical Center	483
Ephraim McDowell Fort Logan Hospital	62
Frankfort Regional Medical Center	304
Harlan ARH Hospital	249
Harrison Memorial Hospital	92
Hazard ARH	266
James B. Haggin Memorial Hospital	85
Kosair Children's Hospital	820
Livingston Hospital	36
Marcum Wallace Memorial Hospital	42
Methodist Hospital Union County	78
Middlesboro ARH Hospital	163
Morgan County ARH Hospital	42
Owensboro Medical Center	888
Pikeville Medical Center	1,405
Rockcastle Hospital	92
St. Joseph Berea	86
St. Joseph Mt. Sterling	65
Taylor Regional Medical Center	332
Tug Valley ARH (formerly Williamson ARH)	136
Twin Lakes Regional Medical Center	190
University of Kentucky – Children's	388
University of Kentucky Medical Center	2,730
University of Louisville Hospital	3,571
Whitesburg ARH Hospital	136
Total	12,784

Demographic Information

Gender

Injuries to males comprised nearly 60% of KTR records (Table 2). The ACS trauma classification excludes isolated hip fractures, the most common traumatic injury in older adults, and a category in which women are overrepresented because of their great longevity. KTR demographics are thus 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, 2018

Gender	Number	%
Female	5,170	40.44%
Male	7,614	59.56%
Total	12,784	100.0%

Race/Ethnicity

Most (89.14%) of the records reported treatment for white patients, reflecting Kentucky's largely white population, while 7.52% were for black patients (Table 3). Nearly all records list the patient's race, but 1.8% are missing information on ethnicity.

Table 3: Records by race and ethnicity, 2018

Race	Ethnicity			Total
	Hispanic/Latino	Non-Hispanic/Latino	Missing	
Asian	5	28	*	**
Native Hawaiian or Other Pacific Islander	*	9	0	**
Other Race	113	31	*	**
American Indian	*	*	*	**
Black or African American	*	950	7	**
White	71	10,977	348	11,396
Missing	17	119	97	233
Total	**	**	**	12,784

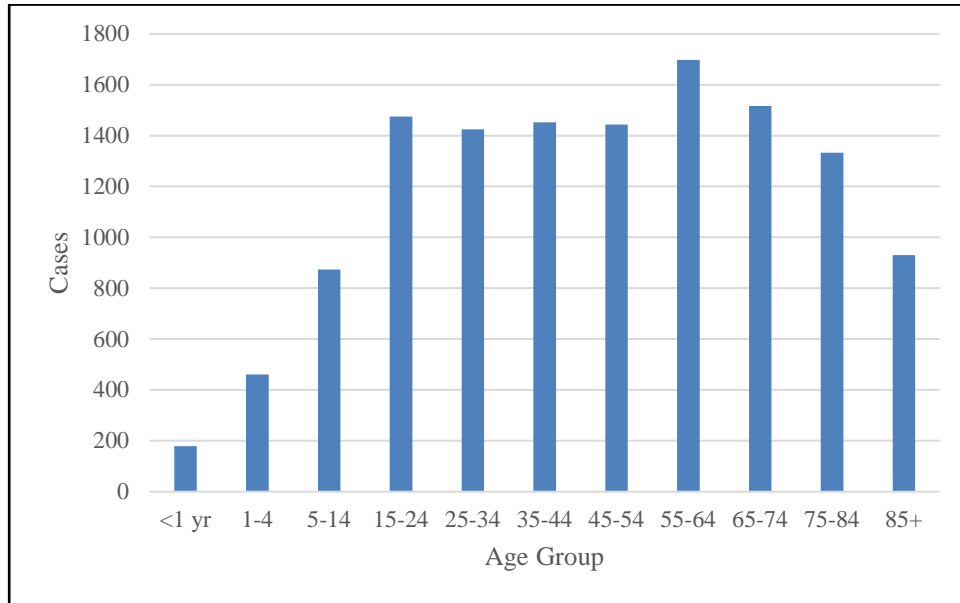
*Totals less than 5 were suppressed by state data management policy.

**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, 2018



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 (21.48%) 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 (12.68%) of the total KTR records were for out-of-state patients. About half of in-state records were from the top 10 counties (51.85% vs. 48.15%).







Table 4: Records by county of residence, 2018

Top 10 KY counties based on volume	Number	%
Jefferson	2,117	16.56%
Fayette	629	4.92%
Pike	570	4.46%
Daviess	567	4.44%
Franklin	322	2.52%
Taylor	290	2.27%
Letcher	274	2.14%
Harlan	273	2.14%
Boyle	264	2.07%
Floyd	245	1.92%
Madison	237	1.85%
All other KY counties combined	5,375	42.04%
Out-of-state residents	1,621	12.68%




A map of travel times to the state’s trauma facilities follows.

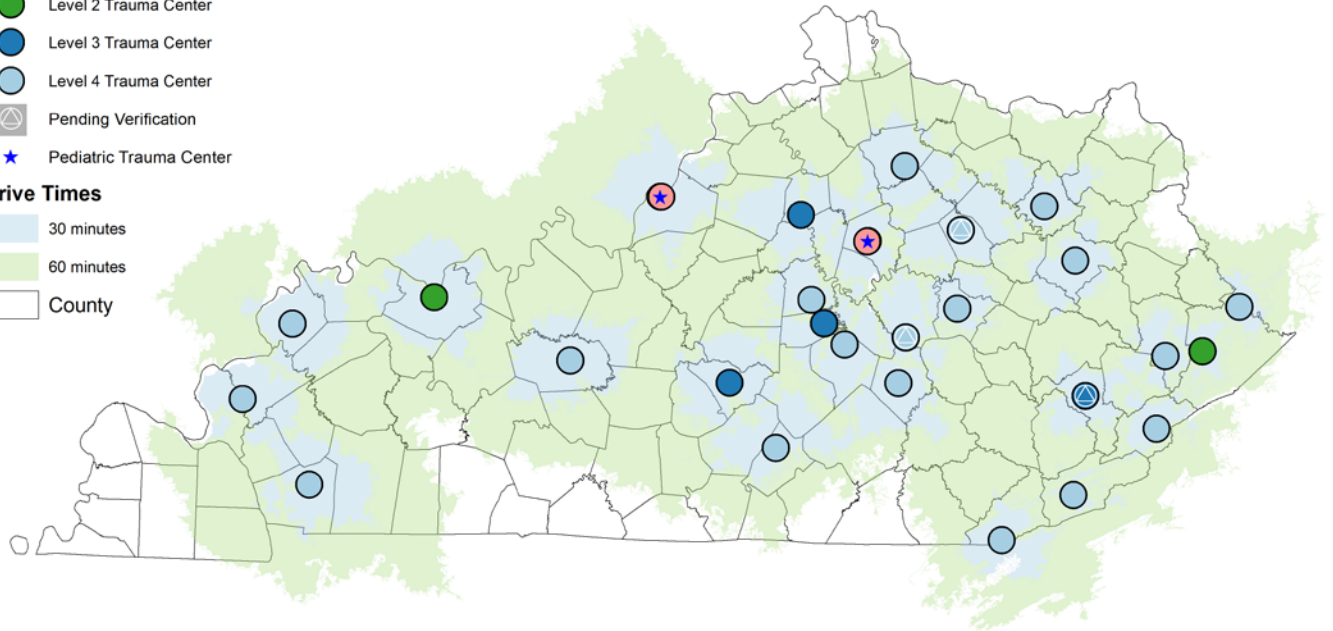
2018 Trauma Registry Facilities for Kentucky with 30/60 Mile Drive-Distance Coverage

Verified Trauma Centers

-  Level 1 Trauma Center
-  Level 2 Trauma Center
-  Level 3 Trauma Center
-  Level 4 Trauma Center
-  Pending Verification
-  Pediatric Trauma Center

Drive Times

-  30 minutes
-  60 minutes
-  County



Injury Information

Work-related Cases

Work-related trauma is defined as injury that occurs during paid employment. A total of 427 work-related trauma cases were recorded in the KTR dataset in 2018. Falls were the most common cause of injury (Figure 3).

Figure 3: Work-related trauma records by cause of injury, 2018

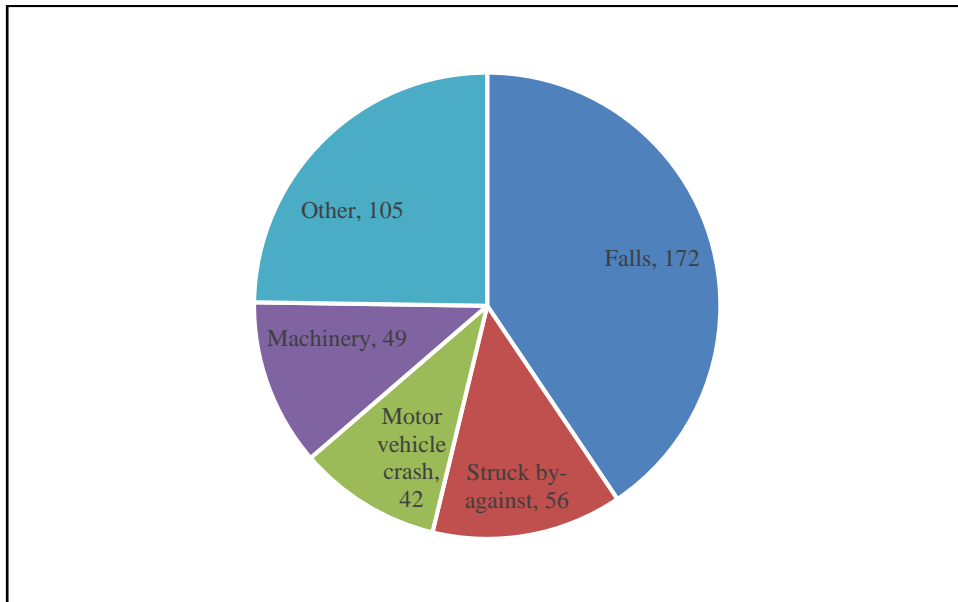


Table 5 shows the industry associated with the patient’s work environment for work-related trauma records. Construction and manufacturing are two of the largest industry categories, representing 32.31% of work-related trauma in the KTR.

Table 5: Work-related trauma records by industry, 2018

Industry	Number	%
Construction	87	20.37%
Other Services	65	15.22%
Manufacturing	51	11.94%
Transportation and Public Utilities	40	9.37%
Retail Trade	28	6.56%
Natural Resources and Mining	28	6.56%
Agriculture, Forestry, Fishing	27	6.32%
Government	15	3.51%
Education and Health Services	15	3.51%
Professional and Business Services	8	1.87%
Leisure and Hospitality	6	1.41%
Information Services	5	1.17
Wholesale Trade	*	*
Finance, Insurance, and Real Estate	0	0
Missing/not available	48	11.24%
Total	427	100%

*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 (99.8%) of the records. Unintentional falls (n=5,195) and unintentional motor vehicle traffic collisions (n=3,995) were the leading causes of injuries reported to KTR (Table 6).

Table 6: Records by cause and intent of injury, 2018

Cause	Unintentional	Intentional	Other/ Undetermined
Falls	5,195	14	29
Motor vehicle traffic collisions	3,995	13	20
Other transportation	573	0	0
Struck by/against	517	389	9
Cut/pierce	354	237	5
Fire/burn	331	10	10
Machinery	135	0	0
Other specified cause	159	45	*
Other pedal cycling	115	0	0
Firearm	125	419	40
Natural/environmental	46	0	0
Other Pedestrian	55	0	0
Overexertion	61	0	0
Not Specified	37	31	*
Not elsewhere classified	0	18	11
Poisoning	22	6	*
Suffocation	*	14	*
Drowning	*	0	0
Total	11,355	1,180	151

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

Cause/Intent of Injury by Age Group

Patients aged 15-24 accounted for nearly one-fifth (18.75%) of motor vehicle crash-related trauma, followed by those aged 25-34 (16.40%). This finding is similar to those of previous years. Falls among those 55 and older accounted for over two-thirds (68.97%) of all unintentional falls treated in trauma centers. Almost two-fifths (37.17%) 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. Nearly two-thirds (65.16%) of the assault injuries were to adolescents and adults aged 15-44 (Table 7).

Table 7: Records by age and major causes of injury, 2018

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	0	0	0	7	0.39	0	0	0	0
<1	15	0.38	*	0.35	75	1.44	*	0.72	35	2.18	49	5.04	0	0
1-4	61	1.53	9	3.19	212	4.08	23	5.52	128	7.98	25	2.57	0	0
5-14	222	5.56	47	16.67	309	5.95	63	15.11	199	12.41	22	2.26	5	2.42
15-24	749	18.75	47	16.67	148	2.85	92	22.06	186	11.60	200	20.55	41	19.81
25-34	655	16.40	35	12.41	172	3.31	39	9.35	233	14.53	226	23.23	48	23.19
35-44	606	15.17	45	15.96	277	5.33	52	12.47	219	13.65	208	21.38	29	14.01
45-54	550	13.77	36	12.77	425	8.18	49	11.75	198	12.34	143	14.70	29	14.01
55-64	542	13.57	42	14.89	759	14.61	37	8.87	196	12.22	76	7.81	27	13.04
65-74	339	8.49	14	4.96	957	18.42	31	7.43	128	7.98	16	1.64	21	10.14
75-84	201	4.95	8	1.4	1046	19.96	21	4.06	74	4.13	10	0.96	8	3.7
85+	57	1.43	*	*	830	15.98	*	*	30	1.87	*	*	*	*

*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, 65.49% were coded as vehicle occupants and 11.72% as motorcyclists (Table 8).

Table 8: Motor vehicle collision involvement, 2018

Role in motor vehicle traffic collision	Number	%
Motor vehicle occupant	2,638	65.49%
Motorcyclist	472	11.72%
Unknown	162	4.02%
Other	453	11.25%
Pedal cyclist	55	1.37%
Total	3,780	100.00%

Protective Devices

There were 3,762 records for vehicle occupants injured in motor vehicle traffic collisions. Protective devices were available but not used in over one-fifth (22.58%) of reported cases. Information on the use of protective devices was available to the registrars in nearly all (96.53%) of cases (Table 9).

Table 9: Use of occupant protective devices in motor vehicle traffic collisions, 2018

Protective device	Use of protective devices by occupants in unintentional MVTC	
	Number	%
Shoulder and Lap belt	1,268	47.89%
Shoulder belt only	*	0.11%
Lap belt only	300	11.33%
Child restraint	32	1.21%
Airbag	1,469	55.48%
Available but not used	598	22.58%
Missing information on protective device use	92	3.47%

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 556 (14.90%) of the 3,732 inter-facility transfers and in 794 (8.78%) of the 9,040 non-transfer records. Ground ambulance was listed in 8,642 (67.66%) of all KTR cases.

Table 10: Transportation mode, 2018

Transportation mode	Inter-facility Transfer		
	Yes	No	Total
Missing	7	49	68
Ground Ambulance	2,980	5,662	8,642
Helicopter Ambulance	556	794	1,350
Fixed-wing Ambulance	*	0	**
Private/Public Vehicle/Walk-in	181	2,500	2,681
Police	*	28	**
Other	*	7	**
Total	3,732	9,040	12,772

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

Note: Missing information on inter-facility transfer for 12 records.

EMS Information

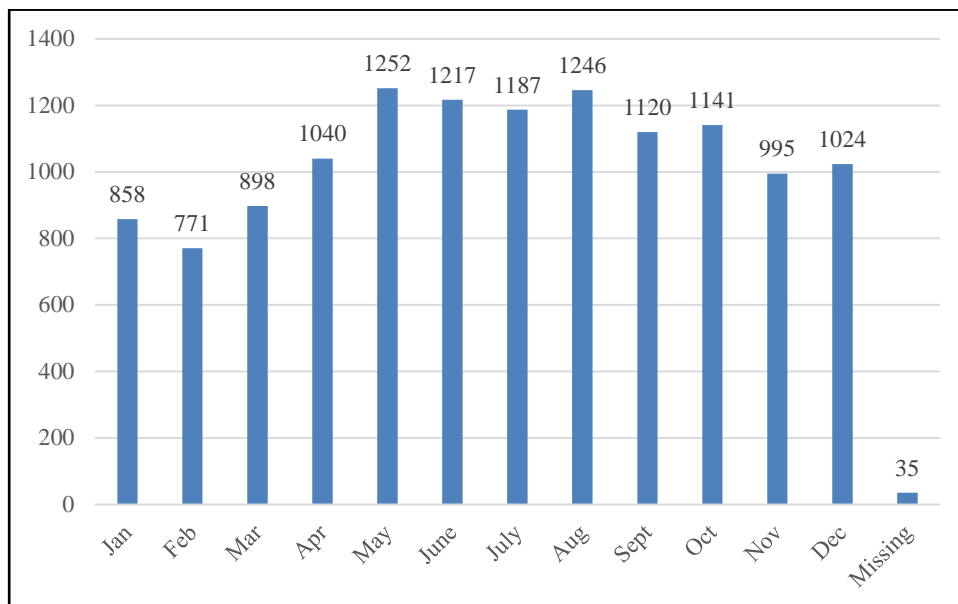
EMS notification, departure, and arrival times are not applicable data elements for patients who arrived at the trauma facility by private vehicle, and they may not be known for patients transferred from another acute care facility. It is reasonable to expect that EMS information will be available for patients who were not inter-facility transferees and were transported to the trauma facility by ground ambulance (n=8,642) or air ambulance (n=1,350) (Table 10).

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.

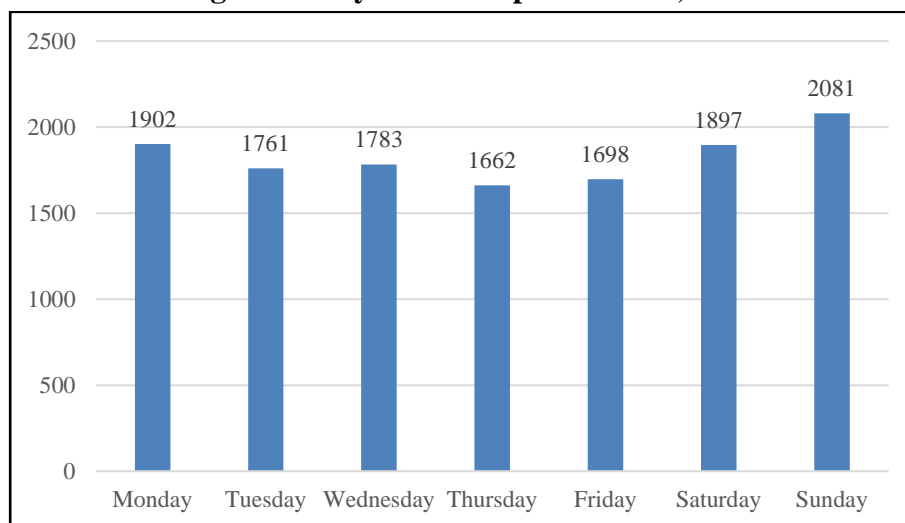
Figure 4: Month of ED/hospital arrival, 2018



Weekday of Arrival to ED/Hospital

Weekend days see larger volumes of ED trauma cases (Figure 5).

Figure 5: Day of ED/hospital arrival, 2018



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. Inter-facility transfers are patients who 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 42.41% of cases. This lack of information hinders efforts to assess the critical metric of timely transportation to definitive care for trauma patients.

Table 11: Time to ED/hospital arrival, 2018

Time to hospital	Inter-facility Transfer	
	Yes	No
<1 hour	15	1,969
1-2 hours	83	1,545
2-5 hours	882	610
5-12 hours	936	242
12-24 hours	120	164
24+ hours	276	407
Same day (exact incident time unknown)	1,065	3,763
Next day or later (exact incident time unknown)	344	244
Incorrect (negative, zero, missing time)	11	96
Total	3,732	9,040

Note: Missing information on inter-facility transfer for 12 records.

Alcohol Use Indicators

Alcohol use beyond legal limits was confirmed by test for 702 (5.49%) of all records (Table 12). Over half (54.38%) of cases were not tested for alcohol use or did not document whether testing was performed, so the true extent of this potential cause of traumatic injury cannot be determined from the registry data.

Table 12: Alcohol use indicators, 2018

	Number	%
Not tested	6,449	50.45%
Negative or trace level confirmed by test	4,496	35.17%
Not applicable	634	4.96%
Positive beyond legal limit confirmed by test	702	5.49%
Not documented/missing	503	3.93%

Drug Use Indicators

The presence of illicit or prescription drugs was confirmed in 1,825 (14.10%) of the records (Table 13); some portion of this use may have followed clinical directions. As with alcohol-related findings, nearly two-thirds (65.68%) of cases were not tested for drug use or did not document whether testing was performed, so the true extent to which drug use is involved in trauma is unknown. The number of cases in which drug use indicators were not documented was essentially the same in 2017 and 2018 (503 vs. 501).

Table 13: Drug use indicators, 2017

	Number	%
Not tested	7,999	61.81%
Negative confirmed by test	2,004	15.49%
Positive test for prescription drug or illicit drug	1,825	14.10%
Not Applicable	612	4.73%
Not documented	501	3.87%

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, about two-thirds (67.55%) of trauma registry injuries were mild, 14.25% moderate, 10.45% severe and 6.99% very severe. ISS was missing for less than one percent of the records, a significant data quality improvement from 2017 (Table 14).

Table 14: Records by ISS, 2018

Injury Severity Score Range	Category	Number	%
1-9	Mild	8,635	67.55%
10-15	Moderate	1,822	14.25%
16-24	Severe	1,336	10.45%
25-75	Very Severe	894	6.99%
Missing	Missing	92	0.76%
Total		12,784	100

Outcome Information

Table 15: Discharge type by facility, 2018

Facility	ED Discharge	Inpatient Discharge
	Number (% of type)	Number (% of type)
Ephraim McDowell Regional Medical Center	316 (2.47%)	167 (1.31%)
Fort Logan Hospital	61 (0.48%)	* (*)
Frankfort Regional Medical Center	127 (.99%)	177 (1.38%)
Harlan ARH Hospital	132 (1.03%)	117 (.92%)
Harrison Memorial Hospital	92 (0.72%)	0 (0%)
Hazard ARH	69 (0.54%)	197 (1.54%)
James B. Haggin Memorial Hospital	84 (100%)	0 (0%)
Kosair Children's Hospital	111 (0.87%)	709 (5.55%)
Livingston Hospital	20 (0.16%)	16 (0.13%)
Marcum Wallace Memorial Hospital	41 (0.32%)	* (3.8%)
Methodist Hospital Union County	55 (0.43%)	23 (0.18%)
Middlesboro ARH Hospital	135 (1.06%)	28 (0.22%)
Morgan County ARH Hospital	41 (0.32%)	* (*)
Owensboro Medical Center	51 (0.40%)	837 (6.55%)
Pikeville Medical Center	110 (0.86%)	1,295 (10.13%)
Rockcastle Hospital	86 (0.67%)	* (*)
St. Joseph Berea	77 (100%)	0 (0%)
St. Joseph Mt. Sterling	65 (0.51%)	0 (0%)
Taylor Regional Medical Center	300 (2.35%)	32 (0.25%)
Tug Valley ARH (formerly Williamson ARH)	124(0.97%)	12 (0.09%)
Twin Lakes Regional Medical Center	122 (0.95%)	68 (0.53%)
University of Kentucky – Children's	17 (0.13%)	371 (2.90%)
University of Kentucky Medical Center	365 (2.86%)	2,365 (18.50%)
University of Louisville Hospital	65 (0.51%)	3,506 (27.42%)
Whitesburg ARH Hospital	173 (1.35%)	6 (0.05%)
Total	2,850 (100%)	9,934 (100%)

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

Emergency Department Discharges

Three-quarters (75.47%) of the ED records indicated discharge from the ED to a bed or operating room in the same hospital, while 13.66% were transferred to another hospital. Deaths are recorded for 153 (1.20%) of ED patients (Table 16). Typically, about 12% of Kentucky’s deaths from traumatic injury occur at hospitals, while the balance are deaths at the scene of the traumatic injury (see <https://www.cdc.gov/injury/wisqars/fatal.html>).

Table 16: ED discharge disposition, 2018

	Number	%
Same hospital	9,776	75.47%
Non-specialty unit bed	5,565	43.53%
Operating room	1,854	14.50%
Observation unit (< 24 hour stays)	20	0.16%
Intensive Care Unit	1,867	14.60%
Telemetry/step-down unit	470	3.68%
Died	153	1.20%
Transferred to another hospital	1,746	13.66%
Home with services	22	0.17%
Home without services	890	6.96%
Other (jail, institutional care, mental health, etc.)	16	0.13%
Left against medical advice	18	0.14%
Missing	163	1.28%
Total	13,442	100.00

Inpatient Hospital Discharges

Most (59.99%) 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 nearly one-third (30.94%) required some kind of post-acute care. In-hospital deaths were recorded for 400 (4.04%) patients (Table 17).

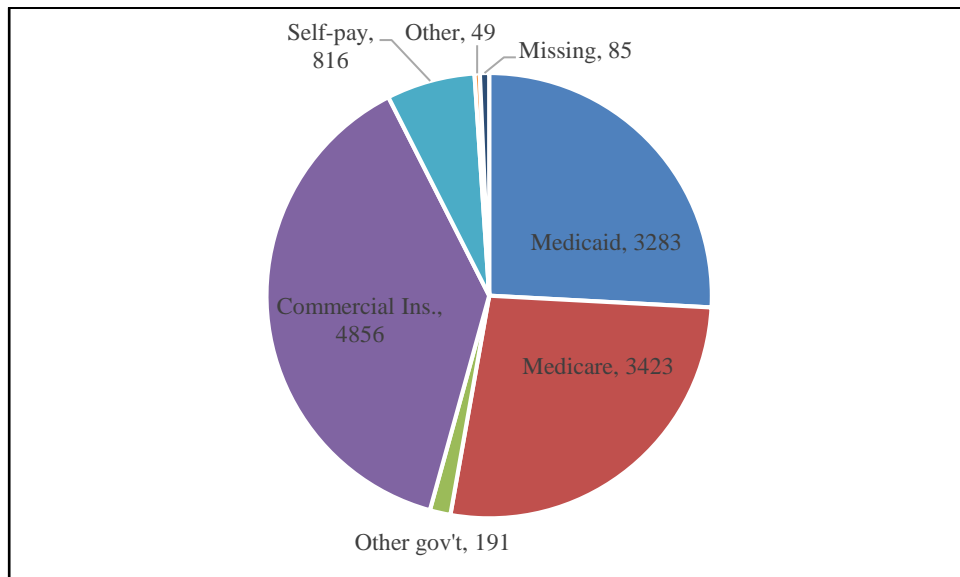
Table 17: Inpatient Hospital Discharge Destination

	Number	%
Home with self-care	5,936	59.99%
Home health	793	8.01%
Inpatient rehab	1,284	12.98%
Skilled nursing facility/ICF	985	9.95%
Died	400	4.04%
Another acute care hospital	52	0.53%
Other	341	3.45%
Left against medical advice	104	1.05%
Total	9,895	100

Financial Information

The expected source of payment was missing for only 85 (0.66%) records, reflecting continual improvement in recording this indicator. Among the encounters listing expected payer, commercial insurance (38.24%) was the leader, followed by Medicare (26.95%), and Medicaid (25.85%) (Fig. 6). The proportion of “self-pay” (i.e., uninsured) patients in 2018, 6.43%, continues to reflect the impact of Medicaid expansion; the “self-pay” category was in the 40% range before Medicaid coverage became available to new categories and income levels of Kentuckians. This decline is important 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 in future years.

Figure 6: Primary source of payment, 2018



Conclusion

As the proportion of Kentucky hospitals in the Kentucky Trauma Registry 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. 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 as well as the compilation of this report and other initiatives. 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.