KENTUCKY TRAUMA REGISTRY
2021 ANNUAL REPORT

OCTOBER 2022

Kentucky State Trauma System

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KENTUCKY INJURY PREVENTION AND RESEARCH CENTER

KENTUCKY TRAUMA REGISTRY

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This report and previous trauma reports are posted on the KIPRC website:
https://kiprc.uky.edu/injury-focus-areas/trauma.

KENTUCKY INJURY PREVENTION AND RESEARCH CENTER

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FOREWORD

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 and a bona fide agent of the Kentucky Department for 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 standards established in the National Trauma Data Standard Data Dictionary. The same standards apply to trauma centers in the process of applying for designation. The trauma centers upload their trauma data electronically to the KTR at least quarterly. ESO 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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INTRODUCTION

Kentucky Revised Statute (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. This report summarizes data reported to the Kentucky Trauma Registry (KTR) as of October 2022 on trauma patients cared for at Kentucky trauma centers, both verified and in applicant status, during calendar year 2021. A list of these facilities appears on the next page.

Definitions

- Governing state law (KRS 211.490 [6]) protects patient privacy by forbidding the identification of individual trauma patients in Kentucky Trauma Registry data. Patients transferred between hospitals have separate records for treatment at each reporting facility that cannot be merged because they lack 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 injury event is not part of the reported data. Hospital trauma registrars report KTR data only 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 underrepresented in this report.

Definitions (per 902 Kentucky Administrative Regulation [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, 2021

Trauma Center	Designation/Status
Deaconess Union County Hospital (formerly Methodist Hospital Union County)	Level IV
Ephraim McDowell Fort Logan Hospital	Level IV
Ephraim McDowell James B. Haggin Memorial Hospital	Level IV
Ephraim McDowell Regional Medical Center	Level III
Frankfort Regional Medical Center	Level III
Harlan ARH Hospital	Level IV
Harrison Memorial Hospital	Level IV
Hazard ARH	Level III or IV in development
Livingston Hospital	Level IV
McDowell ARH	Level IV in development
Mercy Health Marcum Wallace Memorial Hospital	Level IV
Middlesboro ARH Hospital	Level IV
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 Hospital London	Level IV in development
St. Joseph Hospital Mt. Sterling	Level IV in development
Taylor Regional Medical Center	Level IV in development
The Medical Center at Bowling Green	Level III in development
Tug Valley ARH (formerly Williamson ARH)	Level IV
Owensboro Health Twin Lakes Regional Medical Center	Level IV
University of Kentucky Medical Center	Level I
University of Louisville Hospital	Level I
Whitesburg ARH Hospital	Level IV

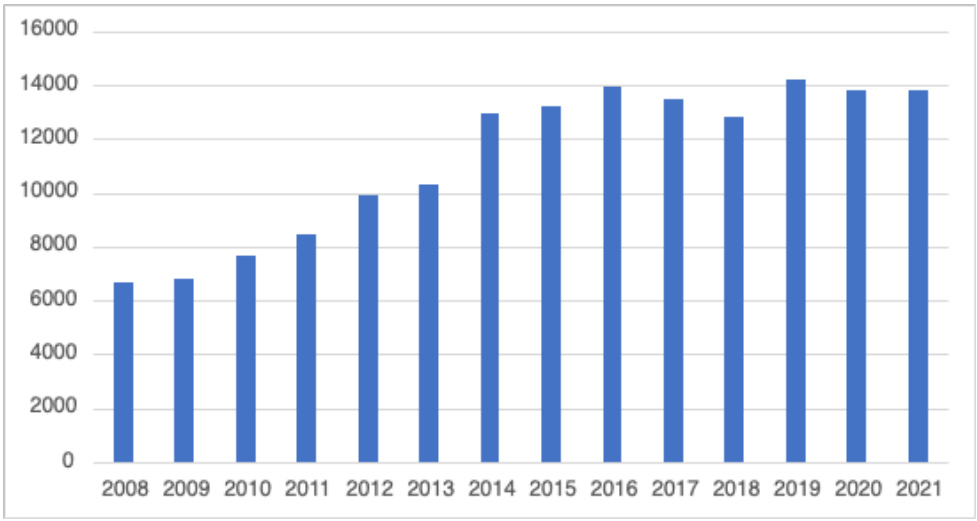
KENTUCKY TRAUMA REGISTRY RECORDS 2008–2021

The Kentucky Trauma Registry has grown from five reporting facilities in 2008 to 26 in 2021, although some smaller hospitals have left the trauma system in recent years. A total of 13,824 records were reported in 2021 (Table 1), more than double the 2008 total (Figure 1) and a slight increase over 2020.

Table 1. Records by reporting trauma center, 2021

Hospital	Records
Deaconess Union County Hospital (formerly Methodist Hospital Union County)	78
Ephraim McDowell Regional Medical Center	434
Fort Logan Hospital	44
Frankfort Regional Medical Center	479
Harlan ARH Hospital	187
Harrison Memorial Hospital	132
Hazard ARH	367
Highlands Regional Medical Center	109
James B. Haggin Memorial Hospital	29
Livingston Hospital	55
Marcum Wallace Memorial Hospital	53
McDowell ARH Hospital	2
Middlesboro ARH Hospital	68
Morgan County ARH Hospital	35
Norton Children's Hospital	1,006
Owensboro Medical Center	1,082
Pikeville Medical Center	1,142
Rockcastle Regional Hospital	14
Taylor Regional Medical Center	85
The Medical Center at Bowling Green	118
Tug Valley ARH (formerly Williamson ARH)	78
Twin Lakes Regional Medical Center	76
University of Kentucky—Children's	476
University of Kentucky Medical Center	3,337
University of Louisville Hospital	3,996
Whitesburg ARH	116
Total	**13,824**

Figure 1. Total records, 2008–2021



SEX

Injuries to males comprised nearly 60% of KTR records (Table 2). Most Kentucky reporting facilities exclude isolated hip fractures, the most common traumatic injury in older adults and a category in which women are overrepresented because of their greater longevity. KTR demographics are thus significantly different from those of the related report on Kentucky injuries as a whole, in which males and females are roughly equally represented (see Kentucky Inpatient and Emergency Department Traumatic Injury Data Reports, https://kiprc.uky.edu/injury-focus-areas/trauma).

Table 2. Records by sex, 2021

Sex	Number	%
Female	5,599	40.50
Male	8,222	59.48
Total	**13,821**	**100.00**

RACE/ETHNICITY

Most (85.57%) of the records reported treatment for white patients, reflecting Kentucky's largely white population, while 10.78% were for black patients (Table 3). Information on patient race was missing in less than 2% of cases; a similar proportion was missing information on ethnicity.

Table 3. Records by race and ethnicity, 2021

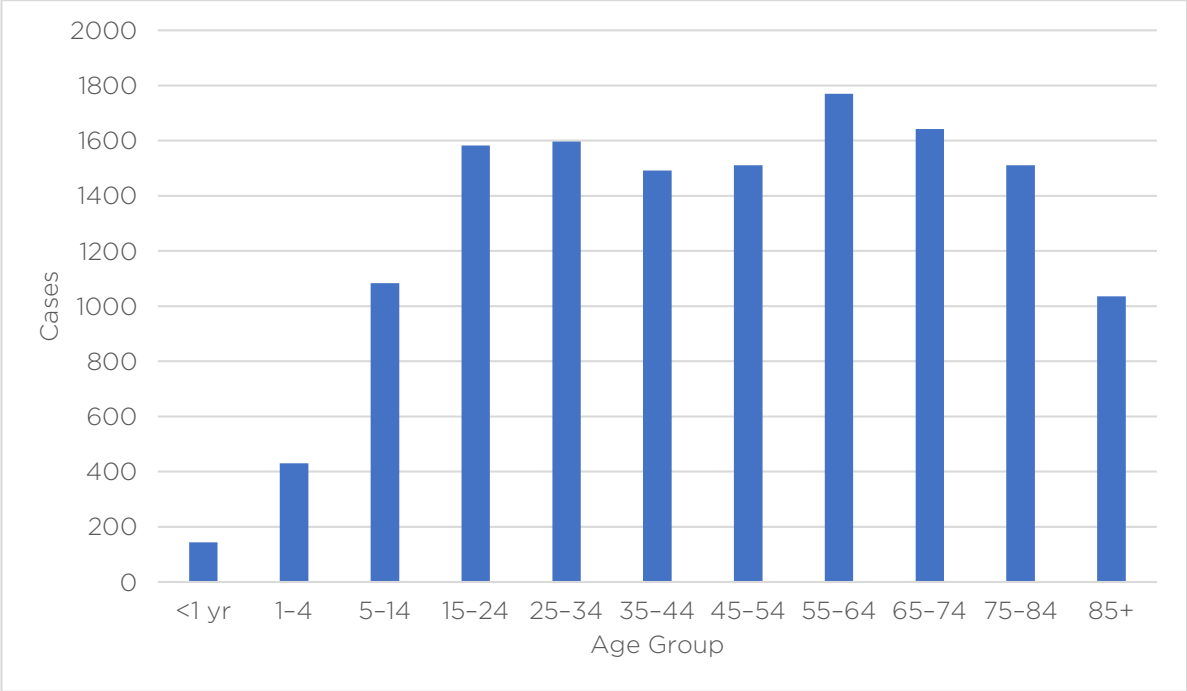
	Ethnicity			
Race	Hispanic/ Latino	Non-Hispanic/Latino	Missing	Total
American Indian	*	5	*	9
Asian	*	46	*	48
Black or African American	8	1,475	7	1,490
Native Hawaiian or Other Pacific Islander	0	5	0	5
Other race	122	59	*	184
White	97	11,567	165	11,829
Missing	56	141	62	259
Total	261	13,196	342	13,824

*Totals greater than zero but less than five were suppressed in accordance with state data management policy.

AGE

Inclusion criteria influence the distribution of trauma records by age group. The statewide hospitalization data for all types of injury are skewed toward older age groups due to inclusion of hip fractures, whereas 67.45% of KTR records are for adults under 65 years of age (Figure 2).

Figure 2. Records by age group, 2021



PATIENT COUNTY OF RESIDENCE

Table 4 includes the number and proportion of KTR records for the counties with the highest number of reports. Nearly one-fourth (23.91%) 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. Nearly one in seven (13.58%) of the total KTR records were for out-of-state patients. Over half (57.59%) of in-state records were from the top 10 counties.

Table 4. Records by county of residence, 2021

Top 10 KY counties based on volume	Number	%
Jefferson	2,521	18.24
Fayette	784	5.67
Daviess	665	4.81
Pike	493	3.57
Franklin	395	2.86
Hardin	264	1.91
Perry	263	1.90
Harlan	238	1.72
Boyle	234	1.69
Floyd	227	1.64
All other KY counties combined	5,863	42.41
Out-of-state residents	1,877	13.58

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

2021 Trauma Registry Facilities for Kentucky with 30- and 60-Minute Drive Time Coverage

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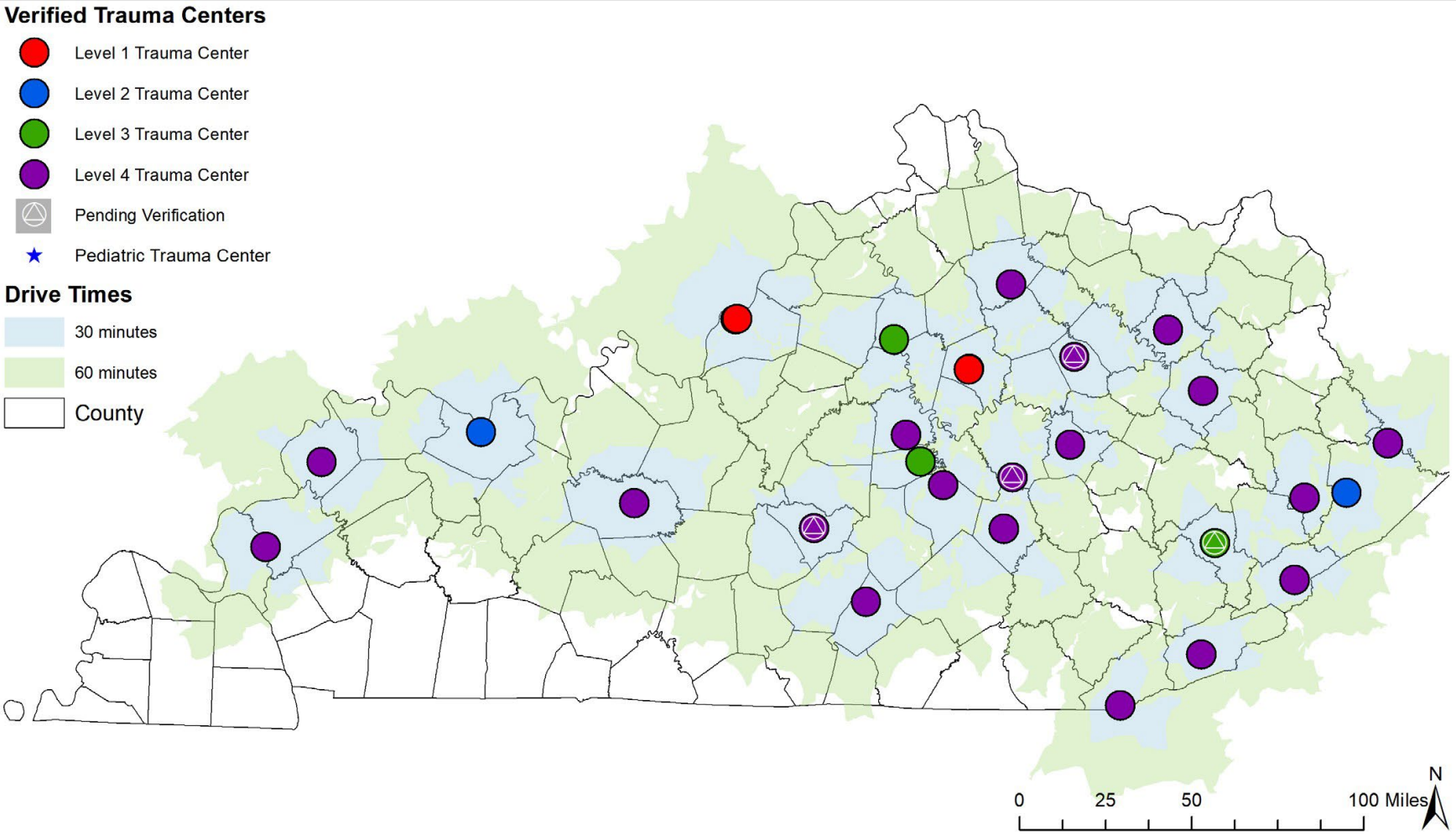


WORK-RELATED CASES

Work-related trauma is defined as injury that occurs during paid employment. A total of 339 work-related trauma cases were recorded in the KTR data set in 2021. Falls were the most common cause of injury (Figure 3).

Figure 3. Work-related trauma records by cause of injury, 2021

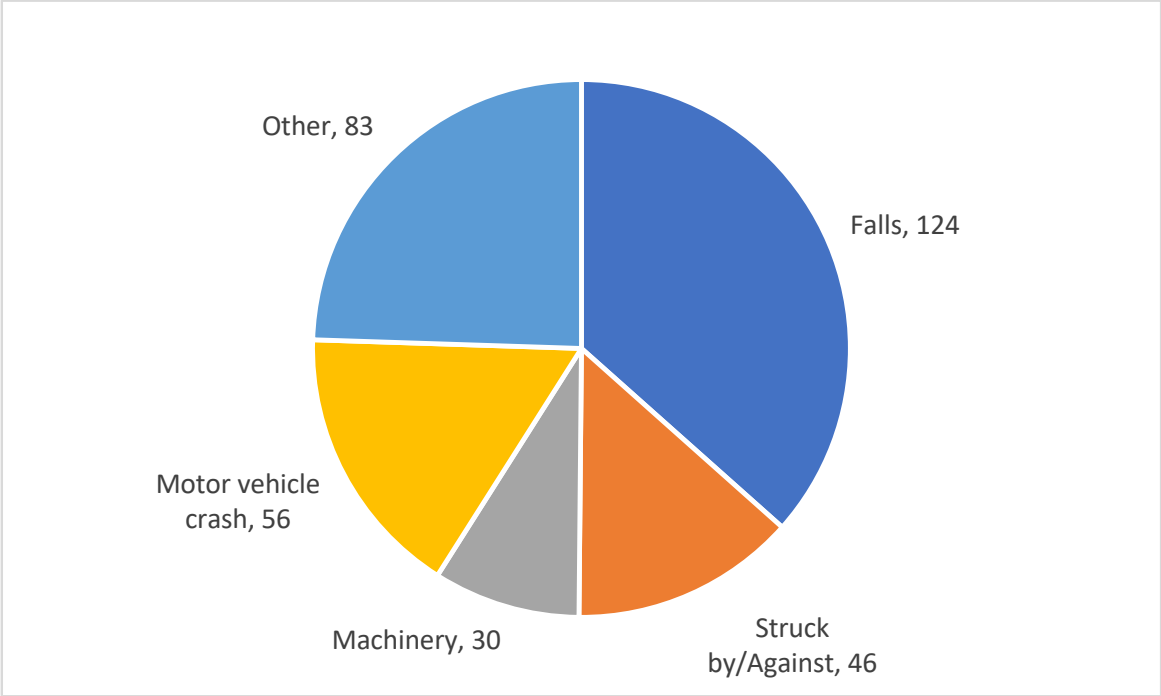


Table 5 shows the industry associated with the patient's work environment for work-related trauma records. Service industry workers made up the largest single group at 21.83%, while construction and manufacturing combined represented 30.48% of work-related trauma in the KTR.

Table 5. Work-related trauma records by industry, 2021

Industry	Number	%
Construction	67	19.76
Other Services	74	21.83
Transportation and Public Utilities	44	12.98
Manufacturing	36	10.62
Missing	34	10.03
Agriculture, Forestry, and Fishing	19	5.60
Government	11	3.24
Natural Resources and Mining	8	2.36
Retail Trade	16	4.72
Education and Health Services	11	3.24
Professional and Business Services	*	*
Information Services	*	*
Wholesale Trade	*	*
Leisure and Hospitality	7	2.06
Finance, Insurance, and Real Estate	*	*
Total	339	100.00

*Counts greater than zero but less than five were suppressed in accordance with state data management policy.

CAUSE AND INTENT OF INJURY

Codes indicating mechanism and intent were provided for nearly all (99.79%) of the records. Unintentional falls (n=5,845) and unintentional motor vehicle traffic collisions (n=4,328) were the leading causes of injuries reported to KTR (Table 6).

Table 6. Records by cause and intent of injury, 2021

Cause	Unintentional		Intentional		Other/Undetermined		Total	
	Count	%	Count	%	Count	%	Count	%
Fall	5,845	42.39	10	0.07	10	0.07	5,865	42.53
Motor Vehicle Traffic	3,772	27.35	6	0.04	6	0.04	3,784	27.45
Firearm	174	1.26	712	5.16	41	0.30	927	6.72
Struck By/Against	333	2.41	288	2.09	8	0.06	629	4.56
Motor Vehicle Non-Traffic	576	4.18	0	0.00	0	0.00	576	4.18
Cut/Pierce	350	1.70	*	*	*	*	458	3.32
Other Specified	151	1.10	48	0.35	11	0.08	212	1.54
Fire/Flame	200	1.45	*	*	*	*	207	1.50
Other Land Transport	205	1.49	0	0.00	0	0.00	205	1.49
Hot Object/Substance	*	*	0	0.00	*	*	152	1.10
Pedal Cyclist, Other	111	0.80	0	0.00	0	0.00	111	0.80
Machinery	102	0.74	0	0.00	0	0.00	102	0.74
Bite/Sting	115	0.83	0	0.00	0	0.00	115	0.83
Child/Adult Abuse	0	0.00	122	0.88	0	0.00	122	0.88.
Overexertion	46	0.33	0	0.00	0	0.00	46	0.33
Pedestrian, Other	61	0.44	0	0.00	0	0.00	61	0.44
Natural/ Environmental	92	0.67	0	0.00	0	0.00	92	0.67
Unspecified	*	*	35	0.25	*	*	60	0.44
Poisoning	30	0.21	*	*	0	0.00	31	0.22
Suffocation	*	*	*	*	0	0.00	8	0.06
Other Transport	17	0.12	0	0.00	0	0.00	17	0.12
Foreign Body	8	0.06	0	0.00	0	0.00	8	0.06
Drowning/ Submersion	*	*	*	*	0	0.00	1	0.01
Total	12,249	88.83	1,454	10.54	86	0.62	13,789	100.00

*Counts greater than zero but less than five were suppressed in accordance with state data management policy.
35 cases had missing information on causes of injury.

CAUSE AND INTENT OF INJURY BY AGE GROUP

Patients aged 15–24 accounted for nearly one-sixth (16.72%) of motor vehicle crash-related trauma, followed by those aged 25–34 (16.54%). This finding is similar to those of previous years. Falls among those 55 and older accounted for almost three-quarters (73.7%) of all unintentional falls treated in trauma centers. Just over one-quarter (28.22%) of the injuries that are 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 age group found that more than half were sports-related. Two-thirds (67.01%) of the assault injuries were to adolescents and young adults aged 15–44 (Table 7).

Table 7. Records by age and major causes of injury, 2021

Age	Unintentional										Intentional			
	Falls		Struck by/against		Motor vehicle traffic		Other transport injuries		All other unintentional		Assault		Self-Harm	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<1yr	60	1.03	7	2.10	11	0.25	*	*	18	1.13	67	5.35	0	0.00
1–4	143	2.45	19	5.71	63	1.45	9	4.05	110	6.93	41	3.27	0	0.00
5–14	326	5.58	47	14.11	326	7.50	61	27.48	251	15.82	34	2.72	*	*
15–24	131	2.24	47	14.11	727	16.72	41	18.47	199	12.54	278	22.20	39	19.31
25–34	193	3.30	33	9.91	719	16.54	23	10.36	201	12.67	308	24.60	55	27.23
35–44	261	4.47	37	11.11	637	14.65	18	8.11	207	13.04	253	20.21	39	19.31
45–54	383	6.55	42	12.61	624	14.35	22	9.91	185	11.66	139	11.10	26	12.87
55–64	867	14.83	48	14.41	594	13.66	23	10.36	219	13.80	87	6.95	23	11.39
65–74	1,225	20.96	35	10.51	378	8.69	15	6.76	121	7.62	25	2.00	9	4.46
75–84	1,256	21.49	12	3.60	194	4.46	*	*	58	3.65	*	*	6	2.97
85+	960	16.42	6	1.80	68	1.56	*	*	11	0.69	*	*	*	*
Missing	40	0.68	0	0.00	7	0.16	0	0.00	7	0.44	9	0.72	0	0.00
Total	5,845	100.00	333	100.00	4,348	100.00	222	100.00	1,587	100.00	1,252	100.00	202	100.00

*Counts greater than zero but less than five were suppressed in accordance with state data management policy.

MOTOR VEHICLE TRAFFIC COLLISION INVOLVEMENT

Among the motor vehicle traffic collision (MVTC) records, two-thirds (66.54%) were coded as vehicle occupants and 13.39% as motorcyclists (Table 8). The rate of traumatic injury among motorcycle riders in Kentucky is unknown because of the high rate of unregistered vehicles. Pedestrians and pedal cyclists accounted for 6.61% of traffic-related trauma.

Table 8. Motor vehicle collision involvement, 2021

Role in motor vehicle traffic collision	Number	%
Motor vehicle occupant	2,901	66.54
Motorcyclist	584	13.39
Pedal cyclist	58	1.33
Pedestrian	230	5.28
Unknown	6	0.14
Other	581	13.33
Total	4,360	100.00

PROTECTIVE DEVICES

There were 2,887 records for vehicle occupants injured in motor vehicle traffic collisions. Protective devices were available but not used in one-fifth (19.35%) of reported cases. Information on the use of protective devices was available to the registrars in nearly all (96.93%) of cases (Table 9). Kentucky continues to fall well below national norms for use of occupant protective devices.

Table 9. Use of occupant protective devices in motor vehicle traffic collisions (MVTCs), 2021

Protective device	Use of protective devices by occupants in MVTC	
	Number	%
Shoulder and lap belt	1,442	49.74
Shoulder belt only	46	1.59
Lap belt only	168	5.80
Child restraint	60	2.07
Airbag	1,804	62.23
Available but not used	561	19.35
Missing information on protective device use	89	3.07

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

TRANSPORTATION MODE

The mode of transportation and incidence of interfacility transfers are presented in Table 10. The interfacility transfer variable indicates whether the patient was transferred to the reporting facility from another acute care facility. Helicopter ambulance was used in 745 (17.43%) of the 4,275 interfacility transfers and in 980 (10.27%) of the 9,545 non-transfer records. Ground ambulance was listed in 9,510 (68.79%) of all KTR cases.

Table 10. Transportation mode, 2021

Transportation mode	Interfacility transfer		
	Yes	No	Total
Missing	1	47	48
Ground ambulance	3,196	6,314	9,510
Helicopter ambulance	745	980	1,725
Fixed-wing ambulance	*	*	*
Private/public vehicle/walk-in	328	2,159	2,491
Police	*	*	40
Other	0	8	8
Total	4,275	9,545	13,820

*Counts greater than zero but less than five were suppressed in accordance with state data management policy.

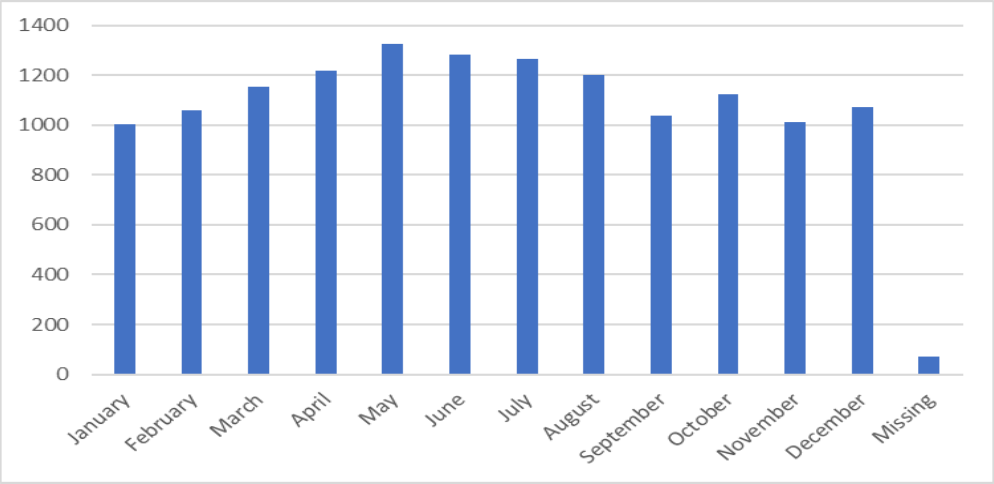
EMS Information

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 interfacility transferees and were transported to the trauma facility by ground ambulance (n=6,314) or air ambulance (n=980) (Table 10). Work is ongoing to integrate these data elements with future KTR reports.

MONTH OF ARRIVAL AT EMERGENCY DEPARTMENT (ED)/HOSPITAL

Trauma volume typically varies by season, with a higher volume during summer months, and this pattern continued, according to 2021 data.

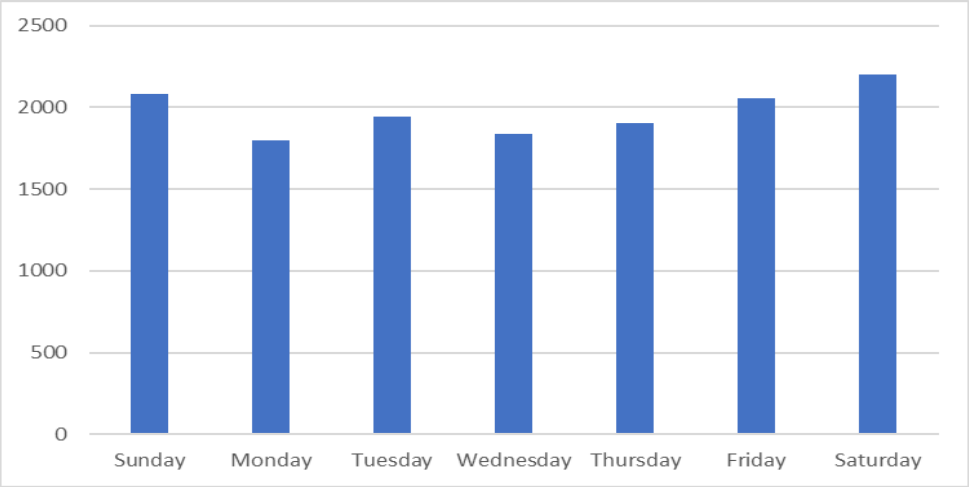
Figure 4. Month of emergency department/hospital arrival, 2021



WEEKDAY OF ARRIVAL TO ED/HOSPITAL

Saturdays and Sundays saw larger volumes of ED trauma cases (Figure 5).

Figure 5: Day of emergency department/hospital arrival, 2021



TIME TO ED/HOSPITAL ARRIVAL

Because patients with traumatic injuries need timely access to definitive care, the length of time between the injury incident and hospital arrival is an important indicator of trauma system quality. The distribution of KTR records by time from injury to hospital arrival and interfacility transfer status is presented in Table 11. Interfacility 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. Further complicating this analysis, the incident time is unknown in nearly half (44.94%) of cases. The absence of these indicators hinders efforts to assess the critical metric of timely transportation to definitive care for trauma patients.

Table 11. Time to emergency department/hospital arrival, 2021

Time to hospital	Interfacility transfer	
	Yes	No
<1 hour	11	1,748
1–2 hours	40	1,546
2–5 hours	647	600
5–12 hours	967	246
12–24 hours	185	143
24+ hours	372	412
Same day (exact incident time unknown)	1,519	4,423
Next day or later (exact incident time unknown)	526	343
Total	4,275	9,545

Note: Information on interfacility transfer is missing for 64 records.

ALCOHOL USE INDICATORS (2020 DATA)

(As alcohol and drug use indicators were missing from the large majority of 2021 records, 2020 data are provided as points of reference.)

Alcohol use was confirmed by test for 4,927 (35.71%) of all records (Table 12). Only 98 (0.71%) of cases were not tested for alcohol use.

Table 12. Alcohol use indicators, 2020

Alcohol use indicators	Number	%
No (confirmed by test)	8,774	63.58
Yes	4,927	35.71
Not documented	88	0.64
Missing	10	0.07
Total	13,799	100.00

DRUG USE INDICATORS (2020 DATA)

Illegal use of illicit or prescription drugs was confirmed in 3,283 (23.79%) of the records (Table 13). However, it is important to note that 59.74% of cases either were not tested for drug use or did not document whether testing was performed, so the extent of this relationship is unknown.

Table 13. Drug use indicators, 2020

Drug use indicators	Number	%
No (confirmed by test)	2,272	16.46
Yes (confirmed by test)	3,283	23.79
Not tested	458	3.32
Not documented	7,595	55.04
Missing	191	1.38
Total	13,799	100.00

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, more than two-thirds (63.72%) of trauma registry injuries were mild, 16.59% were moderate, 11.12% were severe, and 8.04% were very severe. ISS was missing for less than 1% of the records (Table 14).

Table 14. Records by Injury Severity Score, 2021

Injury Severity Score range	Category	Number	%
1–9	Mild	8,808	63.72
10–15	Moderate	2,293	16.59
16–24	Severe	1,537	11.12
25–75	Very Severe	1,110	8.04
Missing	Missing	76	0.55
Total		**13,824**	**100.00**

Table 15. Discharge type by facility, 2021

Facility	ED discharge	Inpatient discharge
	Number (% of type)	Number (% of type)
Ehpraim McDowell Regional Medical Center	207 (47.70)	227 (52.30)
Fort Logan Hospital	*	*
Frankfort Regional Medical Center	178 (37.16)	301 (62.84)
Harlan ARH	79 (42.25)	108 (57.75)
Harrison Memorial Hospital	*	*
Hazard ARH	62 (16.89)	305 (83.11)
Highlands Regional Medical Center	91 (83.49)	18 (16.51)
James B. Haggin Memorial Hospital	*	*
Kosair Children's Hospital	212 (21.07)	794 (78.93)
Livingston Hospital	27 (49.09)	28 (50.91)
Marcum Wallace Memorial Hospital	53 (100.00)	0 (0.00)
McDowell ARH Hospital	*	*
Methodist Hospital Union County	58 (74.36)	20 (25.64)
Middlesboro ARH Hospital	59 (86.76)	9 (13.24)
Morgan County ARH Hospital	35 (100.00)	0 (0.00)
Owensboro Medical Center	119 (11.00)	963 (89.00)
Pikeville Medical Center	126 (11.03)	1,016 (88.97)
Rockcastle Regional Hospital	*	*
Taylor Regional Medical Center	70 (82.35)	15 (17.65)
The Medical Center at Bowling Green	5 (4.24)	113 (95.76)
Tug Valley ARH Hospital	*	*
Twin Lake Regional Medical Center	60 (76.92)	18 (23.08)
University of Kentucky Children's Hospital	14 (2.94)	462 (97.06)
University of Kentucky Medical Center	135 (4.05)	3,202 (95.95)
University of Louisville Hospital	122 (2.89)	4,098 (97.11)
Whitesburg ARH Hospital	108 (93.10)	8 (6.90)
Total	**2,110 (15.26)**	**11,714 (84.74)**

*Counts greater than zero but less than five were suppressed in accordance with state data management policy.

EMERGENCY DEPARTMENT DISCHARGES

Over three-quarters (83.64%) of the ED records indicated discharge from the ED to a bed or operating room in the same hospital, while 10.48% were transferred to another hospital. Deaths are recorded for 228 (1.65%) of ED patients (Table 16). Typically, about one-eighth (12%) of Kentucky's deaths from traumatic injury occur at hospitals, while the balance of deaths occurs at the scene of the traumatic injury (see https://www.cdc.gov/injury/wisqars/fatal.html).

Table 16. Emergency department discharge disposition

	Number	%
Same hospital	11,562	83.64
Non-specialty unit bed	6,380	46.15
Operating room	2,433	17.60
Observation unit (<24-hour stays)	43	0.31
Intensive care unit	1,986	14.37
Telemetry/step-down unit	720	5.21
Died	228	1.65
Transferred to another hospital	1,449	10.48
Home with services	7	0.05
Home without services	368	2.66
Other (jail, institutional care, mental health, etc.)	8	0.06
Left against medical advice	34	0.25
Missing	168	1.22
Total	13,824	100.00

INPATIENT HOSPITAL DISCHARGES

Sixty-three percent 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 one-fourth (26.5%) required some kind of post-acute care. In-hospital deaths were recorded for 566 (4.84%) patients (Table 17).

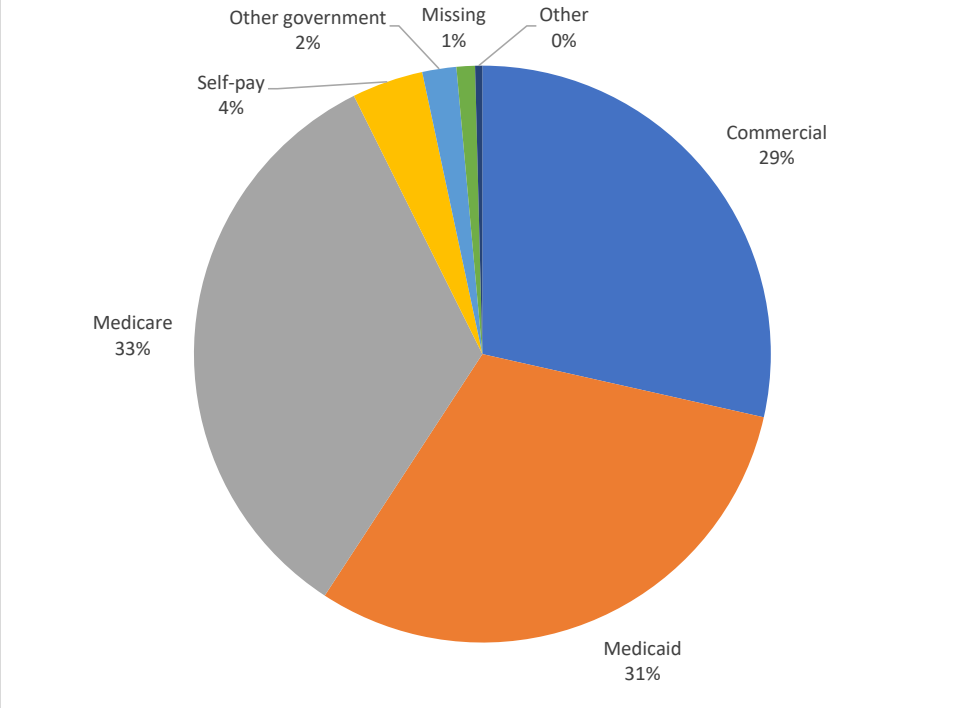
Table 17. Inpatient hospital discharge destination

	Number	%
Home with self-care	7,418	63.43
Home health	498	4.26
Inpatient rehab	1,511	12.92
Skilled nursing facility/ICF	1031	8.82
Died	566	4.84
Another acute care hospital	58	0.50
Other	365	3.12
Left against medical advice	55	0.47
Total	11,694	100.00

FINANCIAL INFORMATION

Among the encounters listing expected payer, Medicare (33.44%) was the leader, followed by Medicaid (30.69%) and commercial insurance (28.52%) (Figure 6). The proportion of "self-pay" (i.e., uninsured) patients in 2021, 4%, continues to reflect the impact of Medicaid expansion. The "self-pay" category was in the 40% range before 2014, when 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 has declined substantially. The expected source of payment was missing for 143 (1.03%) records.

Figure 6. Primary source of payment, 2021



CONCLUSION

As the proportion of Kentucky hospitals reporting to the Kentucky Trauma Registry grows, the registry will become more representative of major trauma in the state as a whole. In a voluntary system like Kentucky's, growth is inevitably slow. The state Trauma Advisory Council continues to work closely with candidate facilities as they progress toward state or national verification and designation. 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 a facility's 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 collaboration with investigators at the state's research universities and the Transportation Cabinet.

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. The system itself 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 policymakers repeatedly, including legislative committee testimony in July 2021. 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.

Acknowledgments

In addition to the 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.