KENTUCKY TRAUMA DATA BANK
2022 ANNUAL REPORT

DECEMBER 2023

Kentucky State Trauma System

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KENTUCKY INJURY PREVENTION AND RESEARCH CENTER

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FOREWORD

The Kentucky Trauma Data Bank (KTDB) 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 KTDB 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 data bank, 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 data bank data and provides a detailed profile of the traumatic injuries treated in the state's trauma facilities.

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INTRODUCTION

Kentucky law (Kentucky Revised Statutes [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 Data Bank (KTDB) as of October 2022 on trauma patients cared for at Kentucky trauma centers, both verified and in applicant status, during calendar year 2022. A list of these facilities appears on page 4.

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 Kentucky Trauma Data Bank 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 the KTDB 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 KTDB 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 KTDB data. Border areas are thus under-represented 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.

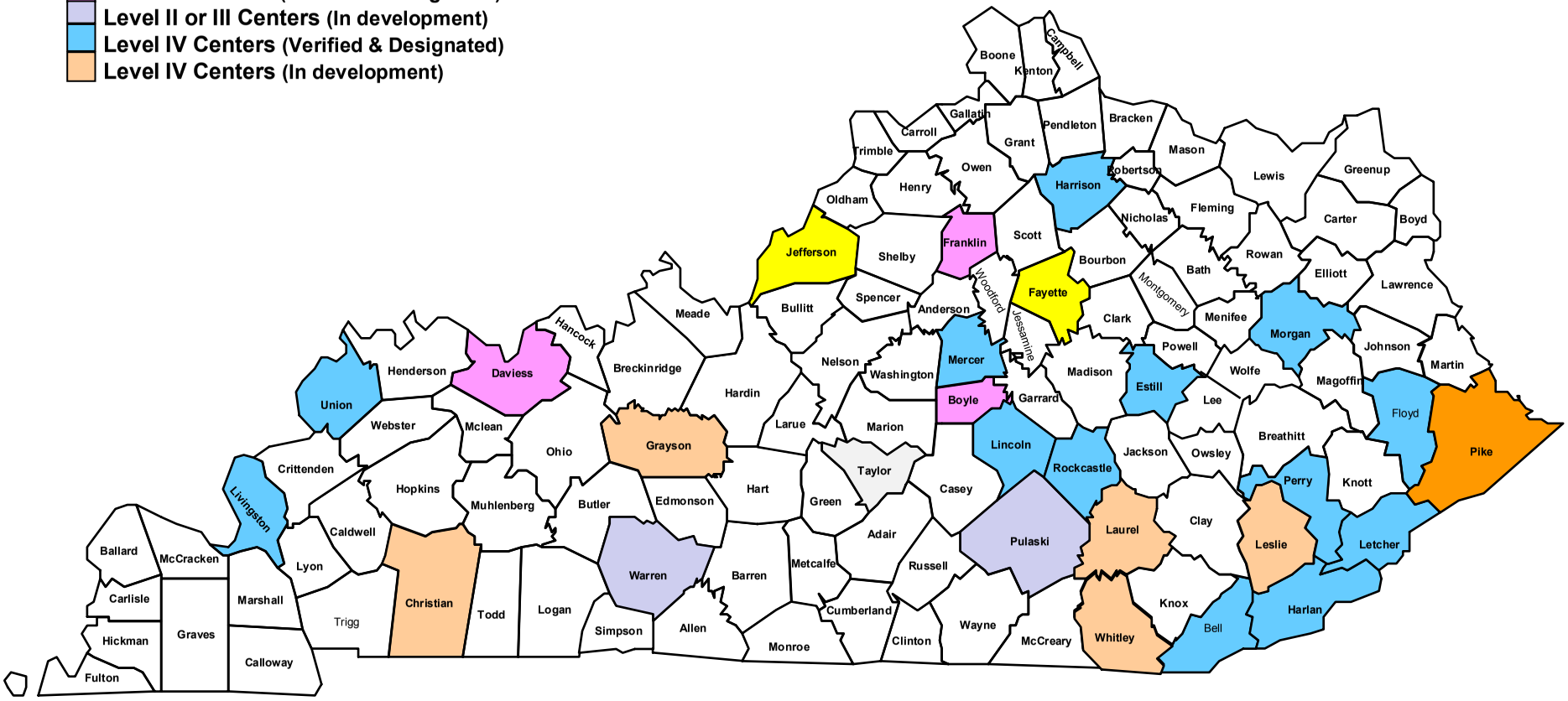
Kentucky's reporting trauma centers, 2022

Trauma Center	Designation/Status
1 Deaconess Union County Hospital (formerly Methodist Hospital Union County)	Level IV
2 Ephraim McDowell Fort Logan Hospital	Level IV
3 Ephraim McDowell James B. Haggin Memorial Hospital	Level IV
4 Ephraim McDowell Regional Medical Center	Level III
5 Frankfort Regional Medical Center	Level III
6 Harlan ARH Hospital	Level IV
7 Harrison Memorial Hospital	Level IV
8 Hazard ARH Hospital	Level IV
9 Highlands ARH Regional Medical Center	Level IV
10 Livingston Hospital	Level IV
11 McDowell ARH	Level IV in progress
12 Mercy Health Marcum Wallace Memorial Hospital	Level IV
13 Middlesboro ARH Hospital	Level IV
14 Morgan County ARH Hospital	Level IV
15 Norton Children's Hospital	Level 1 Pediatric
16 Owensboro Medical Center	Level III
17 Pikeville Medical Center	Level II
18 Rockcastle Regional Hospital	Level IV
19 St. Joseph London	Level III in progress
20 The Medical Center at Bowling Green	Level III in progress
21 Tug Valley ARH (formerly Williamson ARH)	Level IV
22 University of Kentucky—Children's	Level I Pediatric
23 University of Kentucky Medical Center	Level I
24 University of Louisville Hospital	Level I
25 Whitesburg ARH Hospital	Level IV

Hospitals in the Kentucky Trauma System

(November, 2023)

Level I Centers (Verified & Designated)
Level II & IV Centers (Verified & Designated)
Level III Centers (Verified & Designated)
Level II or III Centers (In development)
Level IV Centers (Verified & Designated)
Level IV Centers (In development)



Verified Trauma Centers

Level I - Pediatric – Norton Children's Hospital, Louisville
Level I - Pediatric – Kentucky Children's Hospital, Lexington
Level I - UK Chandler Hospital Lexington
Level I - University of Louisville Hospital, Louisville
Level II - Pikeville Medical Center
Level III - Ephraim McDowell Reg. Med. Center, Danville
Level III - Frankfort Regional Medical Center
Level III - Owensboro Health Regional Hospital

Level IV - Deaconess Union Co. Hospital, Morganfield
Level IV - Ephraim McDowell Fort Logan Hospital, Stanford
Level IV - Ephraim McDowell Haggin, Harrodsburg
Level IV - Harlan ARH Hospital, Harlan
Level IV - Harrison Memorial, Cynthiana
Level IV - Hazard ARH Hospital, Hazard, KY
Level IV - Highlands ARH Reg. Med. Center, Prestonsburg

Level IV - Livingston Hospital, Salem
Level IV - Mercy Marcum & Wallace Hospital, Irvine
Level IV - Middlesboro ARH
Level IV - Morgan Co. ARH, West Liberty
Level IV - Rockcastle Reg. Hospital, Mt. Vernon
Level-IV - Tug Valley ARH Reg. Med. Center
Level-IV - Whitesburg ARH Hospital

KENTUCKY TRAUMA DATA BANK RECORDS 2008–2022

The Kentucky Trauma Data Bank has grown from five reporting facilities in 2008 to 25 in 2022, although some smaller hospitals have left the trauma system in recent years. A total of 13,477 records were reported in 2022 (Table 1), more than double the 2008 total but a slight decrease from 2021.

Table 1. Records by reporting trauma center, 2022

Facility	Number
Deaconess Union County Hospital	85
Ephraim McDowell Fort Logan Hospital	4
Ephraim McDowell J. B. Haggin Memorial Hospital	23
Ephraim McDowell Regional Medical Center	428
Frankfort Regional Medical Center	502
Harlan ARH	178
Harrison Memorial Hospital	22
Hazard ARH	429
Highlands Regional Medical Center	81
Livingston Hospital	40
Marcum Wallace Memorial Hospital	31
McDowell ARH Hospital	1
Middlesboro ARH Hospital	124
Morgan County ARH Hospital	24
Norton Children's Hospital	638
Owensboro Medical Center	720
Pikeville Medical Center	1,091
Rockcastle Regional Hospital	19
St. Joseph London	349
The Medical Center at Bowling Green	60
Tug Valley ARH	133
University of Kentucky Children's Hospital	523
University of Kentucky Medical Center	3,718
University of Louisville Hospital	4,074
Whitesburg ARH	180
Total	13,477

SEX

Injuries to males comprised nearly 60% of KTDB 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. KTDB 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). Designation of sex was missing from 0.17% of records.

Table 2. Records by sex, 2022

Gender	Number	%
Female	5,624	41.73
Male	7,852	58.26
Nonbinary	1	0.01
Total	13,477	100.00

RACE/ETHNICITY

Most (87.82%) of the records reported treatment for white patients, reflecting Kentucky's largely white population, while 9.36% were for black patients (Table 3). Information on patient race was missing in less than 2% of cases, while a similar proportion was missing information on ethnicity.

Table 3. Records by race and ethnicity, 2022

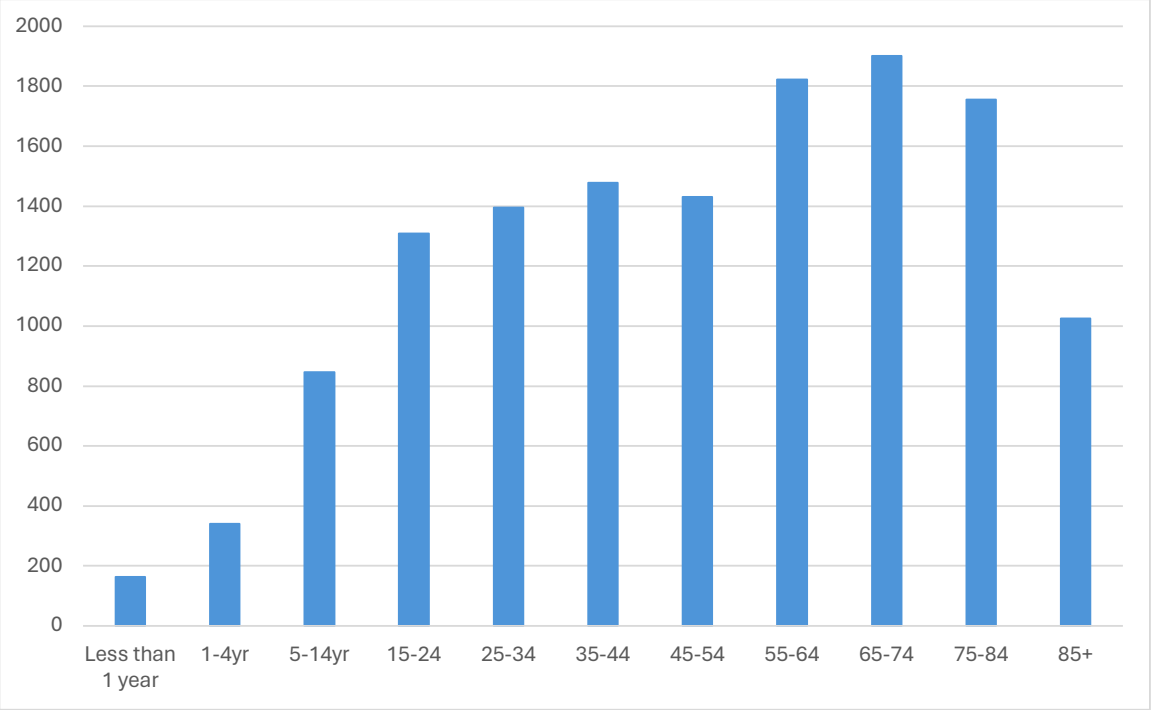
Race	Ethnicity				
Frequency	**Missing**	**Hispanic or Latino**	**Not Hispanic or Latino**	**Total**	**Percentage**
White	208	113	11,515	11,836	87.82%
Black or African American	15	9	1,238	1,262	9.36%
Other Race	6	119	49	174	1.29%
Missing	35	70	44	149	1.11%
Asian	0	0	43	43	0.32%
American Indian	*	*	12	13	0.10%
Total	264	312	12,901	13,477	

*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 54.62% of KTDB records are for adults under 65 years of age (Figure 1).

Figure 1. Records by age group, 2022



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 (22.66%) 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 (13.71%) of the total KTR records were for out-of-state patients.

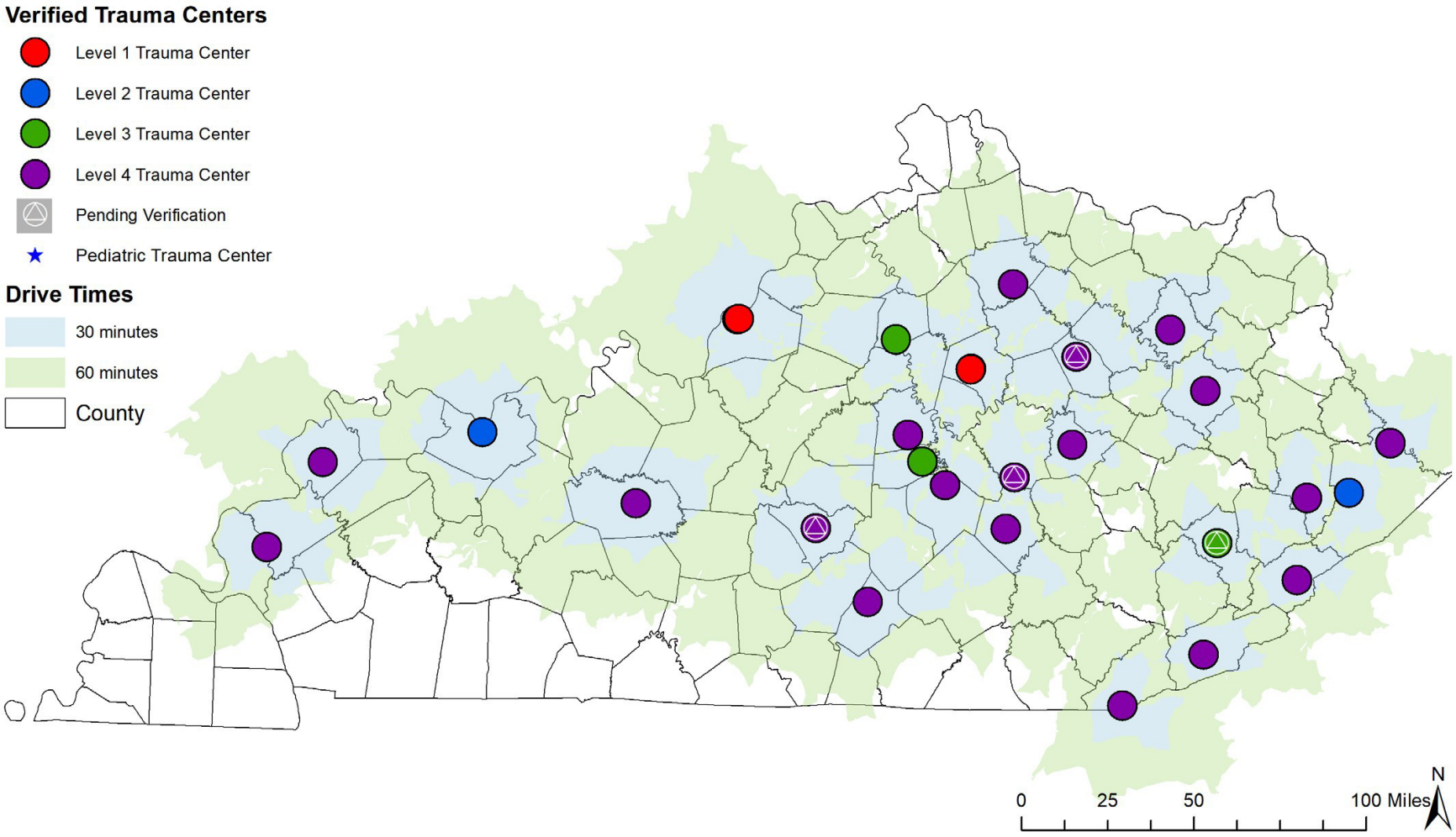
Table 4. Records by county of residence, 2022

Top 10 KY counties based on volume	Number	%
Jefferson	2,166	16.07
Fayette	888	6.59
Pike	547	4.06
Daviess	487	3.61
Franklin	401	2.98
Laurel	318	2.36
Perry	283	2.10
Boyle	258	1.91
Letcher	256	1.90
Madison	254	1.88
All other KY counties combined	5,771	42.82
Out-of-state residents	1,848	13.71

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

2022 Trauma Data Bank Facilities for Kentucky with 30- and 60-Minute Drive Time Coverage

KENTUCKY INJURY PREVENTION AND RESEARCH CENTER



WORK-RELATED CASES

Work-related trauma is defined as injury that occurs during paid employment. A total of 456 work-related trauma cases were recorded in the KTDB data set in 2022, an insignificant (0.1%) increase from cases reported in 2021. Falls were the most common cause of injury (Figure 2).

Figure 2. Work-related trauma records by cause of injury, 2022

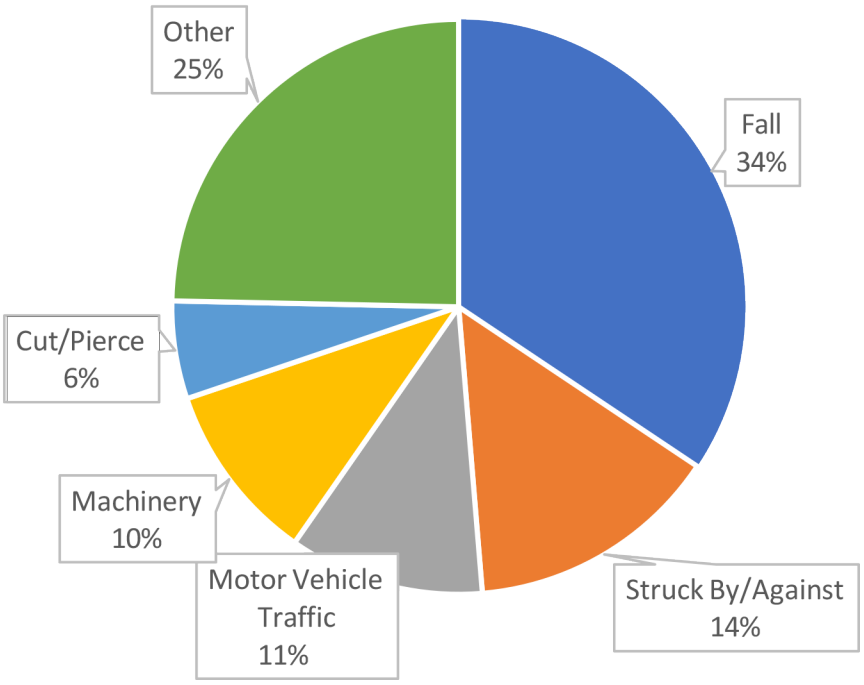


Table 5 shows the industry associated with the patient's work environment for work-related trauma records. Construction industry workers made up the largest single group at nearly a quarter of all work-related trauma, while service workers represented nearly one-fifth of work-related trauma in the KTDB.

Table 5. Work-related trauma records by industry, 2022

Industry	Number	%
Construction	112	24.56
Other Services	89	19.52
Transportation and Public Utilities	44	9.65
Manufacturing	35	7.68
Agriculture, Forestry, and Fishing	32	7.02
Natural Resources and Mining	28	6.14
Retail Trade	17	3.73
Government	15	3.29
Education and Health Services	11	2.41
Leisure and Hospitality	9	1.97
Professional and Business Services	6	1.32
Information Services	*	*
Finance, Insurance, and Real Estate	*	*
Wholesale Trade	*	*
Missing	51	11.18
Total	456	**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 (99.44%) of the records. Unintentional falls (n=5,952) and unintentional motor vehicle traffic collisions (n=3,601) were the leading causes of injuries reported to KTR (Table 6).

Table 6. Records by cause and intent of injury, 2022

Cause	Unintentional		Intentional		Other/ Undetermined		Total	
	N	%	N	%	N	%	N	%
Fall	5,952	49.00	10	0.86	10	10.64	5,972	44.56
Motor Vehicle Traffic	3,601	29.65	5	0.43	*	*	3,610	26.94
Firearm	167	1.37	535	46.08	54	57.45	756	5.64
Struck By/Against	375	3.09	270	23.26	6	6.38	651	4.86
Motor Vehicle Non- Traffic	515	4.24	0	0.00	0	0.00	515	3.84
Cut/Pierce	247	2.03	217	18.69	*	*	465	3.47
Fire/Flame	204	1.68	*	*	*	*	207	1.54
Other Land Transport	194	1.60	*	*	0	0.00	194	1.45
Other Specified	129	1.06	18	1.55	12	12.77	159	1.19
Hot Object/Substance	117	0.96	*	*	*	*	120	0.90
Bite/Sting	113	0.93	*	*	0	0.00	114	0.85
Machinery	113	0.93	0	0.00	0	0.00	113	0.84
Pedal Cyclist, Other	109	0.90	0	0.00	0	0.00	109	0.81
Child/Adult Abuse	0	0.00	94	8.10	0	0.00	94	0.70
Natural/ Environmental	84	0.69	0	0.00	0	0.00	84	0.63
Pedestrian, Other	82	0.68	0	0.00	0	0.00	82	0.61
Overexertion	60	0.49	0	0.00	0	0.00	60	0.45
Unspecified	48	0.40	*	*	*	*	51	0.38
Other Transport	17	0.14	0	0.00	0	0.00	17	0.13
Poisoning	9	0.07	0	0.00	*	*	10	0.07
Foreign Body	8	0.07	0	0.00	0	0.00	8	0.06
Suffocation	0	0.00	7	0.60	0	0.00	7	0.05
Drowning/Submersion	*	*	*	*	0	0.00	*	*
Total	12,146	90.64	1,161	8.66	94	0.70	13,401	100.00

*Counts greater than zero but less than five were suppressed in accordance with state data management policy.
76 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 (16.55%) 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 (74.75%) of all unintentional falls treated in trauma centers. Over one-third (38.67%) 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 (63.31%) of the assault injuries were to adolescents and young adults aged 15–44 (Table 7). Self-harm is a more common cause of death than of survivable injury in Kentucky.

Table 7. Records by age and major causes of injury, 2022

	Intention													
	Unintentional										Intentional			
	Mechanism													
	All Other Unintentional		Falls		Motor Vehicle		Other transport injuries		Struck By/Against		Self-Harm		Assault	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Age Group														
<1 year	25	1.92	60	1.01	6	0.15	*	.*	5	1.33	0	0	58	6.03
1-4yr	85	6.52	141	2.37	51	1.24	16	4.00	20	5.33	0	0	24	2.49
5-14yr	140	10.74	286	4.81	238	5.78	90	22.50	45	12.00	*	*	41	4.26
15-24	158	12.13	118	1.98	681	16.55	39	9.75	60	16.00	31	15.58	197	20.48
25-34	163	12.51	177	2.97	675	16.40	44	11.00	40	10.67	49	24.62	210	21.83
35-44	189	14.50	293	4.92	618	15.01	48	12.00	55	14.67	45	22.61	202	21.00
45-54	172	13.20	428	7.19	545	13.24	57	14.25	45	12.00	23	11.56	140	14.55
55-64	160	12.28	860	14.45	604	14.67	59	14.75	50	13.33	18	9.05	56	5.82
65-74	135	10.36	1,243	20.88	409	9.94	34	8.50	33	8.80	18	9.05	21	2.18
75-84	56	4.30	1,432	24.06	221	5.37	10	2.50	16	4.27	7	3.52	6	0.62
85+	20	1.53	914	15.36	68	1.65	*	*	6	1.60	*	*	7	0.73
All	1,303	100	5,952	100	4,116	100	399	100	375	100	199	100	962	100

*Counts greater than zero but less than five were suppressed in accordance with state data management policy. Motor vehicle injuries include both traffic and non-traffic injuries.

TRAFFIC COLLISION INVOLVEMENT

Among the motor vehicle traffic collision (MVTC) records, three-quarters (75.96%) were coded as vehicle occupants and 15.79% 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 8.09% of traffic-related trauma.

Table 8. Traffic collision involvement, 2022

Role in motor vehicle traffic collision	Number	%
Motor vehicle occupant	2,742	75.96
Motorcyclist	570	15.79
Pedal cyclist	60	1.66
Pedestrian	232	6.43
Unknown	*	*
Other	*	*
Total	3,610	100.00

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

PROTECTIVE DEVICES

There were 2,742 records for vehicle occupants injured in motor vehicle traffic collisions. The numbers in the table below reflect some entries where multiple protective devices were noted. Protective devices were not used in almost one-fifth (18.23%) of reported cases. Kentucky continues to fall well below national norms for use of motor vehicle occupant protective devices, and helmets are not mandated for motorcycle users.

Table 9. Use of occupant protective devices in motor vehicle traffic collisions (MVTCs), 2022

Protective device	Use of protective devices by occupants in MVTC	
	Number	%
Shoulder and lap belt	1,388	50.62
Shoulder belt only	20	0.73
Lap belt only	83	3.03
Child restraint	35	1.28
Airbag	1,793	65.50
No protective device used	498	18.23

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 ambulances were used in 776 (18.70%) of interfacility transfers and 955 (10.32%) of the non-transfer cases.

Table 10. Transportation mode, 2022

Table of Interfacility Transfer by Transportation Mode								
Transport Mode	**Interfacility Transfer**							
	Missing		**Yes**		**No**		**Total**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Ground Ambulance			3,045	22.59	6,267	46.50	9,312	69.10
Helicopter Ambulance			776	5.76	955	7.09	1,731	12.84
Private/Public Vehicle/Walk-in			320	2.37	1,982	14.71	2,302	17.08
Police			8	0.06	41	0.3	49	0.36
Missing	54	0.40			22	0.16	76	0.56
Other			0	0	7	0.05	7	0.05
Total	54	0.40	4,149	30.79	9,252	68.81	13,477	100.00

Data were missing for 54 cases.

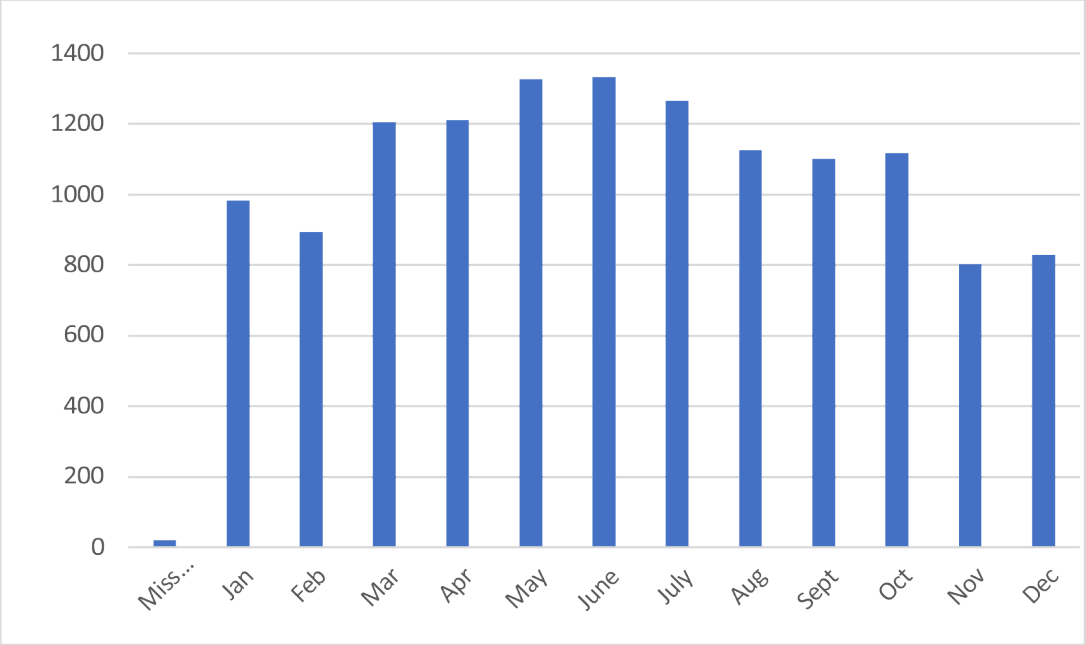
EMS Information

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=6,101) or air ambulance (n=953) (Table 10). Work is ongoing to integrate these data elements with future KTDB 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 2022 data (Figure 3).

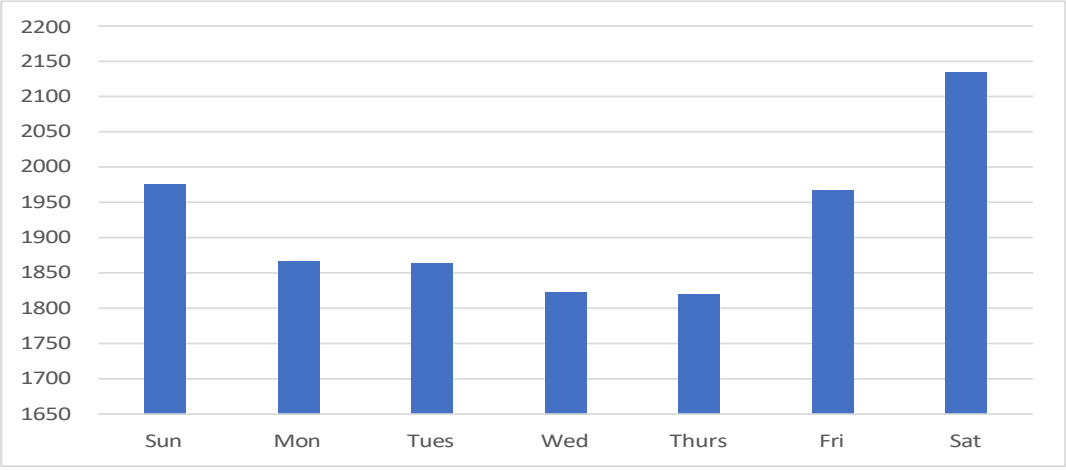
Figure 3. Month of emergency department/hospital arrival, 2022



WEEKDAY OF ARRIVAL TO ED/HOSPITAL

Saturdays and Sundays saw larger volumes of ED trauma cases (Figure 4).

Figure 4: Day of emergency department/hospital arrival, 2022



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 sys- tem 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 over half (55.29%) 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, 2022

Time to hospital	Interfacility transfer	
	Yes	No
<1 hour	*	1,414
1–2 hours	34	1,294
2–5 hours	575	514
5–12 hours	874	172
12–24 hours	177	130
24+ hours	377	413
Same day (exact incident time unknown)	1,510	4,977
Next day or later (exact incident time unknown)	598	309
Total	4,149	9,223

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

Information on interfacility transfer is missing for 83 records. Information on time to hospital is missing for 22 records.

ALCOHOL USE INDICATORS (2020 DATA)

Alcohol use data has been missing since EMS records became fully electronic in 2020. In that year, alcohol use was confirmed by test for 4,927 (35.71%) of all records (Table 12) and only 98 (0.71%) of cases were not tested for alcohol use. Efforts to recapture alcohol use data are ongoing.

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, nearly two-thirds (63.36%) of trauma registry injuries were mild, 16.93% were moderate, 11.04% were severe, and 7.55% were very severe. ISS was missing for 1.11% of the records (Table 14).

Table 14. Records by Injury Severity Score, 2022

Injury Severity Score Range	Category	Number	%
1-9	Mild	8,539	63.36
10-15	Moderate	2,282	16.93
16-24	Severe	1,488	11.04
25-75	Very Severe	1,018	7.55
Missing	Missing	150	1.11
Total		13,477	100.00

Table 15. Discharge type by facility, 2022

Facility	Discharged				
	ED Discharge		Inpatient Discharge		Total
	N	%	N	%	
Deaconess Union County Hospital	69	3.46	16	0.14	85
Ephraim McDowell Regional Medical Ctr.	196	9.82	232	2.03	428
Fort Logan Hospital	*		*		*
Frankfort Regional Medical Center	199	9.97	303	2.65	502
Harlan ARH	51	2.56	127	1.11	178
Harrison Memorial Hospital	Missing		Missing		22
Hazard ARH	51	2.56	378	3.3	429
Highlands Regional Medical Center	68	3.41	13	0.11	81
James B. Haggin Memorial Hospital	23	1.15	0	0	23
Livingston Hospital	22	1.1	18	0.16	40
Marcum Wallace Memorial Hospital	30	1.5	*		31
McDowell ARH Hospital	*		0	0	*
Middlesboro ARH Hospital	99	4.96	25	0.22	124
Morgan County ARH Hospital	24	1.2	0	0	24
Norton Children's Hospital	85	4.26	553	4.83	638
Owensboro Medical Center	111	5.56	609	5.32	720
Pikeville Medical Center	138	6.92	953	8.32	1,091
Rockcastle Regional Hospital	19	0.95	0	0	19
St. Joseph-London	128	6.42	221	1.93	349
The Medical Center at Bowling Green	0	0	60	0.52	60
Tug Valley ARH	133	6.67	0	0	133
Univ of Kentucky Children's Hospital	21	1.05	502	4.38	523
Univ of Kentucky Medical Center	227	11.38	3,489	30.46	3,716
Univ of Louisville Hospital	149	7.47	3,921	34.23	4,070
Whitesburg ARH	148	7.42	32	0.28	180
Total	1,995	100	11,454	100	13,471

*Counts greater than zero but less than five were suppressed in accordance with state data management policy.
28 cases were missing discharge information.

EMERGENCY DEPARTMENT DISCHARGES

The large majority (86.11%) of ED records indicated discharge from the ED to a bed or operating room in the same hospital, while 10.21% were transferred to another hospital. Deaths are recorded for 163 (1.22%) of ED patients (Table 16). In total, about 5% of Kentucky's 2022 deaths from traumatic injury occurred at hospitals, while the balance of deaths is at the scene of the traumatic injury.

Table 16. Emergency department discharge disposition, 2022

ED Discharge Disposition	No.	%
Floor bed (general admission, nonspecialty unit bed)	6,090	45.79
Left against medical advice	15	0.11
Transferred to another hospital	1,358	10.21
Observation unit (unit that provides < 24-hour stays)	59	0.44
Telemetry/step-down unit (less acuity than ICU)	768	5.77
Home with services	*	0.02
Died	163	1.22
Other (jail, institutional care, mental health, etc.)	8	0.06
Operating Room	2,555	19.21
Intensive Care Unit (ICU)	1,982	14.90
Home without services	300	2.26
Total	13,300	100

*Counts greater than zero but less than five were suppressed in accordance with state data management policy.
155 cases were missing information on emergency department discharge disposition. 22 cases were missing information about type of discharge.

INPATIENT HOSPITAL DISCHARGES

Over half (53.34%) 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 nearly one-fourth (24.57%) required some kind of post-acute care. In-hospital deaths were recorded for 478 (3.62%) patients (Table 17).

Table 17. Inpatient hospital discharge destination, 2022

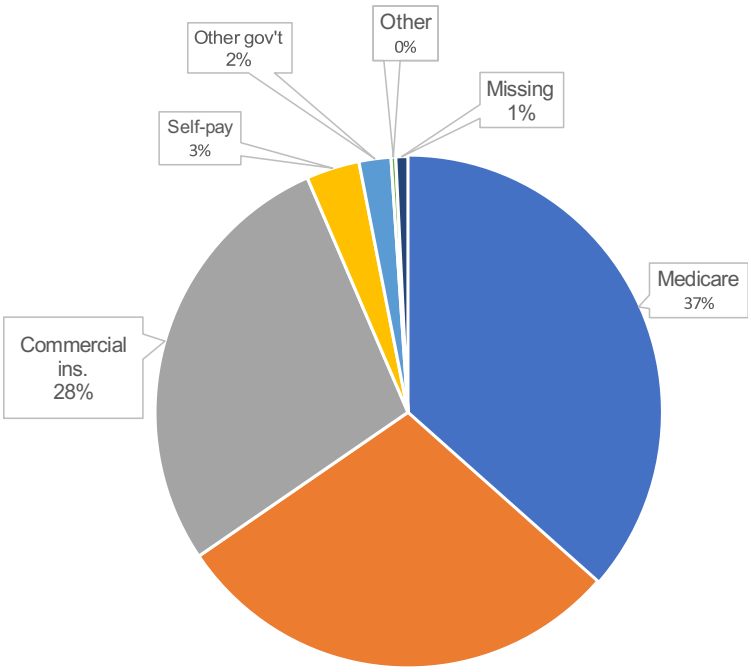
Discharge Destination	Number	%
Home with self-care	7,039	53.34
Home health	601	4.55
Inpatient rehab	1,621	12.28
Skilled nursing facility/ICF	967	7.33
Died	478	3.62
Another acute care hospital	54	0.41
Other	502	4.39
Left against medical advice	175	1.33
Total	11,437	100.00

17 inpatient cases had missing information on hospital discharge disposition. 22 cases were missing information about type of discharge.

FINANCIAL INFORMATION

Among the encounters listing expected payer, Medicare (36.61%) was the leader, followed by Medicaid (28.88%) and commercial insurance (28.04%) (Figure 6). The proportion of "self-pay" (i.e., uninsured) patients in 2022, 3.41%, 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 81 (0.6%) records.

Figure 5. Primary source of payment, 2022



CONCLUSION

As the proportion of Kentucky hospitals reporting to the Kentucky Trauma Data Bank grows, the data bank 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 Committee leadership 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 KTDB as well as the compilation of this report and other initiatives. We look forward to increasing the value of KTDB data for systemwide 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 2022. 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 Committee leadership and our grant funders, KTDB facilities' trauma registrars have worked diligently to assure continuous quality improvement for KTDB data as well as trauma care across the state.