

Trauma Care Advisory Council

Trauma Care in Tennessee

2024 Report to the 114th General Assembly

Tennessee Health Facilities Commission
Trauma Care Advisory Council
December 19, 2024

AUTHORSHIP

Regan Williams, MD, MS, FACS, FAAP
Associate Professor of Surgery and Pediatrics
University of Tennessee Health Science Center
Le Bonheur Childrens Hospital
Chair, Trauma Care Advisory Council
Chair, Tennessee Committee on Trauma

Robert E. Seesholtz, MHA, BSN, RN, EMT-P
Trauma System Director
Tennessee Health Facilities Commission

Britani Ford, BSN, RN, EMT, CEN, CCRN, TCRN
Assistant Trauma System Director
Tennessee Health Facilities Commission

Table of Contents

Page

Overview	Letters to the General Assembly.....	4
	Executive Summary.....	6
System Components	Trauma Center Funding.....	9
	Readiness Cost Survey.....	11
	Trauma Registry.....	11
	Research.....	11
Appendices	I: Trauma Center Locations.....	12
	II: Trauma Registry Reports.....	14
	III: Trauma Fund Distribution 2023.....	22
	IV: Research Publication Listing.....	27



State of Tennessee
Health Facilities Commission

502 Deaderick Street, 9th Floor, Nashville, TN 37243

www.tn.gov/hsda Phone: 615-741-2364

December 19, 2024

Dear Members of the General Assembly,

As required by Tenn. Code Ann §68-59-103, we are pleased to submit our Annual Trauma Report. This report reflects activities and accomplishments of the Trauma Care Advisory Council (TCAC) and Tennessee's designated Trauma Hospitals.

The Trauma Care Advisory Council implemented in 1990 advises the Licensing Health Care Commission and other interested state Boards about the regulatory standards to ensure the adequacy of statewide trauma care. Rule promulgation is guided by national standards.

In 2007, the General Assembly enacted the Trauma Fund Law, providing valuable but limited financial resources to support and maintain Tennessee's statewide Trauma System. We appreciate the legislatures recent recognition of the need to financially bolster our statewide system and offer this report as evidence of not only that need but of the TCAC's ability to be sagacious in spending to solely benefit our fellow citizens.

The data in this publication give an overview of patients cared for in Tennessee designated Trauma Centers and Comprehensive Regional Pediatric Centers. Our state has seen a remarkable growth in number of and level of trauma centers and state-wide system development. Only with your ongoing support, can the TCAC continue to expand access to and assure quality trauma care for all injured Tennesseans.

Respectfully Submitted,

Regan F. Williams, MD, MS, FACS, FAAP
Associate Professor of Surgery and Pediatrics, UTHSC
Le Bonheur Children's Hospital
Chair, Trauma Care Advisory Council
Chair, Tennessee Committee on Trauma



State of Tennessee
Health Facilities Commission

502 Deaderick Street, 9th Floor, Nashville, TN 37243
www.tn.gov/hsda Phone: 615-741-2364

December 19, 2024

Cordell Hull Building
425 Rep. John Lewis Way North
Nashville, TN 37243

Dear Members of the General Assembly:

The Health Facilities Commission is pleased to distribute the Annual Trauma Report prepared by the Tennessee Trauma Care Advisory Council (TCAC) pursuant to Tennessee Code Annotated § 68-59-103. TCAC is devoted to expanding access and quality trauma care for injured Tennesseans. The Health Facilities Commission is particularly grateful to TCAC Chairman Dr. Regan Williams and HFC Trauma System Director Rob Seesholtz for their report on these efforts.

The Health Facilities Commission receives guidance from TCAC on the regulatory standards for adequacy of state-wide trauma care. This report accurately details the activities and accomplishments of TCAC and its assistance to Tennessee's designated Trauma Centers.

Through the support of the General Assembly, the Health Facilities Commission strives to continually improve the delivery of valuable healthcare services in the state of Tennessee.

Logan Grant

Sincerely,
Logan Grant

Executive Director
Health Facilities Commission

CC: Dr. Regan Williams
Rob Seesholtz

2023 EXECUTIVE SUMMARY

Over calendar year 2023, 46,344 patients received care in a state designated trauma center or a Comprehensive Regional Pediatric Center (CRPC) due to a trauma-related injury. After COVID, traumatic injuries and resource consumption stabilized in Tennessee. The trend of patients managed in centers designed to improve the care of the injured has risen over the last nine (9) years, as has the designation of new centers. Such growth and institutional commitment drive a reduction in potential years of life lost, and increases return to family, work, and community. Despite our state-wide system continues growing, the volume of many injuries remains underreported as patients are treated in non-trauma hospitals.

Tennessee Trauma centers not only provide expert care but promote outreach and prevention. In addition, trauma centers are responsible for maintaining trauma center designation and for promoting excellence to ensure optimal care of the injured. Our trauma centers provided care for Tennesseans from every county in the state, as well as patients from nearly every state in the continental US. With the help of the Tennessee Committee on Trauma and other state agencies, the Trauma Care Advisory Council (TCAC), has been focusing on prevention of both pediatric and adult causes of trauma, teen suicide and seatbelt use, to helmet use, along with fall prevention in the elderly. TCAC is diligently working to understand the economics of trauma care and its benefits for the citizens and state of Tennessee.

TCAC was established in 1990, to promote trauma care policy and regulation. Currently, Tennessee has six (6) Level I trauma centers, ten (10) Level III centers, and one (1) Level IV center (newly designated as of 2024), for a total of seventeen (17) adult centers. There are an associated four (4) Comprehensive Regional Pediatric Centers (CRPC), treating those injured under the age of 16. TCAC constantly reviews the designation rules and integrates the verification process of the American College of Surgeons Committee on Trauma to assess the programs at the highest national standard for trauma care. TCAC has also provided support to the Committee on Pediatric Emergency Care (CoPEC) to update the rules for pediatric trauma. Two (2) of the CPRCs and three (3) of the adult Level 1 centers have been verified by the American College of Surgeons Verification Committee of the Committee on Trauma in addition to holding state designation, and the other centers are in the process of verification to keep Tennessee at the forefront of best trauma practice.

Low energy falls in our older citizens is the number one cause of trauma admission and mortality. The admissions and death rates continue to climb as our population ages, accounting for greater than 50% of admissions in several trauma centers. Unfortunately, motor vehicle crashes (MVCs) remain lethal and are the second highest cause fatality rate in the state. Gun-related suicide deaths continues to overshadow homicides at a rate of 2 to 1 at both the state and national level. These are urgent issues we as Tennesseans need desperately to address, and

members of TCAC have focused on these issues locally.

This report provides information on not only injury patterns across the state, referral patterns, but also financial statistics. Other key aspects of this report include Injury Prevention actions and statewide research efforts – defining the outreach and prevention missions throughout our system. It is the goal of the TCAC to target future outreach and prevention activities through data from the state registry and to continually strive to improve patient outcomes through an array of performance improvement initiatives, research activities, and outcomes-based evidence research. Many centers have devised programs to educate the elderly on fall risk. The ‘Stop the Bleed’ education is perhaps the flagship program and continues to be actively taught so bystanders to any traumatic event know a simple method to stop active hemorrhage and alert the trauma system. The efforts of the trauma programs have led to the education of countless individuals across the state, such as school nurses, teachers, Scouts, first responders and many members of the legislature and state offices.

This report also reflects the ongoing effort of the Trauma Centers as dedicated to caring for the injured patient. As the number of trauma centers and patients continues to increase in the state, we believe the efforts of TCAC are focused to improve the outcomes of our citizens across the entire state. We are aware that there are areas of the state that remain outside the contiguous counties of the major metropolitan areas that are not within easy reach of a designated trauma center. We continue to advocate for formal universal system designation of all hospitals as Level I, II, III or IV, ensuring not just to capture data, but assuring the highest possible level of trauma care for all Tennesseans, in a state-wide system. To create this system, state dedicated funding remains desperately needed to preserve the infrastructure to grow the smaller, rural hospitals in our state and to improve our trauma system beyond that of our neighboring states, especially in the face of rising costs to centers and decreasing revenue to the Trauma Fund.

Lastly, the income and disbursement of the Trauma Fund monies is reported. The Trauma Fund, designated by the Trauma Center Funding Law of 2007, allocates funds for Trauma Center readiness, for uncompensated care for all eligible hospitals, and to support a state-wide, multidisciplinary Trauma Symposium, focusing on the latest improvements in trauma care. The TCAC, state Committee on Trauma and all the participants of the state trauma system appreciate the legislature’s recent efforts, but frankly much more is needed. The TCAC realized the responsibility of spending taxpayers’ money and has demonstrated a keen concern to spending judiciously and demonstrating not only the need but providing a mechanism to show fiduciary responsibility. A formal survey was conducted to assess readiness cost for each trauma center in Tennessee. Readiness costs represent the investment each trauma center makes to “Stand Ready” to care for injured Tennesseans at any moment. We hope this survey will help the General Assembly to continue to grow funding for the Tennessee Trauma System.

With your ongoing support and endorsement, we cannot just continue but grow our mission of providing the highest level of care, injury prevention, education, and research to minimize the death and disability occurring because of injury across the state of Tennessee. As the Chair of the TCAC and TN Committee on Trauma and working alongside Rob Seesholtz and the many other members of the state team, I marvel every day at their selfless dedication to the care of the injured in Tennessee.

Regan Williams, MD, MS, FACS, FAAP.
Chair, Trauma Care Advisory Council
Chair, Tennessee Committee on Trauma

TRAUMA SYSTEM FUNDING

With the passage of the Tennessee Trauma Center Funding Law of 2007, the Trauma Care Advisory Council was charged with developing recommendations on how to distribute Trauma System Fund reserves. In keeping with the intent of the statute, three (3) broad categories for disbursement were identified:

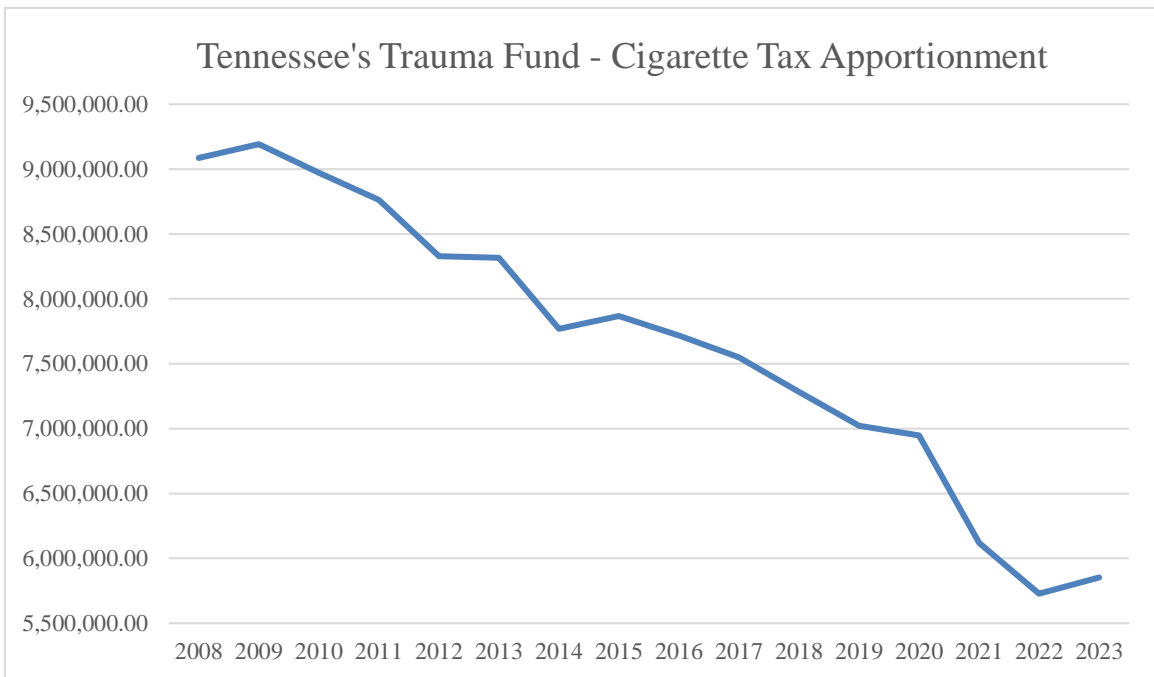
1. Money to support the **trauma system infrastructure** at the state level:
 - The State Trauma System Director is responsible for providing general oversight for Tennessee’s system of trauma care. Responsibilities include oversight of Tennessee’s trauma fund, trauma registry, administrative support to the Trauma Care Advisory Council, and the coordination of site visits for new and existing trauma centers. To address the growing needs of Tennessee’s trauma system, Britani Ford has been hired as the new Assistant Trauma System Director and is tasked with the coordination of the site review process, trauma registry, and data abstractions.
2. **Readiness costs** to designated trauma centers and comprehensive regional pediatric centers:
 - Tennessee trauma centers and CRPC’s are ready at a moment’s notice to treat those suffering from traumatic injury and are required to maintain life critical services 24 hours a day, 7 days a week, 365 days a year. While readiness costs disbursed from the trauma fund cannot realistically compensate centers for all their costs, readiness funds help to ensure that these necessary life critical services are maintained. Readiness cost amounts for state designated trauma centers and CRPC’s are found in **Appendix III**.
3. Money for **uncompensated care**:
 - The trauma funding law provides for uncompensated care funding to be distributed to: 1) designated trauma centers; 2) comprehensive regional pediatric centers; and 3) other acute care hospitals functioning as a part of the trauma system.
 - Distribution to eligible hospitals is based on: 1) the level of funding within the reserve account following infrastructure and readiness costs; and 2) the documented level of each hospital’s uncompensated trauma cost. Though this amount will vary from year to year, at the end of 2023, trauma fund disbursements totaled \$5,852,412.07 to eligible facilities. **Appendix III** shows quarterly payments made to eligible hospitals for calendar year 2023.

Trauma Fund disbursement totals have seen a steady decline since the fund’s inception. Since then, the trauma fund has decreased over \$3.2 million dollars. In 2023, trauma centers and CRPC’s saw \$4.4 billion in billed hospital charges making finding alternative sources of funding a priority to ensure the viability of Tennessee’s Trauma System.

Trauma Fund Disbursement Totals Since Inception

	Calendar Year	Trauma Fund Disbursement Totals
*Start of Trauma Fund	2008	\$9,086,822.57
	2009	\$9,192,013.69
	2010	\$8,973,548.13
	2011	\$8,762,345.31
	2012	\$8,328,132.57
	2013	\$8,316,610.13
	2014	\$7,768,758.15
	2015	\$7,867,741.77
	2016	\$7,717,970.86
	2017	\$7,548,708.50
	2018	\$7,283,384.96
	2019	\$7,022,767.11
	2020	\$6,946,577.34
	2021	\$6,120,234.30
	2022	\$5,727,920.14
	2023	\$5,852,412.07

\$3,234,410.50 below initial disbursement when trauma fund started



READINESS COST SURVEY

In May 2024, the TCAC was pleased to present its first readiness cost survey of Tennessee’s trauma centers and CRPC’s to members of the General Assembly. The data contained in the report are the costs needed to satisfy the regulatory requirements required to be a trauma center in Tennessee and involved the participation of fourteen (14) trauma centers and four (4) CPRCs.

The chart below indicates the results of this survey and is based on 2022 data which reflects trauma center readiness cost ranges and averages. Readiness costs have not been updated since the trauma funds passage in 2007. The purpose of this survey is to determine how to adjust readiness cost funding for trauma centers and CPRC’s and to articulate how expensive this vital service is to you and our fellow Tennesseans.

Trauma Center	Low Amount	High Amount	Average
Level I & II	\$13,430,746	\$25,851,277	\$20,585,135
CRPC	\$805,177	\$7,149,316	\$4,353,621
Level III	\$870,166	\$10,647,165	\$3,758,885

In fiscal year 2022-2023, the General Assembly allocated \$5 million dollars in reoccurring monies to Tennessee’s trauma fund in addition to the regular cigarette tax apportionment allocated to the fund. These newly appropriated funds help to bolster funding that has seen a reduction in funding year after year since its inception. This will help to provide greatly needed funding to trauma centers and comprehensive regional pediatric centers that are responsible for treating the most critically injured Tennesseans and visitors to our state.

TRAUMA REGISTRY

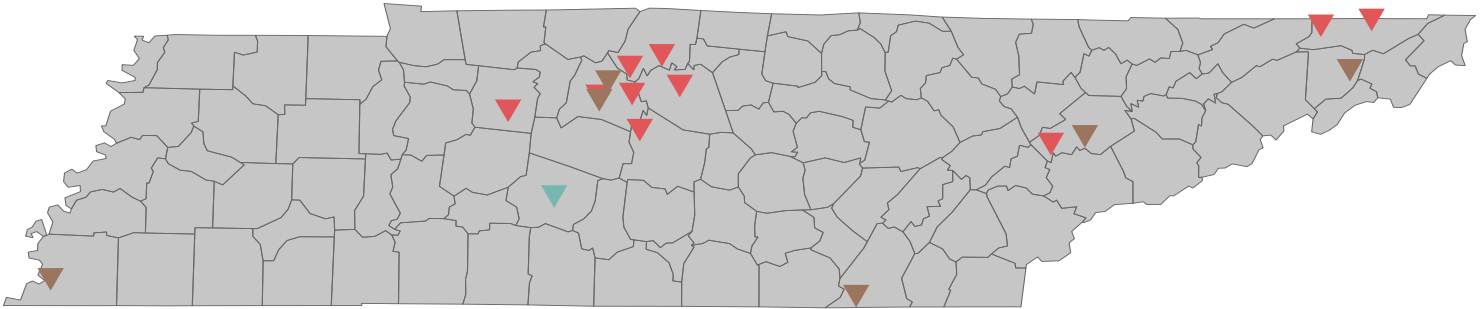
The Tennessee Trauma Registry is the data repository for patients presenting for care at Tennessee’s seventeen (17) participating trauma centers and four (4) CRPC’s. The registry allows for an in-depth review of injury related codes, comorbidities, and complications to better determine the consequences of trauma in Tennessee. Contained registry reports represent injuries sustained and related hospital admissions in 2023 with additional volume trend reporting that includes the ten (10) years prior.

RESEARCH

Level 1 trauma centers are charged with performing research. These endeavors allow ongoing improvements in trauma care on a continuous basis. **Appendix IV** represents a sample of these state-wide research publication efforts.

Appendix I:

Current Adult Trauma Center Locations & Level of Designation



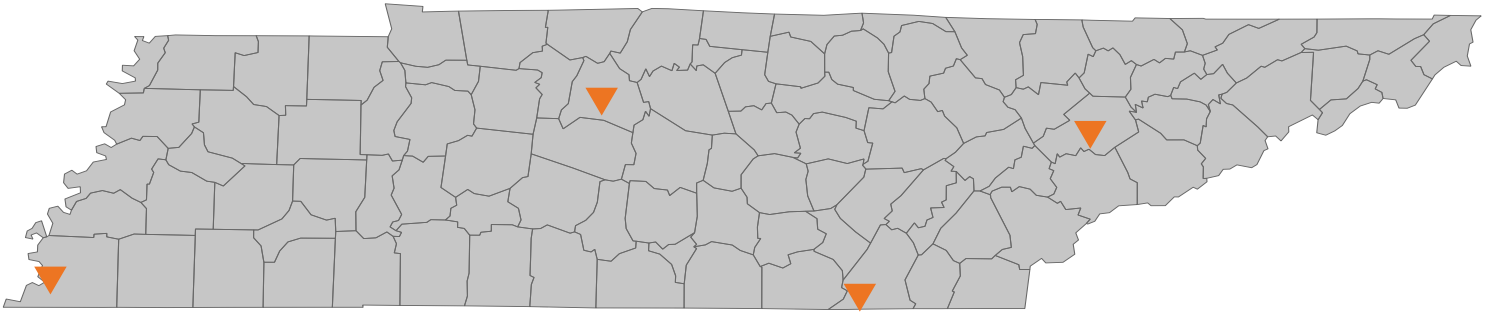
I	Erlanger Medical Center*	975 E 3rd St Chattanooga TN 37403
I	Johnson City Medical Center	400 N State of Franklin Rd Johnson City TN 37604
I	Regional One Health	877 Jefferson Ave Memphis TN 38103
I	University of Tennessee Medical Center*	1924 Alcoa Hwy Knoxville TN 37920
I	Vanderbilt University Medical Center*	1211 Medical Center Dr Nashville TN 37232
I	TriStar Skyline Medical Center	3441 Dickerson Pike Nashville TN 37207
III	Bristol Regional Medical Center	1 Medical Park Blvd Bristol TN 37620
III	Holston Valley Medical Center	130 W Ravine Rd Kingsport TN 37660
III	Sumner Regional Medical Center	555 Hartsville Pike Gallatin TN 37066
III	TriStar Stonecrest Medical Center	200 StoneCrest Boulevard Smyrna TN 37167
III	TriStar Horizon Medical Center	111 U.S.70 Dickson TN 37055
III	TriStar Summit Medical Center	5655 Frist Blvd Hermitage TN 37076
III	TriStar Hendersonville Medical Center	355 New Shackle Island Rd Hendersonville TN 37075
III	Tennova Healthcare - Turkey Creek Medical Center	10820 Parkside Dr Knoxville TN 37934
III	Vanderbilt Wilson County Hospital	1411 W Baddour Pkwy Lebanon TN 37087
III	Metropolitan Nashville General Hospital	1818 Albion St Nashville TN 37208
IV	Maury Regional Medical Center	1224 Trotwood Ave Columbia TN 38401

*The following facilities have also been verified as a Level I Trauma Center through the American College of Surgeons:

- Erlanger Medical Center
- University of Tennessee Medical Center
- Vanderbilt University Medical Center

Appendix I:

Comprehensive Regional Pediatric Center Locations



Monroe Carell Jr. Children's Hospital*	2200 Children's Way Nashville TN 37232
East Tennessee Children's Hospital	2018 W Clinch Ave Knoxville TN 37916
LeBonheur Children's Hospital*	848 Adams Ave Memphis TN 38103
Children's Hospital at Erlanger Medical Center	910 Blackford St Chattanooga TN 37403

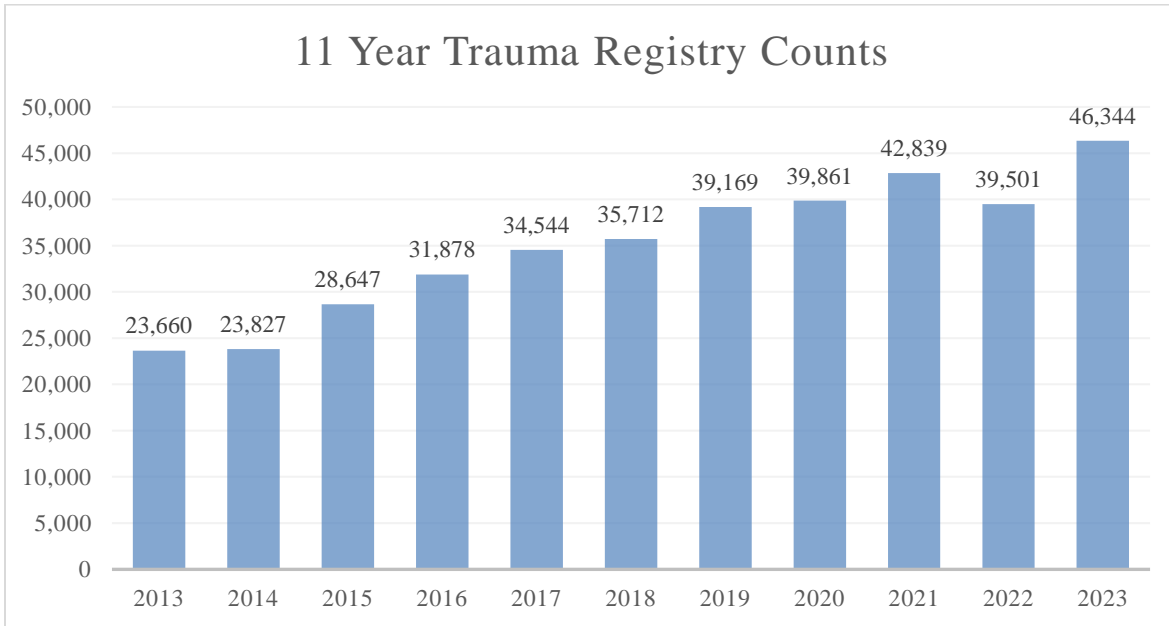
*The following facilities have also been verified as a Level I Pediatric Trauma Center through the American College of Surgeons:

- Le Bonheur Children's Hospital
- Monroe Carell Jr. Children's Hospital at Vanderbilt

**Appendix II:
2023 Trauma Registry Reports**

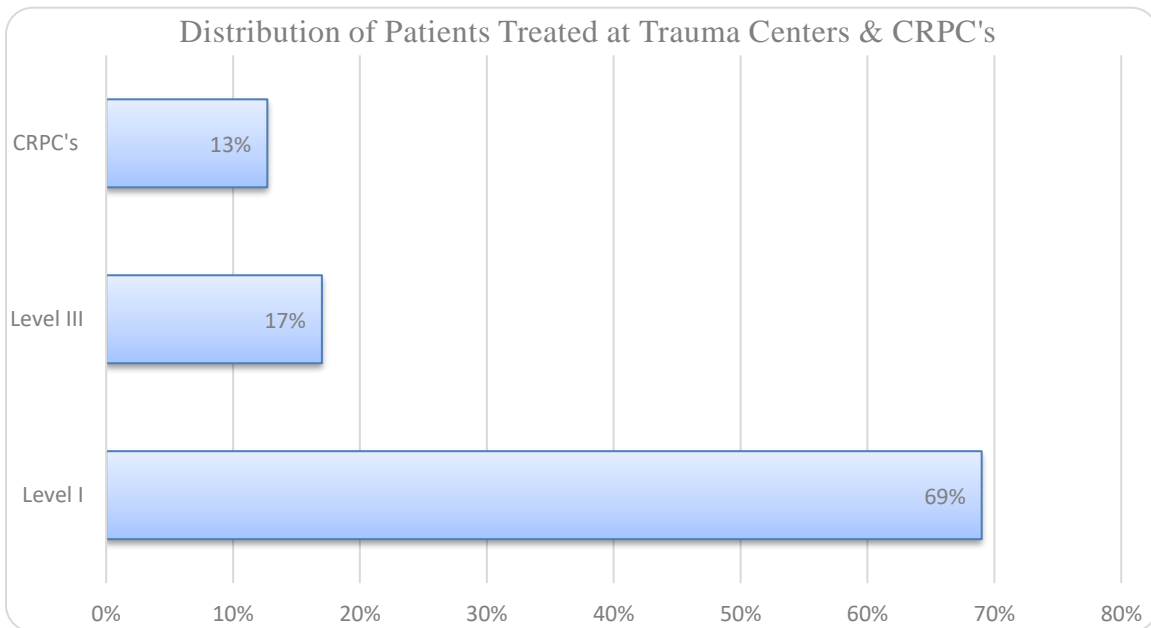
Figure 1a:	11 year trauma registry counts 2013 - 2023.....	15
1b:	Injury Distribution by Facility Level	
Figure 2a:	Patient Counts by Payor Source	16
2b:	Admission Services	
Figure 3a:	Patient Counts by Gender.....	17
3b:	Patient Counts by Age Group and Gender	
Figure 4:	Patients Treated by State of Residence.....	18
Figure 5a:	Patient Counts by Ambulance Transport Mode	19
5b:	Patient Counts by Top Causes of Injury	
Figure 6a:	Patient Counts by Hospital Disposition.....	20
6b:	Patient Counts by Emergency Department Disposition	
Figure 7a:	Injury Severity Scores.....	21
7b:	Fatalities by Age Range	

Figure 1a:



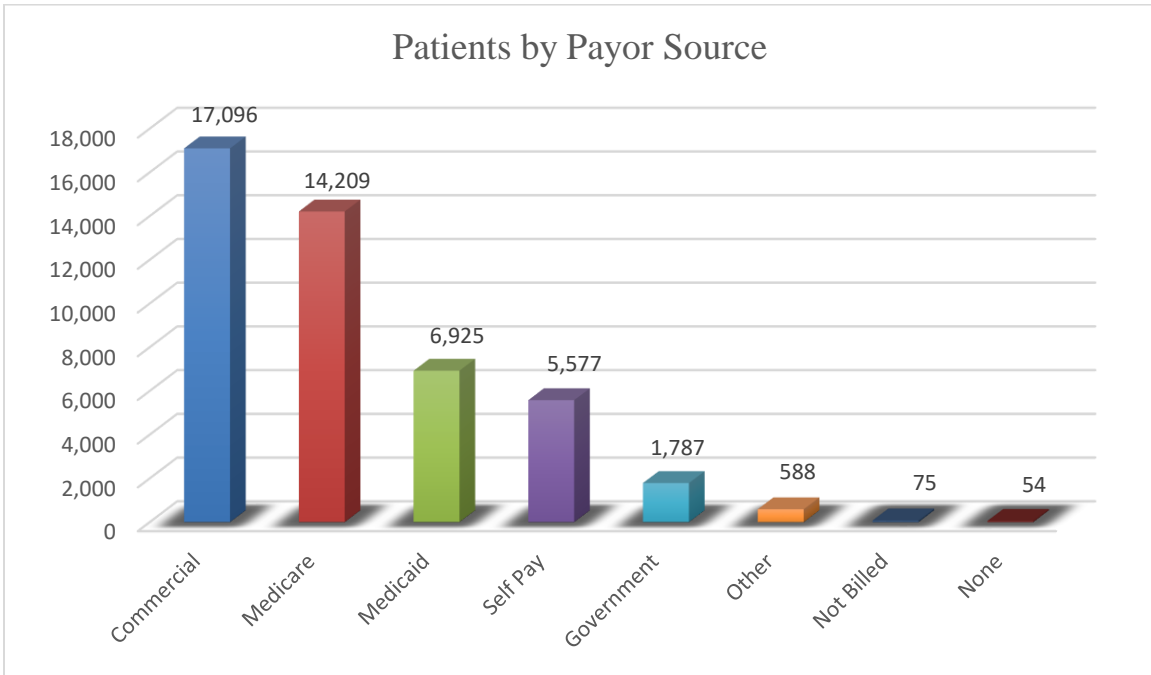
In 2023, 46,344 patients were entered in the state trauma registry due to meeting inclusion criteria related to traumatic injury. The growth pattern of traumatic injury patient totals recorded in the registry since 2013 is shown above.

Figure 1b:



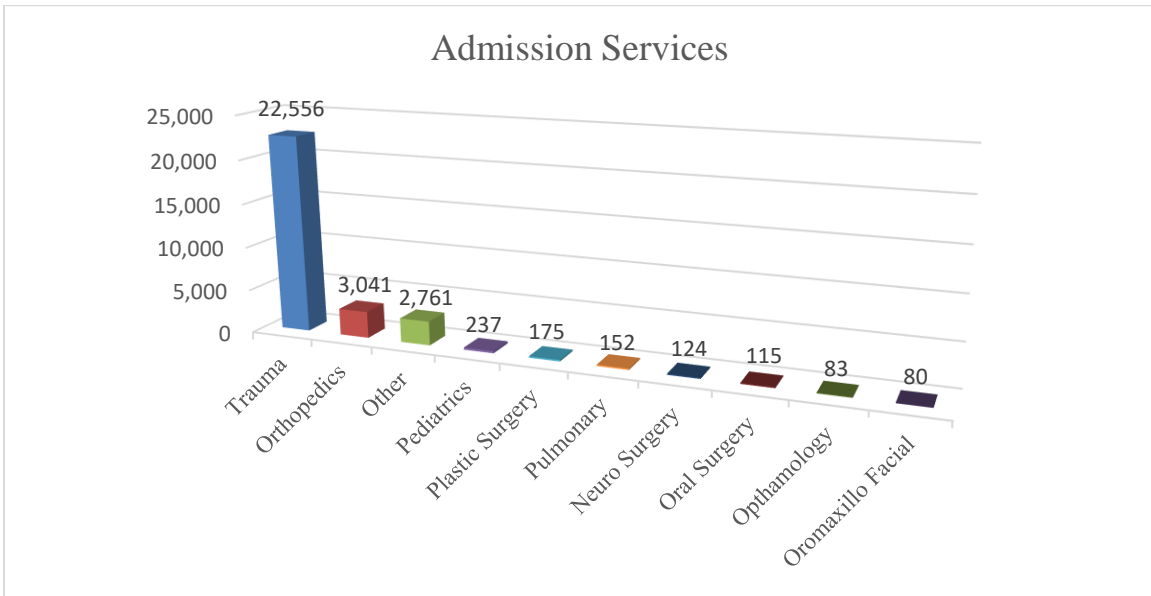
The chart above reflects the distribution of patients who received care at trauma centers and CRPC's for calendar year 2023. **Level II data has been included in Level I counts due to the recent Level I designation by the only Level II in TN**

Figure 2a:



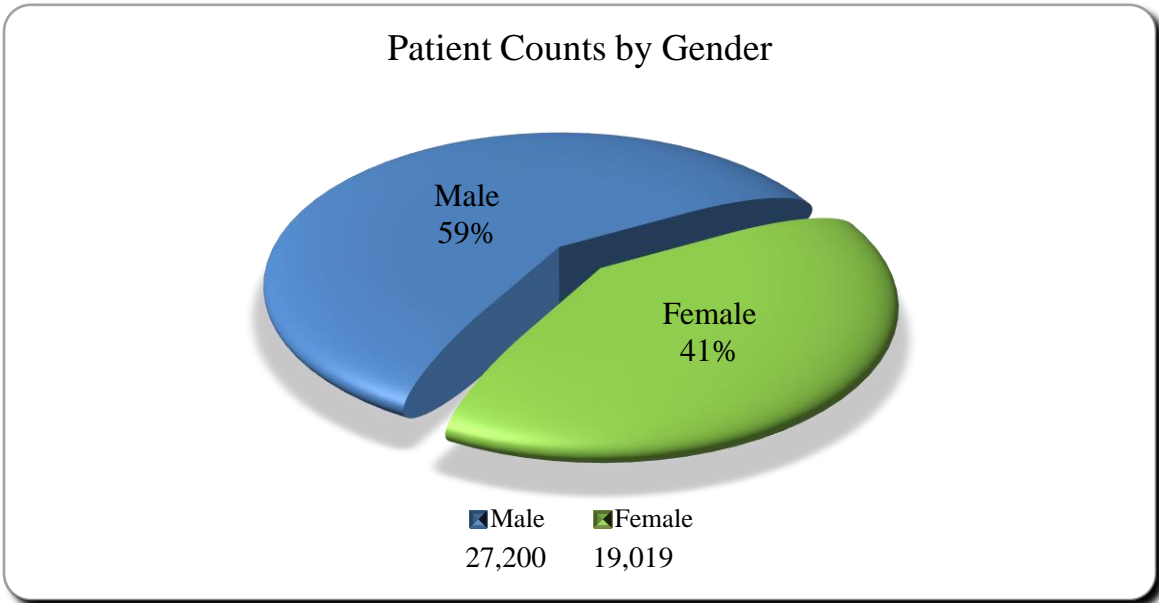
Commercial Insurance continues as the number one payor source for those receiving care at a trauma center or CRPC in 2023.

Figure 2b:



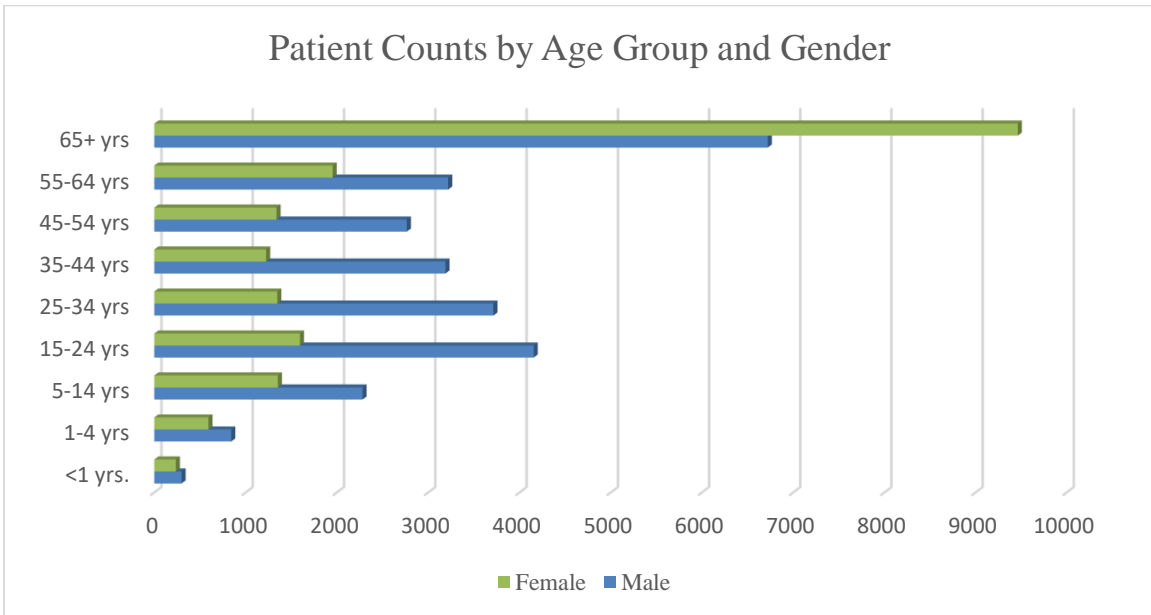
The graph above reflects the top 10 admission services utilized when being admitted for a traumatic injury.

Figure 3a:



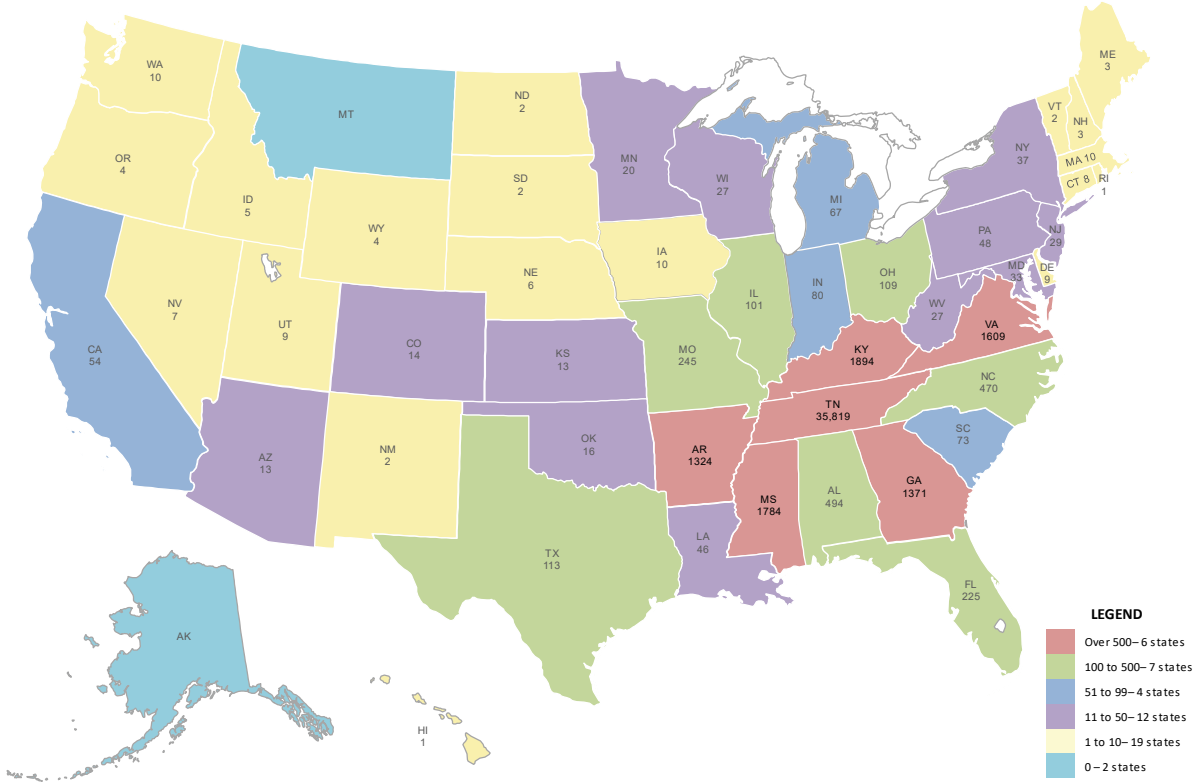
59% of all patients treated at a Tennessee trauma center or CRPC were male.

Figure 3b:



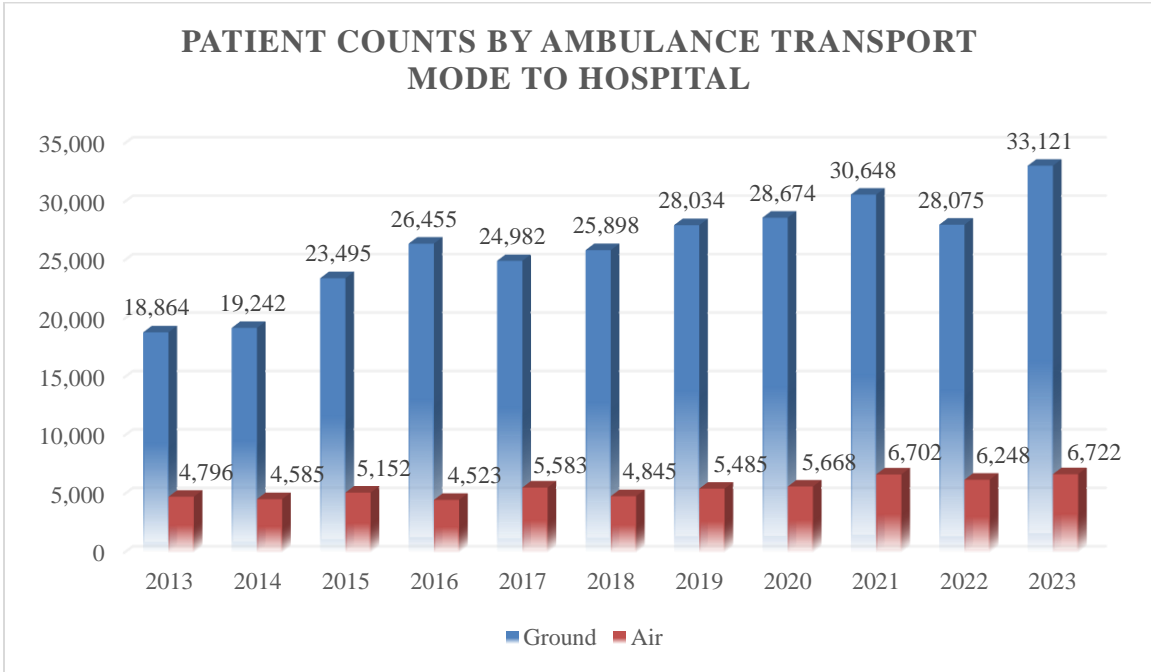
The information above is reflective of traumatic injury patient counts by age and gender for 2023.

Figure 4:
Trauma Patients Treated in Tennessee Trauma Centers and CRPC's by State of Residence in 2023



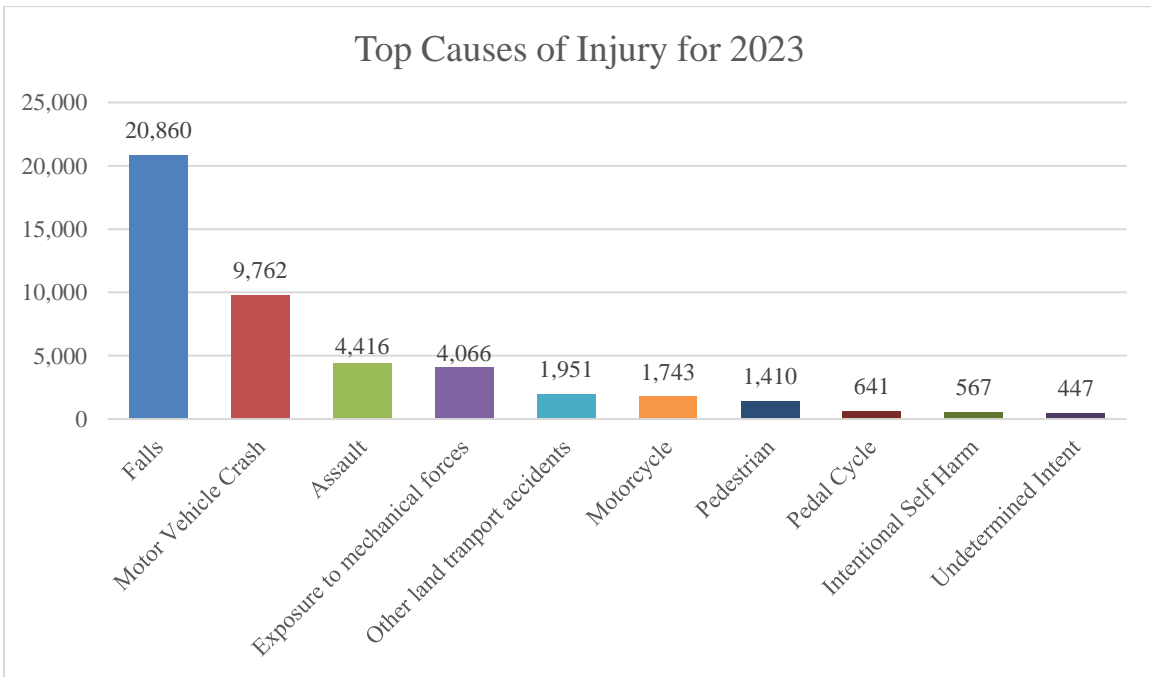
77% of all trauma cases treated in Tennessee trauma centers or CRPC's were Tennesseans (35,819); 23% of all cases (10,525) were residents of other states.

Figure 5a:



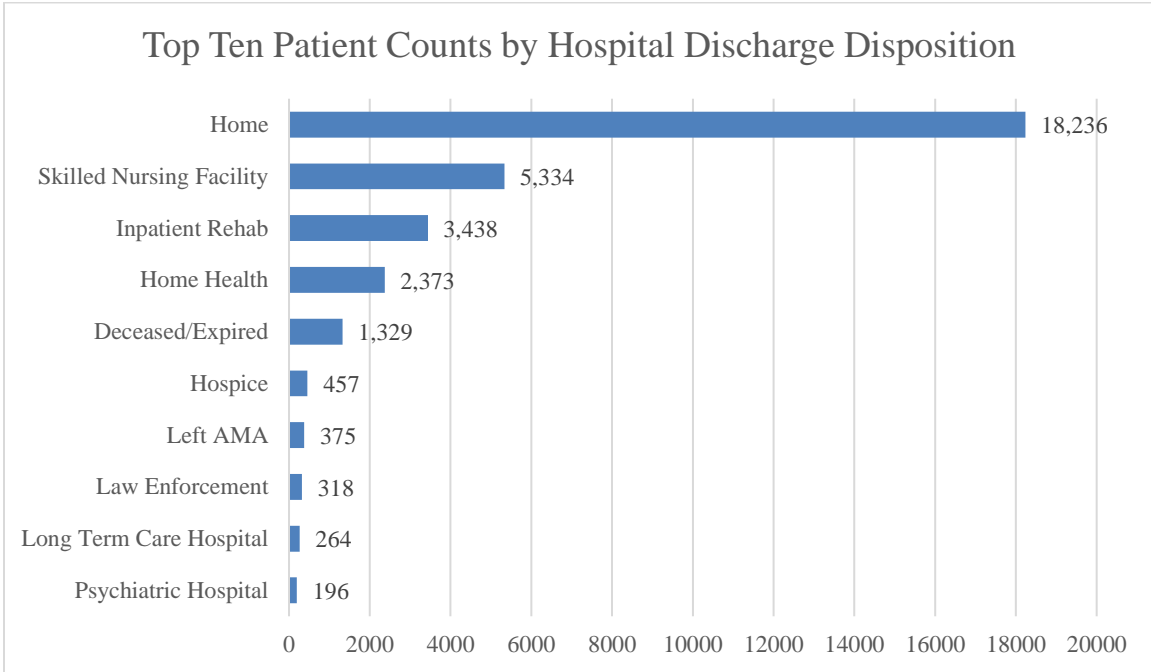
Patient transports by ground and air to a trauma center or CRPC have shown an increase for calendar year 2023.

Figure 5b:



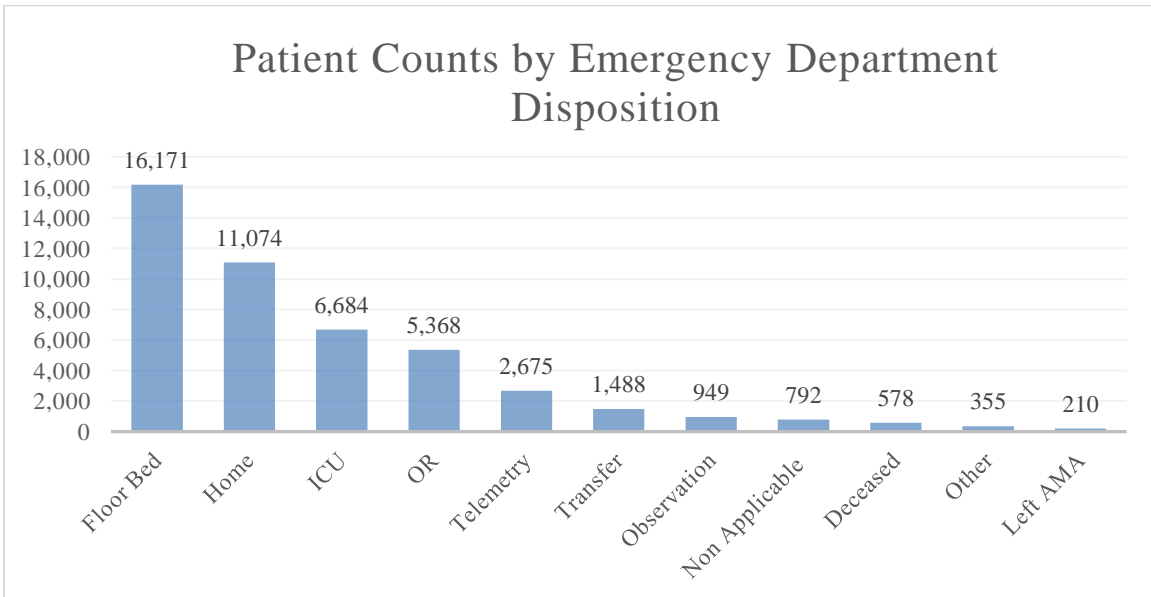
The graph above reflects the top 10 causes of injury for seeking care at a trauma center or CRPC in 2023.

Figure 6a:



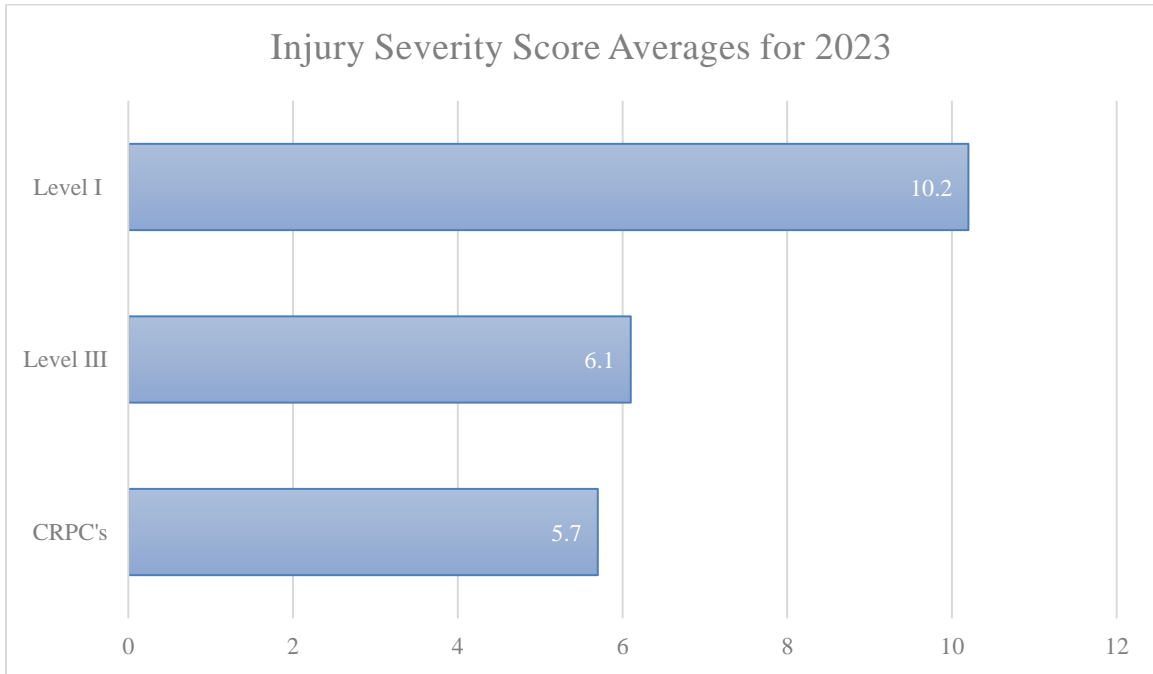
39% of patients admitted to a trauma facility in 2023 were discharged back to their home after hospital admission. 12% were admitted into a skilled nursing facility upon hospital discharge and approximately 3% of patients had an outcome of death.

Figure 6b:



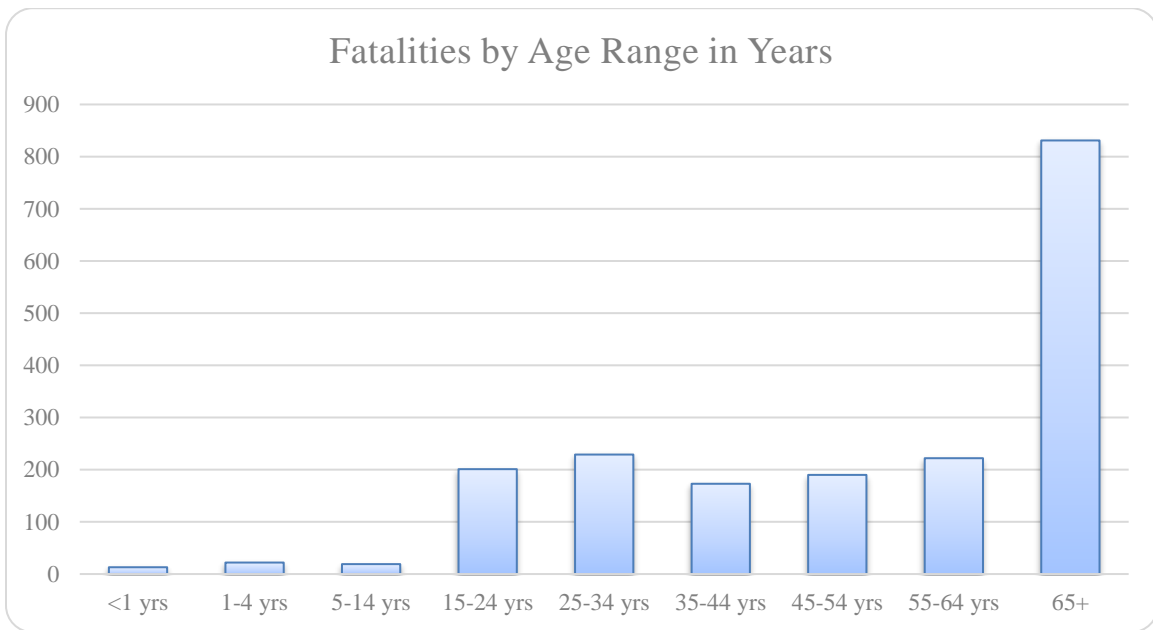
Most patient were admitted to a floor bed based on their Emergency Department discharge disposition in 2023.

Figure 7a:



Injury Severity Score (ISS) is a score used to assess trauma severity. The higher the number, the more severe the injuries. Major trauma is commonly defined using an ISS of 15.

Figure 7b:



The chart above is reflective of 2023 trauma registry fatalities separated into their respective age groups.

**Appendix III:
2023 Trauma Fund Distribution**

**FUNDS DISTRIBUTED TO TRAUMA CENTERS AND NON-TRAUMA CENTERS
FROM TENNESSEE TRAUMA FUND - 2023 - 1st QUARTER DISTRIBUTION**

Level	Hospital Name	Hospital Specific Pool Payment	Readiness Costs	Total Hospital Distribution Payment
	TOTAL	\$713,360.76	\$855,500.00	\$1,568,860.76
Lev 1	Vanderbilt University Medical Center	\$256,433.56	\$153,250.00	\$409,683.56
Lev 1	Regional One Health	\$217,104.66	\$97,250.00	\$314,354.66
Lev 1	Erlanger Medical Center	\$45,146.78	\$153,250.00	\$198,396.78
Lev 1	The University of Tennessee Medical Center	\$56,519.78	\$102,250.00	\$158,769.78
Lev 1	Johnson City Medical Center	\$39,921.96	\$72,500.00	\$112,421.96
Lev 2	TriStar Skyline Medical Center	\$43,937.03	\$37,750.00	\$81,687.03
CRPC	Lebonheur Childrens Hospital	\$3,227.27	\$64,250.00	\$67,477.27
CRPC	East Tennessee Childrens Hospital	\$207.83	\$51,000.00	\$51,207.83
Lev 3	Bristol Regional Medical Center	\$5,717.62	\$15,500.00	\$21,217.62
Lev 3	Holston Valley Medical Center	\$5,233.50	\$15,500.00	\$20,733.50
Lev 3	TriStar Summit Medical Center	\$3,210.47	\$15,500.00	\$18,710.47
Lev 3	TriStar Horizon Medical Center	\$1,018.33	\$15,500.00	\$16,518.33
Lev 3	TriStar StoneCrest Medical Center	\$939.19	\$15,500.00	\$16,439.19
Lev 3	Sumner Regional Medical Center	\$619.61	\$15,500.00	\$16,119.61
Lev 3	TriStar Hendersonville Medical Center	\$511.96	\$15,500.00	\$16,011.96
Lev 3	Tennova Healthcare Turkey Creek Medical Center	\$463.10	\$15,500.00	\$15,963.10
	Baptist Memorial Hospital	\$6,399.35		\$6,399.35
	Methodist Healthcare - Memphis Hospitals	\$5,045.96		\$5,045.96
	Erlanger North Hospital	\$3,642.76		\$3,642.76
	Methodist Hospital - North	\$2,586.42		\$2,586.42
	Jackson - Madison County General Hospital	\$2,202.48		\$2,202.48
	Saint Thomas Rutherford Hospital	\$1,887.99		\$1,887.99
	Maury Regional Hospital	\$1,378.87		\$1,378.87
	Cookeville Regional Medical Center	\$1,254.41		\$1,254.41
	Parkwest Medical Center	\$1,096.95		\$1,096.95
	Parkridge Medical Center, Inc.	\$1,000.29		\$1,000.29
	Williamson Medical Center	\$970.94		\$970.94
	Saint Thomas West Hospital	\$932.93		\$932.93
	TriStar Southern Hills Medical Center	\$910.28		\$910.28
	Memorial Healthcare System	\$910.01		\$910.01
	LeConte Medical Center	\$712.08		\$712.08
	Tennova Healthcare - North Knoxville	\$704.09		\$704.09
	Memorial Hospital Hixson	\$425.26		\$425.26
	Baptist Memorial Hospital - Collierville	\$289.35		\$289.35
	Saint Francis Hospital - Bartlett	\$187.60		\$187.60
	Cumberland Medical Center, Inc.	\$167.65		\$167.65
	Morristown - Hamblen Healthcare System	\$164.34		\$164.34
	Tennova Healthcare - Jefferson Memorial Hospital	\$145.25		\$145.25

	Vanderbilt Wilson County Hospital	\$132.84		\$132.84
--	-----------------------------------	----------	--	----------

**FUNDS DISTRIBUTED TO TRAUMA CENTERS AND NON-TRAUMA CENTERS
FROM TENNESSEE TRAUMA FUND - 2023 - 2nd QUARTER DISTRIBUTION**

Level	Hospital Name	Hospital Specific Pool Payment	Readiness Costs	Total Hospital Distribution Payment
	TOTAL	\$478,999.36	\$855,500.00	\$1,334,499.36
Lev 1	Regional One Health	\$188,911.82	\$97,250.00	\$286,161.82
Lev 1	Vanderbilt University Medical Center	\$125,820.60	\$153,250.00	\$279,070.60
Lev 1	Erlanger Medical Center	\$30,331.47	\$153,250.00	\$183,581.47
Lev 1	The University of Tennessee Medical Center	\$45,225.62	\$102,250.00	\$147,475.62
Lev 1	Johnson City Medical Center	\$19,039.52	\$72,500.00	\$91,539.52
CRPC	Lebonheur Childrens Hospital	\$3,992.67	\$64,250.00	\$68,242.67
Lev 2	TriStar Skyline Medical Center	\$26,137.94	\$37,750.00	\$63,887.94
CRPC	East Tennessee Childrens Hospital	\$0.00	\$51,000.00	\$51,000.00
Lev 3	Bristol Regional Medical Center	\$4,772.82	\$15,500.00	\$20,272.82
Lev 3	Holston Valley Medical Center	\$3,415.37	\$15,500.00	\$18,915.37
Lev 3	TriStar StoneCrest Medical Center	\$1,294.45	\$15,500.00	\$16,794.45
Lev 3	TriStar Horizon Medical Center	\$1,257.06	\$15,500.00	\$16,757.06
Lev 3	TriStar Summit Medical Center	\$746.13	\$15,500.00	\$16,246.13
Lev 3	Sumner Regional Medical Center	\$446.68	\$15,500.00	\$15,946.68
Lev 3	TriStar Hendersonville Medical Center	\$358.35	\$15,500.00	\$15,858.35
Lev 3	Tennova Healthcare Turkey Creek Medical Center	\$298.71	\$15,500.00	\$15,798.71
	Baptist Memorial Hospital	\$7,335.72		\$7,335.72
	Erlanger North Hospital	\$5,026.38		\$5,026.38
	Methodist Healthcare - Memphis Hospitals	\$4,793.13		\$4,793.13
	Vanderbilt Wilson County Hospital	\$1,471.70		\$1,471.70
	Jackson - Madison County General Hospital	\$1,082.10		\$1,082.10
	Tennova Healthcare- Clarksville	\$971.46		\$971.46
	Williamson Medical Center	\$834.59		\$834.59
	Memorial Healthcare System	\$806.27		\$806.27
	Methodist Hospital - North	\$673.65		\$673.65
	Maury Regional Hospital	\$631.01		\$631.01
	Saint Thomas West Hospital	\$594.70		\$594.70
	LeConte Medical Center	\$589.84		\$589.84
	Parkridge Medical Center, Inc.	\$534.77		\$534.77
	Cookeville Regional Medical Center	\$408.39		\$408.39
	Saint Francis Hospital - Bartlett	\$404.07		\$404.07
	Blount Memorial Hospital	\$288.79		\$288.79
	Tennova Healthcare - North Knoxville	\$243.38		\$243.38
	Parkwest Medical Center	\$153.16		\$153.16
	Morristown - Hamblen Healthcare System	\$107.01		\$107.01

**FUNDS DISTRIBUTED TO TRAUMA CENTERS AND NON-TRAUMA CENTERS
FROM TENNESSEE TRAUMA FUND - 2023 – 3rd QUARTER DISTRIBUTION**

Level	Hospital Name	Hospital Specific Pool Payment	Readiness Costs	Total Hospital Distribution Payment
	TOTAL	\$521,610.67	\$871,000.00	\$1,392,610.67
Lev 1	Vanderbilt University Medical Center	\$152,356.51	\$153,250.00	\$305,606.51
Lev 1	Regional One Health	\$178,968.56	\$97,250.00	\$276,218.56
Lev 1	Erlanger Medical Center	\$30,194.27	\$153,250.00	\$183,444.27
Lev 1	The University of Tennessee Medical Center	\$44,755.00	\$102,250.00	\$147,005.00
Lev 1	Johnson City Medical Center	\$21,807.12	\$72,500.00	\$94,307.12
Lev 2	TriStar Skyline Medical Center	\$33,902.31	\$37,750.00	\$71,652.31
CRPC	Lebonheur Childrens Hospital	\$3,805.54	\$64,250.00	\$68,055.54
CRPC	East Tennessee Childrens Hospital	\$775.65	\$51,000.00	\$51,775.65
Lev 3	Holston Valley Medical Center	\$3,457.02	\$15,500.00	\$18,957.02
Lev 3	Bristol Regional Medical Center	\$2,909.70	\$15,500.00	\$18,409.70
Lev 3	TriStar Summit Medical Center	\$1,295.43	\$15,500.00	\$16,795.43
Lev 3	Tennova Healthcare Turkey Creek Medical Center	\$1,144.93	\$15,500.00	\$16,644.93
Lev 3	TriStar StoneCrest Medical Center	\$603.38	\$15,500.00	\$16,103.38
Lev 3	Sumner Regional Medical Center	\$574.03	\$15,500.00	\$16,074.03
Lev 3	TriStar Horizon Medical Center	\$519.28	\$15,500.00	\$16,019.28
Lev 3	TriStar Hendersonville Medical Center	\$370.00	\$15,500.00	\$15,870.00
Lev 3	Metropolitan Nashville General Hospital	\$347.62	\$15,500.00	\$15,847.62
	Baptist Memorial Hospital	\$10,659.98		\$10,659.98
	Methodist Healthcare - Memphis Hospitals	\$9,948.71		\$9,948.71
	TriStar Southern Hills Medical Center	\$2,514.41		\$2,514.41
	Jackson - Madison County General Hospital	\$2,296.20		\$2,296.20
	Saint Thomas West Hospital	\$1,959.01		\$1,959.01
	Saint Francis Hospital	\$1,818.21		\$1,818.21
	Saint Francis Hospital - Bartlett	\$1,169.64		\$1,169.64
	TriStar Centennial Medical Center	\$1,164.58		\$1,164.58
	Erlanger North Hospital	\$1,074.75		\$1,074.75
	Saint Thomas Rutherford Hospital	\$937.57		\$937.57
	Fort Sanders Regional Medical Center	\$859.09		\$859.09
	Methodist Hospital - Germantown	\$727.70		\$727.70
	Parkwest Medical Center	\$721.87		\$721.87
	Methodist Hospital - North	\$673.74		\$673.74
	Methodist Medical Center of Oak Ridge	\$653.13		\$653.13
	Memorial Healthcare System	\$646.18		\$646.18
	Tennova Healthcare- Clarksville	\$548.79		\$548.79
	Saint Thomas Midtown Hospital	\$524.94		\$524.94
	Methodist Hospital - South	\$484.18		\$484.18
	LeConte Medical Center	\$436.21		\$436.21
	Blount Memorial Hospital	\$385.40		\$385.40
	Williamson Medical Center	\$353.90		\$353.90
	Greeneville Community Hospital East	\$351.28		\$351.28
	Cookeville Regional Medical Center	\$349.95		\$349.95

	NorthCrest Medical Center	\$313.51		\$313.51
	Morristown - Hamblen Healthcare System	\$275.46		\$275.46
	Henry County Medical Center	\$248.02		\$248.02
	Tennova Healthcare - North Knoxville	\$235.42		\$235.42
	Riverview Regional Medical Center	\$224.46		\$224.46
	Parkridge Medical Center, Inc.	\$205.59		\$205.59
	Vanderbilt Wilson County Hospital	\$197.09		\$197.09
	Cumberland Medical Center, Inc.	\$188.48		\$188.48
	Baptist Memorial Hospital - Collierville	\$183.38		\$183.38
	Sweetwater Hospital Association	\$163.69		\$163.69
	Southern Tennessee Regional Health System- Winchester	\$123.95		\$123.95
	Starr Regional Medical Center	\$100.00		\$100.00
	Southern Tennessee Regional Health System Pulaski	\$79.16		\$79.16
	Maury Regional Hospital	\$26.68		\$26.68

**FUNDS DISTRIBUTED TO TRAUMA CENTERS AND NON-TRAUMA CENTERS
FROM TENNESSEE TRAUMA FUND - 2023 – 4th QUARTER DISTRIBUTION**

Level	Hospital Name	Hospital Specific Pool Payment	Readiness Costs	Total Hospital Distribution Payment
	TOTAL	\$669,941.28	\$886,500.00	\$1,556,441.28
Lev 1	Vanderbilt University Medical Center	\$215,475.27	\$153,250.00	\$368,725.27
Lev 1	Regional One Health	\$250,504.51	\$97,250.00	\$347,754.51
Lev 1	Erlanger Medical Center	\$33,201.40	\$153,250.00	\$186,451.40
Lev 1	The University of Tennessee Medical Center	\$49,745.41	\$102,250.00	\$151,995.41
Lev 1	Johnson City Medical Center	\$27,794.55	\$72,500.00	\$100,294.55
Lev 2	TriStar Skyline Medical Center	\$31,165.48	\$37,750.00	\$68,915.48
CRPC	Lebonheur Childrens Hospital	\$3,745.66	\$64,250.00	\$67,995.66
CRPC	East Tennessee Childrens Hospital	\$104.81	\$51,000.00	\$51,104.81
Lev 3	Bristol Regional Medical Center	\$3,753.89	\$15,500.00	\$19,253.89
Lev 3	TriStar Horizon Medical Center	\$2,072.64	\$15,500.00	\$17,572.64
Lev 3	Holston Valley Medical Center	\$1,547.00	\$15,500.00	\$17,047.00
Lev 3	Vanderbilt Wilson County Hospital	\$1,406.23	\$15,500.00	\$16,906.23
Lev 3	TriStar Summit Medical Center	\$1,176.08	\$15,500.00	\$16,676.08
Lev 3	TriStar StoneCrest Medical Center	\$1,050.57	\$15,500.00	\$16,550.57
Lev 3	Metropolitan Nashville General Hospital	\$769.59	\$15,500.00	\$16,269.59
Lev 3	TriStar Hendersonville Medical Center	\$627.09	\$15,500.00	\$16,127.09
Lev 3	Sumner Regional Medical Center	\$410.71	\$15,500.00	\$15,910.71
Lev 3	Tennova Healthcare Turkey Creek Medical Center	\$387.53	\$15,500.00	\$15,887.53
	Methodist Healthcare - Memphis Hospitals	\$7,998.71		\$7,998.71
	Baptist Memorial Hospital	\$7,823.58		\$7,823.58
	Erlanger North Hospital	\$3,665.19		\$3,665.19
	Saint Francis Hospital	\$2,588.42		\$2,588.42
	Jackson - Madison County General Hospital	\$2,119.41		\$2,119.41
	Saint Thomas Rutherford Hospital	\$2,084.72		\$2,084.72

TriStar Centennial Medical Center	\$1,711.22	\$1,711.22
Saint Thomas Midtown Hospital	\$1,584.43	\$1,584.43
Parkridge Medical Center, Inc.	\$1,457.82	\$1,457.82
TriStar Southern Hills Medical Center	\$1,369.22	\$1,369.22
Cookeville Regional Medical Center	\$1,175.67	\$1,175.67
Parkwest Medical Center	\$1,012.65	\$1,012.65
Saint Thomas West Hospital	\$992.15	\$992.15
Maury Regional Hospital	\$843.23	\$843.23
Methodist Medical Center of Oak Ridge	\$752.32	\$752.32
Methodist Hospital - North	\$733.78	\$733.78
Fort Sanders Regional Medical Center	\$710.93	\$710.93
Memorial Healthcare System	\$656.64	\$656.64
Saint Francis Hospital - Bartlett	\$617.83	\$617.83
Riverview Regional Medical Center	\$547.63	\$547.63
Methodist Hospital - Germantown	\$544.44	\$544.44
Williamson Medical Center	\$537.23	\$537.23
Baptist Memorial Hospital - Collierville	\$494.14	\$494.14
Starr Regional Medical Center	\$329.20	\$329.20
Tennova Healthcare- Clarksville	\$295.03	\$295.03
Blount Memorial Hospital	\$292.77	\$292.77
Baptist Memorial Hospital - Carroll County	\$276.42	\$276.42
Greeneville Community Hospital East	\$268.89	\$268.89
Morristown - Hamblen Healthcare System	\$152.24	\$152.24
Vanderbilt Tullahoma - Harton Hospital	\$151.00	\$151.00
Southern Tennessee Regional Health System Lawrenceburg	\$149.03	\$149.03
Tennova Healthcare - Newport Medical Center	\$147.67	\$147.67
Rhea Medical Center	\$134.36	\$134.36
NorthCrest Medical Center	\$133.37	\$133.37
Henry County Medical Center	\$123.66	\$123.66
Memorial Hospital Hixson	\$118.42	\$118.42
Southern Tennessee Regional Health System- Winchester	\$97.72	\$97.72
Baptist Memorial Hospital - Union City	\$93.64	\$93.64
Sweetwater Hospital Association	\$56.59	\$56.59
Southern Tennessee Regional Health System Pulaski	\$55.38	\$55.38
Claiborne Medical Center	\$50.11	\$50.11
Cumberland Medical Center, Inc.	\$33.38	\$33.38
Saint Thomas River Park Hospital, LLC	\$22.61	\$22.61

Appendix IV: Research Publications

1. Chotai S, Chen JW, Turer R, Smith C, Kelly PD, Bhamidipati A, Davis P, McCarthy JT, Bendfeldt GA, Peyton MB, Dennis BM, Terry DP, Guillamondegui O, Yengo-Kahn AM. Neurological Examination Frequency and Time-to-Delirium After Traumatic Brain Injury. *Neurosurgery*. 2023 Dec 1;93(6):1425-1431. doi: 10.1227/neu.0000000000002562. Epub 2023 Jun 16. PMID: 37326424.
2. Fleenor LM, Beavers JR, Tidwell WP, Atchison L, Woo E, Medvecz AJ, Beyene RT, Kast K, Marcovitz D, Dennis BM, Guillamondegui OD, Smith MC. Comparison of phenobarbital monotherapy to a benzodiazepine-based regimen for management of alcohol withdrawal syndrome in trauma patients. *J Trauma Acute Care Surg*. 2023 Mar 1;96(3):493-498. doi: 10.1097/TA.0000000000004116. Epub 2023 Aug 21. PMID: 37599414.
3. Bontrager AM, Ewing JK, Singh T, Medvecz AJ, Devasahayam RJ, Smith MC, Guillamondegui OD. Analysis of Need for Intervention in Low-Grade Traumatic Splenic Injury. *Am Surg*. 2023 Aug;89(8):3411-3415. doi: 10.1177/00031348231161707. Epub 2023 Mar 9. PMID: 36893464.
4. Mace EH, Maiga AW, Beyene RT, Smith MC, Streams JR, Peetz AB, Dennis BM, Guillamondegui OD, Gondek SP. Vascular imaging immediately after tourniquet removal does not increase vasospasm risk. *Injury*. 2024 Jan;55(1):110974. doi: 10.1016/j.injury.2023.110974. Epub 2023 Aug 2. PMID: 37563047.
5. Maiga AW, Vella MA, Appelbaum RD, Irlmeier R, Ye F, Holena DN, Dumas RP; TVRC Investigators. Getting out of the bay faster: Assessing trauma team performance using trauma video review. *J Trauma Acute Care Surg*. 2024 Jan 1;96(1):76-84. doi: 10.1097/TA.0000000000004168. Epub 2023 Oct 26. PMID: 37880840.
6. Bhogadi, S. K., Alizai, Q., Colosimo, C., Spencer, A. L., Stewart, C., Nelson, A., Ditillo, M., Castanon, L., Magnotti, L. J., Joseph, B., BIG Multi-institutional Study Group, American Association for the Surgery of Trauma Brain Injury Guidelines Multi-institutional Study Group, Dultz, L., Black, G., Campbell, M., Berndtson, A. E., Costantini, T., Kerwin, A., Skarupa, D., Burruss, S., ... Hosseinpour, H. (2023). Not all traumatic brain injury patients on preinjury anticoagulation are the same. *American journal of surgery*, 226(6), 785–789. <https://doi.org/10.1016/j.amjsurg.2023.05.034>
7. Byars, V. H., Byerly, S. E., Dong, C. T., Lenart, E. K., Evans, C. R., Kerwin, A. J., & Filiberto, D. M. (2024). Management of Extraperitoneal Bladder Injuries in Patients With Pelvic Fractures. *The American surgeon*, 90(8), 2061–2065. <https://doi.org/10.1177/00031348241244641>
8. Croce M. (2023). Overview of leadership and research: Timothy C Fabian, MD. *Trauma surgery & acute care open*, 8(Suppl 1), e001142. <https://doi.org/10.1136/tsaco2023-001142>
9. Czarkowski, B. R., Byerly, S. E., Lenart, E. K., Kerwin, A. J., & Filiberto, D. M. (2023). Management of Penetrating Cardiac Injuries With Pericardial Window and Drainage in Select Patients. *The American surgeon*, 89(7), 3110–3113. <https://doi.org/10.1177/00031348231157815>
10. Dickerson, R. N., Corley, C. E., Holmes, W. L., Byerly, S., Filiberto, D. M., & Fischer, P. E. (2023). Gastric feeding intolerance in critically ill patients during sustained pharmacologic neuromuscular blockade. *Nutrition in clinical practice: official publication of the American Society for Parenteral and Enteral Nutrition*, 38(2), 350–359. <https://doi.org/10.1002/ncp.10911>
11. Dickerson, R. N., Farrar, J. E., Byerly, S., & Filiberto, D. M. (2023). Enteral feeding tolerance during pharmacologic neuromuscular blockade. *Nutrition in clinical practice: official publication of the American Society for Parenteral and Enteral Nutrition*, 38(6), 1236–1246. <https://doi.org/10.1002/ncp.11045>

12. Filiberto, D. M., Byerly, S., Lenart, E. K., Fischer, P. E., & Kerwin, A. J. (2023). Body Mass Index and Pharmacologic Venous Thromboembolism Prophylaxis in Traumatic Brain Injury. *The Journal of surgical research*, 291, 245–249. <https://doi.org/10.1016/j.jss.2023.06.016>
13. Gross, M. G., Filiberto, D. M., Lehrman, B. H., Lenart, E. K., Easterday, T. S., Kerwin, A. J., & Byerly, S. E. (2024). Outcomes and Predictors of Delayed Intervention After Renal Trauma. *The American surgeon*, 90(9), 2170–2175. <https://doi.org/10.1177/00031348241246164>
14. Hess, A., Byerly, S., Lenart, E., Evans, C., Kerwin, A., & Filiberto, D. (2023). Risk factors for clostridium difficile infection in general surgery patients. *American journal of surgery*, 225(1), 118–121. <https://doi.org/10.1016/j.amjsurg.2022.09.031>
15. Fakhry SM, Shen Y, Garland JM, Wilson NY, Wyse RJ, Morse JL, Hunt DL, Acuna D, Dunne J, Kurek SJ, Gordy SD, Watts DD. The burden of geriatric traumatic brain injury on trauma systems: Analysis of 348,800 Medicare inpatient claims. *J Am Geriatr Soc*. 2023 Feb;71(2):516-527. doi: 10.1111/jgs.18114. Epub 2022 Nov 4. PMID: 36330687.
16. Holt A, Rahm J, Hopper HA, Hunt DL. Acute Kidney Injury: Iterative Development of an Audit Tool for Trauma Patients. *J Trauma Nurs*. 2023 Mar-Apr 01;30(2):108-114. doi: 10.1097/JTN.0000000000000710. PMID: 36881703.
17. Fakhry SM, Shen Y, Wyse RJ, Dunne JR, Berg GM, Garland JM, Ludwig A, Shillinglaw WC, Hightower TD, Hunt DL, Watts DD. Incidence, outcomes and costs of severe sepsis and septic shock in geriatric trauma patients: Analysis of 2,563,463 hospitalizations at 3,284 hospitals. *J Trauma Acute Care Surg*. 2023 Oct 1;95(4):503-509. doi: 10.1097/TA.0000000000004025. Epub 2023 Jun 15. PMID: 37316990.
18. Todd B, Rahm J, Kerley D, Hunt DL. Impact of a Rounding Tool and Clinical Champion on Trauma Patient Screening, Brief Intervention, and Referral to Treatment for Alcohol Use Disorder. *J Trauma Nurs*. 2023 Nov-Dec 01;30(6):346-352. doi: 10.1097/JTN.0000000000000754. PMID: 37937876.
19. Fakhry SM, Duane TM, Garland JM, Dunne JR, Kurek SJ, Hunt DL, Plurad DS, Shillinglaw WC, Carrick MM, Lieser MJ, Wyse RJ, Wilson NY, Watts DD. Survey of Diagnostic and Management Practices in Small Bowel Obstruction: Individual and Generational Variation Despite Practice Guidelines. *Am Surg*. 2023 Dec;89(12):5545-5552. doi: 10.1177/00031348231160851. Epub 2023 Feb 28. PMID: 36853243.
20. Hoffman MR, Slivinski A, Shen Y, Watts DD, Wyse RJ, Garland JM, Fakhry SM; Surprise Question in Trauma Research Group. Would you be surprised? Prospective multicenter study of the Surprise Question as a screening tool to predict mortality in trauma patients. *J Trauma Acute Care Surg*. 2024 Jan 1;96(1):35-43. doi: 10.1097/TA.0000000000004151. Epub 2023 Oct 20. PMID: 37858301
21. Laws JC, Vance EH, Betters KA, Anderson JJ, Fleishman S, Bonfield CM, Wellons JC 3rd, Xu M, Slaughter JC, Giuse DA, Patel N, Jordan LC, Wolf MS. Acute Effects of Ketamine on Intracranial Pressure in Children With Severe Traumatic Brain Injury. *Crit Care Med*. 2023 May 1;51(5):563-572. doi: 10.1097/CCM.0000000000005806. Epub 2023 Feb 21. PMID: 36825892; PMCID: PMC11441348.
22. Haizel-Cobbina J, Thakkar R, Still M, Shlobin NA, Izah J, Du L, Shamim MS, Bonfield CM, Gepp R, Dewan MC. Global Epidemiology of Pediatric Traumatic Spine Injury: A Systematic Review and Meta-Analysis. *World Neurosurg*. 2023 Oct;178:172-180.e3. doi: 10.1016/j.wneu.2023.07.051. Epub 2023 Jul 18. PMID: 37473863.
23. Gastineau KAB, McKay S. Firearm Injury Prevention. *Pediatr Clin North Am*. 2023 Dec;70(6):1125-1142. doi: 10.1016/j.pcl.2023.07.003. Epub 2023 Aug 23. PMID: 37865435.
24. McKay T, Gastineau K, Wrenn JO, Han JH, Storrow AB. Trends in paediatric firearm-related encounters during the COVID-19 pandemic by age group, race/ethnicity and schooling mode in

- Tennessee. *Inj Prev.* 2023 Aug;29(4):327-333. doi: 10.1136/ip-2023-044852. Epub 2023 May 3. PMID: 37137687.
25. McKay T, Gastineau K, Wrenn JO, Han JH, Storrow AB. Trends in paediatric firearm-related encounters during the COVID-19 pandemic by age group, race/ethnicity and schooling mode in Tennessee. *Inj Prev.* 2023 Aug;29(4):327-333. doi: 10.1136/ip-2023-044852. Epub 2023 May 3. PMID: 37137687.
 26. McKay T, Gastineau K, Wrenn JO, Han JH, Storrow AB. Trends in paediatric firearm-related encounters during the COVID-19 pandemic by age group, race/ethnicity and schooling mode in Tennessee. *Inj Prev.* 2023 Aug;29(4):327-333. doi: 10.1136/ip-2023-044852. Epub 2023 May 3. PMID: 37137687.
 27. Risk factors for recurrence in blunt traumatic abdominal wall hernias: A secondary analysis of a Western Trauma association multicenter study. Harrell KN, Grimes AD, Gill H, Reynolds JK, Ueland WR, Sciarretta JD, Todd SR, Trust MD, Ngoue M, Thomas BW, Ayuso SA, LaRiccia A, Spalding MC, Collins MJ, Collier BR, Karam BS, de Moya MA, Lieser MJ, Chipko JM, Haan JM, Lightwine KL, Cullinane DC, Falank CR, Phillips RC, Kemp MT, Alam HB, Udekwu PO, Sanin GD, Hildreth AN, Biffi WL, Schaffer KB, Marshall G, Muttalib O, Nahmias J, Shahi N, Moulton SL, Maxwell RA. *Am J Surg.* 2023 Jun;225(6):1069-1073. doi: 10.1016/j.amjsurg.2022.12.006. Epub 2022 Dec 7. PMID: 36509587.
 28. Analysis of fibrinolytic shutdown in trauma patients with traumatic brain injury. Favors L, Harrell K, Miles V, Hicks RC, Rippey M, Parmer H, Edwards A, Brown C, Stewart K, Day L, Wilson A, Maxwell R. *Am J Surg.* Epub 2023 Sep 26;227:72-76. doi: 10.1016/j.amjsurg.2023.09.034. PMID: 37802703.
 29. Hypofibrinogenemic Massive Transfusion Trauma Patients Experience Worse Outcomes. Parker MJ, Crowder EW, Miles MVP, Harrell KN, Maxwell RA. *Am Surg.* 2023 Aug;89(8):3423-3428. doi: 10.1177/00031348231162711. Epub 2023 Mar 12. PMID: 36908225.
 30. A western trauma association multicenter comparison of mesh versus non-mesh repair of blunt traumatic abdominal wall hernias. Harrell KN, Grimes AD, Gill H, Reynolds JK, Ueland WR, Sciarretta JD, Todd SR, Trust MD, Ngoue M, Thomas BW, Ayuso SA, LaRiccia A, Spalding MC, Collins MJ, Collier BR, Karam BS, de Moya MA, Lieser MJ, Chipko JM Jr, Haan JM, Lightwine KL, Cullinane DC, Falank CR, Phillips RC, Kemp MT, Alam HB, Udekwu PO, Sanin GD, Hildreth AN, Biffi WL, Schaffer KB, Marshall G, Muttalib O, Nahmias J, Shahi N, Moulton SL, Maxwell RA. *Injury.* Epub 2023 Nov;55(2):111204. doi: 10.1016/j.injury.2023.111204. PMID: 38039636.
 31. Distractor Application and Dry Arthroscopy to Improve Articular Visualization During Scapula Fracture Surgery Via a Posterior Approach. Saiz AM Jr, Mayer R, Kellam PJ, Schultz BJ, Cunningham B, Warner SJ, Choo A. *J Orthop Trauma.* 2023 Nov 1;37(11):e447-e451. doi: 10.1097/BOT.0000000000002550. PMID: 36728980.
 32. Dispelling Dogma: American Association for Surgery of Trauma Prospective, Multicenter Trial of Index vs Delayed Fasciotomy after Extremity Trauma. Keating JJ, Klingensmith N, Moren AM, Skarupa DJ, Loria A, Maher Z, Moore SA, Smith MC, Seamon MJ; Fasciotomy Group Investigators. *J Am Coll Surg.* 2023 May 1;236(5):1037-1044. doi: 10.1097/XCS.0000000000000612. Epub 2023 Feb 3. PMID: 36735489.
 33. Methicillin-Resistant Staphylococcus aureus Nasal Swab Is Insufficient to Withhold Empiric Methicillin-Resistant Staphylococcus aureus Pneumonia Coverage in a Trauma Population. Harrell KN, Koestner T, Lloyd J, Carter BL, Hunt D, Dart B, Maxwell R. *J Surg Res.* 2023 May;285:45-50. doi: 10.1016/j.jss.2022.12.014. Epub 2023 Jan 12. PMID: 36640609.

34. Topical Antibiotic Powder and Nonunion Risk in Surgically Treated Tibial Plateau and Pilon Fractures. Miles DT, Colón LF, Wilson AW, Scheinberg M, Yee MA, Cunningham BA, Doty JF, Gardner WE, Kiner DW, Nowotarski PJ. *J Am Acad Orthop Surg.* 2023 Mar 15;31(6):e310-e317. doi: 10.5435/JAAOS-D-22-00261. PMID: 36563331.
35. Changes in Pediatric Non-accidental Trauma Emergency Department Visits During and Following the COVID-19 Lockdown. Gilchrist SA, Stanfield J, Tan MAM, Hicks RC, Urevick A, Cabbage T, Bhattacharya SD. *Am Surg.* 2023 Sep;89(9):3881-3883. doi: 10.1177/00031348231173951. Epub 2023 May 8. PMID: 37155157; PMCID: PMC10170259.
36. Early pneumonia diagnosis decreases ventilator-associated pneumonia rates in trauma population. Harrell KN, Lee WB, Rooks HJ, Briscoe WE, Capote W, Dart BW 4th, Hunt DJ, Maxwell RA. *J Trauma Acute Care Surg.* 2023 Jan 1;94(1):30-35. doi: 10.1097/TA.0000000000003808. PMID: 36245076.
37. Firearm Injuries treated at Trauma Centers in the United States. Rivara P, Hink A, Kuhls D et al. *Journal of Trauma and Acute Care Surgery* ():10.1097/TA.0000000000004172, October 24, 2023. | DOI: 10.1097/TA.0000000000004172
38. Effect of Timing of Readmission to the ICU on Mortality in Trauma Patients Requiring Critical Care. O'Quinn P, Whitaker F, Suresh S, King S, Smith L. *The American Surgeon.* 2023 Jul;89(7):3303-3305. doi: 10.1177/00031348231161695. Epub 2023 Feb 28. PMID: 36854165.
39. Incidence and Risk Factors for ICU-Associated Delirium in the Alert Geriatric Trauma Population. Ulderich S, Qaddoumi A, Meghreblian J, McBride M, King S, Elahi M, Tuggle D, Heidel R, Smith L. *The American Surgeon.* 2024 Jul;90(7):1866-1871. doi: 10.1177/00031348241241707. Epub 2024 Mar 23. PMID: 38520278.
40. The Predictive Value of Shock Index in Rural Trauma Triage, Morbidity, and Mortality. Landis R, Mannino E, Leonard M, Collins H, Burns J. *The American Surgeon.* 2023;0(0). doi:10.1177/00031348231216486
41. Impact of Trauma Resuscitation Emergency Care Nurse Deployment in Trauma Activations in a Rural Trauma Center. Holder M, Leonard M, Collins H, Brogan AA, Burns J. *J Trauma Nurs.* 2023;30(4):228-234. doi:10.1097/JTN.0000000000000733
42. Impact of Non-Automobile Rollover Accidents on Patient Outcomes at an Appalachian Level I Trauma Center. Mannino EA, Leonard M, Burns BJ. *Am Surg.* 2023;89(8):3588-3590. doi:10.1177/00031348231161662
43. Outcomes after stairway falls in a rural Appalachian trauma center. Zaskey M, Seely KD, Hansen M, Collins HE, Burns A, Burns B. *Surgery.* 2023;174(3):626-630. doi:10.1016/j.surg.2023.05.006
44. A National Survey Assessing the Variability in the Management of Traumatic Cardiac Arrest. Roche KF, Quinn M, Mannino EA, Ventura L, Brown C, Lawson CM, Burns BJ *Am Surg.* 2023 Feb 28;31348231161089. doi: 10.1177/00031348231161089. Epub ahead of print. PMID: 36852712.
45. Angioembolization May Improve Survival in Patients With Severe Hepatic Injuries. Burns JB, Rozycki GF, Sakran JV, et al. *The American Surgeon.* 2023;0(0). doi:10.1177/00031348231157416
46. Poor Outcomes of Patients from Delayed Care After Ground Level Falls
Heard MA, Suresh S, Leonard M, Burns JB. *Poor Outcomes of Patients From Delayed Care After Ground Level Falls. The American Surgeon.* 2023;0(0). doi:10.1177/00031348231161706
47. Williams RF, Grewal H, Jamshidi R, Naik-Mathuria B, Price M, Russell RT, Vogel A, Notrica DM, Stylianos S, Petty J. Updated APSA Guidelines for the Management of Blunt Liver and

- Spleen Injuries. *J Pediatr Surg.* 2023 Aug;58(8):1411-1418. doi: 10.1016/j.jpedsurg.2023.03.012. Epub 2023 Mar 23. PMID: 37117078.
48. Henry MC, Ehrlich PF, Flynn O'Brien KT, Griggs C, Hartman HA, Kotagal M, Masiakos P, Naik-Mathuri B, Sathya C, Stevens J, Thomas A, Trinidad S, Williams R, Campbell BT. Pediatric Surgery Firearm Injury Collaborative Symposium. *J Pediatr Surg.* 2024 Jan;59(1):68-73. doi: 10.1016/j.jpedsurg.2023.09.031. Epub 2023 Sep 27. PMID:
 49. Fusco J, Williams R, Malek M, Avansino JR, Hirose S, Perkins JA, Farmer D, Gow KW. Centers of Excellence: If We Build It, Will They Come? *J Pediatr Surg.* 2023 Jun;58(6):1048-1052. doi: 10.1016/j.jpedsurg.2023.02.010. Epub 2023 Feb 17. PMID: 36925401. 37875380.
 50. Shimony N, Fehnel K, Abbott IR, Jallo GI. The evolution of spinal cord surgery: history, people, instruments, and results. *Childs Nerv Syst.* 2023 Oct;39(10):2687-2700. doi: 10.1007/s00381-023-06128-3. Epub 2023 Sep 2. PMID: 37658937.
 51. MacArthur TA, Vogel AM, Glasgow AE, Moody S, Kotagal M, Williams RF, Kayton ML, Alberto EC, Burd RS, Schroepel TJ, Baerg JE, Munoz A, Rothstein WB, Boomer LA, Campion EM, Robinson C, Nygaard RM, Richardson CJ, Garcia DI, Streck CJ, Gaffley M, Petty JK, Ryan M, Pandya S, Russell RT, Yorkgitis BK, Mull J, Pence J, Santore MT, Klinkner DB, Safford SD, Trevilian T, Jensen AR, Mooney DP, Ketha B, Dassinger MS 3rd, Goldenberg-Sandau A, Falcone RA Jr, Polites SF. Crystalloid volume is associated with short-term morbidity in children with severe traumatic brain injury: An Eastern Association for the Surgery of Trauma multicenter trial post hoc analysis. *J Trauma Acute Care Surg.* 2023 Jul 1;95(1):78-86. doi: 10.1097/TA.0000000000004013. Epub 2023 Apr 19. PMID: 37072882.
 52. Lin JC, Srivastava A, Malone S, Jennison S, Simino M, Traube C, LaRose K, Kawai Y, Neu L, Kudchadkar S, Wieczorek B, Hajnik K, Kordik CM, Kumar VK, Aghamohammadi S, Arteaga GM, Smith HAB, Spentzas T, Orman A, Landman BM, Valdivia H, Browne H, Fang T, Zimmerman JJ; Society of Critical Care Medicine's Pediatric ICU Liberation Campaign Collaborative. Caring for Critically Ill Children With the ICU Liberation Bundle (ABCDEF): Results of the Pediatric Collaborative. *Pediatr Crit Care Med.* 2023 Aug 1;24(8):636-651. doi: 10.1097/PCC.0000000000003262. Epub 2023 May 1. PMID: 37125798.
 53. Nickoles TA, Lewit RA, Notrica DM, Ryan M, Johnson J, Maxson RT, Naiditch JA, Lawson KA, Temkit M, Padilla B, Eubanks JW 3rd. Lower incidence of blunt cerebrovascular injury among young, properly restrained children: An ATOMAC multicenter study. *J Trauma Acute Care Surg.* 2023 Sep 1;95(3):334-340. doi: 10.1097/TA.0000000000003900. Epub 2023 Mar 11. PMID: 36899460.
 54. Williams RF, Davis KA; ACS TQIP Mortality Reporting System Writing Group. TQIP mortality reporting system case reports: Unanticipated mortality due to failures in clinical performance. *J Trauma Acute Care Surg.* 2023 May 1;94(5):747-749. doi: 10.1097/TA.0000000000003893. Epub 2023 Feb 2. PMID: 36735543.
 55. Williams RF, Mandell SP; ACS TQIP Mortality Reporting System Writing Group. TQIP mortality reporting system case reports: Unanticipated mortality due to communication and handoff failures. *J Trauma Acute Care Surg.* 2023 May 1;94(5):739-742. doi: 10.1097/TA.0000000000003886. Epub 2023 Feb 4. PMID: 36737856.
 56. Duron V, Schmoke N, Ichinose R, Stylianos S, Kernie SG, Dayan PS, Slidell MB, Stulce C, Chong G, Williams RF, Gosain A, Morin NP, Nasr IW, Kudchadkar SR, Bolstridge J, Prince JM, Sathya C, Sweberg T, Dorrello NV. Delphi Process for Validation of Fluid Treatment Algorithm for Critically Ill Pediatric Trauma Patients. *J Surg Res.* 2024 Mar;295:493-504. doi: 10.1016/j.jss.2023.11.036. Epub 2023 Dec 9. PMID: 38071779.