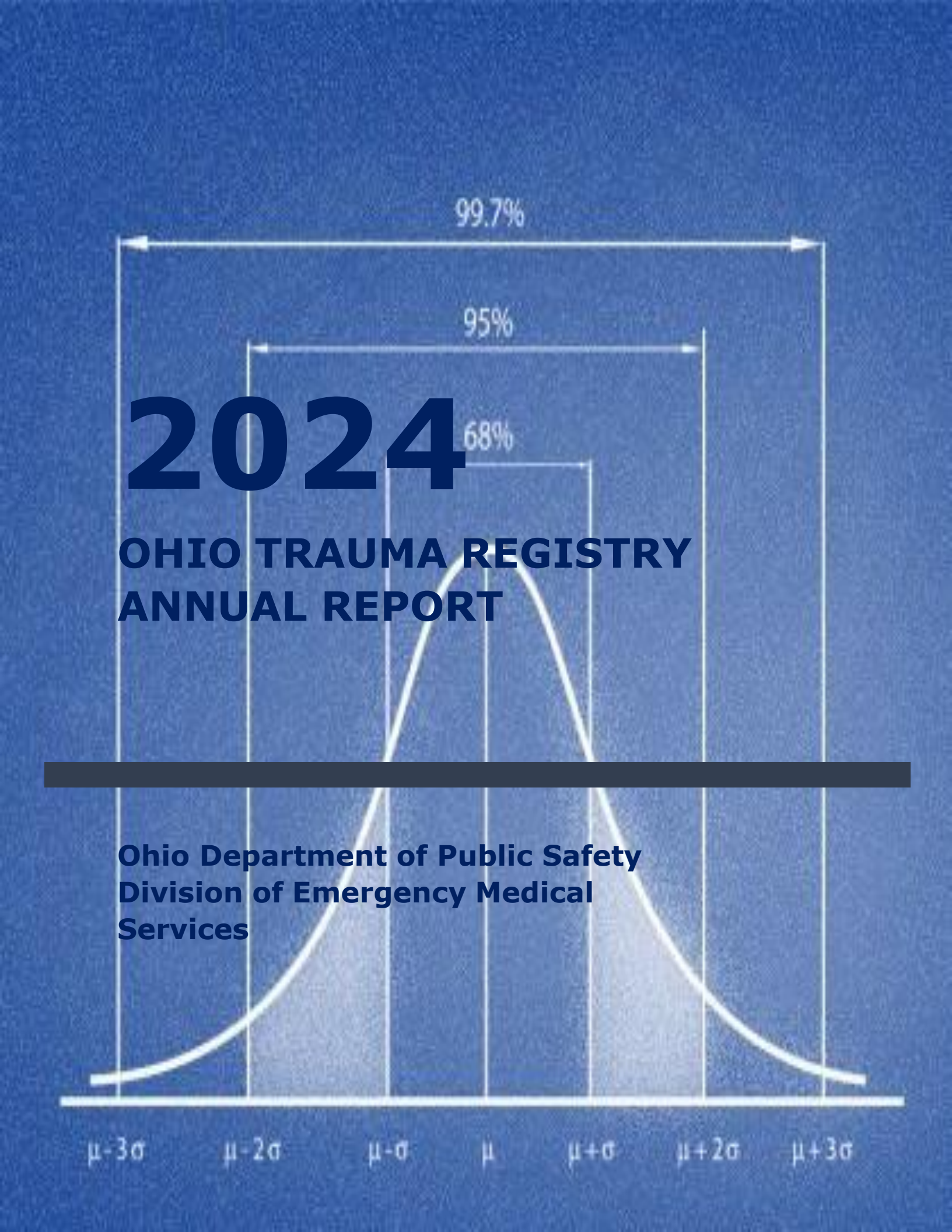
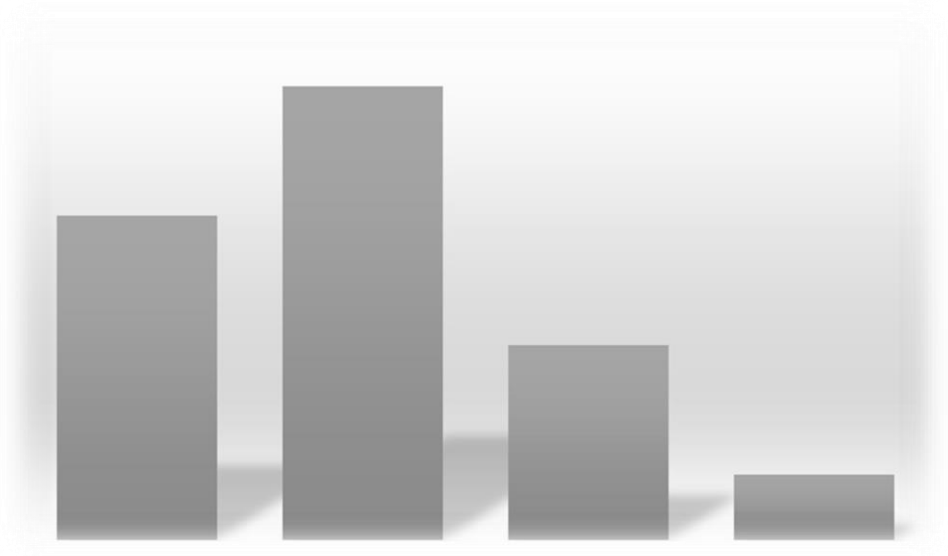



# 2024

# OHIO TRAUMA REGISTRY ANNUAL REPORT

**Ohio Department of Public Safety**
**Division of Emergency Medical Services**



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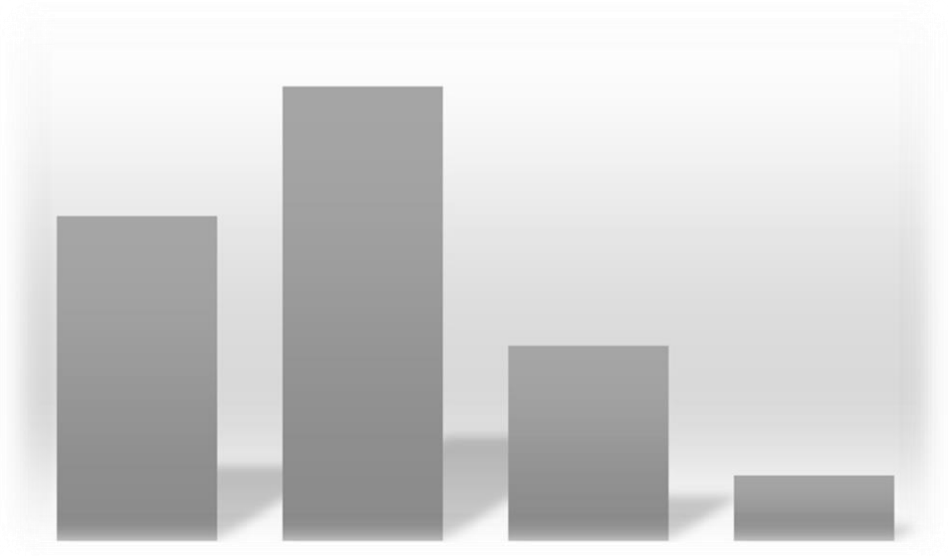

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# FOREWORD

Trauma encases the multitude of injuries that potentially plague all of us as we live our lives. If we use an automobile, that risk is there. If we climb a ladder, we play with fire. As we get older, the mere stroll from point A to point B places us at risk of falling, and the consequences of that can be life changing. This is a dangerous world.

So, what are we to do about it? How can we analyze all these traumatic injuries and use that information to promote the health and wellbeing of all of us? That is the mission behind the work of the Ohio Trauma System. Hospitals linking hands with regional systems, regional systems linking hands with the state system, all coordinating together to decrease the morbidity and mortality of the injured residents and visitors of Ohio.

The State Trauma System is composed of many moving parts, much like that 1000-piece jigsaw puzzle that lives in your closet. When we spill it all out on the table, it appears more than a bit daunting. But as we slowly understand what role each piece plays, we begin to see the expertise and value that each piece offers.

Currently, we have 53 hospitals in our state who have chosen to specialize as trauma centers. They range from Level I Centers, the large tertiary hospitals, to Level III Centers, located and serving our rural communities. Each one of them is a valuable piece of the puzzle, but they are not alone. Serving right beside them are acute care hospitals that also support the system, providing care for the injured, and adding their pieces to the puzzle.

That is just the role of our hospital sector, but on either side of that care are two key parts of our puzzle. Before an injured patient appears on the doorsteps of a hospital, their care has already been started by the system of trained, highly qualified, and professional EMS workers. Whether paramedics or first responders, they put everything on the line to rescue these injured patients and transport them to definitive care. Once their care has been completed, patients move on to the third phase of their care: rehabilitation. Ohio is blessed to have a whole system of facilities that help patients move to their overall goal: get back to their lives. The puzzle is incomplete without any of them.

This data contained in this report is evidence of the hard work and dedication of all those individuals who dedicated their lives to helping others live longer. To our EMS personnel, we know it all starts with you. To our trauma surgeons, our trauma nurses, and those who roll up their sleeves and save lives on a daily basis, you have our applause. To our rehabilitation specialists, you put the icing on our cake. Special thanks to the Emergency Medical, Fire, and Transportation Services Board and the State Trauma Committee for your guidance and advice. If all the above-mentioned entities are the centered pieces of the puzzle, you guys are the edge pieces that give us our infrastructure and boundaries. As a system, we will continue to work together, learn together, and piece together what actions are needed to make Ohio safe!!

Diane Simon RN, CEN

*Diane Simon RN, CEN*

Chair, State Trauma Committee

# INTRODUCTION

The 2024 Ohio Trauma Registry (OTR) Annual Report presents an overview of data collected from patients who sustained traumatic injuries and arrived at an Ohio facility in Calendar Year (CY) 2024. The purpose of this report is to provide relevant information to healthcare professionals and to the public which describes Ohio's trauma patient load and an analysis of the traumatic injuries seen during this period.

In accordance with Ohio Revised Code (ORC) 4765.06(B), the State Board of Emergency Medical, Fire, and Transportation Services (Board) has the statutory authority to establish a state trauma registry to be used for the collection of information regarding the care of adult and pediatric trauma victims in Ohio. The registry provides for the reporting of adult and pediatric trauma-related deaths, identification of adult and pediatric trauma patients, monitoring of adult and pediatric trauma patient care data, determination of the total amount of uncompensated adult and pediatric trauma care provided annually by each facility that provides care to trauma victims, and collection of any other information specified by the Board. The Board has authority over the OTR, specifications for information that may be collected (ORC 4765.11(B) (1)), and supervision of its operation via the Board's Trauma Committee and associated workgroups.

The Board's Trauma Committee and composition is outlined in ORC 4765.04(B) (1 – 22). A total of twenty-four (24) members, representing a diverse group of stakeholders from urban and rural areas, various geographical areas of the state, and various schools of training who are involved with oversight and care of Ohio's trauma patients, are nominated by their respective organizations and appointed by the Director of the Ohio Department of Public Safety. Currently, no more than one Committee member who is employed by or practices at the same hospital, health system, or emergency medical service organization may be appointed to this Committee. The Committee advises and assists the Board in matters related to adult and pediatric trauma care and the establishment and operation of the OTR. In matters relating to the OTR, the Board and the Committee can consult with trauma registrars from adult and pediatric trauma centers in the state. The Committee may appoint subcommittees and create workgroups to advise and assist with the OTR. Under the general direction of the Committee these additional groups may include persons with expertise relevant to the OTR who are not members of the Board or Committee.

The OTR is operated and maintained by the Ohio Department of Public Safety, Division of Emergency Medical Services (EMS). This report was produced by the Ohio Department of Public Safety, Division of EMS, Trauma and Research Team, in conjunction with the Trauma Committee and its Performance Improvement Workgroup. The information contained herein is based on data that were reported for trauma patients who arrived at a facility in 2024. It is intended for descriptive purposes only. The inclusion requirements for the trauma registry and the associated data dictionary can be found in Appendix B. Questions or comments concerning the report should be directed to EMSData@dps.ohio.gov.

## CONSIDERATIONS

- For this report, 2024 data were defined as records that had an arrival date between 1/1/2024 and 12/31/2024. These data are intended for descriptive purposes only.

- The data utilized for this report was extracted on 1/21/2026. Any data received and processed for calendar year 2024 after this date was not included in this annual summary.

- In the OTR, we do receive records where the injury occurred out of state. For the figures and tables that look at health outcomes/injury information by county or region, these records are not included. The other figures and tables do include records where the injury may have occurred out of state. This can help provide an overall picture of the type of injuries that come to and the care that is provided at hospitals and freestanding emergency departments in Ohio.

- For calculations involving state and county populations, this analysis used the 2024 population estimates provided from the census website (https://www.census.gov/).

- If a table or figure has a label of "Not Recorded", that means that the corresponding records were blank for that field. If a table or figure has a label of "Not Valued", that means that the corresponding records were populated with something that could not be attributed to a recognized value for that variable. For each table/graph where "Not Valued" is listed, there is a description from which those records were populated.

- For tables that have percentages, the percentages may not add up to 100% due to rounding.

- Patients with the following isolated ICD-10-CM codes are excluded from the OTR: S00, S10, S20, S30, S40, S50, S60, S70, S80, S90

- It is important to note that when "region" is referenced in the data, the Division of EMS is referring to the Ohio Homeland Security Regions as displayed on the map in Appendix L, and not Ohio's various regional trauma systems.

- In previous reports, tables that looked at facility classifications included critical access hospitals under the "Other Hospital or Unknown" category. However, in this report and moving forward, critical access hospitals will be included with acute care hospitals in a category called "Acute Care/Critical Access Hospital."

- As of January 2026, it is confirmed that certain quarter 1 records in Region 3 have not yet been submitted. As a result, Region 3 figures may not fully reflect actual totals. This report was developed with that knowledge to meet schedule deadlines.

- Considerations should be made when evaluating the number of injuries and deaths that are reported for counties near and on the border with other states. These patients could have been transported out of Ohio where the injury occurred to be treated by a closer facility in a neighboring state. These injuries and any deaths resulting from these injuries would not be reflected in this report.

# SECTION 1: STATE DEMOGRAPHICS

## Geography

Based on a 2023-2024 report from the Ohio Department of Development (ODD), Office of Research, the State of Ohio encompasses a land area of 40,952.6 square miles. Land usage is predominantly farmland with 28.7% used for cultivated crops and an additional 14.6% used for hay and pasture land. Another 39.0% is forested land. Developed land usage is divided into 10.4% lower intensity and 3.3% higher intensity categories.

## Population

According to the United States Census Bureau, Ohio's population in 2024 was 11,883,304. Population growth in Ohio began to slow in the 1970s, increasing by 4.7% between 2000-2024 while the U.S. population has increased by 18.7% during the same timeframe. In 2024, Ohio was the seventh most populous state and accounted for 3.6% of the nation's population (334,110,988). Based on the most recently available data from the 2023 American Community Survey, the median age of Ohio's population was 39.9 years of age and slightly higher than the nation's median age of 39.2 years. Since 2000, Ohio's median age has increased by 3.6 years. In 2023, children ranging from 0 – 14 years of age made up 17.8% of the Ohio's population. Teens and adults ages 15 – 64 constituted 63.4% of the population, and adults aged 65 and older accounted for 18.8%.

## Education and Income

According to the 2023 American Community Survey, 8.8% of Ohio's population were between the ages of 18-24 years, while 69.3% were 25 years of age or older. Of those between 18-24 years of age, 12.0% did not graduate high school, the majority (39.6%) earned a high school diploma (or equivalent), and 12.8% earned a bachelor's degree or higher. Among those 25 years or older, only 8.2% did not graduate high school, 31.8% earned a high school diploma (or equivalent), and 32.0% earned a bachelor's degree or higher. It is estimated that the Ohio median annual household income (in 2023 inflation-adjusted dollars) is $67,769, with 6.4% of the population living below 50% of poverty level.

## Healthcare

In 2024, there were approximately 214 registered hospitals. Of facilities designated as hospitals, 78 were identified as acute care facilities. Of the total registered hospitals, 32 were identified as critical access hospitals. There were also 50 freestanding emergency departments. There were 54 hospitals that met the American College of Surgeons Committee on Trauma criteria for registered trauma centers that are equipped to handle more extreme traumatic injury cases. In Ohio, there were 11 Level I adult trauma centers, 11 Level II adult trauma centers, and 27 Level III adult trauma centers. There were also 5 Level I pediatric trauma centers and 3 Level II pediatric trauma centers serving the state. All of the Level II pediatric trauma centers reside in the same facility as an adult Level I trauma center. These registered trauma centers are located in the metropolitan areas of Akron, Cincinnati, Columbus, Cleveland, Dayton, and Toledo.

## Emergency Medical Services

As of the end of December 2024, there were 42,131 individuals holding an active EMS provider certificate as either an emergency medical responder (EMR), emergency medical technician (EMT), advanced emergency medical technician (AEMT), or paramedic. EMS coverage throughout Ohio included a mixture of EMR (4.0%), EMT (45.6%), AEMT (3.8%), paramedic (46.6%), and additional

protocol for invasive skills/interventions/advanced life support procedures beyond paramedic level services based on the highest level of approved operational protocols.

A total of 14 air medical service providers, many of which have one or more satellite locations, currently serve Ohio patients. The majority of air medical services are located in Ohio with a few having headquarter or satellite locations in Indiana, Kentucky, Pennsylvania, Michigan, and West Virginia. The system is comprised of 71 aircraft total, of which 3 aircrafts are fixed wing and 68 are rotor. Some headquarter locations and each satellite location have at least one aircraft stationed at their facility. The Ohio Department of Public Safety, Division of EMS inspects and licenses all air medical aircraft on an annual basis.

As of August 2025, there was a total of 2,107,197 EMS runs reported to the Ohio EMS Incident Reporting System (EMSIRS) in 2024. Of those records, 259,311 (12.3%) were categorized as injuries based on an assigned mechanism of injury within EMSIRS.

### Trauma Services

Of all injuries treated by an emergency facility, 88,861 records met the inclusion criteria for submission to the OTR. The inclusion criteria can be found in the "Trauma Acute Care Registry Data Dictionary," prepared by the Ohio Department of Public Safety (https://ems.ohio.gov/static/links/ems_OTR-TACR-Data-Dictionary-2024.pdf). For additional reference and context of these data, the Ohio Department of Health Injury Related Death Data, including a focus on the "External Injury Mechanism," is included in this report (Appendix K).

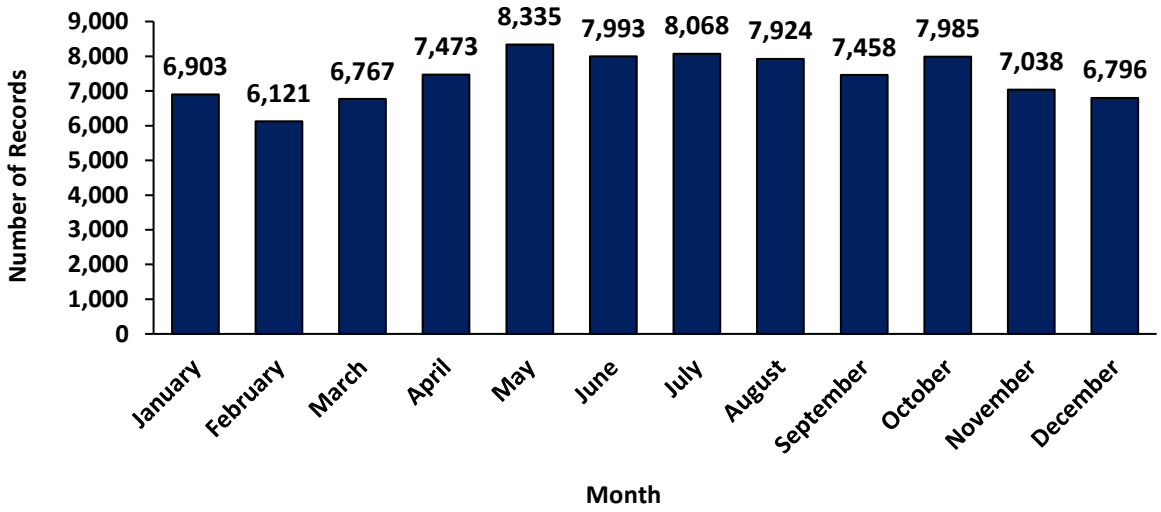
### Regional Trauma Systems

A regional trauma system is an organized, coordinated effort in a defined geographic area that delivers the full range of care to all injured patients and works together with emergency services and disaster preparedness making efficient use of health care resources to improve patient outcomes in the state of Ohio. Membership is voluntary and not generally restricted by facility location.

# SECTION 2: RECORDS OF HOSPITAL PATIENT CONTACT

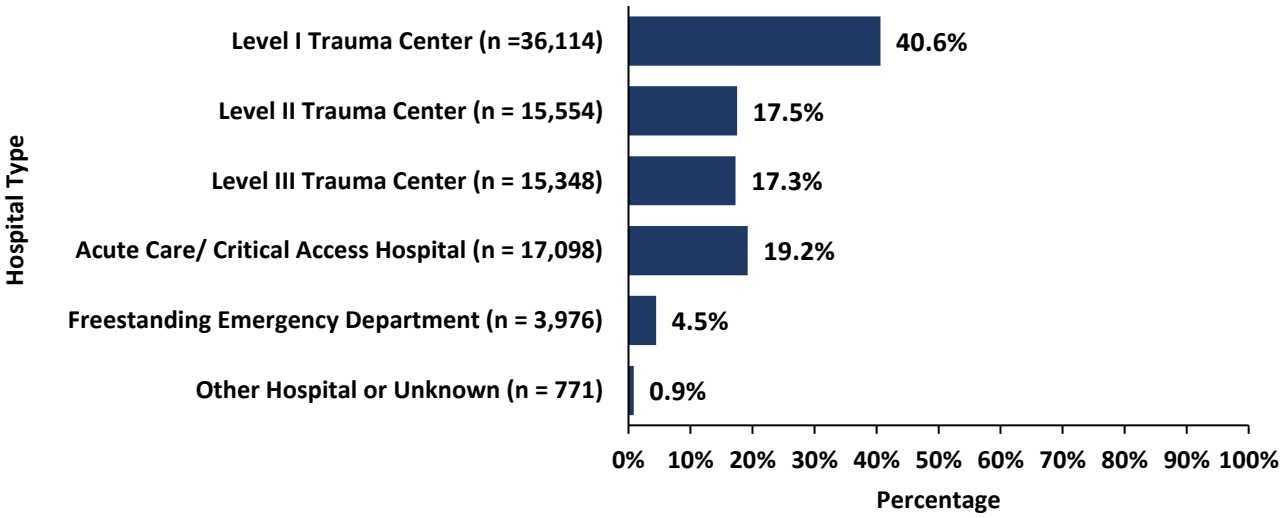
## ❖ Figure 1. Total records submitted to the Ohio Trauma Registry by month of arrival, 2024

This figure displays the number of trauma records submitted to the OTR by month of patient arrival during 2024. A total of 88,861 records met the inclusion criteria based on date of arrival in 2024. An average of 7,405 records were received by the OTR each month.




## ❖ Figure 2. Total records submitted to the Ohio Trauma Registry by hospital type, 2024

This figure shows the number and percentage of records that were submitted to the OTR by hospital type. The records most frequently came from Level I Trauma Centers (n= 36,114; 40.6%). In previous reports, critical access hospitals were included in the "Other Hospital or Unknown" category. However, in this report and moving forward, critical access hospitals are included with acute care hospitals in the "Acute Care/Critical Access Hospital" category.



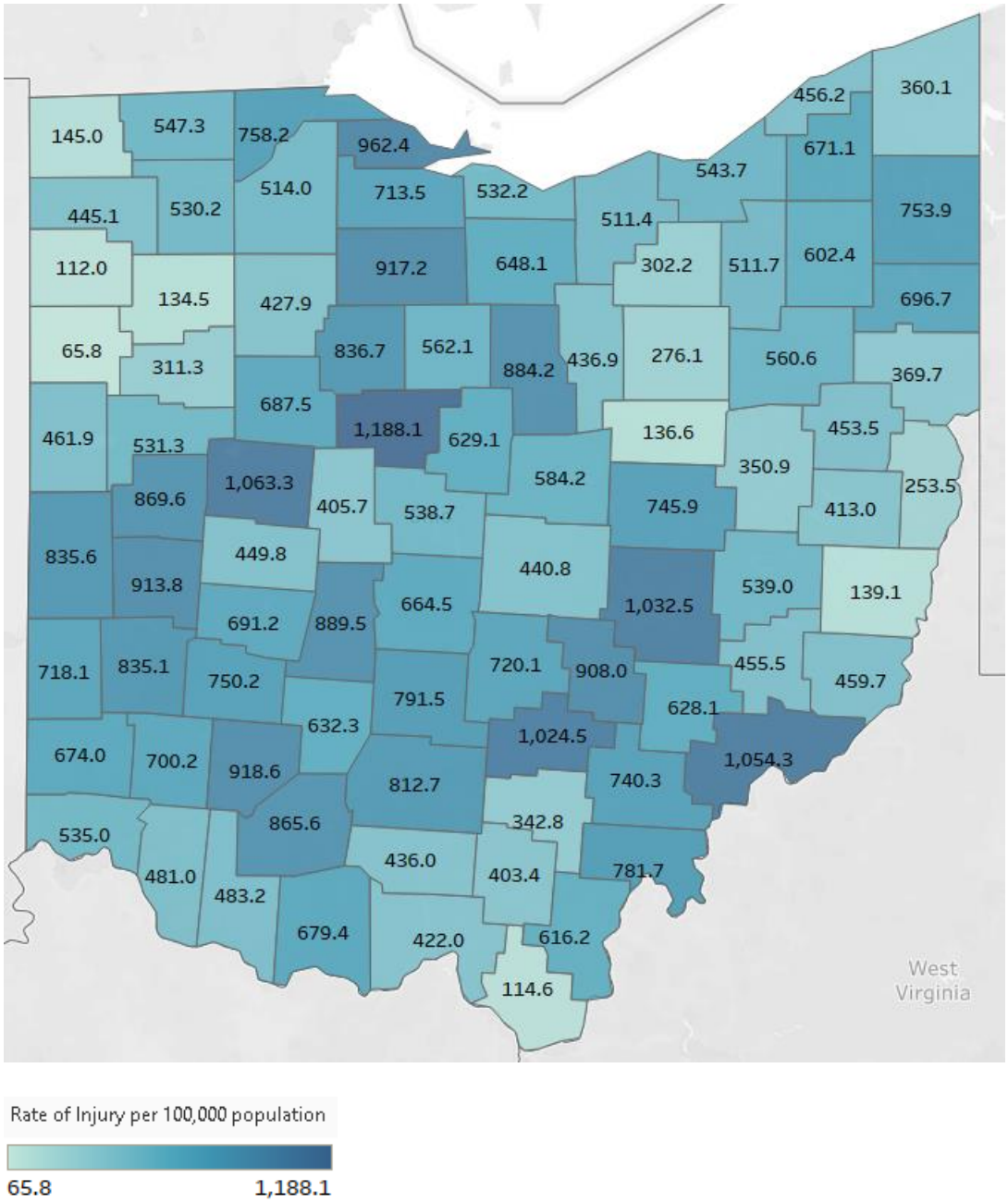
## ❖ Table 1. Rate of injuries by county of injury, Ohio, 2024

This table displays the rate of injuries by the county where the injury occurred. Marion (1,188.1 per 100,000 residents) and Logan (1,063.3 per 100,000 residents) counties reported the highest rates of injuries. Records where the county of injury was not reported or the injury occurred out of state were not included in the analysis.

| County | Count | Population | Rate per 100,000 | County | Count | Population | Rate per 100,000 |
|---|---|---|---|---|---|---|---|
| Adams | 188 | 27,671 | 679.4 | Logan | 490 | 46,085 | 1,063.3 |
| Allen | 314 | 100,866 | 311.3 | Lorain | 1,647 | 322,030 | 511.4 |
| Ashland | 229 | 52,420 | 436.9 | Lucas | 3,232 | 426,291 | 758.2 |
| Ashtabula | 349 | 96,906 | 360.1 | Madison | 405 | 45,531 | 889.5 |
| Athens | 468 | 63,218 | 740.3 | Mahoning | 1,573 | 225,786 | 696.7 |
| Auglaize | 244 | 45,922 | 531.3 | Marion | 772 | 64,976 | 1,188.1 |
| Belmont | 90 | 64,692 | 139.1 | Medina | 558 | 184,625 | 302.2 |
| Brown | 214 | 44,292 | 483.2 | Meigs | 168 | 21,491 | 781.7 |
| Butler | 2,693 | 399,542 | 674.0 | Mercer | 197 | 42,648 | 461.9 |
| Carroll | 120 | 26,460 | 453.5 | Miami | 1,023 | 111,950 | 913.8 |
| Champaign | 175 | 38,907 | 449.8 | Monroe | 60 | 13,051 | 459.7 |
| Clark | 933 | 134,985 | 691.2 | Montgomery | 4,488 | 537,443 | 835.1 |
| Clermont | 1,030 | 214,123 | 481.0 | Morgan | 85 | 13,532 | 628.1 |
| Clinton | 386 | 42,019 | 918.6 | Morrow | 226 | 35,927 | 629.1 |
| Columbiana | 369 | 99,823 | 369.7 | Muskingum | 894 | 86,582 | 1,032.5 |
| Coshocton | 276 | 37,003 | 745.9 | Noble | 65 | 14,269 | 455.5 |
| Crawford | 234 | 41,626 | 562.1 | Ottawa | 382 | 39,692 | 962.4 |
| Cuyahoga | 6,745 | 1,240,594 | 543.7 | Paulding | 21 | 18,755 | 112.0 |
| Darke | 430 | 51,462 | 835.6 | Perry | 324 | 35,682 | 908.0 |
| Defiance | 172 | 38,644 | 445.1 | Pickaway | 492 | 62,158 | 791.5 |
| Delaware | 1,282 | 237,966 | 538.7 | Pike | 118 | 27,065 | 436.0 |
| Erie | 393 | 73,841 | 532.2 | Portage | 987 | 163,839 | 602.4 |
| Fairfield | 1,208 | 167,762 | 720.1 | Preble | 293 | 40,801 | 718.1 |
| Fayette | 182 | 28,782 | 632.3 | Putnam | 46 | 34,206 | 134.5 |
| Franklin | 9,012 | 1,356,303 | 664.5 | Richland | 1,104 | 124,853 | 884.2 |
| Fulton | 230 | 42,028 | 547.3 | Ross | 618 | 76,046 | 812.7 |
| Gallia | 178 | 28,886 | 616.2 | Sandusky | 420 | 58,866 | 713.5 |
| Geauga | 640 | 95,362 | 671.1 | Scioto | 303 | 71,798 | 422.0 |
| Greene | 1,293 | 172,347 | 750.2 | Seneca | 502 | 54,730 | 917.2 |
| Guernsey | 206 | 38,219 | 539.0 | Shelby | 417 | 47,952 | 869.6 |
| Hamilton | 4,480 | 837,359 | 535.0 | Stark | 2,097 | 374,091 | 560.6 |
| Hancock | 321 | 75,016 | 427.9 | Summit | 2,755 | 538,370 | 511.7 |
| Hardin | 209 | 30,402 | 687.5 | Trumbull | 1,510 | 200,300 | 753.9 |
| Harrison | 58 | 14,042 | 413.0 | Tuscarawas | 323 | 92,048 | 350.9 |
| Henry | 146 | 27,536 | 530.2 | Union | 291 | 71,721 | 405.7 |
| Highland | 379 | 43,785 | 865.6 | Van Wert | 19 | 28,887 | 65.8 |
| Hocking | 281 | 27,429 | 1,024.5 | Vinton | 43 | 12,545 | 342.8 |
| Holmes | 61 | 44,668 | 136.6 | Warren | 1,793 | 256,059 | 700.2 |
| Huron | 377 | 58,168 | 648.1 | Washington | 615 | 58,332 | 1,054.3 |
| Jackson | 132 | 32,723 | 403.4 | Wayne | 322 | 116,632 | 276.1 |
| Jefferson | 162 | 63,900 | 253.5 | Williams | 53 | 36,554 | 145.0 |
| Knox | 373 | 63,848 | 584.2 | Wood | 684 | 133,077 | 514.0 |
| Lake | 1,060 | 232,360 | 456.2 | Wyandot | 179 | 21,394 | 836.7 |
| Lawrence | 64 | 55,829 | 114.6 | Not Recorded | 5,606 | | |
| Licking | 815 | 184,898 | 440.8 | Out of Ohio | -- | | |

## ❖ Figure 3. Rate of injuries by county of injury, Ohio, 2024

This map displays the rate of injuries per 100,000 residents in each Ohio county based on the county where the injury occurred. The Ohio counties with the highest rates of injury in 2024 were Marion (1,188.1 per 100,000 residents) and Logan (1,063.3 per 100,000 residents). There were 5,606 records where the county of injury was not recorded. Those records are not represented in this figure. Records where the injury occurred out of state were not included in this analysis.



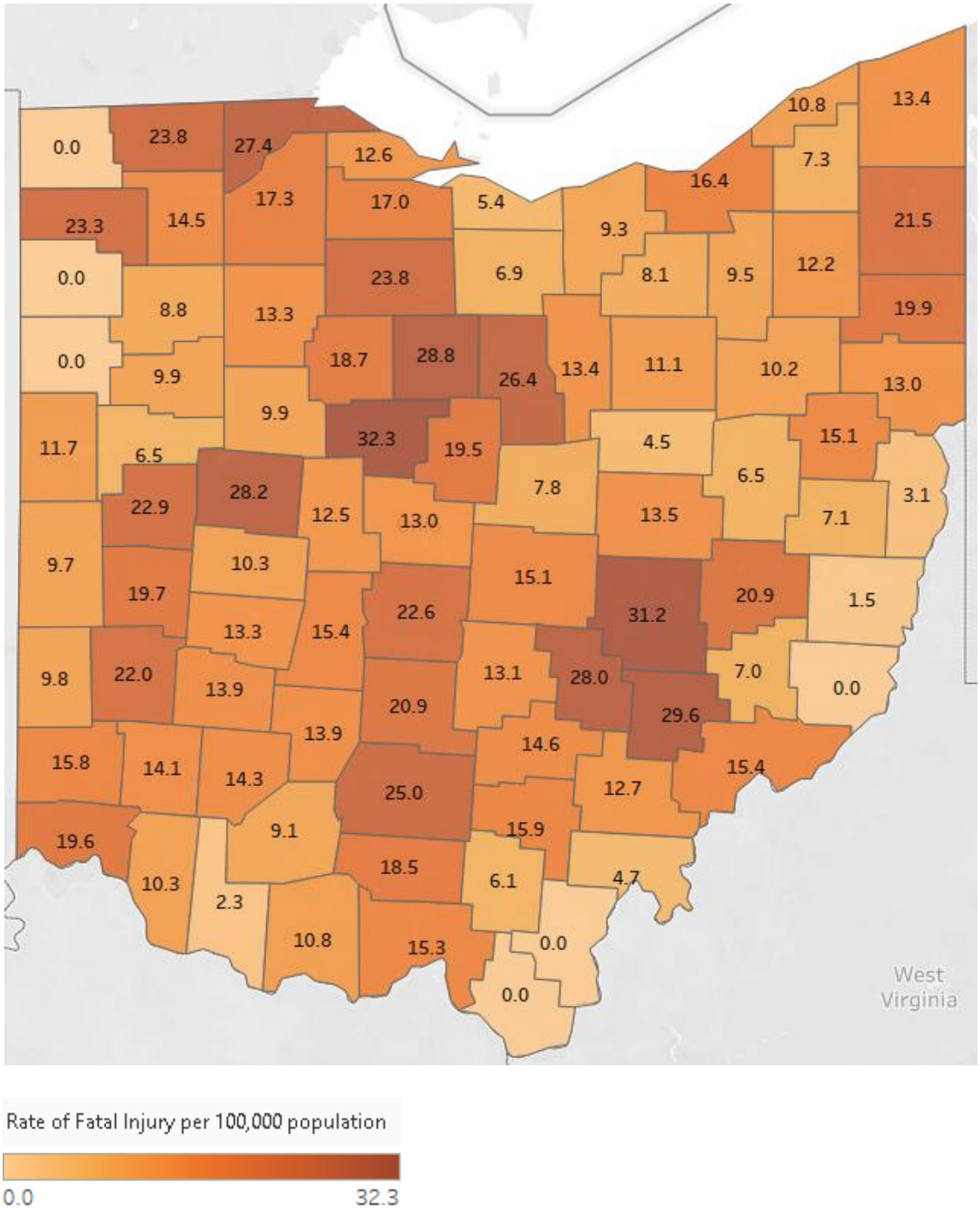
## ❖ Table 2. Rate of fatal injuries by county of injury, Ohio, 2024

This table displays the rate of fatal injuries by the county of injury. Marion (32.3 per 100,000 residents) and Muskingum (31.2 per 100,000 residents) counties reported the highest rates of fatal injuries. Records where the county of injury was not reported or the injury occurred out of state were not included in this analysis.

| County | Population | Rate per 100,000 | County | Population | Rate per 100,000 |
|---|---|---|---|---|---|
| Adams | 27,671 | 10.8 | Logan | 46,085 | 28.2 |
| Allen | 100,866 | 9.9 | Lorain | 322,030 | 9.3 |
| Ashland | 52,420 | 13.4 | Lucas | 426,291 | 27.4 |
| Ashtabula | 96,906 | 13.4 | Madison | 45,531 | 15.4 |
| Athens | 63,218 | 12.7 | Mahoning | 225,786 | 19.9 |
| Auglaize | 45,922 | 6.5 | Marion | 64,976 | 32.3 |
| Belmont | 64,692 | 1.5 | Medina | 184,625 | 8.1 |
| Brown | 44,292 | 2.3 | Meigs | 21,491 | 4.7 |
| Butler | 399,542 | 15.8 | Mercer | 42,648 | 11.7 |
| Carroll | 26,460 | 15.1 | Miami | 111,950 | 19.7 |
| Champaign | 38,907 | 10.3 | Monroe | 13,051 | 0.0 |
| Clark | 134,985 | 13.3 | Montgomery | 537,443 | 22.0 |
| Clermont | 214,123 | 10.3 | Morgan | 13,532 | 29.6 |
| Clinton | 42,019 | 14.3 | Morrow | 35,927 | 19.5 |
| Columbiana | 99,823 | 13.0 | Muskingum | 86,582 | 31.2 |
| Coshocton | 37,003 | 13.5 | Noble | 14,269 | 7.0 |
| Crawford | 41,626 | 28.8 | Ottawa | 39,692 | 12.6 |
| Cuyahoga | 1,240,594 | 16.4 | Paulding | 18,755 | 0.0 |
| Darke | 51,462 | 9.7 | Perry | 35,682 | 28.0 |
| Defiance | 38,644 | 23.3 | Pickaway | 62,158 | 20.9 |
| Delaware | 237,966 | 13.0 | Pike | 27,065 | 18.5 |
| Erie | 73,841 | 5.4 | Portage | 163,839 | 12.2 |
| Fairfield | 167,762 | 13.1 | Preble | 40,801 | 9.8 |
| Fayette | 28,782 | 13.9 | Putnam | 34,206 | 8.8 |
| Franklin | 1,356,303 | 22.6 | Richland | 124,853 | 26.4 |
| Fulton | 42,028 | 23.8 | Ross | 76,046 | 25.0 |
| Gallia | 28,886 | 0.0 | Sandusky | 58,866 | 17.0 |
| Geauga | 95,362 | 7.3 | Scioto | 71,798 | 15.3 |
| Greene | 172,347 | 13.9 | Seneca | 54,730 | 23.8 |
| Guernsey | 38,219 | 20.9 | Shelby | 47,952 | 22.9 |
| Hamilton | 837,359 | 19.6 | Stark | 374,091 | 10.2 |
| Hancock | 75,016 | 13.3 | Summit | 538,370 | 9.5 |
| Hardin | 30,402 | 9.9 | Trumbull | 200,300 | 21.5 |
| Harrison | 14,042 | 7.1 | Tuscarawas | 92,048 | 6.5 |
| Henry | 27,536 | 14.5 | Union | 71,721 | 12.5 |
| Highland | 43,785 | 9.1 | Van Wert | 28,887 | 0.0 |
| Hocking | 27,429 | 14.6 | Vinton | 12,545 | 15.9 |
| Holmes | 44,668 | 4.5 | Warren | 256,059 | 14.1 |
| Huron | 58,168 | 6.9 | Washington | 58,332 | 15.4 |
| Jackson | 32,723 | 6.1 | Wayne | 116,632 | 11.1 |
| Jefferson | 63,900 | 3.1 | Williams | 36,554 | 0.0 |
| Knox | 63,848 | 7.8 | Wood | 133,077 | 17.3 |
| Lake | 232,360 | 10.8 | Wyandot | 21,394 | 18.7 |
| Lawrence | 55,829 | 0.0 | Not Recorded | | |
| Licking | 184,898 | 15.1 | Out of Ohio | | |

## ❖ Figure 4. Rate of fatal injuries by county of injury, Ohio, 2024

This map displays the rate of fatal injuries per 100,000 residents in each Ohio county based on the county where the injury occurred. The Ohio counties with the highest rates of fatal injuries in 2024 were Marion (32.3 per 100,000 residents) and Muskingum (31.2 per 100,000 residents). There were 48 records where an injury was fatal but the county of injury was not recorded. Those records are not represented in this figure. Records where the injury occurred out of state were not included in this analysis.



## ❖ Table 3. Duration of hospital stay by mechanism of injury, Ohio, 2024

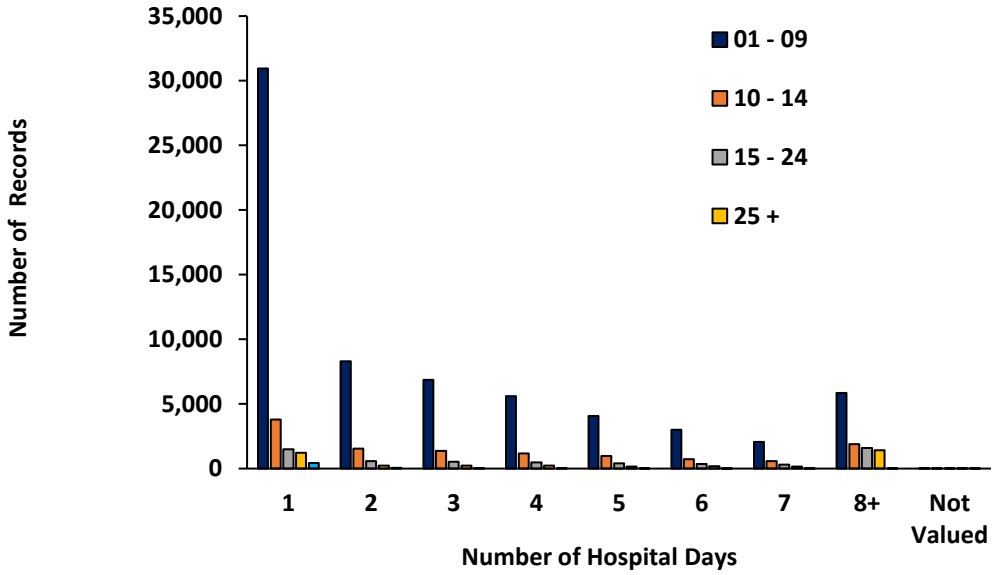
This table shows the distribution of the length of hospital stay (in days) by the mechanism of injury. The mechanism of injury is based on the reported ICD-10 code. Among all injury mechanisms reported, patients most frequently stayed one day at the hospital. Falls constituted the majority (63.2%) of traumatic injuries that occurred in 2024. Case fatality rate data are presented later in this report. Records labeled as "Not Classified" were populated with that text. Records labeled as "Not Valued" were populated with "- ".

| | Duration of Hospital Stay (Days) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mechanism of Injury** | **1 day** | **2 days** | **3 days** | **4 days** | **5 days** | **6 days** | **7 days** | **8 + days** | **Not Recorded** | **Total** | **Total %** |
| Abuse | 221 | 58 | 18 | 9 | 6 | 6 | 4 | 48 | 0 | **370** | **0.4** |
| Cut or Pierce | 1,227 | 221 | 129 | 86 | 55 | 36 | 33 | 97 | 0 | **1,884** | **2.1** |
| Drowning or Submersion | 59 | 5 | 2 | 5 | 1 | 1 | 1 | 3 | 0 | **77** | **0.1** |
| Electrical | 41 | 5 | 2 | 1 | 0 | 0 | 0 | 4 | 0 | **53** | **0.1** |
| Explosion | 89 | 13 | 18 | 7 | 3 | 3 | 1 | 19 | 0 | **153** | **0.2** |
| Fall | 19,967 | 6,424 | 6,594 | 5,876 | 4,418 | 3,380 | 2,367 | 7,127 | 23 | **56,176** | **63.2** |
| Fire or Flame | 378 | 55 | 31 | 34 | 15 | 15 | 9 | 118 | 1 | **656** | **0.7** |
| Firearm | 1,076 | 262 | 135 | 126 | 109 | 87 | 54 | 382 | 1 | **2,232** | **2.5** |
| Hot Object or Substance | 478 | 50 | 27 | 21 | 7 | 13 | 8 | 62 | 1 | **667** | **0.8** |
| Machinery | 402 | 60 | 24 | 14 | 11 | 3 | 12 | 33 | 0 | **559** | **0.6** |
| Mechanical | 419 | 43 | 19 | 15 | 8 | 11 | 6 | 34 | 0 | **555** | **0.6** |
| MVC** - Motorcyclist | 774 | 279 | 171 | 109 | 94 | 60 | 70 | 368 | 1 | **1,926** | **2.2** |
| MVC** - Occupant | 3,943 | 1,253 | 771 | 499 | 420 | 322 | 257 | 1,337 | 3 | **8,805** | **9.9** |
| MVC** - Other | 15 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | **20** | **0.0** |
| MVC** - Pedal Cyclist | 153 | 43 | 37 | 16 | 13 | 10 | 7 | 36 | 1 | **316** | **0.4** |
| MVC** - Pedestrian | 323 | 138 | 86 | 80 | 35 | 37 | 38 | 234 | 0 | **971** | **1.1** |
| MVC** - Unspecified | 370 | 70 | 46 | 36 | 20 | 23 | 11 | 72 | 1 | **649** | **0.7** |
| Natural or Environmental | 967 | 192 | 80 | 37 | 31 | 19 | 19 | 49 | 0 | **1,394** | **1.6** |
| Other Land Transport | 1,598 | 399 | 270 | 155 | 117 | 81 | 64 | 272 | 1 | **2,957** | **3.3** |
| Other Specified, Classifiable | 90 | 18 | 17 | 11 | 2 | 6 | 6 | 16 | 0 | **166** | **0.2** |
| Other Specified, Not Elsewhere Classifiable | 272 | 50 | 31 | 24 | 17 | 16 | 18 | 50 | 2 | **480** | **0.5** |
| Other Transport | 42 | 9 | 3 | 0 | 2 | 1 | 2 | 6 | 0 | **65** | **0.1** |
| Overexertion | 242 | 82 | 37 | 23 | 16 | 18 | 17 | 23 | 0 | **458** | **0.5** |
| Pedal Cyclist, Other | 603 | 131 | 48 | 36 | 32 | 15 | 12 | 37 | 1 | **915** | **1.0** |
| Pedestrian Conveyance | 577 | 131 | 58 | 49 | 40 | 22 | 16 | 47 | 0 | **940** | **1.1** |
| Pedestrian, Other | 139 | 43 | 24 | 13 | 19 | 16 | 14 | 60 | 0 | **328** | **0.4** |
| Poisoning | 42 | 5 | 5 | 3 | 1 | 0 | 4 | 0 | 0 | **60** | **0.1** |
| Struck by or Against | 3,157 | 608 | 291 | 181 | 91 | 69 | 41 | 203 | 1 | **4,642** | **5.2** |
| Suffocation/Asphyxiation | 78 | 12 | 9 | 5 | 9 | 3 | 5 | 6 | 0 | **127** | **0.1** |
| Not Classified | 72 | 13 | 9 | 8 | 3 | 5 | 3 | 14 | 0 | **127** | **0.1** |
| Not Valued | 68 | 22 | 13 | 6 | 5 | 3 | 5 | 11 | 0 | **133** | **0.1** |
| **TOTAL** | **37,882** | **10,695** | **9,006** | **7,485** | **5,601** | **4,282** | **3,104** | **10,769** | **37** | **88,861** | **100.0** |

** MVC is an abbreviation for Motor Vehicle Collision

## ❖ Figure 5. Duration of hospital stay by Injury Severity Score (ISS), Ohio, 2024

The Injury Severity Score (ISS) is an assessment of the patient's injury severity. ISS scores range from 0 to 75, where a higher ISS score indicates a more severe injury. This graph displays the duration of hospital stays (in days) based on the ISS. A description of how the ISS is calculated is located in the Glossary. Records labeled as "Not Valued" were populated with "- ".




## ❖ Table 4. Duration of hospital stay by Injury Severity Score (ISS), Ohio, 2024

Records labeled as "Not Valued" were populated with "- ". Persons with an ISS score between 01 and 09 were more likely to spend one day at the hospital following injury compared to other hospital stay durations. Persons with an ISS score of 25+ were most likely to spend eight days or more at the hospital following injury compared to other hospital stay durations. Case fatality rate data are presented later in this report.

| | Injury Severity Score (ISS) | | | | | |
|---|---|---|---|---|---|---|
| **Hospital Days** | **01 - 09** | **10 - 14** | **15 - 24** | **25 +** | **Not Calculable** | **Total** |
| 1 | 30,957 | 3,795 | 1,501 | 1,210 | 419 | **37,882** |
| 2 | 8,310 | 1,531 | 572 | 237 | 45 | **10,695** |
| 3 | 6,853 | 1,367 | 523 | 227 | 36 | **9,006** |
| 4 | 5,589 | 1,175 | 476 | 218 | 27 | **7,485** |
| 5 | 4,062 | 964 | 410 | 152 | 13 | **5,601** |
| 6 | 3,000 | 737 | 358 | 179 | 8 | **4,282** |
| 7 | 2,056 | 582 | 305 | 156 | 5 | **3,104** |
| 8+ | 5,856 | 1,882 | 1,589 | 1,420 | 22 | **10,769** |
| Not Valued | 33 | 1 | 1 | 1 | 1 | **37** |
| **Total** | **66,716** | **12,034** | **5,735** | **3,800** | **576** | **88,861** |

## ❖ Table 5. Number of transfers out of emergency departments by hospital type, Ohio, 2024

This table looks at the number of instances where a patient was transferred out of a hospital based on the hospital type. This report looks at five different hospital types: Level I, II, and III trauma centers, freestanding emergency departments, and acute care/critical access hospitals. The most frequent transfers out of the hospital were by acute care/critical access hospitals (48.3%). Among the trauma centers, most (n= 4,198) of the transfers out came from Level III Trauma Centers.

In previous reports, critical access hospitals were included in the "Other Hospital or Unknown" category. However, in this report and moving forward, critical access hospitals are included with acute care hospitals in the "Acute Care/Critical Access Hospital" category.

| Hospital Type | Transfers | |
|---|---|---|
| | # | % |
| Level I Trauma Center | 258 | 1.4 |
| Level II Trauma Center | 847 | 4.6 |
| Level III Trauma Center | 4,198 | 22.6 |
| Freestanding Emergency Department | 3,895 | 21.0 |
| Acute Care/ Critical Access Hospital | 8,988 | 48.3 |
| Other Hospital or Unknown | 407 | 2.2 |
| **Total** | **18,593** | **100.0** |

## ❖ Table 5a. Destinations of emergency department transfers out of Level I Trauma Centers, Ohio, 2024

Though comprising the smallest percentage, there are a small number of transfers from emergency departments that come from Level I trauma centers. The table below identifies the destination by hospital type for those transfers. Of the 258 emergency department transfers that came from Level I trauma centers, most went to other Level I trauma centers (n= 142, 55.0%).

In previous reports, critical access hospitals were included in the "Other Hospital or Unknown" category. However, in this report and moving forward, critical access hospitals are included with acute care hospitals in the "Acute Care/Critical Access Hospital" category.

| Hospital Type | Transfers | |
|---|---|---|
| | # | % |
| Level I Trauma Center | 142 | 55.0 |
| Level II Trauma Center | 11 | 4.3 |
| Level III Trauma Center | 20 | 7.8 |
| Acute Care/ Critical Access Hospital | 10 | 3.9 |
| Freestanding Emergency Department | 0 | 0.0 |
| Other Hospital or Unknown | 75 | 29.1 |
| **Total** | **258** | **100.0** |

## ❖ Table 5b. Destinations of emergency department transfers out of acute care/critical access hospitals, Ohio, 2024

The highest percentage of emergency department transfers came from acute care/critical access hospitals. The table below identifies the destination by hospital type for these transfers. The majority of emergency department transfers that came from acute care/critical access hospitals went to Level I trauma centers (n= 5,853, 65.1%).

In previous reports, critical access hospitals were included in the "Other Hospital or Unknown" category. However, in this report and moving forward, critical access hospitals are included with acute care hospitals in the "Acute Care/Critical Access Hospital" category.

| Hospital Type | Transfers | |
|---|---|---|
| | # | % |
| Level I Trauma Center | 5,853 | 65.1 |
| Level II Trauma Center | 1,902 | 21.2 |
| Level III Trauma Center | 487 | 5.4 |
| Acute Care/ Critical Access Hospital | 417 | 4.6 |
| Freestanding Emergency Department | 6 | 0.1 |
| Other Hospital or Unknown | 323 | 3.6 |
| **Total** | **8,988** | **100.0** |

## ❖ Table 5c. Destinations of pediatric emergency department transfers out of acute care/critical access hospitals, Ohio, 2024

The table below identifies the destination by hospital type for pediatric transfer cases that come from acute care/critical access hospitals. The majority (86.8%) of pediatric transfer cases from acute care/critical access hospitals went to pediatric level I trauma centers.

In previous reports, critical access hospitals were included in the "Other Hospital or Unknown" category. However, in this report and moving forward, critical access hospitals are included with acute care hospitals in the "Acute Care/Critical Access Hospital" category.

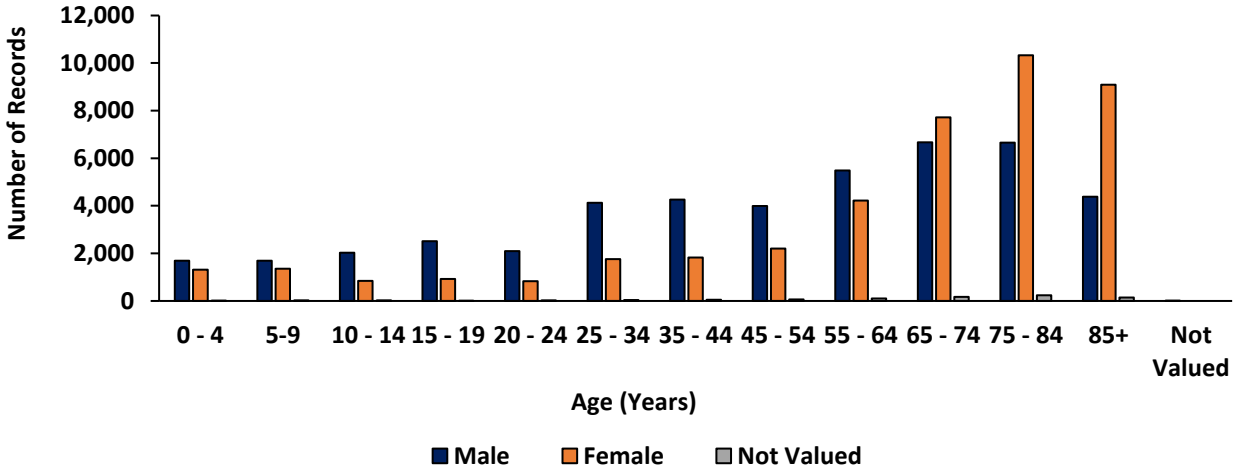
| Hospital Type | Transfers | |
|---|---|---|
| | # | % |
| Pediatric Level I Trauma Center | 1,208 | 86.8 |
| Pediatric Level II Trauma Center* | 108 | 7.8 |
| Adult Level I Trauma Center | 15 | 1.1 |
| Adult Level II Trauma Center | 11 | 0.8 |
| Acute Care/ Critical Access Hospital | 13 | 0.9 |
| Freestanding Emergency Department | 1 | 0.1 |
| Other Hospital or Unknown | 35 | 2.5 |
| **Total** | **1,391** | **100.0** |

**All pediatric level II trauma centers are housed within adult Level I trauma centers.*

# SECTION 3: PATIENT CHARACTERISTICS

## ❖ Figure 6. Demographics by sex and age group, Ohio, 2024

This graph, along with Table 6 below, looks at the demographics of the records submitted to the Ohio trauma registry by sex and age group. From birth to age 64, males outnumbered females in each age group. Females accounted for a larger number of records compared to males from age 65 and older. Records where gender is labeled as "Not Valued" were populated with "U". Records where the age group is labeled as "Not Valued" were populated with "- ". There were 2 records where age was not valued.



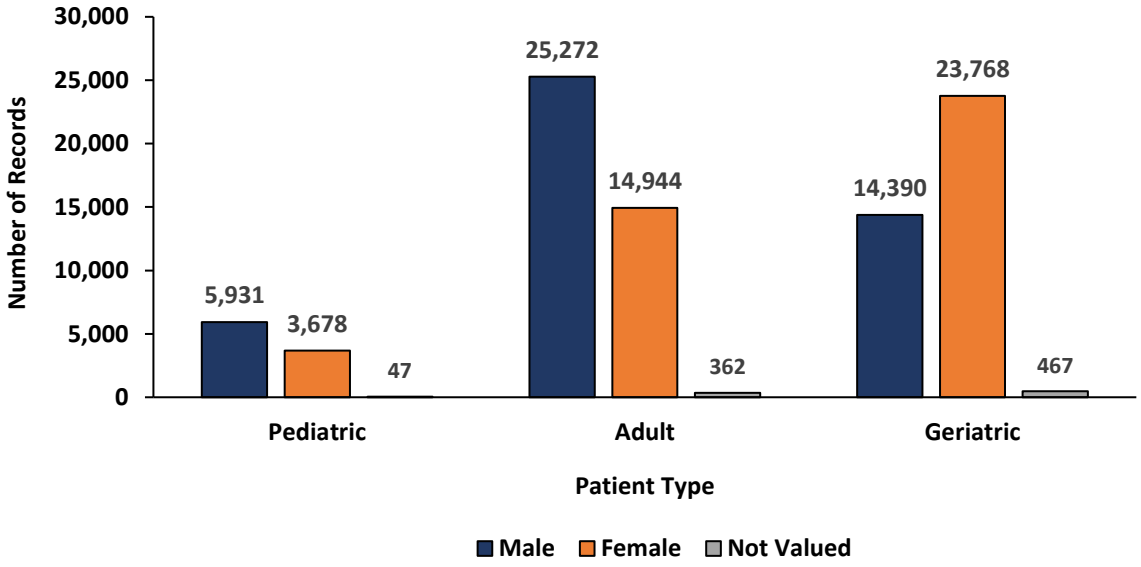

## ❖ Table 6. Demographics by sex and age group, Ohio, 2024

The most common age group among males was 65 – 74. The most common age group among females was 75-84. Records where gender is labeled as "Not Valued" were populated with "U". Records where the age category is labeled as "Not Valued" were populated with "- ".

| Age (Years) | Male | | Female | | Not Valued | | Total | |
|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % |
| 0 - 4 | 1,696 | 3.7 | 1,313 | 3.1 | 9 | 1.0 | **3,018** | **3.4** |
| 5-9 | 1,690 | 3.7 | 1,354 | 3.2 | 18 | 2.1 | **3,062** | **3.4** |
| 10-14 | 2,028 | 4.4 | 846 | 2.0 | 18 | 2.1 | **2,892** | **3.3** |
| 15 - 19 | 2,515 | 5.5 | 922 | 2.2 | 14 | 1.6 | **3,451** | **3.9** |
| 20 - 24 | 2,089 | 4.6 | 828 | 2.0 | 17 | 1.9 | **2,934** | **3.3** |
| 25 - 34 | 4,128 | 9.1 | 1,760 | 4.2 | 37 | 4.2 | **5,925** | **6.7** |
| 35 - 44 | 4,257 | 9.3 | 1,821 | 4.3 | 55 | 6.3 | **6,133** | **6.9** |
| 45 - 54 | 3,998 | 8.8 | 2,201 | 5.2 | 60 | 6.8 | **6,259** | **7.0** |
| 55 - 64 | 5,485 | 12.0 | 4,220 | 10.0 | 99 | 11.3 | **9,804** | **11.0** |
| 65 - 74 | 6,672 | 14.6 | 7,712 | 18.2 | 166 | 18.9 | **14,550** | **16.4** |
| 75 - 84 | 6,657 | 14.6 | 10,327 | 24.4 | 238 | 27.2 | **17,222** | **19.4** |
| 85 and over | 4,378 | 9.6 | 9,086 | 21.4 | 145 | 16.6 | **13,609** | **15.3** |
| Not Valued | 2 | 0.0 | 0 | 0.0 | 0 | 0.0 | **2** | **0.0** |
| **Total** | **45,595** | **100.0** | **42,390** | **100.0** | **876** | **100.0** | **88,861** | **100.0** |

## ❖ Figure 7. Demographics by patient type and sex, Ohio, 2024

This analysis defines pediatric patients as those between the ages of 0 to 15 years, adult patients as those between the ages of 16 to 69 years, and geriatric patients as those ages 70 and older.
The graph below shows the number of records based on type of patient (i.e., pediatric, adult, or geriatric) and patient sex. There were 2 records where age was not valued (records were populated with "- ") and therefore patient type could not be calculated. Those records were not included in this analysis. Records where sex is labeled as "Not Valued" were populated with "U".




## ❖ Table 7. Demographics by patient type and sex, Ohio, 2024

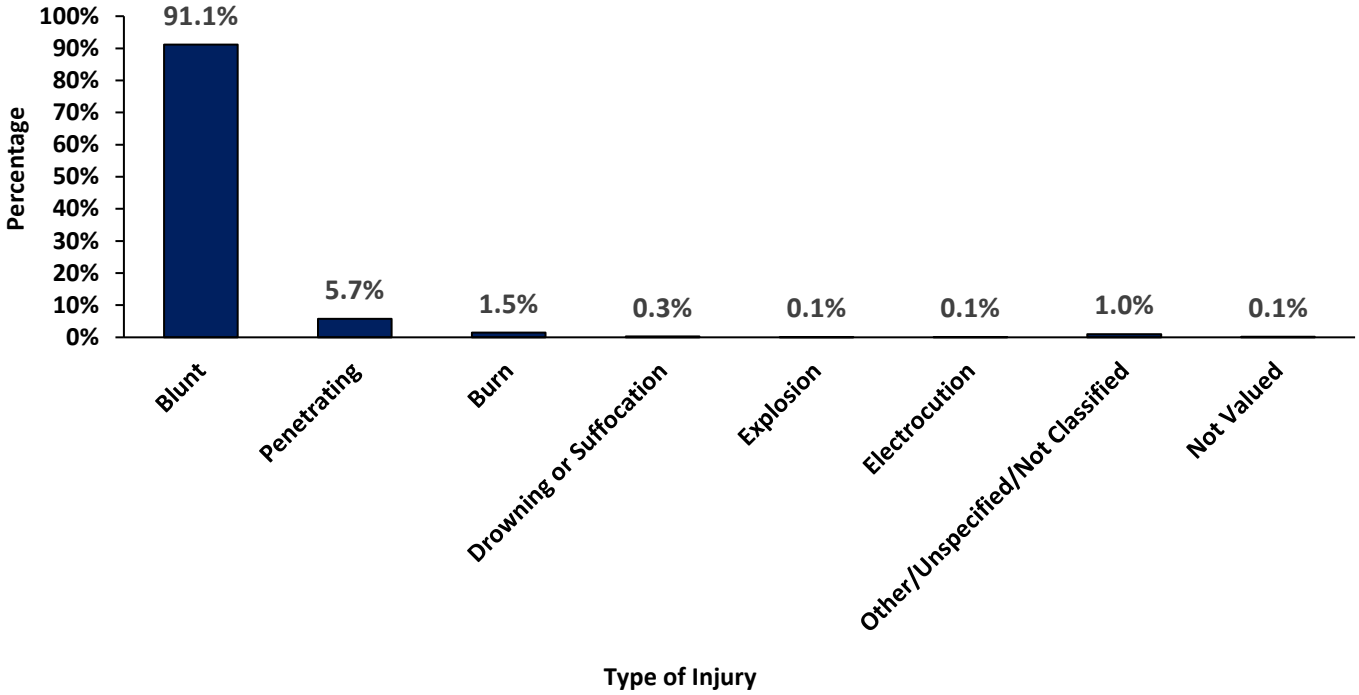
The table below shows the number of patients based on type of patient (i.e., pediatric, adult, or geriatric) and patient sex. There were 2 records where age was not valued (records were populated with "- ") and therefore patient type could not be calculated. These records were not included in this analysis. Records where sex is labeled as "Not Valued" were populated with "U". The majority of pediatric (61.4%) and adult (62.3%) records involved males. The majority (61.5%) of geriatric records involved females.

| Sex | Type of Patient | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Pediatric | | Adult | | Geriatric | | Total | |
| | # | % | # | % | # | % | # | % |
| Male | 5,931 | 61.4 | 25,272 | 62.3 | 14,390 | 37.3 | 45,593 | 51.3 |
| Female | 3,678 | 38.1 | 14,944 | 36.8 | 23,768 | 61.5 | 42,390 | 47.7 |
| Not Valued | 47 | 0.5 | 362 | 0.9 | 467 | 1.2 | 876 | 1.0 |
| **Total** | **9,656** | **100.0** | **40,578** | **100.0** | **38,625** | **100.0** | **88,859** | **100.0** |

# SECTION 4: INJURY CHARACTERISTICS

## ❖ Figure 8. Types of injuries, Ohio, 2024

This graph shows the types of injuries sustained in 2024. The type of injury is based on the reported ICD-10 code. Records where the type of injury was labeled as "Not Valued" were populated with "- ". Blunt injuries were the most common injury type identified, comprising 91.1% of the reported injuries.




## ❖ Table 8. Types of injuries, Ohio, 2024

This table shows the types of injuries sustained by the patient in 2024. Records where the type of injury was labeled as "Not Valued" were populated with "- ". The most common type of injury was blunt (91.1%), followed by penetrating (5.7%).

| Type of Injury | Injuries | |
|---|---|---|
| | # | % |
| Blunt | 80,986 | 91.1 |
| Penetrating | 5,093 | 5.7 |
| Burn | 1,355 | 1.5 |
| Drowning or Suffocation | 231 | 0.3 |
| Explosion | 106 | 0.1 |
| Electrocution | 53 | 0.1 |
| Other/Unspecified/Not Classified | 904 | 1.0 |
| Not Valued | 133 | 0.1 |
| **Total** | **88,861** | **100.0** |

## ❖ Table 9. Intent of injury, Ohio, 2024

This table shows the intent of the injury sustained in 2024. The categories of intent of injury were based on the reported ICD-10 code. Records where the intent of injury was labeled as "Not Valued" were populated with "- ". The majority (90.3%) of the injuries were unintentional.

| Intent of Injury | Injuries | |
|---|---|---|
| | # | % |
| Unintentional | 80,272 | 90.3 |
| Self-inflicted | 789 | 0.9 |
| Assault | 4,131 | 4.6 |
| Undetermined | 279 | 0.3 |
| Other | 65 | 0.1 |
| Not Valued | 3325 | 3.7 |
| **Total** | **88,861** | **100.0** |

## ❖ Table 10. Intent of injury by patient type, Ohio, 2024

This table shows the intent of injury sustained by patient type (i.e., pediatric, adult, geriatric). This analysis defines pediatric patients as being between the ages of 0 and 15 years, adult patients as being between the ages of 16 and 69 years, and geriatric patients as being ages 70 and older. There were 2 records where age was not valued (records were populated with "- ") and patient type could not be calculated. These records were not included in the table. Records where the intent of injury was labeled as "Not Valued" were populated with "- ". Across all patient types, the majority (pediatric: 91.0%; adult: 81.9%; geriatric: 99.0%; overall: 90.3%) of injuries were unintentional.

| Intent of Injury | Patient Type | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Pediatric | | Adult | | Geriatric | | Total | |
| | # | % | # | % | # | % | # | % |
| Unintentional | 8,789 | 91.0 | 33,245 | 81.9 | 38,237 | 99.0 | 80,271 | 90.3 |
| Self-inflicted | 43 | 0.4 | 695 | 1.7 | 51 | 0.1 | 789 | 0.9 |
| Assault | 200 | 2.1 | 3,823 | 9.4 | 108 | 0.3 | 4,131 | 4.6 |
| Undetermined | 23 | 0.2 | 232 | 0.6 | 23 | 0.1 | 278 | 0.3 |
| Other | 4 | 0.0 | 59 | 0.1 | 2 | 0.0 | 65 | 0.1 |
| Not Valued | 597 | 6.2 | 2,524 | 6.2 | 204 | 0.5 | 3,325 | 3.7 |
| **Total** | **9,656** | **100.0** | **40,578** | **100.0** | **38,625** | **100.0** | **88,859** | **100.0** |

## ❖ Table 11. Intent of injury by region, Ohio, 2024

This table shows the intent of the injuries sustained in 2024 based on region where the injury occurred. Regions were based on the eight out-of-hospital emergency medical services regions that the State Board of Emergency Medical, Fire, and Transportation Services geographically divided the state for purposes of overseeing the delivery of adult and pediatric out-of-hospital emergency medical services. A state map of these eight Ohio Homeland Security regions is located in Appendix L. Records where the injuries occurred out of state were not included in this analysis. Records where the intent of injury was labeled as "Not Valued" were populated with "- ". As of January 2026, it is confirmed that certain quarter 1 records in Region 3 have not yet been submitted. As a result, Region 3 figures may not fully reflect actual totals.

Across all regions, the majority (92.2% in Region 1; 89.5% in Region 2; 93.3% in Region 3; 89.7% in Region 4; 91.9% in Region 5; 91.0% in Region 6; 90.6% in Region 7; 90.8% in Region 8) of injuries were unintentional.

| Intent | Region 1 | | Region 2 | | Region 3 | | Region 4 | | Region 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % | # | % |
| Unintentional | 7,146 | 92.2 | 9,346 | 89.5 | 8,450 | 93.3 | 14,504 | 89.7 | 11,039 | 91.9 |
| Self-Inflicted | 77 | 1.0 | 73 | 0.7 | 53 | 0.6 | 178 | 1.1 | 121 | 1.0 |
| Assault | 253 | 3.3 | 617 | 5.9 | 274 | 3.0 | 964 | 6.0 | 381 | 3.2 |
| Undetermined | 13 | 0.2 | 37 | 0.4 | 30 | 0.3 | 52 | 0.3 | 21 | 0.2 |
| Other | 7 | 0.1 | 7 | 0.1 | 8 | 0.1 | 9 | 0.1 | 10 | 0.1 |
| Not Valued | 257 | 3.3 | 361 | 3.5 | 237 | 2.6 | 463 | 2.9 | 436 | 3.6 |
| **Total** | **7,753** | **100.0** | **10,441** | **100.0** | **9,052** | **100.0** | **16,170** | **100.0** | **12,008** | **100.0** |

| Intent | Region 6 | | Region 7 | | Region 8 | | Not Recorded | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % | # | % |
| Unintentional | 10,154 | 91.0 | 2,443 | 90.6 | 2,281 | 90.8 | 4,847 | 86.5 | 70,210 | 90.7 |
| Self-Inflicted | 116 | 1.0 | 36 | 1.3 | 23 | 0.9 | 27 | 0.5 | 704 | 0.9 |
| Assault | 475 | 4.3 | 115 | 4.3 | 82 | 3.3 | 304 | 5.4 | 3,465 | 4.5 |
| Undetermined | 27 | 0.2 | 14 | 0.5 | 5 | 0.2 | 41 | 0.7 | 240 | 0.3 |
| Other | 6 | 0.1 | 0 | 0.0 | 1 | 0.0 | 6 | 0.1 | 54 | 0.1 |
| Not Valued | 385 | 3.4 | 89 | 3.3 | 119 | 4.7 | 381 | 6.8 | 2,728 | 3.5 |
| **Total** | **11,163** | **100.0** | **2,697** | **100.0** | **2,511** | **100.0** | **5,606** | **100.0** | **77,401** | **100.0** |

## ❖ Table 12. Rates of injury intent by region of injury, Ohio, 2024

This table displays the rates of different intents of injury per 100,000 residents by the region where the injury occurred. A state map of these eight Ohio Homeland Security regions is located in Appendix L. Records where the injuries occurred out of state were not included in this analysis. Records where the county of injury was not valued (and so a region of injury could not be determined) were also excluded from this analysis. As of January 2026, it is confirmed that certain quarter 1 records in Region 3 have not yet been submitted. As a result, Region 3 numbers may not fully reflect actual totals. Records where the intent of injury was labeled as "Not Valued" were populated with "- ".

Across all regions, the highest rates of injury intent were for unintentional injuries. The highest rate of unintentional injury was in Region 3. The highest rate of injury by assault was also in Region 4.

| Region | Unintentional | | Self-Inflicted | | Assault | | Undetermined | |
|---|---|---|---|---|---|---|---|---|
| | Number of Injuries | Rate per 100,000 | Number of Injuries | Rate per 100,000 | Number of Injuries | Rate per 100,000 | Number of Injuries | Rate per 100,000 |
| **Region 1** | 7,146 | 535.0 | 77 | 5.8 | 253 | 18.9 | 13 | 1.0 |
| **Region 2** | 9,346 | 470.3 | 73 | 3.7 | 617 | 31.0 | 37 | 1.9 |
| **Region 3** | 8,450 | 743.9 | 53 | 4.7 | 274 | 24.1 | 30 | 2.6 |
| **Region 4** | 14,504 | 589.7 | 178 | 7.2 | 964 | 39.2 | 52 | 2.1 |
| **Region 5** | 11,039 | 492.0 | 121 | 5.4 | 381 | 17.0 | 21 | 0.9 |
| **Region 6** | 10,154 | 544.5 | 116 | 6.2 | 475 | 25.5 | 27 | 1.4 |
| **Region 7** | 2,443 | 539.6 | 36 | 8.0 | 115 | 25.4 | 14 | 3.1 |
| **Region 8** | 2,281 | 565.1 | 23 | 5.7 | 82 | 20.3 | 5 | 1.2 |
| **Total** | **65,363** | **550.0** | **677** | **5.7** | **3,161** | **26.6** | **199** | **1.7** |

| Region | Other | | Not Valued | | Total | |
|---|---|---|---|---|---|---|
| | Number of Injuries | Rate per 100,000 | Number of Injuries | Rate per 100,000 | Number of Injuries | Rate per 100,000 |
| **Region 1** | 7 | 0.5 | 257 | 19.2 | 7,753 | 580.4 |
| **Region 2** | 7 | 0.4 | 361 | 18.2 | 10,441 | 525.4 |
| **Region 3** | 8 | 0.7 | 237 | 20.9 | 9,052 | 796.9 |
| **Region 4** | 9 | 0.4 | 463 | 18.8 | 16,170 | 657.5 |
| **Region 5** | 10 | 0.4 | 436 | 19.4 | 12,008 | 535.1 |
| **Region 6** | 6 | 0.3 | 385 | 20.6 | 11,163 | 598.6 |
| **Region 7** | 0 | 0.0 | 89 | 19.7 | 2,697 | 595.7 |
| **Region 8** | 1 | 0.2 | 119 | 29.5 | 2,511 | 622.1 |
| **Total** | **48** | **0.4** | **2,347** | **19.8** | **71,795** | **604.2** |

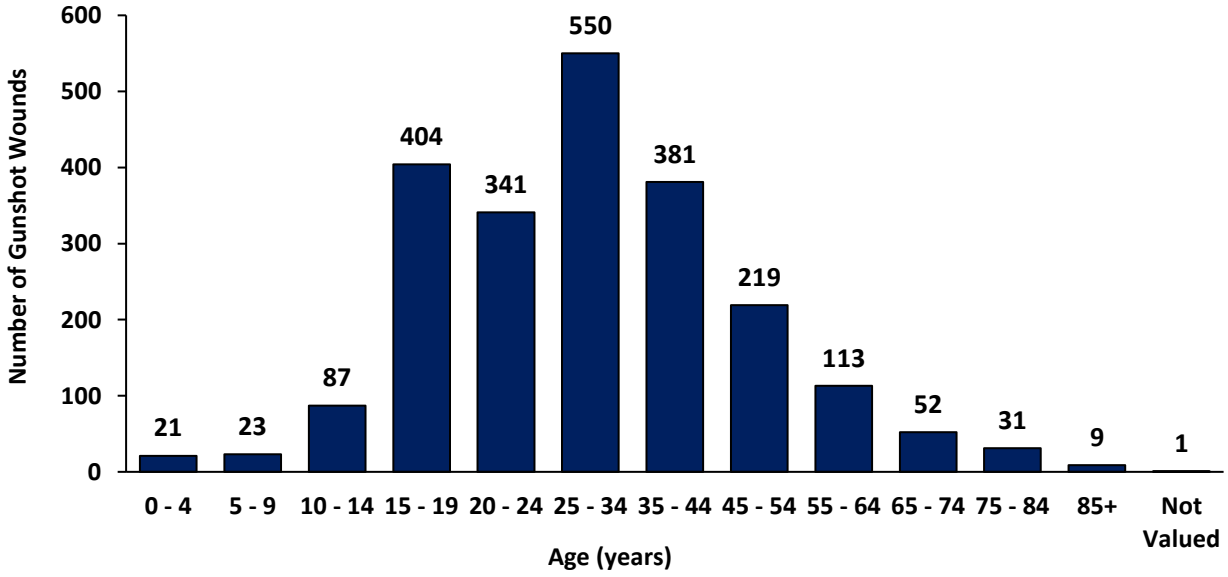
## ❖ Table 13. Intent of injury by urban and rural areas, Ohio, 2024

This table shows the intent of injuries sustained in 2024 by urban and rural areas. Records where the injuries occurred out of state were not included in this analysis. Records where the intent of injury was labeled as "Not Valued" were populated with "- ". Counties in Ohio were assigned an urban or rural classification based on the 2023 National Center for Health Statistics Urban-Rural Classification Scheme for Counties (Appendix M). Unintentional injuries were the most common intent of injury in both rural and urban areas. A higher percentage of assaults occurred in urban areas compared to the percentage in rural areas.

| Intent | Rural | | Urban | | Not Recorded | | Total | |
|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % |
| Unintentional | 11,908 | 92.9 | 53,455 | 90.6 | 4,847 | 86.5 | 70,210 | 90.7 |
| Self-Inflicted | 110 | 0.9 | 567 | 1.0 | 27 | 0.5 | 704 | 0.9 |
| Assault | 293 | 2.3 | 2,868 | 4.9 | 304 | 5.4 | 3,465 | 4.5 |
| Undetermined | 24 | 0.2 | 175 | 0.3 | 41 | 0.7 | 240 | 0.3 |
| Other | 5 | 0.0 | 43 | 0.1 | 6 | 0.1 | 54 | 0.1 |
| Not Valued | 476 | 3.7 | 1,871 | 3.2 | 381 | 6.8 | 2,728 | 3.5 |
| **Total** | **12,816** | **100.0** | **58,979** | **100.0** | **5,606** | **100.0** | **77,401** | **100.0** |

## ❖ Figure 9. Gunshot wounds by age group, Ohio, 2024

This graph shows the distribution of gunshot wounds in the Ohio Trauma Registry by age group. Records where the age category is labeled as "Not Valued" were populated with "- ". In 2024, gunshot wounds occurred most frequently among persons 25 – 34 years of age. Air guns were included in the ICD-10 codes that defined gunshot wounds for this analysis. This analysis only includes gunshot wounds that were sent to a facility.



## ❖ Table 14. Gunshot wounds by region, Ohio, 2024

This table shows the distribution of gunshot wounds where the injury occurred by Ohio Homeland Security Region. A state map of these eight regions is located in Appendix L. Records where the injuries occurred out of state were not included in this analysis. As of January 2026, it is confirmed that certain quarter 1 records in Region 3 have not yet been submitted. As a result, Region 3 figures may not fully reflect actual totals. This analysis only includes gunshot wounds that were sent to a facility.

Gunshot wounds occurred most frequently in Region 2 (n= 422, 22.0%).

| Region | # | % |
|---|---|---|
| Region 1 | 144 | 7.5 |
| Region 2 | 422 | 22.0 |
| Region 3 | 168 | 8.8 |
| Region 4 | 373 | 19.5 |
| Region 5 | 250 | 13.1 |
| Region 6 | 325 | 17.0 |
| Region 7 | 43 | 2.2 |
| Region 8 | 23 | 1.2 |
| Not Recorded | 168 | 8.8 |
| **Total** | **1,916** | **100.0** |

## ❖ Table 15. Rate of gunshot wounds by county of injury, Ohio, 2024

This table displays the rate of gunshot wounds by the county where the injury occurred. Records where the county of injury was not recorded and where the injuries occurred out of state were not included in this analysis. This analysis only includes gunshot wounds that were sent to a facility. Cuyahoga County (30.1 per 100,000 residents) and Hamilton County (28.4 per 100,000 residents) reported the highest rates of gunshot wounds during this reporting period. Among the injuries with identified counties, the statewide rate of gunshot wounds was 16.1 per 100,000 residents.

| County | Population | Rate per 100,000 | County | Population | Rate per 100,000 |
|---|---|---|---|---|---|
| Adams | 27,671 | 18.1 | Logan | 46,085 | 2.2 |
| Allen | 100,866 | 7.9 | Lorain | 322,030 | 9.6 |
| Ashland | 52,420 | 0.0 | Lucas | 426,291 | 23.7 |
| Ashtabula | 96,906 | 7.2 | Madison | 45,531 | 4.4 |
| Athens | 63,218 | 6.3 | Mahoning | 225,786 | 23.9 |
| Auglaize | 45,922 | 0.0 | Marion | 64,976 | 10.8 |
| Belmont | 64,692 | 3.1 | Medina | 184,625 | 1.1 |
| Brown | 44,292 | 0.0 | Meigs | 21,491 | 14.0 |
| Butler | 399,542 | 12.5 | Mercer | 42,648 | 2.3 |
| Carroll | 26,460 | 3.8 | Miami | 111,950 | 4.5 |
| Champaign | 38,907 | 7.7 | Monroe | 13,051 | 7.7 |
| Clark | 134,985 | 26.7 | Montgomery | 537,443 | 20.7 |
| Clermont | 214,123 | 2.3 | Morgan | 13,532 | 14.8 |
| Clinton | 42,019 | 19.0 | Morrow | 35,927 | 8.4 |
| Columbiana | 99,823 | 4.0 | Muskingum | 86,582 | 6.9 |
| Coshocton | 37,003 | 5.4 | Noble | 14,269 | 0.0 |
| Crawford | 41,626 | 2.4 | Ottawa | 39,692 | 2.5 |
| Cuyahoga | 1,240,594 | 30.1 | Paulding | 18,755 | 0.0 |
| Darke | 51,462 | 1.9 | Perry | 35,682 | 8.4 |
| Defiance | 38,644 | 2.6 | Pickaway | 62,158 | 11.3 |
| Delaware | 237,966 | 2.9 | Pike | 27,065 | 18.5 |
| Erie | 73,841 | 14.9 | Portage | 163,839 | 6.7 |
| Fairfield | 167,762 | 5.4 | Preble | 40,801 | 2.5 |
| Fayette | 28,782 | 3.5 | Putnam | 34,206 | 2.9 |
| Franklin | 1,356,303 | 23.1 | Richland | 124,853 | 20.0 |
| Fulton | 42,028 | 2.4 | Ross | 76,046 | 6.6 |
| Gallia | 28,886 | 13.8 | Sandusky | 58,866 | 3.4 |
| Geauga | 95,362 | 5.2 | Scioto | 71,798 | 12.5 |
| Greene | 172,347 | 2.9 | Seneca | 54,730 | 5.5 |
| Guernsey | 38,219 | 10.5 | Shelby | 47,952 | 12.5 |
| Hamilton | 837,359 | 28.4 | Stark | 374,091 | 10.2 |
| Hancock | 75,016 | 4.0 | Summit | 538,370 | 13.9 |
| Hardin | 30,402 | 3.3 | Trumbull | 200,300 | 15.5 |
| Harrison | 14,042 | 0.0 | Tuscarawas | 92,048 | 7.6 |
| Henry | 27,536 | 0.0 | Union | 71,721 | 5.6 |
| Highland | 43,785 | 13.7 | Van Wert | 28,887 | 0.0 |
| Hocking | 27,429 | 25.5 | Vinton | 12,545 | 0.0 |
| Holmes | 44,668 | 0.0 | Warren | 256,059 | 5.1 |
| Huron | 58,168 | 12.0 | Washington | 58,332 | 6.9 |
| Jackson | 32,723 | 9.2 | Wayne | 116,632 | 1.7 |
| Jefferson | 63,900 | 3.1 | Williams | 36,554 | 0.0 |
| Knox | 63,848 | 4.7 | Wood | 133,077 | 3.0 |
| Lake | 232,360 | 2.6 | Wyandot | 21,394 | 4.7 |
| Lawrence | 55,829 | 0.0 | Not Recorded | | |
| Licking | 184,898 | 7.0 | Out of Ohio | | |

The national average rate of fatal firearm injuries from CY 2010 – 2012 was 10.23 per 100,000, and the average rate of non-fatal firearm injuries was 21.6 per 100,000. [1] Fatal firearm injuries were most commonly reported within the 25 – 34 age group, while those ages 15 – 24 were the most common age group in which non-fatal firearm injuries occurred. [1]

In 2017, the age-adjusted death rate for firearm-related injuries in the United States was 12.0 per 100,000. The highest death rate was reported in the 25 – 34 age group (18.5 per 100,000), followed by the 15 – 24 age group (17.7 per 100,000). [2]

**Sources:**

[1] Fowler KA, Dahlberg LL, Haileyesus T, Annest JL. Firearm injuries in the United States. Prev Med. 2015 Oct;79:5-14. doi: 10.1016/j.ypmed.2015.06.002. Epub 2015 Jun 24. PMID: 26116133; PMCID: PMC4700838.

[2] Kochanek KD, Murphy SL, Xu J, Arias E. Deaths: Final Data for 2017. Natl Vital Stat Rep. 2019 Jun;68(9):1-77. PMID: 32501199.

# SECTION 5: OUTCOME MEASURES

Outcome measures as defined by the World Health Organization are the "change in the health of an individual, group of people, or population that is attributable to an intervention or series of interventions." For the purposes of this report, outcome measures include but are not limited to a patient's initial disposition on arrival, transfer between different level facilities, final discharge disposition, and mortality.

### ❖ Table 16. Emergency department disposition of trauma cases, Ohio, 2024

This table shows the disposition of patients after arriving at the emergency department. The most frequent emergency department disposition was being admitted to the floor (n= 37,399, 42.1%).

| Emergency Department Disposition | Patients | |
|---|---|---|
| | # | % |
| Floor | 37,399 | 42.1 |
| Transferred To Another Hospital | 18,593 | 20.9 |
| Intensive Care Unit (ICU) | 9,079 | 10.2 |
| Interventional Radiology (IR) | 51 | 0.1 |
| Telemetry/Step-Down Unit | 6,595 | 7.4 |
| Operating Room | 6,041 | 6.8 |
| Observation Unit | 2,270 | 2.6 |
| Home without Services | 4,471 | 5.0 |
| Morgue | 676 | 0.8 |
| Left Against Medical Advice | 92 | 0.1 |
| Other (Out of Hospital) | 68 | 0.1 |
| Home with Services | 25 | 0.0 |
| Direct Admissions to Hospital | 3,501 | 3.9 |
| **Total** | **88,861** | **100.0** |

## ❖ Table 17. Emergency department disposition of trauma cases by region, Ohio, 2024

This table shows the disposition of patients after arriving at the emergency department by the region where the injury occurred. A state map of these eight Ohio Homeland Security regions is located in Appendix L. Records where the injuries occurred out of state were not included in this analysis. As of January 2026, it is confirmed that certain quarter 1 records in Region 3 have not yet been submitted. As a result, Region 3 figures may not fully reflect actual totals.

For all regions, the most frequent emergency department disposition was getting admitted to the floor (39.5% in Region 1; 52.8% in Region 2; 39.8% in Region 3; 40.0% in Region 4; 44.7% in Region 5; 45.3% in Region 6; 41.7% in Region 7; 39.1% in Region 8).

| Emergency Department Disposition | Region 1 | | Region 2 | | Region 3 | | Region 4 | | Region 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % | # | % |
| Floor | 3,065 | 39.5 | 5,517 | 52.8 | 3,601 | 39.8 | 6,473 | 40.0 | 5,366 | 44.7 |
| Transferred To Another Hospital | 1,516 | 19.6 | 1,432 | 13.7 | 2,394 | 26.4 | 3,616 | 22.4 | 1,876 | 15.6 |
| Intensive Care Unit (ICU) | 1,187 | 15.3 | 1,448 | 13.9 | 885 | 9.8 | 1,330 | 8.2 | 1,404 | 11.7 |
| Interventional Radiology (IR) | 8 | 0.1 | 0 | 0.0 | 1 | 0.0 | 16 | 0.1 | 11 | 0.1 |
| Telemetry/Step-Down Unit | 771 | 9.9 | 27 | 0.3 | 118 | 1.3 | 2,388 | 14.8 | 1,387 | 11.6 |
| Operating Room | 367 | 4.7 | 1,002 | 9.6 | 397 | 4.4 | 1,171 | 7.2 | 837 | 7.0 |
| Observation Unit | 351 | 4.5 | 413 | 4.0 | 312 | 3.4 | 204 | 1.3 | 208 | 1.7 |
| Home without Services | 280 | 3.6 | 346 | 3.3 | 279 | 3.1 | 617 | 3.8 | 317 | 2.6 |
| Morgue | 83 | 1.1 | 93 | 0.9 | 70 | 0.8 | 165 | 1.0 | 70 | 0.6 |
| Left Against Medical Advice | 3 | 0.0 | 5 | 0.0 | 0 | 0.0 | 9 | 0.1 | 22 | 0.2 |
| Other (Out of Hospital) | 9 | 0.1 | 15 | 0.1 | 2 | 0.0 | 2 | 0.0 | 10 | 0.1 |
| Home with Services | 0 | 0.0 | 1 | 0.0 | 0 | 0.0 | 3 | 0.0 | 1 | 0.0 |
| Direct Admissions to Hospital Upon Arrival | 113 | 1.5 | 142 | 1.4 | 993 | 11.0 | 176 | 1.1 | 499 | 4.2 |
| **Total** | **7,753** | **100.0** | **10,441** | **100.0** | **9,052** | **100.0** | **16,170** | **100.0** | **12,008** | **100.0** |

| Emergency Department Disposition | Region 6 | | Region 7 | | Region 8 | | Not Recorded | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % | # | % |
| Floor | 5,053 | 45.3 | 1,125 | 41.7 | 983 | 39.1 | 2,064 | 36.8 | 33,247 | 43.0 |
| Transferred To Another Hospital | 2,317 | 20.8 | 669 | 24.8 | 862 | 34.3 | 1,434 | 25.6 | 16,116 | 20.8 |
| Intensive Care Unit (ICU) | 986 | 8.8 | 195 | 7.2 | 124 | 4.9 | 422 | 7.5 | 7,981 | 10.3 |
| Interventional Radiology (IR) | 1 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 0.0 | 39 | 0.1 |
| Telemetry/Step-Down Unit | 313 | 2.8 | 266 | 9.9 | 130 | 5.2 | 125 | 2.2 | 5,525 | 7.1 |
| Operating Room | 765 | 6.9 | 143 | 5.3 | 108 | 4.3 | 357 | 6.4 | 5,147 | 6.6 |
| Observation Unit | 323 | 2.9 | 22 | 0.8 | 38 | 1.5 | 120 | 2.1 | 1,991 | 2.6 |
| Home without Services | 630 | 5.6 | 163 | 6.0 | 82 | 3.3 | 776 | 13.8 | 3,490 | 4.5 |
| Morgue | 105 | 0.9 | 15 | 0.6 | 21 | 0.8 | 11 | 0.2 | 633 | 0.8 |
| Left Against Medical Advice | 2 | 0.0 | 5 | 0.2 | 2 | 0.1 | 5 | 0.1 | 53 | 0.1 |
| Other (Out of Hospital) | 12 | 0.1 | 4 | 0.1 | 2 | 0.1 | 4 | 0.1 | 60 | 0.1 |
| Home with Services | 4 | 0.0 | 0 | 0.0 | 12 | 0.5 | 0 | 0.0 | 21 | 0.0 |
| Direct Admissions to Hospital Upon Arrival | 652 | 5.8 | 90 | 3.3 | 147 | 5.9 | 286 | 5.1 | 3,098 | 4.0 |
| **Total** | **11,163** | **100.0** | **2,697** | **100.0** | **2,511** | **100.0** | **5,606** | **100.0** | **77,401** | **100.0** |

## ❖ Table 18. Hospital inpatient discharge disposition, Ohio, 2024

This table shows the disposition of patients at the time of their discharge. The most common hospital discharge disposition was going home or doing self-care as a routine discharge (n= 29,119; 32.8%).

| Discharge Disposition | Patients | |
|---|---|---|
| | # | % |
| Home or Self Care (Routine Discharge) | 29,119 | 32.8 |
| Skilled Nursing Facility | 16,491 | 18.6 |
| Home with Services | 7,999 | 9.0 |
| Inpatient Rehab or Designated Unit | 4,888 | 5.5 |
| Expired | 1,465 | 1.6 |
| Left Against Medical Advice or Discontinued Care | 644 | 0.7 |
| Hospice | 1047 | 1.2 |
| Transferred to Another Hospital | 1149 | 1.3 |
| Long Term Care Hospital (LTCH) | 1182 | 1.3 |
| Psychiatric Hospital or Psychiatric Distinct Part of a Hospital | 346 | 0.4 |
| Court/Law Enforcement | 235 | 0.3 |
| Intermediate Care Facility | 113 | 0.1 |
| Another Type of Inpatient Facility Not Defined Elsewhere | 90 | 0.1 |
| Discharged from Emergency Department After Arrival | 23,924 | 26.9 |
| Not Valued | 169 | 0.2 |
| **Total** | **88,861** | **100.0** |

## ❖ Table 19. Hospital inpatient discharge disposition by region, Ohio, 2024

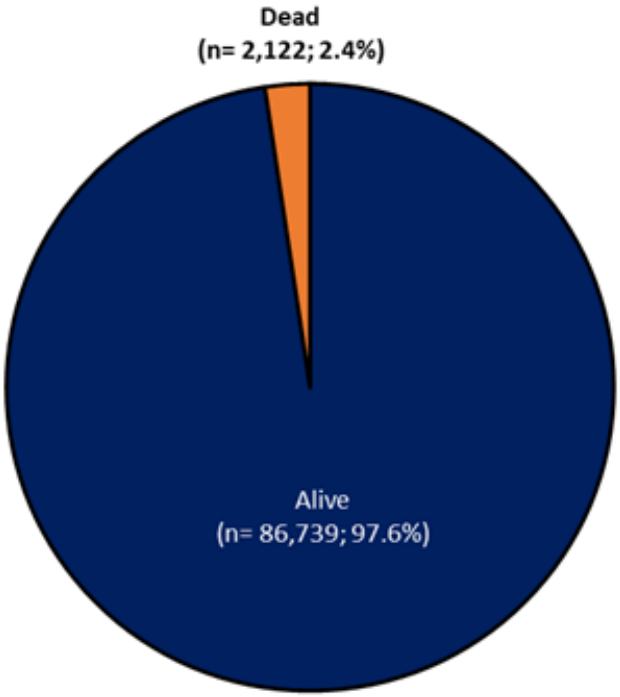
This table looks at the disposition of patients at the time of their discharge by the region where the injury occurred. A state map of these eight Ohio Homeland Security regions is located in Appendix L. Records where the injuries occurred out of state were not included in this analysis. As of January 2026, it is confirmed that certain quarter 1 records in Region 3 have not yet been submitted. As a result, Region 3 figures may not fully reflect actual totals.

| Discharge Disposition | Region 1 | | Region 2 | | Region 3 | | Region 4 | | Region 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % | # | % |
| Home or Self Care (Routine Discharge) | 2,598 | 33.5 | 3,201 | 30.7 | 2,538 | 28.0 | 5,383 | 33.3 | 3,655 | 30.4 |
| Skilled Nursing Facility | 1,640 | 21.2 | 2,553 | 24.5 | 1,274 | 14.1 | 2,817 | 17.4 | 3,258 | 27.1 |
| Home with Services | 535 | 6.9 | 1,213 | 11.6 | 843 | 9.3 | 1,807 | 11.2 | 1,076 | 9.0 |
| Inpatient Rehab or Designated Unit | 498 | 6.4 | 805 | 7.7 | 542 | 6.0 | 536 | 3.3 | 894 | 7.4 |
| Expired | 146 | 1.9 | 185 | 1.8 | 139 | 1.5 | 322 | 2.0 | 222 | 1.8 |
| Left Against Medical Advice or Discontinued Care | 67 | 0.9 | 84 | 0.8 | 58 | 0.6 | 105 | 0.6 | 86 | 0.7 |
| Hospice | 104 | 1.3 | 106 | 1.0 | 125 | 1.4 | 199 | 1.2 | 199 | 1.7 |
| Transferred to Another Hospital | 106 | 1.4 | 101 | 1.0 | 110 | 1.2 | 312 | 1.9 | 166 | 1.4 |
| Long Term Care Hospital (LTCH) | 82 | 1.1 | 34 | 0.3 | 638 | 7.0 | 90 | 0.6 | 73 | 0.6 |
| Psychiatric Hospital or Psychiatric Distinct Part of a Hospital | 45 | 0.6 | 52 | 0.5 | 21 | 0.2 | 65 | 0.4 | 51 | 0.4 |
| Court/Law Enforcement | 7 | 0.1 | 37 | 0.4 | 8 | 0.1 | 72 | 0.4 | 11 | 0.1 |
| Intermediate Care Facility | 20 | 0.3 | 10 | 0.1 | 1 | 0.0 | 17 | 0.1 | 11 | 0.1 |
| Another Type of Inpatient Facility Not Defined Elsewhere | 14 | 0.2 | 5 | 0.0 | 6 | 0.1 | 32 | 0.2 | 10 | 0.1 |
| Discharged from Emergency Department After Arrival | 1,891 | 24.4 | 1,891 | 18.1 | 2,745 | 30.3 | 4,412 | 27.3 | 2,296 | 19.1 |
| Not Valued | 0 | 0.0 | 164 | 1.6 | 4 | 0.0 | 1 | 0.0 | 0 | 0.0 |
| **Total** | **7,753** | **100.0** | **10,441** | **100.0** | **9,052** | **100.0** | **16,170** | **100.0** | **12,008** | **100.0** |

| Discharge Disposition | Region 6 | | Region 7 | | Region 8 | | Not Recorded | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % | # | % |
| Home or Self Care (Routine Discharge) | 2,860 | 25.6 | 922 | 34.2 | 790 | 31.5 | 2,368 | 42.2 | 24,315 | 31.4 |
| Skilled Nursing Facility | 2,646 | 23.7 | 425 | 15.8 | 380 | 15.1 | 316 | 5.6 | 15,309 | 19.8 |
| Home with Services | 1,015 | 9.1 | 249 | 9.2 | 151 | 6.0 | 294 | 5.2 | 7,183 | 9.3 |
| Inpatient Rehab or Designated Unit | 802 | 7.2 | 63 | 2.3 | 59 | 2.3 | 202 | 3.6 | 4,401 | 5.7 |
| Expired | 207 | 1.9 | 46 | 1.7 | 37 | 1.5 | 37 | 0.7 | 1,341 | 1.7 |
| Left Against Medical Advice or Discontinued Care | 57 | 0.5 | 15 | 0.6 | 10 | 0.4 | 52 | 0.9 | 534 | 0.7 |
| Hospice | 172 | 1.5 | 30 | 1.1 | 26 | 1.0 | 10 | 0.2 | 971 | 1.3 |
| Transferred to Another Hospital | 89 | 0.8 | 61 | 2.3 | 47 | 1.9 | 27 | 0.5 | 1,019 | 1.3 |
| Long Term Care Hospital (LTCH) | 127 | 1.1 | 15 | 0.6 | 8 | 0.3 | 33 | 0.6 | 1,100 | 1.4 |
| Psychiatric Hospital or Psychiatric Distinct Part of a Hospital | 38 | 0.3 | 4 | 0.1 | 8 | 0.3 | 20 | 0.4 | 304 | 0.4 |
| Court/Law Enforcement | 42 | 0.4 | 3 | 0.1 | 0 | 0.0 | 15 | 0.3 | 195 | 0.3 |
| Intermediate Care Facility | 30 | 0.3 | 4 | 0.1 | 14 | 0.6 | 0 | 0.0 | 107 | 0.1 |
| Another Type of Inpatient Facility Not Defined Elsewhere | 8 | 0.1 | 4 | 0.1 | 0 | 0.0 | 2 | 0.0 | 81 | 0.1 |
| Discharged from Emergency Department After Arrival | 3,070 | 27.5 | 856 | 31.7 | 981 | 39.1 | 2,230 | 39.8 | 20,372 | 26.3 |
| Not Valued | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 169 | 0.2 |
| **Total** | **11,163** | **100.0** | **2,697** | **100.0** | **2,511** | **100.0** | **5,606** | **100.0** | **77,401** | **100.0** |

## ❖ Figure 10. Discharge status of all reported trauma cases, Ohio, 2024

This pie chart shows the discharge status (i.e., alive or dead) of records with reported traumatic injuries.




## ❖ Table 20. Discharge status of all reported trauma cases, Ohio, 2024

This table shows the discharge status (i.e., alive or dead) of records with reported traumatic injuries. The majority (97.6%) were alive at the time of discharge. The total case fatality rate is 2.4%. Tables of case fatality rates across multiple demographic, injury, and patient disposition variables are presented later in this report.

| Discharge Status | Patients | |
|---|---|---|
| | # | % |
| Alive | 86,739 | 97.6 |
| Dead | 2,122 | 2.4 |
| **Total** | **88,861** | **100.0** |

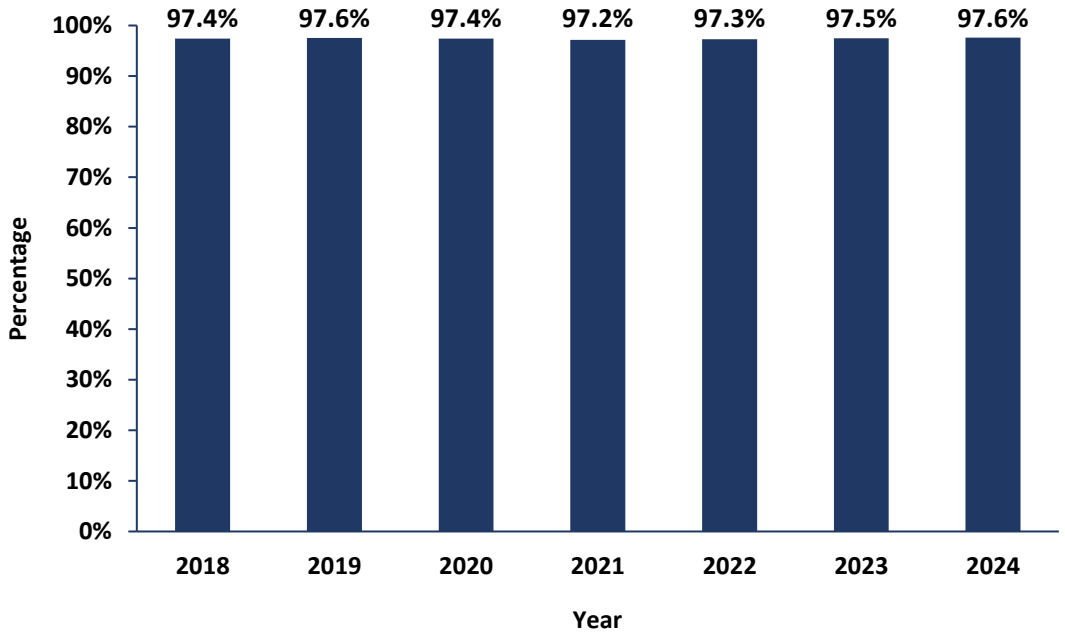
## ❖ Table 21. Discharge status of all reported trauma cases, Ohio, 2018-2024

This table shows the discharge status (i.e., alive or dead) of records with reported traumatic injuries from 2018 to 2024. 2018-2023 discharge data are from previous trauma reports.

| Year | Discharge Status | | |
|---|---|---|---|
| | Alive | Dead | Total |
| **2018** | 66,629 | 1,773 | 68,402 |
| **2019** | 70,316 | 1,762 | 72,078 |
| **2020** | 78,215 | 2,101 | 80,316 |
| **2021** | 82,115 | 2,398 | 84,513 |
| **2022** | 82,467 | 2,277 | 84,744 |
| **2023** | 80,535 | 2,099 | 82,634 |
| **2024** | 86,739 | 2,122 | 88,861 |

## ❖ Figure 11. Percentage of reported trauma cases discharged alive, Ohio, 2018-2024

This chart shows the percentage of records with reported traumatic injuries that were discharged alive from 2018 to 2024. 2018-2023 discharge data are from previous trauma reports.



## ❖ Table 22. Discharge status of all reported trauma cases by region, Ohio, 2024

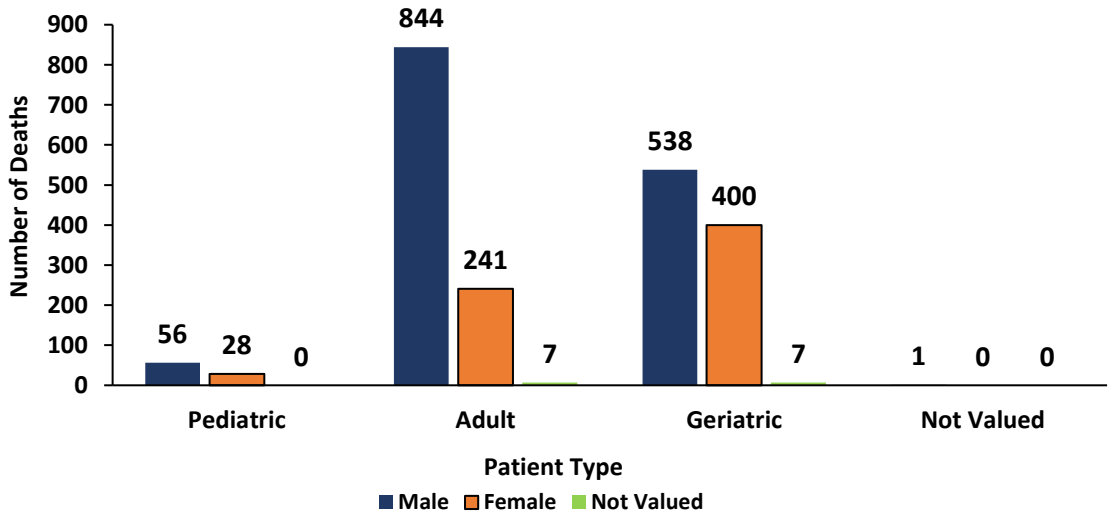
This table shows the discharge status of patients by region where the injury occurred. A state map of these eight Ohio Homeland Security regions is located in Appendix L. These regions are also used by the Regional Physician Advisory Board (RPAB). Records where the injuries occurred out of state were not included in this analysis. As of January 2026, it is confirmed that certain quarter 1 records in Region 3 have not yet been submitted. As a result, Region 3 figures may not fully reflect actual totals.

Regions 1 and 4 had the highest percentage of patients discharged deceased.

| Region | Alive | Dead | Total | % Discharged Dead |
|---|---|---|---|---|
| Region 1 | 7,523 | 230 | 7,753 | 3.0 |
| Region 2 | 10,163 | 278 | 10,441 | 2.7 |
| Region 3 | 8,846 | 206 | 9,052 | 2.3 |
| Region 4 | 15,685 | 485 | 16,170 | 3.0 |
| Region 5 | 11,718 | 290 | 12,008 | 2.4 |
| Region 6 | 10,864 | 299 | 11,163 | 2.7 |
| Region 7 | 2,635 | 62 | 2,697 | 2.3 |
| Region 8 | 2,453 | 58 | 2,511 | 2.3 |
| Not Recorded | 5,558 | 48 | 5,606 | 0.9 |
| **Total** | **75,445** | **1,956** | **77,401** | **2.5** |

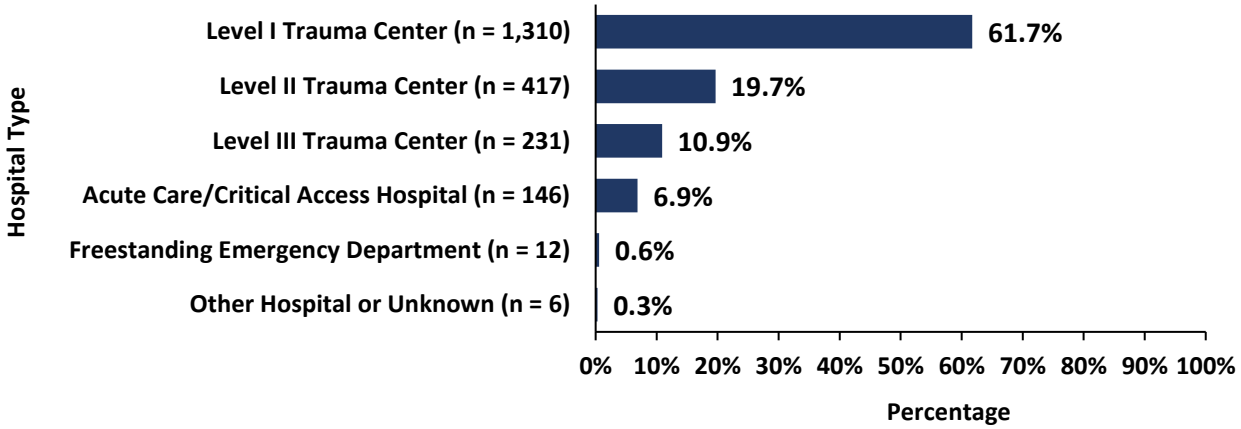
## ❖ Figure 12. Number of injury-related deaths by patient type and sex, Ohio, 2024

This graph shows the number of deaths related to injuries sustained by patients in 2024 by patient type and sex. Overall, deaths were more common among males than females.



## ❖ Figure 13. Emergency department deaths by hospital type, Ohio, 2024

This graph shows the number and percentage of emergency department deaths by hospital type. The majority (61.7%) of deaths occurred at Level I trauma centers. This is likely because by their nature, Level I trauma centers receive the most critical trauma cases. In previous reports, critical access hospitals were included in the "Other Hospital or Unknown" category. However, in this report and moving forward, critical access hospitals are included with acute care hospitals in the "Acute Care/Critical Access Hospital" category.



# SECTION 6: CASE FATALITY RATES

The case fatality rate (CFR) is the proportion of deaths within a designated population or grouping of "cases" (people with a particular medical condition or hospital disposition) over the course of the disease. A CFR is conventionally expressed as a percentage.

## ❖ Table 23. Case fatality rate (CFR) by age group and sex, Ohio, 2024

The table below looks at case fatality rates by age group and sex among the records submitted to the registry. There were 2 records where age was not valued (populated with "- ") and they were not included in this analysis. Except for the 10-14 age category, the case fatality rates were higher among males compared to females.

| | CFR (%) | | | |
|---|---|---|---|---|
| **Age Group** | **Male** | **Female** | **Not Reported** | **Total** |
| **0-4** | 1.5 | 1.3 | 0.0 | 1.4 |
| **5-9** | 0.4 | 0.2 | 0.0 | 0.3 |
| **10-14** | 0.6 | 0.9 | 0.0 | 0.7 |
| **15-19** | 3.1 | 2.2 | 0.0 | 2.9 |
| **20-24** | 3.4 | 1.5 | 0.0 | 2.8 |
| **25-34** | 3.8 | 1.7 | 2.8 | 3.2 |
| **35-44** | 3.8 | 2.1 | 3.7 | 3.3 |
| **45-54** | 3.0 | 1.6 | 5.1 | 2.5 |
| **55-64** | 2.5 | 1.6 | 0.0 | 2.1 |
| **65-74** | 3.1 | 1.4 | 1.2 | 2.2 |
| **75-84** | 3.8 | 1.5 | 0.4 | 2.4 |
| **85+** | 4.0 | 2.0 | 3.5 | 2.7 |
| **Total** | **3.1** | **1.6** | **1.6** | **2.4** |

## ❖ Table 24. Case fatality rate (CFR) by Injury Severity Score (ISS), Ohio, 2024

The table below looks at case fatality rates by Injury Severity Score (ISS) among the records submitted to the registry. In 2024, the case fatality rate was highest among those with an ISS of ≥ 25 (26.1%).

| **ISS** | **CFR (%)** |
|---|---|
| 01-09 | 0.9 |
| 10-14 | 1.8 |
| 15-24 | 5.1 |
| 25+ | 26.1 |
| Not Calculable | 3.1 |
| **Total** | **2.4** |

## ❖ Table 25. Case fatality rate (CFR) by duration of hospital stay for Injury Severity Score (ISS) ≥ 25, Ohio, 2024

This table looks at case fatality rates for injuries with ISS ≥ 25 by duration of hospital days. For patients with an ISS ≥ 25, overall, the case fatality rate decreased the longer they were hospitalized.

| | Hospital stay (days) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8+** |
| **CFR (%)** | 50.5 | 39.7 | 27.8 | 15.6 | 19.7 | 12.8 | 10.9 | 8.5 |

## ❖ Table 26. Case fatality rate (CFR) by intent of injury, Ohio, 2024

This table looks at case fatality rates by intent of injury. Records where the intent of injury was labeled as "Not Valued" were populated with "- ". In 2024, the case fatality rate was highest among those with self-inflicted injuries (21.9%).

| Intent | CFR (%) |
|---|---|
| Unintentional | 2.0 |
| Self-Inflicted | 21.9 |
| Assault | 5.6 |
| Undetermined | 7.9 |
| Other | 12.3 |
| Not Valued | 3.4 |
| **Total** | **2.4** |

## ❖ Table 27. Case fatality rate (CFR) by hospital type, Ohio, 2024

This table looks at case fatality rates by hospital type. In 2024, the case fatality rate was highest in Level I trauma centers (3.6%). In previous reports, critical access hospitals were included in the "Other Hospital or Unknown" category. However, in this report and moving forward, critical access hospitals are included with acute care hospitals in the "Acute Care/Critical Access Hospital" category.

| Hospital Type | CFR (%) |
|---|---|
| Level I Trauma Center | 3.6 |
| Level II Trauma Center | 2.7 |
| Level III Trauma Center | 1.5 |
| Freestanding Emergency Department | 0.3 |
| Acute Care/ Critical Access Hospital | 0.9 |
| Other Hospital or Unknown | 0.8 |
| **Statewide** | **2.4** |

## ❖ Table 28. Case fatality rate (CFR) by mechanism of injury, Ohio, 2024

This table looks at case fatality rates by mechanism of injury. Records labeled as "Not Classified" were populated with that text. Records labeled as "Not Valued" were populated with "- ". The case fatality rate was highest among those who died by suffocation/asphyxiation (34.6%) and drowning/submersion (18.2%).

| Mechanism of Injury | CFR (%) |
|---|---|
| Abuse | 2.4 |
| Cut or Pierce | 1.4 |
| Drowning/Submersion | 18.2 |
| Electrical | 3.8 |
| Explosion | 2.0 |
| Fall | 1.7 |
| Fire or Flame | 5.0 |
| Firearm | 17.0 |
| Hot Object or Substance | 0.3 |
| Machinery | 1.3 |
| Mechanical | 1.1 |
| Motor Vehicle Collisions | 3.8 |
| Natural or Environmental | 0.9 |
| Other Land Transport | 2.2 |
| Other Specified, Classifiable | 12.0 |
| Other Specified, Not Elsewhere Classifiable | 3.3 |
| Other Transport | 6.2 |
| Overexertion | 0.2 |
| Pedal Cyclist, Other | 0.5 |
| Pedestrian, Other | 4.3 |
| Pedestrian Conveyance | 0.5 |
| Poisoning | 1.7 |
| Struck by or Against | 0.6 |
| Suffocation/Asphyxiation | 34.6 |
| Not Classified/Not Valued | 4.2 |
| **Statewide** | **2.4** |

## ❖ Table 29. Case fatality rates (CFR) among motor vehicle collisions, Ohio, 2024

This table looks at CFR among different types of motor vehicle collisions. "Pedestrian" collisions had the highest CFR (6.9%).

| Type of Motor Vehicle Collision (MVC) | CFR (%) |
|---|---|
| MVC – Motorcyclist | 3.9 |
| MVC – Occupant | 3.4 |
| MVC – Other | 5.0 |
| MVC - Pedal Cyclist | 4.1 |
| MVC – Pedestrian | 6.9 |
| MVC - Unspecified | 2.6 |
| **Total** | **3.8** |

## ❖ Table 30. Case fatality rate (CFR) by county, Ohio, 2024

This table displays the case fatality rate by the county where the injury occurred. Records where the injuries occurred out of state were not included in this analysis. The statewide CFR is 2.5%. Putnam (6.5%) and Defiance (5.2%) counties reported the highest CFRs in 2024.

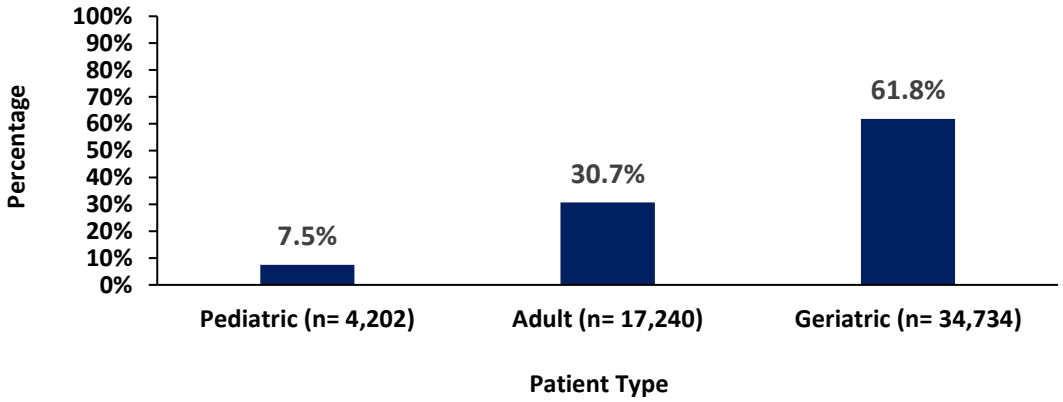
| County | CFR (%) | County | CFR (%) |
|---|---|---|---|
| **Adams** | 1.6 | **Logan** | 2.7 |
| **Allen** | 3.2 | **Lorain** | 1.8 |
| **Ashland** | 3.1 | **Lucas** | 3.6 |
| **Ashtabula** | 3.7 | **Madison** | 1.7 |
| **Athens** | 1.7 | **Mahoning** | 2.9 |
| **Auglaize** | 1.2 | **Marion** | 2.7 |
| **Belmont** | 1.1 | **Medina** | 2.7 |
| **Brown** | 0.5 | **Meigs** | 0.6 |
| **Butler** | 2.3 | **Mercer** | 2.5 |
| **Carroll** | 3.3 | **Miami** | 2.2 |
| **Champaign** | 2.3 | **Monroe** | 0.0 |
| **Clark** | 1.9 | **Montgomery** | 2.6 |
| **Clermont** | 2.1 | **Morgan** | 4.7 |
| **Clinton** | 1.6 | **Morrow** | 3.1 |
| **Columbiana** | 3.5 | **Muskingum** | 3.0 |
| **Coshocton** | 1.8 | **Noble** | 1.5 |
| **Crawford** | 5.1 | **Ottawa** | 1.3 |
| **Cuyahoga** | 3.0 | **Paulding** | 0.0 |
| **Darke** | 1.2 | **Perry** | 3.1 |
| **Defiance** | 5.2 | **Pickaway** | 2.6 |
| **Delaware** | 2.4 | **Pike** | 4.2 |
| **Erie** | 1.0 | **Portage** | 2.0 |
| **Fairfield** | 1.8 | **Preble** | 1.4 |
| **Fayette** | 2.2 | **Putnam** | 6.5 |
| **Franklin** | 3.4 | **Richland** | 3.0 |
| **Fulton** | 4.3 | **Ross** | 3.1 |
| **Gallia** | 0.0 | **Sandusky** | 2.4 |
| **Geauga** | 1.1 | **Scioto** | 3.6 |
| **Greene** | 1.9 | **Seneca** | 2.6 |
| **Guernsey** | 3.9 | **Shelby** | 2.6 |
| **Hamilton** | 3.7 | **Stark** | 1.8 |
| **Hancock** | 3.1 | **Summit** | 1.9 |
| **Hardin** | 1.4 | **Trumbull** | 2.8 |
| **Harrison** | 1.7 | **Tuscarawas** | 1.9 |
| **Henry** | 2.7 | **Union** | 3.1 |
| **Highland** | 1.1 | **Van Wert** | 0.0 |
| **Hocking** | 1.4 | **Vinton** | 4.7 |
| **Holmes** | 3.3 | **Warren** | 2.0 |
| **Huron** | 1.1 | **Washington** | 1.5 |
| **Jackson** | 1.5 | **Wayne** | 4.0 |
| **Jefferson** | 1.2 | **Williams** | 0.0 |
| **Knox** | 1.3 | **Wood** | 3.4 |
| **Lake** | 2.4 | **Wyandot** | 2.2 |
| **Lawrence** | 0.0 | **Not Recorded** | 0.9 |
| **Licking** | 3.4 | **Statewide** | **2.5** |

# SECTION 7: ANNUAL FOCUS – GERIATRIC FALL INJURIES

The Ohio Division of EMS has added this section to the annual trauma report to explore a specific topic each year in more detail. This year's annual focus is fall injuries for geriatric patients. For this report, geriatric patients are defined as those who are 70 years or older.

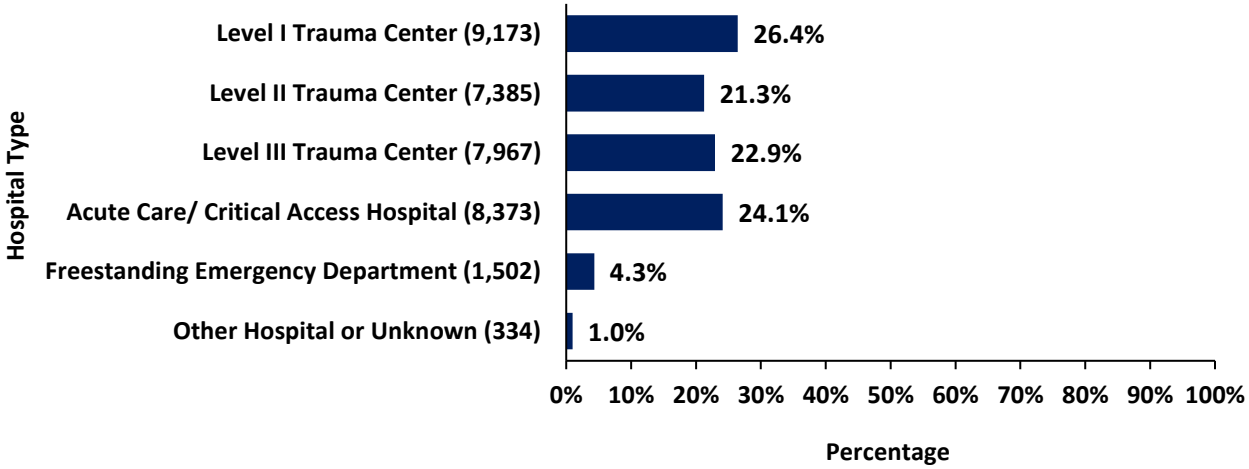
### ❖ Figure 14. Number of traumatic fall injuries by patient type, Ohio, 2024

This graph looks at the percentage of traumatic fall injuries reported for the year 2024 broken down by patient type (i.e., pediatric, adult, geriatric). This analysis defines pediatric patients as those between the ages of 0 to 15 years, adult patients as those between the ages of 16 to 69 years, and geriatric patients as those ages 70 years and older. As seen earlier in this report, the majority of traumatic injuries reported in 2024 were fall injuries (n= 56,176, 63.2%). Of the 56,176 fall injuries, the majority (n= 34,734, 61.8%) were suffered by geriatric patients.




### ❖ Figure 15. Number of geriatric fall injuries by hospital type, Ohio, 2024

This graph looks at the number and percentage of geriatric fall injuries that were reported to the Ohio Trauma Registry in 2024 by hospital type. Most records came from a trauma hospital or an acute care/critical access hospital.



## ❖ Table 31. Duration of hospital stay by Injury Severity Score (ISS) for geriatric fall injuries, Ohio, 2024

This table looks at the duration of hospital stays (in days) based on the ISS for geriatric fall injuries. A description of how the ISS is calculated is located in the glossary. Records labeled as "Not Valued" were populated with "- ". The majority of injuries had an ISS between 01 -09 (n= 26,300, 75.7%) and were most likely to spend 1 day in the hospital.

| | Injury Severity Score (ISS) | | | | | |
|---|---|---|---|---|---|---|
| **Hospital Days** | **01-09** | **10-14** | **15-24** | **25+** | **Not Calculable** | **Total** |
| **1 day** | 7,250 | 1,360 | 539 | 320 | 103 | **9,572** |
| **2 days** | 2,877 | 515 | 191 | 92 | 23 | **3,698** |
| **3 days** | 3,689 | 650 | 188 | 93 | 21 | **4,641** |
| **4 days** | 3,472 | 638 | 179 | 80 | 23 | **4,392** |
| **5 days** | 2,633 | 519 | 146 | 48 | 8 | **3,354** |
| **6 days** | 1,923 | 418 | 150 | 67 | 5 | **2,563** |
| **7 days** | 1,228 | 288 | 111 | 62 | 3 | **1,692** |
| **8+ days** | 3,215 | 840 | 442 | 300 | 12 | **4,809** |
| **Not Valued** | 13 | 0 | 0 | 0 | 0 | **13** |
| **Total** | **26,300** | **5,228** | **1,946** | **1,062** | **198** | **34,734** |

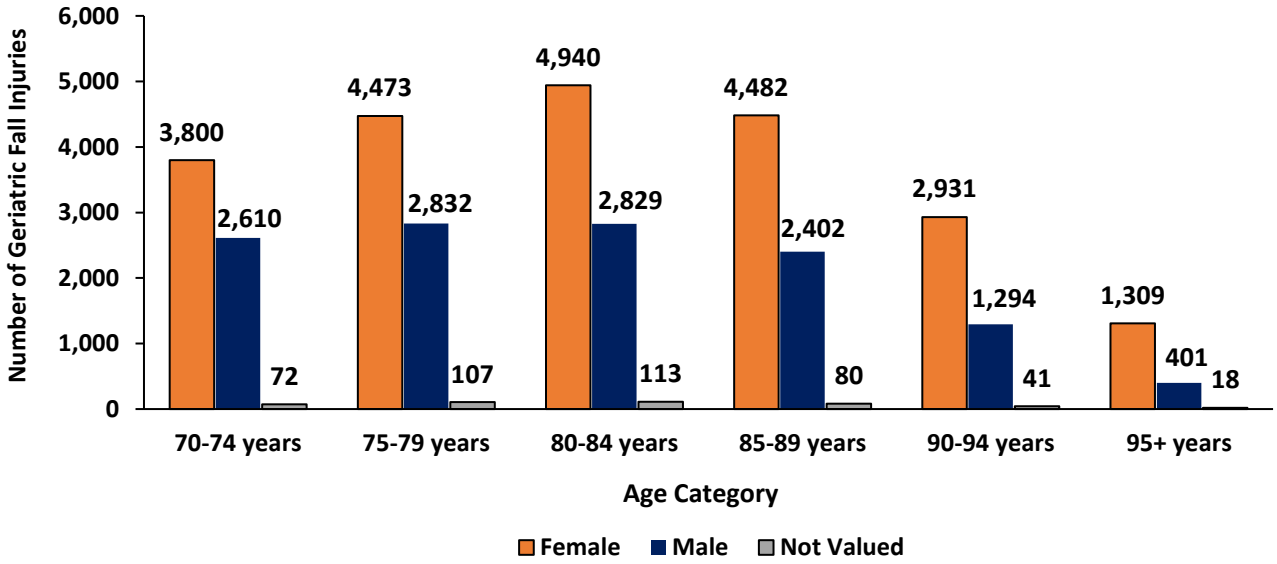
## ❖ Table 32. Distribution of geriatric fall injuries by age and sex, Ohio, 2024

This table shows the distribution of geriatric fall injuries by patient's age and sex. Records where sex is labeled as "Not Valued" were populated with "U". Overall, females had a higher number of fall injuries (n= 21,935) compared to males (n= 12,368). Among females, the highest percentage of injuries (22.5%) occurred among 80–84-year-old patients. Among males, the highest percentage of injuries occurred equally among 75–79-year-old patients (22.9%) and 80–84-year-old patients (22.9%).

| **Age** | **Male** | | **Female** | | **Not Valued** | | **Total** | |
|---|---|---|---|---|---|---|---|---|
| **Category** | **#** | **%** | **#** | **%** | **#** | **%** | **#** | **%** |
| **70-74 years** | 2,610 | 21.1 | 3,800 | 17.3 | 72 | 16.7 | **6,482** | **18.7** |
| **75-79 years** | 2,832 | 22.9 | 4,473 | 20.4 | 107 | 24.8 | **7,412** | **21.3** |
| **80-84 years** | 2,829 | 22.9 | 4,940 | 22.5 | 113 | 26.2 | **7,882** | **22.7** |
| **85-89 years** | 2,402 | 19.4 | 4,482 | 20.4 | 80 | 18.6 | **6,964** | **20.0** |
| **90-94 years** | 1,294 | 10.5 | 2,931 | 13.4 | 41 | 9.5 | **4,266** | **12.3** |
| **95+ years** | 401 | 3.2 | 1,309 | 6.0 | 18 | 4.2 | **1,728** | **5.0** |
| **Total** | **12,368** | **100.0** | **21,935** | **100.0** | **431** | **100.0** | **34,734** | **100.0** |

## ❖ Figure 16. Number of geriatric fall injuries by age and sex, Ohio, 2024

This graph shows the number of geriatric fall injuries by patient's age and sex. Records where sex is labeled as "Not Valued" were populated with "U". In each age group, females outnumbered males in the number of fall injuries.



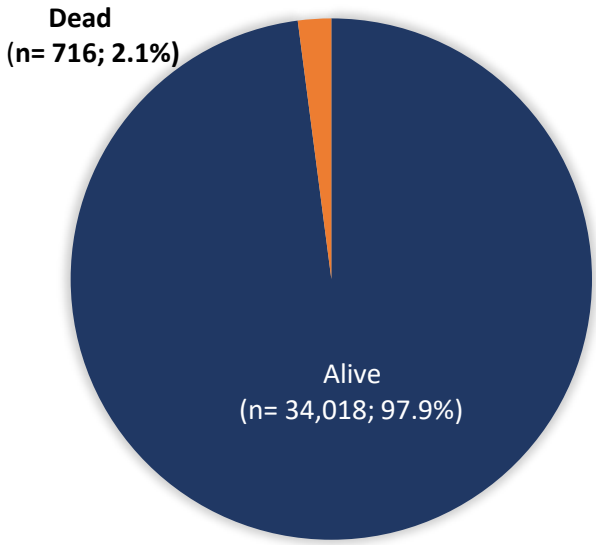
## ❖ Table 33. Comorbidities of geriatric fall patients, Ohio, 2024

This table lists the comorbidities reported for geriatric fall patients in 2024. Please note that some patients had multiple comorbidities listed, which means that the same patient may be represented more than once in the total. The top 5 comorbidities reported are hypertension (26.9%), functionally dependent health status (12.3%), anticoagulant therapy (10.3%), diabetes mellitus (10.2%), and dementia (6.3%).

| Comorbidities | # | % |
|---|---|---|
| Hypertension | **24,016** | **26.9** |
| Functionally Dependent Health Status | **10,972** | **12.3** |
| Anticoagulant Therapy | **9,182** | **10.3** |
| Diabetes Mellitus | **9,080** | **10.2** |
| Dementia | **5,588** | **6.3** |
| Chronic Obstructive Pulmonary Disease (COPD) | **5,487** | **6.1** |
| Congestive Heart Failure | **4,535** | **5.1** |
| Current Smoker | **2,411** | **2.7** |
| Advanced Directive Limiting Care | **2,087** | **2.3** |
| Cerebrovascular Accident (CVA) | **1,848** | **2.1** |
| Major Depressive Disorder | **1,789** | **2.0** |
| Other Mental/Personality Disorders | **1,709** | **1.9** |
| Bleeding Disorder | **1,336** | **1.5** |
| Peripheral Arterial Disease (PAD) | **1,292** | **1.5** |
| Chronic Renal Failure | **1,024** | **1.2** |
| Alcohol Use Disorder | **813** | **0.9** |
| Disseminated Cancer | **486** | **0.5** |
| Myocardial Infarction (MI) | **478** | **0.5** |
| Cirrhosis | **427** | **0.5** |
| Steroid Use | **370** | **0.4** |
| Bipolar I/II Disorder | **287** | **0.3** |
| Currently Receiving Chemotherapy for Cancer | **260** | **0.3** |
| Substance Abuse Disorder | **254** | **0.3** |
| Post Traumatic Stress Disorder | **145** | **0.2** |
| Schizophrenia | **96** | **0.1** |
| Attention Deficit Disorder/Attention Deficit Hyper | **70** | **0.1** |
| Schizoaffective Disorder | **43** | **0.1** |
| Other/Unknown | **650** | **0.7** |
| Not Applicable/No Known | **2,670** | **3.0** |
| **Total** | **89,405** | **100** |

## ❖ Figure 17. Discharge status of geriatric fall patients, Ohio, 2024

This pie chart shows the percentage of geriatric fall patients based on their hospital discharge status. The majority of patients were discharged alive (n= 34,018; 97.9%) versus dead (n= 716; 2.1%).




## ❖ Table 34. Case fatality rates (CFR) of geriatric fall patients by age and sex, Ohio, 2024

This table looks at the case fatality rates by age and sex. Records where sex is labeled as "Not Valued" were populated with "U". In every age group, males had a higher case fatality rate compared to females.

| | CFR (%) | | | |
|---|---|---|---|---|
| **Age Group** | **Male** | **Female** | **Not Valued** | **Total** |
| **70-74 years** | 2.7 | 1.1 | 1.4 | **1.8** |
| **75-79 years** | 3.1 | 1.2 | 0.0 | **1.9** |
| **80-84 years** | 3.1 | 1.6 | 0.9 | **2.2** |
| **85-89 years** | 3.0 | 1.5 | 2.5 | **2.0** |
| **90-94 years** | 4.3 | 1.8 | 4.9 | **2.6** |
| **95+ years** | 3.5 | 2.0 | 5.6 | **2.4** |
| **Total** | **3.1** | **1.5** | **1.6** | **2.1** |

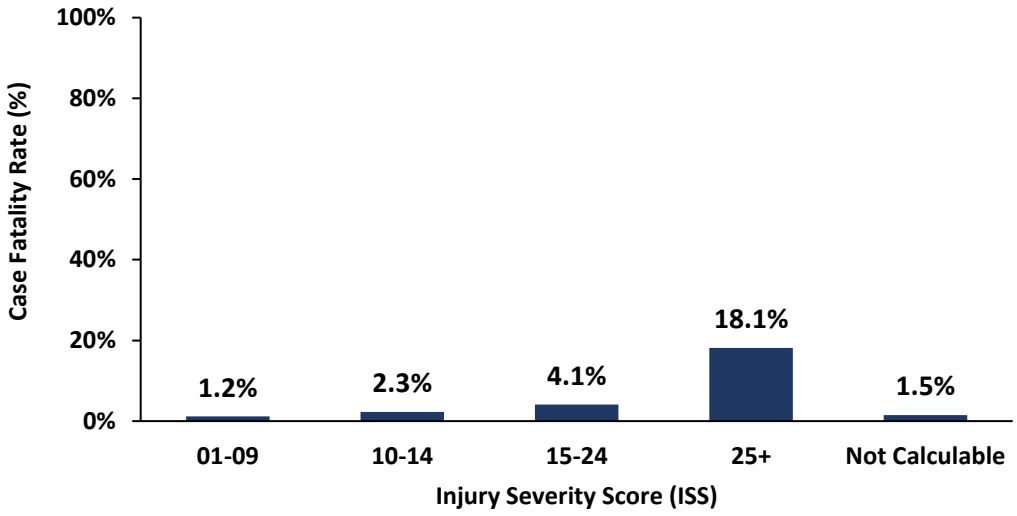
## ❖ Table 35. Case fatality rates (CFR) of geriatric fall patients by region of injury, Ohio, 2024

This table looks at the case fatality rates of geriatric fall injuries by the region of injury. A state map of these eight Ohio Homeland Security regions is located in Appendix L. Records where the injuries occurred out of state were not included in this analysis. Records where the county of injury was not valued (and so a region of injury could not be determined) were also excluded from this analysis. Region 7 had the highest case fatality rate (2.8%) for geriatric fall injuries.

| Region | CFR (%) |
|---|---|
| Region 1 | **2.0** |
| Region 2 | **2.0** |
| Region 3 | **1.6** |
| Region 4 | **2.6** |
| Region 5 | **2.0** |
| Region 6 | **2.3** |
| Region 7 | **2.8** |
| Region 8 | **1.5** |
| **Total** | **2.1** |

## ❖ Figure 18. Case fatality rates (CFR) of geriatric fall patients by injury severity score (ISS), Ohio, 2024

This graph looks at case fatality rates of geriatric fall patients by ISS. Patients with an ISS of 25 or higher had the highest case fatality rate (18.1%).



## Appendix A: Glossary of Terms

**Abbreviated Injury Scales (AIS) –** is an anatomically-based, global severity scoring system that classifies each injury by body region according to its relative importance. AIS is the basis for the Injury Severity Score (ISS) calculation of the multiply injured patient.

**Acute Care Hospital –** a facility providing a level of health care in which a patient is treated for a brief but severe episode of illness, for conditions that are the result of disease or trauma, and during recovery from surgery.

**Adult –** is defined and used in this report to describe an individual whose age ranges from 16 to 69 years of age.

**Case Fatality Rate (CFR) –** the case fatality rate is the calculation derived from dividing the number of deaths from a specific injury over a defined period of time by the total number of individuals diagnosed with the same injury during the same time period; the resulting ratio is then multiplied by 100 to yield a percentage.

**Critical Access Hospital –** is a designation given to eligible rural hospitals by the Centers for Medicare and Medicaid Services (CMS). See Appendix F for locations of Ohio's Critical Access Hospitals.

**Dataset –** a collection of related sets of information that are composed of separate elements but can be manipulated as a group to display relational information.

**Disposition -** The final place or setting to which the patient was discharged on the day of discharge (i.e. home, hospice, acute care facility, etc.)

**Division of Emergency Medical Services (DEMS) –** the division where the State Board of Emergency Medical, Fire, and Transportation Services is housed within the Ohio Department of Public Safety.

**Emergency Medical, Fire, and Transportation Services Board –** The state board responsible for: Establishing training and certification standards for emergency medical services personnel; accreditation of EMS training programs; approval of EMS continuing education sites; oversight of Ohio's trauma system; oversight of the EMS grant program; providing grants for training, equipment, and research; EMS for Children (EMSC) program coordination; licensing of Ohio's medical transportation services; coordination of the Regional Physician Advisory Boards (RPABs); collection and analysis of data submitted to the EMS Incident Reporting System and the Ohio Trauma Registry, and investigations to ensure compliance with the Ohio Revised and Administrative Codes.

**Emergency Medical Services Incident Reporting System (EMSIRS) –** the system used to collect out-of-hospital care data reported by Emergency Medical Service (EMS) providers to the State of Ohio.

**Freestanding Emergency Department (FSED) –** is an emergency facility that is structurally separate and distinct from a hospital and provides emergency care.

**Geriatric –** is defined and used in this report to describe an individual whose age is 70 years of age or greater.

**Injury Severity Score (ISS) -** an evaluation system developed to predict the outcomes of traumas,

including mortality and length of hospital stay. The score is based on the Abbreviated Injury Scale (AIS) which is another scoring system for injury severity. When a patient is injured, each area of the body is assigned an AIS score depending on the injury severity.
An ISS is calculated by squaring the AIS score from the three most severely injured body areas and adding them together. ISS range from 0 to 75 [1]. An ISS of 1-8 signifies a minor injury, 9-15 signifies a moderate injury, and an ISS greater than 15 signifies a major injury.

**Mechanism of Injury (MOI) –** refers to the method by which damage (trauma) to the body occurred.

**Motor Vehicle Collision (MVC) –** also referred to as a Motor Vehicle Accident (MVA).

**Ohio Trauma Registry (OTR) –** the system used to collect trauma-related patient data reported by emergency facilities and trauma centers to the State of Ohio.

**Outcome measures** – as defined by the World Health Organization are the "change in the health of an individual, group of people, or population that is attributable to an intervention or series of interventions." For the purposes of this report, outcome measures include but are not limited to a patient's initial disposition on arrival, transfer between different level facilities, final discharge disposition, and mortality.

**Pediatric –** is defined and used in this report to describe an individual whose age ranges from 0 to 15 years of age.

**Record –** is used to reference an individual incident as reported to the Ohio Trauma Acute Care Registry.

**Region –** as defined and used in this report refers to one of eight Ohio Homeland Security Regions a county is assigned. The Regional Physician Advisory Board (RPAB) utilizes this same regional mapping. See Appendix L.

**Regional Trauma System –** is an organized, coordinated effort in a defined geographic area that delivers the full range of care to all injured patients and works together with emergency services and disaster preparedness making efficient use of health care resources to improve patient outcomes in the state of Ohio. Membership is voluntary and not generally restricted by facility location. See Appendix O.

**Rural –** a county designation based on lower population densities and larger amounts of agricultural and undeveloped land. See Appendix M.

**Trauma Center –** an emergency medical facility that can provide a higher-level treatment and surgical care to trauma patients than other types of emergency facilities. In Ohio, the designation of "trauma center" and its level of service is based on assessment and verification by the American College of Surgeons (ACS). See Appendix C and D for locations of Ohio's trauma centers.

Level I trauma centers are a comprehensive regional resource that is a tertiary care facility central to the trauma system. A Level I trauma center is capable of providing total care for every aspect of injury – from prevention through rehabilitation.

Level II trauma centers are able to initiate definitive care for all injured patients.

Level III trauma centers have demonstrated an ability to provide prompt assessment, resuscitation, surgery, intensive care, and stabilization of injured patients and emergency operations.

These descriptions above are provided by the American Trauma Society. A detailed description of the patient care offered at each service level can be found in the ACS document, "Resources for Optimal Care of the Injured Patient." [2]

**Urban –** a county designation based on higher population densities. See Appendix M.

[1] http://www.trauma.org/archive/scores/iss.html

[2] https://www.facs.org

## Appendix B: Ohio Trauma Registry Inclusion Criteria and Data Dictionary

### TRAUMA PATIENT DEFINITION

To ensure consistent data collection across the State of Ohio and to follow the National Trauma Data Standard, a trauma patient is defined as a patient sustaining a traumatic injury within 14 days of initial hospital encounter and meeting the following:

### PATIENT INCLUSION CRITERIA

To be included in the Trauma Acute Care Registry (TACR):

The patient must have incurred at least one of the injury diagnostic codes defined in the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM):

- **J70.5 with character modifier of A ONLY** (Respiratory conditions due to smoke inhalation – initial encounter)
- **S00-S99 with 7th character modifier of A, B or C ONLY** (Injuries to specific body parts – initial encounter):
- **T07** (Unspecified multiple injuries);
- **T14** (Injury of unspecified body region);
- **T20-T28 with 7th character modifier of A ONLY** (Burns by specified body parts – initial encounter);
- **T30-T32** (Burn by TBSA percentage);
- **T33 with character modifier of A ONLY** (Superficial frostbite – initial encounter)
- **T34 with character modifier of A ONLY** (Frostbite with tissue necrosis – initial encounter)
- **T67 with character modifier of A ONLY** (Effects of heat and light – initial encounter)
- **T68 with character modifier of A ONLY** (Hypothermia – initial encounter)
- **T69 with character modifier of A ONLY** (Other effects of reduced temperature – initial encounter)
- **T70.4 with character modifier of A ONLY** (Effects of high-pressure fluids – initial encounter)
- **T70.8 with character modifier of A ONLY** (Other effects of air pressure and water pressure – initial encounter)
- **T70.9 with character modifier of A ONLY** (Effect of air pressure and water pressure, unspecified – initial encounter)
- **T71 with character modifier of A ONLY** (Asphyxiation – initial encounter)
- **T74.1 with character modifier of A ONLY** (Physical abuse, confirmed – initial encounter)
- **T74.4 with character modifier of A ONLY** (Shaken infant syndrome – initial encounter)
- **T75.0 with character modifier of A ONLY** (Effects of lightning – initial encounter)
- **T75.1 with character modifier of A ONLY** (Unspecified effects of drowning and nonfatal submersion – initial encounter)
- **T75.4 with character modifier of A ONLY** (Electrocution – initial encounter)
- **T79.A1-T79.A9 with 7th character modifier of A ONLY** (Traumatic compartment syndrome – initial encounter)
- **S00, S10, S20, S30, S40, S50, S60, S70, S80, S90** (Patients with these isolated injuries that were transferred in/out or died.)

**THE PATIENT MUST ALSO IN ADDITION TO THE ABOVE INCLUSION CRITERIA**

- Death resulting from the traumatic injury (independent of hospital admission or hospital transfer status);

  **OR**

- Patient transfer from one acute care hospital* to another acute care hospital;

  **OR**

- Patients directly admitted to your hospital (exclude patients with isolated injuries admitted for elective and/or planned surgical intervention);

  **OR**

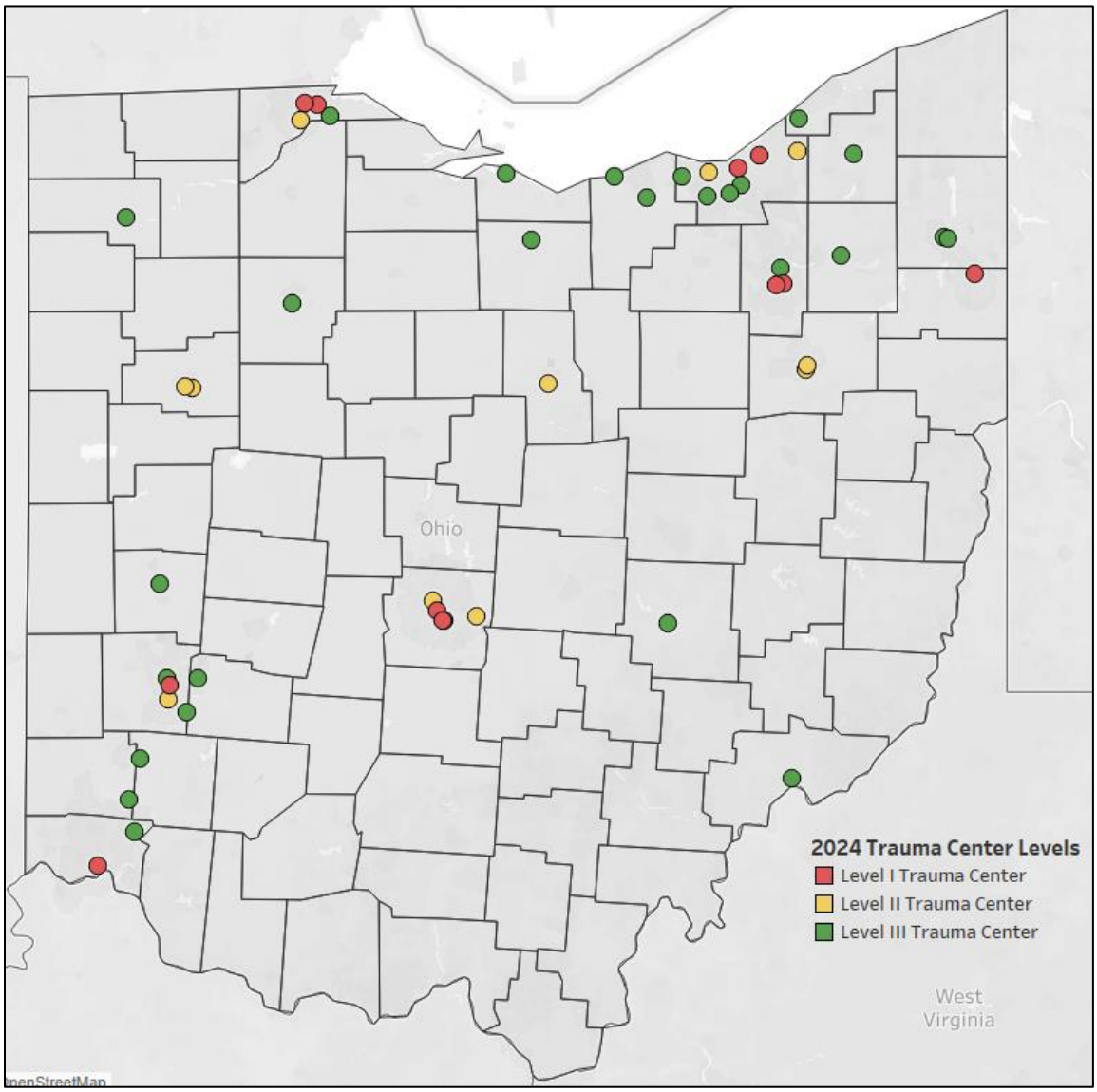
- Patients who were an in-patient admission and/or observed.

**PATIENT EXCLUSION CRITERIA**

Patients with the following isolated ICD-10-CM codes are **excluded** from the TACR:

- **S00, S10, S20, S30, S40, S50, S60, S70, S80, S90** (Patients with these isolated injuries that were not transferred in/out or died would be excluded.);
- **7th character modifiers of D through S** (Late effects)
- More information on the trauma inclusion or exclusion criteria and the full 2024 data dictionary can be found at: https://ems.ohio.gov/static/links/ems_OTR-TACR-Data-Dictionary-2024.pdf.

## Appendix C: Map and List of 2024 Ohio Adult Trauma Centers by Trauma Level

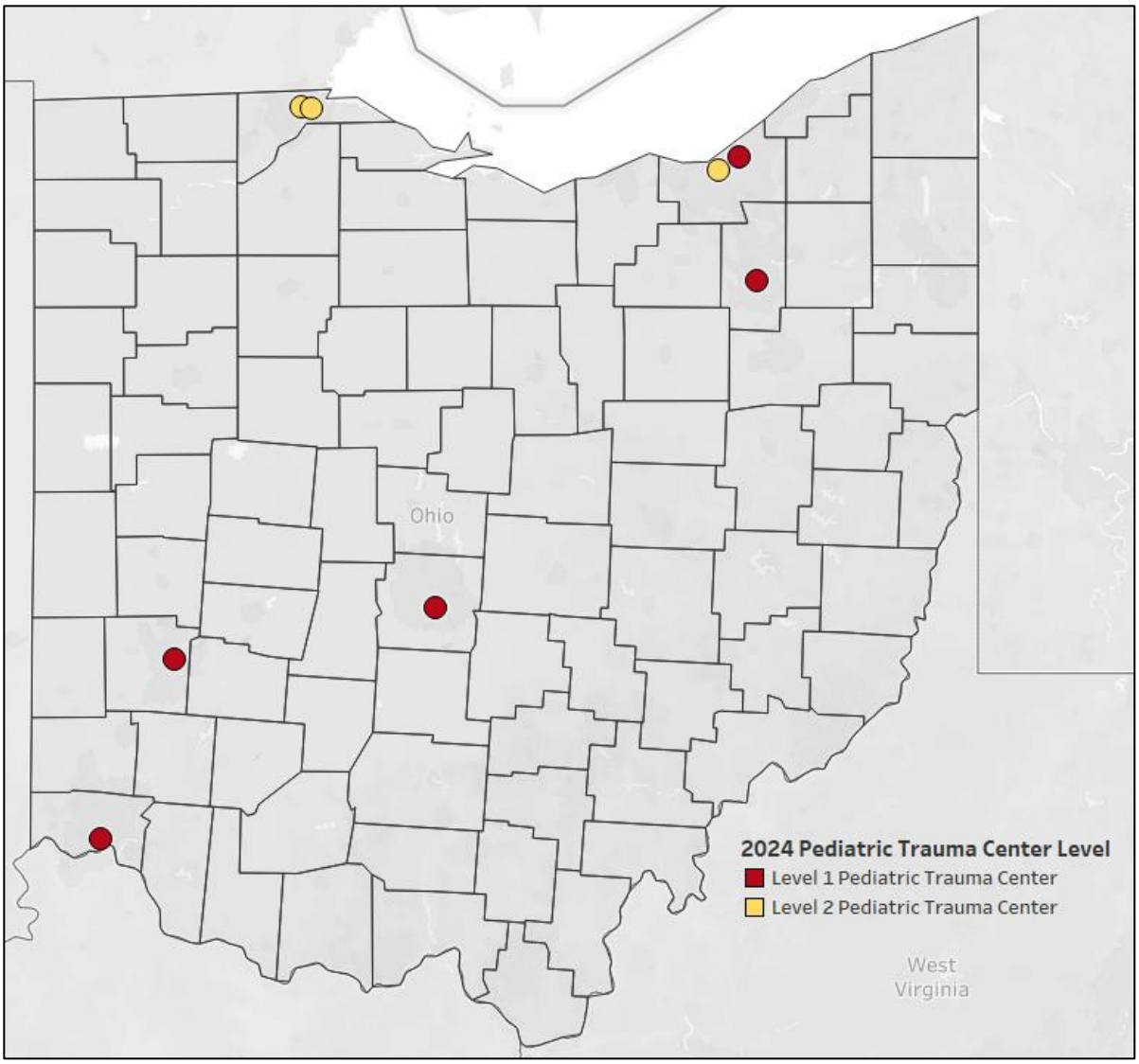



**Level 1 Adult Trauma Centers:** MetroHealth Main Campus Medical Center, UH Cleveland Medical Center, The Ohio State University Wexner Medical Center, Grant Medical Center, University of Cincinnati Medical Center, Mercy Health – St. Vincent Medical Center & Nationwide Children's Hospital – Toledo, ProMedica Toledo Hospital, Mercy Health - St. Elizabeth Youngstown Hospital, Miami Valley Hospital, Akron General, Summa Health System – Akron Campus

**Level 2 Adult Trauma Centers:** Riverside Methodist Hospital, Kettering Health Main Campus, Hillcrest Hospital, Mount Carmel East, Lima Memorial Hospital, Mercy Health – St. Rita's Medical Center, Fairview Hospital, University of Toledo Medical Center, Mansfield Hospital, Aultman Hospital, Mercy Hospital

**Level 3 Adult Trauma Centers:** Mercy Health - St. Joseph Warren Hospital, UH Geauga Medical Center, UH Lake West Medical Center, UH Parma Medical Center, Mercy Health - Lorain Hospital, Bethesda North Hospital, Atrium Medical Center, UH St. John Medical Center, Southwest General Health Center, ProMedica Defiance Regional Hospital, Firelands Regional Medical Center, The Ohio State University Hospital East, Blanchard Valley Hospital, Fisher-Titus Medical Center, UH Elyria Medical Center, Mercy Health - St. Charles Hospital, Upper Valley Medical Center, Kettering Health Dayton, Genesis Hospital, UH Portage Medical Center, Western Reserve Hospital, West Chester Hospital, Trumbull Regional Medical Center, Marietta Memorial Hospital, Miami Valley Hospital South Campus Emergency and Trauma Center, Soin Medical Center - Kettering Health, Parma Medical Center

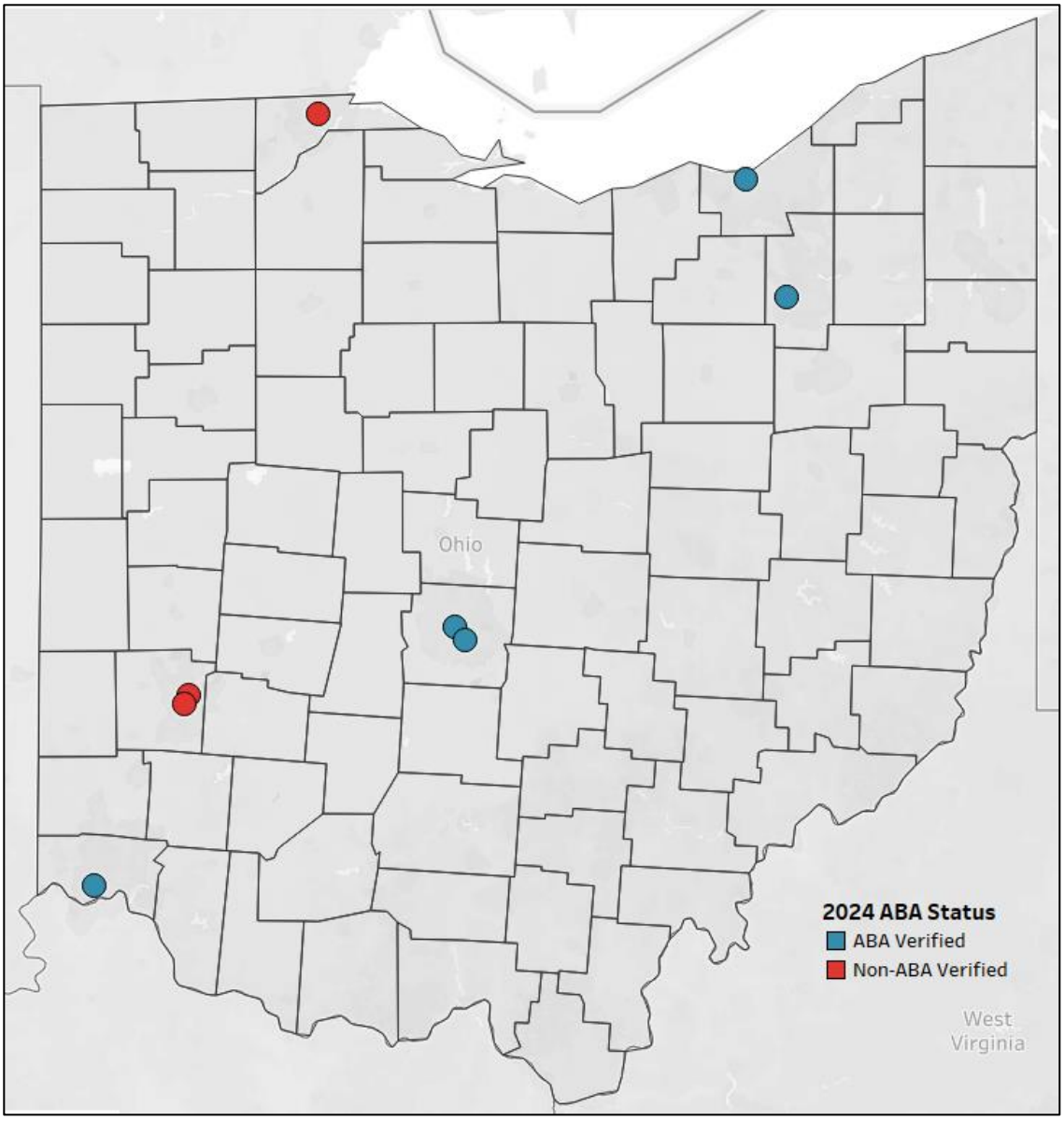
## Appendix D: Map and List of 2024 Ohio Pediatric Trauma Centers by Trauma Level




**Level 1 Pediatric Trauma Centers:** UH Rainbow Babies and Children's Hospital, Nationwide Children's Hospital, Cincinnati Children's Hospital – Burnet Campus, Dayton Children's – Main Campus, Akron Children's Hospital

**Level 2 Pediatric Trauma Centers (part of a Level 1 Adult Trauma facility):** MetroHealth Main Campus Medical Center, Mercy Health – St. Vincent Medical Center & Nationwide Children's Hospital – Toledo, ProMedica Toledo Hospital

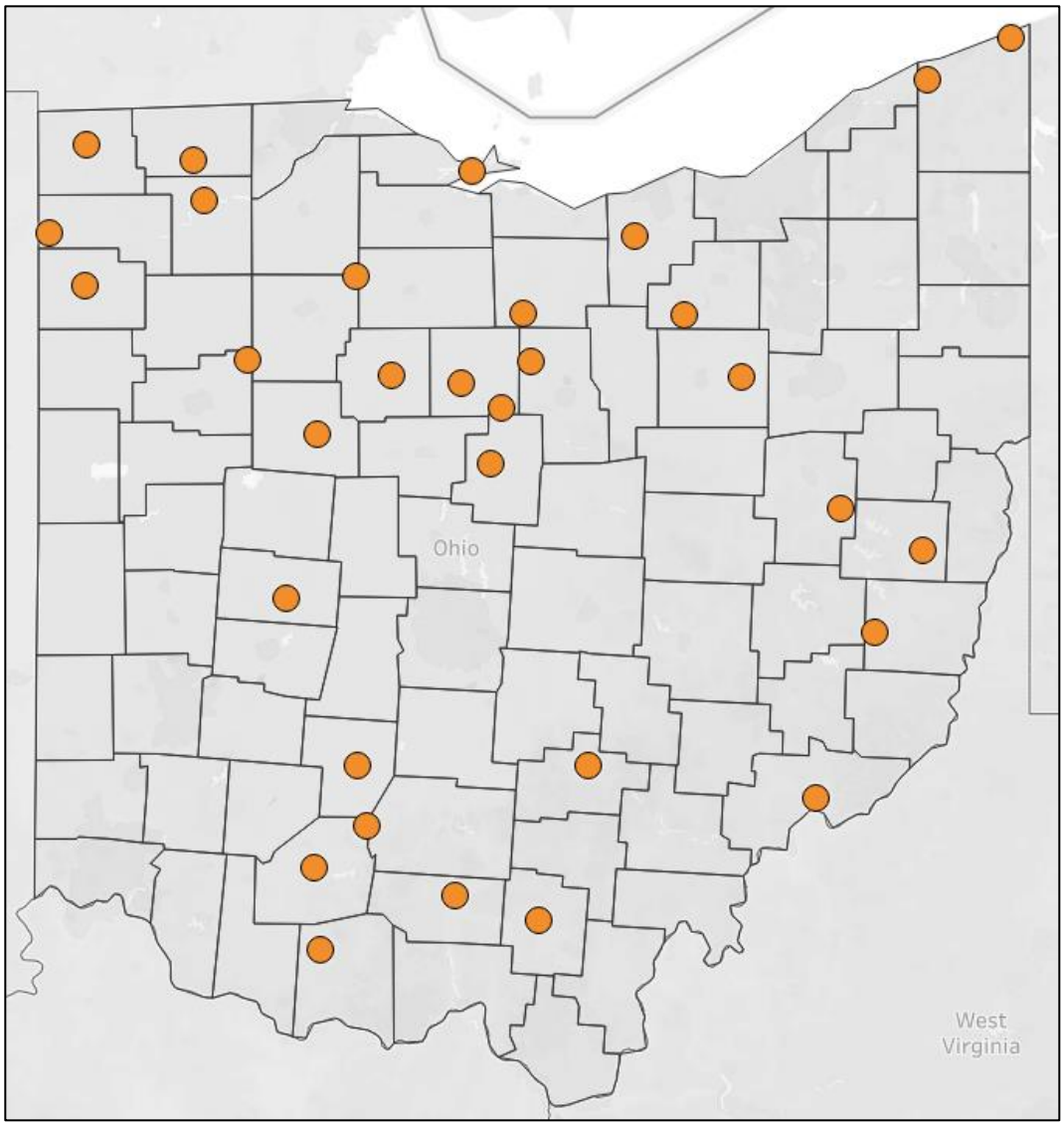
## Appendix E: Map and List of Ohio Burn Centers in 2024 by ABA Status




**ABA Verified:** MetroHealth Medical Center, Nationwide Children's Hospital, The Ohio State University Wexner Medical Center, University of Cincinnati Medical Center, Children's Hospital Medical Center of Akron

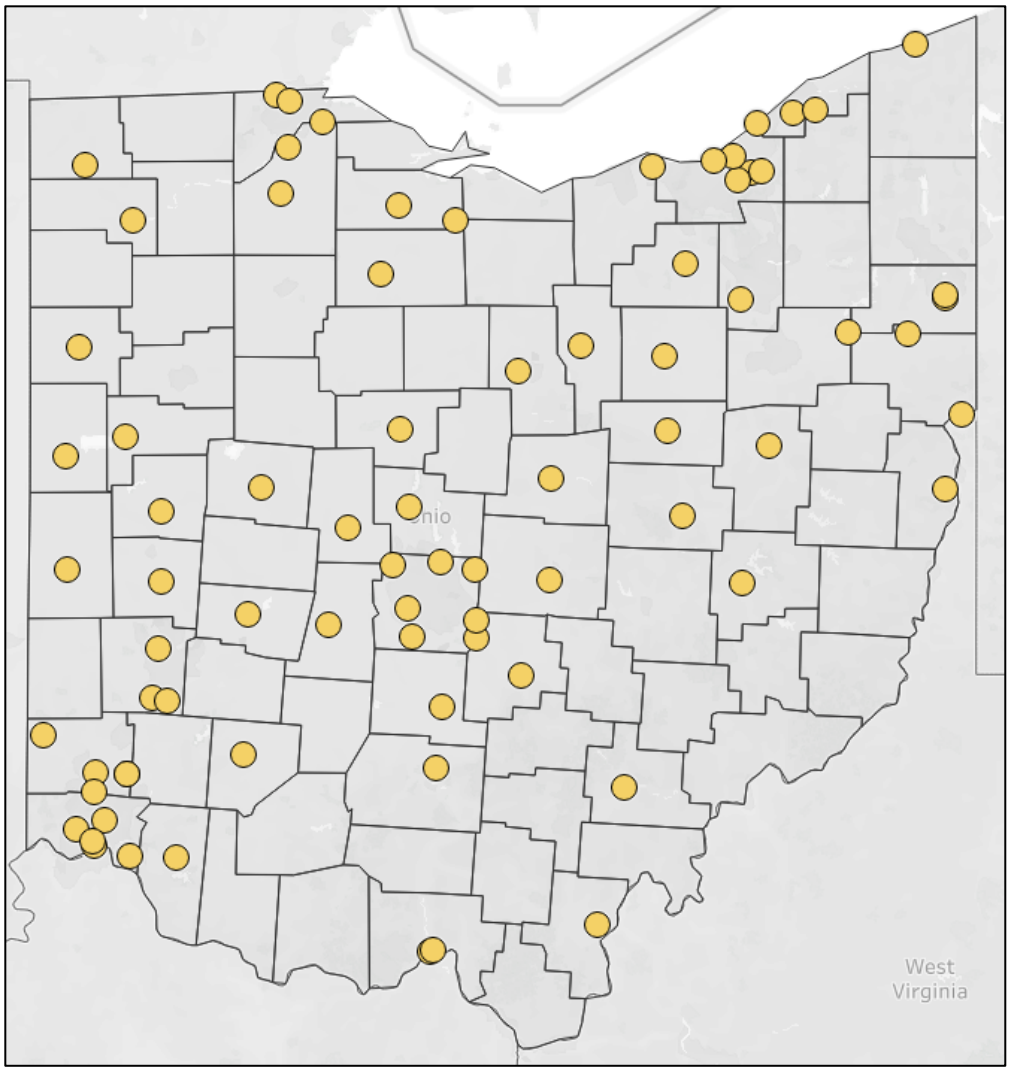
**Non-ABA Verified:** St. Vincent's Hospital Burn Center, Miami Valley Hospital Regional Adult Burn Center, Shriner Children's Ohio Burn Center

## Appendix F: Map and List of Ohio Critical Access Hospitals in 2024



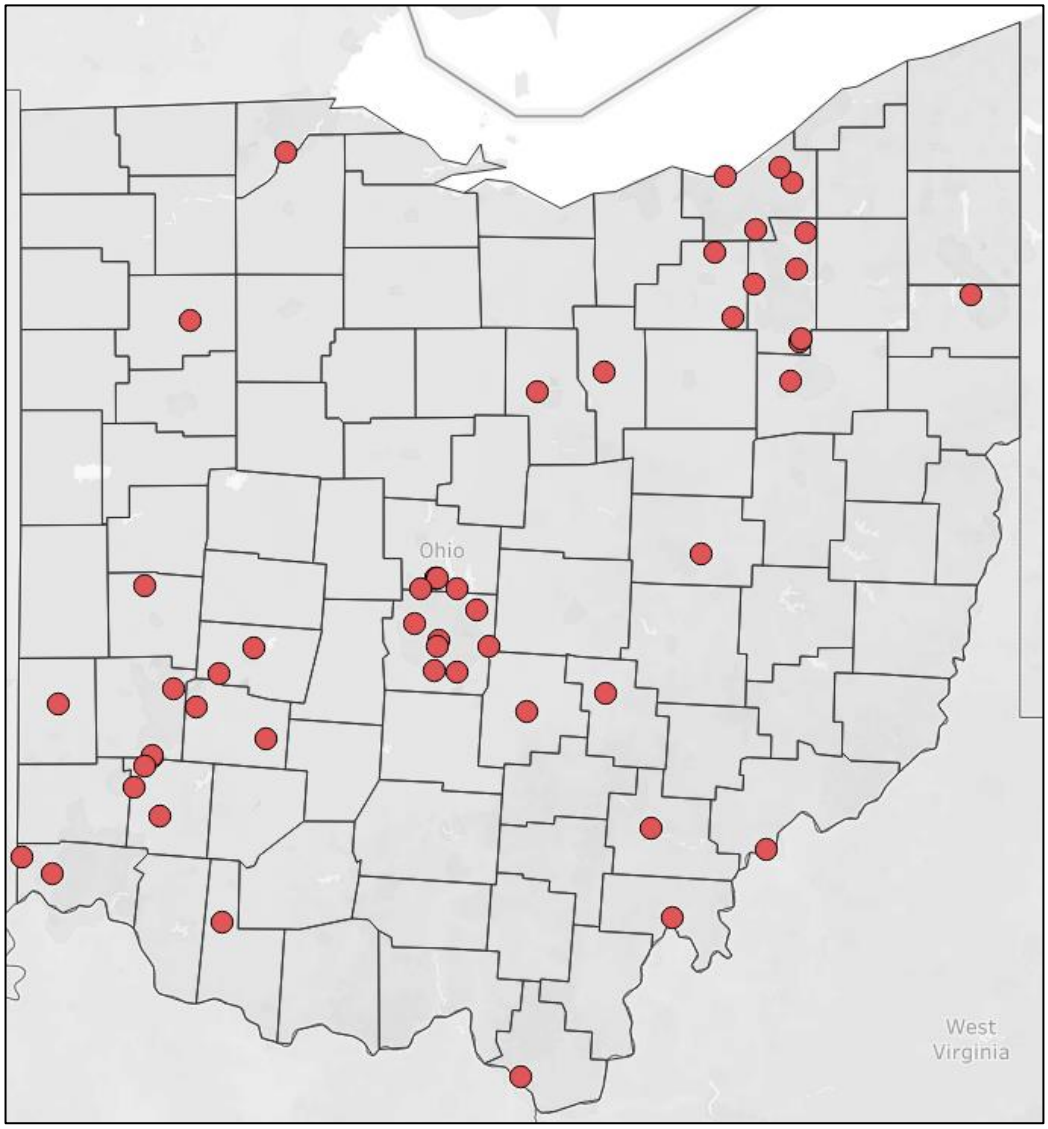

**Critical Access Hospitals:** Harrison Community Hospital, Adams County Regional Medical Center, Blanchard Valley Hospital – Bluffton Campus, UH Conneaut Medical Center, UH Geneva Medical Center, Barnesville Hospital, Mercy Health – Urbana Hospital, Bucyrus Hospital, Galion Hospital, Community Memorial Hospital, Adena Fayette Medical Center, Fulton County Health Center, ProMedica Fostoria Community Hospital, Hardin Memorial Hospital, Henry County Hospital, Highland District Hospital, Adena Greenfield Medical Center, Hocking Valley Community Hospital, Mercy Health – Willard Hospital, Mercy Health – Allen Hospital, Akron General Lodi Hospital, Morrow County Hospital, Magruder Hospital, Paulding County Hospital, MedCentral Health System – Shelby Hospital, Twin City Medical Center, Selby General Hospital, Aultman Orrville Hospital, Monteplier Hospital, Wyandot Memorial Hospital, Adena Pike Medical Center, Holzer Medical Center - Jackson

## Appendix G: Map and List of Acute Care Hospitals in 2024




**Acute Care Hospitals:** The Jewish Hospital - Mercy Health, Trinity Medical Center West, Madison Health, Avon Hospital at Richard E Jacobs, Doctors Hospital, Holzer Gallipolis, Mercy Health – Clermont Hospital, Adena Regional Medical Center, Knox Community Hospital, Kettering Health Miamisburg, Mercy Health - Fairfield Hospital, Kettering Health Washington Twp, UH Samaritan Medical Center, Ashtabula County Medical Center, O'Bleness Hospital, Joint Township District Memorial Hospital, McCullough-Hyde Memorial Hospital, Mercy Health - Springfield Regional Medical Center, Clinton Memorial Hospital, Salem Regional Medical Center, East Liverpool City Hospital, Coshocton Regional Medical Center, Euclid Hospital, Marymount Hospital, Lutheran Hospital, Cleveland Clinic Main Campus, Wayne Hospital, Grady Memorial Hospital, Fairfield Medical Center, ProMedica Bay Park Hospital, Southeastern Medical Center, The Christ Hospital, Good Samaritan Hospital (Cincinnati). Mercy Health – Anderson Hospital, Pomerene Hospital, Ontario Hospital, UH TriPoint Medical Center, Licking Memorial Hospital, Mary Rutan Hospital, ProMedica Flower Hospital, Marion General Hospital, Medina Hospital, Mercer County Community Hospital – Coldwater, Berger Hospital, The Bellevue Hospital, ProMedica Memorial Hospital, Southern Ohio Medical Center, Mercy Health – Tiffin Hospital, Wilson Health, Aultman Alliance Community Hospital, Summa Health System – Barberton Campus, Dublin Methodist Hospital, Union Hospital, Memorial Hospital, Van Wert Hospital, Akron Children's Hospital Beeghly Campus Boardman, Wooster Community Hospital, Bryan Hospital, Wood County Hospital, South Pointe Hospital, Mercy Health – St. Ann Hospital, Mount Carmel New Albany, Mercy Health – Defiance Hospital, Mercy Health – St. Elizabeth Boardman Hospital, UH Ahuja Medical Center, Mercy Health – West Hospital, Mount Carmel St. Ann's, Diley Ridge Medical Center, King's Daughters Medical Center – Ohio, Cleveland Clinic – Mentor Hospital, Kettering Health Troy, Cincinnati Children's Hospital – Liberty Campus, Bethesda Butler Hospital, OhioHealth Pickerington Methodist Hospital, Miami Valley North Campus, The Christ Hospital Medical Center – Liberty Twp, Mercy Health – Perrysburg Hospital, Mount Carmel Grove City

## Appendix H: Map and List of Freestanding Emergency Departments in 2024



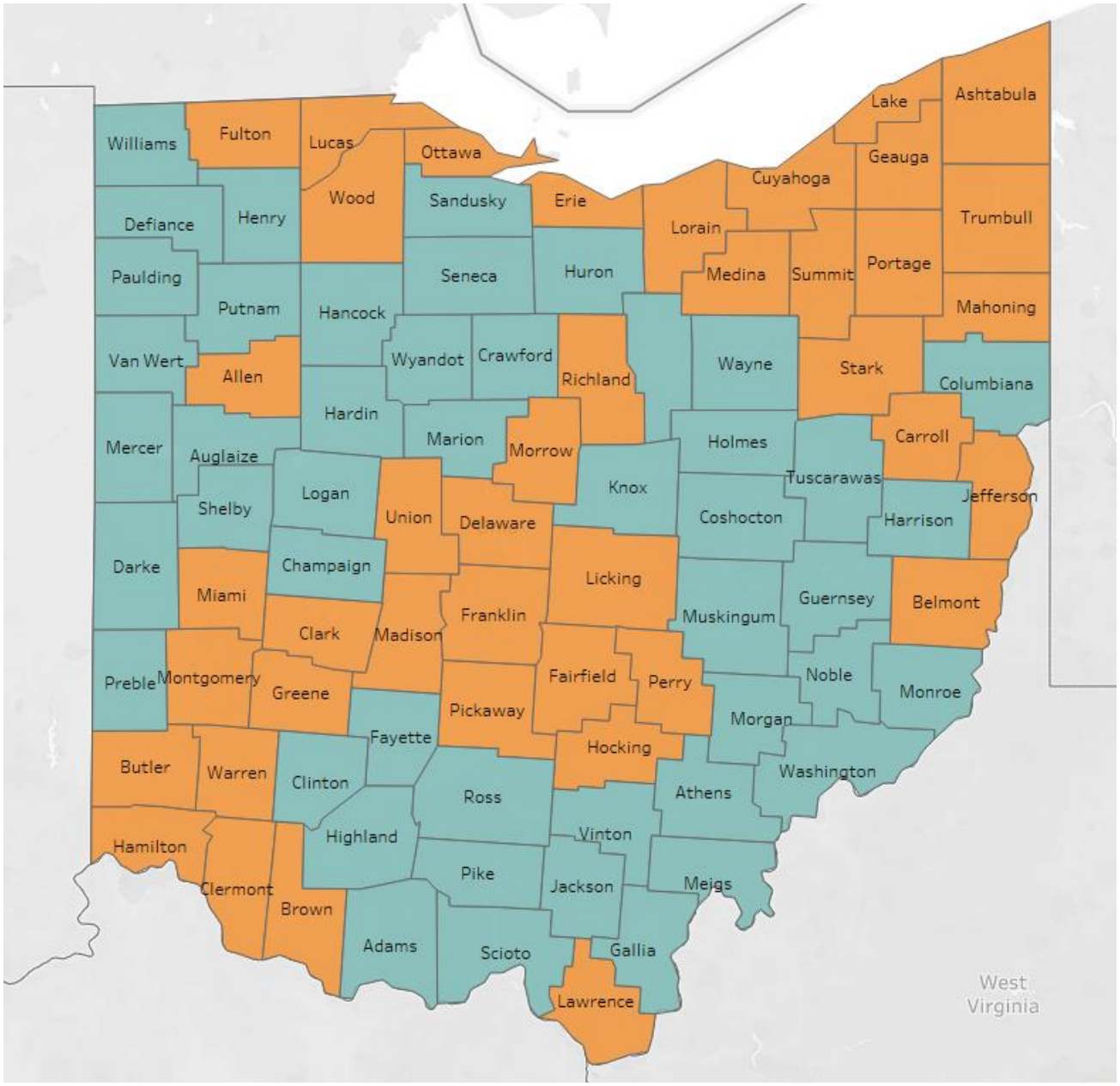

**Freestanding Emergency Departments:** Lakewood Family Health Center ED, Mount Carmel Franklinton (FSED), Summa Health Wadsworth-Rittman Medical Center, Cleveland Heights Medical Center, Bethesda Medical Center at Arrow Springs, Mercy Health - Harrison Medical Center, Mercy Health - Mt. Orab Medical Center, Brunswick Medical Center, Good Samaritan Medical Center - Western Ridge, CC - Akron General H&W Ctr – West, Akron General H&W Ctr – North, Summa Health Green Medical Center, St. Mary's Medical Center - Ironton Campus, Kettering Health Huber, Twinsburg Fam Health & Surg Ctr, Westerville Medical Campus, Akron General H&W Ctr – Green, St. Elizabeth Emergency & Diagnostic Center (Austintown Medical Ctr), Mercy Health - Putnam County Emergency Services, Miami Valley Hospital Jamestown Emergency Center, Marietta Memorial - Belpre Medical Campus, Kettering Health Preble, Kettering Health - Franklin Emergency Center, Mount Carmel Lewis Center, Brecksville Health and Surgery Center, Lewis Center Health Center, Dayton Children's – South Campus ED, Lewis Center Close to Home Center and ED, Genesis Perry County Medical Center, Miami Valley Hospital Austin Blvd Emergency Center, OhioHealth Emergency Care – Reynoldsburg, OhioHealth Emergency Care – Powell, Grove City Methodist Hospital, OhioHealth Emergency Care - New Albany, Kettering Health Middletown ED, Beachwood Medical Center, Fairfield Medical Ctr. – River Valley Campus, Mercy Health – Dayton Springfield Emergency Center, Aultman Massillon, OhioHealth Emergency Care – Ashland, Kettering Health Piqua, OhioHealth Emergency Care – Hilliard, Mount Carmel Reynoldsburg, OhioHealth Emergency Care – Ontario, OhioHealth Emergency Care – Obetz, Preble County Medical Center, Holzer Meigs – Emergency Department, ProMedica Toledo Hospital Emergency and Urgent Care – Maumee Campus, Miami Valley Hospital Beavercreek Emergency Center, Kettering Health Springfield, Genesis Coshocton Med Ctr, Athens Medical Campus

## Appendix I: Map of Ohio Homeland Security Regions Utilized by the Regional Physician Advisory Board (RPAB)


* Unless otherwise stated, the Ohio Homeland Security Regions shown in the map above are the 'regions' referred to in this annual report. These are the same regions utilized by the Regional Physician Advisory Board (RPAB).

## Appendix J: Map of Ohio Counties, Urban and Rural Designations

Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2023 NCHS Urban-Rural Classification Scheme for Counties.

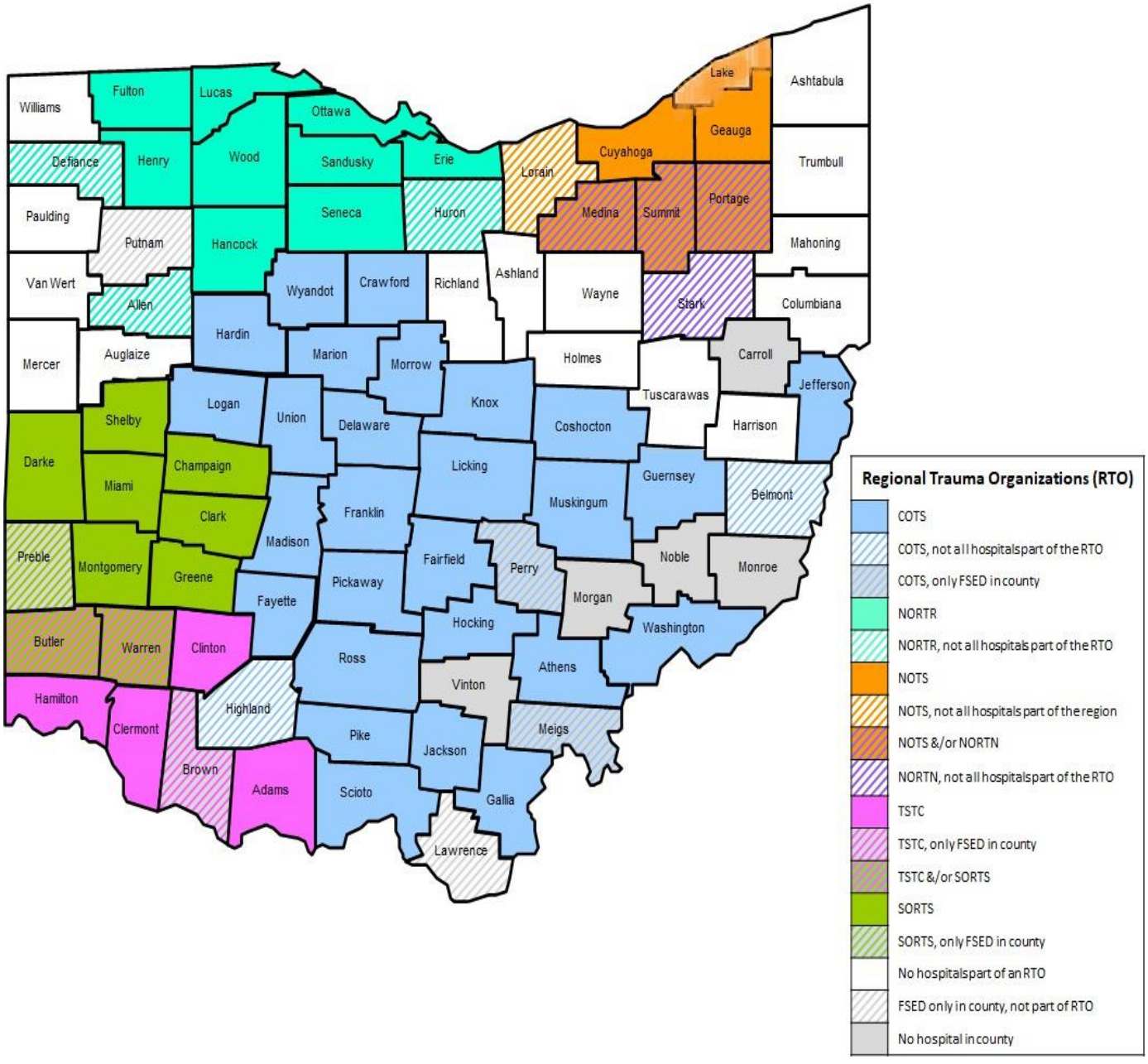



In previous years' reports, the 2013 NCHS Urban-Rural Classification Scheme for Counties was used. However, the urban rural classification for Ohio counties has remained the same in the 2023 NCHS Urban-Rural Classification Scheme when compared to the 2013 NCHS Urban-Rural Classification Scheme.

## APPENDIX K: Summary of 2024 – 2025 Trauma Related EMS Grants

| ***2024-2025 Priority 2-5 Research Grant Recommendations*** | | |
|---|---|---|
| Artificial Intelligence Risk Prediction to Guide Patient-Centered Support Discussion Following Elderly TBI | Research Institute of Nationwide Children's | $100,000.00 |
| Store It Safe Adolescent Suicide Prevention Project | Ohio chapter of the American Academy of Pediatrics (AAP) | $85,000.00 |
| The relationship of social determinants of health, adverse childhood events, and parenting practices on outcomes in youth with TBI in Ohio | The Ohio State University | $52,500.00 |
| ***Total 2024-2025 Priority 2-5 Research Grant Recommendations*** | | ***$237,500*** |

## APPENDIX L: Ohio Regional Trauma Systems Map as of September 2021




A regional trauma system is an organized, coordinated effort in a defined geographic area that delivers the full range of care to all injured patients and works together with emergency services and disaster preparedness making efficient use of health care resources to improve patient outcomes in the state of Ohio. Membership is voluntary and not generally restricted by facility location.

## APPENDIX M: Members of the Board, Trauma Committee, Trauma Registry Advisory Workgroup (TRAW), Performance Improvement (PI) Workgroup, and EMS Prehospital Workgroup

**Board**

Thomas Allenstein
Kent Appelhans
Dorothy Battles
Karen Beavers
Geoffrey J. Dutton
Patrick Ferguson
Jeffery Jackson
Pradeesh George, DO
Brian Hathaway
Ruda Jenkins
Mark Marchetta
Deana Pace
Matthew Phillips
Amy Raubenolt, MD
Mark N. Resanovich
Darin Robinaugh
Hamilton P. Schwartz, MD
Kevin Uhl
John Weimer
Dudley Wright

**Trauma Committee**

Diane Simon (Chair)
Laurie Johnson, MD (Vice Chair)
Michael Beltran, MD
Steven Berry II
Erik Evans, MD
Stephen Feagins, MD
Brian Fletcher
Kent Harshbarger, MD
Timothy Hake, MD
Aaron Jennings
Shaheed Koury, MD
Andrea Light, RN
Deanah Moore
Mary Moran, PhD
Bradley Raetzke, MD
Darin Robinaugh
James Sauto, Jr., MD
Michael Shannon, MD
M. Chance Spalding, DO
Rajan Thakkar, MD
Staci Trudo, RN
Rachel Velasquez
Julie Warholic, RN

**Trauma Registry Advisory Workgroup (TRAW)**

Deanah Moore (Co-Chair)
Sara Arida
Brandi Cario
Sarah Christophel
Wendi Dean
Caroline Eckles
Danielle Dell
Michelle Doll
Roxanna Giambri
Kelly Harrison
Lita Holdeman
Vanessa Isler
Jessica Johnson
Taunya Kessler
Victoria Kreckman
Jillian Kuethe
Alysia Lazear
Jessica Mazzocco
Pam Owen
Alana Prosser
Karen Silberhorn
Diane Simon
Halina Sliwinski
Catherine Smith
Shannon Swader
Jennifer Talkington
Pamela Tanner

**Performance Improvement (PI) Workgroup**

Lee Ann Wurster (Chair)
Richard George, MD (Co-Chair)
Sara Arida
Sahithi Aurand
Tod Baker
Melody Campbell
Alex Carpenter
Michelle Doll
Emma Fox
Sherri Kovach
Roxanna Giambri
Lauren Phipps
Danielle Rossler
Monica Rozzell
Valerie Stoker
Dan Swords
Diane Simon

**EMS Prehospital Workgroup**

Ashish Panchal, M.D.
Brian Anderson
Brian Bemiller
Herb de la Porte
Joel Dickinson
Mark Huckaby
James Sauto, M.D.
Tammy Wilkes
Jamie Wilson
Paul Zeeb, M.D.

**ODPS/Division of EMS**

Carol A. Cunningham, MD,
State Medical Director

Robert L. Wagoner, Executive Director

Sahithi Aurand, MPH,
Chief, Research & Analysis Section

Haydi Labib, MPH,
Human Services Program Consultant

**Ohio Department of Public Safety**
**Division of Emergency Medical Services**

**2024 Trauma Annual Report**