

CENTRAL NERVOUS SYSTEM INJURY IN KENTUCKY

Emergency Department Visits and Hospitalizations, 2024

Prepared by the Kentucky Injury Prevention and Research Center, University of Kentucky

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FOR MORE INFORMATION

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Abbreviations

- TBI – Traumatic brain injury
- NTBI – Non-traumatic brain injury
- SCI – Spinal cord injury
- CNSI – Central nervous system injury
- LOS – Length of stay
- MVTC – Motor vehicle traffic crash
- ETS – Exposure to toxic substances
- KIPRC – Kentucky Injury Prevention and Research Center

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This report presents basic data about emergency department (ED) visits and inpatient hospitalizations for the calendar year 2024 for central nervous system injuries (CNSIs) that include traumatic brain injuries, non-traumatic brain injuries (NTBIs), spinal cord injuries (SCIs) and cerebrovascular disease (stroke). ED visits represent three out of four TBIs. This report will illustrate the leading causes of central nervous system injuries in Kentucky, what age groups are affected, and who pays for care received. The report is intended as a reference for policy makers, service providers, educators, researchers, advocates, and others interested in knowing more about the impact of central nervous system injuries with a focus on traumatic brain injuries.

Introduction

Awareness of traumatic brain injury (TBI) is fairly limited in the general public because the complications and issues related to TBI are often not visible to others. Symptoms of brain injury cover a wide range of issues and can include:

Mild TBI

Fatigue
Headaches
Seizures
Emotional disturbances
Balance issues
Memory loss
Impulsive behavior

Severe TBI

Amnesia
Paralysis
Loss of limb, bladder and/or bowel control
Aggressiveness
Speech, language and/or vision problems
Respiratory issues
Mood, personality, or behavioral changes

These issues very often are not physically visible yet can have a devastating impact on day-to-day life of the injured person as well as their family, friends, and colleagues. Even a minor TBI may have serious, long-term consequences.

Understanding how and who brain and spinal cord injuries affect is crucial to understanding the resources needed to educate, prevent, and respond as a society to those with brain and spinal cord injuries.

Major sections of this report include:

- Nonfatal TBI, non-traumatic brain injury (NTBI), spinal cord injury (SCI) and stroke case demographics, causes and outcomes,

- TBI, NTBI, and stroke case frequencies and rates at the county level, and
- SCI demographics, causes, and outcomes.

Later reports will include trends.

This report does not include data on TBIs from federal, military, or Veterans' Administration hospitals. Data regarding deaths due to TBI, NTBI, SCI, and stroke include only deaths treated or seen in an emergency department (ED) or admitted as an inpatient to an acute care hospital. Deaths that occur due to TBI, SCI, or stroke outside of the hospital environment are not included in this analysis due to unavailable data. Deaths that occur in the hospital setting will be noted when included in analysis in this report.

Purpose of the Report

This report answers a wide range of important questions about how many central nervous system injuries (CNSIs) occur each year in the Commonwealth, who is affected, and how these CNSIs occur. This report is intended as a reference for policy makers, service providers, educators, researchers, advocates, and others interested in knowing more about the impact of CNSI in Kentucky. This information can be used to document the need for prevention, to identify priorities for research, and to support the need for services among those living with CNSI-related impairment and disability.

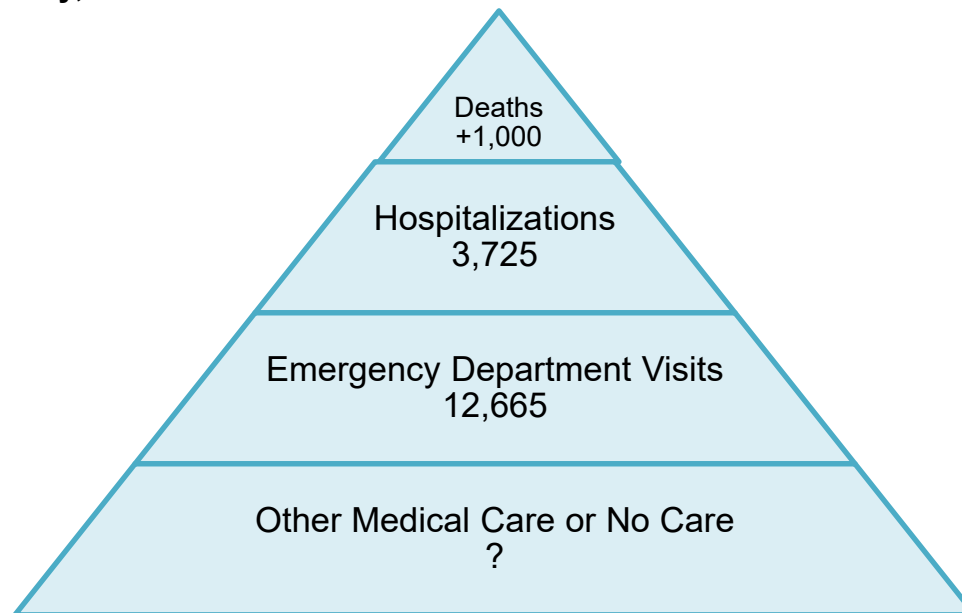
Contents and Organization

This report describes CNSI-related ED visits and hospitalizations in Kentucky for the calendar year 2024. The numbers show the magnitude of the problem, but the rates are also important. Rates show how a certain group is affected by CNSI by relating the number of CNSIs to the size of the population. For example, a relatively small number of TBIs occurring in a small population (e.g., persons aged 65 years or older) would result in a higher TBI rate than if the same number of TBIs occurred in a larger population (e.g., persons aged 25 to 44 years). The report findings are organized into two main sections. The Overview summarizes and interprets some key findings. The Appendices present more detailed data tables, along with a description of the methods and limitations.

Overview of Traumatic Brain Injury in Kentucky

In Kentucky, it is estimated that more than 16,000 traumatic brain injuries and deaths occur each year. In 2024, 12,665 (77.3%) ED discharges and 3,725 (22.7%) hospitalization discharges (nonfatal) were recorded in Kentucky hospitals. In addition to these nonfatal incidents, there were over 375 Kentucky residents who died from a TBI-related injury in Kentucky healthcare. The following figure is a pyramid depicting the estimated average annual number of TBI-related ED visits, hospitalizations, and deaths in Kentucky for 2024. The number of individuals with a TBI that treat themselves at home (estimated to be close to 25% of all mild to moderate TBIs) or seek other means of medical care are unknown and will not be included in this report.

Figure 1: Number of Traumatic Brain Injury-Related Emergency Department Visits, Hospitalizations, and Estimated Deaths*, Kentucky, 2024



Brain injuries in Kentucky, 2024:

- In Kentucky, 16,390 people visited Kentucky hospitals with a TBI. Of those, 12,665 were treated and released from an ED and 3,725 were hospitalized.
- 2,829 TBIs occurred among children aged 0 to 14 years; ED visits accounted for more than 89% of the TBIs in this age group.
- Falls were the leading cause of TBI for both ED visits and hospitalizations. Fall rates were highest for adults 65 years or older in both ED visits as well as hospitalizations.
- Falls resulted in the greatest number of TBI-related hospitalizations, with a rate 2.5 times that of motor vehicle traffic crashes.
- Adults aged 65 years or older had the highest rate of TBI-related hospitalization, with a rate higher than all ages combined. The rate was 3x the total TBI-related hospitalization rate.
- Falls accounted for more than twice as many TBI injuries as did motor vehicle traffic crashes and struck by/against injuries.
- Data indicate that TBIs led to over 44 state residents per day being treated in Kentucky hospitals (ED and hospitalization).
- Adults aged 65 years and older accounted for one out of two non-traumatic brain injuries.
- There were 31,683 nonfatal stroke cases where medical care was sought in 2024.

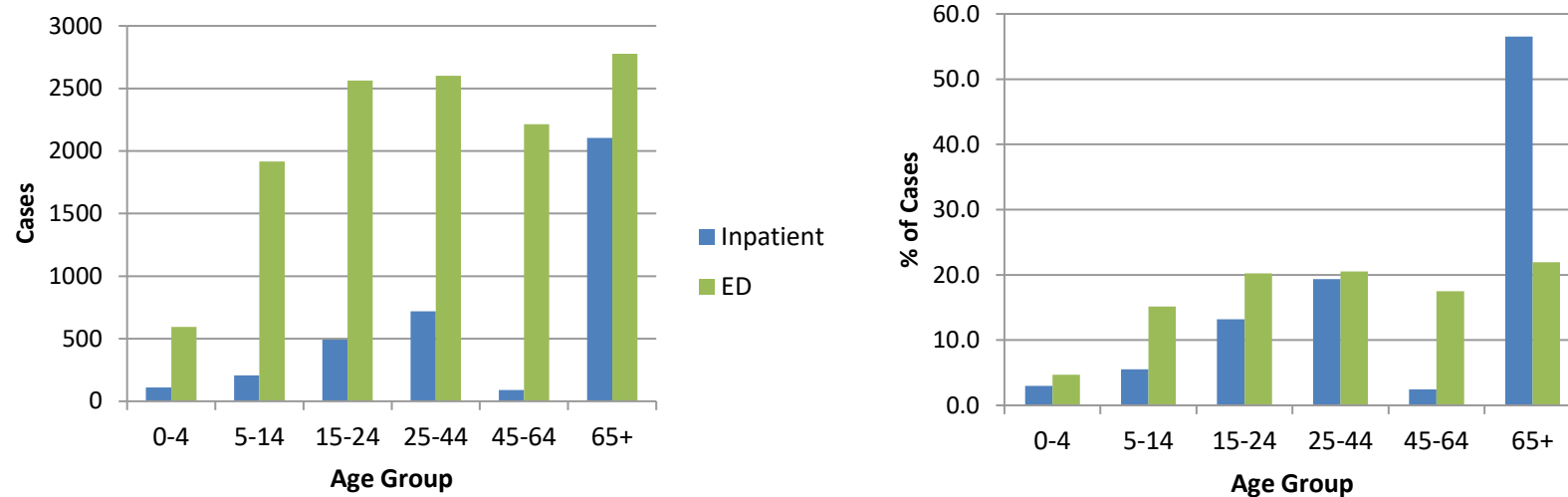
Data indicate a need to focus prevention efforts on the following causes and target populations:

- Motor vehicle traffic crashes, especially among ages 15–24,
- Falls among ages 0–14 and 45 years of age and older,
- Anoxia (NTBI), especially among ages 45 and older, and

TBI by Age: Comparing the Numbers

A nonfatal TBI-related injury treated at a Kentucky hospital results in an *inpatient* admission for two out of five older adult (65 and older) TBI-related injuries, while almost 9 out of 10 TBI-related injuries in children (under the age of 15) are treated in the ED and released.

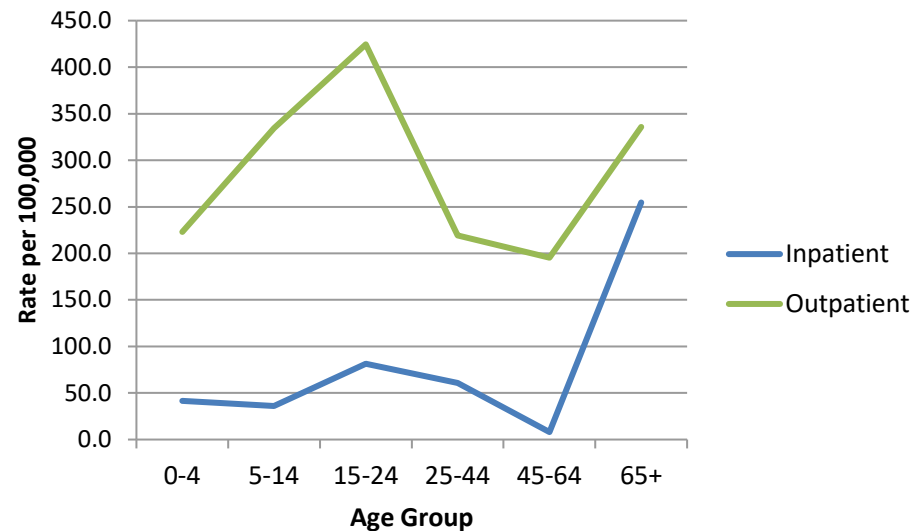
Figure 2: Numbers of Nonfatal Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations, by Age Group, Kentucky, 2024



TBI by Age: Comparing the Rates

The following figure depicts the annual rate of TBI-related ED visits and hospitalizations by age group in Kentucky for 2024. The y axis represents the rate per 100,000 population. During 2024, young adults aged 15–24 years had the highest rate of nonfatal TBI-related ED visits, 425 per 100,000 population. The lowest TBI-related rate for ED visits were among those 45–64 years of age, 195 per 100,000 population. The highest rate of nonfatal TBI-related hospitalization occurred among adults aged 65 years or older (255 per 100,000 population), while the lowest were among adults aged 45–64 years of age (4 per 100,000 population).

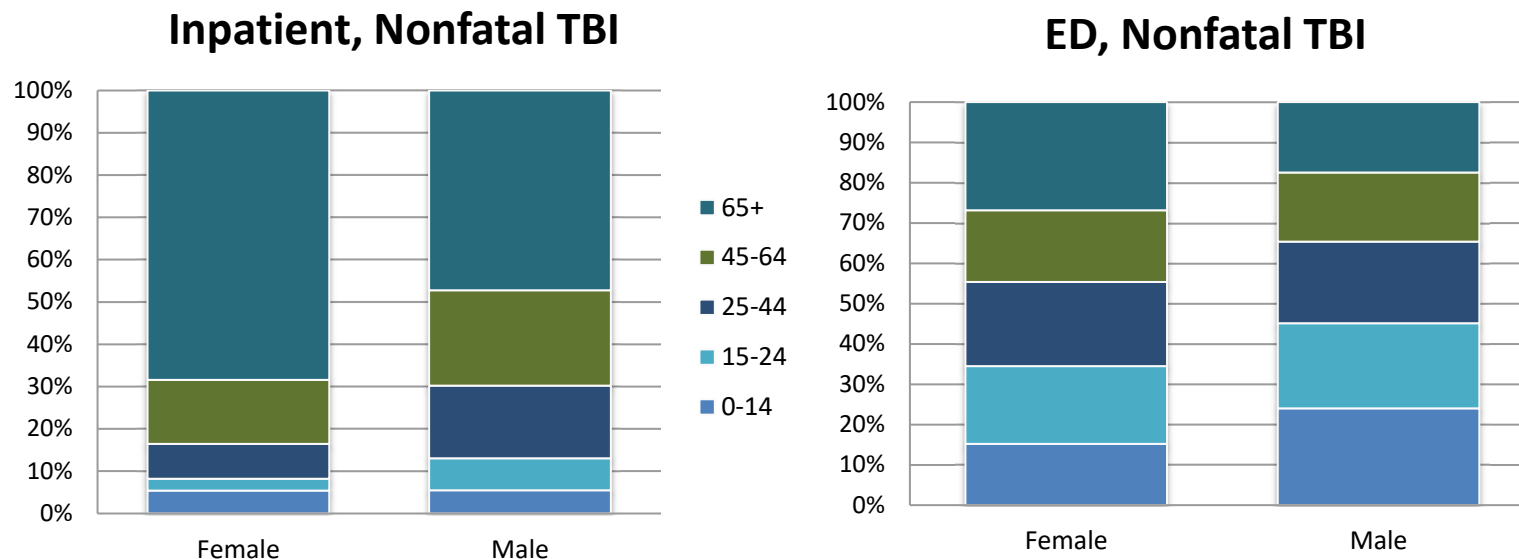
Figure 3: Rates of Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations by Age Group, Kentucky, 2024



TBI by Sex: Comparing the Numbers

The following figure represents the estimated average annual numbers of TBI-related ED visits and hospitalizations by sex and age in the Commonwealth for 2024. Overall, 8,738 nonfatal TBIs occurred among males, compared with 7,650 among females.

Figure 4: Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations by Age Group and Sex, Kentucky, 2024



Over two-thirds of female nonfatal TBI-related inpatient admissions were over the age of 64, while four out of ten males admitted for nonfatal hospitalization for TBI were over the age of 64.

TBI by Sex: Comparing the Rates

The following figure depicts the rates of TBI-related ED visits and hospitalizations by sex. The y axis represents the rate per 100,000 population. The highest rates for TBI were among males 15 to 24 years of age (451 per 100,000 population) and males 5 to 14 years of age (430 per 100,000 population). Both males and females had high rates for age 65 and older inpatient hospitalizations, 264 per 100,000 for males and 247 per 100,000 for females.

Figure 5: Rates of Nonfatal Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations by Sex, Kentucky, 2024

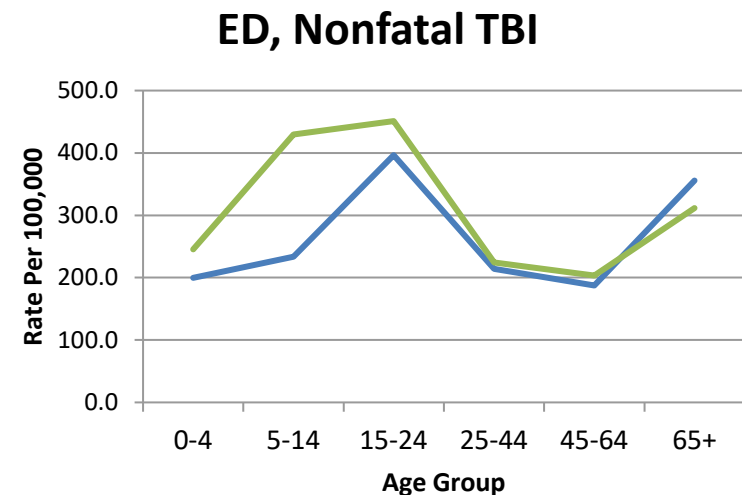
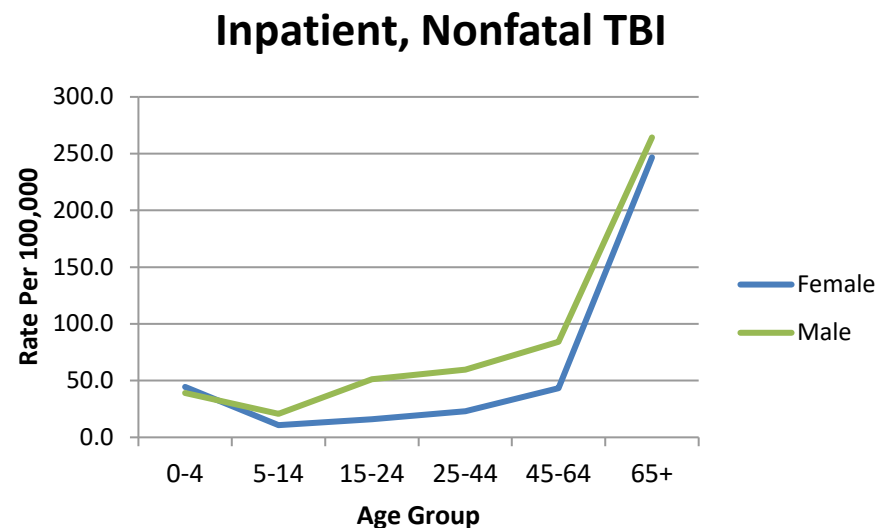
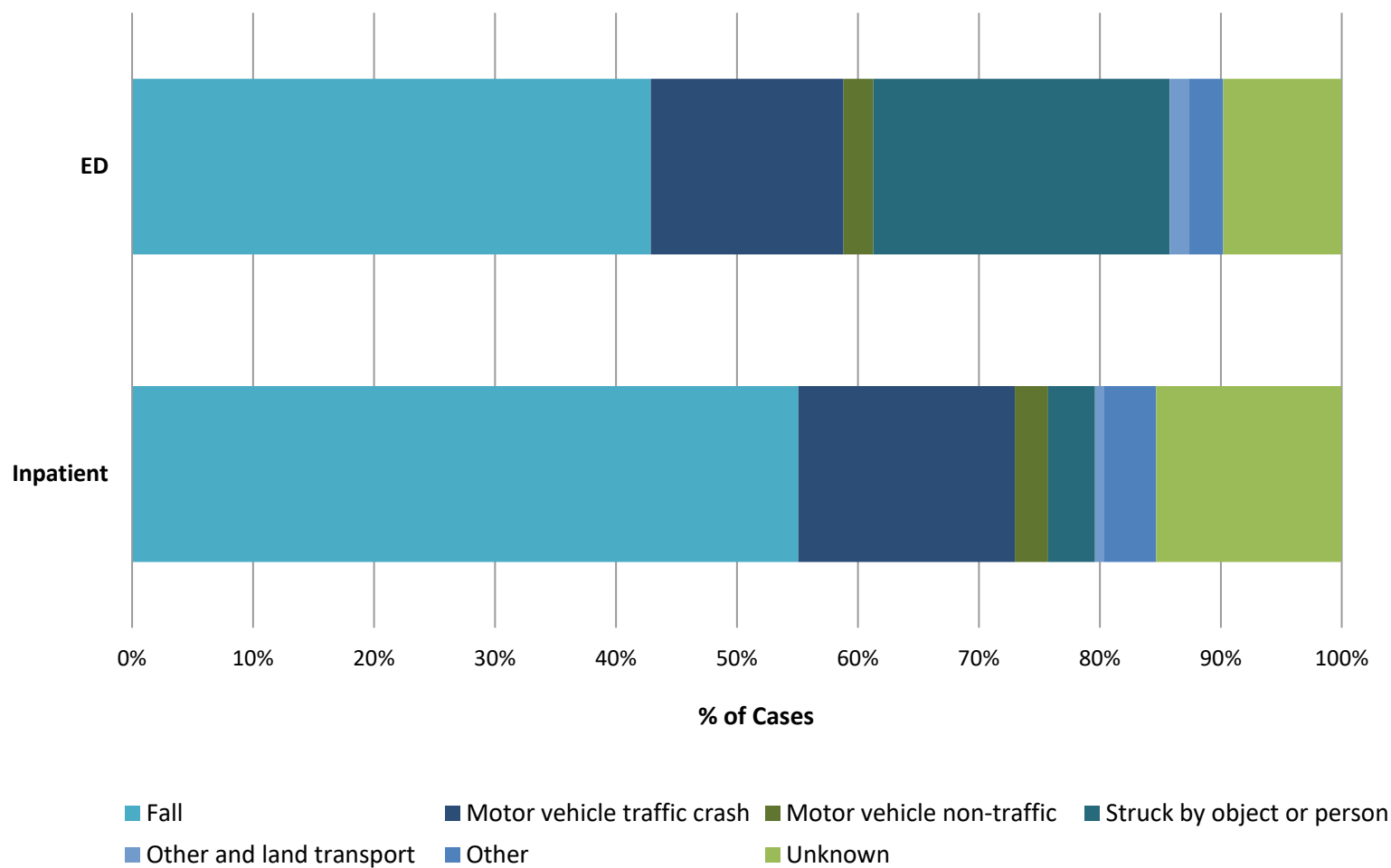


Figure 6: External Cause of Nonfatal Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations, Kentucky, 2024



TBI by External Cause: Comparing the Percentages

The following pie chart depicts the percentage of TBI-related ED visits and hospitalizations, combined, by external cause of injury. Falls were the leading known cause of TBI, covering 45% of all nonfatal TBIs in Kentucky in 2024. The second-leading known cause was motor vehicle traffic crashes, which contributed 18% of all nonfatal TBIs.

Figure 7: Percentage of Traumatic Brain Injury Combined Emergency Department Visits and Hospitalizations, by External Cause, Kentucky, 2024

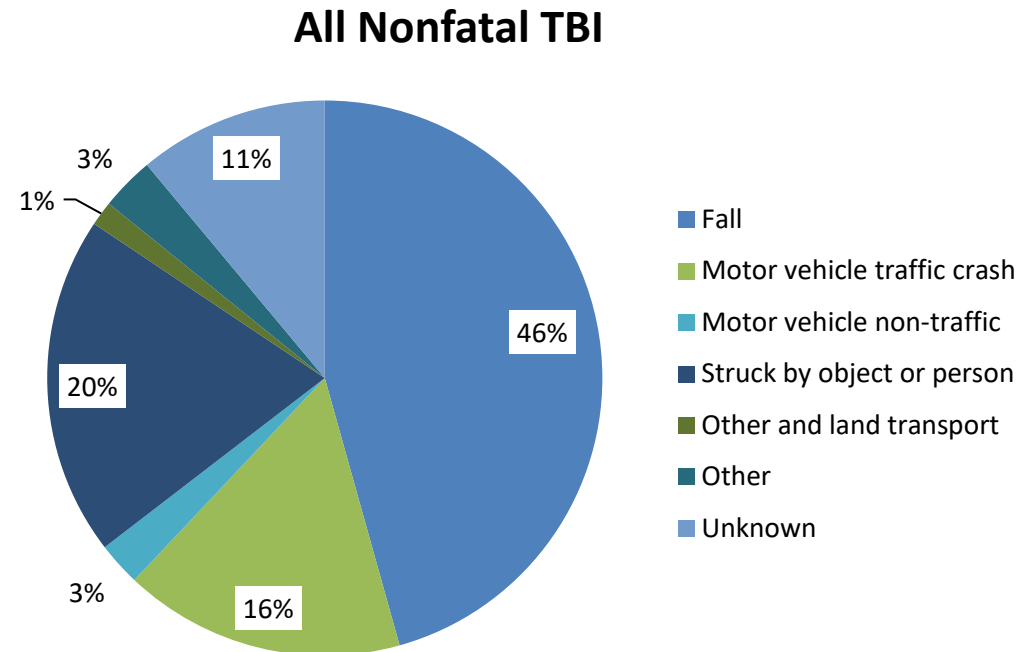
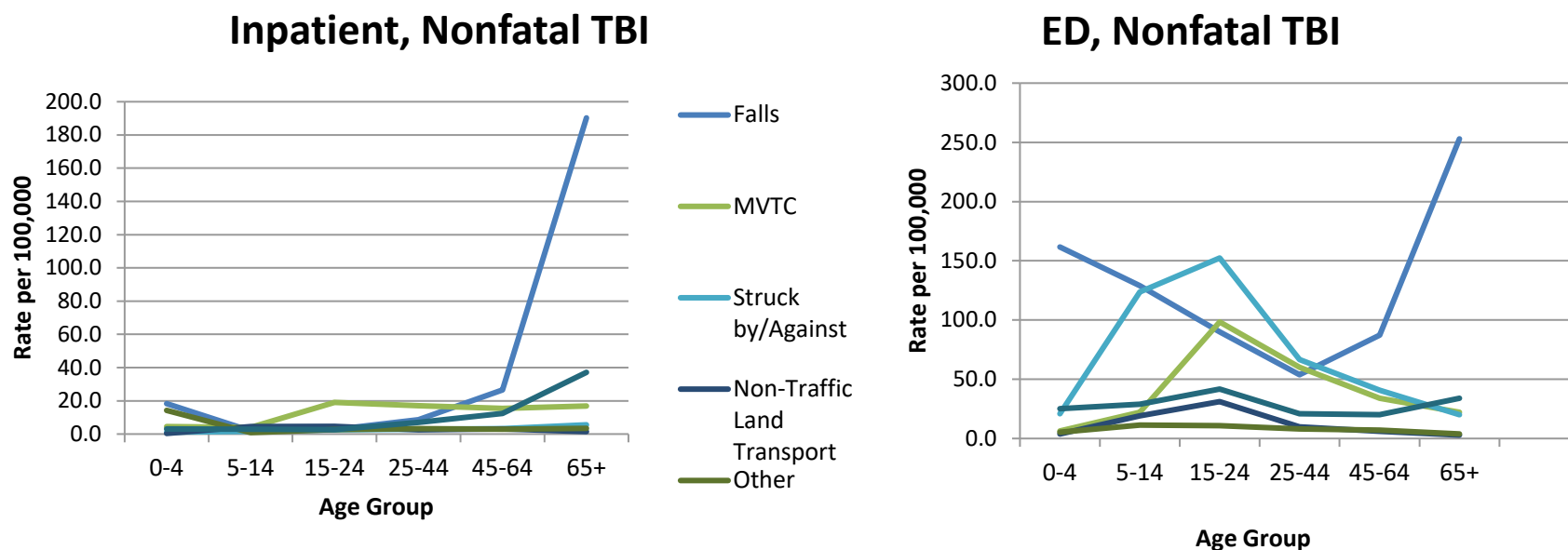


Figure 8 depicts the rates of TBI-related ED visits and hospitalizations by external cause. The y axis represents the rate per 100,000 population.

The data indicate that falls were the leading cause of TBI in Kentucky. Rates were highest among those aged 65 years and older (both hospitalizations and ED). The rates for motor vehicle crash-related TBI were highest among young adults aged 15–24 years. The rates for struck by/against-related TBI were highest among 15–24-year-olds.

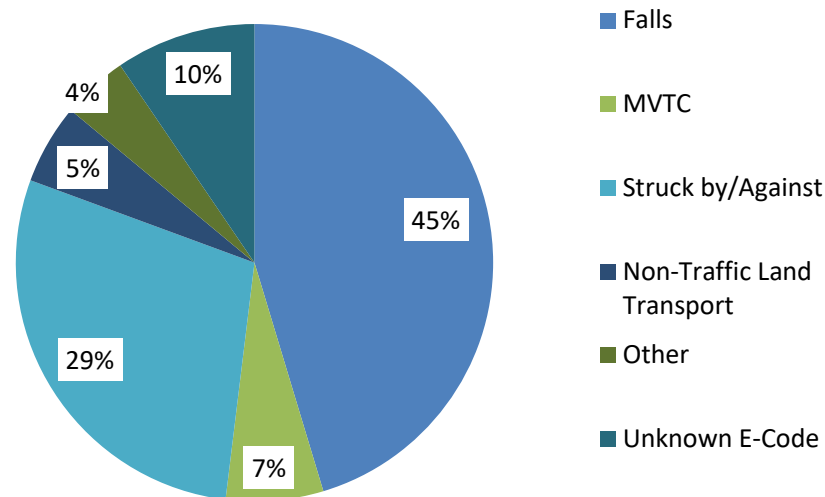
Figure 8: Rates of Nonfatal Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations by External Cause, Kentucky, 2024



TBI by External Cause: Comparing the Percentages by Age Groups

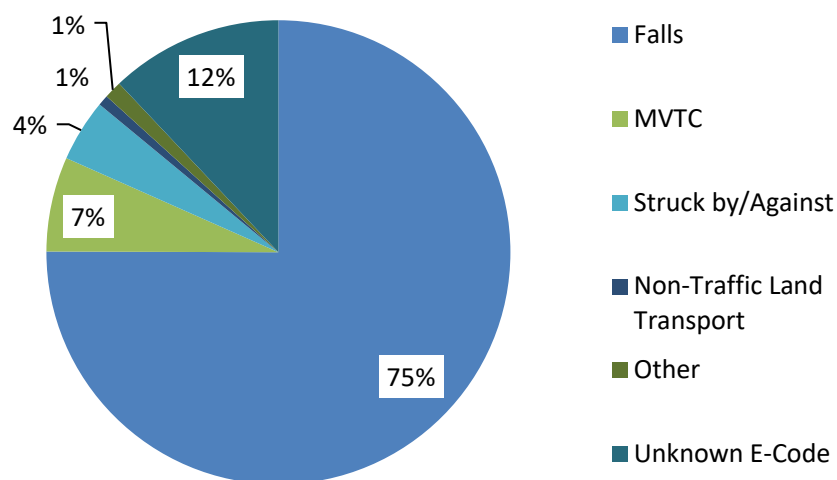
The following two figures depict the percentage of nonfatal TBI-related ED visits and hospitalizations by external cause for specific age groups. Figure 9 presents data for children aged 0–14 years. Figure 10 presents data for adults aged 65 and older.

Figure 9: Percentage of Traumatic Brain Injury Combined Emergency Department Visits and Hospitalizations Among Children Aged 0–14 Years, by External Cause, Kentucky, 2024



For children aged 0–14 years, falls were the leading known external cause of nonfatal TBI, contributing to 45% of all TBIs in this age group. The second leading known external cause was struck by or against events, which accounted for 29% of nonfatal TBI.

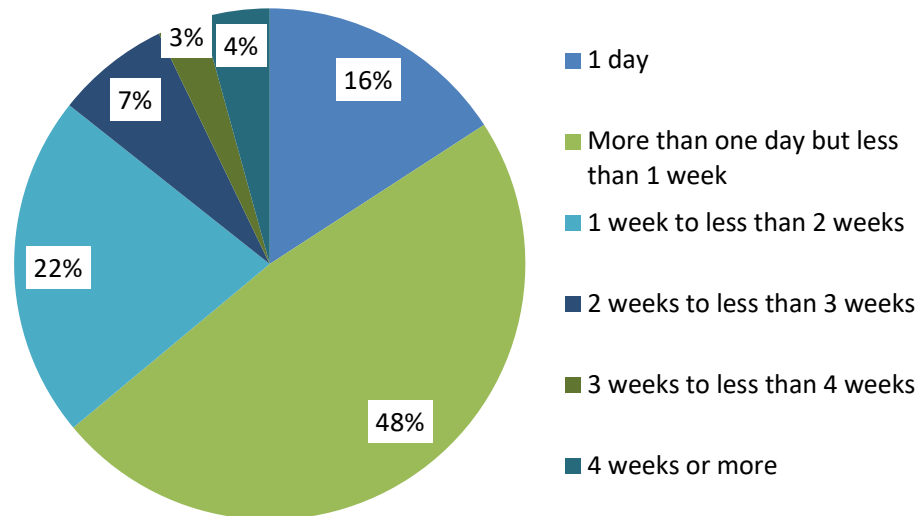
Figure 10: Percentage of Nonfatal Traumatic Brain Injury Combined Emergency Department Visits and Hospitalizations Among Older Adults 65 Years or Older, by External Cause, Kentucky, 2024



Falls were also the leading cause of nonfatal TBI for adults aged 65 years or older and contributed to three-quarters of nonfatal TBI.

The length of stay (LOS) for hospitalized nonfatal TBI (n=3,725) ranged from 1 day to 314 days. The mean LOS was 8 days, with a median LOS of 5.0 days. Figure 11 shows the distribution of stays for those hospitalized with a TBI. Almost half of admitted TBI hospitalizations stayed for less than one week.

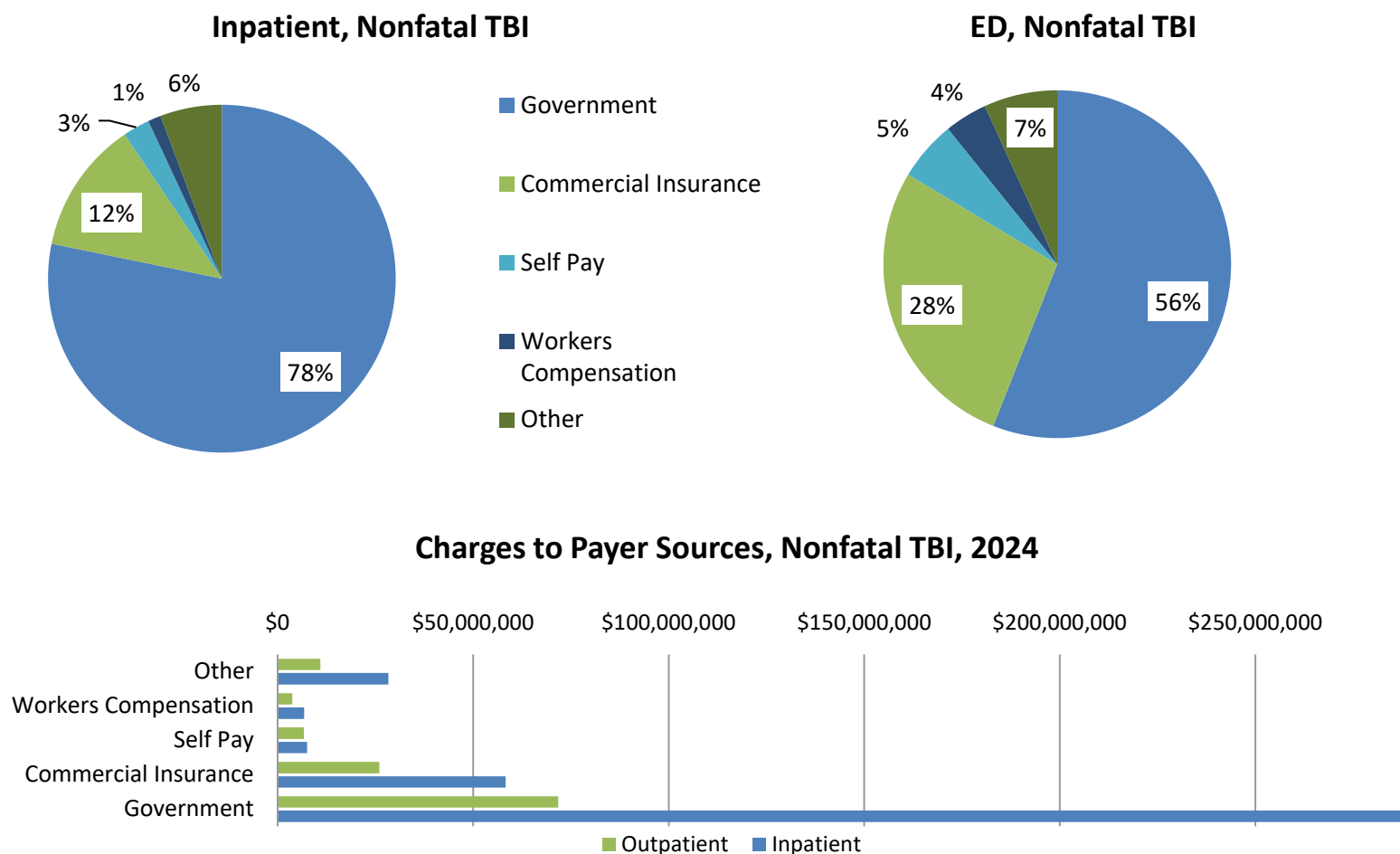
Figure 11: Nonfatal Traumatic Brain Injury Hospitalization Length of Stay, Kentucky, 2024



For nonfatal inpatient TBIs, 1,992 (53%) had a disposition other than “routine”. The three most frequent non-routine discharges were “rehabilitation”, “skilled nursing facility”, and “other”. A total of 1,624 inpatient discharges had one of these three dispositions. ED discharges were nearly always (83%) to home or self-care (routine), with “inpatient, other” being the most frequent non-routine discharge (12%).

Government sources were the primary payers billed for inpatient care charges in three out of four nonfatal TBIs (76%), as well as three out of five of ED care charges (60%). Please note that the amount billed by the hospital will generally be larger than the amount actually paid after adjudication of the claim.

Figure 12: Nonfatal Traumatic Brain Injury Emergency Department Visit and Hospitalization Payer Source and Charges, Kentucky, 2024



As one would expect, the incidence of TBI was highest in the larger counties. The top two in overall (inpatient and ED combined) TBI incidence (Jefferson and Fayette counties) are among the most populous counties in Kentucky. Hardin County makes the third highest in incidence for the state, while being 6th in population rank in the state. Franklin and Pulaski counties make the top 10 in incidence while being only 19th and 14th, respectively, in population rank in the state.

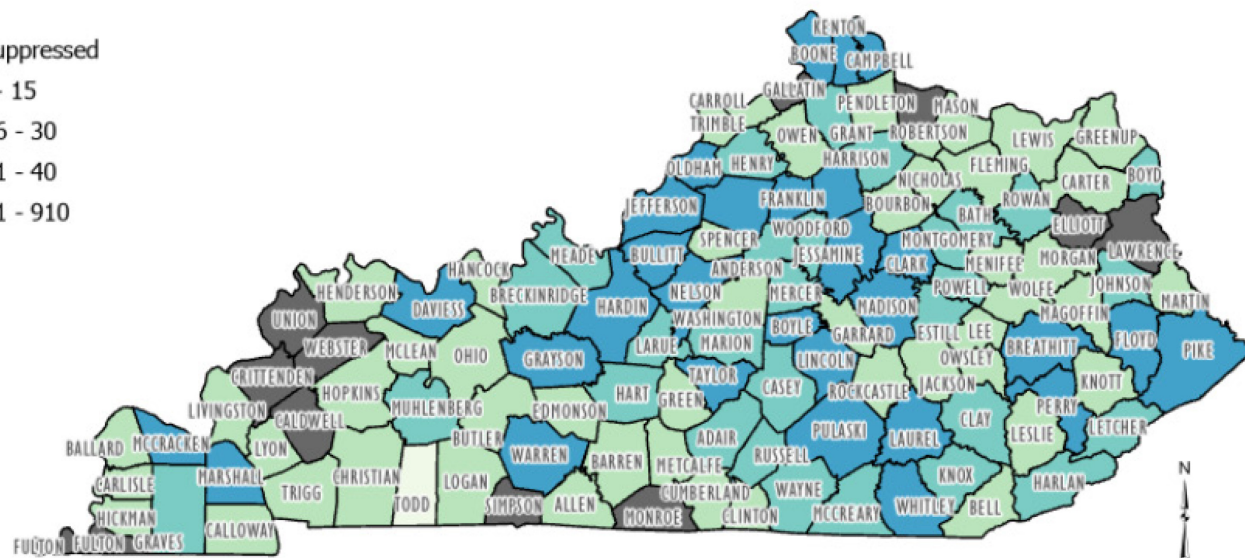
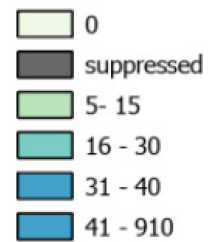
Ohio, Magoffin, Johnson, Powell and Wolfe counties also stood out by being the counties with the top 4 total age-adjusted rates while ranking 49th, 95th, 52nd, 83rd, and 113th, respectively, in population size. Clay County, which has consistently been one of the highest-rated counties in Kentucky for TBI since 2001, is in the top 10 again this year. In the past when data were available, it was noted that several southern border counties have significant numbers of residents treated in Tennessee hospitals. Prominent examples include Christian, Whitley, Warren, Bell, Harlan, Graves, Logan, and McCracken. This illustrates an important point: *If this report shows a county to have a high rate of TBI, we can be confident that this is a county in need. Conversely, however, if a county is shown to have a low rate we cannot conclude that there is not a significant problem in that county, particularly if it is located on or near the state border.*

The following illustrations map both the frequency of TBI in Kentucky counties (Figures 13 and 14) as well as the age-adjusted rate of TBI in each county (Figures 15 and 16) for inpatient and outpatient TBIs. It should be noted that these mappings include ALL inpatient TBI cases (Figures 13 and 15) as well as ALL ED TBI cases (Figures 14 and 16) – this includes those that died at the hospital. Fatalities are not included in other analysis elsewhere in this report unless noted but are included here to provide a visual representation of the magnitude of the TBI burden in each county. These numbers DO NOT include those that died before admission to an acute care hospital.

Multiple tables can be found in the Appendix detailing specific rates and frequencies by county, frequency, and age-adjusted rates for both inpatient and ED TBIs.

Figure 13:

TBI Hospitalization Cases by County, Kentucky 2024

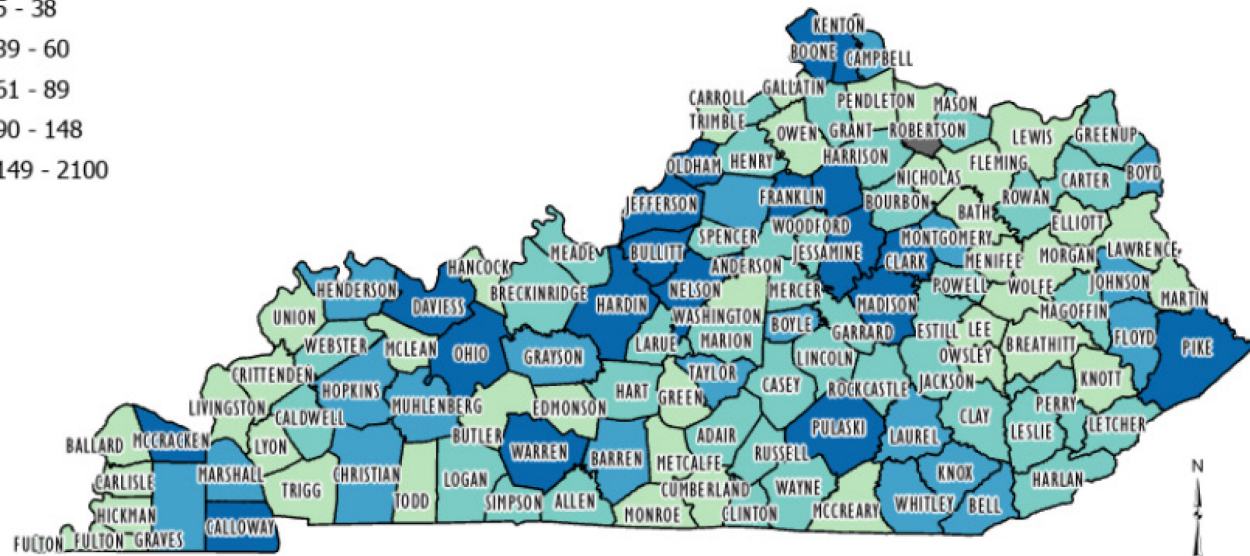
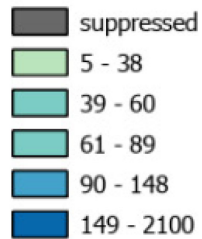


Source: Kentucky TBI Surveillance Project 2024.

Figure 14:

TBI ED Cases by County, Kentucky 2024

TBI ED Cases

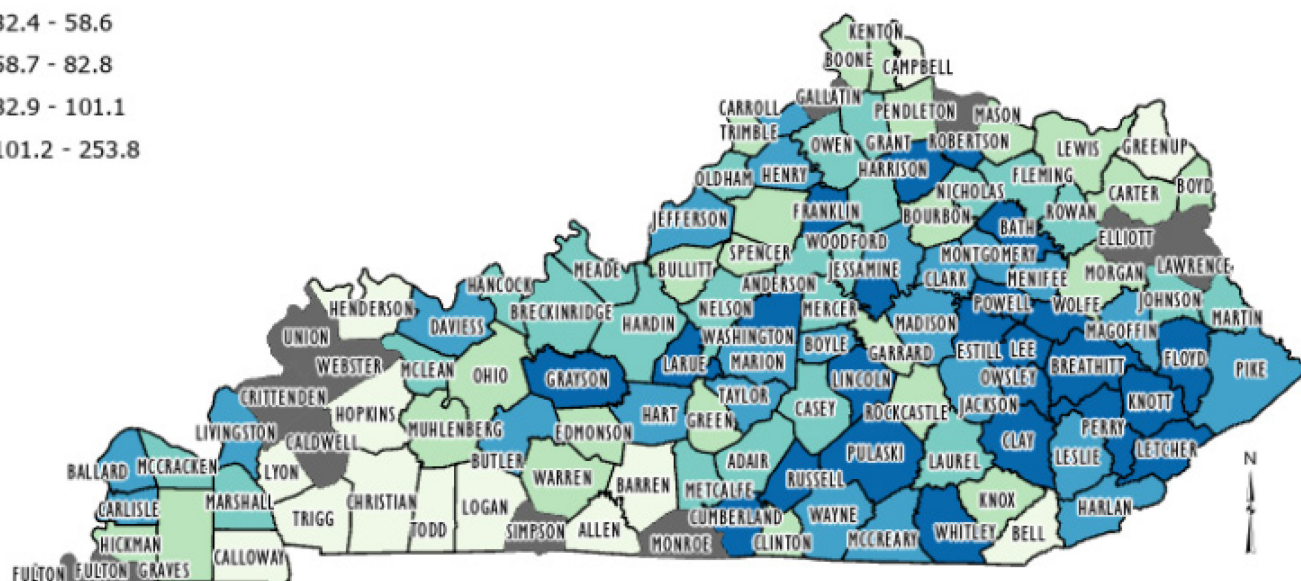
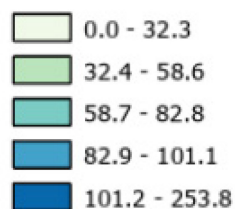


Source: Kentucky TBI Surveillance Project 2024.

Figure 15:

Age-Adjusted TBI Hospitalization Rates by County, Kentucky 2024

TBI Hospitalization
AA Rates

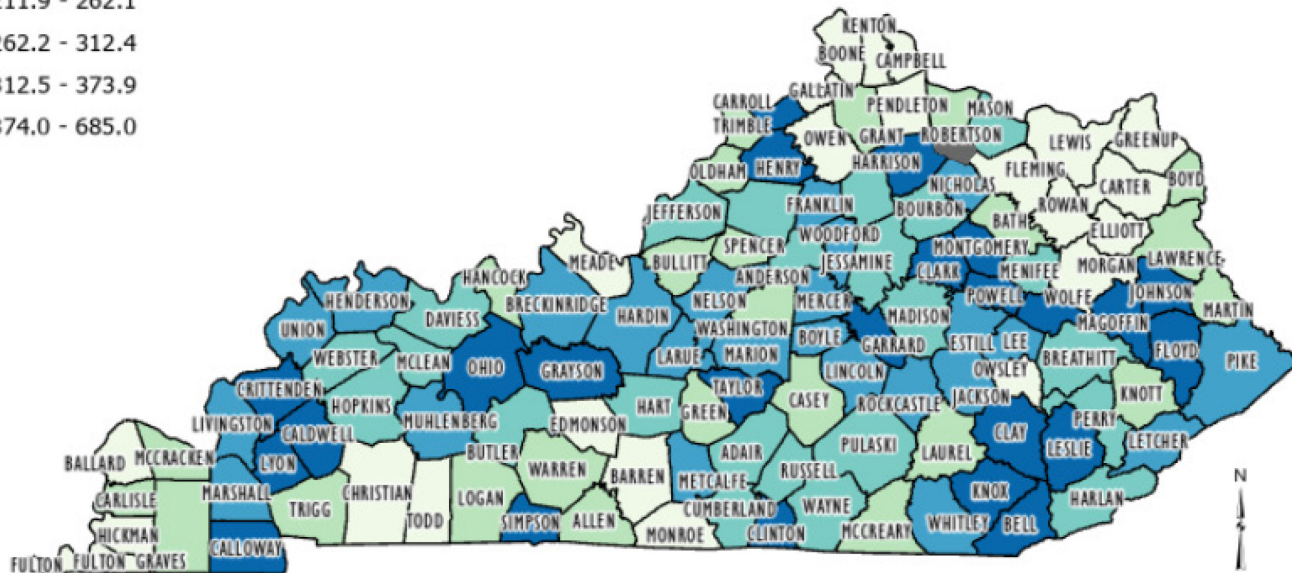
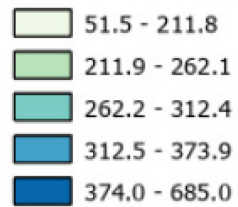


Source: Kentucky TBI Surveillance Project 2024.

Figure 16:

Age-Adjusted (AA) TBI ED Visit Rates by County, Kentucky 2024

TBI ED AA Rates



Source: Kentucky TBI Surveillance Project 2024.

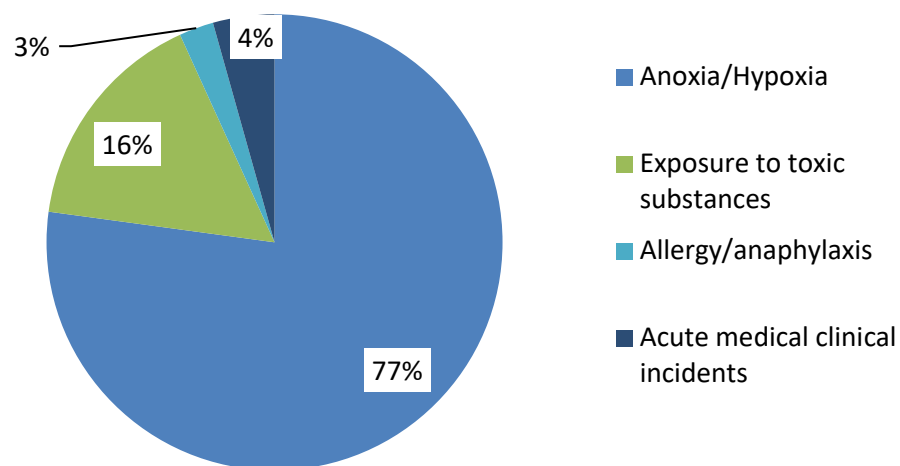
Non-Traumatic Brain Injury in Kentucky

In addition to TBI as defined by the Centers for Disease Control and Prevention (CDC), there are many brain injuries that have non-traumatic etiologies that we have classified as NTBI (non-traumatic brain injuries; see Appendix for diagnosis codes. These diagnoses have been analyzed separately, as they are not included in the CDC definition of TBI. We have broken NTBI into four different categories. These categories of brain injuries are caused by non-traumatic incidents and include:

- anoxia/hypoxia,
- allergy/anaphylaxis,
- acute medical clinical incidents, and
- toxic substances.

This represents a significant widening of our definition from previous years (previously labeled acquired brain injury or ABI). In 2024, there were 131,986 Kentucky residents identified in Kentucky hospitals with nonfatal, non-traumatic incidences of brain injury. This includes both inpatient (101,595) and ED (30,391) cases. The crude incidence rate for 2024 was 2,877 per 100,000 population.

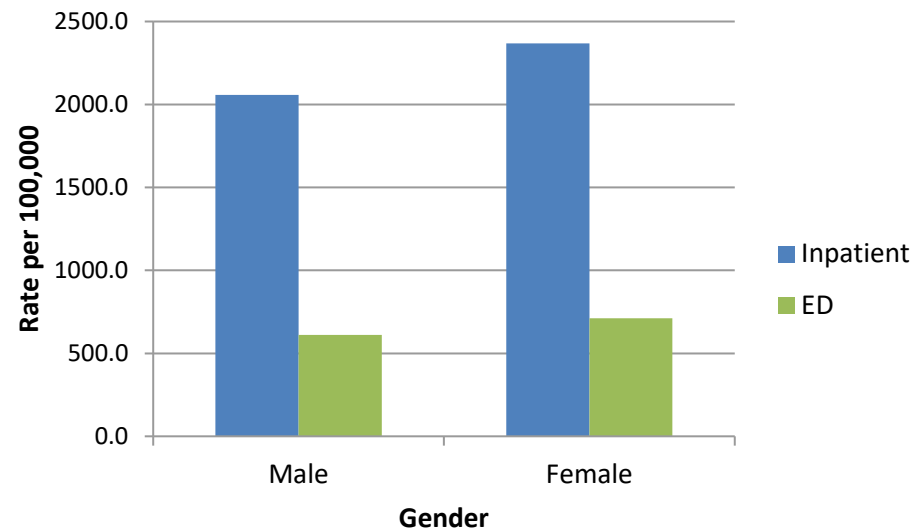
Figure 17: Nonfatal, Non-Traumatic Brain Injury (NTBI) Emergency Department Visits and Hospitalizations by Type, Kentucky, 2024



NTBI by Sex: Comparing the Rates

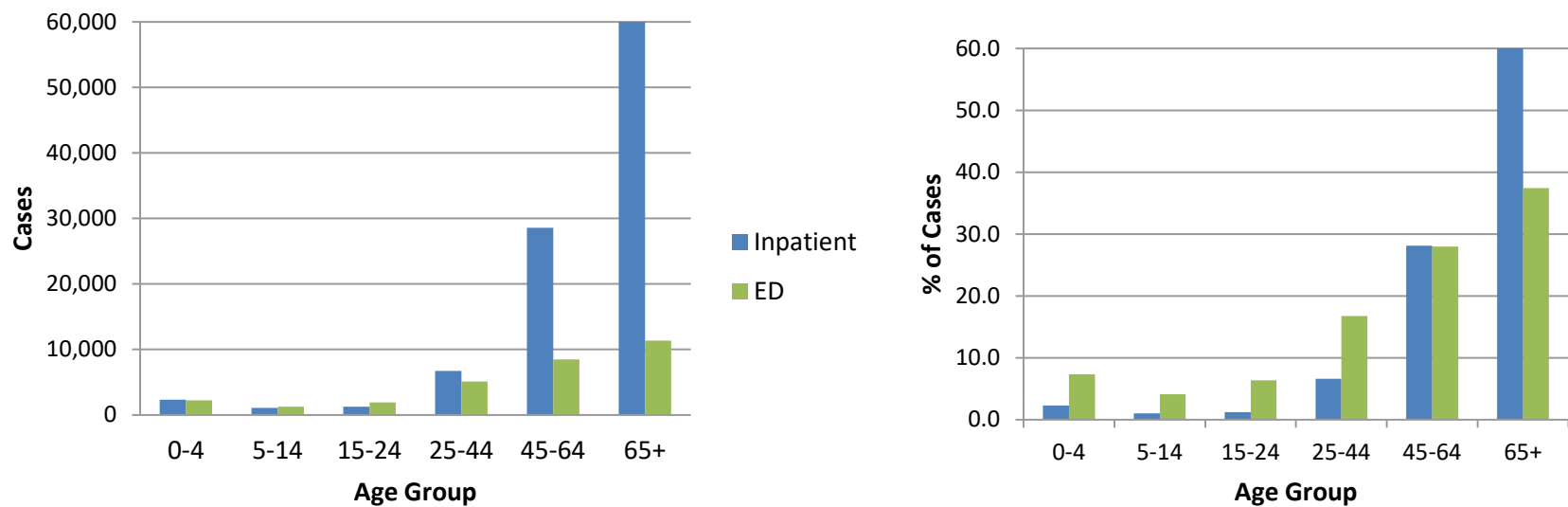
The following figure depicts the rates of nonfatal NTBI-related ED visits and hospitalizations by sex. The y axis represents the rate per 100,000 population. Rates were higher for females (3,080 per 100,000) in both NTBI-related ED visit and hospitalizations than males (2670 per 100,000).

Figure 18: Rates of Nonfatal Non-Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations by Sex, Kentucky, 2024



NTBI by Age: Comparing the Numbers

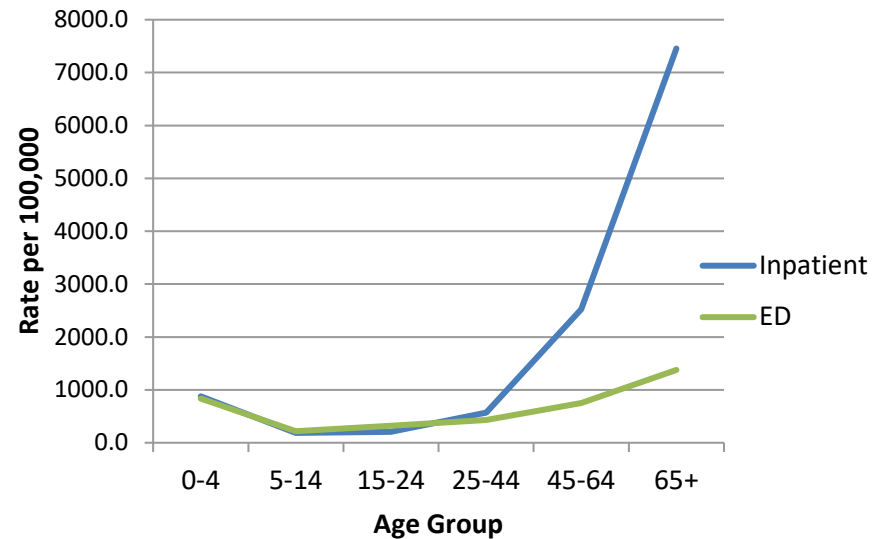
Figure 19: Numbers of Nonfatal Non-Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations by Age Group, Kentucky, 2024



NTBI by Age: Comparing the Rates

The following figure depicts the annual rate of NTBI-related ED visits and hospitalizations by age group in Kentucky for 2024. The y axis represents the rate per 100,000 population. During 2024, the highest rate of nonfatal NTBI-related ED visits, at 1,377 per 100,000 population, were those in the 65+ age group. The highest rates of nonfatal NTBI-related hospitalization also occurred among adults aged 65 years or older (7,456 per 100,000).

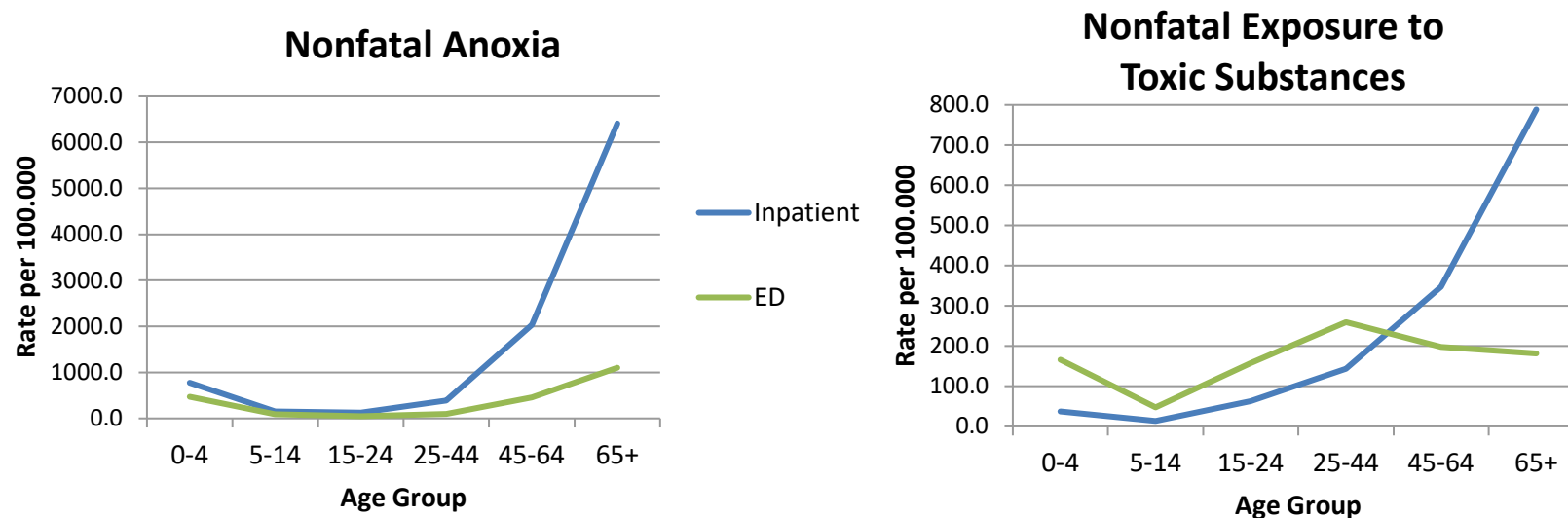
Figure 20: Rates of Nonfatal Non-Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations by Age Group, Kentucky, 2024



NTBI by Age and Type: Comparing the Rates

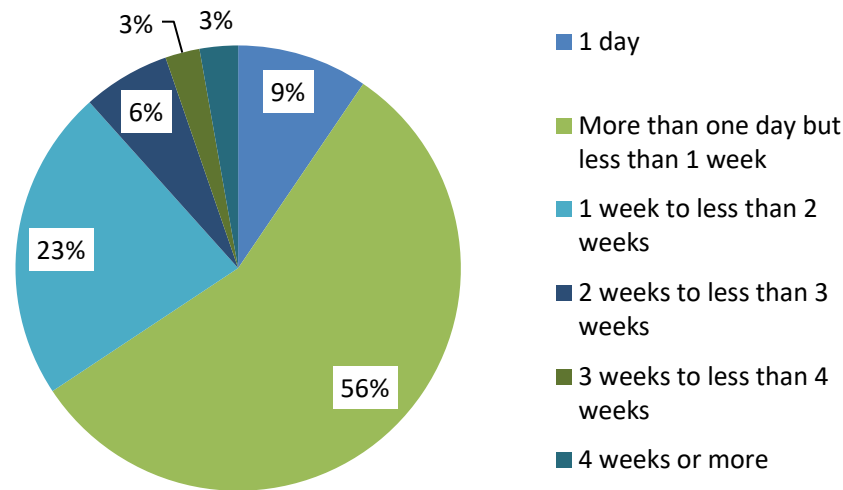
Majority of inpatient NTBI (83%) were a result of anoxia/hypoxia. Anoxia/hypoxia was also the leading cause of NTBI in ED visits (58%), with exposure to toxic substances (ETS) following (28%). Over 87% of all anoxia cases were due to respiratory failure with hypoxia or hypercapnia. Fifty-five percent of all ETS cases included poisoning by narcotics, hallucinogens, sedatives, hypnotics, central nervous system depressants/anesthetics, antithrombotic agents, and toxic effects of alcohol. To a large extent among nonfatal NTBI inpatient visits, anoxia affects more older people (aged 45 and over, 89%) considerably more often than younger people, whereas ETS affects predominately a significant number of persons 25 years and older (89%).

Figure 21: Rates of Nonfatal Non-Traumatic Brain Injury-Related Emergency Department Visits and Hospitalizations by Age Group and Type, Kentucky, 2024



The LOS for hospitalized, nonfatal NTBI (n=101,595) ranged from 1 day to 771 days. The mean LOS was 7 days, with a median LOS of 5 days. Figure 22 shows the distribution of stays for those hospitalized with NTBI. Over one in three admitted (inpatient) NTBI injuries stayed for 1 week or longer.

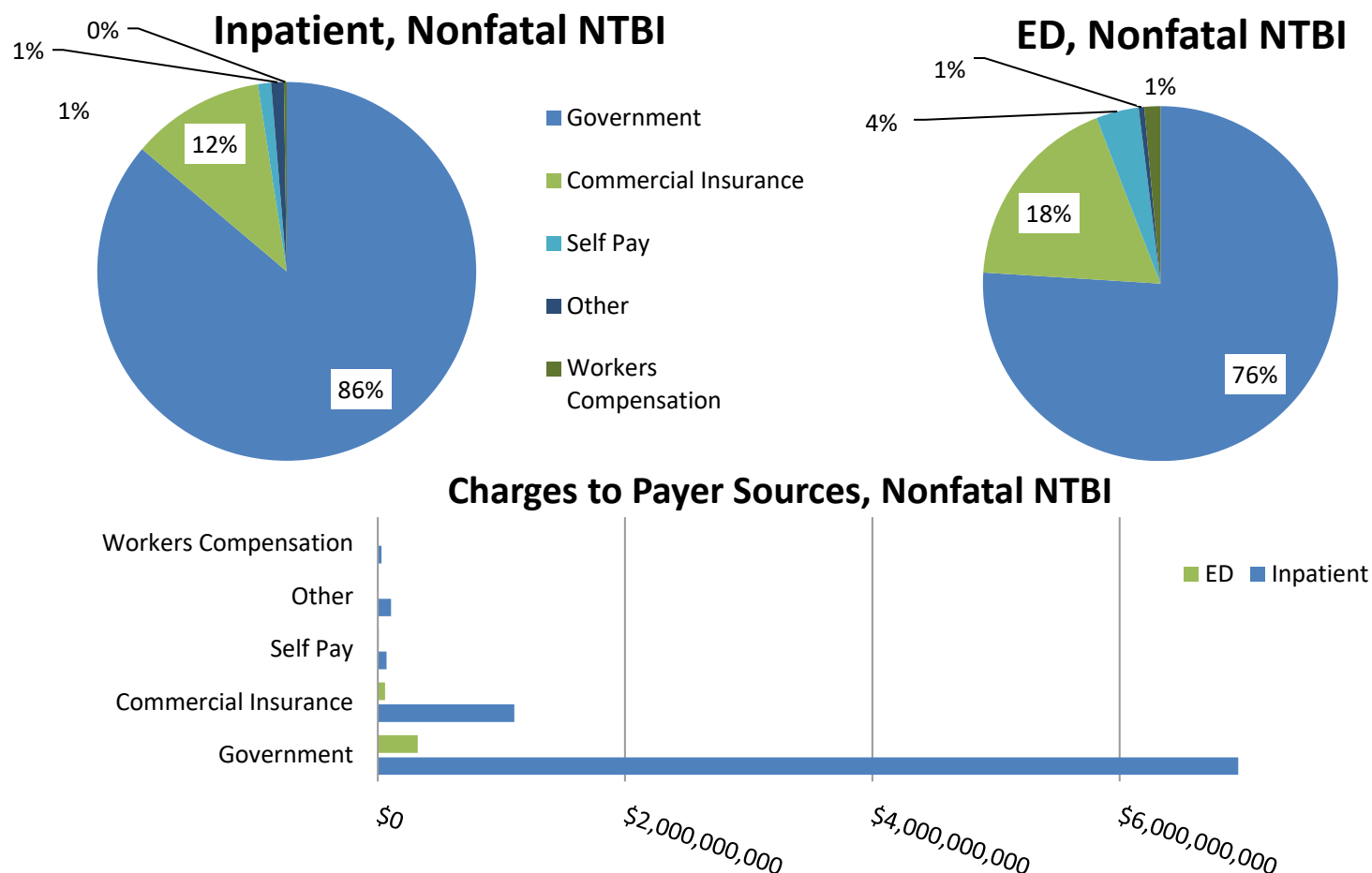
Figure 22: Nonfatal Non-Traumatic Brain Injury Hospitalization Length of Stay, Kentucky, 2024



For nonfatal inpatient NTBIs, 51,224 (50%) had a disposition other than “routine”. The two most frequent non-routine discharges were “skilled nursing facility”, and “home health”. A total of 30,672 inpatient discharges had one of those dispositions. ED discharges were most likely (71%) routinely discharged to home or self-care (routine) with “inpatient, other” (14%) being the most frequent non-routine discharge.

Government sources were the most often primary payers billed for both inpatient (86%) and ED (76%) cases for nonfatal NTBI. Please note that the amount billed by the hospital will generally be larger than the amount actually paid after adjudication of the claim.

Figure 23: Nonfatal Non-Traumatic Brain Injury Emergency Department and Hospitalization Payer Source and Charges, Kentucky, 2024



In general, as with TBI, the more populous counties had high numbers of NTBI. However, only one of the 25 most populous counties appeared in the top 25 counties when ranked by age-adjusted rate for hospitalized cases. Owsley and Wolfe counties, which rank 119th and 113th with respect to county population, had the highest age-adjusted rates of inpatient NTBI in the state (4,445 per 100,000, and 4,300 per 100,000, respectively). Leading the state for age-adjusted rate for ED cases was Cumberland County, the 116th most populated county when ranked by population size, followed by Carroll, Estill, Clay, and Leslie counties, which are ranked 96th, 78th, 62nd, and 99th in population, respectively. The counties with the highest inpatient rates were concentrated in eastern Kentucky (Figure 26). Whitley, Owsley, and Wolfe Counties had the highest total age-adjusted rates per population.

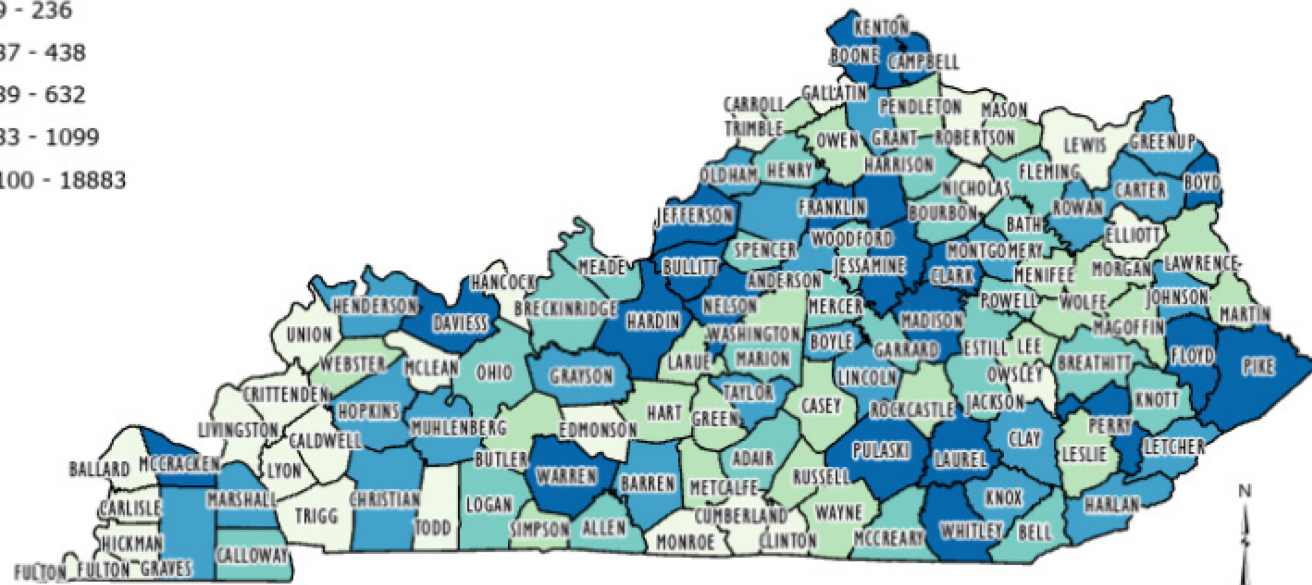
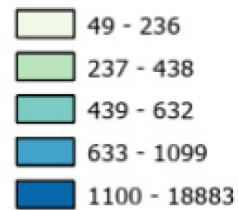
The following figures map both the frequency of NTBI in Kentucky counties (Figures 24 and 25) as well as the age-adjusted rate of NTBI in each county (Figures 26 and 27) for NTBI inpatient hospitalizations and ED visits. It should be noted that these maps include ALL inpatient NTBI cases (Figures 24 and 26) as well as ALL ED NTBI cases (Figures 25 and 27)—including those that died at the hospital. Fatalities are not included in other analysis in this report unless noted but are included here to capture a visual representation of the magnitude of the NTBI burden in each county. These numbers DO NOT include those that died before admission to an acute care hospital.

Multiple tables can be found in the Appendix detailing specific rates and frequencies by county, frequency, and age-adjusted rates for both NTBI inpatient hospitalizations and ED visits.

Figure 24.

NTBI Hospitalization Cases by County, Kentucky 2024

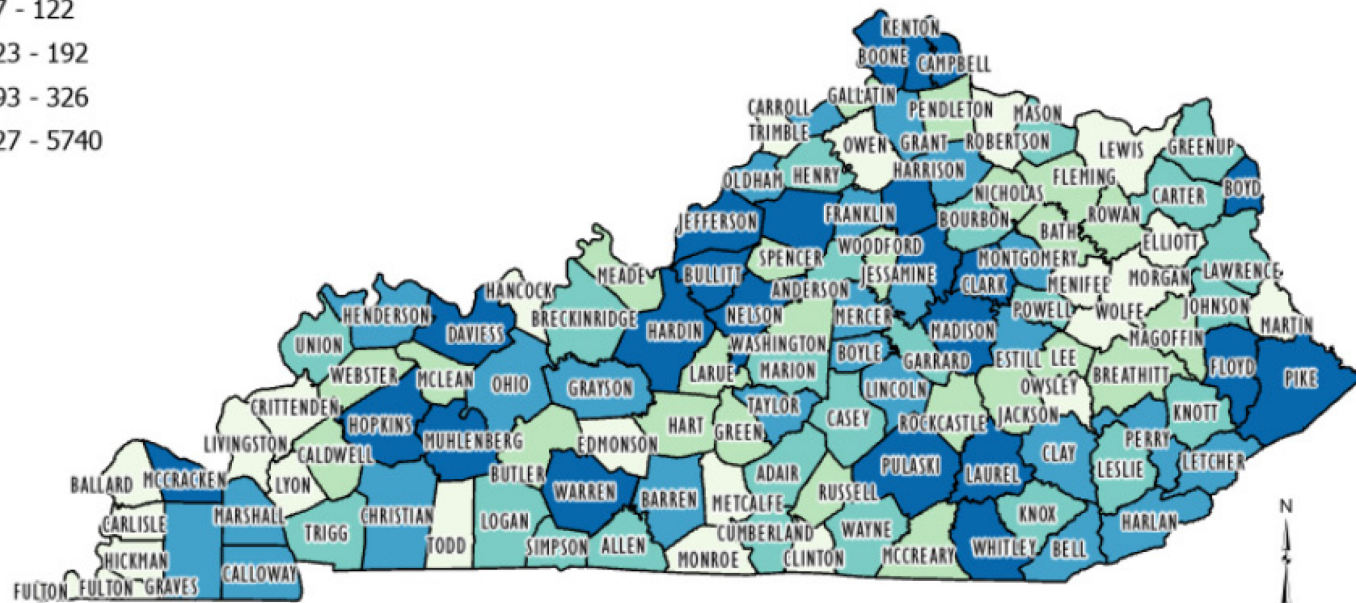
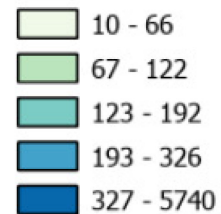
NTBI Hospitalization Cases



Source: Kentucky TBI Surveillance Project 2024.

Figure 25.

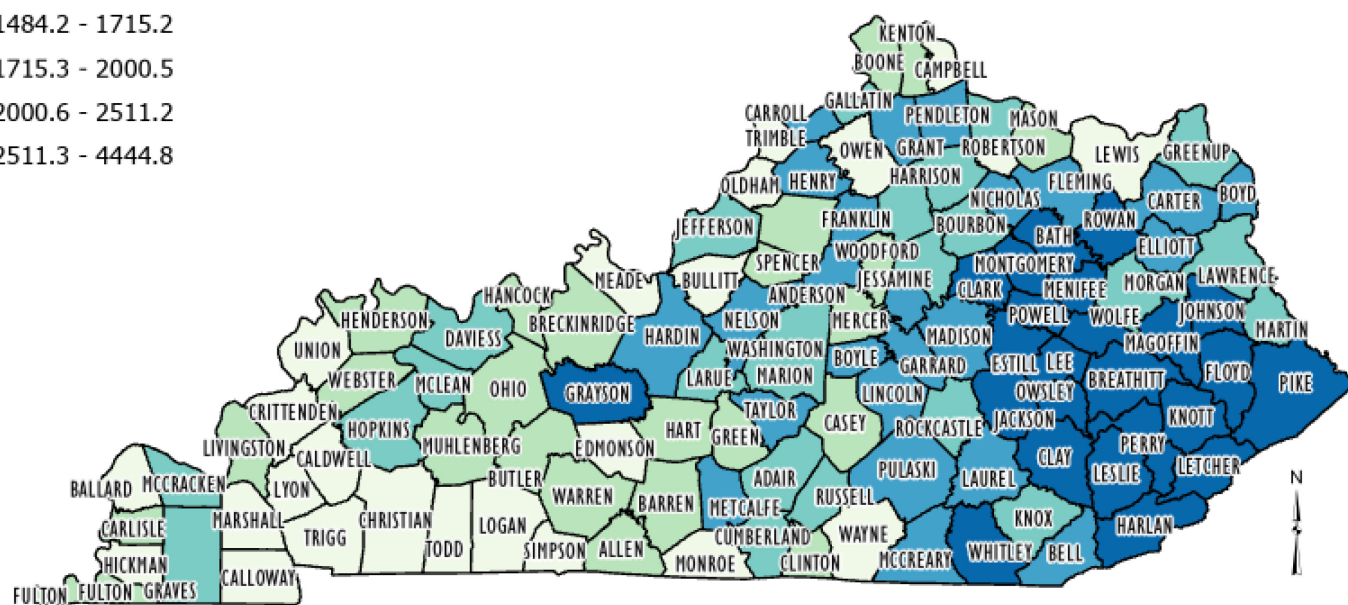
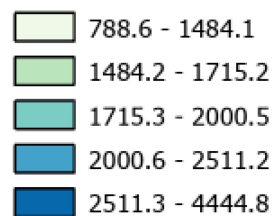
NTBI ED Cases by County, Kentucky 2024



Source: Kentucky TBI Surveillance Project 2024.

Figure 26.

Age-Adjusted NTBI Hospitalization Rates by County, Kentucky 2024

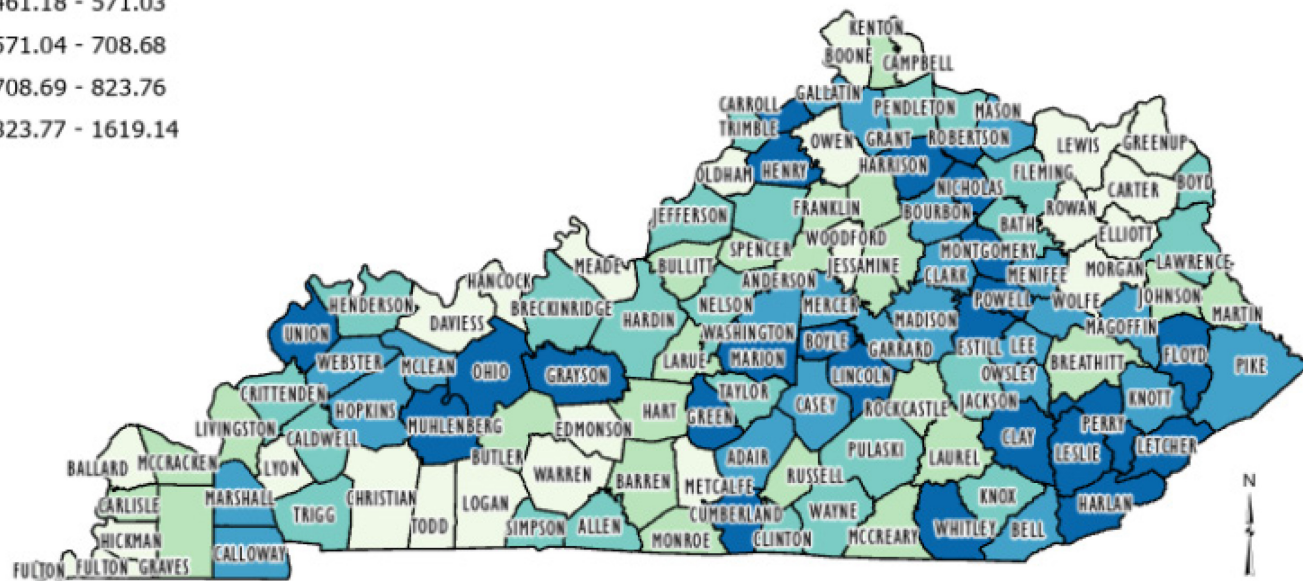
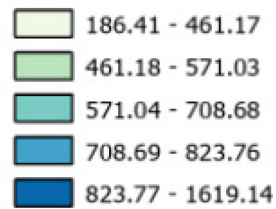


Source: Kentucky TBI Surveillance Project 2024.

Figure 27.

Age-Adjusted (AA) NTBI ED Visit Rates by County, Kentucky 2024

NTBI ED AA Rates



Source: Kentucky TBI Surveillance Project 2024.

Spinal Cord Injury in Kentucky

Spinal cord injury (SCI) patients often are readmitted for problems stemming from the original injury. To avoid double counting in such cases, for SCI we looked only at the first three listed diagnosis codes. There were 135 nonfatal inpatient SCI cases among Kentucky residents identified in 2024 as well as 76 nonfatal ED cases. The crude incidence rate of any nonfatal SCI was 4.6 per 100,000 population.

SCI by Sex: Comparing the Rates

Figure 28: Rates of Nonfatal Spinal Cord Injury-Related Emergency Department Visits and Hospitalizations by Sex, Kentucky, 2024

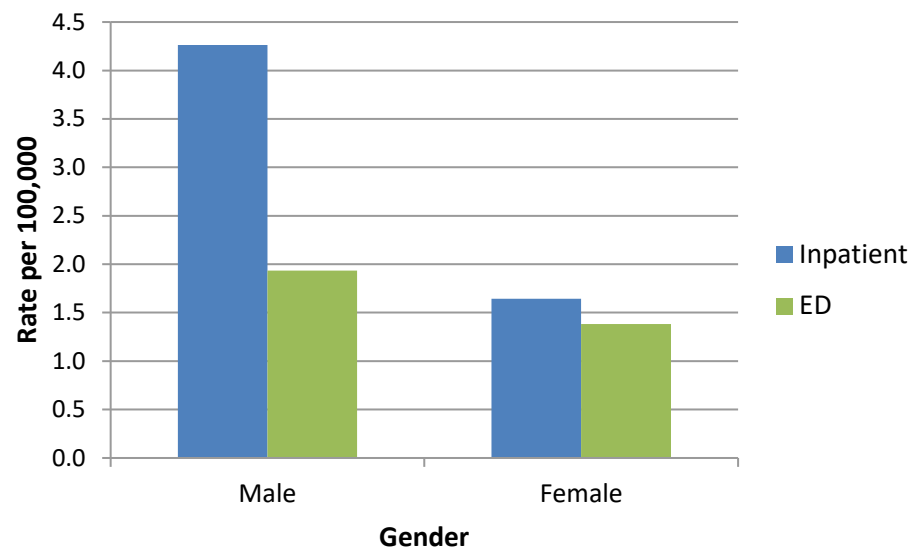
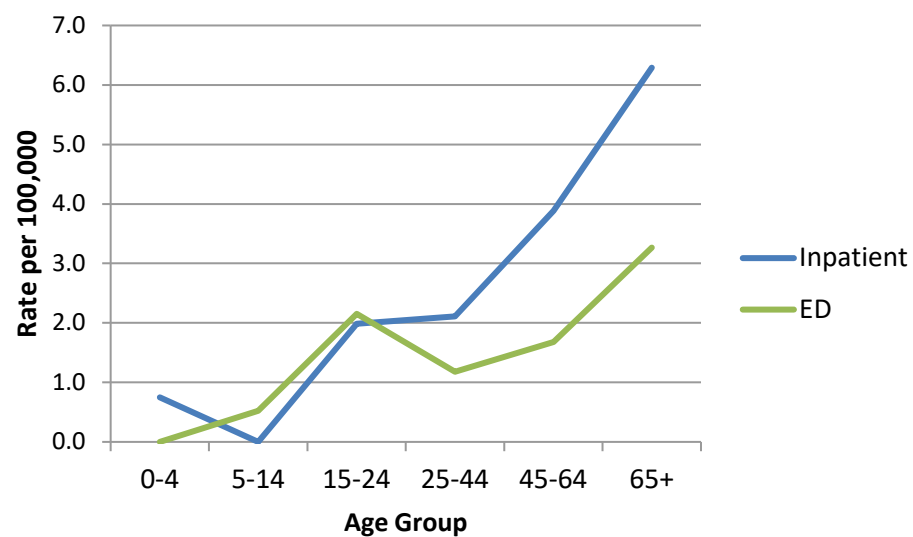
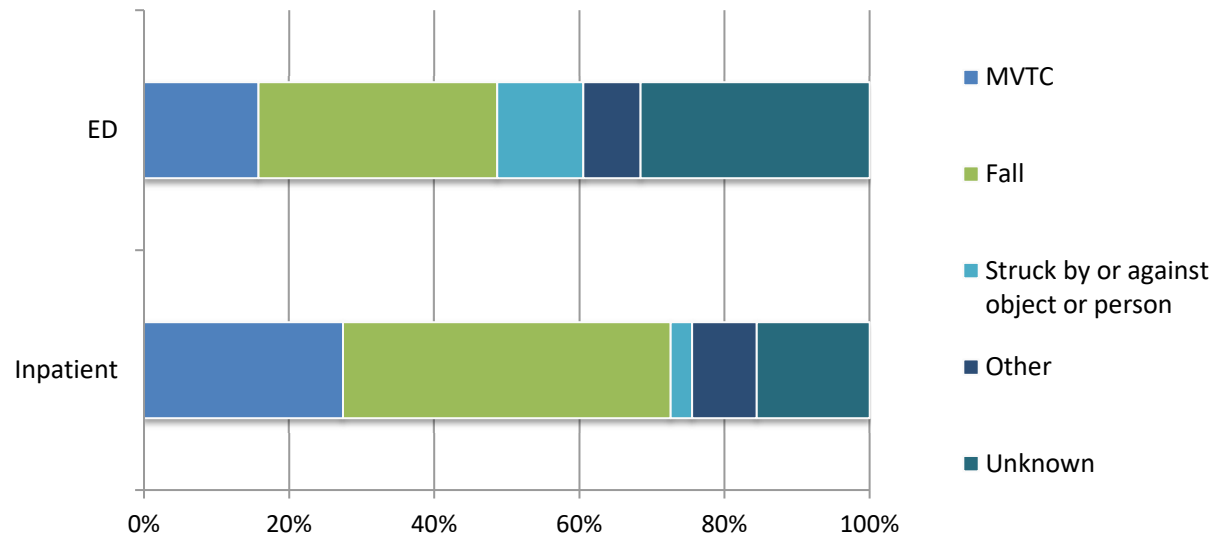


Figure 29: Rates of Spinal Cord Injury-Related Emergency Department Visits and Hospitalizations by Age Group, Kentucky, 2024



The highest age-specific rates were found in the 65 years and older age group for both ED and inpatient admissions.

Figure 30: Nonfatal Spinal Cord Injury-Related Emergency Department Visits and Hospitalizations by External Cause, Kentucky, 2024



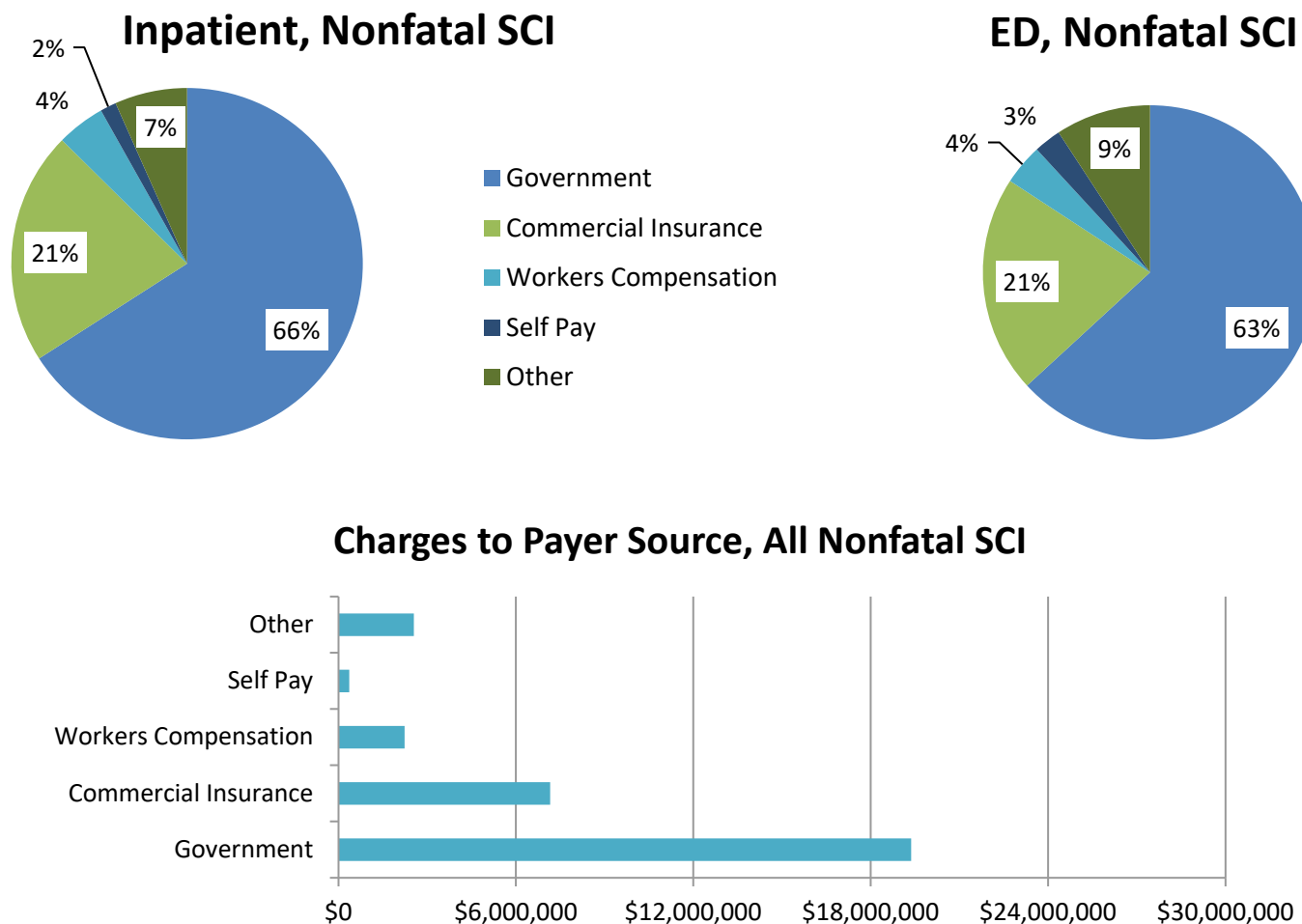
Among nonfatal SCIs for which an external cause code was reported, falls were the leading mechanisms of injury for both inpatient and ED SCI visits. Motor vehicle crashes were the second leading cause of SCI in both hospitalizations and ED visits.

Hospitalized SCI patients had a length of stay varying from 1 day to 97 days. The mean LOS was 13 days, with a median of 9 days.

Over three-quarters (77%) of the nonfatal inpatient SCI discharges had dispositions other than “routine”, while 40% of ED discharges were non-routine. In total, more than 6 out of 10 of all SCI nonfatal discharges (inpatient and outpatient) went on to receive further care, meaning they were not routinely discharged to home- or self-care.

Government sources were the primary payer billed in three out of five nonfatal SCI hospitalizations and ED visits. Government payers were billed over \$19 million in 2024 and commercial payers over \$7 million.

Figure 31: Nonfatal Spinal Cord Injury Emergency Department Visit and Hospitalization Payer Source and Charges, Kentucky, 2024



Cerebrovascular Disease in Kentucky

The highest death rates for cerebrovascular disease (stroke) occur in the southeastern United States, which has been dubbed the “stroke belt”. This region consists of a group of 11 southeastern states that have an age-adjusted stroke mortality rate more than 10% above the national average. Kentucky is included in this region. In 2024, more than 31,000 nonfatal hospital and ED visits by Kentucky residents were coded with stroke-related ICD-10-CM codes in one or more diagnosis fields. There were 20,281 nonfatal inpatient stroke cases for Kentucky residents identified in 2024 as well as 11,402 nonfatal ED stroke cases. The crude incidence rate was 691 per 100,000 population.

Stroke by Sex: Comparing the Rates

Figure 32: Rates of Nonfatal Stroke-Related Emergency Department Visits and Hospitalizations by Sex, Kentucky, 2024

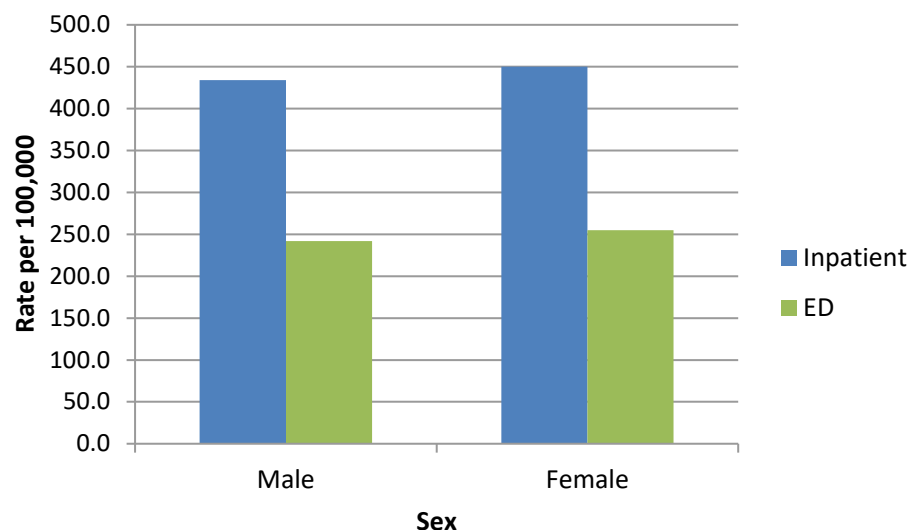
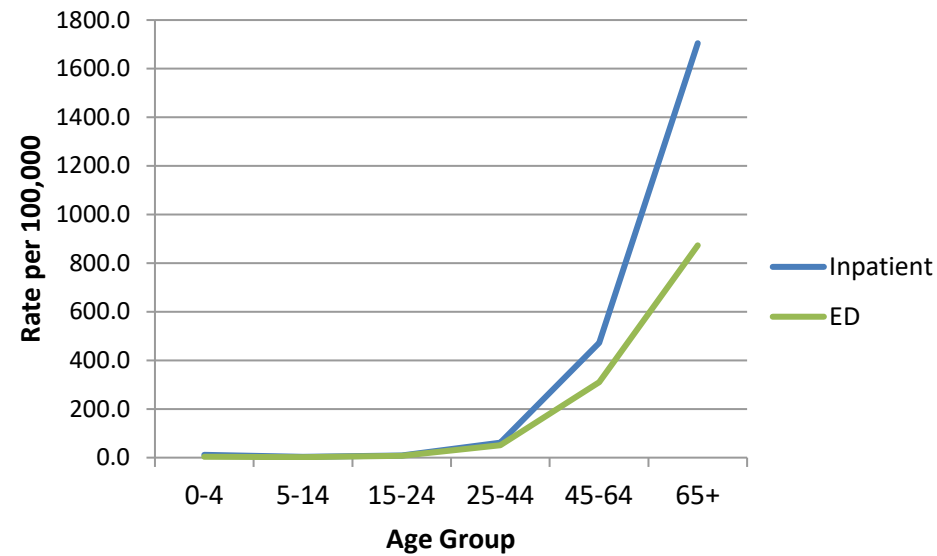


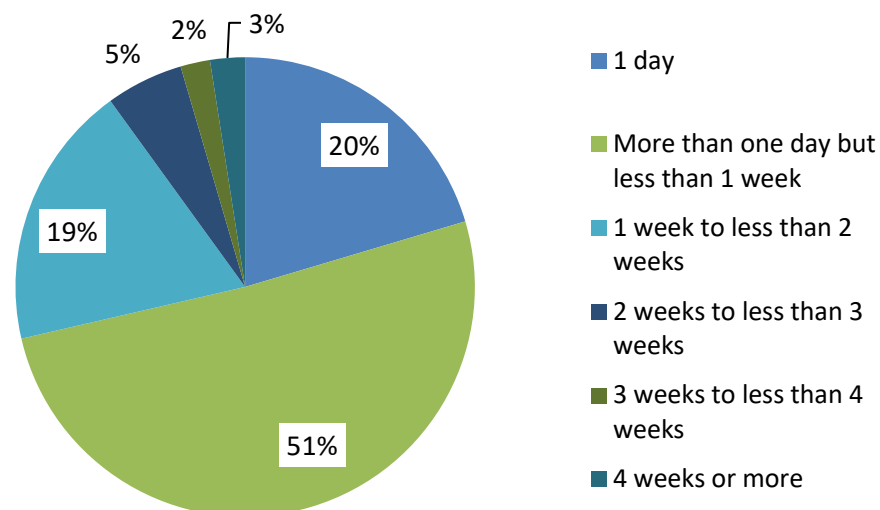
Figure 33: Rates of Stroke-Related Emergency Department Visits and Hospitalizations by Age Group, Kentucky, 2024



The highest age-specific rates were found in the 65 years and older age group for both nonfatal inpatient and ED stroke cases, followed by the 45 to 64 years old age group.

The length of stay for nonfatal stroke-related hospitalizations (n=20,281) ranged from 1 day to 771 days. The mean LOS was 6 days, with a median LOS of 4 days. Figure 34 shows the distribution of stays for those hospitalized with a stroke diagnosis. One out of two admitted (inpatient) stroke-related hospitalizations stayed for more than one day but less than one week.

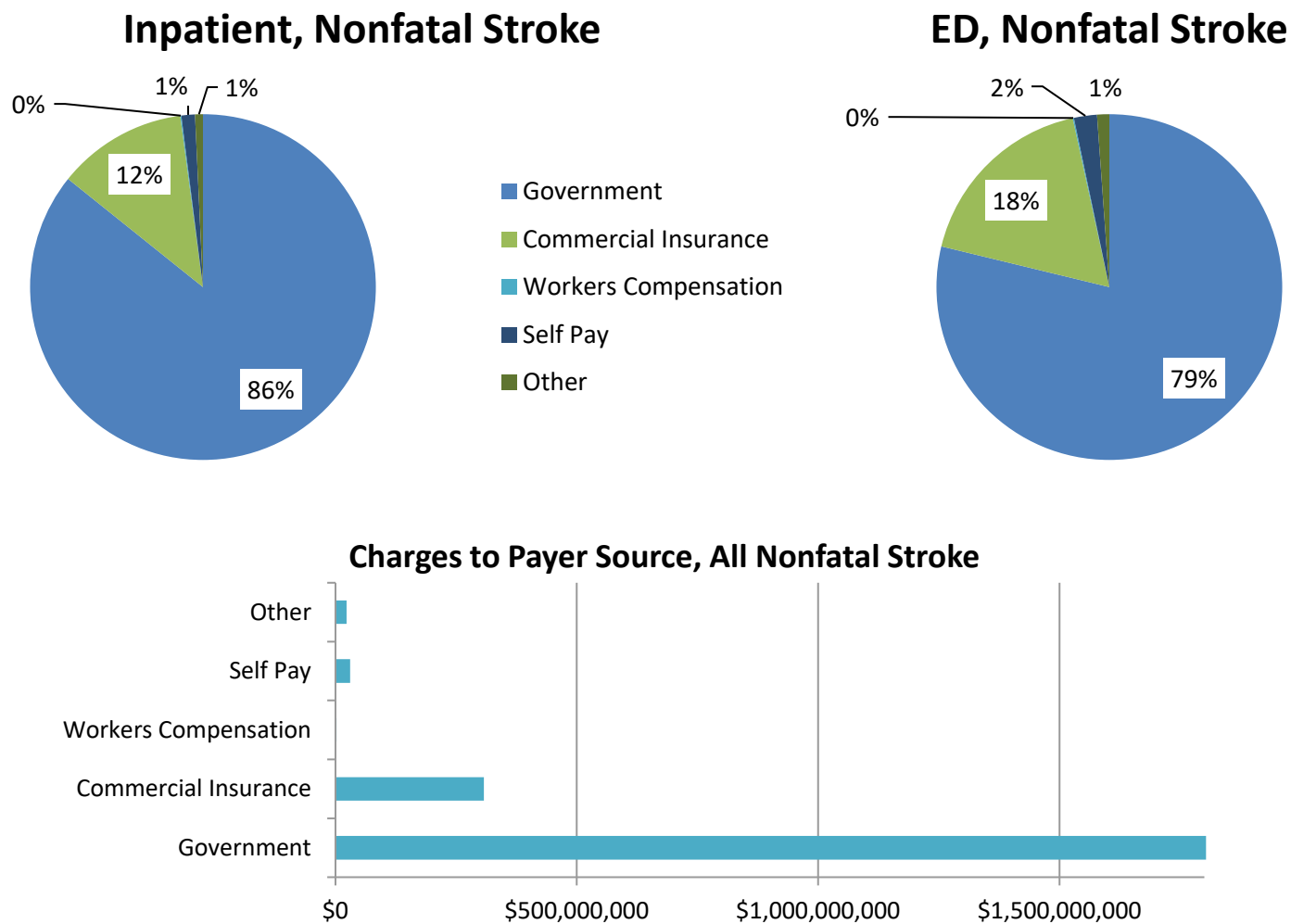
Figure 34: Nonfatal Stroke-Related Hospitalization Length of Stay, Kentucky, 2024



For nonfatal stroke-related hospitalizations, 10,509 (52%) had a disposition other than “routine”. The three most frequent non-routine discharges were “rehabilitation”, “skilled nursing facility”, and “intermediate care facility”. A total of 8,038 inpatient discharges had one of these three dispositions. ED discharges were routinely discharged to home or self-care (64%), with “inpatient, other” being the most frequent non-routine discharge (23%).

Government sources were the primary payer billed for four out of five nonfatal stroke-related hospital and ED visits (83%). Government payers were billed more than \$1.8 billion in 2024 and commercial payers over \$307 million.

Figure 35: Nonfatal Stroke-Related Emergency Department Visit and Hospitalization Payer Source and Charges, Kentucky, 2024



As one would expect, the incidence of stroke was highest in the larger, more populous counties. The top four counties in overall (inpatient and ED combined) stroke incidence (Jefferson, Fayette, Kenton, Boone, Warren, and Hardin) are the six most populous counties in Kentucky. Grant County had the highest age-adjusted inpatient stroke rate (716 per 100,000 population), followed by Whitley and Clay counties (695 per 100,000, and 595 per 100,000, respectively). Harrison (585 per 100,000), Nicholas (424 per 100,000) and Perry (393 per 100,000) counties had the highest age-adjusted rate for stroke ED visits.

The total age-adjusted rates for stroke were the highest for Harrison, Grant, and Whitley counties, which ranked 63rd, 44th and 28th in population, respectively. None of the top 10 counties with the high age-adjusted rates were one of the 25 most populous counties in Kentucky.

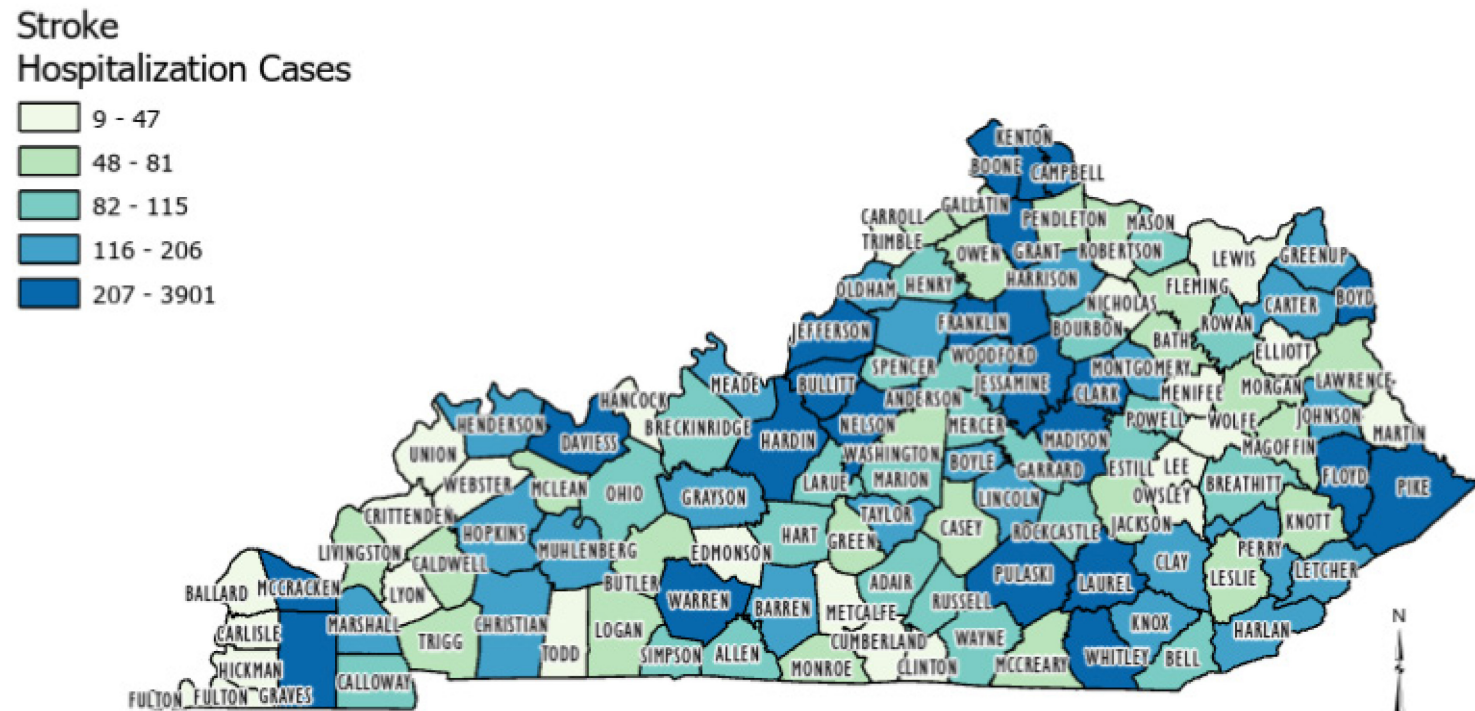
Several southern border counties may have significant numbers of residents treated in Tennessee hospitals. Prominent examples include Christian, Whitley, Warren, Bell, Harlan, Graves, Logan, and McCracken. This illustrates an important point: *if this report shows a county to have a high rate of stroke, we can be confident that this is a county in need. Conversely, however, if a county is shown to have a low rate we cannot conclude that there is not a significant problem in that county, particularly if it is located on or near the state border.*

The following illustrations map both the frequency of stroke hospital visits in Kentucky counties (Figures 36 and 37) as well as the age-adjusted rate of stroke in each county (Figures 38 and 39) for inpatient and outpatient stroke records. It should be noted that these mappings include ALL inpatient stroke cases (Figures 36 and 38) as well as ALL ED stroke cases (Figures 37 and 39)—including those that died at the hospital. Fatalities are not included in other analysis in this report unless noted but are included here to capture a visual representation of the magnitude of the stroke burden in each county. These numbers DO NOT include those that died before admission to an acute care hospital.

Multiple tables can be found in the Appendix detailing specific rates and frequencies by county, frequency, and age-adjusted rates for both inpatient and ED stroke records.

Figure 36.

Stroke Hospitalization Cases by County, Kentucky 2024

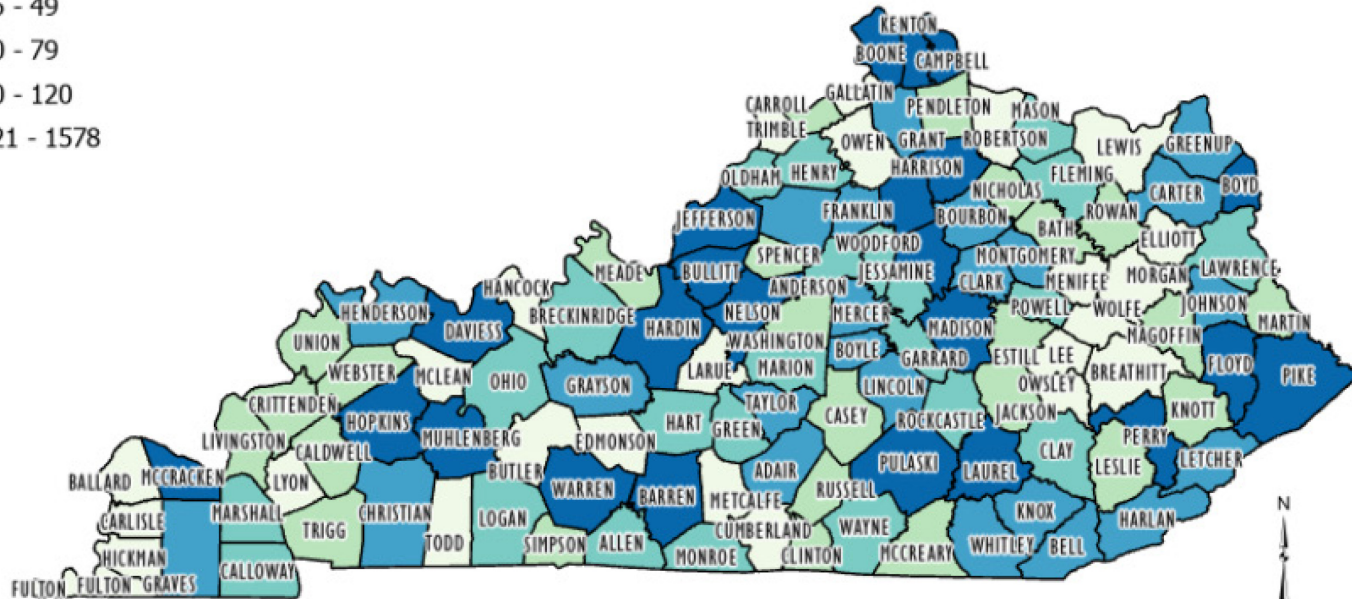
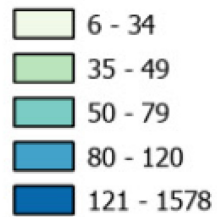


Source: Kentucky TBI Surveillance Project 2024.

Figure 37.

Stroke ED Cases by County, Kentucky 2024

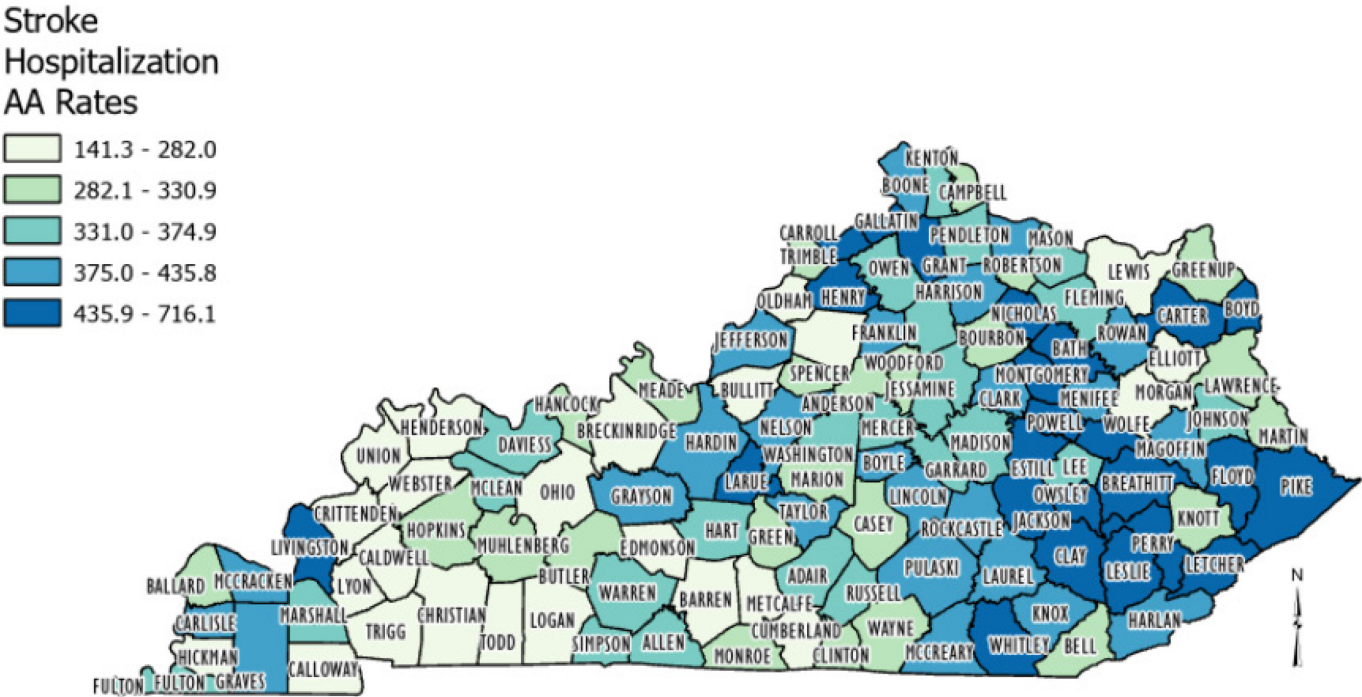
Stroke ED Cases



Source: Kentucky TBI Surveillance Project 2024.

Figure 38.

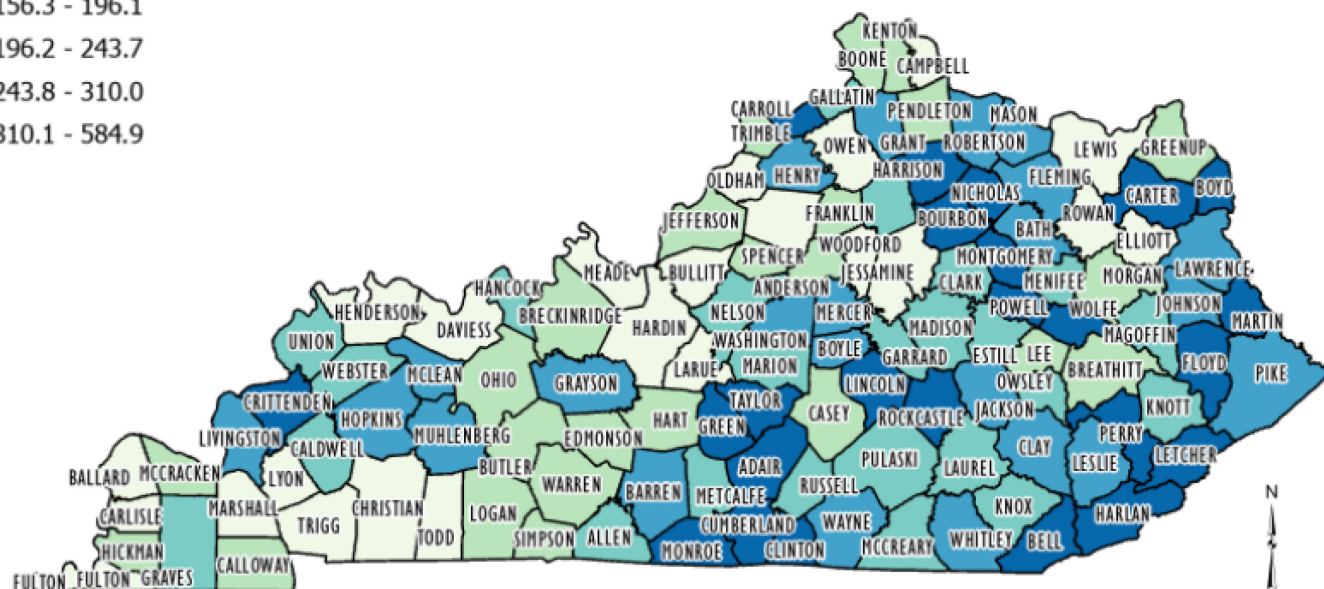
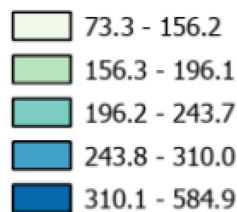
Age-Adjusted Stroke Hospitalization Rates by County, Kentucky 2024



Source: Kentucky TBI Surveillance Project 2024.

Figure 39.

Age-Adjusted (AA) Stroke ED Visit Rates by County, Kentucky 2024



Source: Kentucky TBI Surveillance Project 2024.

Conclusion

More than 180,000 nonfatal central nervous system injury-related ED visits and hospitalizations occurred in Kentucky in 2024. The findings show the importance of including ED visits because of the large number of TBIs seen only in that setting, especially among children. Although this report provides data on a wide range of CNSI occurring in Kentucky, it still does not capture all of them. It does not include those treated by emergency medical services who refused transport to a hospital or those hospitalized outside of Kentucky, nor does it include those seen by non-hospital medical services or who sought no care at all. For the larger issue of brain injury in Kentucky, many people recover from their injuries, but in 2024 alone almost 493 Kentuckians per day received either inpatient or ED care for a CNSI, many of which will result in some long-term disability. Thus, brain and spinal cord injury prevention, improved acute care and rehabilitation to reduce the likelihood of injury-related disability, and also increased access to services for those who do not fully recover are critical to improving quality of life of persons following a CNSI.

Appendix A: Tables and Figures

For the following tables, unless otherwise noted, persons who were hospitalized or died were excluded from the data for ED Visits. For hospitalizations, in-hospital deaths were excluded. The average annual rate is per 100,000 population. Rates were calculated using the most recent available Kentucky population estimates (2024) and are per 100,000.

Table 1: Nonfatal TBI ED Visits and Hospitalizations by Age Group, Kentucky, 2024

Age	Inpatient			Outpatient			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
0-4	111	15.7	41.6	595	84.3	223.1	706	100.0	264.7
5-14	206	9.7	35.9	1917	90.3	334.3	2,123	100.0	370.2
15-24	492	16.1	81.5	2563	83.9	424.5	3,055	100.0	506.0
25-44	720	21.7	60.8	2600	78.3	219.4	3,320	100.0	280.2
45-64	91	3.9	8.0	2213	96.1	195.4	2,304	100.0	203.4
65+	2,105	43.1	254.6	2777	56.9	335.9	4,882	100.0	590.5
Total	3,725	22.7	81.2	12,665	77.3	276.0	16,390	100.0	357.2

Table 2: Nonfatal TBI ED Visits and Hospitalizations by Sex, Kentucky, 2024

Sex	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	2,089	23.9	91.8	6,649	76.1	292.3	8,738	100.0	384.1
Female	1,636	21.4	70.7	6,014	78.6	259.9	7,650	100.0	330.6
Total	3,725	22.7	81.2	12,663	77.3	276.0	16,388	100.0	357.2

Table 3: Nonfatal TBI ED Visits and Hospitalizations by External Cause of Injury, Kentucky, 2024

Mechanism of Injury	Inpatient			ED			Total	
	Number	Pct.	Rate	Number	Pct.	Rate	Number	Rate
Motor vehicle traffic crash	666	24.8	14.5	2,018	75.2	44.0	2,684	58.5
Fall	2,052	27.4	44.7	5,431	72.6	118.4	7,483	163.1
Firearm	41	83.7	0.9	8	16.3	0.2	49	1.1
Motor vehicle non-traffic	103	24.8	2.2	313	75.2	6.8	416	9.1
Struck by object or person	144	4.4	3.1	3,103	95.6	67.6	3,247	70.8
Abuse	35	77.8	0.8	10	22.2	0.2	45	1.0
Other and land transport	29	12.3	0.6	206	87.7	4.5	235	5.1
Pedestrian or pedal cyclist, other	0	0.0	0.0	102	100.0	2.2	102	2.2
Other	83	26.3	1.8	232	73.7	5.1	315	6.9
Unknown	572	31.5	12.5	1,242	68.5	27.1	1,814	39.5
Total	3,725	22.7	81.2	12,665	77.3	276.0	16,390	357.2

Table 4: Leading Causes of Nonfatal TBI ED Visits and Hospitalizations for Ages 0–4, Kentucky, 2024

Mechanism of Injury	Inpatient		ED		Total	
	Number	Percent	Number	Percent	Number	Percent
Fall	49	44.1	431	72.4	480	68.0
Abuse	34	30.6	4	0.7	38	5.4
Motor vehicle traffic crash	12	10.8	17	2.9	29	4.1
Unknown	8	7.2	67	11.3	75	10.6
Other	5	4.5	20	3.4	25	3.5
Struck by or against object or person	3	2.7	56	9.4	59	8.4
Total	111	100.0	595	100.0	706	100.0

Table 5: Leading Causes of Nonfatal TBI ED Visits and Hospitalizations for Ages 5–14, Kentucky, 2024

Mechanism of Injury	Inpatient		ED		Total	
	Number	Percent	Number	Percent	Number	Percent
Non-traffic, land or other transport	26	28.6	110	5.7	136	6.8
Motor vehicle traffic crash	23	25.3	127	6.6	150	7.5
Unknown	17	18.7	166	8.7	183	9.1
Fall	11	12.1	739	38.5	750	37.4
Struck by or against object or person	9	9.9	710	37.0	719	35.8
Other	5	5.5	23	1.2	28	1.4
Pedestrian or pedal cyclist, other	0	0.0	42	2.2	42	2.1
Total	91	100.0	1,917	100.0	2,008	100.0

Table 6: Leading Causes of Nonfatal TBI ED Visits and Hospitalizations for Ages 15–24, Kentucky, 2024

Mechanism of Injury	Inpatient		ED		Total	
	Number	Percent	Number	Percent	Number	Percent
Motor vehicle traffic crash	115	55.8	594	23.2	709	25.6
Non-traffic, land or other transport	28	13.6	188	7.3	216	7.8
Fall	16	7.8	544	21.2	560	20.2
Unknown	16	7.8	252	9.8	268	9.7
Struck by or against object or person	15	7.3	920	35.9	935	33.8
Nature/Environment	2	1.0	25	1.0	27	1.0
Other	14	6.8	40	1.6	54	2.0
Total	206	100.0	2,563	100.0	2,769	100.0

Table 7: Leading Causes of Nonfatal TBI ED Visits and Hospitalizations for Ages 25–44, Kentucky, 2024

Mechanism of Injury	Inpatient		ED		Total	
	Number	Percent	Number	Percent	Number	Percent
Motor vehicle traffic crash	203	42.4	711	27.3	914	29.7
Fall	102	21.3	638	24.5	740	24.0
Unknown	83	17.3	248	9.5	331	10.8
Other	19	4.0	57	2.2	76	2.5
Struck by or against object or person	34	7.1	789	30.3	823	26.7
Non-traffic, land or other transport	31	6.5	117	4.5	148	4.8
Nature/Environment	2	0.4	20	0.8	22	0.7
Pedestrian or pedal cyclist, other	5	1.0	20	0.8	25	0.8
Total	479	100.0	2,600	100.0	3,079	100.0

Table 8: Leading Causes of Nonfatal TBI ED Visits and Hospitalizations for Ages 45–64, Kentucky, 2024

Mechanism of Injury	Inpatient		ED		Total	
	Number	Percent	Number	Percent	Number	Percent
Fall	301	41.8	988	44.6	1,289	43.9
Motor vehicle traffic crash	174	24.2	386	17.4	560	19.1
Unknown	141	19.6	228	10.3	369	12.6
Struck by or against object or person	37	5.1	462	20.9	499	17.0
Non-traffic, land or other transport	34	4.7	70	3.2	104	3.5
Other	24	3.3	60	2.7	84	2.9
Pedestrian or pedal cyclist, other	9	1.3	19	0.9	28	1.0
Total	720	100.0	2,213	100.0	2,933	100.0

Table 9: Leading Causes of Nonfatal TBI ED Visits and Hospitalizations for Ages 65 and Over, Kentucky, 2024

Mechanism of Injury	Inpatient		ED		Total	
	Number	Percent	Number	Percent	Number	Percent
Fall	1,573	74.7	2,091	75.3	3,664	75.1
Unknown	307	14.6	281	10.1	588	12.0
Motor vehicle traffic crash	139	6.6	183	6.6	322	6.6
Struck by or against object or person	46	2.2	166	6.0	212	4.3
Other	24	1.1	19	0.7	43	0.9
Non-traffic, land or other transport	12	0.6	24	0.9	36	0.7
Nature/Environment	4	0.2	13	0.5	17	0.3
Total	2,105	100.0	2,777	100.0	4,882	100.0

Table 10: Hospital Discharges by Disposition for Nonfatal TBI ED Visits and Hospitalizations, Kentucky, 2024

Discharge Disposition	Inpatient		ED	
	Number	Percent	Number	Percent
Routine discharge (home/self care)	1,733	46.5	10,498	82.9
Skilled nursing facility (SNF)	599	16.1	130	1.0
Home health	274	7.4	35	0.3
Inpatient, other	65	1.7	1,505	11.9
Intermediate care facility (ICF)	29	0.8	11	0.1
Rehab	623	16.7	27	0.2
Other	402	10.8	459	3.6
Total	3,725	100.0	12,665	100.0

Table 11: Incidence of All Inpatient Nonfatal and Fatal TBI by County, Sorted by County, Kentucky, 2024

County	Age-Adjusted Crude				County	Age-Adjusted Crude				County	Age-Adjusted Crude			
	Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate
Adair	16	0.4	79.2	83.2	Grant	22	0.5	75.4	85.5	McLean	6	0.1	60.9	65.7
Allen	5	0.1	20.1	22.7	Graves	19	0.5	40.6	51.6	Meade	28	0.7	82.8	92.0
Anderson	20	0.5	66.8	80.4	Grayson	36	0.9	115.3	133.0	Menifee	5	0.1	98.9	78.9
Ballard	9	0.2	88.3	118.0	Green	8	0.2	41.7	69.3	Mercer	20	0.5	70.9	85.1
Barren	15	0.4	28.0	32.9	Greenup	5	0.1	8.7	14.2	Metcalfe	7	0.2	60.8	66.3
Bath	17	0.4	118.0	131.3	Hancock	9	0.2	75.7	99.9	Monroe	*	-	-	-
Bell	6	0.1	18.4	26.0	Hardin	92	2.3	73.4	81.5	Montgomery	30	0.7	91.4	104.3
Boone	98	2.4	56.9	68.0	Harlan	24	0.6	91.9	95.8	Morgan	10	0.2	53.9	69.9
Bourbon	15	0.4	54.6	73.8	Harrison	25	0.6	109.2	128.0	Muhlenberg	25	0.6	58.6	81.9
Boyd	21	0.5	36.4	44.0	Hart	19	0.5	87.0	95.4	Nelson	38	0.9	64.2	78.0
Boyle	42	1.0	98.4	133.8	Henderson	6	0.1	11.6	13.6	Nicholas	7	0.2	70.2	89.6
Bracken	*	-	-	-	Henry	18	0.4	93.4	111.1	Ohio	14	0.3	52.1	58.5
Breathitt	31	0.8	230.6	242.1	Hickman	5	0.1	55.2	113.8	Oldham	65	1.6	77.9	92.2
Breckinridge	16	0.4	64.8	75.4	Hopkins	5	0.1	8.4	11.1	Owen	11	0.3	76.2	96.2
Bullitt	58	1.4	55.6	67.6	Jackson	15	0.4	100.8	112.3	Owsley	12	0.3	253.8	305.5
Butler	14	0.3	89.3	111.5	Jefferson	906	22.3	96.8	114.1	Pendleton	8	0.2	40.8	53.9
Caldwell	*	-	-	-	Jessamine	66	1.6	101.6	116.8	Perry	54	1.3	170.8	202.0
Calloway	13	0.3	28.7	33.4	Johnson	20	0.5	74.9	90.5	Pike	69	1.7	94.6	124.5
Campbell	40	1.0	30.1	42.5	Kenton	107	2.6	49.0	61.2	Powell	17	0.4	105.7	131.5
Carlisle	5	0.1	85.1	104.7	Knott	15	0.4	106.9	111.6	Pulaski	84	2.1	102.2	125.7
Carroll	12	0.3	100.1	108.0	Knox	19	0.5	57.9	64.1	Robertson	5	0.1	211.0	209.9
Carter	13	0.3	37.9	49.8	Larue	17	0.4	104.5	112.4	Rockcastle	12	0.3	52.6	74.0
Casey	17	0.4	78.3	106.6	Laurel	55	1.4	81.2	86.8	Rowan	20	0.5	77.2	81.1
Christian	8	0.2	12.2	11.3	Lawrence	*	-	-	-	Russell	30	0.7	158.6	162.5
Clark	38	0.9	85.3	100.9	Lee	12	0.3	123.9	164.1	Scott	49	1.2	74.9	79.4
Clay	26	0.6	123.0	132.7	Leslie	11	0.3	87.0	113.1	Shelby	33	0.8	56.8	65.8
Clinton	5	0.1	41.6	54.4	Letcher	27	0.7	107.6	134.1	Simpson	*	-	-	-
Crittenden	*	-	-	-	Lewis	7	0.2	50.2	54.4	Spencer	10	0.2	38.3	48.0
Cumberland	9	0.2	105.8	148.8	Lincoln	37	0.9	122.4	148.5	Taylor	31	0.8	98.0	115.6
Daviess	126	3.1	99.6	120.6	Livingston	10	0.2	86.0	113.4	Todd	0	0.0	0.0	0.0
Edmonson	7	0.2	38.2	55.4	Logan	8	0.2	20.5	28.1	Trigg	5	0.1	23.4	34.3
Elliott	*	-	-	-	Lyon	5	0.1	31.1	55.1	Trimble	6	0.1	45.4	69.8
Estill	21	0.5	117.6	150.0	Madison	95	2.3	88.9	95.4	Union	*	-	-	-
Fayette	360	8.9	101.1	109.3	Magoffin	13	0.3	95.2	116.9	Warren	50	1.2	32.4	33.8
Fleming	15	0.4	75.6	96.2	Marion	19	0.5	84.2	95.7	Washington	14	0.3	106.3	114.1
Floyd	54	1.3	129.3	156.4	Marshall	33	0.8	71.6	104.0	Wayne	27	0.7	94.3	137.6
Franklin	72	1.8	104.3	137.3	Martin	8	0.2	67.1	74.8	Webster	*	-	-	-
Fulton	*	-	-	-	Mason	13	0.3	57.9	76.7	Whitley	61	1.5	154.8	163.8
Gallatin	*	-	-	-	McCracken	67	1.6	67.1	99.2	Wolfe	11	0.3	167.8	172.8
Garrard	10	0.2	40.7	55.4	McCreary	18	0.4	95.3	107.0	Woodford	26	0.6	73.4	93.8

* At least one but fewer than five

- Percentage or rate suppressed to prevent disclosure of the value on which it was based

Table 12: Incidence of All ED Nonfatal and Fatal TBI by County, Sorted by County, Kentucky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude
Adair	60	0.5	301.9	311.9	Grant	57	0.4	218.3	221.6	McLean	28	0.2	302.3	306.8
Allen	53	0.4	227.9	240.5	Graves	91	0.7	248.1	247.1	Meade	47	0.4	155.0	154.4
Anderson	68	0.5	271.4	273.3	Grayson	116	0.9	428.5	428.5	Menifee	14	0.1	279.0	220.8
Ballard	12	0.1	150.9	157.4	Green	28	0.2	217.0	242.4	Mercer	84	0.7	361.9	357.2
Barren	95	0.7	197.6	208.3	Greenup	48	0.4	129.4	136.1	Metcalfe	38	0.3	356.3	359.9
Bath	30	0.2	227.9	231.6	Hancock	21	0.2	251.7	233.0	Monroe	15	0.1	143.1	134.4
Bell	106	0.8	464.5	459.8	Hardin	362	2.8	327.4	320.8	Montgomery	108	0.8	380.5	375.4
Boone	217	1.7	151.5	150.6	Harlan	77	0.6	298.2	307.4	Morgan	27	0.2	193.0	188.8
Bourbon	63	0.5	312.4	309.8	Harrison	83	0.7	431.5	425.1	Muhlenberg	110	0.9	366.4	360.5
Boyd	117	0.9	242.7	244.9	Hart	54	0.4	265.6	271.0	Nelson	174	1.4	368.2	357.2
Boyle	107	0.8	318.5	340.8	Henderson	136	1.1	313.7	307.9	Nicholas	26	0.2	326.4	332.7
Bracken	17	0.1	212.7	200.1	Henry	61	0.5	392.4	376.6	Ohio	164	1.3	685.0	685.2
Breathitt	37	0.3	265.1	289.0	Hickman	**	-	-	-	Oldham	184	1.4	256.7	260.9
Breckinridge	78	0.6	359.5	367.6	Hopkins	130	1.0	288.0	287.5	Owen	18	0.1	155.5	157.4
Bullitt	193	1.5	232.6	224.9	Jackson	42	0.3	319.1	314.4	Owsley	7	0.1	179.1	178.2
Butler	37	0.3	302.5	294.8	Jefferson	2100	16.5	267.6	264.5	Pendleton	25	0.2	161.0	168.4
Caldwell	71	0.6	510.3	563.0	Jessamine	167	1.3	300.9	295.6	Perry	78	0.6	298.8	291.7
Calloway	166	1.3	411.5	425.9	Johnson	148	1.2	651.4	669.7	Pike	174	1.4	316.1	313.9
Campbell	94	0.7	100.0	100.0	Kenton	282	2.2	159.7	161.3	Powell	68	0.5	537.7	526.0
Carlisle	11	0.1	237.4	230.3	Knott	31	0.2	253.3	230.7	Pulaski	177	1.4	272.4	264.8
Carroll	47	0.4	413.7	423.0	Knox	116	0.9	393.5	391.1	Robertson	*	-	-	-
Carter	56	0.4	206.5	214.6	Larue	45	0.4	320.7	297.5	Rockcastle	50	0.4	342.5	308.1
Casey	39	0.3	224.4	244.5	Laurel	144	1.1	234.6	227.3	Rowan	54	0.4	211.8	218.8
Christian	124	1.0	167.6	174.6	Lawrence	35	0.3	228.1	221.5	Russell	53	0.4	309.3	287.1
Clark	169	1.3	455.7	448.6	Lee	27	0.2	342.1	369.2	Scott	166	1.3	270.0	269.0
Clay	78	0.6	417.3	398.1	Leslie	40	0.3	422.6	411.1	Shelby	134	1.1	269.9	267.3
Clinton	40	0.3	457.7	435.6	Letcher	72	0.6	373.9	357.5	Simpson	82	0.6	402.8	402.9
Crittenden	36	0.3	411.1	400.8	Lewis	20	0.2	145.0	155.3	Spencer	45	0.4	227.9	216.1
Cumberland	22	0.2	269.6	363.8	Lincoln	87	0.7	327.5	349.3	Taylor	117	0.9	405.6	436.4
Daviess	294	2.3	292.8	281.5	Livingston	29	0.2	361.8	329.0	Todd	19	0.1	153.0	148.9
Edmonson	22	0.2	176.8	174.1	Logan	75	0.6	248.8	263.5	Trigg	36	0.3	238.3	247.3
Elliott	10	0.1	127.3	137.7	Lyon	35	0.3	395.9	385.5	Trimble	19	0.1	240.5	221.2
Estill	47	0.4	319.3	335.7	Madison	274	2.2	270.2	275.2	Union	38	0.3	313.0	288.4
Fayette	954	7.5	286.3	289.6	Magoffin	73	0.6	636.2	656.6	Warren	357	2.8	235.1	241.3
Fleming	32	0.3	193.8	205.2	Marion	68	0.5	330.7	342.6	Washington	31	0.2	262.1	252.7
Floyd	139	1.1	392.4	402.5	Marshall	110	0.9	353.2	346.6	Wayne	61	0.5	305.5	310.8
Franklin	190	1.5	335.0	362.3	Martin	30	0.2	261.8	280.5	Webster	39	0.3	293.5	303.4
Fulton	11	0.1	173.9	175.1	Mason	57	0.4	309.1	336.2	Whitley	135	1.1	355.5	362.6
Gallatin	15	0.1	181.9	170.4	McCracken	154	1.2	231.0	228.0	Wolfe	24	0.2	390.8	377.1
Garrard	68	0.5	385.3	376.9	McCreary	35	0.3	214.3	208.0	Woodford	89	0.7	321.2	321.0

* At least one but fewer than five; ** Suppressed to prevent disclosure of another under value

- Percentage or rate suppressed to prevent disclosure of the value on which it was based

Table 13: Incidence of All Inpatient Nonfatal and Fatal TBI by County, Sorted by Frequency, Kentucky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude
Jefferson	906	22.3	96.8	114.1	Grant	22	0.5	75.4	85.5	Livingston	10	0.2	86.0	113.4
Fayette	360	8.9	101.1	109.3	Boyd	21	0.5	36.4	44.0	Morgan	10	0.2	53.9	69.9
Daviess	126	3.1	99.6	120.6	Estill	21	0.5	117.6	150.0	Cumberland	9	0.2	105.8	148.8
Kenton	107	2.6	49.0	61.2	Johnson	20	0.5	74.9	90.5	Hancock	9	0.2	75.7	99.9
Boone	98	2.4	56.9	68.0	Mercer	20	0.5	70.9	85.1	Ballard	9	0.2	88.3	118.0
Madison	95	2.3	88.9	95.4	Anderson	20	0.5	66.8	80.4	Christian	8	0.2	12.2	11.3
Hardin	92	2.3	73.4	81.5	Rowan	20	0.5	77.2	81.1	Logan	8	0.2	20.5	28.1
Pulaski	84	2.1	102.2	125.7	Knox	19	0.5	57.9	64.1	Martin	8	0.2	67.1	74.8
Franklin	72	1.8	104.3	137.3	Graves	19	0.5	40.6	51.6	Green	8	0.2	41.7	69.3
Pike	69	1.7	94.6	124.5	Marion	19	0.5	84.2	95.7	Pendleton	8	0.2	40.8	53.9
McCracken	67	1.6	67.1	99.2	Hart	19	0.5	87.0	95.4	Metcalfe	7	0.2	60.8	66.3
Jessamine	66	1.6	101.6	116.8	Henry	18	0.4	93.4	111.1	Nicholas	7	0.2	70.2	89.6
Oldham	65	1.6	77.9	92.2	McCreary	18	0.4	95.3	107.0	Edmonson	7	0.2	38.2	55.4
Whitley	61	1.5	154.8	163.8	Powell	17	0.4	105.7	131.5	Lewis	7	0.2	50.2	54.4
Bullitt	58	1.4	55.6	67.6	Larue	17	0.4	104.5	112.4	Henderson	6	0.1	11.6	13.6
Laurel	55	1.4	81.2	86.8	Casey	17	0.4	78.3	106.6	Bell	6	0.1	18.4	26.0
Floyd	54	1.3	129.3	156.4	Bath	17	0.4	118.0	131.3	McLean	6	0.1	60.9	65.7
Perry	54	1.3	170.8	202.0	Breckinridge	16	0.4	64.8	75.4	Trimble	6	0.1	45.4	69.8
Warren	50	1.2	32.4	33.8	Adair	16	0.4	79.2	83.2	Hopkins	5	0.1	8.4	11.1
Scott	49	1.2	74.9	79.4	Barren	15	0.4	28.0	32.9	Allen	5	0.1	20.1	22.7
Boyle	42	1.0	98.4	133.8	Bourbon	15	0.4	54.6	73.8	Greenup	5	0.1	8.7	14.2
Campbell	40	1.0	30.1	42.5	Jackson	15	0.4	100.8	112.3	Clinton	5	0.1	41.6	54.4
Nelson	38	0.9	64.2	78.0	Fleming	15	0.4	75.6	96.2	Trigg	5	0.1	23.4	34.3
Clark	38	0.9	85.3	100.9	Knott	15	0.4	106.9	111.6	Lyon	5	0.1	31.1	55.1
Lincoln	37	0.9	122.4	148.5	Ohio	14	0.3	52.1	58.5	Menifee	5	0.1	98.9	78.9
Grayson	36	0.9	115.3	133.0	Butler	14	0.3	89.3	111.5	Carlisle	5	0.1	85.1	104.7
Shelby	33	0.8	56.8	65.8	Washington	14	0.3	106.3	114.1	Hickman	5	0.1	55.2	113.8
Marshall	33	0.8	71.6	104.0	Calloway	13	0.3	28.7	33.4	Robertson	5	0.1	211.0	209.9
Taylor	31	0.8	98.0	115.6	Magoffin	13	0.3	95.2	116.9	Simpson	*	-	-	-
Breathitt	31	0.8	230.6	242.1	Mason	13	0.3	57.9	76.7	Crittenden	*	-	-	-
Montgomery	30	0.7	91.4	104.3	Carter	13	0.3	37.9	49.8	Lawrence	*	-	-	-
Russell	30	0.7	158.6	162.5	Rockcastle	12	0.3	52.6	74.0	Elliott	*	-	-	-
Meade	28	0.7	82.8	92.0	Carroll	12	0.3	100.1	108.0	Caldwell	*	-	-	-
Letcher	27	0.7	107.6	134.1	Lee	12	0.3	123.9	164.1	Webster	*	-	-	-
Wayne	27	0.7	94.3	137.6	Owsley	12	0.3	253.8	305.5	Bracken	*	-	-	-
Woodford	26	0.6	73.4	93.8	Leslie	11	0.3	87.0	113.1	Gallatin	*	-	-	-
Clay	26	0.6	123.0	132.7	Wolfe	11	0.3	167.8	172.8	Monroe	*	-	-	-
Muhlenberg	25	0.6	58.6	81.9	Owen	11	0.3	76.2	96.2	Union	*	-	-	-
Harrison	25	0.6	109.2	128.0	Garrard	10	0.2	40.7	55.4	Fulton	*	-	-	-
Harlan	24	0.6	91.9	95.8	Spencer	10	0.2	38.3	48.0	Todd	0	0.0	0.0	0.0

* At least one but fewer than five

- Percentage or rate suppressed to prevent disclosure of the value on which it was based

Table 14: Incidence of All ED Nonfatal and Fatal TBI by County, Sorted by Frequency, Kentucky, 2024

County	Age-Adjusted Crude				County	Age-Adjusted Crude				County	Age-Adjusted Crude			
	Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate
Jefferson	2100	16.5	267.6	264.5	Woodford	89	0.7	321.2	321.0	Metcalfe	38	0.3	356.3	359.9
Fayette	954	7.5	286.3	289.6	Lincoln	87	0.7	327.5	349.3	Union	38	0.3	313.0	288.4
Hardin	362	2.8	327.4	320.8	Mercer	84	0.7	361.9	357.2	Breathitt	37	0.3	265.1	289.0
Warren	357	2.8	235.1	241.3	Harrison	83	0.7	431.5	425.1	Butler	37	0.3	302.5	294.8
Daviess	294	2.3	292.8	281.5	Simpson	82	0.6	402.8	402.9	Crittenden	36	0.3	411.1	400.8
Kenton	282	2.2	159.7	161.3	Breckinridge	78	0.6	359.5	367.6	Trigg	36	0.3	238.3	247.3
Madison	274	2.2	270.2	275.2	Clay	78	0.6	417.3	398.1	Lawrence	35	0.3	228.1	221.5
Boone	217	1.7	151.5	150.6	Perry	78	0.6	298.8	291.7	Lyon	35	0.3	395.9	385.5
Bullitt	193	1.5	232.6	224.9	Harlan	77	0.6	298.2	307.4	McCreary	35	0.3	214.3	208.0
Franklin	190	1.5	335.0	362.3	Logan	75	0.6	248.8	263.5	Fleming	32	0.3	193.8	205.2
Oldham	184	1.4	256.7	260.9	Magoffin	73	0.6	636.2	656.6	Knott	31	0.2	253.3	230.7
Pulaski	177	1.4	272.4	264.8	Letcher	72	0.6	373.9	357.5	Washington	31	0.2	262.1	252.7
Nelson	174	1.4	368.2	357.2	Caldwell	71	0.6	510.3	563.0	Bath	30	0.2	227.9	231.6
Pike	174	1.4	316.1	313.9	Anderson	68	0.5	271.4	273.3	Martin	30	0.2	261.8	280.5
Clark	169	1.3	455.7	448.6	Garrard	68	0.5	385.3	376.9	Livingston	29	0.2	361.8	329.0
Jessamine	167	1.3	300.9	295.6	Marion	68	0.5	330.7	342.6	Green	28	0.2	217.0	242.4
Calloway	166	1.3	411.5	425.9	Powell	68	0.5	537.7	526.0	McLean	28	0.2	302.3	306.8
Scott	166	1.3	270.0	269.0	Bourbon	63	0.5	312.4	309.8	Lee	27	0.2	342.1	369.2
Ohio	164	1.3	685.0	685.2	Henry	61	0.5	392.4	376.6	Morgan	27	0.2	193.0	188.8
McCracken	154	1.2	231.0	228.0	Wayne	61	0.5	305.5	310.8	Nicholas	26	0.2	326.4	332.7
Johnson	148	1.2	651.4	669.7	Adair	60	0.5	301.9	311.9	Pendleton	25	0.2	161.0	168.4
Laurel	144	1.1	234.6	227.3	Grant	57	0.4	218.3	221.6	Wolfe	24	0.2	390.8	377.1
Floyd	139	1.1	392.4	402.5	Mason	57	0.4	309.1	336.2	Cumberland	22	0.2	269.6	363.8
Henderson	136	1.1	313.7	307.9	Carter	56	0.4	206.5	214.6	Edmonson	22	0.2	176.8	174.1
Whitley	135	1.1	355.5	362.6	Hart	54	0.4	265.6	271.0	Hancock	21	0.2	251.7	233.0
Shelby	134	1.1	269.9	267.3	Rowan	54	0.4	211.8	218.8	Lewis	20	0.2	145.0	155.3
Hopkins	130	1.0	288.0	287.5	Allen	53	0.4	227.9	240.5	Todd	19	0.1	153.0	148.9
Christian	124	1.0	167.6	174.6	Russell	53	0.4	309.3	287.1	Trimble	19	0.1	240.5	221.2
Boyd	117	0.9	242.7	244.9	Rockcastle	50	0.4	342.5	308.1	Owen	18	0.1	155.5	157.4
Taylor	117	0.9	405.6	436.4	Greenup	48	0.4	129.4	136.1	Bracken	17	0.1	212.7	200.1
Grayson	116	0.9	428.5	428.5	Carroll	47	0.4	413.7	423.0	Gallatin	15	0.1	181.9	170.4
Knox	116	0.9	393.5	391.1	Estill	47	0.4	319.3	335.7	Monroe	15	0.1	143.1	134.4
Marshall	110	0.9	353.2	346.6	Meade	47	0.4	155.0	154.4	Menifee	14	0.1	279.0	220.8
Muhlenberg	110	0.9	366.4	360.5	Larue	45	0.4	320.7	297.5	Ballard	12	0.1	150.9	157.4
Montgomery	108	0.8	380.5	375.4	Spencer	45	0.4	227.9	216.1	Carlisle	11	0.1	237.4	230.3
Boyle	107	0.8	318.5	340.8	Jackson	42	0.3	319.1	314.4	Fulton	11	0.1	173.9	175.1
Bell	106	0.8	464.5	459.8	Clinton	40	0.3	457.7	435.6	Elliott	10	0.1	127.3	137.7
Barren	95	0.7	197.6	208.3	Leslie	40	0.3	422.6	411.1	Owsley	7	0.1	179.1	178.2
Campbell	94	0.7	100.0	100.0	Casey	39	0.3	224.4	244.5	Hickman	**	-	-	-
Graves	91	0.7	248.1	247.1	Webster	39	0.3	293.5	303.4	Robertson	*	-	-	-

* At least one but fewer than five; ** Suppressed to prevent disclosure of another under value

- Percentage or rate suppressed to prevent disclosure of the value on which it was based

Table 15: Incidence of All Inpatient Nonfatal and Fatal TBI by County, Sorted by Age-Adjusted Rate, Ky, 2024

County	Age-Adjusted Crude				County	Age-Adjusted Crude				County	Age-Adjusted Crude			
	Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate
Owsley	12	0.3	253.8	305.5	Madison	95	2.3	88.9	95.4	Morgan	10	0.2	53.9	69.9
Breathitt	31	0.8	230.6	242.1	Ballard	9	0.2	88.3	118.0	Rockcastle	12	0.3	52.6	74.0
Robertson	5	0.1	211.0	209.9	Leslie	11	0.3	87.0	113.1	Ohio	14	0.3	52.1	58.5
Perry	54	1.3	170.8	202.0	Hart	19	0.5	87.0	95.4	Lewis	7	0.2	50.2	54.4
Wolfe	11	0.3	167.8	172.8	Livingston	10	0.2	86.0	113.4	Kenton	107	2.6	49.0	61.2
Russell	30	0.7	158.6	162.5	Clark	38	0.9	85.3	100.9	Trimble	6	0.1	45.4	69.8
Whitley	61	1.5	154.8	163.8	Carlisle	5	0.1	85.1	104.7	Green	8	0.2	41.7	69.3
Floyd	54	1.3	129.3	156.4	Marion	19	0.5	84.2	95.7	Clinton	5	0.1	41.6	54.4
Lee	12	0.3	123.9	164.1	Meade	28	0.7	82.8	92.0	Pendleton	8	0.2	40.8	53.9
Clay	26	0.6	123.0	132.7	Laurel	55	1.4	81.2	86.8	Garrard	10	0.2	40.7	55.4
Lincoln	37	0.9	122.4	148.5	Adair	16	0.4	79.2	83.2	Graves	19	0.5	40.6	51.6
Bath	17	0.4	118.0	131.3	Casey	17	0.4	78.3	106.6	Spencer	10	0.2	38.3	48.0
Estill	21	0.5	117.6	150.0	Oldham	65	1.6	77.9	92.2	Edmonson	7	0.2	38.2	55.4
Grayson	36	0.9	115.3	133.0	Rowan	20	0.5	77.2	81.1	Carter	13	0.3	37.9	49.8
Harrison	25	0.6	109.2	128.0	Owen	11	0.3	76.2	96.2	Boyd	21	0.5	36.4	44.0
Letcher	27	0.7	107.6	134.1	Hancock	9	0.2	75.7	99.9	Warren	50	1.2	32.4	33.8
Knott	15	0.4	106.9	111.6	Fleming	15	0.4	75.6	96.2	Crittenden	*	-	-	-
Washington	14	0.3	106.3	114.1	Grant	22	0.5	75.4	85.5	Bracken	*	-	-	-
Cumberland	9	0.2	105.8	148.8	Scott	49	1.2	74.9	79.4	Lyon	5	0.1	31.1	55.1
Powell	17	0.4	105.7	131.5	Johnson	20	0.5	74.9	90.5	Elliott	*	-	-	-
Larue	17	0.4	104.5	112.4	Woodford	26	0.6	73.4	93.8	Campbell	40	1.0	30.1	42.5
Franklin	72	1.8	104.3	137.3	Hardin	92	2.3	73.4	81.5	Calloway	13	0.3	28.7	33.4
Pulaski	84	2.1	102.2	125.7	Marshall	33	0.8	71.6	104.0	Barren	15	0.4	28.0	32.9
Jessamine	66	1.6	101.6	116.8	Mercer	20	0.5	70.9	85.1	Gallatin	*	-	-	-
Fayette	360	8.9	101.1	109.3	Nicholas	7	0.2	70.2	89.6	Monroe	*	-	-	-
Jackson	15	0.4	100.8	112.3	Martin	8	0.2	67.1	74.8	Trigg	5	0.1	23.4	34.3
Carroll	12	0.3	100.1	108.0	McCracken	67	1.6	67.1	99.2	Logan	8	0.2	20.5	28.1
Daviess	126	3.1	99.6	120.6	Anderson	20	0.5	66.8	80.4	Webster	*	-	-	-
Menifee	5	0.1	98.9	78.9	Breckinridge	16	0.4	64.8	75.4	Allen	5	0.1	20.1	22.7
Boyle	42	1.0	98.4	133.8	Nelson	38	0.9	64.2	78.0	Bell	6	0.1	18.4	26.0
Taylor	31	0.8	98.0	115.6	McLean	6	0.1	60.9	65.7	Fulton	*	-	-	-
Jefferson	906	22.3	96.8	114.1	Metcalfe	7	0.2	60.8	66.3	Lawrence	*	-	-	-
McCreary	18	0.4	95.3	107.0	Muhlenberg	25	0.6	58.6	81.9	Simpson	*	-	-	-
Magoffin	13	0.3	95.2	116.9	Knox	19	0.5	57.9	64.1	Caldwell	*	-	-	-
Pike	69	1.7	94.6	124.5	Mason	13	0.3	57.9	76.7	Christian	8	0.2	12.2	11.3
Wayne	27	0.7	94.3	137.6	Boone	98	2.4	56.9	68.0	Henderson	6	0.1	11.6	13.6
Henry	18	0.4	93.4	111.1	Shelby	33	0.8	56.8	65.8	Greenup	5	0.1	8.7	14.2
Harlan	24	0.6	91.9	95.8	Bullitt	58	1.4	55.6	67.6	Hopkins	5	0.1	8.4	11.1
Montgomery	30	0.7	91.4	104.3	Hickman	5	0.1	55.2	113.8	Union	*	-	-	-
Butler	14	0.3	89.3	111.5	Bourbon	15	0.4	54.6	73.8	Todd	0	0.0	0.0	0.0

* At least one but fewer than five

- Percentage or rate suppressed to prevent disclosure of the value on which it was based

Table 16: Incidence of All ED Nonfatal and Fatal TBI by County, Sorted by Age-Adjusted Rate, Ky, 2024

County	Age-Adjusted Crude				County	Age-Adjusted Crude				County	Age-Adjusted Crude			
	Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate
Ohio	164	1.3	685.0	685.2	Woodford	89	0.7	321.2	321.0	Trimble	19	0.1	240.5	221.2
Johnson	148	1.2	651.4	669.7	Larue	45	0.4	320.7	297.5	Trigg	36	0.3	238.3	247.3
Magoffin	73	0.6	636.2	656.6	Estill	47	0.4	319.3	335.7	Carlisle	11	0.1	237.4	230.3
Powell	68	0.5	537.7	526.0	Jackson	42	0.3	319.1	314.4	Warren	357	2.8	235.1	241.3
Caldwell	71	0.6	510.3	563.0	Boyle	107	0.8	318.5	340.8	Laurel	144	1.1	234.6	227.3
Bell	106	0.8	464.5	459.8	Pike	174	1.4	316.1	313.9	Bullitt	193	1.5	232.6	224.9
Clinton	40	0.3	457.7	435.6	Henderson	136	1.1	313.7	307.9	McCracken	154	1.2	231.0	228.0
Clark	169	1.3	455.7	448.6	Union	38	0.3	313.0	288.4	Lawrence	35	0.3	228.1	221.5
Harrison	83	0.7	431.5	425.1	Bourbon	63	0.5	312.4	309.8	Allen	53	0.4	227.9	240.5
Grayson	116	0.9	428.5	428.5	Russell	53	0.4	309.3	287.1	Spencer	45	0.4	227.9	216.1
Leslie	40	0.3	422.6	411.1	Mason	57	0.4	309.1	336.2	Bath	30	0.2	227.9	231.6
Clay	78	0.6	417.3	398.1	Wayne	61	0.5	305.5	310.8	Casey	39	0.3	224.4	244.5
Carroll	47	0.4	413.7	423.0	Butler	37	0.3	302.5	294.8	Grant	57	0.4	218.3	221.6
Calloway	166	1.3	411.5	425.9	McLean	28	0.2	302.3	306.8	Green	28	0.2	217.0	242.4
Crittenden	36	0.3	411.1	400.8	Adair	60	0.5	301.9	311.9	McCreary	35	0.3	214.3	208.0
Taylor	117	0.9	405.6	436.4	Jessamine	167	1.3	300.9	295.6	Bracken	17	0.1	212.7	200.1
Simpson	82	0.6	402.8	402.9	Perry	78	0.6	298.8	291.7	Rowan	54	0.4	211.8	218.8
Lyon	35	0.3	395.9	385.5	Harlan	77	0.6	298.2	307.4	Carter	56	0.4	206.5	214.6
Knox	116	0.9	393.5	391.1	Webster	39	0.3	293.5	303.4	Barren	95	0.7	197.6	208.3
Henry	61	0.5	392.4	376.6	Daviess	294	2.3	292.8	281.5	Fleming	32	0.3	193.8	205.2
Floyd	139	1.1	392.4	402.5	Hopkins	130	1.0	288.0	287.5	Morgan	27	0.2	193.0	188.8
Wolfe	24	0.2	390.8	377.1	Fayette	954	7.5	286.3	289.6	Gallatin	15	0.1	181.9	170.4
Garrard	68	0.5	385.3	376.9	Menifee	14	0.1	279.0	220.8	Owsley	7	0.1	179.1	178.2
Montgomery	108	0.8	380.5	375.4	Pulaski	177	1.4	272.4	264.8	Edmonson	22	0.2	176.8	174.1
Letcher	72	0.6	373.9	357.5	Anderson	68	0.5	271.4	273.3	Fulton	11	0.1	173.9	175.1
Nelson	174	1.4	368.2	357.2	Madison	274	2.2	270.2	275.2	Christian	124	1.0	167.6	174.6
Muhlenberg	110	0.9	366.4	360.5	Scott	166	1.3	270.0	269.0	Pendleton	25	0.2	161.0	168.4
Mercer	84	0.7	361.9	357.2	Shelby	134	1.1	269.9	267.3	Kenton	282	2.2	159.7	161.3
Livingston	29	0.2	361.8	329.0	Cumberland	22	0.2	269.6	363.8	Owen	18	0.1	155.5	157.4
Breckinridge	78	0.6	359.5	367.6	Jefferson	2100	16.5	267.6	264.5	Meade	47	0.4	155.0	154.4
Metcalfe	38	0.3	356.3	359.9	Hart	54	0.4	265.6	271.0	Todd	19	0.1	153.0	148.9
Whitley	135	1.1	355.5	362.6	Breathitt	37	0.3	265.1	289.0	Boone	217	1.7	151.5	150.6
Marshall	110	0.9	353.2	346.6	Washington	31	0.2	262.1	252.7	Ballard	12	0.1	150.9	157.4
Rockcastle	50	0.4	342.5	308.1	Martin	30	0.2	261.8	280.5	Lewis	20	0.2	145.0	155.3
Lee	27	0.2	342.1	369.2	Oldham	184	1.4	256.7	260.9	Monroe	15	0.1	143.1	134.4
Franklin	190	1.5	335.0	362.3	Knott	31	0.2	253.3	230.7	Hickman	**	-	-	-
Marion	68	0.5	330.7	342.6	Hancock	21	0.2	251.7	233.0	Greenup	48	0.4	129.4	136.1
Lincoln	87	0.7	327.5	349.3	Logan	75	0.6	248.8	263.5	Elliott	10	0.1	127.3	137.7
Hardin	362	2.8	327.4	320.8	Graves	91	0.7	248.1	247.1	Campbell	94	0.7	100.0	100.0
Nicholas	26	0.2	326.4	332.7	Boyd	117	0.9	242.7	244.9	Robertson	*	-	-	-

* At least one but fewer than five; ** Suppressed to prevent disclosure of another under value

- Percentage or rate suppressed to prevent disclosure of the value on which it was based

Table 17: Length of Stay for Nonfatal Inpatient TBI, Kentucky, 2024

Length of Stay	Number	Percent*
1 day	590	15.8
More than one day but less than 1 week	1792	48.1
1 week to less than 2 weeks	809	21.7
2 weeks to less than 3 weeks	268	7.2
3 weeks to less than 4 weeks	106	2.8
4 weeks or more	160	4.3
Total	3725	100.0

*Percent of hospitalized TBI

Table 18: Work-Related Nonfatal TBI, Kentucky 2024

<u>Inpatient Work TBI (n=45)</u>	Cost	LOS Days
Mean	\$151,158	
Median	\$56,499	3
Min, Max	\$698, \$928210	1-120
Sum of Charges	\$6,802,122	428

<u>ED Work TBI (n=503)</u>	Cost
Mean	\$7,535
Median	\$5,351
Min, Max	\$1, \$106954
Sum of Charges	\$3,790,074

Table 19: Primary Payer and Charges for Nonfatal Inpatient TBI, Kentucky, 2024

Payer	Number of Discharges	Percent of Discharges	Total Hospital Charges
Government	2,914	78.2	\$310,976,477
Commercial Insurance	459	12.3	\$58,298,819
Self Pay	93	2.5	\$7,528,132
Workers Compensation	45	1.2	\$6,802,122
Other	214	5.7	\$28,293,609
Total	3,725	100.0	\$411,899,159

Table 20: Primary Payer and Charges for Nonfatal ED TBI, Kentucky, 2024

Payer	Number of Discharges	Percent of Discharges	Total Hospital Charges
Government	7,092	56.0	\$71,755,873
Commercial Insurance	3,498	27.6	\$26,063,737
Self Pay	706	5.6	\$6,751,000
Workers Compensation	503	4.0	\$3,790,074
Other	866	6.8	\$10,965,029
Total	12,665	100.0	\$119,325,711

Table 21: Nonfatal NTBI by Age Group, Kentucky, 2024

Age	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
0-4	2,345	51.3	879.2	2,226	48.7	834.6	4,571	100.0	1713.8
5-14	1,066	46.0	185.9	1,251	54.0	218.2	2,317	100.0	404.0
15-24	1,263	39.4	209.2	1,940	60.6	321.3	3,203	100.0	530.5
25-44	6,716	56.9	566.8	5,092	43.1	429.7	11,808	100.0	996.5
45-64	28,570	77.1	2522.1	8,500	22.9	750.4	37,070	100.0	3272.4
65+	61,635	84.4	7455.6	11,382	15.6	1376.8	73,017	100.0	8832.4
Total	101,595	77.0	2214.2	30,391	23.0	662.3	131,986	100.0	2876.5

Table 22: Nonfatal NTBI by Sex, Kentucky, 2024

Sex	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	46,815	77.1	2058.1	13,908	22.9	611.4	60,723	100.0	2669.5
Female	54,773	76.9	2367.3	16,481	23.1	712.3	71,254	100.0	3079.6
Total	101,588	77.0	2214.0	30,389	23.0	662.3	131,977	100.0	2876.3

Table 23: Incidence of All Inpatient Nonfatal and Fatal NTBI by County, Sorted by County, Kentucky, 2024

County			Age-Adjusted		County			Age-Adjusted		County			Age-Adjusted	
	Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate
Adair	492	0.4	1933.5	2557.3	Grant	721	0.7	2410.3	2803.0	McLean	236	0.2	1786.6	2586.0
Allen	449	0.4	1555.9	2037.5	Graves	943	0.9	1894.0	2561.0	Meade	466	0.4	1306.1	1530.8
Anderson	653	0.6	2078.0	2624.3	Grayson	951	0.9	2657.0	3513.1	Menifee	294	0.3	3064.8	4636.5
Ballard	154	0.1	1381.6	2019.4	Green	249	0.2	1551.8	2155.5	Mercer	524	0.5	1699.4	2228.4
Barren	1012	0.9	1702.2	2218.9	Greenup	971	0.9	1823.3	2752.8	Metcalf	336	0.3	2322.2	3182.4
Bath	584	0.5	3519.7	4509.3	Hancock	180	0.2	1526.6	1997.1	Monroe	216	0.2	1456.0	1935.0
Bell	632	0.6	2083.4	2741.7	Hardin	2701	2.4	2087.6	2394.0	Montgomery	1082	1.0	3022.2	3760.7
Boone	2535	2.3	1492.5	1758.8	Harlan	1089	1.0	3289.5	4347.0	Morgan	339	0.3	1883.6	2370.6
Bourbon	515	0.5	1938.2	2532.8	Harrison	468	0.4	1832.1	2396.9	Muhlenberg	713	0.6	1682.2	2336.8
Boyd	1649	1.5	2511.2	3451.5	Hart	421	0.4	1666.3	2113.1	Nelson	1397	1.3	2218.9	2868.2
Boyle	877	0.8	2141.0	2793.5	Henderson	948	0.9	1571.9	2146.0	Nicholas	208	0.2	2136.2	2661.2
Breckenridge	201	0.2	1727.3	2365.5	Henry	478	0.4	2284.2	2951.0	Ohio	531	0.5	1715.2	2218.7
Breathitt	535	0.5	3095.5	4178.4	Hickman	89	0.1	1258.6	2026.0	Oldham	948	0.9	1187.3	1344.2
Bullitt	469	0.4	1611.1	2210.1	Hopkins	1099	1.0	1819.7	2430.4	Owen	237	0.2	1484.1	2072.6
Butler	1583	1.4	1429.4	1844.9	Jackson	576	0.5	3296.1	4312.0	Owsley	234	0.2	4444.8	5957.2
Calwell	262	0.2	1558.5	2087.5	Jefferson	18883	17.0	1978.9	2378.6	Pendleton	402	0.4	2010.0	2708.2
Caldwell	223	0.2	1189.4	1768.3	Jessamine	1487	1.3	2192.0	2632.1	Perry	1336	1.2	3962.1	4996.4
Calloway	627	0.6	1364.7	1608.7	Johnson	846	0.8	2805.7	3828.4	Pike	1932	1.7	2566.8	3485.5
Campbell	1577	1.4	1268.7	1677.5	Kenton	3216	2.9	1519.3	1839.2	Powell	536	0.5	3410.8	4146.0
Carlisle	99	0.1	1532.1	2072.4	Knott	461	0.4	2567.1	3430.6	Pulaski	2049	1.8	2305.1	3065.4
Carroll	311	0.3	2417.7	2799.0	Knox	726	0.7	1985.2	2448.0	Robertson	49	0.0	1474.8	2057.1
Carter	807	0.7	2274.2	3092.2	Larue	394	0.4	1988.6	2604.4	Rockcastle	412	0.4	1911.3	2539.1
Casey	343	0.3	1569.1	2150.7	Laurel	1974	1.8	2475.1	3115.9	Rowan	759	0.7	2867.8	3076.0
Christian	929	0.8	1375.7	1308.3	Lawrence	421	0.4	1992.9	2664.9	Russell	438	0.4	1732.1	2373.0
Clark	1382	1.2	2895.3	3668.4	Lee	356	0.3	3544.0	4868.0	Scott	1231	1.1	1848.8	1995.1
Clay	912	0.8	3783.4	4655.0	Leslie	379	0.3	2841.6	3895.6	Shelby	1034	0.9	1653.4	2062.9
Clinton	196	0.2	1534.1	2134.4	Letcher	996	0.9	3521.3	4945.6	Simpson	355	0.3	1394.9	1744.5
Crittenden	108	0.1	841.1	1202.4	Lewis	157	0.1	876.7	1219.4	Spencer	439	0.4	1658.9	2108.2
Cumberland	183	0.2	2000.5	3026.3	Lincoln	712	0.6	2232.8	2858.3	Taylor	695	0.6	2152.3	2592.4
Daviess	2234	2.0	1729.2	2138.7	Livingston	212	0.2	1634.0	2405.0	Todd	122	0.1	788.6	956.3
Edmonson	236	0.2	1285.7	1867.8	Logan	457	0.4	1188.5	1605.4	Trigg	214	0.2	951.5	1469.9
Elliott	220	0.2	2061.8	3029.1	Lyon	157	0.1	1072.8	1729.5	Trimble	157	0.1	1391.1	1827.5
Estill	485	0.4	2571.8	3463.8	Madison	2420	2.2	2217.0	2430.2	Union	235	0.2	1295.3	1783.3
Fayette	6736	6.1	1859.7	2044.7	Magoffin	389	0.4	2680.3	3498.8	Warren	2329	2.1	1519.1	1574.3
Fleming	490	0.4	2451.8	3142.8	Marion	462	0.4	1888.8	2327.3	Washington	296	0.3	1845.9	2412.6
Floyd	1213	1.1	2674.0	3512.7	Marshall	655	0.6	1348.0	2064.0	Wayne	391	0.4	1436.1	1992.0
Franklin	1585	1.4	2334.3	3022.4	Martin	270	0.2	1924.2	2524.3	Webster	266	0.2	1630.0	2069.4
Fulton	138	0.1	1552.0	2196.8	Mason	365	0.3	1524.8	2152.6	Whitley	1792	1.6	4287.6	4812.9
Gallatin	210	0.2	1935.3	2385.0	McCracken	1605	1.4	1727.9	2376.0	Wolfe	375	0.3	4299.8	5892.5
Garrard	488	0.4	2044.6	2705.1	McCreary	449	0.4	2213.6	2668.8	Woodford	573	0.5	1489.2	2066.5

Table 24: Incidence of All ED Nonfatal and Fatal NTBI by County, Sorted by County, Kentucky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude
Adair	181	0.6	814.9	940.8	Grant	223	0.7	802.7	867.0	McLean	79	0.3	730.5	865.7
Allen	175	0.6	648.6	794.1	Graves	200	0.6	490.2	543.2	Meade	72	0.2	236.3	236.5
Anderson	152	0.5	565.0	610.9	Grayson	292	0.9	907.9	1078.7	Menifee	61	0.2	810.0	962.0
Ballard	23	0.1	288.0	301.6	Green	121	0.4	857.4	1047.4	Mercer	213	0.7	820.0	905.8
Barren	241	0.8	463.6	528.4	Greenup	161	0.5	369.0	456.4	Metcalf	49	0.2	366.7	464.1
Bath	88	0.3	616.2	679.5	Hancock	42	0.1	398.2	466.0	Monroe	63	0.2	507.4	564.4
Bell	212	0.7	795.2	919.7	Hardin	747	2.4	648.4	662.1	Montgomery	303	1.0	956.7	1053.1
Boone	574	1.9	368.8	398.2	Harlan	326	1.1	1047.6	1301.3	Morgan	64	0.2	408.5	447.6
Bourbon	192	0.6	823.8	944.3	Harrison	210	0.7	926.4	1075.5	Muhlenberg	333	1.1	900.8	1091.4
Boyd	355	1.2	630.0	743.0	Hart	122	0.4	535.1	612.4	Nelson	346	1.1	638.3	710.4
Boyle	299	1.0	829.9	952.4	Henderson	279	0.9	583.1	631.6	Nicholas	89	0.3	962.4	1138.7
Bracken	59	0.2	587.8	694.4	Henry	164	0.5	898.6	1012.5	Ohio	273	0.9	919.3	1140.7
Breathitt	77	0.2	491.2	601.4	Hickman	10	0.0	186.4	227.6	Oldham	256	0.8	347.6	363.0
Breckinridge	174	0.6	687.3	819.9	Hopkins	411	1.3	754.0	908.9	Owen	58	0.2	432.7	507.2
Bullitt	442	1.4	479.0	515.1	Jackson	103	0.3	657.8	771.1	Owsley	36	0.1	801.7	916.5
Butler	80	0.3	566.2	637.4	Jefferson	5740	18.6	682.0	723.0	Pendleton	104	0.3	595.5	700.6
Caldwell	108	0.4	697.8	856.4	Jessamine	325	1.1	545.9	575.3	Perry	273	0.9	835.7	1021.0
Calloway	326	1.1	788.4	836.4	Johnson	143	0.5	543.5	647.1	Pike	472	1.5	709.5	851.5
Campbell	386	1.3	372.4	410.6	Kenton	962	3.1	504.8	550.1	Powell	150	0.5	1037.8	1160.3
Carlisle	25	0.1	511.4	523.3	Knott	124	0.4	731.4	922.8	Pulaski	492	1.6	642.6	736.1
Carroll	199	0.6	1592.1	1791.0	Knox	190	0.6	587.7	640.7	Robertson	29	0.1	846.6	1217.5
Carter	128	0.4	412.3	490.5	Larue	75	0.2	476.5	495.8	Rockcastle	84	0.3	475.8	517.7
Casey	140	0.5	752.9	877.9	Laurel	334	1.1	478.8	527.2	Rowan	84	0.3	361.2	340.4
Christian	237	0.8	343.7	333.8	Lawrence	129	0.4	692.6	816.6	Russell	122	0.4	539.3	661.0
Clark	333	1.1	814.9	883.9	Lee	71	0.2	805.3	970.9	Scott	334	1.1	522.8	541.3
Clay	249	0.8	1144.2	1270.9	Leslie	135	0.4	1090.7	1387.6	Shelby	346	1.1	611.0	690.3
Clinton	66	0.2	617.8	718.7	Letcher	210	0.7	843.6	1042.8	Simpson	151	0.5	656.1	742.0
Crittenden	65	0.2	610.7	723.7	Lewis	41	0.1	265.0	318.4	Spencer	121	0.4	523.7	581.1
Cumberland	137	0.4	1619.1	2265.6	Lincoln	274	0.9	943.0	1100.0	Taylor	207	0.7	708.7	772.1
Daviess	539	1.7	461.2	516.0	Livingston	63	0.2	571.0	714.7	Todd	47	0.2	320.2	368.4
Edmonson	61	0.2	384.5	482.8	Logan	139	0.5	418.8	488.3	Trigg	128	0.4	701.8	879.2
Elliott	34	0.1	366.1	468.1	Lyon	42	0.1	339.0	462.7	Trimble	65	0.2	639.6	756.6
Estill	203	0.7	1305.6	1449.8	Madison	725	2.4	711.8	728.0	Union	138	0.4	843.0	1047.2
Fayette	1691	5.5	502.1	513.3	Magoffin	96	0.3	729.8	863.5	Warren	629	2.0	425.6	425.2
Fleming	109	0.4	577.2	699.1	Marion	181	0.6	824.3	911.8	Washington	105	0.3	737.8	855.8
Floyd	346	1.1	843.3	1002.0	Marshall	304	1.0	739.7	958.0	Wayne	156	0.5	646.3	794.7
Franklin	308	1.0	555.1	587.3	Martin	61	0.2	494.1	570.3	Webster	105	0.3	725.9	816.9
Fulton	20	0.1	230.0	318.4	Mason	144	0.5	721.0	849.3	Whitley	400	1.3	1027.1	1074.3
Gallatin	72	0.2	736.0	817.7	McCracken	361	1.2	496.6	534.4	Wolfe	65	0.2	781.9	1021.4
Garrard	163	0.5	809.4	903.5	McCreary	96	0.3	507.1	570.6	Woodford	94	0.3	307.4	339.0

Table 25: Incidence of All Inpatient Nonfatal and Fatal NTBI by County, Sorted by Frequency, Kentucky, 2024

County			Age-Adjusted		County			Age-Adjusted		County			Age-Adjusted	
	Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate
Jefferson	18883	17.0	1978.9	2378.6	Knox	726	0.7	1985.2	2448.0	Wolfe	375	0.3	4299.8	5892.5
Fayette	6736	6.1	1859.7	2044.7	Grant	721	0.7	2410.3	2803.0	Mason	365	0.3	1524.8	2152.6
Kenton	3216	2.9	1519.3	1839.2	Muhlenberg	713	0.6	1682.2	2336.8	Lee	356	0.3	3544.0	4868.0
Hardin	2701	2.4	2087.6	2394.0	Lincoln	712	0.6	2232.8	2858.3	Simpson	355	0.3	1394.9	1744.5
Boone	2535	2.3	1492.5	1758.8	Taylor	695	0.6	2152.3	2592.4	Casey	343	0.3	1569.1	2150.7
Madison	2420	2.2	2217.0	2430.2	Marshall	655	0.6	1348.0	2064.0	Morgan	339	0.3	1883.6	2370.6
Warren	2329	2.1	1519.1	1574.3	Anderson	653	0.6	2078.0	2624.3	Metcalfe	336	0.3	2322.2	3182.4
Daviess	2234	2.0	1729.2	2138.7	Bell	632	0.6	2083.4	2741.7	Carroll	311	0.3	2417.7	2799.0
Pulaski	2049	1.8	2305.1	3065.4	Calloway	627	0.6	1364.7	1608.7	Washington	296	0.3	1845.9	2412.6
Laurel	1974	1.8	2475.1	3115.9	Bath	584	0.5	3519.7	4509.3	Menifee	294	0.3	3064.8	4636.5
Pike	1932	1.7	2566.8	3485.5	Jackson	576	0.5	3296.1	4312.0	Martin	270	0.2	1924.2	2524.3
Whitley	1792	1.6	4287.6	4812.9	Woodford	573	0.5	1489.2	2066.5	Webster	266	0.2	1630.0	2069.4
Boyd	1649	1.5	2511.2	3451.5	Powell	536	0.5	3410.8	4146.0	Butler	262	0.2	1558.5	2087.5
McCracken	1605	1.4	1727.9	2376.0	Breathitt	535	0.5	3095.5	4178.4	Green	249	0.2	1551.8	2155.5
Franklin	1585	1.4	2334.3	3022.4	Ohio	531	0.5	1715.2	2218.7	Owen	237	0.2	1484.1	2072.6
Bullitt	1583	1.4	1429.4	1844.9	Mercer	524	0.5	1699.4	2228.4	McLean	236	0.2	1786.6	2586.0
Campbell	1577	1.4	1268.7	1677.5	Bourbon	515	0.5	1938.2	2532.8	Edmonson	236	0.2	1285.7	1867.8
Jessamine	1487	1.3	2192.0	2632.1	Adair	492	0.4	1933.5	2557.3	Union	235	0.2	1295.3	1783.3
Nelson	1397	1.3	2218.9	2868.2	Fleming	490	0.4	2451.8	3142.8	Owsley	234	0.2	4444.8	5957.2
Clark	1382	1.2	2895.3	3668.4	Garrard	488	0.4	2044.6	2705.1	Caldwell	223	0.2	1189.4	1768.3
Perry	1336	1.2	3962.1	4996.4	Estill	485	0.4	2571.8	3463.8	Elliott	220	0.2	2061.8	3029.1
Scott	1231	1.1	1848.8	1995.1	Henry	478	0.4	2284.2	2951.0	Monroe	216	0.2	1456.0	1935.0
Floyd	1213	1.1	2674.0	3512.7	Breckinridge	469	0.4	1611.1	2210.1	Trigg	214	0.2	951.5	1469.9
Hopkins	1099	1.0	1819.7	2430.4	Harrison	468	0.4	1832.1	2396.9	Livingston	212	0.2	1634.0	2405.0
Harlan	1089	1.0	3289.5	4347.0	Meade	466	0.4	1306.1	1530.8	Gallatin	210	0.2	1935.3	2385.0
Montgomery	1082	1.0	3022.2	3760.7	Marion	462	0.4	1888.8	2327.3	Nicholas	208	0.2	2136.2	2661.2
Shelby	1034	0.9	1653.4	2062.9	Knott	461	0.4	2567.1	3430.6	Bracken	201	0.2	1727.3	2365.5
Barren	1012	0.9	1702.2	2218.9	Logan	457	0.4	1188.5	1605.4	Clinton	196	0.2	1534.1	2134.4
Letcher	996	0.9	3521.3	4945.6	Allen	449	0.4	1555.9	2037.5	Cumberland	183	0.2	2000.5	3026.3
Greenup	971	0.9	1823.3	2752.8	McCreary	449	0.4	2213.6	2668.8	Hancock	180	0.2	1526.6	1997.1
Grayson	951	0.9	2657.0	3513.1	Spencer	439	0.4	1658.9	2108.2	Trimble	157	0.1	1391.1	1827.5
Henderson	948	0.9	1571.9	2146.0	Russell	438	0.4	1732.1	2373.0	Lyon	157	0.1	1072.8	1729.5
Oldham	948	0.9	1187.3	1344.2	Lawrence	421	0.4	1992.9	2664.9	Lewis	157	0.1	876.7	1219.4
Graves	943	0.9	1894.0	2561.0	Hart	421	0.4	1666.3	2113.1	Ballard	154	0.1	1381.6	2019.4
Christian	929	0.8	1375.7	1308.3	Rockcastle	412	0.4	1911.3	2539.1	Fulton	138	0.1	1552.0	2196.8
Clay	912	0.8	3783.4	4655.0	Pendleton	402	0.4	2010.0	2708.2	Todd	122	0.1	788.6	956.3
Boyle	877	0.8	2141.0	2793.5	Larue	394	0.4	1988.6	2604.4	Crittenden	108	0.1	841.1	1202.4
Johnson	846	0.8	2805.7	3828.4	Wayne	391	0.4	1436.1	1992.0	Carlisle	99	0.1	1532.1	2072.4
Carter	807	0.7	2274.2	3092.2	Magoffin	389	0.4	2680.3	3498.8	Hickman	89	0.1	1258.6	2026.0
Rowan	759	0.7	2867.8	3076.0	Leslie	379	0.3	2841.6	3895.6	Robertson	49	0.0	1474.8	2057.1

Table 26: Incidence of All ED Nonfatal and Fatal NTBI by County, Sorted by Frequency, Kentucky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate
Jefferson	5740	18.6	682.0	723.0	Mercer	213	0.7	820.0	905.8	Pendleton	104	0.3	595.5	700.6
Fayette	1691	5.5	502.1	513.3	Bell	212	0.7	795.2	919.7	Jackson	103	0.3	657.8	771.1
Kenton	962	3.1	504.8	550.1	Harrison	210	0.7	926.4	1075.5	Magoffin	96	0.3	729.8	863.5
Hardin	747	2.4	648.4	662.1	Letcher	210	0.7	843.6	1042.8	McCreary	96	0.3	507.1	570.6
Madison	725	2.4	711.8	728.0	Taylor	207	0.7	708.7	772.1	Woodford	94	0.3	307.4	339.0
Warren	629	2.0	425.6	425.2	Estill	203	0.7	1305.6	1449.8	Nicholas	89	0.3	962.4	1138.7
Boone	574	1.9	368.8	398.2	Graves	200	0.6	490.2	543.2	Bath	88	0.3	616.2	679.5
Daviess	539	1.7	461.2	516.0	Carroll	199	0.6	1592.1	1791.0	Rockcastle	84	0.3	475.8	517.7
Pulaski	492	1.6	642.6	736.1	Bourbon	192	0.6	823.8	944.3	Rowan	84	0.3	361.2	340.4
Pike	472	1.5	709.5	851.5	Knox	190	0.6	587.7	640.7	Butler	80	0.3	566.2	637.4
Bullitt	442	1.4	479.0	515.1	Adair	181	0.6	814.9	940.8	McLean	79	0.3	730.5	865.7
Hopkins	411	1.3	754.0	908.9	Marion	181	0.6	824.3	911.8	Breathitt	77	0.2	491.2	601.4
Whitley	400	1.3	1027.1	1074.3	Allen	175	0.6	648.6	794.1	Larue	75	0.2	476.5	495.8
Campbell	386	1.3	372.4	410.6	Breckinridge	174	0.6	687.3	819.9	Gallatin	72	0.2	736.0	817.7
McCracken	361	1.2	496.6	534.4	Henry	164	0.5	898.6	1012.5	Meade	72	0.2	236.3	236.5
Boyd	355	1.2	630.0	743.0	Garrard	163	0.5	809.4	903.5	Lee	71	0.2	805.3	970.9
Floyd	346	1.1	843.3	1002.0	Greenup	161	0.5	369.0	456.4	Clinton	66	0.2	617.8	718.7
Nelson	346	1.1	638.3	710.4	Wayne	156	0.5	646.3	794.7	Crittenden	65	0.2	610.7	723.7
Shelby	346	1.1	611.0	690.3	Anderson	152	0.5	565.0	610.9	Trimble	65	0.2	639.6	756.6
Laurel	334	1.1	478.8	527.2	Simpson	151	0.5	656.1	742.0	Wolfe	65	0.2	781.9	1021.4
Scott	334	1.1	522.8	541.3	Powell	150	0.5	1037.8	1160.3	Morgan	64	0.2	408.5	447.6
Clark	333	1.1	814.9	883.9	Mason	144	0.5	721.0	849.3	Livingston	63	0.2	571.0	714.7
Muhlenberg	333	1.1	900.8	1091.4	Johnson	143	0.5	543.5	647.1	Monroe	63	0.2	507.4	564.4
Calloway	326	1.1	788.4	836.4	Casey	140	0.5	752.9	877.9	Edmonson	61	0.2	384.5	482.8
Harlan	326	1.1	1047.6	1301.3	Logan	139	0.5	418.8	488.3	Martin	61	0.2	494.1	570.3
Jessamine	325	1.1	545.9	575.3	Union	138	0.4	843.0	1047.2	Menifee	61	0.2	810.0	962.0
Franklin	308	1.0	555.1	587.3	Cumberland	137	0.4	1619.1	2265.6	Bracken	59	0.2	587.8	694.4
Marshall	304	1.0	739.7	958.0	Leslie	135	0.4	1090.7	1387.6	Owen	58	0.2	432.7	507.2
Montgomery	303	1.0	956.7	1053.1	Lawrence	129	0.4	692.6	816.6	Metcalfe	49	0.2	366.7	464.1
Boyle	299	1.0	829.9	952.4	Carter	128	0.4	412.3	490.5	Todd	47	0.2	320.2	368.4
Grayson	292	0.9	907.9	1078.7	Trigg	128	0.4	701.8	879.2	Hancock	42	0.1	398.2	466.0
Henderson	279	0.9	583.1	631.6	Knott	124	0.4	731.4	922.8	Lyon	42	0.1	339.0	462.7
Lincoln	274	0.9	943.0	1100.0	Hart	122	0.4	535.1	612.4	Lewis	41	0.1	265.0	318.4
Ohio	273	0.9	919.3	1140.7	Russell	122	0.4	539.3	661.0	Owsley	36	0.1	801.7	916.5
Perry	273	0.9	835.7	1021.0	Green	121	0.4	857.4	1047.4	Elliott	34	0.1	366.1	468.1
Oldham	256	0.8	347.6	363.0	Spencer	121	0.4	523.7	581.1	Robertson	29	0.1	846.6	1217.5
Clay	249	0.8	1144.2	1270.9	Fleming	109	0.4	577.2	699.1	Carlisle	25	0.1	511.4	523.3
Barren	241	0.8	463.6	528.4	Caldwell	108	0.4	697.8	856.4	Ballard	23	0.1	288.0	301.6
Christian	237	0.8	343.7	333.8	Washington	105	0.3	737.8	855.8	Fulton	20	0.1	230.0	318.4
Grant	223	0.7	802.7	867.0	Webster	105	0.3	725.9	816.9	Hickman	10	0.0	186.4	227.6

Table 27: Incidence of All Inpatient Nonfatal and Fatal NTBI by County, Sorted by Age-Adjusted Rate, Ky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate
Owsley	234	0.2	4444.8	5957.2	Boyle	877	0.8	2141.0	2793.5	Webster	266	0.2	1630.0	2069.4
Wolfe	375	0.3	4299.8	5892.5	Nicholas	208	0.2	2136.2	2661.2	Breckinridge	469	0.4	1611.1	2210.1
Whitley	1792	1.6	4287.6	4812.9	Hardin	2701	2.4	2087.6	2394.0	Henderson	948	0.9	1571.9	2146.0
Perry	1336	1.2	3962.1	4996.4	Bell	632	0.6	2083.4	2741.7	Casey	343	0.3	1569.1	2150.7
Clay	912	0.8	3783.4	4655.0	Anderson	653	0.6	2078.0	2624.3	Butler	262	0.2	1558.5	2087.5
Lee	356	0.3	3544.0	4868.0	Elliott	220	0.2	2061.8	3029.1	Allen	449	0.4	1555.9	2037.5
Letcher	996	0.9	3521.3	4945.6	Garrard	488	0.4	2044.6	2705.1	Fulton	138	0.1	1552.0	2196.8
Bath	584	0.5	3519.7	4509.3	Pendleton	402	0.4	2010.0	2708.2	Green	249	0.2	1551.8	2155.5
Powell	536	0.5	3410.8	4146.0	Cumberland	183	0.2	2000.5	3026.3	Clinton	196	0.2	1534.1	2134.4
Jackson	576	0.5	3296.1	4312.0	Larue	421	0.4	1992.9	2664.9	Carlisle	99	0.1	1532.1	2072.4
Harlan	1089	1.0	3289.5	4347.0	Larue	394	0.4	1988.6	2604.4	Hancock	180	0.2	1526.6	1997.1
Breathitt	535	0.5	3095.5	4178.4	Knox	726	0.7	1985.2	2448.0	Mason	365	0.3	1524.8	2152.6
Menifee	294	0.3	3064.8	4636.5	Jefferson	18883	17.0	1978.9	2378.6	Kenton	3216	2.9	1519.3	1839.2
Montgomery	1082	1.0	3022.2	3760.7	Bourbon	515	0.5	1938.2	2532.8	Warren	2329	2.1	1519.1	1574.3
Clark	1382	1.2	2895.3	3668.4	Gallatin	210	0.2	1935.3	2385.0	Boone	2535	2.3	1492.5	1758.8
Rowan	759	0.7	2867.8	3076.0	Adair	492	0.4	1933.5	2557.3	Woodford	573	0.5	1489.2	2066.5
Leslie	379	0.3	2841.6	3895.6	Martin	270	0.2	1924.2	2524.3	Owen	237	0.2	1484.1	2072.6
Johnson	846	0.8	2805.7	3828.4	Rockcastle	412	0.4	1911.3	2539.1	Robertson	49	0.0	1474.8	2057.1
Magoffin	389	0.4	2680.3	3498.8	Graves	943	0.9	1894.0	2561.0	Monroe	216	0.2	1456.0	1935.0
Floyd	1213	1.1	2674.0	3512.7	Marion	462	0.4	1888.8	2327.3	Wayne	391	0.4	1436.1	1992.0
Grayson	951	0.9	2657.0	3513.1	Morgan	339	0.3	1883.6	2370.6	Bullitt	1583	1.4	1429.4	1844.9
Estill	485	0.4	2571.8	3463.8	Fayette	6736	6.1	1859.7	2044.7	Simpson	355	0.3	1394.9	1744.5
Knott	461	0.4	2567.1	3430.6	Scott	1231	1.1	1848.8	1995.1	Trimble	157	0.1	1391.1	1827.5
Pike	1932	1.7	2566.8	3485.5	Washington	296	0.3	1845.9	2412.6	Ballard	154	0.1	1381.6	2019.4
Boyd	1649	1.5	2511.2	3451.5	Harrison	468	0.4	1832.1	2396.9	Christian	929	0.8	1375.7	1308.3
Laurel	1974	1.8	2475.1	3115.9	Greenup	971	0.9	1823.3	2752.8	Calloway	627	0.6	1364.7	1608.7
Fleming	490	0.4	2451.8	3142.8	Hopkins	1099	1.0	1819.7	2430.4	Marshall	655	0.6	1348.0	2064.0
Carroll	311	0.3	2417.7	2799.0	McLean	236	0.2	1786.6	2586.0	Meade	466	0.4	1306.1	1530.8
Grant	721	0.7	2410.3	2803.0	Russell	438	0.4	1732.1	2373.0	Union	235	0.2	1295.3	1783.3
Franklin	1585	1.4	2334.3	3022.4	Daviess	2234	2.0	1729.2	2138.7	Edmonson	236	0.2	1285.7	1867.8
Metcalfe	336	0.3	2322.2	3182.4	McCracken	1605	1.4	1727.9	2376.0	Campbell	1577	1.4	1268.7	1677.5
Pulaski	2049	1.8	2305.1	3065.4	Bracken	201	0.2	1727.3	2365.5	Hickman	89	0.1	1258.6	2026.0
Henry	478	0.4	2284.2	2951.0	Ohio	531	0.5	1715.2	2218.7	Caldwell	223	0.2	1189.4	1768.3
Carter	807	0.7	2274.2	3092.2	Barren	1012	0.9	1702.2	2218.9	Logan	457	0.4	1188.5	1605.4
Lincoln	712	0.6	2232.8	2858.3	Mercer	524	0.5	1699.4	2228.4	Oldham	948	0.9	1187.3	1344.2
Nelson	1397	1.3	2218.9	2868.2	Muhlenberg	713	0.6	1682.2	2336.8	Lyon	157	0.1	1072.8	1729.5
Madison	2420	2.2	2217.0	2430.2	Hart	421	0.4	1666.3	2113.1	Trigg	214	0.2	951.5	1469.9
McCreary	449	0.4	2213.6	2668.8	Spencer	439	0.4	1658.9	2108.2	Lewis	157	0.1	876.7	1219.4
Jessamine	1487	1.3	2192.0	2632.1	Shelby	1034	0.9	1653.4	2062.9	Crittenden	108	0.1	841.1	1202.4
Taylor	695	0.6	2152.3	2592.4	Livingston	212	0.2	1634.0	2405.0	Todd	122	0.1	788.6	956.3

Table 28: Incidence of All ED Nonfatal and Fatal NTBI by County, Sorted by Age-Adjusted Rate, Ky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude
Cumberland	137	0.4	1619.1	2265.6	Gallatin	72	0.2	736.0	817.7	Spencer	121	0.4	523.7	581.1
Carroll	199	0.6	1592.1	1791.0	Knott	124	0.4	731.4	922.8	Scott	334	1.1	522.8	541.3
Estill	203	0.7	1305.6	1449.8	McLean	79	0.3	730.5	865.7	Carlisle	25	0.1	511.4	523.3
Clay	249	0.8	1144.2	1270.9	Magoffin	96	0.3	729.8	863.5	Monroe	63	0.2	507.4	564.4
Leslie	135	0.4	1090.7	1387.6	Webster	105	0.3	725.9	816.9	McCreary	96	0.3	507.1	570.6
Harlan	326	1.1	1047.6	1301.3	Mason	144	0.5	721.0	849.3	Kenton	962	3.1	504.8	550.1
Powell	150	0.5	1037.8	1160.3	Madison	725	2.4	711.8	728.0	Fayette	1691	5.5	502.1	513.3
Whitley	400	1.3	1027.1	1074.3	Pike	472	1.5	709.5	851.5	McCracken	361	1.2	496.6	534.4
Nicholas	89	0.3	962.4	1138.7	Taylor	207	0.7	708.7	772.1	Martin	61	0.2	494.1	570.3
Montgomery	303	1.0	956.7	1053.1	Trigg	128	0.4	701.8	879.2	Breathitt	77	0.2	491.2	601.4
Lincoln	274	0.9	943.0	1100.0	Caldwell	108	0.4	697.8	856.4	Graves	200	0.6	490.2	543.2
Harrison	210	0.7	926.4	1075.5	Lawrence	129	0.4	692.6	816.6	Bullitt	442	1.4	479.0	515.1
Ohio	273	0.9	919.3	1140.7	Breckinridge	174	0.6	687.3	819.9	Laurel	334	1.1	478.8	527.2
Grayson	292	0.9	907.9	1078.7	Jefferson	5740	18.6	682.0	723.0	Larue	75	0.2	476.5	495.8
Muhlenberg	333	1.1	900.8	1091.4	Jackson	103	0.3	657.8	771.1	Rockcastle	84	0.3	475.8	517.7
Henry	164	0.5	898.6	1012.5	Simpson	151	0.5	656.1	742.0	Barren	241	0.8	463.6	528.4
Green	121	0.4	857.4	1047.4	Allen	175	0.6	648.6	794.1	Daviess	539	1.7	461.2	516.0
Robertson	29	0.1	846.6	1217.5	Hardin	747	2.4	648.4	662.1	Owen	58	0.2	432.7	507.2
Letcher	210	0.7	843.6	1042.8	Wayne	156	0.5	646.3	794.7	Warren	629	2.0	425.6	425.2
Floyd	346	1.1	843.3	1002.0	Pulaski	492	1.6	642.6	736.1	Logan	139	0.5	418.8	488.3
Union	138	0.4	843.0	1047.2	Trimble	65	0.2	639.6	756.6	Carter	128	0.4	412.3	490.5
Perry	273	0.9	835.7	1021.0	Nelson	346	1.1	638.3	710.4	Morgan	64	0.2	408.5	447.6
Boyle	299	1.0	829.9	952.4	Boyd	355	1.2	630.0	743.0	Hancock	42	0.1	398.2	466.0
Marion	181	0.6	824.3	911.8	Clinton	66	0.2	617.8	718.7	Edmonson	61	0.2	384.5	482.8
Bourbon	192	0.6	823.8	944.3	Bath	88	0.3	616.2	679.5	Campbell	386	1.3	372.4	410.6
Mercer	213	0.7	820.0	905.8	Shelby	346	1.1	611.0	690.3	Greenup	161	0.5	369.0	456.4
Clark	333	1.1	814.9	883.9	Crittenden	65	0.2	610.7	723.7	Boone	574	1.9	368.8	398.2
Adair	181	0.6	814.9	940.8	Pendleton	104	0.3	595.5	700.6	Metcalfe	49	0.2	366.7	464.1
Menifee	61	0.2	810.0	962.0	Bracken	59	0.2	587.8	694.4	Elliott	34	0.1	366.1	468.1
Garrard	163	0.5	809.4	903.5	Knox	190	0.6	587.7	640.7	Rowan	84	0.3	361.2	340.4
Lee	71	0.2	805.3	970.9	Henderson	279	0.9	583.1	631.6	Oldham	256	0.8	347.6	363.0
Grant	223	0.7	802.7	867.0	Fleming	109	0.4	577.2	699.1	Christian	237	0.8	343.7	333.8
Owsley	36	0.1	801.7	916.5	Livingston	63	0.2	571.0	714.7	Lyon	42	0.1	339.0	462.7
Bell	212	0.7	795.2	919.7	Butler	80	0.3	566.2	637.4	Todd	47	0.2	320.2	368.4
Calloway	326	1.1	788.4	836.4	Anderson	152	0.5	565.0	610.9	Woodford	94	0.3	307.4	339.0
Wolfe	65	0.2	781.9	1021.4	Franklin	308	1.0	555.1	587.3	Ballard	23	0.1	288.0	301.6
Hopkins	411	1.3	754.0	908.9	Jessamine	325	1.1	545.9	575.3	Lewis	41	0.1	265.0	318.4
Casey	140	0.5	752.9	877.9	Johnson	143	0.5	543.5	647.1	Meade	72	0.2	236.3	236.5
Marshall	304	1.0	739.7	958.0	Russell	122	0.4	539.3	661.0	Fulton	20	0.1	230.0	318.4
Washington	105	0.3	737.8	855.8	Hart	122	0.4	535.1	612.4	Hickman	10	0.0	186.4	227.6

Table 29: Causes of Nonfatal NTBI, Kentucky, 2024

NTBI Category	Inpatient		ED	
	Number	Percent	Number	Percent
Anoxia/Hypoxia	84,344	83.0	17,477	58
Exposure to toxic substances	12,714	12.5	8,473	27.9
Allergy/anaphylaxis	307	0.3	2,923	9.6
Acute medical clinical incidents	4,230	4.2	1,518	5.0

* Because there are multiple diagnoses and/or causes of death listed for each individual, it is possible for the same case to fall into more than one NTBI category. Therefore, the column sums in this table are slightly higher than the total number of NTBI cases shown in previous tables.

Table 30: Nonfatal Anoxia by Age Group, Kentucky, 2024

Age	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
0-4	2,068	62.3	775.4	1,251	37.7	469.0	3,319	100.0	1244.4
5-14	887	62.9	154.7	523	37.1	91.2	1,410	100.0	245.9
15-24	760	72.4	125.9	290	27.6	48.0	1,050	100.0	173.9
25-44	4,586	79.9	387.0	1,154	20.1	97.4	5,740	100.0	484.4
45-64	23,046	81.7	2034.4	5,155	18.3	455.1	28,201	100.0	2489.5
65+	52,997	85.3	6410.7	9,104	14.7	1101.3	62,101	100.0	7512.0
Total	84,344	82.8	1838.2	17,477	17.2	380.9	101,821	100.0	2219.1

Table 31: Diagnoses for Nonfatal Anoxia, Kentucky, 2024

Diagnosis	Description	Inpatient		ED	
		Number	Percent	Number	Percent
G91(.0-.2)	Communicating hydrocephalus	553	0.66	169	0.97
G931	Anoxic brain damage, NEC	183	0.22	66	0.38
J96(.0-.2,.9)	Respiratory failure, NEC w/hypoxia or hypercapnia	76,481	90.68	12,461	71.30
R090	Asphyxia and hypoxemia	7,086	8.40	4,372	25.02
T71(.1,.9)	Asphyxiation	41	0.05	314	1.80
T751	Unspecified effects of drowning and submersion	-	-	95	0.54
Total		84,344	100.00	17,477	100.00

Table 32: Nonfatal Exposure to Toxic Substances by Age Group, Kentucky, 2024

Age	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
0-4	100	18.5	37.5	442	81.5	165.7	542	100.0	203.2
5-14	78	22.3	13.6	272	77.7	47.4	350	100.0	61.0
15-24	381	28.6	63.1	950	71.4	157.3	1,331	100.0	220.5
25-44	1,697	35.6	143.2	3,073	64.4	259.3	4,770	100.0	402.5
45-64	3,939	63.8	347.7	2,237	36.2	197.5	6,176	100.0	545.2
65+	6,519	81.3	788.6	1,499	18.7	181.3	8,018	100.0	969.9
Total	12,714	60.0	277.1	8,473	40.0	184.7	21,187	100.0	461.8

Table 33: Diagnoses for Nonfatal Exposure to Toxic Substances, Kentucky, 2024

Diagnosis	Description	Inpatient		ED	
		Number	Percent	Number	Percent
G92	Toxic encephalopathy	6,986	54.9	602	7.1
T40	Poisoning by narcotics and hallucinogens	2,551	20.1	4,242	50.1
T41	Poisoning by anesthetics and therapeutic gases	165	1.3	95	1.1
T42(.3-.7)	Poisoning by antiepileptic and sedative hypnotic drugs	995	7.8	1,429	16.9
T45.5	Poisoning by anticoagulants and antithrombotic drugs	1,333	10.5	542	6.4
T51	Toxic effect of alcohol	111	0.9	141	1.7
T56	Toxic effect of metals	28	0.2	118	1.4
T57	Toxic effect of other inorganic substances	1	0.0	4	0.0
T58	Toxic effect of carbon monoxide	31	0.2	209	2.5
T60	Toxic effect of pesticides	8	0.1	59	0.7
T61	Toxic effect of noxious substances eaten as seafood	-	0.0	16	0.2
T62	Toxic effect of other noxious substances eaten as food	7	0.1	76	0.9
T65	Toxic effect of other unspecified substances	94	0.7	893	10.5
T81.1	Postprocedural shock	343	2.7	6	0.1
T88.2	Shock due to anesthesia	10	0.1	3	0.0
T88.5	Other complications of anesthesia	51	0.4	38	0.4
Total		12,714	100.0	8,473	100.0

Table 34: Length of Stay for Nonfatal Inpatient NTBI, Kentucky, 2024

Length of Stay	Number	Percent*
1 day	9,645	9.5
More than one day but less than 1 week	57,090	56.2
1 week to less than 2 weeks	23,045	22.7
2 weeks to less than 3 weeks	6,443	6.3
3 weeks to less than 4 weeks	2,542	2.5
4 weeks or more	2,830	2.8
Total	101,595	100.0

*Percent of hospitalized NTBI

Table 35: Discharge Disposition for Nonfatal NTBI, Kentucky, 2024

Discharge Disposition	Inpatient		ED	
	Number	Percent	Number	Percent
Routine discharge (home/self care)	50,371	49.6	21,603	71.1
Skilled nursing facility (SNF)	15,366	15.1	904	3.0
Home health	15,306	15.1	763	2.5
Inpatient, other	3,359	3.3	4,108	13.5
Intermediate care facility (ICF)	1,153	1.1	72	0.2
Rehab	4,857	4.8	163	0.5
Other	11,183	11.0	2,778	9.1
Total	101,595	100.0	30,391	100.0

Table 36: Primary Payer and Charges for Nonfatal Inpatient NTBI, Kentucky, 2024

Payer	Number of Discharges	Percent of Discharges	Total Hospital Charges
Government	87,543	86.2	\$6,960,486,974
Commercial Insurance	11,578	11.4	\$1,104,182,937
Self Pay	1,130	1.1	\$71,666,521
Other	1,101	1.1	\$106,932,472
Workers Compensation	243	0.2	\$30,114,901
Total	101,595	100.0	\$8,273,383,805

Table 37: Primary Payer and Charges for Nonfatal ED NTBI, Kentucky, 2024

Payer	Number of Discharges	Percent of Discharges	Total Hospital Charges
Government	23,096	76.0	\$321,737,738
Commercial Insurance	5,513	18.1	\$58,806,022
Self Pay	1,182	3.9	\$7,718,843
Workers Compensation	153	0.5	\$1,511,885
Other	447	1.5	\$5,535,410
Total	30,391	100.0	\$395,309,899

Table 38: Nonfatal SCI by Age Group, Kentucky, 2024

Age	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
0-4	2	1.5	0.7	0	0.0	0.0	2	100.0	0.7
5-14	0	0.0	0.0	3	100.0	0.5	3	100.0	0.5
15-24	12	8.9	2.0	13	52.0	2.2	25	100.0	4.1
25-44	25	18.5	2.1	14	35.9	1.2	39	100.0	3.3
45-64	44	32.6	3.9	19	30.2	1.7	63	100.0	5.6
65+	52	38.5	6.3	27	34.2	3.3	79	100.0	9.6
Total	135	100.0	2.9	76	36.0	1.7	211	100.0	4.6

Table 39: Nonfatal SCI by Sex, Kentucky, 2024

Sex	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	97	71.9	4.3	44	31.2	1.9	141	100.0	6.2
Female	38	28.1	1.6	32	45.7	1.4	70	100.0	3.0
Total	135	100.0	2.9	76	36.0	1.7	211	100.0	4.6

Table 40: Leading Causes of Nonfatal SCI, Kentucky, 2024

Mechanism of Injury	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Motor vehicle traffic crash	37	27.4	0.8	12	24.5	0.3	49	100.0	1.1
Fall	61	45.2	1.3	25	29.1	0.5	86	100.0	1.9
Non-traffic, land or other transport	5	3.7	0.1	2	28.6	0.0	7	100.0	0.2
Struck by or against object or person	4	3.0	0.1	9	69.2	0.2	13	100.0	0.3
Other	7	5.2	0.2	4	36.4	0.1	11	100.0	0.2
Unknown	21	15.6	0.5	24	53.3	0.5	45	100.0	1.0
Total	135	100.0	2.9	76	36.0	1.7	211	100.0	4.6

Table 41: Length of Stay for Nonfatal Inpatient SCI, Kentucky, 2024

Length of Stay	Number	Percent*
1 day	7	5.2
More than one day but less than 1 week	42	31.1
1 week to less than 2 weeks	44	32.6
2 weeks to less than 3 weeks	18	13.3
3 weeks to less than 4 weeks	9	6.7
4 weeks or more	15	11.1
Total	135	100.0

*Percent of hospitalized SCI

Table 42: Discharge Disposition for Nonfatal SCI, Kentucky, 2024

Discharge Disposition	Inpatient		ED	
	Number	Percent	Number	Percent
Routine discharge (home/self care)	31	23.0	46	60.5
Home health	6	4.4	2	2.6
Skilled nursing facility (SNF)	16	11.9	1	1.3
Inpatient, other	2	1.5	17	22.4
Rehab	65	48.1	0	0.0
Other	15	11.1	10	13.2
Total	135	100.0	76	100.0

Table 43: Primary Payer and Charges for Nonfatal Inpatient SCI, Kentucky, 2024

Payer	Number of Discharges	Percent of Discharges	Total Hospital Discharges
Government	89	65.9	\$18,707,580
Commercial Insurance	29	21.5	\$6,973,879
Workers Compensation	6	4.4	\$2,213,598
Self Pay	2	1.5	\$341,369
Other	9	6.7	\$2,382,133
Total	135	100.0	\$30,618,559

Table 44: Primary Payer and Charges for Nonfatal ED SCI, Kentucky, 2024

Payer	Number of Discharges	Percent of Discharges	Total Hospital Discharges
Government	48	63.2	\$655,411
Commercial Insurance	16	21.1	\$179,036
Workers Compensation	3	3.9	\$19,956
Self Pay	2	2.6	\$22,068
Other	7	9.2	\$166,670
Total	76	100.0	\$1,043,140

Table 45: Nonfatal Stroke by Age Group, Kentucky, 2024

Age	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
0-4	32	0.0	12.0	10	0.1	3.7	42	100.0	15.7
5-14	19	172.7	3.3	11	0.1	1.9	30	100.0	5.2
15-24	54	53.5	8.9	47	0.4	7.8	101	100.0	16.7
25-44	734	54.8	61.9	605	5.3	51.1	1,339	100.0	113.0
45-64	5,349	60.4	472.2	3,510	30.8	309.9	8,859	100.0	782.0
65+	14,093	66.1	1704.7	7,219	63.3	873.2	21,312	100.0	2578.0
Total	20,281	64.0	442.0	11,402	36.0	248.5	31,683	100.0	690.5

Table 46: Nonfatal Stroke by Sex, Kentucky, 2024

Sex	Inpatient			ED			Total		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	9,872	64.2	434.0	5,502	35.8	241.9	15,374	100.0	675.9
Female	10,409	63.8	449.9	5,899	36.2	255.0	16,308	100.0	704.8
Total	20,281	64.0	442.0	11,401	36.0	248.5	31,682	100.0	690.5

Table 47: Length of Stay for Nonfatal Inpatient Stroke, Kentucky, 2024

Length of Stay	Number	Percent*
1 day	4,136	20.4
More than one day but less than 1 week	10,341	51.0
1 week to less than 2 weeks	3,780	18.6
2 weeks to less than 3 weeks	1,104	5.4
3 weeks to less than 4 weeks	422	2.1
4 weeks or more	498	2.5
Total	20,281	100.0

*Percent of hospitalized for stroke

Table 48: Discharge Disposition for Nonfatal Stroke, Kentucky, 2024

Discharge Disposition	Inpatient		ED	
	Number	Percent	Number	Percent
Routine discharge (home/self care)	9,772	48.2	7,262	63.7
Home health	500	2.5	307	2.7
Skilled nursing facility (SNF)	2,668	13.2	289	2.5
Inpatient-other	123	0.6	2,614	22.9
Intermediate Care Facility	2,339	11.5	27	0.2
Rehab	3,031	14.9	89	0.8
Other	1,848	9.1	814	7.1
Total	20,281	100.0	11,402	100.0

Table 49: Primary Payer and Charges for Nonfatal Inpatient Stroke, Kentucky, 2024

Payer	Number of Discharges	Percent of Discharges	Total Hospital Discharges
Government	17,392	85.8	\$1,617,983,479
Commercial Insurance	2,463	12.1	\$263,690,643
Workers Compensation	21	0.1	\$2,077,130
Self Pay	256	1.3	\$25,666,194
Other	149	0.7	\$20,631,192
Total	20,281	100.0	\$1,930,048,639

Table 50: Primary Payer and Charges for Nonfatal ED Stroke, Kentucky, 2024

Payer	Number of Discharges	Percent of Discharges	Total Hospital Discharges
Government	8,983	78.8	\$189,507,215
Commercial Insurance	2,031	17.8	\$43,682,537
Workers Compensation	13	0.1	225101.79
Self Pay	245	2.1	\$4,618,158
Other	130	1.1	\$2,321,473
Total	11,402	100.0	\$240,354,484

Table 51: Incidence of All Inpatient Nonfatal and Fatal Stroke by County, Sorted by County, Kentucky, 2024

County			Age-Adjusted		County			Age-Adjusted		County			Age-Adjusted	
	Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate
Adair	103	0.5	374.4	535.4	Grant	217	1.0	716.1	843.6	McLean	51	0.2	363.9	558.8
Allen	106	0.5	351.9	481.0	Graves	224	1.0	434.7	608.3	Meade	119	0.5	311.0	390.9
Anderson	104	0.5	315.6	418.0	Grayson	158	0.7	422.0	583.7	Menifee	45	0.2	433.5	709.7
Ballard	37	0.2	312.5	485.2	Green	54	0.2	315.6	467.5	Mercer	113	0.5	351.8	480.5
Barren	165	0.8	273.4	361.8	Greenup	172	0.8	316.7	487.6	Metcalf	40	0.2	261.8	378.9
Bath	77	0.4	457.4	594.5	Hancock	41	0.2	322.2	454.9	Monroe	48	0.2	302.5	430.0
Bell	103	0.5	327.4	446.8	Hardin	567	2.6	425.5	502.5	Montgomery	190	0.9	509.6	660.4
Boone	673	3.1	389.1	466.9	Harlan	133	0.6	386.0	530.9	Morgan	51	0.2	268.1	356.6
Bourbon	97	0.4	330.9	477.1	Harrison	117	0.5	434.8	599.2	Muhlenberg	132	0.6	292.6	432.6
Boyd	344	1.6	504.5	720.0	Hart	86	0.4	334.7	431.7	Nelson	267	1.2	414.4	548.2
Boyle	162	0.7	375.5	516.0	Henderson	144	0.7	226.9	326.0	Nicholas	44	0.2	446.5	562.9
Bracken	50	0.2	411.7	588.4	Henry	98	0.5	435.9	605.0	Ohio	84	0.4	258.6	351.0
Breathitt	84	0.4	469.1	656.0	Hickman	17	0.1	211.0	387.0	Oldham	196	0.9	227.1	277.9
Breckinridge	86	0.4	282.0	405.3	Hopkins	206	0.9	327.9	455.6	Owen	57	0.3	332.7	498.5
Bullitt	316	1.5	269.6	368.3	Jackson	79	0.4	438.0	591.4	Owsley	31	0.1	553.2	789.2
Butler	55	0.3	322.2	438.2	Jefferson	3901	17.9	390.0	491.4	Pendleton	73	0.3	365.1	491.8
Caldwell	51	0.2	281.6	404.4	Jessamine	249	1.1	343.8	440.7	Perry	200	0.9	552.2	748.0
Calloway	115	0.5	238.4	295.1	Johnson	122	0.6	374.9	552.1	Pike	376	1.7	466.5	678.3
Campbell	400	1.8	310.2	425.5	Kenton	803	3.7	370.3	459.2	Powell	93	0.4	582.0	719.4
Carlisle	27	0.1	411.1	565.2	Knott	55	0.3	285.8	409.3	Pulaski	410	1.9	427.2	613.4
Carroll	69	0.3	514.0	621.0	Knox	147	0.7	390.1	495.7	Robertson	9	0.0	292.0	377.8
Carter	174	0.8	489.0	666.7	Larue	91	0.4	472.0	601.5	Rockcastle	88	0.4	393.5	542.3
Casey	74	0.3	327.1	464.0	Laurel	329	1.5	398.9	519.3	Rowan	107	0.5	390.8	433.6
Christian	131	0.6	195.0	184.5	Lawrence	64	0.3	295.7	405.1	Russell	92	0.4	353.1	498.4
Clark	210	1.0	420.4	557.4	Lee	34	0.2	335.7	464.9	Scott	245	1.1	361.2	397.1
Clay	147	0.7	595.2	750.3	Leslie	66	0.3	457.3	678.4	Shelby	181	0.8	268.7	361.1
Clinton	43	0.2	317.3	468.3	Letcher	147	0.7	502.4	729.9	Simpson	90	0.4	358.2	442.3
Crittenden	29	0.1	197.0	322.9	Lewis	30	0.1	165.4	233.0	Spencer	88	0.4	312.4	422.6
Cumberland	24	0.1	243.5	396.9	Lincoln	130	0.6	386.1	521.9	Taylor	151	0.7	435.8	563.2
Daviess	454	2.1	333.9	434.6	Livingston	77	0.4	535.1	873.5	Todd	22	0.1	141.3	172.5
Edmonson	43	0.2	211.9	340.3	Logan	81	0.4	205.4	284.5	Trigg	48	0.2	203.4	329.7
Elliott	25	0.1	213.6	344.2	Lyon	43	0.2	272.2	473.7	Trimble	35	0.2	294.4	407.4
Estill	88	0.4	440.3	628.5	Madison	401	1.8	356.5	402.7	Union	44	0.2	237.7	333.9
Fayette	1280	5.9	340.9	388.5	Magoffin	61	0.3	409.2	548.7	Warren	523	2.4	339.4	353.5
Fleming	76	0.3	364.6	487.5	Marion	83	0.4	323.0	418.1	Washington	56	0.3	342.3	456.4
Floyd	239	1.1	507.2	692.1	Marshall	183	0.8	349.9	576.7	Wayne	91	0.4	308.8	463.6
Franklin	264	1.2	379.6	503.4	Martin	47	0.2	328.9	439.4	Webster	41	0.2	238.4	319.0
Fulton	34	0.2	342.2	541.2	Mason	88	0.4	365.1	519.0	Whitley	304	1.4	695.1	816.5
Gallatin	50	0.2	446.4	567.9	McCracken	407	1.9	398.5	602.5	Wolfe	46	0.2	536.6	722.8
Garrard	93	0.4	358.0	515.5	McCreary	79	0.4	383.2	469.6	Woodford	123	0.6	299.8	443.6

Table 52: Incidence of All ED Nonfatal and Fatal Stroke by County, Sorted by County, Kentucky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate
Adair	83	0.7	310.9	431.4	Grant	84	0.7	282.0	326.6	McLean	34	0.3	246.9	372.6
Allen	67	0.6	228.2	304.0	Graves	104	0.9	208.7	282.4	Meade	35	0.3	92.2	115.0
Anderson	60	0.5	185.3	241.1	Grayson	99	0.9	280.3	365.7	Menifee	20	0.2	210.0	315.4
Ballard	13	0.1	106.0	170.5	Green	54	0.5	313.5	467.5	Mercer	94	0.8	292.6	399.7
Barren	155	1.4	256.5	339.8	Greenup	94	0.8	176.8	266.5	Metcalf	31	0.3	218.6	293.6
Bath	49	0.4	307.6	378.3	Hancock	25	0.2	218.5	277.4	Monroe	52	0.5	329.3	465.8
Bell	110	1.0	363.9	477.2	Hardin	171	1.5	135.7	151.6	Montgomery	120	1.0	330.3	417.1
Boone	313	2.7	181.8	217.2	Harlan	114	1.0	342.0	455.1	Morgan	34	0.3	178.4	237.8
Bourbon	101	0.9	352.7	496.7	Harrison	155	1.4	584.9	793.9	Muhlenberg	126	1.1	296.4	413.0
Boyd	220	1.9	336.2	460.5	Hart	50	0.4	189.2	251.0	Nelson	126	1.1	200.0	258.7
Boyle	113	1.0	274.3	359.9	Henderson	86	0.8	137.3	194.7	Nicholas	42	0.4	423.5	537.4
Bracken	34	0.3	300.2	400.1	Henry	65	0.6	296.5	401.3	Ohio	58	0.5	177.1	242.3
Breathitt	33	0.3	195.7	257.7	Hickman	13	0.1	182.3	295.9	Oldham	77	0.7	90.6	109.2
Breckinridge	51	0.4	177.8	240.3	Hopkins	173	1.5	275.8	382.6	Owen	11	0.1	73.3	96.2
Bullitt	134	1.2	116.7	156.2	Jackson	42	0.4	245.3	314.4	Owsley	10	0.1	203.4	254.6
Butler	30	0.3	182.5	239.0	Jefferson	1578	13.8	157.8	198.8	Pendleton	36	0.3	176.7	242.5
Caldwell	38	0.3	197.0	301.3	Jessamine	79	0.7	111.1	139.8	Perry	137	1.2	392.6	512.4
Calloway	77	0.7	170.1	197.6	Johnson	88	0.8	288.0	398.2	Pike	238	2.1	304.3	429.4
Campbell	199	1.7	154.0	211.7	Kenton	347	3.0	161.5	198.4	Powell	53	0.5	330.3	410.0
Carlisle	6	0.1	92.8	125.6	Knott	42	0.4	228.0	312.5	Pulaski	207	1.8	222.0	309.7
Carroll	46	0.4	347.1	414.0	Knox	80	0.7	217.6	269.8	Robertson	10	0.1	261.0	419.8
Carter	106	0.9	313.3	406.2	Larue	27	0.2	142.7	178.5	Rockcastle	79	0.7	361.6	486.9
Casey	46	0.4	196.1	288.4	Laurel	177	1.5	222.8	279.4	Rowan	39	0.3	149.1	158.1
Christian	87	0.8	131.5	122.5	Lawrence	62	0.5	286.9	392.5	Russell	49	0.4	200.7	265.5
Clark	109	1.0	213.0	289.3	Lee	16	0.1	162.2	218.8	Scott	137	1.2	202.2	222.0
Clay	66	0.6	268.1	336.9	Leslie	43	0.4	309.3	442.0	Shelby	98	0.9	148.4	195.5
Clinton	41	0.4	326.3	446.5	Letcher	96	0.8	346.9	476.7	Simpson	42	0.4	174.8	206.4
Crittenden	40	0.3	330.8	445.3	Lewis	17	0.1	103.6	132.0	Spencer	46	0.4	164.0	220.9
Cumberland	32	0.3	325.2	529.2	Lincoln	112	1.0	347.3	449.6	Taylor	120	1.0	359.0	447.6
Daviess	209	1.8	156.2	200.1	Livingston	38	0.3	276.5	431.1	Todd	12	0.1	74.7	94.1
Edmonson	28	0.2	160.6	221.6	Logan	62	0.5	163.5	217.8	Trigg	35	0.3	152.8	240.4
Elliott	11	0.1	101.2	151.5	Lyon	14	0.1	91.7	154.2	Trimble	22	0.2	193.0	256.1
Estill	49	0.4	242.8	350.0	Madison	233	2.0	211.2	234.0	Union	45	0.4	232.3	341.5
Fayette	442	3.9	120.7	134.2	Magoffin	37	0.3	243.7	332.8	Warren	253	2.2	166.6	171.0
Fleming	64	0.6	310.0	410.5	Marion	55	0.5	217.0	277.1	Washington	44	0.4	258.4	358.6
Floyd	178	1.6	390.9	515.5	Marshall	72	0.6	149.7	226.9	Wayne	75	0.7	265.7	382.1
Franklin	118	1.0	176.5	225.0	Martin	42	0.4	316.0	392.7	Webster	38	0.3	222.7	295.6
Fulton	10	0.1	114.3	159.2	Mason	61	0.5	260.7	359.8	Whitley	115	1.0	282.5	308.9
Gallatin	23	0.2	204.3	261.2	McCracken	153	1.3	158.7	226.5	Wolfe	28	0.2	328.5	440.0
Garrard	62	0.5	240.4	343.7	McCreary	44	0.4	214.0	261.5	Woodford	56	0.5	140.5	202.0

Table 53: Incidence of All Inpatient Nonfatal and Fatal Stroke by County, Sorted by Frequency, Kentucky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate		Freq	Percent	Rate	Rate
Jefferson	3901	17.9	390.0	491.4	Harlan	133	0.6	386.0	530.9	Carroll	69	0.3	514.0	621.0
Fayette	1280	5.9	340.9	388.5	Muhlenberg	132	0.6	292.6	432.6	Leslie	66	0.3	457.3	678.4
Kenton	803	3.7	370.3	459.2	Christian	131	0.6	195.0	184.5	Lawrence	64	0.3	295.7	405.1
Boone	673	3.1	389.1	466.9	Lincoln	130	0.6	386.1	521.9	Magoffin	61	0.3	409.2	548.7
Hardin	567	2.6	425.5	502.5	Woodford	123	0.6	299.8	443.6	Owen	57	0.3	332.7	498.5
Warren	523	2.4	339.4	353.5	Johnson	122	0.6	374.9	552.1	Washington	56	0.3	342.3	456.4
Daviess	454	2.1	333.9	434.6	Meade	119	0.5	311.0	390.9	Knott	55	0.3	285.8	409.3
Pulaski	410	1.9	427.2	613.4	Harrison	117	0.5	434.8	599.2	Butler	55	0.3	322.2	438.2
McCracken	407	1.9	398.5	602.5	Calloway	115	0.5	238.4	295.1	Green	54	0.2	315.6	467.5
Madison	401	1.8	356.5	402.7	Mercer	113	0.5	351.8	480.5	Caldwell	51	0.2	281.6	404.4
Campbell	400	1.8	310.2	425.5	Rowan	107	0.5	390.8	433.6	McLean	51	0.2	363.9	558.8
Pike	376	1.7	466.5	678.3	Allen	106	0.5	351.9	481.0	Morgan	51	0.2	268.1	356.6
Boyd	344	1.6	504.5	720.0	Anderson	104	0.5	315.6	418.0	Bracken	50	0.2	411.7	588.4
Laurel	329	1.5	398.9	519.3	Bell	103	0.5	327.4	446.8	Gallatin	50	0.2	446.4	567.9
Bullitt	316	1.5	269.6	368.3	Adair	103	0.5	374.4	535.4	Monroe	48	0.2	302.5	430.0
Whitley	304	1.4	695.1	816.5	Henry	98	0.5	435.9	605.0	Trigg	48	0.2	203.4	329.7
Nelson	267	1.2	414.4	548.2	Bourbon	97	0.4	330.9	477.1	Martin	47	0.2	328.9	439.4
Franklin	264	1.2	379.6	503.4	Garrard	93	0.4	358.0	515.5	Wolfe	46	0.2	536.6	722.8
Jessamine	249	1.1	343.8	440.7	Powell	93	0.4	582.0	719.4	Menifee	45	0.2	433.5	709.7
Scott	245	1.1	361.2	397.1	Russell	92	0.4	353.1	498.4	Union	44	0.2	237.7	333.9
Floyd	239	1.1	507.2	692.1	Wayne	91	0.4	308.8	463.6	Nicholas	44	0.2	446.5	562.9
Graves	224	1.0	434.7	608.3	Larue	91	0.4	472.0	601.5	Clinton	43	0.2	317.3	468.3
Grant	217	1.0	716.1	843.6	Simpson	90	0.4	358.2	442.3	Edmonson	43	0.2	211.9	340.3
Clark	210	1.0	420.4	557.4	Rockcastle	88	0.4	393.5	542.3	Lyon	43	0.2	272.2	473.7
Hopkins	206	0.9	327.9	455.6	Mason	88	0.4	365.1	519.0	Webster	41	0.2	238.4	319.0
Perry	200	0.9	552.2	748.0	Estill	88	0.4	440.3	628.5	Hancock	41	0.2	322.2	454.9
Oldham	196	0.9	227.1	277.9	Spencer	88	0.4	312.4	422.6	Metcalfe	40	0.2	261.8	378.9
Montgomery	190	0.9	509.6	660.4	Breckinridge	86	0.4	282.0	405.3	Ballard	37	0.2	312.5	485.2
Marshall	183	0.8	349.9	576.7	Hart	86	0.4	334.7	431.7	Trimble	35	0.2	294.4	407.4
Shelby	181	0.8	268.7	361.1	Ohio	84	0.4	258.6	351.0	Lee	34	0.2	335.7	464.9
Carter	174	0.8	489.0	666.7	Breathitt	84	0.4	469.1	656.0	Fulton	34	0.2	342.2	541.2
Greenup	172	0.8	316.7	487.6	Marion	83	0.4	323.0	418.1	Owsley	31	0.1	553.2	789.2
Barren	165	0.8	273.4	361.8	Logan	81	0.4	205.4	284.5	Lewis	30	0.1	165.4	233.0
Boyle	162	0.7	375.5	516.0	McCreary	79	0.4	383.2	469.6	Crittenden	29	0.1	197.0	322.9
Grayson	158	0.7	422.0	583.7	Jackson	79	0.4	438.0	591.4	Carlisle	27	0.1	411.1	565.2
Taylor	151	0.7	435.8	563.2	Bath	77	0.4	457.4	594.5	Elliott	25	0.1	213.6	344.2
Letcher	147	0.7	502.4	729.9	Livingston	77	0.4	535.1	873.5	Cumberland	24	0.1	243.5	396.9
Knox	147	0.7	390.1	495.7	Fleming	76	0.3	364.6	487.5	Todd	22	0.1	141.3	172.5
Clay	147	0.7	595.2	750.3	Casey	74	0.3	327.1	464.0	Hickman	17	0.1	211.0	387.0
Henderson	144	0.7	226.9	326.0	Pendleton	73	0.3	365.1	491.8	Robertson	9	0.0	292.0	377.8

Table 54: Incidence of All ED Nonfatal and Fatal Stroke by County, Sorted by Frequency, Kentucky, 2024

County			Age-Adjusted		County			Age-Adjusted		County			Age-Adjusted	
	Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate		Freq	Percent	Rate	Crude Rate
Jefferson	1578	13.8	157.8	198.8	Johnson	88	0.8	288.0	398.2	Knott	42	0.4	228.0	312.5
Fayette	442	3.9	120.7	134.2	Christian	87	0.8	131.5	122.5	Martin	42	0.4	316.0	392.7
Kenton	347	3.0	161.5	198.4	Henderson	86	0.8	137.3	194.7	Nicholas	42	0.4	423.5	537.4
Boone	313	2.7	181.8	217.2	Grant	84	0.7	282.0	326.6	Simpson	42	0.4	174.8	206.4
Warren	253	2.2	166.6	171.0	Adair	83	0.7	310.9	431.4	Clinton	41	0.4	326.3	446.5
Pike	238	2.1	304.3	429.4	Knox	80	0.7	217.6	269.8	Crittenden	40	0.3	330.8	445.3
Madison	233	2.0	211.2	234.0	Jessamine	79	0.7	111.1	139.8	Rowan	39	0.3	149.1	158.1
Boyd	220	1.9	336.2	460.5	Rockcastle	79	0.7	361.6	486.9	Caldwell	38	0.3	197.0	301.3
Daviess	209	1.8	156.2	200.1	Calloway	77	0.7	170.1	197.6	Livingston	38	0.3	276.5	431.1
Pulaski	207	1.8	222.0	309.7	Oldham	77	0.7	90.6	109.2	Webster	38	0.3	222.7	295.6
Campbell	199	1.7	154.0	211.7	Wayne	75	0.7	265.7	382.1	Magoffin	37	0.3	243.7	332.8
Floyd	178	1.6	390.9	515.5	Marshall	72	0.6	149.7	226.9	Pendleton	36	0.3	176.7	242.5
Laurel	177	1.5	222.8	279.4	Allen	67	0.6	228.2	304.0	Meade	35	0.3	92.2	115.0
Hopkins	173	1.5	275.8	382.6	Clay	66	0.6	268.1	336.9	Trigg	35	0.3	152.8	240.4
Hardin	171	1.5	135.7	151.6	Henry	65	0.6	296.5	401.3	Bracken	34	0.3	300.2	400.1
Barren	155	1.4	256.5	339.8	Fleming	64	0.6	310.0	410.5	McLean	34	0.3	246.9	372.6
Harrison	155	1.4	584.9	793.9	Garrard	62	0.5	240.4	343.7	Morgan	34	0.3	178.4	237.8
McCracken	153	1.3	158.7	226.5	Lawrence	62	0.5	286.9	392.5	Breathitt	33	0.3	195.7	257.7
Perry	137	1.2	392.6	512.4	Logan	62	0.5	163.5	217.8	Cumberland	32	0.3	325.2	529.2
Scott	137	1.2	202.2	222.0	Mason	61	0.5	260.7	359.8	Metcalfe	31	0.3	218.6	293.6
Bullitt	134	1.2	116.7	156.2	Anderson	60	0.5	185.3	241.1	Butler	30	0.3	182.5	239.0
Muhlenberg	126	1.1	296.4	413.0	Ohio	58	0.5	177.1	242.3	Edmonson	28	0.2	160.6	221.6
Nelson	126	1.1	200.0	258.7	Woodford	56	0.5	140.5	202.0	Wolfe	28	0.2	328.5	440.0
Montgomery	120	1.0	330.3	417.1	Marion	55	0.5	217.0	277.1	Larue	27	0.2	142.7	178.5
Taylor	120	1.0	359.0	447.6	Green	54	0.5	313.5	467.5	Hancock	25	0.2	218.5	277.4
Franklin	118	1.0	176.5	225.0	Powell	53	0.5	330.3	410.0	Gallatin	23	0.2	204.3	261.2
Whitley	115	1.0	282.5	308.9	Monroe	52	0.5	329.3	465.8	Trimble	22	0.2	193.0	256.1
Harlan	114	1.0	342.0	455.1	Breckinridge	51	0.4	177.8	240.3	Menifee	20	0.2	210.0	315.4
Boyle	113	1.0	274.3	359.9	Hart	50	0.4	189.2	251.0	Lewis	17	0.1	103.6	132.0
Lincoln	112	1.0	347.3	449.6	Bath	49	0.4	307.6	378.3	Lee	16	0.1	162.2	218.8
Bell	110	1.0	363.9	477.2	Estill	49	0.4	242.8	350.0	Lyon	14	0.1	91.7	154.2
Clark	109	1.0	213.0	289.3	Russell	49	0.4	200.7	265.5	Ballard	13	0.1	106.0	170.5
Carter	106	0.9	313.3	406.2	Carroll	46	0.4	347.1	414.0	Hickman	13	0.1	182.3	295.9
Graves	104	0.9	208.7	282.4	Casey	46	0.4	196.1	288.4	Todd	12	0.1	74.7	94.1
Bourbon	101	0.9	352.7	496.7	Spencer	46	0.4	164.0	220.9	Elliott	11	0.1	101.2	151.5
Grayson	99	0.9	280.3	365.7	Union	45	0.4	232.3	341.5	Owen	11	0.1	73.3	96.2
Shelby	98	0.9	148.4	195.5	McCreary	44	0.4	214.0	261.5	Fulton	10	0.1	114.3	159.2
Letcher	96	0.8	346.9	476.7	Washington	44	0.4	258.4	358.6	Owsley	10	0.1	203.4	254.6
Greenup	94	0.8	176.8	266.5	Leslie	43	0.4	309.3	442.0	Robertson	10	0.1	261.0	419.8
Mercer	94	0.8	292.6	399.7	Jackson	42	0.4	245.3	314.4	Carlisle	6	0.1	92.8	125.6

Table 55: Incidence of All Inpatient Nonfatal and Fatal Stroke by County, Sorted by Age-Adjusted Rate, Ky, 2024

County	Age-Adjusted				County	Age-Adjusted				County	Age-Adjusted			
	Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude
Grant	217	1.0	716.1	843.6	Knox	147	0.7	390.1	495.7	Clinton	43	0.2	317.3	468.3
Whitley	304	1.4	695.1	816.5	Jefferson	3901	17.9	390.0	491.4	Greenup	172	0.8	316.7	487.6
Clay	147	0.7	595.2	750.3	Boone	673	3.1	389.1	466.9	Anderson	104	0.5	315.6	418.0
Powell	93	0.4	582.0	719.4	Lincoln	130	0.6	386.1	521.9	Green	54	0.2	315.6	467.5
Owsley	31	0.1	553.2	789.2	Harlan	133	0.6	386.0	530.9	Ballard	37	0.2	312.5	485.2
Perry	200	0.9	552.2	748.0	McCreary	79	0.4	383.2	469.6	Spencer	88	0.4	312.4	422.6
Wolfe	46	0.2	536.6	722.8	Franklin	264	1.2	379.6	503.4	Meade	119	0.5	311.0	390.9
Livingston	77	0.4	535.1	873.5	Boyle	162	0.7	375.5	516.0	Campbell	400	1.8	310.2	425.5
Carroll	69	0.3	514.0	621.0	Johnson	122	0.6	374.9	552.1	Wayne	91	0.4	308.8	463.6
Montgomery	190	0.9	509.6	660.4	Adair	103	0.5	374.4	535.4	Monroe	48	0.2	302.5	430.0
Floyd	239	1.1	507.2	692.1	Kenton	803	3.7	370.3	459.2	Woodford	123	0.6	299.8	443.6
Boyd	344	1.6	504.5	720.0	Mason	88	0.4	365.1	519.0	Lawrence	64	0.3	295.7	405.1
Letcher	147	0.7	502.4	729.9	Pendleton	73	0.3	365.1	491.8	Trimble	35	0.2	294.4	407.4
Carter	174	0.8	489.0	666.7	Fleming	76	0.3	364.6	487.5	Muhlenberg	132	0.6	292.6	432.6
Larue	91	0.4	472.0	601.5	McLean	51	0.2	363.9	558.8	Robertson	9	0.0	292.0	377.8
Breathitt	84	0.4	469.1	656.0	Scott	245	1.1	361.2	397.1	Knott	55	0.3	285.8	409.3
Pike	376	1.7	466.5	678.3	Simpson	90	0.4	358.2	442.3	Breckinridge	86	0.4	282.0	405.3
Bath	77	0.4	457.4	594.5	Garrard	93	0.4	358.0	515.5	Caldwell	51	0.2	281.6	404.4
Leslie	66	0.3	457.3	678.4	Madison	401	1.8	356.5	402.7	Barren	165	0.8	273.4	361.8
Nicholas	44	0.2	446.5	562.9	Russell	92	0.4	353.1	498.4	Lyon	43	0.2	272.2	473.7
Gallatin	50	0.2	446.4	567.9	Allen	106	0.5	351.9	481.0	Bullitt	316	1.5	269.6	368.3
Estill	88	0.4	440.3	628.5	Mercer	113	0.5	351.8	480.5	Shelby	181	0.8	268.7	361.1
Jackson	79	0.4	438.0	591.4	Marshall	183	0.8	349.9	576.7	Morgan	51	0.2	268.1	356.6
Henry	98	0.5	435.9	605.0	Jessamine	249	1.1	343.8	440.7	Metcalfe	40	0.2	261.8	378.9
Taylor	151	0.7	435.8	563.2	Washington	56	0.3	342.3	456.4	Ohio	84	0.4	258.6	351.0
Harrison	117	0.5	434.8	599.2	Fulton	34	0.2	342.2	541.2	Cumberland	24	0.1	243.5	396.9
Graves	224	1.0	434.7	608.3	Fayette	1280	5.9	340.9	388.5	Webster	41	0.2	238.4	319.0
Menifee	45	0.2	433.5	709.7	Warren	523	2.4	339.4	353.5	Calloway	115	0.5	238.4	295.1
Pulaski	410	1.9	427.2	613.4	Lee	34	0.2	335.7	464.9	Union	44	0.2	237.7	333.9
Hardin	567	2.6	425.5	502.5	Hart	86	0.4	334.7	431.7	Oldham	196	0.9	227.1	277.9
Grayson	158	0.7	422.0	583.7	Daviess	454	2.1	333.9	434.6	Henderson	144	0.7	226.9	326.0
Clark	210	1.0	420.4	557.4	Owen	57	0.3	332.7	498.5	Elliott	25	0.1	213.6	344.2
Nelson	267	1.2	414.4	548.2	Bourbon	97	0.4	330.9	477.1	Edmonson	43	0.2	211.9	340.3
Bracken	50	0.2	411.7	588.4	Martin	47	0.2	328.9	439.4	Hickman	17	0.1	211.0	387.0
Carlisle	27	0.1	411.1	565.2	Hopkins	206	0.9	327.9	455.6	Logan	81	0.4	205.4	284.5
Magoffin	61	0.3	409.2	548.7	Bell	103	0.5	327.4	446.8	Trigg	48	0.2	203.4	329.7
Laurel	329	1.5	398.9	519.3	Casey	74	0.3	327.1	464.0	Crittenden	29	0.1	197.0	322.9
McCracken	407	1.9	398.5	602.5	Marion	83	0.4	323.0	418.1	Christian	131	0.6	195.0	184.5
Rockcastle	88	0.4	393.5	542.3	Butler	55	0.3	322.2	438.2	Lewis	30	0.1	165.4	233.0
Rowan	107	0.5	390.8	433.6	Hancock	41	0.2	322.2	454.9	Todd	22	0.1	141.3	172.5

Table 56: Incidence of All ED Nonfatal and Fatal Stroke by County, Sorted by Age-Adjusted Rate, Ky, 2024

County			Age-Adjusted		County			Age-Adjusted		County			Age-Adjusted	
	Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude		Freq	Percent	Rate	Crude
Harrison	155	1.4	584.9	793.9	Clay	66	0.6	268.1	336.9	Morgan	34	0.3	178.4	237.8
Nicholas	42	0.4	423.5	537.4	Wayne	75	0.7	265.7	382.1	Breckinridge	51	0.4	177.8	240.3
Perry	137	1.2	392.6	512.4	Robertson	10	0.1	261.0	419.8	Ohio	58	0.5	177.1	242.3
Floyd	178	1.6	390.9	515.5	Mason	61	0.5	260.7	359.8	Greenup	94	0.8	176.8	266.5
Bell	110	1.0	363.9	477.2	Washington	44	0.4	258.4	358.6	Pendleton	36	0.3	176.7	242.5
Rockcastle	79	0.7	361.6	486.9	Barren	155	1.4	256.5	339.8	Franklin	118	1.0	176.5	225.0
Taylor	120	1.0	359.0	447.6	McLean	34	0.3	246.9	372.6	Simpson	42	0.4	174.8	206.4
Bourbon	101	0.9	352.7	496.7	Jackson	42	0.4	245.3	314.4	Calloway	77	0.7	170.1	197.6
Lincoln	112	1.0	347.3	449.6	Magoffin	37	0.3	243.7	332.8	Warren	253	2.2	166.6	171.0
Carroll	46	0.4	347.1	414.0	Estill	49	0.4	242.8	350.0	Spencer	46	0.4	164.0	220.9
Letcher	96	0.8	346.9	476.7	Garrard	62	0.5	240.4	343.7	Logan	62	0.5	163.5	217.8
Harlan	114	1.0	342.0	455.1	Union	45	0.4	232.3	341.5	Lee	16	0.1	162.2	218.8
Boyd	220	1.9	336.2	460.5	Allen	67	0.6	228.2	304.0	Kenton	347	3.0	161.5	198.4
Crittenden	40	0.3	330.8	445.3	Knott	42	0.4	228.0	312.5	Edmonson	28	0.2	160.6	221.6
Montgomery	120	1.0	330.3	417.1	Laurel	177	1.5	222.8	279.4	McCracken	153	1.3	158.7	226.5
Powell	53	0.5	330.3	410.0	Webster	38	0.3	222.7	295.6	Jefferson	1578	13.8	157.8	198.8
Monroe	52	0.5	329.3	465.8	Pulaski	207	1.8	222.0	309.7	Daviess	209	1.8	156.2	200.1
Wolfe	28	0.2	328.5	440.0	Metcalfe	31	0.3	218.6	293.6	Campbell	199	1.7	154.0	211.7
Clinton	41	0.4	326.3	446.5	Hancock	25	0.2	218.5	277.4	Trigg	35	0.3	152.8	240.4
Cumberland	32	0.3	325.2	529.2	Knox	80	0.7	217.6	269.8	Marshall	72	0.6	149.7	226.9
Martin	42	0.4	316.0	392.7	Marion	55	0.5	217.0	277.1	Rowan	39	0.3	149.1	158.1
Green	54	0.5	313.5	467.5	McCreary	44	0.4	214.0	261.5	Shelby	98	0.9	148.4	195.5
Carter	106	0.9	313.3	406.2	Clark	109	1.0	213.0	289.3	Larue	27	0.2	142.7	178.5
Adair	83	0.7	310.9	431.4	Madison	233	2.0	211.2	234.0	Woodford	56	0.5	140.5	202.0
Fleming	64	0.6	310.0	410.5	Menifee	20	0.2	210.0	315.4	Henderson	86	0.8	137.3	194.7
Leslie	43	0.4	309.3	442.0	Graves	104	0.9	208.7	282.4	Hardin	171	1.5	135.7	151.6
Bath	49	0.4	307.6	378.3	Gallatin	23	0.2	204.3	261.2	Christian	87	0.8	131.5	122.5
Pike	238	2.1	304.3	429.4	Owsley	10	0.1	203.4	254.6	Fayette	442	3.9	120.7	134.2
Bracken	34	0.3	300.2	400.1	Scott	137	1.2	202.2	222.0	Bullitt	134	1.2	116.7	156.2
Henry	65	0.6	296.5	401.3	Russell	49	0.4	200.7	265.5	Fulton	10	0.1	114.3	159.2
Muhlenberg	126	1.1	296.4	413.0	Nelson	126	1.1	200.0	258.7	Jessamine	79	0.7	111.1	139.8
Mercer	94	0.8	292.6	399.7	Caldwell	38	0.3	197.0	301.3	Ballard	13	0.1	106.0	170.5
Johnson	88	0.8	288.0	398.2	Casey	46	0.4	196.1	288.4	Lewis	17	0.1	103.6	132.0
Lawrence	62	0.5	286.9	392.5	Breathitt	33	0.3	195.7	257.7	Elliott	11	0.1	101.2	151.5
Whitley	115	1.0	282.5	308.9	Trimble	22	0.2	193.0	256.1	Carlisle	6	0.1	92.8	125.6
Grant	84	0.7	282.0	326.6	Hart	50	0.4	189.2	251.0	Meade	35	0.3	92.2	115.0
Grayson	99	0.9	280.3	365.7	Anderson	60	0.5	185.3	241.1	Lyon	14	0.1	91.7	154.2
Livingston	38	0.3	276.5	431.1	Butler	30	0.3	182.5	239.0	Oldham	77	0.7	90.6	109.2
Hopkins	173	1.5	275.8	382.6	Hickman	13	0.1	182.3	295.9	Todd	12	0.1	74.7	94.1
Boyle	113	1.0	274.3	359.9	Boone	313	2.7	181.8	217.2	Owen	11	0.1	73.3	96.2

Appendix B: Methods, Abbreviations, Definitions and Data

Methods

Data used for surveillance were received electronically. Hospital discharge data (HDD) files from the Kentucky Office of Data Analytics are routinely received by the Kentucky Injury Prevention and Research Center (KIPRC) for surveillance purposes. These files include both emergency department billing data as well as inpatient hospitalization billing data.

Crude incidence rates were calculated for each injury type by dividing the number of injuries by 4,588,372, the most recent estimated population of Kentucky according to the United States Census Bureau, Population Division (released July 2025) and then multiplying by 100,000. This figure represents the number of TBIs, NTBIs, SCIs, or strokes that occurred per 100,000 residents of Kentucky. Age-adjusted rates were calculated using the Year 2000 Standard Population. Data analysis was performed using SAS Enterprise. Mapping was performed in ESRI's ArcGIS Pro platform.

Identification of Cases

Traumatic brain injury case definition

The Centers for Disease Control and Prevention (CDC) have established standards for TBI case identification (CDC, 1995). Hospitals are currently using ICD-10 codes for injury coding. Definitions are being developed using the new ICD-10 coding.

The following ICD-10 codes were used to identify TBI records:

- Fracture of vault or base of skull: S02.0 – S02.1
- Fracture of other specified skull and facial bones or unspecified fracture of skull: S02.8, S02.91
- Intracranial injury, including concussion, cerebral edema, diffuse and focal traumatic brain injury, epidural/subdural/subarachnoid hemorrhage and unspecified intracranial injury: S06.0 – S06.9
- Crushing injury of skull: S07.1
- Shaken infant syndrome: T74.4

If one or more of these codes was found in any of the diagnosis code fields in the hospital discharge data, the record was determined to be a TBI.

Non-traumatic brain injury case definition

In addition to CDC-defined TBI, there are many brain injuries that have non-traumatic etiologies. These we have classified as NTBI. Because these diagnoses are not included in the CDC definition of TBI, they have been linked and analyzed separately. These conditions were also identified by ICD-10 diagnosis codes, as follows:

- Anoxia: G91(.0 – .2), G93.1, J96, R09.0, T71, T751
- Allergy/Anaphylaxis: T78.0, T78.1, T78.2, T80.5, T80.6, T88.1, T88.6
- Acute Medical Clinical Incidents: G00, G01, G02, G03, G04(.0,2,3,8,9), G05, G06.0, G07, A39.0, A39.81, A85, A86, A87, A88.8, A89, C70.0, C71, C79.3, D32.0, D33(.0 – .2), D42.0, D43(.0 – .2), D49.6, G37.4, A83, B00.4, B01(.0,1), B02(.0,1), B37.5
- Toxic Substances: G92, T40, T41, T42(.3 – .7), T45.5, T51, T56, T57, T58, T60, T61, T62, T64, T65, T81.1, T88.2, T88.5

Anoxia includes but is not limited to:

- brain damage related to hereditary and degenerative diseases of the central nervous system,
- nervous system complications (related to medical care),
- drowning and nonfatal submersion,
- asphyxia.

If one or more of these codes was found in any of the diagnosis code fields in the HDD, the record was classified as an NTBI.

Spinal cord injury case definition

SCI was defined by the following ICD-10 diagnosis codes:

- Concussion and edema of cervical/thoracic/lumbar and sacral spinal cord or other and unspecified injuries: S14.0, S14.1, S24.0, S24.1, S34.0, S34.1

- Injury of cauda equina: S34.3

For this report, SCI records had to contain one of these codes in one of the first three diagnosis code fields in the HDD.

Stroke case definition

The following ICD-10 diagnosis codes (n-codes) were used for identifying stroke cases in HDD:

- Hemorrhages (subarachnoid, intracerebral, and intracranial): I60, I61, I62
- Cerebral infarction: I63, I64
- Occlusion and stenosis of precerebral arteries (not resulting in cerebral infarction): I65
- Occlusion and stenosis of cerebral arteries (not resulting in cerebral infarction): I66
- Transient cerebral ischemic attacks: G45

If one or more of these codes was found in any of the diagnosis code fields in the HDD, the record was determined to be a stroke-related hospital visit. It is anticipated that this definition will be fine-tuned in future reports.