

# Special Emphasis Report: Traumatic Brain Injury

2020  
KENTUCKY

## UNDERSTANDING TBI

Traumatic brain injury (TBI) is a serious public health problem in the United States. A TBI is caused by a bump, blow, or jolt to, or penetration of the head that disrupts the normal function of the brain. Each year, traumatic brain injuries contribute to a substantial number of deaths and cases of permanent disability.

### Impact and Magnitude of TBI

During 2020<sup>1</sup>, a TBI was reported as a cause of death of 1,054 people in Kentucky (22 per 100,000 population). A total of 8,531 (195 per 100,000 population) emergency department (ED) visits were made by Kentuckians to receive treatment or care for a nonfatal TBI. There were an additional 2,654 (54 per 100,000) inpatient hospitalizations for nonfatal TBI. In all instances, the TBI was either the only injury or one of several injuries and/or medical conditions listed.

### Causes and Intent of TBI

Cause of injury, as measured by rate per 100,000 people, varies across the three levels of severity. Firearms were the leading cause of fatal TBIs. Falls were the leading cause of nonfatal TBI related hospitalizations and ED visits. The majority of TBI injuries were without deliberate or purposefully inflicted intent (unintentional), followed by self-directed violence (suicide, see Table 1).

### TBI by Age and Sex

The highest rates of TBI-related deaths\* were among males aged 25-34, as shown in Figure 2. Among those with TBI-related hospitalizations,\*\* persons aged 75-84 were most affected. Persons aged 25-34 made the most TBI-related emergency department visits by rate per 100,000.\*\*

<sup>1</sup>The impact of the COVID-19 pandemic, which began in 2020, should be considered when interpreting data and trend analyses  
\*TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions  
\*\*TBI alone or in combination with other injuries or conditions  
\*\*\* Note that cause (e.g., firearm, fall) and intent (e.g., assault, self-directed) are not mutually exclusive and these counts should not be summed.

FIGURE 1: Percentage of Annual TBI-Related Deaths, Hospitalizations, and Emergency Department Visits by Leading Cause or Intent in 2020\*\*\*

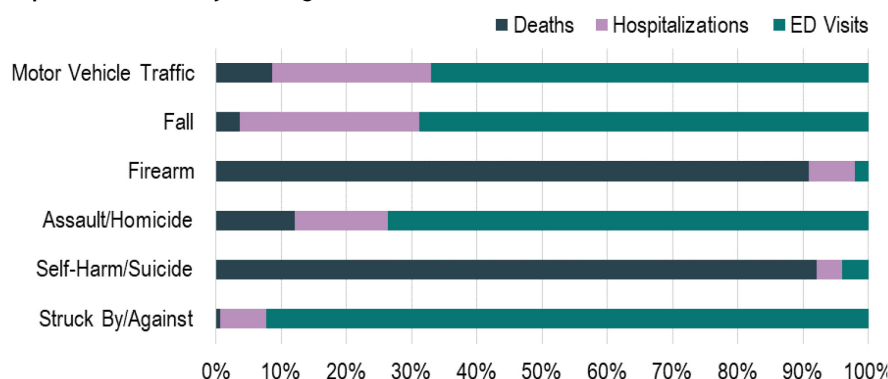
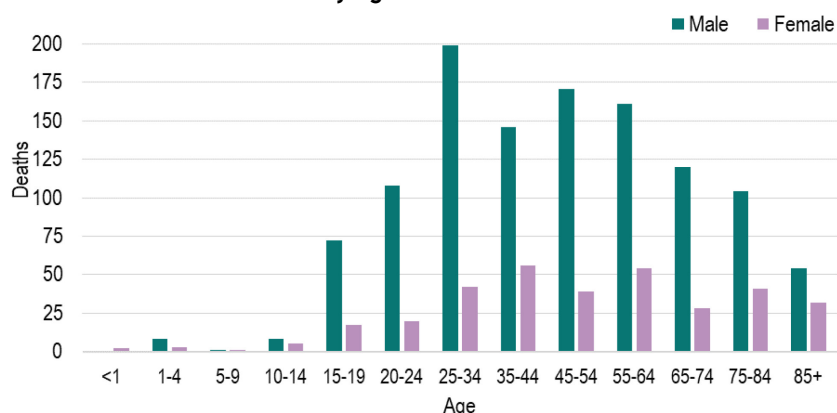


TABLE 1: Number and Rate of TBI-Related Deaths by Cause and Intent in 2020

		Count	Rate per 100K People
CAUSE	Firearm	538	12
	Motor Vehicle Traffic	214	5
	Fall	181	3
	Struck By/Against	16	0
INTENT	Unintentional	511	10
	Suicide	408	8
	Homicide	135	3

FIGURE 2: TBI-Related Deaths by Age and Sex in 2020



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### National TBI Prevention Strategies

The National Center for Injury Prevention and Control (Injury Center) of Centers for Disease Control and Prevention (CDC) is committed to protecting people against preventable TBI by putting science into action.

**To Help Older Adults:** Make CDC’s STEADI Part of Every Medical Practice. STEADI (Stopping Elderly Accidents, Deaths, and Injuries) is a toolkit to help health care providers incorporate fall risk assessment and individualized fall interventions (e.g., exercise, medication management, and vitamin D supplementation) into their practice. Learn more: [www.cdc.gov/STEADI](http://www.cdc.gov/STEADI)

**To Help Young Athletes:** Get a HEADS UP on Creating a Culture of Concussion Safety in Sports. HEADS UP educational materials are designed to support individuals (such as coaches and health care providers) and organizations (such as schools and sports programs) with their concussion safety efforts. Learn more: [www.cdc.gov/HEADSUP](http://www.cdc.gov/HEADSUP)



**To Help Parents and Teen Drivers:** “Parents Are the Key” to TeenDriver Safety. Parents Are the Key materials helps parents, pediatricians, and communities keep teen drivers safe on the road. Learn more [www.cdc.gov/ParentsAretheKey](http://www.cdc.gov/ParentsAretheKey)

*Note: TBI-related cases were identified by first limiting the datasets to injury cases based on external cause of injury (deaths), primary diagnosis (hospitalizations), or both (emergency department visits). Deaths were excluded from inpatient hospitalization counts. ED visits excluded deaths and those resulting in inpatient hospitalizations. All fields were then searched for TBI diagnostic codes. \*For confidentiality and data stability purposes, counts less than five were suppressed.*

**TABLE 2: TBI by Race and Ethnicity Rates per 100,000 in 2020**

Certain populations have higher rates of TBI and may need special prevention measures. The highest nonfatal TBI rate was among non-Hispanic Whites. The highest fatal TBI rates were among non-Hispanic Blacks and non-Hispanic Whites.

Race and Ethnicity	Fatal Count	Rate	Nonfatal Count	Rate
Black, Not Hispanic	97	23	1,073	228
White, Not Hispanic	936	23	9,669	254
Hispanic	11	7	281	165
Asian/Native Hawaiian/Pacific Islander	0	n/a	71	96
American Indian/Alaska Native	*	n/a	*	n/a



### Kentucky Traumatic Brain Injury Prevention Activities

The CDC Injury Center’s Core State Injury Prevention Program funds the Kentucky Violence Injury Prevention Program (KVIPP) to estimate the impact of TBIs through robust data surveillance to define the groups most affected, and to work with partners to address TBIs in disproportionately affected communities. Specific strategies include working with the Kentucky Safety and Prevention and Alignment Network (KSPAN) partners to support implementation of evidence-based Checkpoints™ with parent(s)/caregiver(s) and teen drivers; working with law enforcement to conduct safe and legal sobriety checkpoints; educating students and at-risk mothers on preventing pediatric abusive head trauma and promoting safe sleep environments (Keeping Infants Safe), which supports KY House Bill 285 (enacted in 2011); preventing secondary TBIs among communities through evidence-based gatekeeper trainings (QPR: Question, Persuade, Refer); distributing firearm locks, medication lock boxes, and educational resources to young families; working to prevent suicide and risk factors among military-connected families; and supporting communities to address and prevent older adult falls. Learn more: [www.safekentucky.org](http://www.safekentucky.org)

In 2020, KY Senate Bill 42 required identification badges issued to public middle and high school students to list the contact information for national crisis hotlines specializing in domestic violence, sexual assault, and suicide, etc.—increasing awareness of injury and violence prevention resources.

Working with local communities and individuals, the Brain Injury Alliance of Kentucky (BIAK) continues to distribute helmets, provide hospital outreach to those affected by TBIs, plan Brain Injury Summits, and work with the Kentucky TBI Trust Fund to develop a return to classroom post-concussion state protocol. The TBI Trust Fund works to serve those who survive TBI by providing opportunities to access the services and supports they need to live in the community.

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