

TARRANT COUNTY PUBLIC HEALTH DATA BRIEF



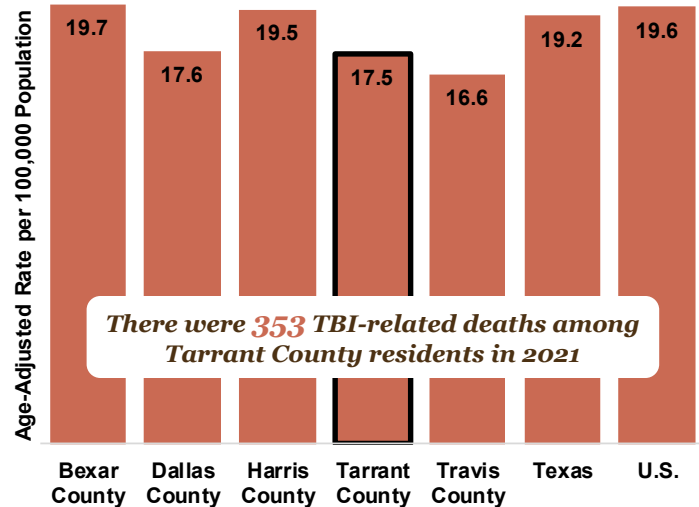
TRAUMATIC BRAIN INJURIES (TBI) IN TARRANT COUNTY

Acquired brain injuries (ABI) are non-birth related and different from degenerative brain conditions, such as Alzheimer's or Parkinson's disease. ABIs are classified as either **non-traumatic brain injuries (non-TBI)** or **traumatic brain injuries (TBI)**. Both types can be mild, moderate, or severe depending on the cause and how the brain is affected.

Non-TBIs occur *within* the body (stroke, brain tumor, infections, exposure to drugs or toxins, lack of oxygen, etc.). **TBIs** occur *outside* the body when the head is impacted by external trauma (penetrating injury, bump, jolt, being shaken, blast/explosion, etc.). **Concussions (mild TBI or mTBI)** occur when the head and brain move back and forth too quickly, damaging brain cells.

TBIs can be *unintentional* (accidents) or *intentional* (assault/homicide or self-harm/suicide), and can occur from a variety of *mechanisms* (cause of trauma). TBIs can be fatal or non-fatal, and may cause short-term side effects or long-term disabilities. Signs and symptoms can occur immediately after the injury or up to weeks after the trauma occurs.

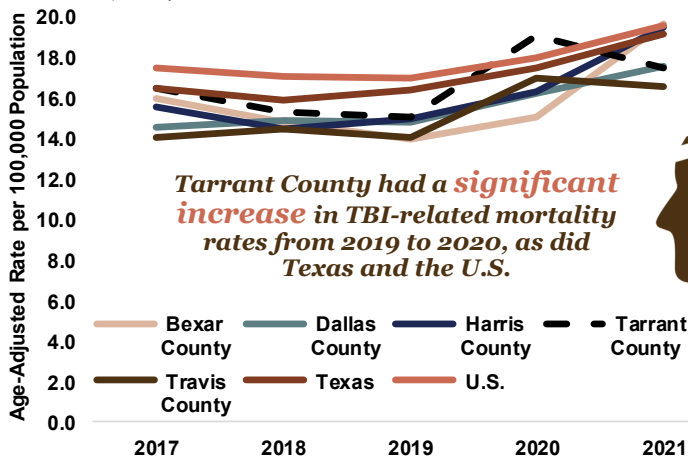
Figure 1. TBI-related mortality rates by geographic location, 2021



There were **353** TBI-related deaths among Tarrant County residents in 2021

In 2021, Tarrant County's TBI-related mortality rate was **significantly lower** than the U.S.

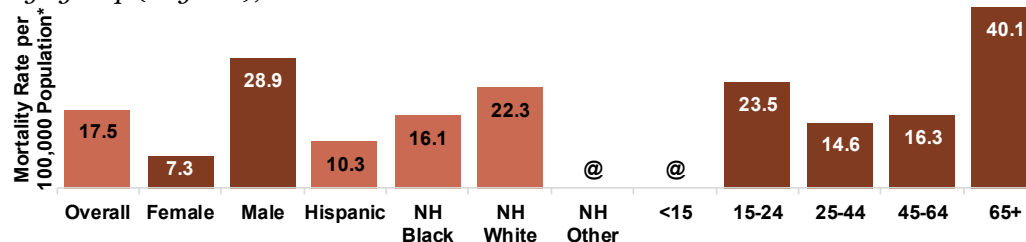
Figure 2. TBI-related mortality rates by geographic location, 2017-2021



Among Tarrant County residents in 2021:

- The majority of TBI-related deaths were **intentional (60%)**
- Among the intentional TBI-related deaths, the majority were **suicides (79%)**
- The leading mechanism for **unintentional** TBI-related deaths was **falls (68%)**
- The leading mechanism for **suicide** TBI-related deaths was **firearms (99%)**
- The leading mechanism for **homicide** TBI-related deaths was **firearms (86%)**

Figure 3. Tarrant County TBI-related mortality rates by gender, race/ethnicity, and age group (in years), 2021

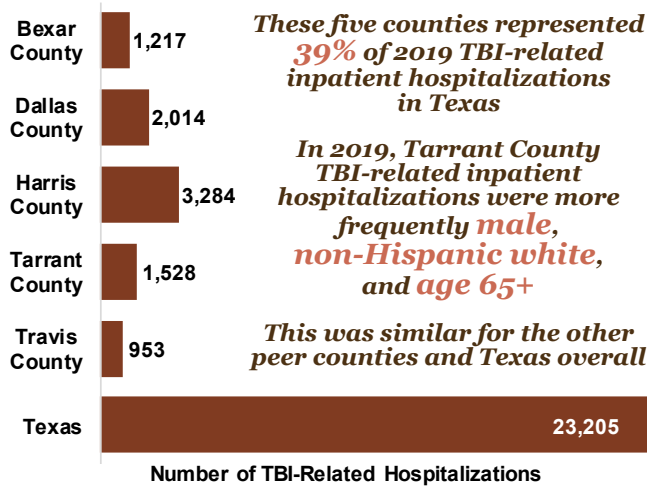


Among Tarrant County residents, TBI-related mortality rates were **significantly higher** among **males** and **individuals aged 65 years and older**

* Age-adjusted rate per 100,000 population for Tarrant County overall, gender, and race/ethnicity;
* Age-specific rate per 100,000 population for age groups; @ unstable rate; NH = non-Hispanic

TBI-related deaths were included if the record had an injury-related ICD-10 underlying cause of death code (V01-Y36, Y85-Y87, Y89, U01-U03) and a TBI-related ICD-10 code in one of the 20 multiple cause of death fields (S01, S02.0, S02.1, S02.3, S02.7-S02.9, S04.0, S06, S07.0, S07.1, S07.8, S07.9, S09.7-S09.9, T90.1, T90.2, T90.4, T90.5, T90.8, T90.9)
All significant differences detected at the 95% confidence level; Data sources: Centers for Disease Control and Prevention
Data Brief provided by: Division of Epidemiology and Health Information

Figure 4. TBI-related inpatient hospitalizations by geographic location, 2019



These five counties represented **39%** of 2019 TBI-related inpatient hospitalizations in Texas

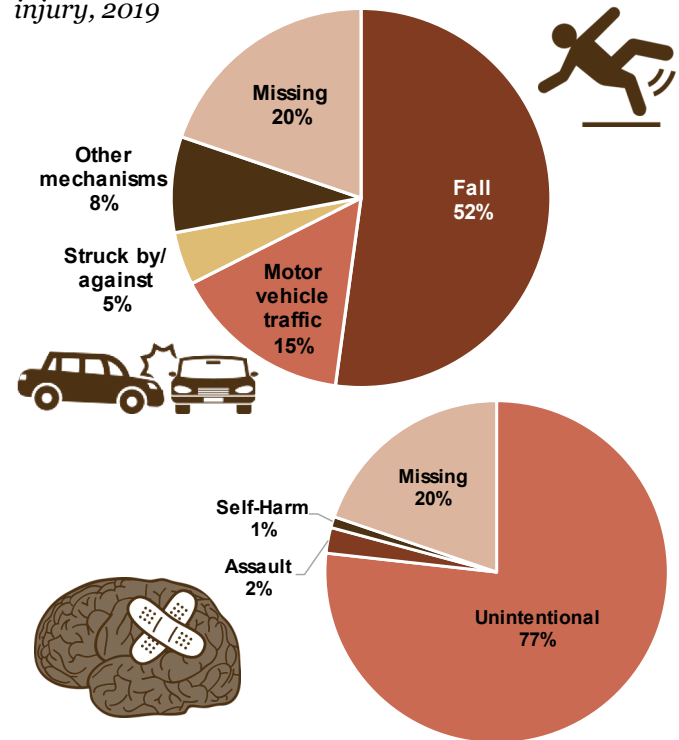
In 2019, Tarrant County TBI-related inpatient hospitalizations were more frequently **male, non-Hispanic white, and age 65+**

This was similar for the other peer counties and Texas overall

ICD-10-CM injury diagnosis codes: TBI-related inpatient hospitalizations (S02.0, S02.1, S02.8X, S02.80, S02.81, S02.82, S02.91, S04.02, S04.03, S04.04, S06, S07.1, T74.4)

In 2021, **12-14%** of high school students at the national, state, and local level reported they had a **concussion** from playing a sport or being physically active one or more times during the past 12 months

Figure 5. Proportion of Tarrant County TBI-related inpatient hospitalizations by intent and mechanism of injury, 2019



Call 911 or visit an emergency department if you or someone else experiences head trauma and symptoms:

- Loss of consciousness
- Severe headache or head pressure
- Nausea or vomiting
- Dizziness
- Seizures
- Drowsiness or lethargy
- Confusion/Disorientation
- Speech or vision issues
- Sensitivity to light or sound
- Difficulty walking
- Limb numbness, tingling, or weakness
- Fluid draining from ears or nose
- Different pupil sizes
- Unusual behavior or mood
- Loss of appetite, constant crying (children)



Watch for long-term symptoms (days, weeks, months after injury) and visit a doctor if these occur or worsen:

- Work/School performance changes
- Concentration and memory problems
- Delayed thinking and understanding
- Difficulty with planning, judgement, language, and problem solving
- Personality or behavior changes
- Aggression/Irritability
- Anxiety/Depression
- Poor coordination/Balance
- Visual/Spatial problems
- Sensory difficulties (touch, hearing, or vision)
- Ongoing headaches or neck pain
- Poor sleep or fatigue

Education and Prevention

Brain Injury Prevention:
[\[brainline.org\]](http://brainline.org)
[\[cdc.gov/traumaticbraininjury/prevention.html\]](http://cdc.gov/traumaticbraininjury/prevention.html)
[\[cdc.gov/headsup/index.html\]](http://cdc.gov/headsup/index.html) CDC HEADS UP program
[\[cdc.gov/headsup/basics/concussion_prevention.html\]](http://cdc.gov/headsup/basics/concussion_prevention.html)
[\[hhs.texas.gov/services/disability/acquired-brain-injury/prevention-resources-risk-populations\]](http://hhs.texas.gov/services/disability/acquired-brain-injury/prevention-resources-risk-populations)

Fall Prevention:
[\[cdc.gov/falls/index.html\]](http://cdc.gov/falls/index.html)
[\[sixtyandbetter.org\]](http://sixtyandbetter.org) Local fall prevention classes
[\[tarrantcountytx.gov/en/public-health/family-health-services/chronic-disease-prevention/falls-prevention.html\]](http://tarrantcountytx.gov/en/public-health/family-health-services/chronic-disease-prevention/falls-prevention.html)
[\[tarrant.tx.networkofcare.org/aging/content.aspx?cid=4474\]](http://tarrant.tx.networkofcare.org/aging/content.aspx?cid=4474)

Information on **preventing firearm injuries, motor vehicle collisions, and suicides** can be found in our other data briefs: [\[tarrantcountytx.gov/en/public-health/disease-control-and-prevention/epidemiology-and-health-information/health-data-and-information/data-briefs.html\]](http://tarrantcountytx.gov/en/public-health/disease-control-and-prevention/epidemiology-and-health-information/health-data-and-information/data-briefs.html)

Resources and Support

Hope After Brain Injury [\[hopeafterbraininjury.org\]](http://hopeafterbraininjury.org)
 Texas Brain Injury Support Groups [\[hhs.texas.gov/services/disability/acquired-brain-injury/find-a-support-group\]](http://hhs.texas.gov/services/disability/acquired-brain-injury/find-a-support-group)
 Navigate Life Texas [\[navigatelifetexas.org/en/diagnosis-healthcare/traumatic-and-acquired-brain-injury-in-children\]](http://navigatelifetexas.org/en/diagnosis-healthcare/traumatic-and-acquired-brain-injury-in-children)
 Texas Office of Acquired Brain Injury [\[hhs.texas.gov/services/disability/acquired-brain-injury\]](http://hhs.texas.gov/services/disability/acquired-brain-injury)
 Texas Brain Injury Advisory Council [\[hhs.texas.gov/about-hhs/leadership/advisory-committees/texas-brain-injury-advisory-council\]](http://hhs.texas.gov/about-hhs/leadership/advisory-committees/texas-brain-injury-advisory-council)
 Brain Injury Association of Texas [\[biausa.org/find-bia/texas\]](http://biausa.org/find-bia/texas)
 TBI Model Systems Program [\[msktc.org/tbi\]](http://msktc.org/tbi)
 U.S. Brain Injury Alliance [\[usbia.org\]](http://usbia.org)

Hospitalization data based on county of residence; All significant differences detected at the 95% confidence level
 Data sources: Centers for Disease Control and Prevention, Texas Department of State Health Services, Youth Risk Behavior Survey; Data Brief provided by: Division of Epidemiology and Health Information