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# Intersection of Suicide and Traumatic Brain Injury

**Tennessee Brighter Futures – July 10, 2025**

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## Statements of Acknowledgement

- **Content warning:** This presentation contains references to themes of suicide and self-injurious behavior, which some people may find distressing. In response, we encourage you to take the necessary steps for your emotional safety. This may include stepping away while some or all of this content is being presented.



- **Call or text 988, then press 0**
  - **Visit [chat.988lifeline.org/](https://chat.988lifeline.org/)**
- This presentation is supported by the grant number 6 NU50CE002589-05-00 funded by the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official view of the CDC or the Department of Health and Human Services.



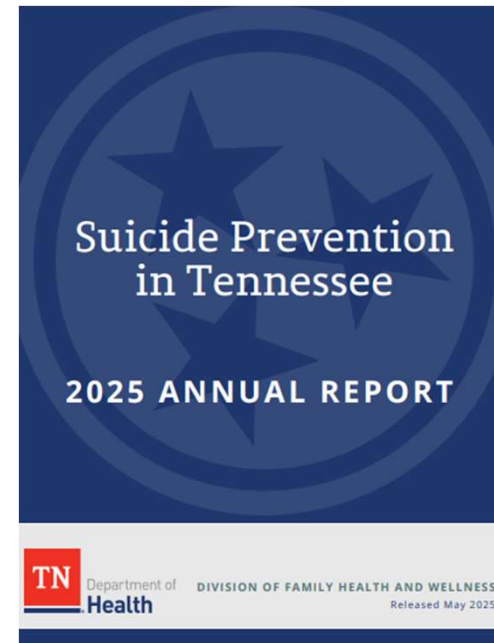
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# Suicide in Tennessee

# Suicide in Tennessee

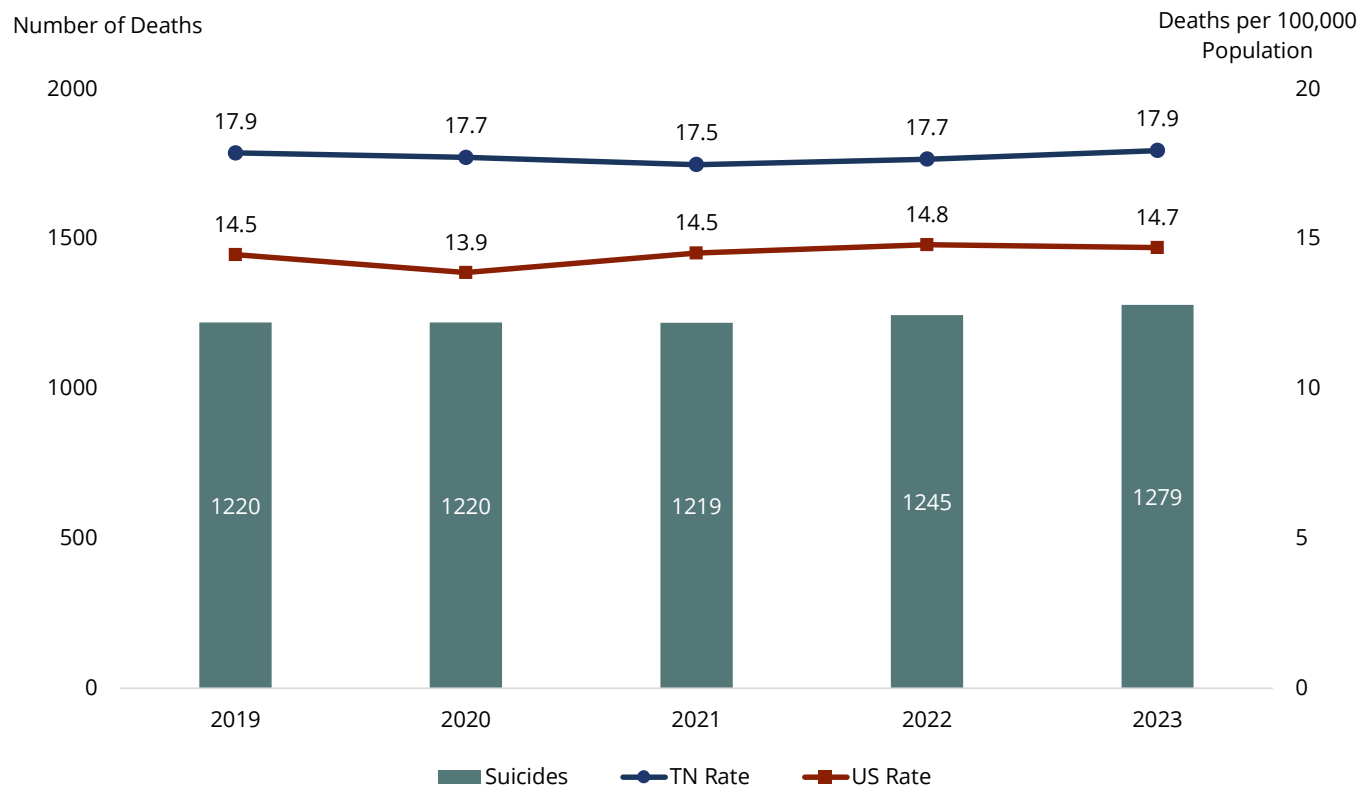
## 2025 Annual Report

- Provides an overview of suicide data and prevention resources in Tennessee
- Identifies high-risk groups based on demographic trends
- Highlights accomplishments of TDH's Suicide Prevention Program
- Shares evidence-based strategies for suicide prevention



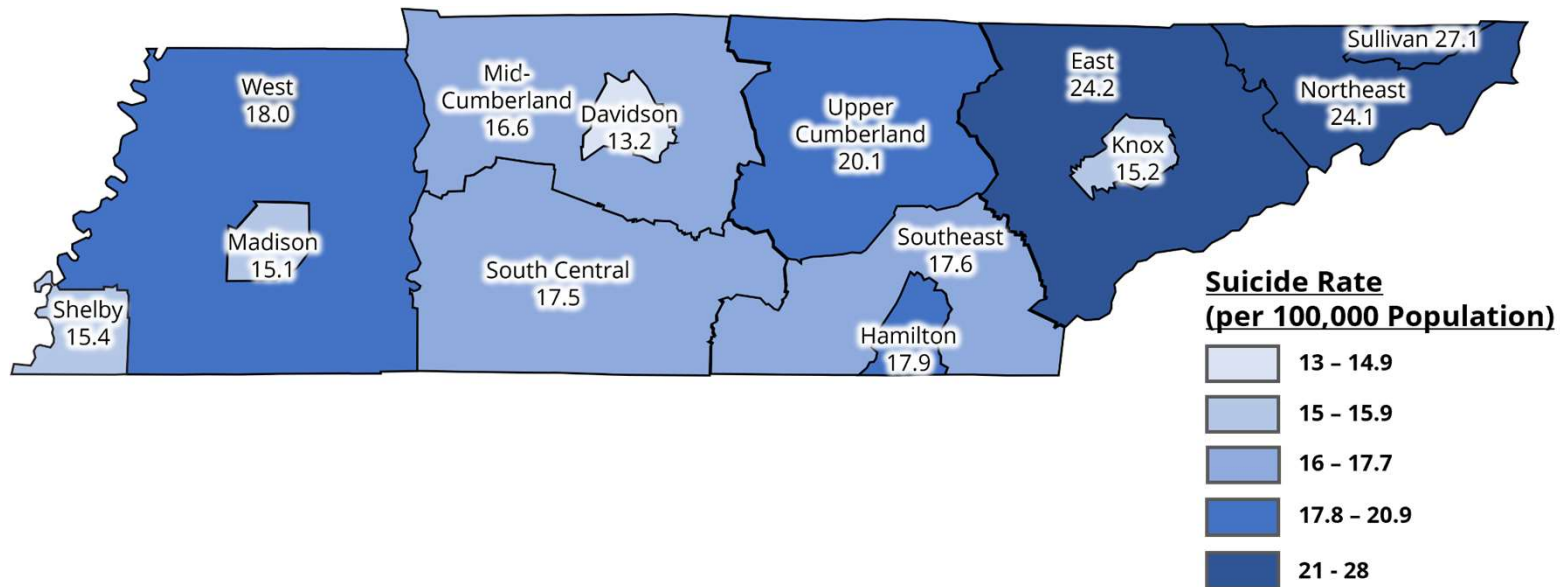
**Suicide Prevention in Tennessee 2025 Annual Report:**  
<https://www.tn.gov/content/dam/tn/health/program-areas/2025%20Suicide%20Prevention%20Annual%20Report.pdf>

# Suicide Fatalities, Tennessee, 2019-2023

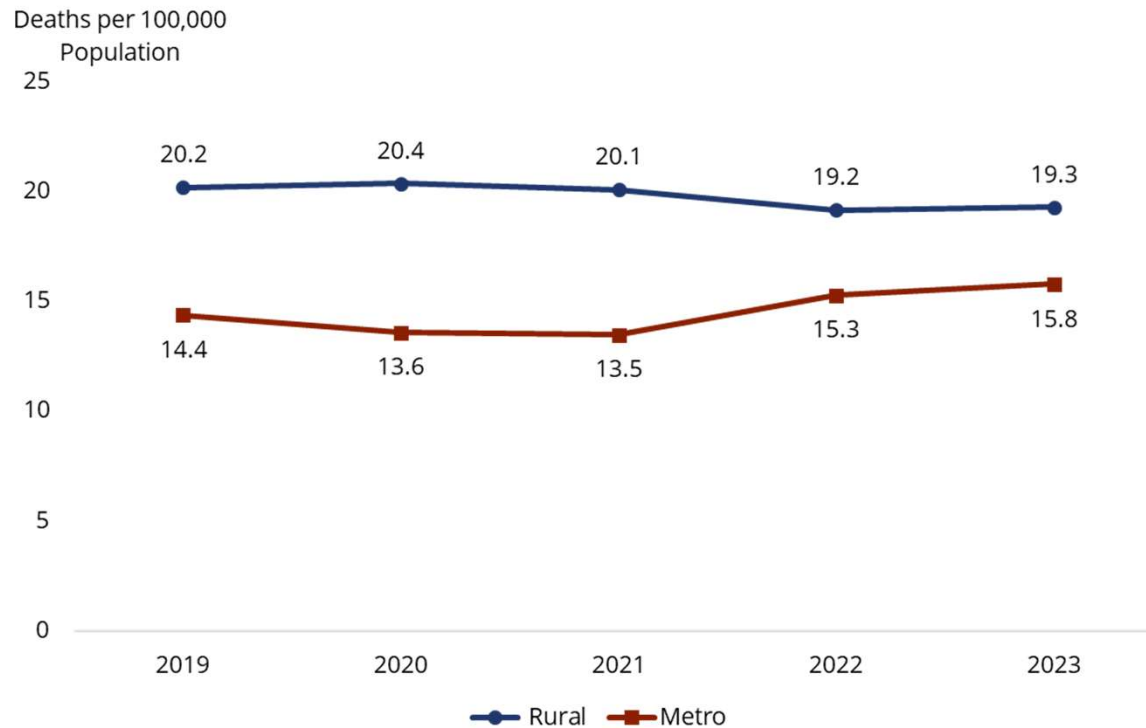


Data Source: Tennessee Department of Health, Office of Vital Records and Statistics, Death Statistical File, 2019 - 2023

# Suicide by Region, Tennessee, 2023

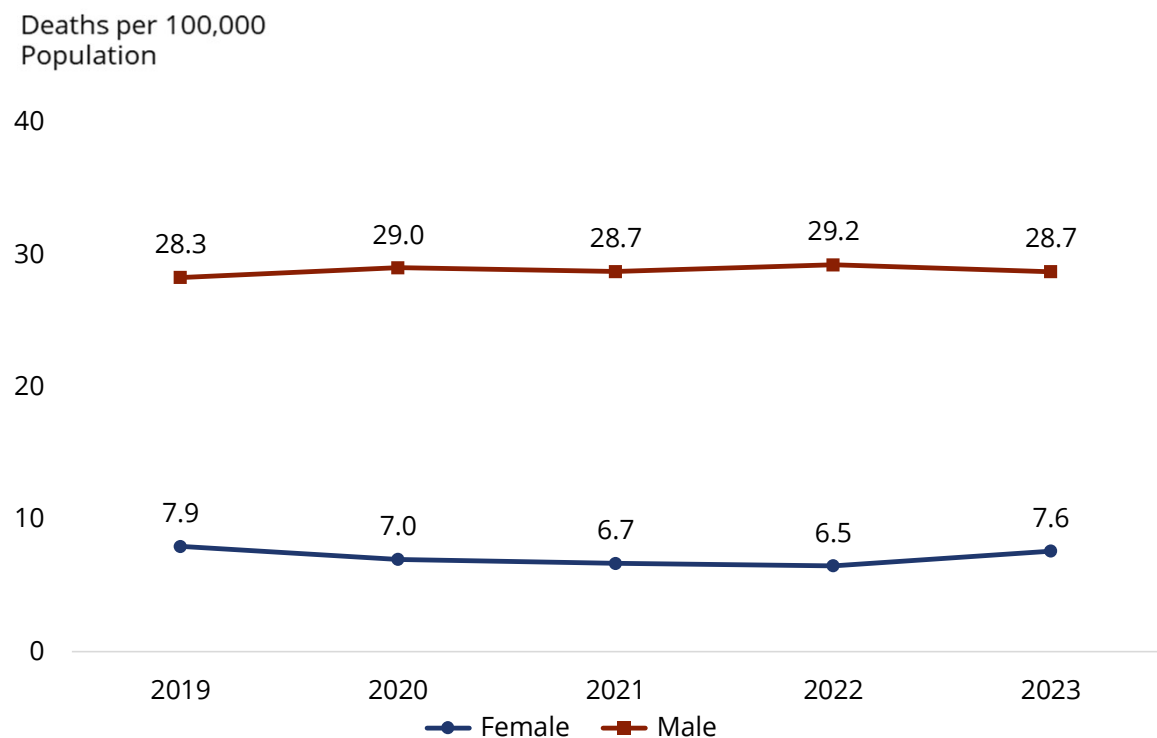


## Suicide Rates by Rurality, Tennessee, 2019 - 2023



Rural residents died by suicide at a rate **1.2 times higher** than those living in metros.

# Suicide by Gender, Tennessee, 2019 - 2023

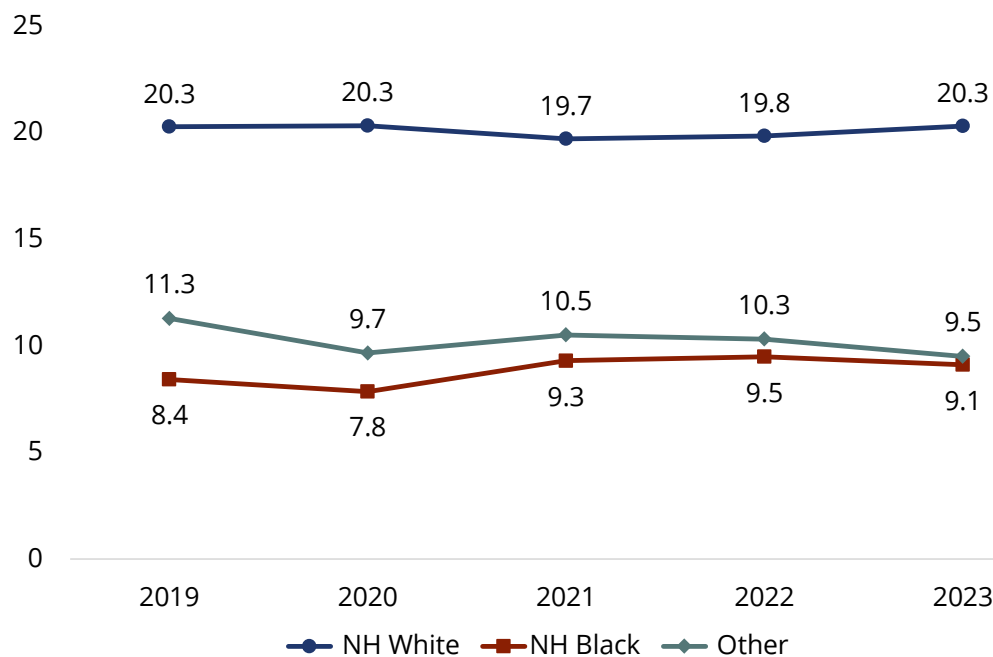


From 2022 to 2023, **suicide rates among women** (except ages 10-17) **rose slightly for the first time since 2019**, driven mainly by increases among those aged 25 to 64.



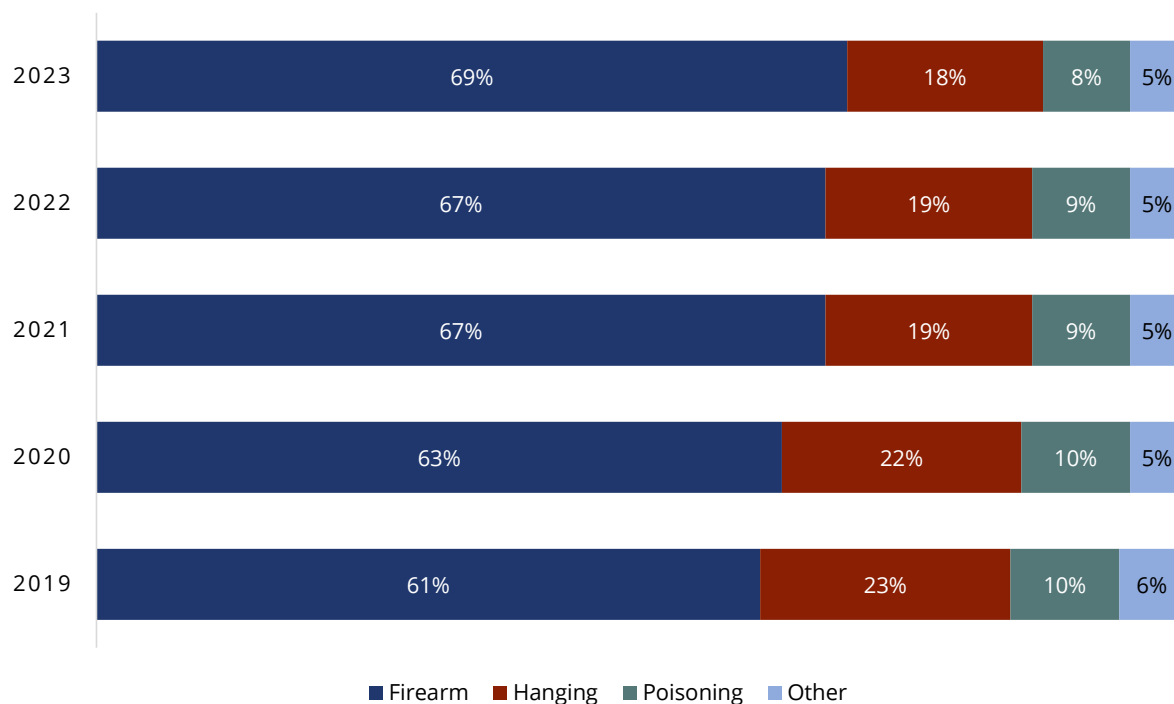
# Suicide by Race, Tennessee, 2019 - 2023

Deaths per 100,000  
Population



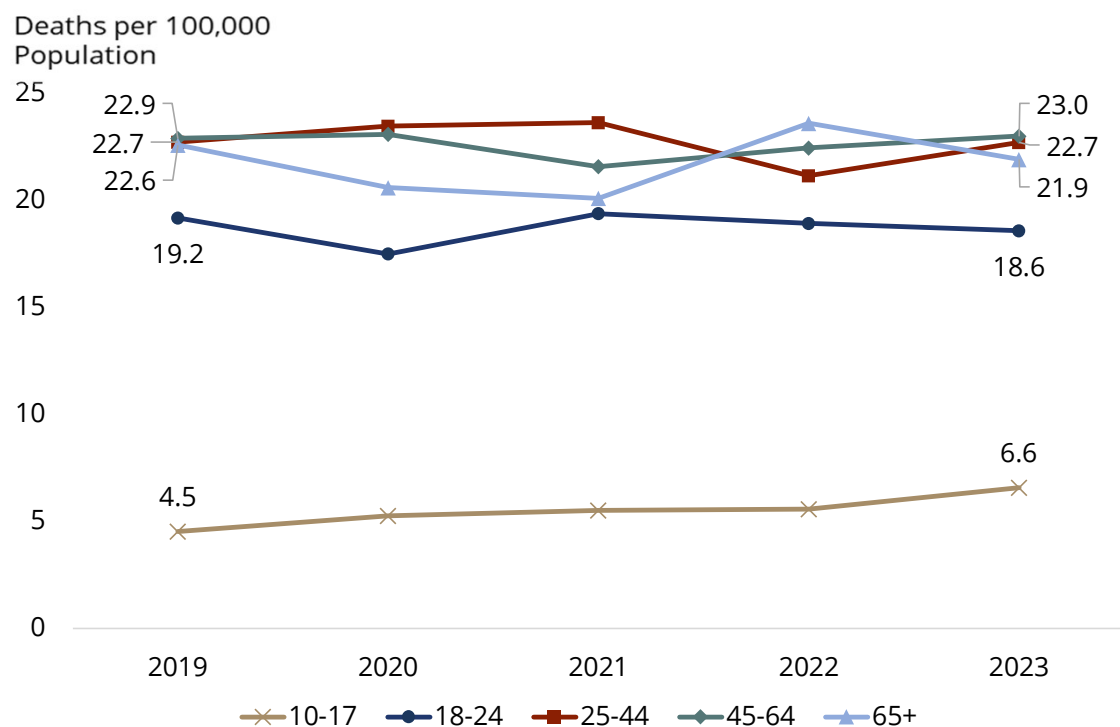
Non-Hispanic White  
Tennesseans died by suicide at  
a rate more than **2.2 times**  
that of non-Hispanic Black  
Tennesseans.

## Suicide by Method, Tennessee, 2019 - 2023



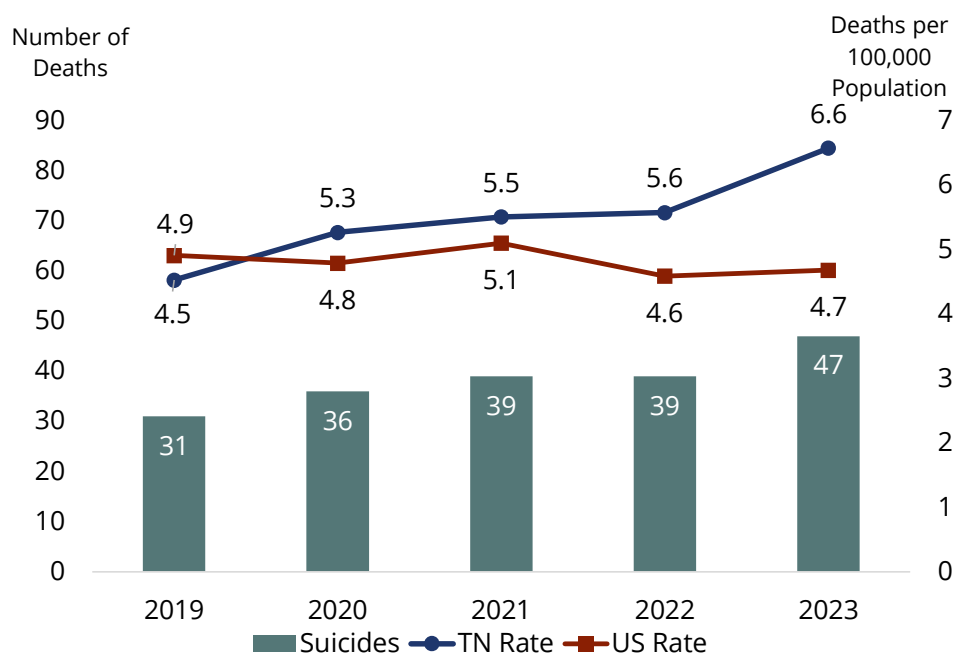
Firearms are the most prevalent means of suicide, accounting for **2 out of 3 (69%) suicides** in 2023.

# Suicide by Age, Tennessee, 2019 - 2023



While adult suicide rates have fluctuated, the rate among **youth aged 10 to 17 has increased** since 2019.

# Tennessee Youth Suicide Highlights



Between 2019 and 2023, the suicide rate among **youth aged 10-17** **increased 47%** and was paired with an **80% rise in the use of firearms** in these deaths.

# Tennessee Suicide Attempts and Ideation

While there are over a thousand individuals who die by suicide in Tennessee annually, thousands more engage in self-injury or experience suicidal thoughts, and even more never seek help.

**1,279**

Deaths by Suicide

**9,131**

Self-injury  
ED or Hospital visits

**41,279**

Suicidal ideation  
ED or Hospital visits

**Unknown thousands**

of individuals with self-injury or suicidal ideation  
who do not present to the medical system

## Non-fatal Self-injury Hospitalizations, Tennessee, 2023

- **Intentional self-injury has decreased by 9.0% for all Tennesseans.**  
From 140.7 per 100,000 population in 2019 to 128.1 per 100,000 population in 2023.
- In 2023, the rate of hospital visits for **intentional self-injury among non-Hispanic Black Tennesseans surpassed that of non-Hispanic White Tennesseans.**
- While more men die by suicide annually, **the rate of hospital visits for intentional self-injury among women was more than 1.5 times the rate for men** in 2023.
- Between 2019 and 2023, the rate of hospital visits **for non-fatal intentional self-injury among youth aged 10–17 increased by 14%.**  
While not statistically significant, this was the only age group to experience an increase during the five-year period.

## Suicidal Ideation Hospitalizations, Tennessee, 2023

- **Suicidal ideation has remained relatively stable** with minor fluctuations for all Tennesseans, decreasing by 3%.
  - From 606.1 hospitalizations per 100,000 in 2019 to 588.2 hospitalizations per 100,000 in 2023.
- While more non-Hispanic White Tennesseans die by suicide annually, **non-Hispanic Black Tennesseans are the racial/ethnic group with the highest rate of reported suicidal ideation.**
- **Suicidal ideation is highest among Tennesseans aged 10-17 and has increased by 24%.**
  - From 936.2 per 100,000 population in 2019 to 1159.3 per 100,000 population in 2023.



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**Recommendations**



# 2025 Recommendations

## HEALTHCARE PROVIDERS AND HEALTHCARE SYSTEMS

- **Implement the Zero Suicide framework** to improve care and safety.
- **Screen all patients using CSSR or ASQ**; screen youth ages 12+.
- **Add the 988 Suicide & Crisis Lifeline** to email signatures and voicemails.
- **Inform patients of their rights** under the Mental Health Parity Act.
- **Use the Tennessee Child and Adolescent Psychiatry Education and Support (TCAPES)** consult line and participate in pediatric behavioral health trainings.
- **Screen and treat pregnant/postpartum patients** using evidence-based care.

# 2025 Recommendations

## COUNTY HEALTH COUNCILS

- **Create and follow county-level** ESSENCE Rapid Response Plans.
- **Share suicide data** with local partners.
- Join the **Tennessee Suicide Prevention Advisory Group** to stay informed.

# 2025 Recommendations

## COMMUNITY, FAITH-BASED ORGANIZATIONS, SCHOOLS

- **Train staff and community members** using Applied Suicide Intervention Skills Training (ASIST) and Question, Persuade, Refer (QPR) training.
- **Equip clergy** through programs like LivingWorks Faith.
- **Incorporate ESSENCE Rapid Response** action steps into suicide prevention protocols.
- **Use Sources of Strength** to build youth resilience.
- Promote safe firearm storage by **hosting a Be SMART™ webinar**.
- **Partner with nonpartisan, nonprofit coalitions** like Voices for a Safer Tennessee.

# 2025 Recommendations

## SERVICE MEMBER AND VETERAN-SERVING ENTITIES

- **Complete free suicide prevention trainings** from VA Train or Psych Armor.
- Promote the VA's **Keep It Secure** campaign for firearm safety.

# 2025 Recommendations

## ALL TENNESSEANS

- **Learn to recognize and respond** to suicide warning signs.
- Safely store and dispose of medications.
- **Adopt safe firearm storage practices by following the Be SMART™ steps** and encourage others to do the same.
- **Take suicide first-aid training** (ASIST or QPR).
- In crisis? Call/text **988, then press 0** for 24/7, free, confidential help.
- Explore local resources at **[www.preventsuicidetn.com](http://www.preventsuicidetn.com)**.



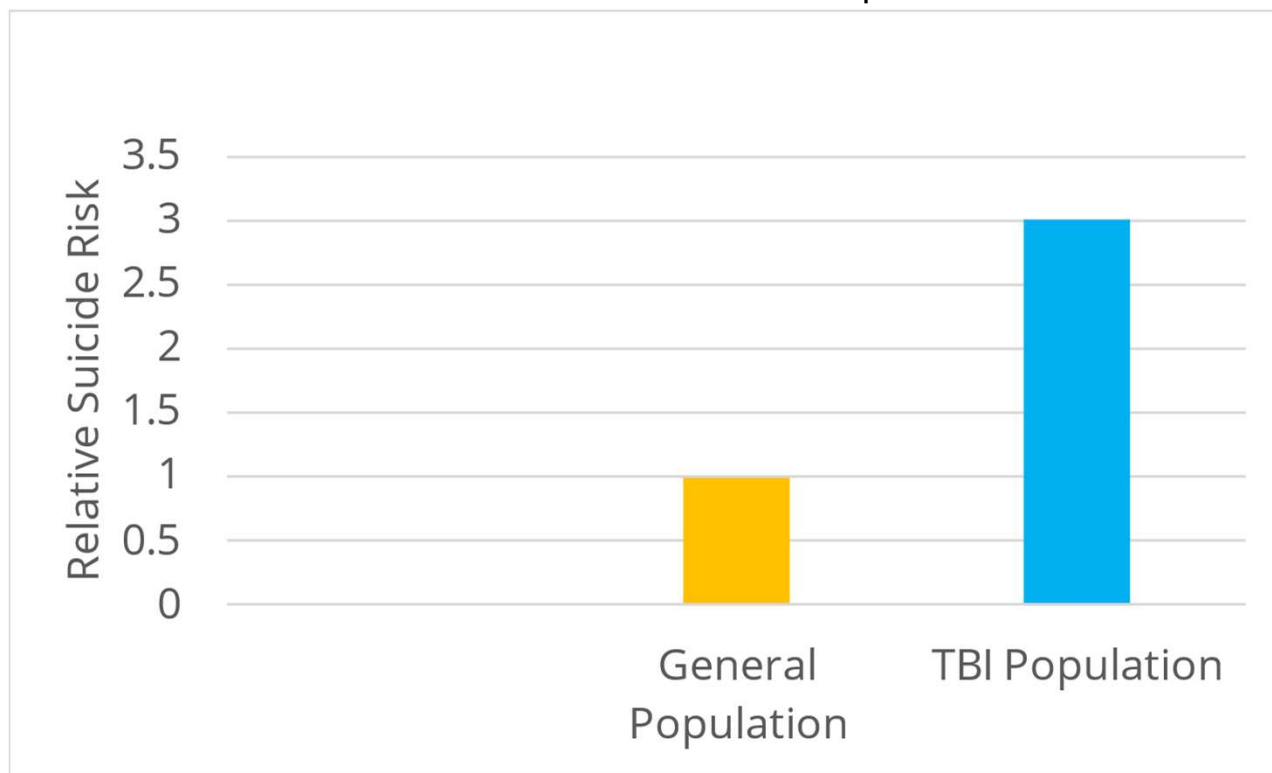
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# Suicide and Traumatic Brain Injury

# The Link Between TBI and Suicide

- Individuals with a TBI are at significantly higher risk for suicide.
- Research shows that people with a TBI are 2–4 times more likely to die by suicide than those without a TBI.
- Veterans, athletes, youth, and people in rural areas may be disproportionately affected.

Suicide Risk in TBI vs. General Population

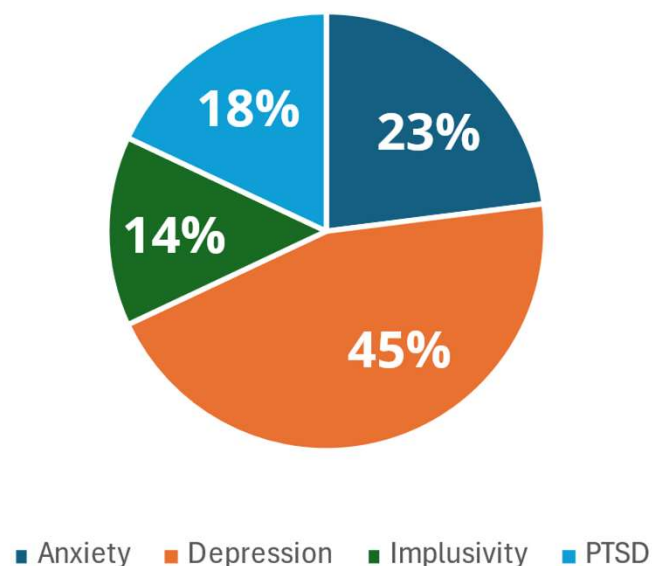


Source: Defense Suicide Prevention Office: What You Should Know About Traumatic Brain Injury and Suicide Prevention:  
<https://www.dspo.mil/Portals/113/Documents/20230613%20DSPO-TBI-and-Suicidality-One-Pager%20Final.pdf>

## TBI's Psychological Impact

- TBI often leads to depression, anxiety, and poor emotional control—key suicide risk factors.
- Up to 50% of people with TBI develop depression, often within the first year.
- Depression is the top predictor of suicide after TBI.

Common Mental Health Symptoms After TBI





## Factors Associated with TBI and Higher Suicide Risk

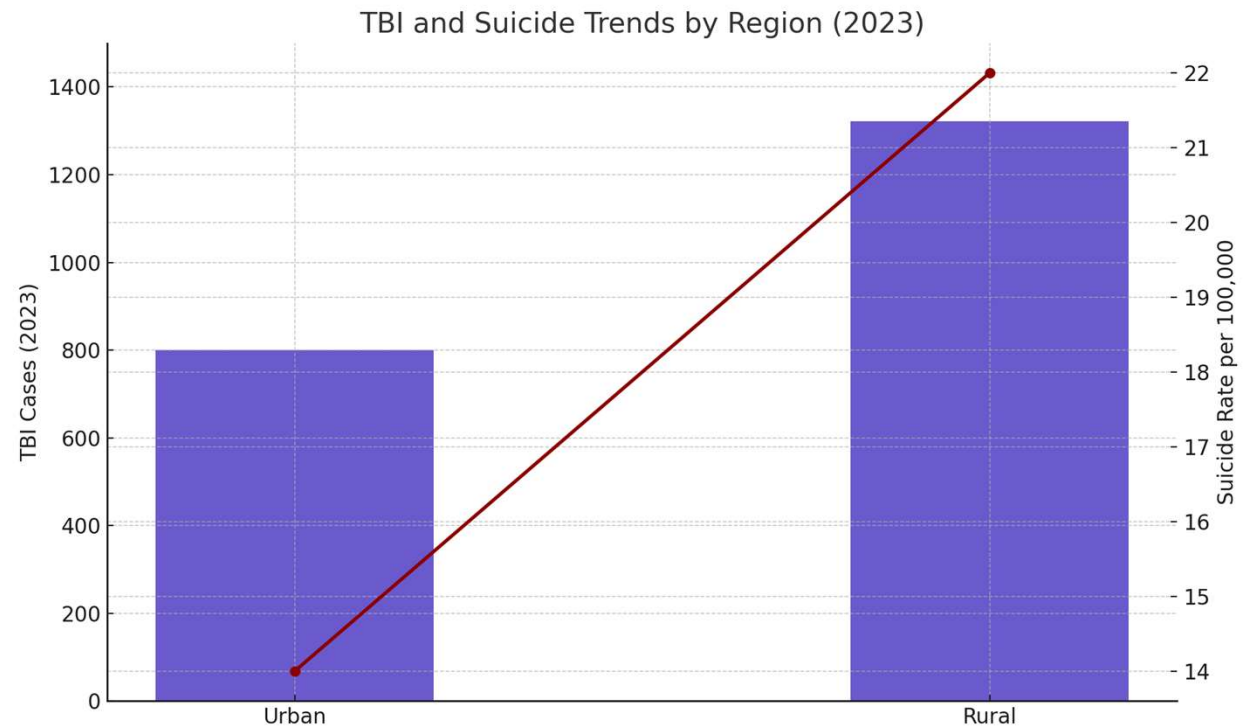
- Ability to participate in **work and homelife**.
- Difficulties associated with **brain functioning**, including:
  - Processing emotions
  - Impulse control
  - Getting stuck in the same thought pattern and being unable to switch thoughts
- Shifts in **relationships**.
- Changes in **sleep, levels of energy, and mood**.

## Factors Association with TBI and Higher Suicide Risk

- Substance misuse
- Stressful life events
- History of prior suicide attempts
- Low level of social support

# Rural Disparities

- In 2023, 2,122 new moderate-to-severe TBIs were reported in Tennessee.
- TBI-related services are concentrated in urban centers, while rural areas face higher suicide rates.



## Concussion, TBI, and Suicide Risk in Youth

- **Higher Risk:** Youth with concussions—especially multiple—face increased risk for suicidal thoughts and behaviors.
- **Cumulative Effect:** Risk rises with repeated concussions.
- **Mental Health Overlap:** Depression, bullying, substance use, and poor sleep co-occur with concussions and amplify suicide risk.
- **Sex Differences:** Males may be more impacted by repeat concussions; females more by related stressors.
- **Lasting Impact:** Even mild TBIs can have long-term psychiatric effects like anxiety and depression.

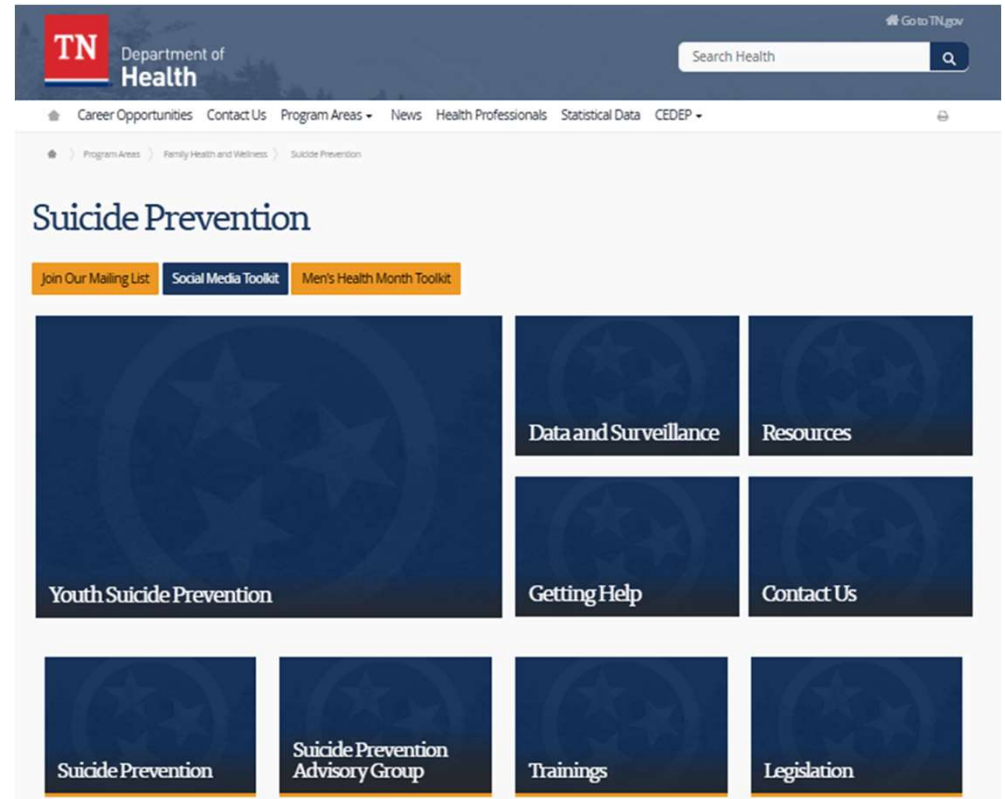


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# Suicide Prevention Resources

# TDH Suicide Prevention Program

- Implements a layered, multi-faceted approach to address suicide risk and improve outcomes across Tennessee



# TDH Suicide Prevention Program

- **Training and Empowering Gatekeepers**
  - Educates community members and professionals to recognize suicide warning signs and respond appropriately.
- **Implementing Safer Healthcare Systems (Zero Suicide Framework)**
  - Promotes organization-wide improvements in healthcare systems to identify, engage and treat individuals at risk for suicide.
- **Expanding Telemental Health Best Practices**
  - Training providers to improve delivery of telemental health services, particularly in rural and underserved communities.

# TDH Suicide Prevention Program

- **Launching Public Awareness Campaigns**
  - Reduces stigma and promotes help-seeking behavior through targeted outreach and education efforts.
- **Leveraging Real-Time Data (ESSENCE Alert System)**
  - Utilizes the Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) to monitor spikes in suicide-related emergency department visits and initiates a timely, coordinated response when necessary.



# TDH Suicide Prevention Program

- **Analyzing and Sharing Suicide-related Data**
  - Providing timely, insightful information to inform suicide prevention initiatives.
- **Empowering Youth through Proactive Mental Health Programming**
  - Implementing Sources of Strength (SOS), an evidence-based, youth-led suicide prevention model, in schools, faith-based organizations (FBOs), and community-based organizations (CBOs) across rural communities.

# Suicide Prevention Gatekeeper Trainings



About TSPN ▾

About Suicide ▾

Projects ▾

News ▾

Get Involved ▾

Resources ▾



## Events & Training

For more information about trainings offered:

<https://tspn.org/events-training>

## Zero Suicide Initiative

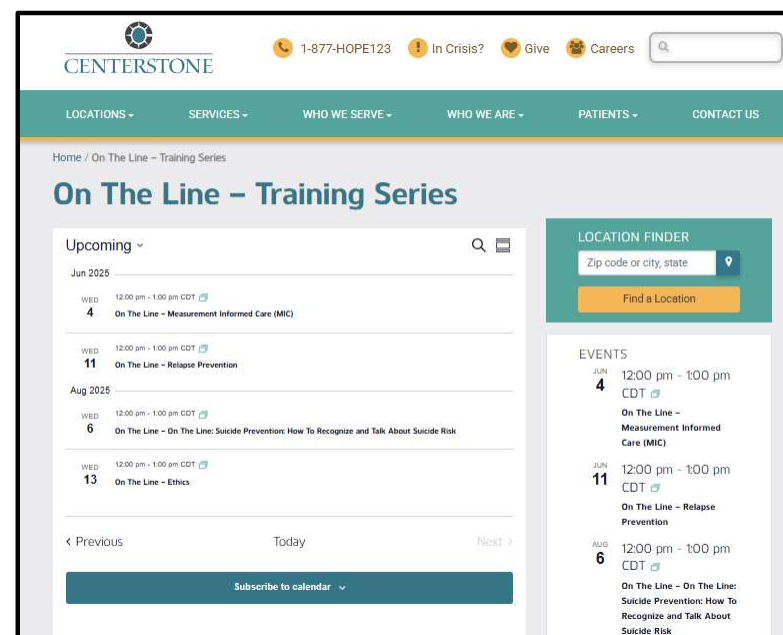


**Transforming  
systems for safer  
suicide care**

**For more information, contact Lisa Kling at [lkling@tspn.org](mailto:lkling@tspn.org)**

# Trainings on Best Practices for Utilizing Telehealth

- In partnership with Centerstone
- Teaches participants the best practices for utilizing telehealth
- Each one-hour session qualifies for CEU's
- Topics include:
  - Clinical Supervision
  - DBT & Telehealth
  - Treating Children via Telehealth
  - Conducting Group Therapy via Telehealth



**Centerstone Telehealth Trainings:**  
<https://centerstone.org/series/on-the-line/>

# 988 Suicide and Crisis Lifeline PSA Campaign

- Multi-media suicide prevention campaign to increase community awareness of the national 988 Suicide & Crisis Lifeline among disproportionately affected populations.
- Aired March through June 2025.
- Included targeted placement of:
  - Video ads on streaming services, cable, and social media
  - Static imagery on social media and TDH website
- Ads in English and Spanish.



# Suicide-Related Syndromic Surveillance

- Monitors trends in suicidal behaviors/risk factors (Suicide Attempts/Intentional Self-Harm/Suicidal Ideation)
- Provides alerts for increases in suicide-related ER visits
- Provides current and timely provisional ER data (Not hospitalization data)
- Weekly email bulletin (county, health region, age, risk factors)
- Sign up: <https://tn.gov/health/fhw/ESSENCE-sign-up>

**E**lectronic  
**S**urveillance  
**S**ystem for the  
**E**arly  
**N**otification of  
**C**ommunity-based  
**E**pidemics

## Sources of Strength (SOS) Program

- SOS is a school-based youth suicide prevention initiative designed to **enhance protective factors associated with reducing suicide at the school population level** and provide communities with the resources and skills they need to live healthy and full lives.
  - Evidence-based
  - Peer-led
  - Can be tailored to schools and faith-based organizations
  - 11 sites in 6 counties currently implementing



## Slide 39

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**MA0** Update notes as it was no longer last week  
Melissa Alardo, 2024-03-27T21:01:12.133

**MA0 0** You can say "In February 2024"  
Melissa Alardo, 2024-03-27T21:01:24.118

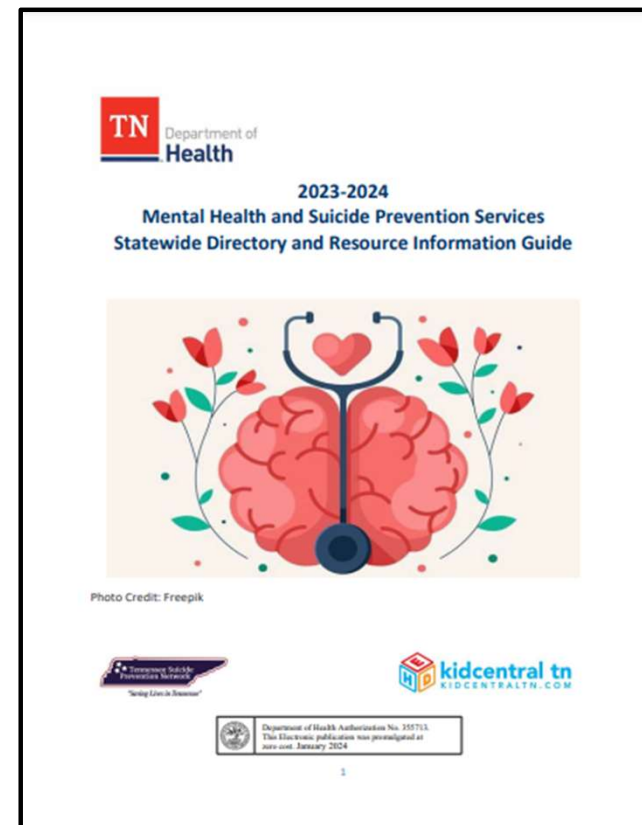
**LM0 1** Corrected  
LaDonna Merville, 2024-03-28T13:43:00.694



# Statewide Directory & Information Resource Guide

The resource directory includes:

- Overview of Suicide in TN
- Warning Signs
- Risk and Protective Factors
- When to Access Help for Mental Health
- Accessing and Paying for Mental Health Services
- All Resources and Services Available Statewide
- Charts of all Suicide Prevention Programs/Services, Laws/Policies, and Groups/Coalitions



# Monthly Newsletter

Includes:

- Program Announcements
- Partner Profile Highlight
- Available Trainings
- State and National Resources
- Data Highlights.

If interested in highlighting an organization or upcoming event, please contact LaDonna Merville at [LaDonna.Merville@tn.gov](mailto:LaDonna.Merville@tn.gov).

MA0



## Slide 41

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**MA0** I would add your email address  
Melissa Alardo, 2024-03-27T20:59:49.138

**LM0 0** Corrected  
LaDonna Merville, 2024-03-28T13:41:19.293

# TDH Suicide Prevention Advisory Group

- Broad representation across all sectors involved in suicide prevention activities across the state.
- Convene quarterly virtual meetings to review:
  - Statewide data
  - Programs and services
  - Opportunities for improving statewide suicide prevention efforts
- Currently 117 individuals on the Advisory Group



## Counseling on Access to Lethal Means (CALM)

- Free, self-paced, online course
- Evidence-based strategy for suicide prevention
- Teaches participants how to:
  - Identify those for whom lethal means counseling is appropriate.
  - Describe strategies for raising the topic of lethal means and feel more comfortable and competent applying these strategies with patients/clients.
  - Advise patients/clients on specific off-site and in-home secure storage options for firearms and strategies to limit access to dangerous medications.
  - Work with patients/clients and their families to develop a specific plan to reduce access to lethal means and follow up on the plan over time.



# Youth Sports Injury Prevention

- **Safe Stars** is a partnership between the Tennessee Department of Health and Vanderbilt Youth Sports Health Center
- Recognizes youth sports leagues for **excellence in athlete safety**.
- Features three award levels: **Gold, Silver, Bronze**.
- Criteria include policies on **concussion education, weather safety, and injury prevention**.
- Aims to support all leagues in **enhancing safety standards**.
- Developed by health experts **to reduce youth sports-related injuries**.



*Safe Stars Initiative*



SETTING THE STANDARD FOR SAFETY & HEALTH IN YOUTH SPORTS



*Draft is now open! Earn a gold, silver or bronze medal for your team!*



**Tennessee Department of Health  
Suicide Prevention Program  
[www.preventsuicidetn.com](http://www.preventsuicidetn.com)**



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**Questions?**