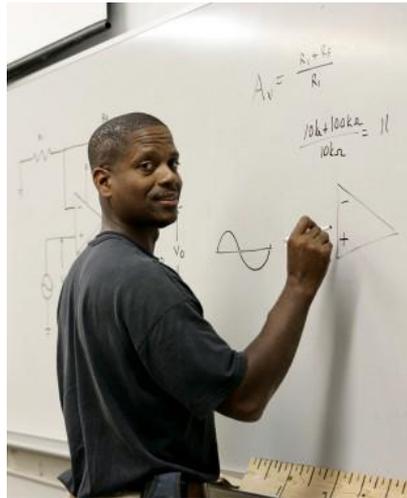


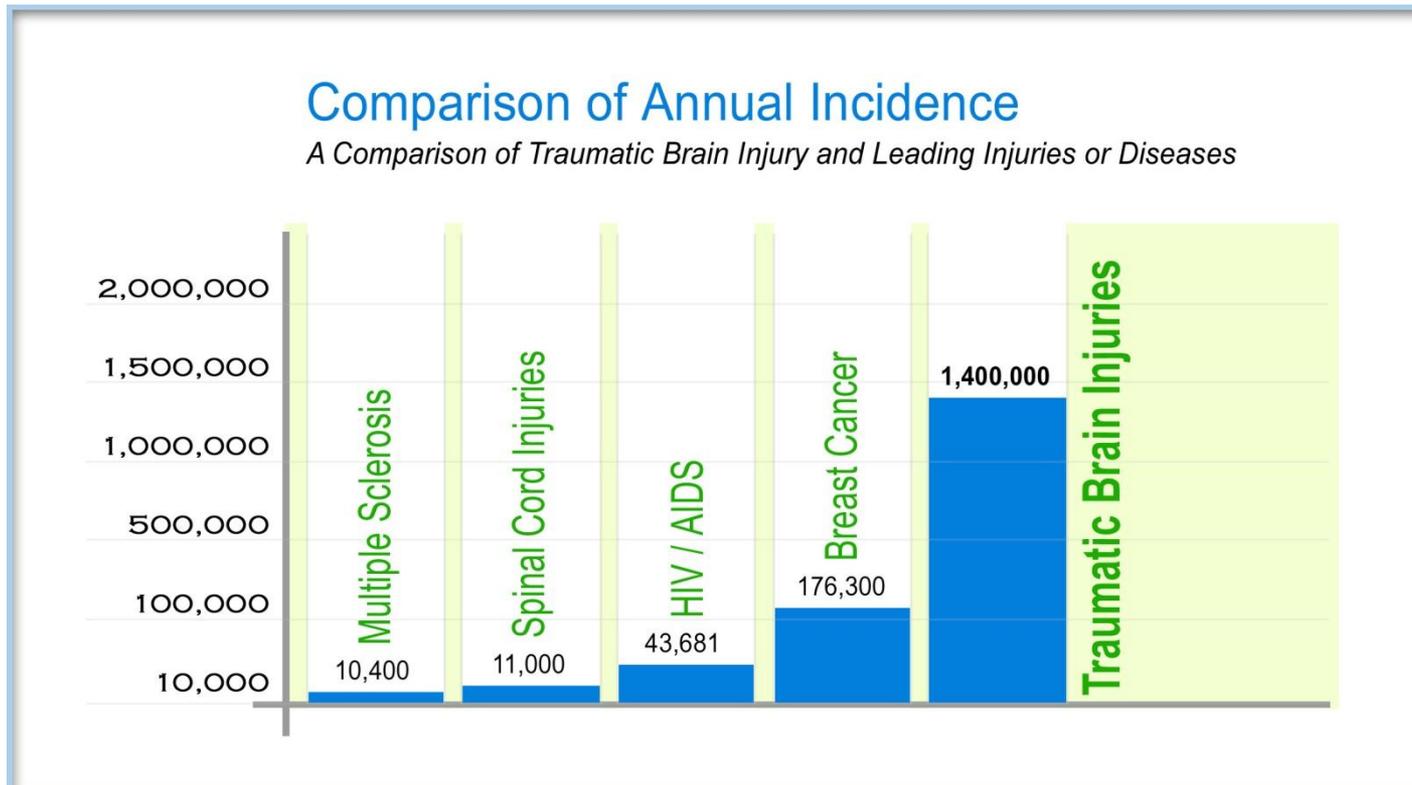
Meeting the Needs of Student Veterans: The Impact of Traumatic Brain Injury



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June 11, 2010

Comparative Incidence



The “Silent Epidemic”

Brain Injury in the Civilian Population

- An estimated **10 million Americans** are affected by stroke and TBI combined, making brain injury the second most prevalent cause of disability in the United States.
- Every **23 seconds**, one person in the United States sustains a traumatic brain injury.
- **1.4 million** Americans survive traumatic brain injuries each year.
- More than **55,000 people** die every year
- as a result of traumatic brain injury.



Brain Injury and the Military: Understanding the Scope of the Problem

Early reports:

- Over 30% of all combat related injuries (n=155) seen at Walter Reed Army Medical Center from 2003-2005 included a traumatic brain injury.
- About half of the soldiers reported exposure to a blast.
- 60% of these blast victims sustained a TBI.



RAND Center for Military Health Policy Research 2008 Report¹

- 19.5% of military surveyed reported experiencing a TBI during deployment; this translates to upwards of *360,000* service members who may have sustained brain injuries.
- 18.5% of US service members who have returned from Iraq & Afghanistan currently have PTSD or depression.



¹The Invisible Wounds of War, Rand Center for Military Health Policy Research, 2008

More stats-Mortality rates

- World War II – About 30%
 - Vietnam – About 24%
 - OEF/OIF – About 10%
- 90% of troops wounded in combat have survived.
22% of combat wounds are traumatic brain injuries²

²Department of Defense, Defense and Veterans Brain Injury Center

TBI: The Signature Injury

- Nature of warfare (blasts)
- Better body armor
- Shorter rescue time
- Advanced medical treatment



Many veterans will experience long-term or life-long effects of their injuries.

The Tip of the Iceberg

Incidence Of “Mild” TBI May Be Underestimated

- *Easier to capture the incidence of moderate to severe TBI*
- *The effects of concussion from blast injury are not always immediately apparent.*
- *Of those reporting a probable TBI, 57% had not been evaluated by a physician for brain injury (Rand, 2008).*
- *Reluctance to seek treatment.*
- *Not everyone has a “diagnosis.”*

How many student veterans in NY?



Student Veterans

Not your Average College Student

adapted from North Dakota State University³

- Older
- May have more responsibilities (spouse, kids, military duties)
- Different life experiences (military training, deployments, etc.)
- May be struggling with after effects of deployments (emotional, physical, social, and occupational)

• ³ North Dakota State University, Dr. Bill Burns

**When a service member
comes home, he/she may
find it hard....**

adapted from North Dakota State University

... to listen to his son whine about being bored³.



... to keep from ridiculing someone who complains about hot weather.



... to be understanding when a co-worker or class mate complains about a bad night's sleep.



... to be tolerant of people who complain about the hassle of getting ready for work.



... to be sympathetic when someone says how hard it is to have a new baby in the house.



... to control her emotions when she hears someone say that the war is about oil.



US Military Fatalities 4000+

... to control his panic when his wife tells him he needs to drive slower.



... to be happy for a friend's new hot tub.



...to sleep through the night.



... to forget the things he has seen and done.



... to feel comfortable with a stranger behind him.



... to be civil to people who complain about their schoolwork.



... not to startle to loud noises.



... to make new friends.



... to remember what it was like to be carefree.



What is Traumatic Brain Injury?

- Traumatic brain injury is a specific type of damage to the brain that results when the head:
 - Is penetrated (e.g., a gunshot wound)
 - Is hit (e.g., by assault or by impact from debris)
 - Is violently shaken by an external force (e.g., concussion, blast injuries, severe whiplash)
 - Hits a stationary object (e.g., a windshield in a car crash, a gun mount in a humvee)



Concussions

- A concussion is a brain injury.
- In most cases, a person with a concussion does not lose consciousness.
- A history of 3 previous concussions increases risk of repeated concussions 3-fold.
- Athletes with history of 3+ concussions report significantly more symptoms and have lower memory scores at baseline.
- Symptoms following repeat concussions may be more serious and resolve at a slower rate.

Blasts



- Are the leading cause of TBI for active duty military personnel⁴
- Account for 71.6% of TBI cases in the current conflicts⁵

⁴The Defense and Veterans Brain Injury Center, [http:// dvbic.org/blastinjury.html](http://dvbic.org/blastinjury.html)

⁵ CRS Report for Congress, US Military Casualty Statistics, OIF and OEF, September 2008, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA487081&Location=U2&doc=GetTRDoc.pdf>

How Brain Damage Occurs in a TBI

Focal Damage

Skull Fracture

Contusion or bruises under the location of a particular area of impact

Fronto-Temporal Contusions/Lacerations

Bruising of brain or tearing of blood vessels in the frontal and temporal lobes of the brain caused by brain hitting or rotating across ridges inside skull

Diffuse Axonal Injury

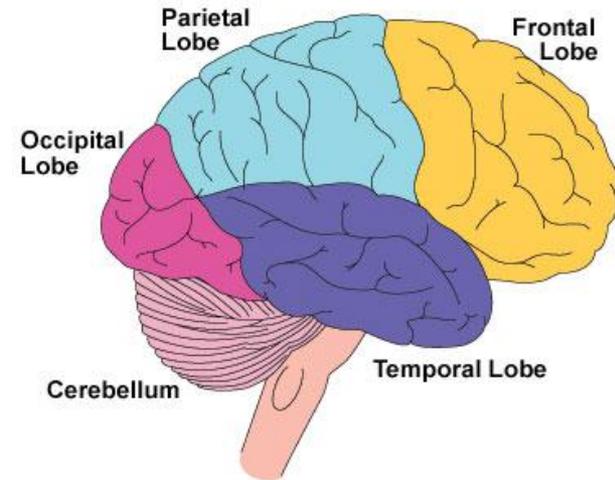
Shifting and rotation of brain inside skull results in tearing and shearing injuries to the brain's long connecting nerve fibers or axons

Blast Injury

Results from the complex pressure wave generated by an explosion.

Some time after the injury the following may affect the brain:

- Hematoma (Blood Vessel Damage)
- Brain Swelling
- Increased Intracranial Pressure
- Intracranial Infection
- Seizures



Blasts and TBI

Blast injuries result from the complex pressure wave generated by an explosion, which causes an instantaneous rise in pressure over atmospheric pressure.

Fluid-filled and air-filled organs like our ears, lungs, GI tract, brain and spine are susceptible to injury as a result of the blast wave, causing primary blast injury.

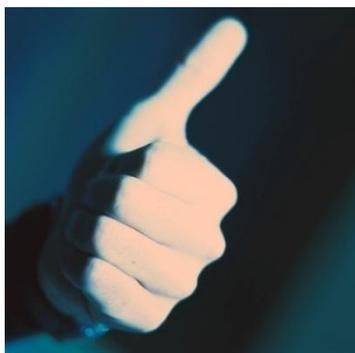


Blasts can cause brain injury in other ways:

- Secondary blast injury: the result of fragments flying through the air which may cause penetrating brain injury.
- Tertiary blast injury: may occur when the service member is placed in motion by the blast. These injuries are associated with acceleration/ deceleration forces and blunt force trauma to the brain similar to what happens in high speed motor vehicle accidents.
- Quaternary blast injury: can occur in the presence of severe blast related trauma which results from significant blood loss (e.g., traumatic amputations) or even from inhalation of toxic gases resulting from the explosion.

Every Person with Brain Injury is Different

- Every person with a brain injury adjusts differently to the changes that result from brain injury



- Therefore, every person with brain injury needs differing types and levels of support

Common Problems after Brain Injury

Can be categorized into the following broad functional areas:

- PHYSICAL
- COGNITIVE
- EXECUTIVE FUNCTIONING
- AFFECTIVE/BEHAVIORAL
- PSYCHOSOCIAL

Physical

Loss of Smell and Taste
Hearing Loss
Visual Difficulties
Balance Difficulties
Dysarthria
Motor Control and
Coordination
Fatigue
Seizures
Decreased Tolerance for Drugs
and Alcohol
Headaches
Sleep Disturbances
Chronic Pain

Psychosocial

Vocational Problems
Educational Problems
Family Issues

Affective/Behavioral

Impulsivity
Emotional Lability
Irritability
Decrease Frustration Tolerance
Impaired Judgment
Tension/Anxiety
Depression
Aggressive Behaviors
Disinhibition
Changed Sexual Drive
Changed Personality

Executive Functioning

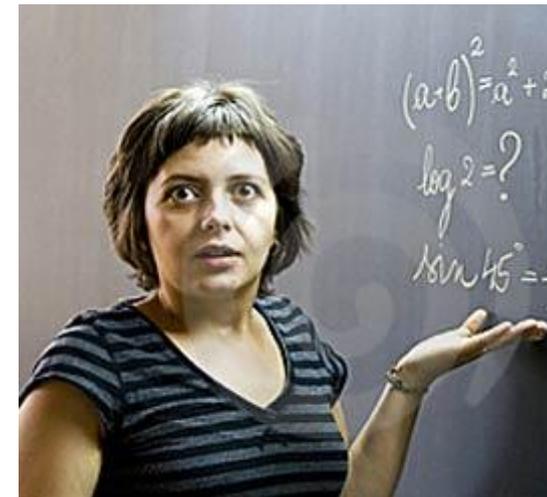
Goal Setting
Self-Monitoring
Planning
Initiating
Organizing
Directing
Creating
Evaluating
Modifying
Bringing to Completion
Ability to engage in meaningful
activity

Cognitive

Short Term/Working
Memory
Attention
Concentration
Distractibility
Decreased Verbal
Fluency/Comprehension
Information Processing
System Arousal
Problem Solving
Changed Intellectual
Functioning
Abstraction and
Conceptualization
Slowed Reaction Time

Types of Cognitive Impairments⁶

- Processing information
- Organizing thoughts, problem solving
- Learning & memory abilities
- Generalizing and integrating skills
- Interacting with others



⁶ Students with Traumatic Brain Injury: Defining Characteristics and Differences, Katherine Kimes, George Washington University HEATH Resource Center

Other Difficulties

- Sensitivity to lights and loud noises
- Chronic headaches
- Behavioral and/or cognitive impulsivity
- Behavioral inflexibility / cognitive rigidity
- Easily overloaded or distracted
- Changes in self-awareness / self-perception



Long Term Effects of Mild TBI

- Many individuals with mild traumatic brain injury, or concussion, will have no long-term effects.
- A small group may have some longer lasting, or even permanent, symptoms. Irritability, anxiety and depression are the most common lasting problems.
- Challenges relating to movement, balance, attention span, concentration, judgment and reaction time can also be found in some patients.

PTSD and TBI

- The symptoms of PTSD could also be indicative of TBI.
- It is not unusual for people to experience both diagnoses concomitantly.
- The differences are often subtle.



Posttraumatic Stress Disorder

- PTSD is an anxiety disorder that can occur after experiencing or witnessing a traumatic event.
- The person experienced, witnessed or was confronted by an event or events that involved actual or threatened death or serious injury or threat to physical integrity of self or others.
- The person's response involved intense fear, helplessness or horror.

TRAP: The Symptoms of PTSD

- Trauma: The person experienced, witness, or was confronted by an event or events that involved actual or threatened death of serious injury, or a threat to the physical integrity of self or others. The person's response involved intense fear, helplessness, or horror.
- Reexperiencing symptoms: intrusive recollections, traumatic dreaming, flashbacks
- Avoidant symptoms: of others, stimuli connected to trauma
- Physiological symptoms: exaggerated startle response, hypervigilance

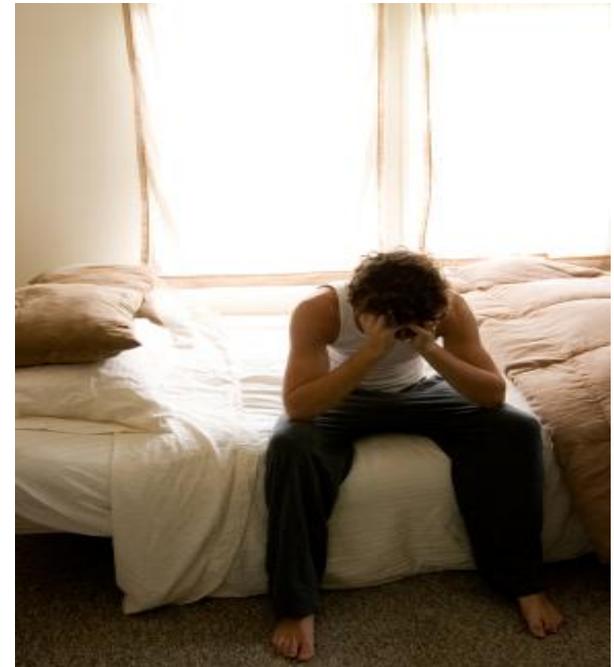
Examples of traumatic events include:

- Natural disasters (fires, floods, hurricanes, earthquakes)
- Serious accidents (car wrecks, explosions, train collisions)
- Physical/sexual assault or abuse
- Terrorist attacks
- Military/Combat exposure



Symptoms

- If a person has PTSD, he or she is at greater risk for also having another psychiatric diagnosis.
- In one large study of individuals with PTSD, 92% met criteria for another psychiatric diagnosis:
 1. Major Depression 77%
 2. Generalized Anxiety Disorder 38%
 3. Alcohol abuse/dependence 31%



Mild TBI and PTSD: Overlapping Symptoms Across Conditions

- **MTBI**

- Insomnia
- Impaired memory
- Poor concentration
- Depression
- Anxiety
- Irritability
- Headache
- Dizziness
- Fatigue
- Noise/light intolerance

- **PTSD**

- Insomnia
- Memory problems
- Poor concentration
- Depression
- Anxiety
- Irritability
- Stress symptoms
- Emotional numbing
- Avoidance

- Many symptoms of TBI overlap with the common reactions to trauma.
- Sometimes difficult to tell what the underlying problem is.
- Important to be assessed because:
 - People with TBI should not use some medications
 - No matter how mild or severe the injury itself was, the effects could be serious.

Community Adjustment Study*

- National sample of Iraq-Afghanistan veterans
- 1226 veterans were surveyed, 754 responded (62% rate of response)
- 42% ages 22 – 29
- 30% ages 30 – 39
- 28% ages 40 – 49
- 72% employed part- or full-time
- 52% some college or technical school
- **32% students**
- 24% single or never married
- 61% married or living with partner
- 15% separated or divorced
- 1% widowed

*Sayer, Noorbaloochi, Frazier, Carlson, Gravely, & Murdoch (2010). Reintegration Problems and Treatment Interests Among Iraq and Afghanistan Combat Veterans Receiving VA Medical Care. *Psychiatric Services*, 61 (6), 589 – 597.

Measures

1. Study questionnaire – veteran characteristics, physical & mental health, perceived community reintegration problems, and treatment preferences
2. Short-Form Health Survey (SF-12) – mental & physical health components
3. Primary Care PTSD Screen
4. Two-Item Conjoint Screen – alcohol & drug
5. VA database – for sociodemographic data, disability info, mental health treatment hx, etc.

Diagnoses - highlights

- In VA records:
 - PTSD **26%**
 - Substance use disorder **5%**
 - TBI **4%**
- Survey screening results:
 - Probable PTSD **39%**
 - Probable drug or alcohol problem **35%**
 - Probable TBI **???**

Key Findings

- **40%** of Iraq-Afghanistan combat veterans reported “some” to “extreme” overall difficulty readjusting to civilian life
- **25% to 41%** reported “some” to “extreme” productivity problems
- **31%** reported more alcohol and drug use since coming home
- **57%** reported more anger control problems

Treatment Preferences

- **96%** of combat veterans were interested in services for community reintegration problems
- **80%** were interested in information on schooling, employment, or job training (most frequently reported interest)
- Most popular ways to receive readjustment services or information:
 - VA Medical Center 57%
 - **Internet or Web 53%**
 - Mail 53%
 - **Email 43%**
 - **Non-VA Medical Center 33%**
 - At or through military unit 32%
 - **Community center 27%**
 - Videoconferencing 20%
 - Over the telephone 19%



Challenges for Student Veterans

- Social and emotional isolation
- Readjustment, acculturation, and identity issues
- Awareness and understanding of cognitive problems
- Complicating physical & emotional conditions
- Knowledge of support systems and available resources
- Post-injury abilities are very different from pre-injury abilities

Possible Scenarios

- Students often do not seek assistance, guidance or advice before returning to school
- Academic problems arise unexpectedly and students are not well prepared to handle them
- Pre-existing conditions may be exacerbated (e.g., ADHD, learning disabilities, etc.)
- Co-occurring PTSD, depression, anxiety, and other psychological/psychiatric issues add stress as well as cognitive difficulties

A student with a TBI may benefit from :

- Calm, clear and straightforward communication
- Step-by-step directions
- Opportunities for rehearsal & “do-over’s”
- Established routines
- Redundant information
- Academic accommodation
- Peer support and/or mentor

Reference guide for college students with disabilities, NC State University,
www.ncsu.edu/dso/accommodations

What May Occur in the Classroom³

- **Student may seem uncomfortable around unfamiliar people and in unfamiliar surroundings**
- **Student may sit away from windows and in back of class and be reluctant to speak up in class**
- **Student may be sensitive to war references and may withdraw or become confrontational when the topic is brought up**
- **Student may have difficulty concentrating during class and be easily distracted, which may interfere with the student's ability to learn**
- **Student may have physical health problems such as chronic pain that make it difficult to sit for long periods of time**

In the Classroom

- **Student may have sensory impairments that interfere with reading, perception and/or comprehension**
- **Student may need increased encouragement and guidance**
- **Veterans are used to receiving direct orders and specific instructions**
- **Student may lack organizational skills**
- **Student may be reluctant to ask for assistance**
- **Student may feel pressured to take more classes than is reasonable because of “clock” ticking on VA education benefits**

Suggestions for faculty and staff...

- Remember that veterans are a heterogeneous group with a wide-range of capabilities, temperaments and experience
 - Some individuals endure extreme conditions with relatively few negative effects, while others are more sensitive to traumatic events
- Regardless of your opinion regarding a specific military campaign, veterans deserve recognition and appreciation
 - Almost all will be happy to hear that you appreciate their service
- Include information on class syllabi for student veterans, such as:

“Veterans and active duty military personnel with special circumstances are welcome and encouraged to communicate these, in advance if possible, to the instructor.”

More suggestions...

- Understand veterans may miss class due to VA appointments which, if missed, can take 1 to 4 months to be rescheduled
- Ask veterans what they want. Do they want to be anonymous? How should war references be handled?
- Be aware that military spouses and families with loved ones deployed have challenges of their own
- Recognize signs of mental or physical stress
- Be aware of referral sources on and off campus
- Whenever possible, provide staff members to act as the point of contact for veterans' benefits and programs
- Offer outreach to student veterans regarding available services (disability, veterans, counseling, mentoring, etc.) – students don't know how to get the help they need or that it is even available

What you should know

- Recovery from brain injury can be inconsistent
- A student may take one step forward and two steps back, do nothing for a while, and then unexpectedly make a series of gains
- Recovery from traumatic brain injury can take a long time, even after a plateau has been reached

And finally...

- There can be joy and fulfillment after a brain injury, despite the frustrations and natural feelings of loss and grief
- Recovery is a long process and gains can be made when they are least expected
- Educating the public about brain injury helps to remove the stigma associated with it
- Preventing isolation of persons with TBI is critical



The Brain Injury Association of New York State

The statewide non-profit membership organization that advocates on behalf of individuals with brain injury and their families.



The Brain Injury Association of New York State

- Traumatic Brain Injury Training and Military Veterans Service Project
- Family Advocacy, Counseling & Training Services Program (FACTS)
- Support groups
- Caregiver Support
- Statewide resources
- Information and training about TBI
- Certified Brain Injury Specialist Training
- Annual conferences and symposia
- Family Help Line (800) 228-8201
- Project LEARN in the classroom (LEARNet)

Family Advocacy, Counseling, and Training Services Program (FACTS)

- A family support program operated by BIANYS and funded by NYS OMRDD
- Users of the program must have sustained an injury prior to age 22 and be a NYS resident
- Sixteen FACTS coordinators are located throughout NYS

Traumatic Brain Injury Training and Military Veterans Services Project

- A collaboration between the Brain Injury Association of New York State & the NYS Department of Health
- The project provides information about TBI, support for military personnel returning to NYS from Iraq and Afghanistan and their families, and training for providers about TBI



Support is provided in part by project H21MC06742 from the Maternal Child Health Bureau (Title V, Social Security Act), Health Resources and Services Administration, Department of Health and Human Services

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Albany, NY 12208

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(518) 626-5396

800-273-8255 Suicide Prevention Hotline

800-838-7890 24-Hour TelCare

Website: www.va.gov



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