

Investment in research saves lives and money



facts about:

Traumatic Brain Injury

"If you think research is expensive, try disease."

- Mary Lasker 1901-1994

Today:

- Annually, 1.7 million Americans sustain traumatic brain injuries (TBI). Often, TBIs are not visible so they frequently go untreated and unreported. Even mild injuries can have lifelong effects.*
- Over 5.3 million Americans have lifelong disabilities due to TBI. TBI is a risk factor for conditions such as stroke, epilepsy, mood disorders, Alzheimer's disease (AD) and substance abuse.**
- Compared to all injury-related hospitalizations, TBI-related stays are longer, more expensive and patients are more likely to die. TBI contributes to a third of injury-related deaths.***
- From 2000-2012, 244,000 service members were affected by TBI. From 2004-2009, more than 75% of returning vets treated for TBI by the Veterans Health Administration (VA) were also treated for post-traumatic stress disorder (PTSD).****
- Less than 50% of surveyed high school football players who sustained a concussion reported it. More than 33% of student athletes sustain multiple concussions.*****

SAVING LIVES

SAVING MONEY

HOW RESEARCH SAVES LIVES:

- Public health research, including CDC surveillance, helps to ensure TBI interventions incorporate the best available practices and information.[†]
- NIH-funded research identified a similarity between TBI and AD, prompting clinical trials of AD medications (γ-secretase inhibitors) that may prevent long-term TBI damage.^{††}
- Amantadine hydrochloride is traditionally used for managing Parkinson's disease, AD and the flu. NIH-supported clinical trials suggest it may help expedite the early stages of recovery after TBI by regulating the neurotransmitter dopamine.^{†††}

HOW RESEARCH SAVES MONEY:

- CDC research shows that, if adopted, new emergency TBI guidelines could save \$288 million in medical and rehabilitation expenses and \$3.8 billion in indirect costs annually.[‡]
- Since 2007, research-based CDC programs dramatically increased awareness, prevention and proper management of concussions among high school athletic departments. Coaches report changes in their concussion prevention management and prevention strategies as a direct result of these programs.^{‡‡}
- Concussion awareness and prevention is particularly important given research indicating that concussions may cause long-term neurological problems.^{‡‡}

The Cost:

- TBI's annual cost is estimated to be \$76.5 billion.[§]
- Average lifetime health care costs for TBI are roughly \$85,000 but can exceed \$3 million.^{§§}
- Treating veterans with TBI and/or PTSD is 3-5 times more costly to VA clinics than veterans with neither condition.^{§§§}
- Suicide, depression and chronic pain can be exacerbated by a TBI. Roughly 25% of individuals who sustain a TBI will report suicidal ideations or attempt suicide.^{§§§§}

survivor:

NAME: **Sergeant First Class (Retired) Victor Medina**
 AGE: **37**
 CONDITION: **Traumatic Brain Injury**



SFC(Ret) Victor Medina began active military service in 2002 and served with great distinction, completing two tours in Iraq and a tour in Afghanistan. But in June 2009, while serving his second tour in Iraq, Victor was injured when an explosive-formed projectile detonated near his convoy. In the weeks following the blast, he felt his cognitive abilities slipping away; he also suffered from impaired vision, hearing, speech and motor skills and incessant migraine headaches. Before the injury, Victor would spend time with his wife skiing, doing sudoku puzzles and riding motorcycles on mountain roads – activities that became impossible after the blast.

Victor has since been medically retired from military service and has received ongoing care and rehabilitation at the National Intrepid Center of Excellence (NICoE) in Bethesda, MD – a state-of-the-art treatment facility for soldiers impacted by brain-related injuries. These treatments have allowed Victor to progress remarkably, greatly improving his speech, motor skills and cognition. He is now completing a master's in rehabilitation counseling at the University of Texas at El Paso.

When asked about TBI, Victor speaks about the importance of increasing awareness about this growing threat to soldiers and civilians. In addition, he feels that TBI often goes unrecognized or untreated, which is why educating medical providers and the public is crucial for preventing and treating TBI. "But without research, there is no progress," he said. Research – and increased awareness of TBI – provide a wealth of resources that weren't available to the military or the public a decade ago. We really have come a long way in a short time, yet there's so much more to be done. Clearly, our nation needs to boost our investments in TBI and brain-related research for the sake of our soldiers and all Americans.

facts about: } Traumatic Brain Injury

Hope for the Future:

- Clazosentan may minimize structural damage and cognitive impairment following a TBI by stabilizing blood pressure in the brain. It is being studied by researchers funded through the American Academy of Neurology, NIH and the VA. [‡]
- NIH-funded experiments are exploring the role of hormones post-TBI, and the findings have the potential for both therapeutic and diagnostic applications. ^{##}
- Current imaging may miss TBI damage up to 70% of the time. [°] New techniques are being developed in federal labs and with NIH funding to improve our understanding of brain damage. This may lead to personalized treatments and enhanced detection of brain injuries. ^{***}
- NIH and the Department of Defense are preparing to launch the first interagency TBI database enabling comparisons across studies and investigation of trends in large data sets. ^{****}

The Bottom Line:

Traumatic brain injury poses a massive health threat to civilians and our troops. The toll of TBI is growing, and we have already seen the heavy societal and cost burden that it has imposed on our nation. Sadly, very little is known about how to diagnose and treat TBI, which is why new investments are desperately needed for the sake of our servicemen and servicewomen and for all Americans. TBI awareness and preventative measures are on the rise, but with no standard of care or approved treatment, more research is needed to properly address this pervasive health threat.

The Front Line:

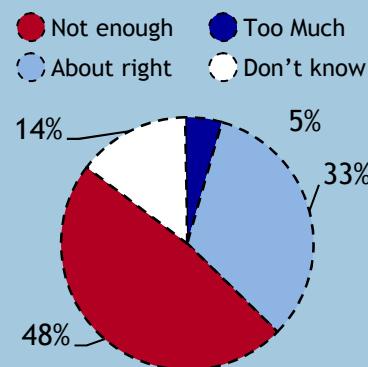


"TBI is afflicting our veterans at an alarming rate and can lead to a lifetime of debilitating mental health disorders. Sadly, researchers know very little about TBI, and more research is desperately needed to enhance our understanding of the disease and ultimately develop effective treatments and prevention strategies. TBI is taking a very heavy toll on our men and women in uniform and can create significant barriers to reintegrating our veterans into the workforce. Our troops deserve better."

GENERAL PETER W. CHIARELLI (RETIRED)
FORMER VICE CHIEF OF STAFF, U.S. ARMY
CEO, ONE MIND FOR RESEARCH

Americans: More Investment Needed for Military Veterans

Would you say government investment in health research for the benefit of military veterans and service members is ...



SOURCE: YOUR CANDIDATES-YOUR HEALTH PUBLIC OPINION POLL, OCTOBER 2011
JZ ANALYTICS FOR RESEARCH!AMERICA

Sources:

:: Today

* SOURCES: CENTERS FOR DISEASE CONTROL AND PREVENTION {WWW.CDC.GOV}
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***SOURCES: AGENCY FOR HEALTHCARE RESEARCH AND QUALITY {WWW.AHRQ.GOV}
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****SOURCES: BRAINLINE MILITARY {WWW.BRAINLINEMILITARY.ORG}
CONGRESSIONAL BUDGET OFFICE {WWW.CBO.GOV}

*****SOURCES: MCCREA, M. ET AL. CLINICAL J OF SPORTS MEDICINE. 2004; 14(1): 13.
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:: The Cost

[°]SOURCE: CENTERS FOR DISEASE CONTROL AND PREVENTION {WWW.CDC.GOV}

^{°°}SOURCE: UAB-TBIMS, TBI INFORM. 2000.

^{°°°}SOURCE: CONGRESSIONAL BUDGET OFFICE {WWW.CBO.GOV}

^{°°°°}SOURCE: TANIELIAN, T. ET AL. RAND CORPORATION. 2008.

:: How Research Saves Lives

[‡]SOURCE: CENTERS FOR DISEASE CONTROL AND PREVENTION {WWW.CDC.GOV}

^{††}SOURCE: NASOOHI, S. ET AL. NEUROSCIENCE. 2012; 17: 99.

^{†††}SOURCES: IKONOMOVIC, MD. ET AL. EXPERIMENTAL NEUROLOGY. 2004; 190: 192. US NEWS HEALTHDAY {WWW.HEALTH.USNEWS.COM}

:: How Research Saves Money

[°]SOURCE: CENTERS FOR DISEASE CONTROL AND PREVENTION {WWW.CDC.GOV}

^{°°}SOURCES : SARMIENTO, K. ET AL. JOURNAL OF SCHOOL HEALTH. 2010; 80(3): 112. Dartmouth Report

:: Hope for the Future

[‡]SOURCE: AMERICAN ACADEMY OF NEUROLOGY

^{††}SOURCE: FASEB

^{†††}SOURCES: HUANG, MX. ET AL. JOURNAL OF NEUROTRAUMA. 2009; 26(8): 1213.
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^{††††}SOURCE: NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE {WWW.NINDS.NIH.GOV}

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