

Traumatic Injuries Among Service Members and Veterans in North Carolina: A Pressing Public Health Problem

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The military is currently experiencing a mental health crisis, with suicide now the second leading cause of death for Service Members [1]. In North Carolina, where Service Members and Veterans make up less than 10% of the state's population, Veterans have a suicide rate that is two times that of the state's average [2]. Traumatic brain injuries (TBIs) caused by explosions and other hazards during military service have been linked to mental health issues, including suicide; research published just this August analyzing a cohort of almost 900,000 Service Members found that individuals with a history of military-identified TBI had significantly higher rates of new-onset mental health conditions than those without TBI [3]. Although the US Department of Defense (DoD) has pledged to track exposure to TBIs, its efforts have been far from adequate [4]. This is unacceptable. I share my perspective on this issue as an Army Veteran and as a current PhD student in communication and media at the University of North Carolina at Chapel Hill.

The artillery unit I served with in Iraq in 2016 fired 6,000 high-explosive shells in nine months. Over the years since, we have lost members of our unit to suicide, and many report mental health issues, such as depression, post-traumatic stress disorder (PTSD), and more. They did not receive proper treatment or evaluation for the brain injuries they suffered.

When I sought treatment for potential TBI symptoms three years after we returned home, I also encountered difficulties. I began researching the issue of TBIs in the military during my graduate studies at UNC. I found a 2019 DoD report that described the potential risks of TBIs suffered by artillery personnel [5]. The findings of this report were not communicated to the general public until I wrote an article about them four years later in *Slate Magazine* [6].

The DoD has estimated that more than 380,000 personnel have suffered mild traumatic brain injuries (mTBIs) since the start of the War on Terror in 2001 [7]. Although all TBIs do not lead to suicidal ideations, medical research released in 2022 found military personnel with mTBIs have a suicide rate that is almost three times the national average [8] and that risk is even higher among those who seek care through the US Department of Veterans Affairs (VA) [9]. Many of these TBIs are due to blast injuries suffered during training with explosives, improvised explosive devices, and the use of artillery or high-explosive weapons. Defined by the Centers for Disease Control and Prevention (CDC) as "primary blast injury of the brain" [10], these injuries are hard to recover from and have symptoms like other types of TBIs, including headaches, irritability, and cognitive defects [11].

PTSD and TBIs are two separate phenomena [12] with unclear influences on each other. Research suggests the recurrence of exposure matters [13]; Service Members can be exposed to explosions or other hazards dozens to thousands of times [11]. I believe that concerted effort is needed within the state of North Carolina to address the mental health of our large Veteran and Service Member population; approaches from the communications field can suggest a way forward.

Officials, starting within the DoD, should first look at the systems that support health behaviors to ensure that best practices to protect against TBI are being undertaken, that Service Members are being properly tested for TBI symptoms, and that TBI exposure is properly tracked in their medical records. As of April 2023, the military still had not developed such a system despite calls from Congress to do so [4], in part due to cultural stigma around mental health treatment [5], norms about seeking medical care [14], and general lack of knowledge of the scale of the problem.

Another crucial factor to examine is the wider media landscape, which health communication research demonstrates can help cultivate norms, attitudes, and behaviors. For example, the use of narratives has been shown to be a good way to stimulate discussion about stigmatized topics [15]. Entertainment content and news coverage of TBIs in the military could be examined to see how TBIs might be framed in movies, TV shows, and other popular programs.

Finally, a health communication approach supports advocacy and collaboration on communication efforts.

In this case, there should be a media campaign to raise awareness of the effects of TBIs and the available medical support. Efforts could involve officials from the State of North Carolina, the DoD, the VA, and Service Members and Veterans themselves. It should seek to inform Veterans and Service Members of the risks and symptoms of TBIs and help encourage them to seek care. This campaign hinges on support from the DoD that properly identifies and creates solutions for TBIs suffered by Service Members. In the National Football League, where many players have been found to suffer from TBIs and chronic traumatic encephalopathy (CTE) during their careers, progress on these issues took years to gain momentum, in part due to conflicting (or lack of) messages from the league itself [16].

The efficacy of such a campaign relies on medical care being available and accessible. One example is the UNC Health System's Transforming Health and Resilience in Veterans (THRIVE) program, a private-public partnership that evaluates Veterans and provides a three-week intensive outpatient program. These efforts are not nearly enough; the 2024 National Defense Authorization Act is calling for the creation of more intensive outpatient programs nationally that leverage partnerships with public, private, and nonprofit health institutions [17]. North Carolina can be at the forefront. **NCMJ**

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References

1. Bryan CJ, Butner JE, Sinclair S, O Bryan AB, Hesse CM, Rose AE. Predictors of emerging suicide death among military personnel on social media networks. *Suicide Life Threat Behav*. 2018;48(4):413-430. <https://doi.org/10.1111/sltb.12370>
2. Tippet R. NC in Focus: 2020 Veteran's Snapshot. Carolina Demography. Published November 12, 2020. Accessed August 8, 2023. <https://www.ncdemography.org/2020/11/12/nc-in-focus-2020-veterans-snapshot/>
3. Brenner LA, Forster JE, Gradus JL, et al. Associations of military-related traumatic brain injury with new-onset mental health conditions and suicide risk. *JAMA Netw Open*. 2023;6(7):e2326296. doi: 10.1001/jamanetworkopen.2023.26296
4. Meyers M. Military still mismanaging troops' traumatic brain injury care. *Military Times*. Published April 5, 2023. Accessed August 8, 2023. <https://www.militarytimes.com/news/your-military/2023/04/05/military-still-mismanaging-troops-traumatic-brain-injury-care/>
5. Anestis MD, Green BA. The impact of varying levels of confidentiality on disclosure of suicidal thoughts in a sample of United States national guard personnel. *J Clin Psychol*. 2015;71(10):1023-1030. <https://doi.org/10.1002/jclp.22198>
6. Johnson D. The Military Mental Health Crisis Hiding in Plain Sight. *Slate*. Published April 12, 2023. Accessed August 8, 2023. <https://slate.com/technology/2023/04/military-mental-health-blast-brain-injury.html>
7. DOD TBI Worldwide Numbers. Department of Defense. Published 2020. Accessed August 8, 2023. <https://health.mil/Military-Health-Topics/Centers-of-Excellence/Traumatic-Brain-Injury-Center-of-Excellence/DOD-TBI-Worldwide-Numbers>
8. Howard JT, Stewart IJ, Amuan M, Janak JC, Pugh MJ. Association of traumatic brain injury with mortality among military veterans serving after September 11, 2001. *JAMA Netw Open*. 2022;5(2):e2148150. doi:10.1001/jamanetworkopen.2021.48150
9. Hostetter TA, Hoffmire CA, Forster JE, Adams RS, Stearns-Yoder KA, Brenner LA. Suicide and traumatic brain injury among individuals seeking Veterans Health Administration services between fiscal years 2006 and 2015. *J Head Trauma Rehabil*. 2019;34(5):E1-E9. doi: 10.1097/HTR.0000000000000489
10. Sprey E, Rories K. Primary Blast Injury of the Brain. *VA Research Currents*. Published October 3, 2022. Accessed August 8, 2023. <https://www.research.va.gov/currents/1022-Primary-Blast-Injury-of-the-Brain.cfm>
11. Heyburn L, Abutarboush R, Goodrich S, et al. Repeated low-level blast overpressure leads to endovascular disruption and alterations in TDP-43 and Piezo2 in a rat model of blast TBI. *Front Neurol*. 2019;10:766. doi: 10.3389/fneur.2019.00766
12. Traumatic Brain Injury and PTSD. U.S. Department of Veterans Affairs. Accessed August 8, 2023. https://www.ptsd.va.gov/understand/related/tbi_ptsd.asp
13. Belding JN, Fitzmaurice S, Englert RM, et al. Blast exposure and risk of recurrent occupational overpressure exposure predict deployment TBIs. *Mil Med*. 2020;185(5-6):e538-e544. doi:10.1093/milmed/usz289
14. Braswell H, Kushner HI. Suicide, social integration, and masculinity in the U.S. military. *Soc Sci Med*. 2012;74(4):530-536. <https://doi.org/10.1016/j.socscimed.2010.07.031>
15. Harter LM, Yamasaki J, Kerr AM. Telling Stories to Foster Well-Being, Humanize Healthcare, and Catalyze Change1. In: *The Routledge Handbook of Health Communication*. 3rd Edition. Routledge; 2021.
16. Blinder A. What the N.F.L. Says, and What It Doesn't, About Injuries. *The New York Times*. Published January 3, 2023. Accessed August 8, 2023. <https://www.nytimes.com/2023/01/03/sports/football/nfl-injuries-statistics.html>
17. National Defense Authorization Act for Fiscal Year 2024, S.2226, 118th Cong, (2023).

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