

# TRAUMATIC BRAIN INJURY AND PSYCHOLOGICAL HEALTH RESEARCH PROGRAM

## WHAT IS THE PROGRAM'S CONGRESSIONAL INTENT?

In FY07, the U.S. Congress appropriated funding for traumatic brain injury and psychological health, including post-traumatic stress disorder, in response to the TBIs sustained and psychological health issues experienced by our deployed forces in Iraq and Afghanistan. The Traumatic Brain Injury and Psychological Health Research Program (TBIPHRP) complements existing DOD research efforts in the prevention, detection, treatment, and rehabilitation of TBI and improved psychological health.



### FY22 Congressional Appropriations

**\$175M**

### FY22 Research Investment

Clinical Trial Award	\$62,208,075
Focused Program Award	\$62,745,955
Idea Development Award	\$5,000
Investigator-Initiated Research Award	\$9,956,746
Patient-Center Research Awards	\$5,032,918
Translational Research Award	\$16,818,217
Modification to ongoing awards	\$110,886
<b>Total:</b>	<b>\$156,877,797</b>

### FY22 Withholds and Management Costs

USAMRDC	\$3,379,024
SBIR/STTR	\$5,837,000
Mgt Costs (5.37%)	\$8,906,179
<b>Total:</b>	<b>\$18,122,203</b>



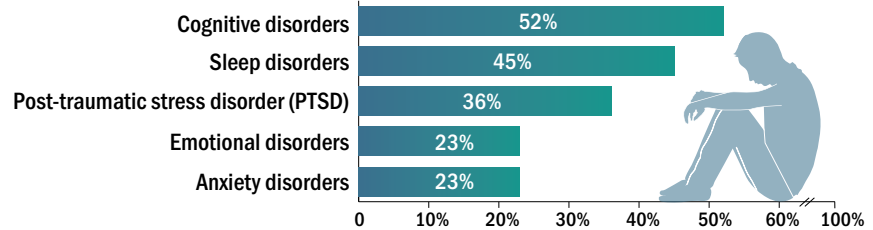
## WHY IS THERE A NEED FOR TRAUMATIC BRAIN INJURY AND PSYCHOLOGICAL HEALTH RESEARCH?

More than **468,000** U.S. Service Members obtained a TBI diagnosis from 2000 to 2023<sup>1</sup>



In 2021, there were more than 2 million behavioral health-related medical encounters among active-duty members<sup>2</sup>

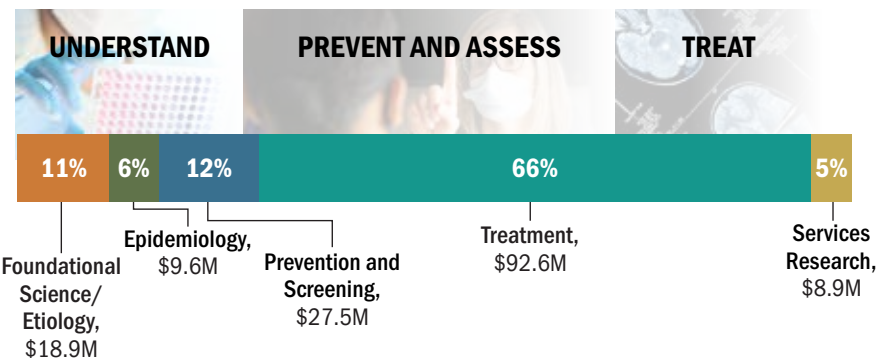
Within 2 years of a TBI diagnosis, active-duty and reservists may be more likely to experience<sup>3</sup>:



- **~3 million** Americans sustain a mild TBI each year<sup>4</sup>
- In 2020, civilians spent **over \$280 billion** on mental health services in the U.S.<sup>5</sup>
- **~15.6%** of civilians diagnosed with TBI have PTSD<sup>6</sup>

## HOW IS THE PROGRAM ADVANCING TRAUMATIC BRAIN INJURY AND PSYCHOLOGICAL HEALTH RESEARCH?

In FY22, the TBIPHRP directed investments into five areas of the research and development continuum (bottom) addressing three program priorities (top).



<sup>1</sup> Military Health System and Defense Health Agency. 2023. DOD TBI Worldwide Numbers. | <sup>2</sup> <https://www.health.mil/Reference-Center/Technical-Documents/2022/12/14/DOD-Health-of-the-Force-2021>. | <sup>3</sup> Hai, T, Agimi, YI, & Stout, K. 2023. Prevalence of Comorbidities in Active and Reserve Service Members Pre and Post Traumatic Brain Injury, 2017-2019. *Military Medicine*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9825245/#sup1>. | <sup>4</sup> Silverberg, N, et al. 2019. Management of Concussion and Mild Traumatic Brain Injury: A Synthesis of Practice Guidelines. *Archives of Physical Medicine and Rehabilitation* <https://pubmed.ncbi.nlm.nih.gov/31654620/>. | <sup>5</sup> The White House. 2022. Reducing the Economic Burden of Unmet Mental Health Needs. <https://www.whitehouse.gov/cea/written-materials/2022/05/31/reducing-the-economic-burden-of-unmet-mental-health-needs/>. | <sup>6</sup> Van Praag, DLG, Crossen, MC, et al. 2019. Post-Traumatic Stress Disorder after Civilian Traumatic Brain Injury: A Systematic Review and Meta-Analysis of Prevalence Rates. *Journal of Neurotrauma*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6857464/>.

**PROGRAM MISSION:** Fund research to understand, prevent and treat psychological health conditions and/or traumatic brain injuries that accelerates solutions to improve the health and healthcare of Service Members, their Families, Veterans, and the American public



## HOW IS THE PROGRAM MAKING AN IMPACT?

- Of the 62 funded awards enrolling human subjects, 79% involve active-duty and/or Veteran populations
- Nearly 30% of funded awards are involving people living with TBI throughout project planning and execution
- Five FY22 Patient Centered Research Awards address the barriers between promising research products and their implementation into clinical practice



### **REACH-TBI: Addressing the Unique Needs of TBI Caregivers**

*Paul Perrin, Ph.D., University of Virginia*

Perrin and his team will adapt the Resources for Enhancing All Caregivers' Health, or REACH, intervention to address the unique needs of the caregivers of Veterans and Service Members with TBI. To ensure REACH-TBI will address the unique needs of this population, the team will implement a community-based participatory research approach utilizing feedback from caregivers with lived experience, clinicians, VA clinical researchers, and VA administrative staff to design and refine the intervention. If successful, REACH-TBI will reduce the strain, depression, anxiety, and health care frustration that caregivers experience, as well as give clinicians a tool to **manage the needs of caregivers and Families over the entire course of the post-acute care continuum.**



### **Photosensitivity as a Marker for Pain and PTSD Following TBI**

*Mary Heinricher, Ph.D., Oregon Health & Science University*

Heinricher will explore the link between heightened sensitivity to light, referred to as photosensitivity, and the "polytrauma clinical triad" of chronic pain, PTSD, and TBI. The project will evaluate photosensitivity as a possible quantitative marker of PTSD and chronic pain following TBI by measuring light sensitivity in Veterans and exploring its correlation with pain, poor sleep, and poor functional outcomes. This research has the potential to affect treatment strategies by offering **a new mechanism to assess treatment effectiveness and quality of life.** Additionally, data garnered from this proposal could also offer new insights into the effect of light on brain pathways in affected Veterans.



### **Increasing Health Care Service Quality Through Improved, Evidence-Based Therapy Approaches**

*Shelley MacDermid Wadsworth, Ph.D., Purdue University*

This project seeks to improve the Star Behavioral Health Providers program, which connects military Service Members and their Families with licensed behavioral health professionals with training in military culture. To do this, MacDermid and her colleague David Riggs, Ph.D., at the Uniformed Services University of the Health Sciences will compare methods for delivering follow-on support to users. The project will focus on using cognitive behavioral therapy to treat insomnia and cognitive processing therapy to treat PTSD. If successful, this project will **identify strategies that could increase use of evidence based therapies and improve the quality of health care** by fostering connections between community clinicians and military personnel.



"As a combat Veteran that has been diagnosed with multiple mental health disabilities, I think this program is impacting the military and general public greatly with innovative and 'out-of-the-box' thinking that will provide support in so many ways to the Soldiers and civilians for years to come while incorporating their Families and communities."

*Retired U.S. Army 1st Sgt. Tomas Cruz, Ad Hoc Programmatic Reviewer FY22-FY23*