The Blast Exposure and Brain Injury Prevention Act of 2018

Since 2000, more than 370,000 servicemembers have received a first-time diagnosis of traumatic brain injury (TBI).[1] The use of improvised explosive devices in the wars in Iraq and Afghanistan has contributed to an increase in head injuries treated by the military; indeed, TBI has been called the "signature wound of today's wars."[2] However, while TBI is often associated with blunt physical injuries to the head, recent research has shown that the blast wave produced by even minor explosions can result in TBI – and even if the individual does not exhibit outward physical signs of head injury. Blast overpressure – the pressure caused from a shock wave that exceeds normal atmospheric values – causes harm to the brain not just by moving the brain around inside the skull, but also by damaging the brain at the sub-cellular level.

The Department of Defense (DOD) could substantially improve its ability to protect servicemembers from blast exposure and TBI and treat the hundreds of thousands of servicemembers already diagnosed with TBI. Exposure to blast pressure may result not only from battlefield IEDs, but also from smaller concussive events such as firing artillery and other heavy-caliber weapons, which military personnel may do tens or hundreds of times a day, over multiple days at a time, while training to use these weapons. And although research has demonstrated that exposure to blast pressure can damage the brain, scientists' ability to longitudinally track these effects and understand variation in health outcomes is constrained by the limited data collected on soldiers' exposure to blast pressure events during their military service.

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The *Blast Exposure and Brain Injury Prevention Act of 2018* would improve research on traumatic brain injury, speed the development of therapies to treat TBI, and strengthen the Department of Defense's (DOD) capacity to track and prevent blast pressure exposure. The bill's provisions direct the DOD to:

- Submit a plan for accelerating research on therapies for TBI and PTSD;
- Include detailed documentation of blast exposure – during both combat and training – in military service records;
- Review and update guidance on blast exposure during training;
- Establish a research and development program to improve the efficacy of personal protective equipment.

[1] Defense and Veterans Brain Injury Center, "DoD Worldwide Numbers for TBI" (May 10, 2018) (online at: http://dvbic.dcoe.mil/dod-worldwide-numbers-tbi).
[2] Lauren Fish and Paul Scharre, "Protecting Warfighters from Blast Injury," Center for New American Security (May 2018) (online at: https://www.cnas.org/publications/reports/protecting-warfighters-from-blast-injury),