XI. Post-Traumatic Stress Disorder and Traumatic Brain Injury Research Program

IMPROVING QUALITY OF LIFE FOR SERVICE MEMBERS

Vision

To prevent, mitigate, and treat the effects of traumatic stress and traumatic brain injury on function, wellness, and overall quality of life for service members as well as their caregivers and families.

Mission

Establish, fund, and integrate both individual and multiagency research efforts that will lead to improved prevention, detection, diagnosis, and treatment of post-traumatic stress disorder and traumatic brain injury.

Program Background

The Congressionally Directed Medical Research Programs began managing the Department of Defense (DOD) Post-Traumatic Stress Disorder and Traumatic Brain Injury Research Program (PTSD/TBIRP) in response to U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, Public Law 110-28, which provided **$150 million (M) for research on PTSD** and **$150M for research on TBI**. An additional $1M was provided for research on PTSD in Public Law 109-289. A key priority of the PTSD/TBIRP is to complement ongoing DOD efforts to ensure the health and readiness of our military forces.

A stakeholders meeting was held in June 2007 in which over 100 expert scientists and clinicians from academia, industry, and the military were assembled to identify gaps in the field of PTSD/TBI research and make recommendations on how to address them. These recommendations were then forwarded to the FY07 PSTD/TBIRP Joint Program Integration Panel (JPIP), composed of leading experts from the four military services, the Office of the Assistant Secretary of Defense (Health Affairs) (OASD[HA]), the Department of Veterans Affairs, and Department of Health and Human Services, for consideration to determine the FY07 vision, investment strategy, and time line. A description of PTSD/TBIRP is described on the following pages.

Post-Traumatic Stress Disorder

PTSD is an anxiety disorder that develops as a result to exposure to highly traumatic stressful events such as violent personal assaults, natural disasters, accidents, terrorist incidents, or military combat. PTSD is a major military health concern. Members of the military are subjected to numerous conf icts and injuries not commonly encountered by civilians. Because of the nature of these risks, many service members are exposed to traumatic stressors as well as the stressors of deployment and readjustment upon return. Statistics indicate that as many as 17 percent of military personnel returning from Iraq and Afghanistan suffer from PTSD. Thus, the continued health and well-being of our service members, veterans, and their family members are a national health care concern.

Signs and Symptoms

Signs and symptoms of PTSD typically appear within 3 months after a traumatic event although in rare instances symptoms can develop years later. Some indicators of PTSD may include the following:

- Flashbacks
- Insomnia
- Nightmares
- Aggressiveness, irritability, anger
- Jumpiness or hyperactive startle reaction
- Depression
- Memory loss
- Poor relationships
- Substance abuse
- Hearing or seeing things that do not exist
- Avoidance behavior or emotional detachment of people or things that may arouse memories of the trauma

COL Karl Friedl
FY07 Joint Program Integration Panel Chair

"The DOD has been provided a special opportunity to lead the nation with leap-ahead research for better protection, diagnosis, treatment, and recovery from traumatic brain injury and post-traumatic stress disorder. This 'Manhattan Project' approach of applying massive energy and resources to solve challenges in the specific topic area of brain injuries is timely, relevant, and important. Our Integration Panel has a great challenge and responsibility to identify the set of projects that will best address the interlocking issues."

Traumatic Brain Injury

TBI, or simply head injury, occurs when a sudden trauma causes damage to the brain. TBI can result from a closed head injury when the head unexpectedly and violently hits an object or from a penetrating head injury when an object pierces the skull and enters the brain. Common causes of TBI include automobile crashes, falls, and violence. TBI is a major military health problem. Soldiers are subjected to a wide range of potentially injurious hazards, including falls, penetrating and nonpenetrating projectile impacts, and exploding shells or bombs. Statistics indicate approximately 20 percent of military personnel suffer from a TBI.

Signs and Symptoms

Symptoms of a TBI can be mild, moderate, or severe, depending on the extent of damage to the brain.

Mild TBI

A person with a mild TBI may remain conscious or may experience a loss of consciousness for a few seconds or minutes. Other symptoms of mild TBI may include:

- Headache
- Mental confusion
- Lightheadedness
- Dizziness
- Blurred vision, double vision, or tired eyes
- Ringing in the ears
- Bad taste in the mouth
- Fatigue or lethargy
- Changes in sleep patterns
- Behavioral or mood changes
- Trouble with memory, concentration, attention, or thinking.

Moderate or Severe TBI

A person with moderate or severe TBI may show the same symptoms as someone with mild TBI but may also experience the following symptoms:

- Severe, persistent, or worsening headache
- Repeated vomiting or nausea
- Convulsions or seizures
- Inability to awaken from sleep
- Dilation of one or both pupils of the eyes
- Slurred speech
- Weakness or numbness in the extremities
- Loss of coordination
- Increased confusion
- Restlessness
- Agitation

Joint Program Integration Panel Members

Distinguished members of the four military services, the OASD(HA), the Department of Veterans Affairs, the Department of Health and Human Services, and the DOD PTSD/TBI Center of Excellence comprise the program's first JPIP. The JPIP provides programmatic and strategic direction for the PSTD/TBIRP and serves as a recommending body to the U.S. Army Medical Research and Materiel Command Commanding General on final funding decisions.

FY07 JPIP Members

Chair
Colonel Karl Friedl

Alternate Chair
Mr. Michael Leggieri

DOD PTSD/TBI Center of Excellence:
Colonel(P) Loree Sutton

ASBREM[1] Secretariat Members
Army:
Colonel R. Keith Martin

Navy:
Captain Doug Forcino

Air Force:
Dr. Garrett Polhamus

Office of the Assistant Secretary of Defense (Health Affairs):
Dr. Sal Cirone

Uniformed Services University of the Health Sciences:
Dr. Steve Kaminsky

Director, Defense Research and Engineering:
Mr. Bart Kuhn

Interagency
Department of Veterans Affairs:
Dr. Joseph Francis

National Institutes of Health:
Dr. Walter Koroshetz

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Air Force:
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Marine Corps:
Commander William Tanner
Mr. Bruce Barnes

Navy:
Captain Robert Koffman
Captain James Bloom

[1] Armed Services Biomedical Research Evaluation and Management
[2] Joint Improvised Explosive Device Defeat Organization

The Program Today

Fiscal Year 2007 Summary

The FY07 PSTD/TBIRP received congressional appropriations of $151M for research on PTSD and $150M for research on TBI. As shown in Figure XI-1, **seven award mechanisms** are being offered to establish, fund, and integrate both individual and multiagency research efforts that will lead to improved prevention, detection, diagnosis, and treatment of PTSD and TBI. Multiple research gaps were identified by the PTSD/TBIRP as depicted in Figure XI-1. A unique feature of the investment strategy for the Clinical Consortium and Multidisciplinary Research Consortium Award mechanisms is the integration and collaboration with DOD PTSD and TBI Centers of Excellence. **Approximately 110 awards** are anticipated across award mechanisms. Appendix B, Table B-11, summarizes the congressional appropriations and the investment strategy executed by the PTSD/TBIRP for FY07.

[a] Indicates award mechanisms also offered for the intramural program (DOD and VA).

Figure XI-1. Research Gaps and Award Mechanisms Offered for the FY07 PTSD/TBIRP