

**Post Traumatic Stress Syndrome (PTSS) Facts As Outlined In The CBO  
CONGRESS OF THE UNITED STATES  
CONGRESSIONAL BUDGET OFFICE**

**The Veterans Health Administration's Treatment of PTSD and Traumatic Brain Injury Among Recent  
Combat Veterans**

**Definition of PTS:**

Post-traumatic stress disorder (PTSD) is an **anxiety disorder** induced by exposure to a traumatic event. Although the psychological effects of combat have long been recognized (in previous wars, the symptoms now associated with PTSD were known as “shell shock” or “battle fatigue”), the American Psychiatric Association did not codify PTSD as a separate mental disorder until 1980. Traumatic brain injuries (TBIs) are defined as a blow, jolt, or penetrating injury to the head that interrupts the functioning of the brain, at least momentarily. Medical intervention varies considerably. During military combat operations, some mild TBIs may go untreated when there are no physical head wounds or neurological signs of impairment. Medical personnel may not detect injury, especially when more obvious, life-threatening injuries require attention, and service members may not seek care for a TBI if the injury does not appear acute. Moderate and severe TBIs, however, are generally apparent clinically through changes in consciousness or neurological impairment.

**Criteria for a PTSD Diagnosis:**

According to current diagnostic criteria for PTSD, a person must experience a traumatic event—involving death or serious injury, or a threat to the physical integrity of self or others—and react to the trauma with intense horror, fear, or helplessness. Sometime after that trauma, the person must also develop symptoms that cause clinically significant distress or impairment lasting for more than one month. Those symptoms must be from each of the following three symptom clusters:

- Reexperiencing the traumatic event, such as having recurring and distressing recollections or nightmares;
- Avoidance of stimuli associated with the trauma, such as thoughts, feelings, and conversations, along with diminished responsiveness and loss of interest in activities; and
- Hyperarousal, such as irritability, anger, hypervigilance, insomnia, or difficulty with concentration.

For example, a person who experienced nightmares about the trauma and had lost interest in daily activities but had no symptoms of hyperarousal would not have PTSD, according to those diagnostic criteria.

There are various forms of PTSD. Acute PTSD occurs when the duration of symptoms is between one and three months. Patients with symptoms extending for more than three months are considered to have chronic PTSD. Delayed-onset PTSD occurs when symptoms begin at least six months after the trauma.

**Clinical Definition of TBI:**

The Centers for Disease Control and Prevention defines TBI as an injury to the head arising from blunt or penetrating trauma or from acceleration-deceleration forces that result in one or more of the following:

- decreased level of consciousness;
- amnesia regarding the event itself or events preceding or following the injury;
- skull fracture;
- a neurological or neuropsychological abnormality such as disorientation, agitation, or confusion; or
- an intracranial lesion such as a traumatic intracranial hematoma, cerebral contusion, or penetrating injury.

Neurologists classify the severity of the TBI at the time of the injury as mild, moderate, or severe. Mild TBIs account for the vast majority of such injuries. Definitions of mild TBI, also known as a concussion, vary within the neurology community, but a generally accepted definition from the American Congress of Rehabilitation Medicine specifies at least one of the following symptoms after a blow to the head:

- Loss of consciousness for no more than 30 minutes;
- Loss of memory, lasting no longer than 24 hours, of events immediately before (retrograde amnesia) or after (posttraumatic amnesia) the injury;
- Any alteration in mental state (being dazed, disoriented, or confused, for example) at the time of the injury; or
- A score of 13 to 15 on a Glasgow coma scale (an assessment of neurological functioning)

Injuries above any of those thresholds are moderate to severe TBIs. The continuation of multiple symptoms may be labeled as postconcussional disorder or postconcussive syndrome (PCS); however, those terms are problematic because there is no single clinically validated definition of the condition. Short- or long-term impairment may affect memory, reasoning and problem solving, language, speech, motor skills, physical functions, and psychosocial behavior.

### **Total Costs:**

While PTSD and TBI accounted for a sizable part of total health care costs, Overseas Contingency Operation (OCO) veterans with PTSD or TBI also received a considerable amount of care for other conditions, even in the first year of treatment.

VHA spent \$1.1 billion for PTSD- and TBI-specific care during the 2004–2009 period for the first four years of Treatment, with more than half of that amount spent on patients in their first year.

For the PTSD group, PTSD-specific care averaged almost half (46 percent) of total health care costs over four years. The share was somewhat less (38 percent) for TBI-specific care for the TBI group. More than half (57 percent) of the care provided to the group with both PTSD and TBI was directly related to those specific diagnoses.

**(If diagnostic and pharmacy costs were excluded, the average costs would be approximately 20 percent to 35 percent lower than reported here.)**

### **Average Costs:**

CBO's estimates of average annual costs for treating PTSD or TBI or both in patients with those diagnoses can be regarded only as rough estimates because of the broad classification of treatments attributable to PTSD or TBI. Following the initial year of treatment for patients with PTSD, which cost \$4,100 per patient for PTSD-specific care, those costs fell by about half (see Table below). Average costs of treating veterans with both PTSD- and TBI-specific care in year 1 (\$8,000 per patient) were almost double those for veterans with PTSD alone, and \$3,000 higher than the average costs of treating patients with TBI alone. Between treatment year 1 and treatment year 4, the average costs of care for PTSD and combined PTSD and TBI declined by 54 percent and 29 percent, respectively, but the average costs of TBI care decreased by only 12 percent during that period. As noted above, the pattern of costs for veterans with TBI is distorted by the change in screening during the sample period.

**Average Costs for All of VHA’s Health Care and VHA’s PTSD- and TBI-Specific Care Provided to OCO**

**Patients:**

(Dollars)

**Treatment Group    Treatment Year 1    Treatment Year 2    Treatment Year 3    Treatment Year 4**  
**Average Costs per Patient**

**TSD or TBI**

PTSD	8,300	4,200	3,900	3,800
TBI	11,700	4,600	7,300	11,100
Both PTSD and TBI	13,800	8,400	8,800	9,800

No PTSD or TBI	2,400	1,100	1,000	1,000
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**Average Costs per Patient for PTSD- and TBI-Specific Care**

PTSD	4,100	2,100	1,900	1,900
TBI	5,000	1,600	2,500	4,400
Both PTSD and TBI	8,000	4,900	5,300	5,700

(Source: Congressional Budget Office based on data from the Department of Veterans Affairs, Veterans Health Administration.)

**Polytrauma Patients:**

Polytrauma patients at VHA are those with multiple severe injuries. Patients categorized as polytrauma for purposes of this analysis first enrolled in the VHA system as inpatients at one of the Polytrauma Rehabilitation Centers; about 500 OCO veterans were identified as polytrauma patients. Some patients with multiple traumas were included in other groups in CBO’s analysis, however, because their first encounters with VHA were not at a Polytrauma Rehabilitation Center, but rather at some other facility.

After initial entry into the polytrauma system, those patients continued to access VHA’s health care system. In any given treatment year, at least 95 percent used VHA and had some PTSD- and TBI-specific care. Like patients in the other groups, polytrauma patients used significantly more resources in treatment year 1 than in later years (see Table below). The average hospital stay in treatment year 1 was close to two months, with 73 percent of that care delivered in rehabilitation medicine. In subsequent years, the average annual length of an inpatient stay declined dramatically. Outpatient clinic visits for polytrauma patients were close to half the initial number by treatment year 4. Pharmacy use declined 36 percent in treatment year 2, but as with other groups analyzed in this study, increased thereafter.

**Use and Costs of VHA’s Health Care Provided to OCO Polytrauma Patients**

**Treatment Year 1    Treatment Year 2    Treatment Year 3    Treatment Year 4**  
**Average Costs per Patient**

Inpatient Days	56	17	8	11
Outpatient Visits	77	66	60	43
Prescriptions Filled	45	29	31	33

**Average Costs per Patient (Dollars)**

Health Care	136,000	42,000	27,000	28,000
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(Source: Congressional Budget Office based on data from the Department of Veterans Affairs, Veterans Health Administration.)