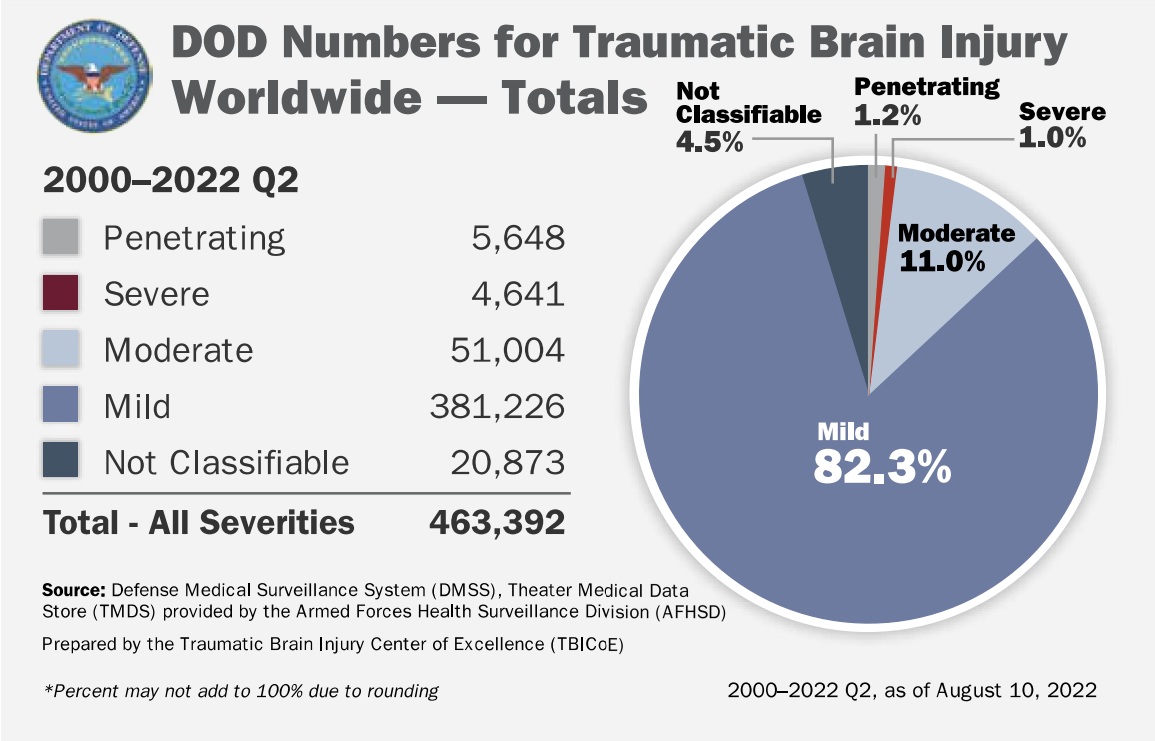


Definitions and Revisions

Effective March 2020, the Armed Forces Health Surveillance Division (AFHSD) resumed the distribution of data from the Defense Medical Surveillance System (DMSS) used in this report. The current report reflects up-to-date data from the AFHSD since 2000.

From 2018 (Q2) through 2019 (Q3), AFHSD temporarily halted the distribution of the data used in this report and the Traumatic Brain Injury Center of Excellence (TBICoE) used the MHS Data Repository to ensure this report was completed on a timely basis. While TBICoE used a different data source, the approach was consistent with the historical methodology.

Effective October 2015, the International Classification of Diseases was updated. With the improved information, more moderate traumatic brain injuries can be counted. Previously, some cases were categorized as "unclassifiable" severity due to more limited surveillance information. Also in 2015, the Assistant Secretary of Defense clarified the TBI case definition. A subsequent review found that some of the remaining "unclassifiable" cases were likely moderate TBI. This change also will contribute to higher counts of moderate TBI surveillance cases.

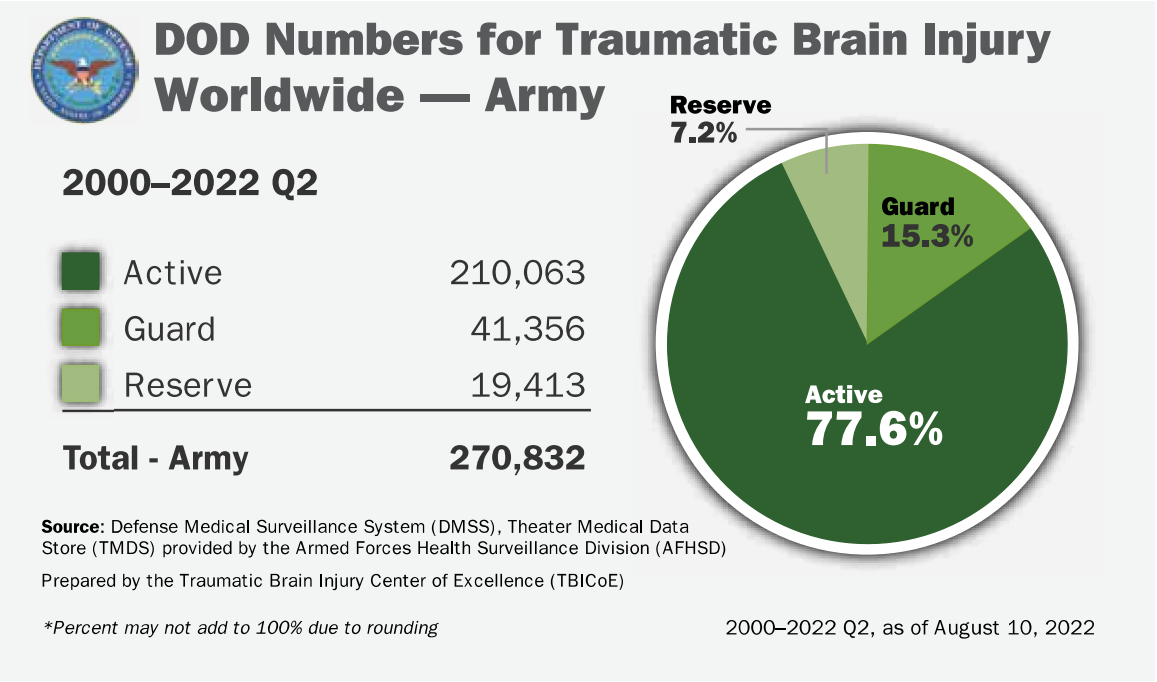
Worldwide numbers represent medical diagnoses of TBI that occurred anywhere U.S. forces are located including the continental United States since 2000.

Concussion/Mild TBI is characterized by the following: Confused or disoriented state which lasts less than 24 hours; or loss of consciousness for up to 30 minutes; or memory loss lasting less than 24 hours. Excludes penetrating TBI. A CT scan is not indicated for most patients with a Mild TBI. If obtained, it is normal.

Moderate TBI is characterized by the following: Confused or disoriented state which lasts more than 24 hours; or loss of consciousness for more than 30 minutes, but less than 24 hours; or memory loss lasting greater than 24 hours but less than seven days; or meets criteria for Mild TBI except an abnormal CT scan is present. Excludes penetrating TBI. A structural brain imaging study may be normal or abnormal.

Severe TBI is characterized by the following: Confused or disoriented state which lasts more than 24 hours; or loss of consciousness for more than 24 hours; or memory loss for more than seven days. Excludes penetrating TBI. A structural brain imaging study may be normal but usually is abnormal.

Penetrating TBI, or open head injury, is characterized by the following: A head injury in which the scalp, skull and dura mater (the outer layer of the meninges) are penetrated. Penetrating injuries can be caused by high-velocity projectiles or objects of lower velocity such as knives, or home fragments from a skull fracture that are driven into the brain.



Service	Component	Severity	Diagnosed
Army	Active	Penetrating	2,709
		Severe	2,129
		Moderate	22,536
		Mild	171,197
		Not Classifiable	11,492
	Guard	Penetrating	532
		Severe	415
		Moderate	4,277
		Mild	33,889
		Not Classifiable	2,243
	Reserve	Penetrating	184
		Severe	200
		Moderate	2,051
		Mild	15,861
		Not Classifiable	1,117

2000–2022 Q2, as of August 10, 2022

Source: Defense Medical Surveillance System (DMSS), Theater Medical Data Store (TMDS) provided by the Armed Forces Health Surveillance Division (AFHSD).

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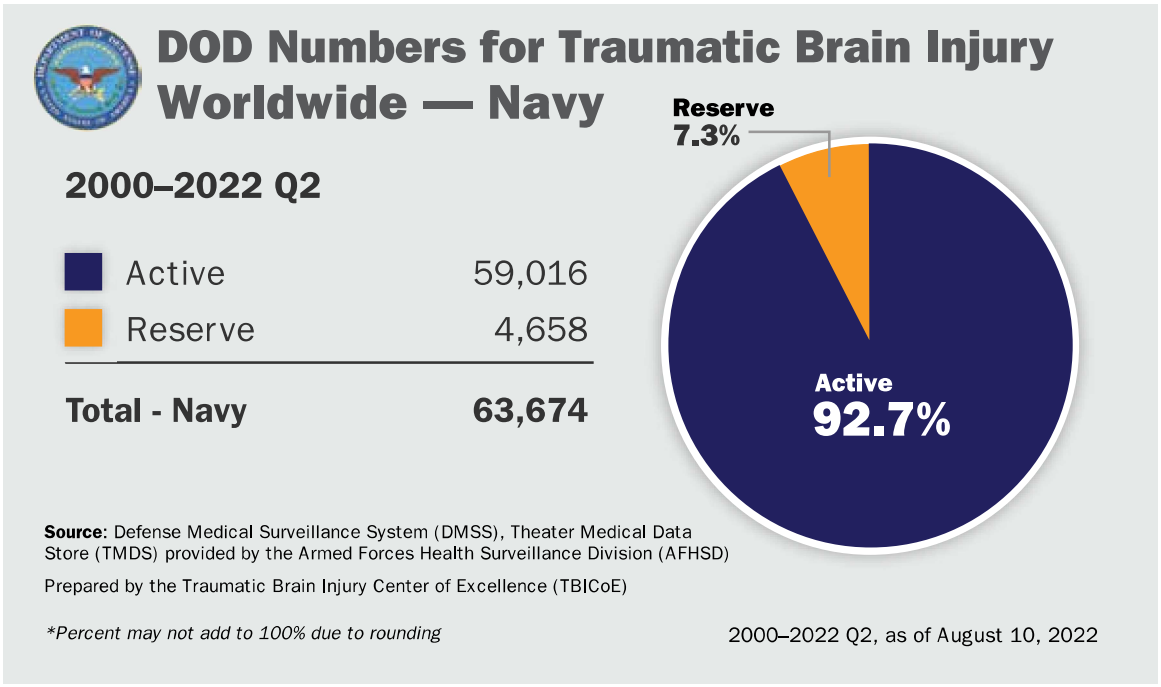

Service	Component	Severity	Diagnosed
Navy	Active	Penetrating	669
		Severe	553
		Moderate	7,082
		Mild	48,456
		Not Classifiable	2,256
	Reserve	Penetrating	51
		Severe	35
		Moderate	520
		Mild	3,886
		Not Classifiable	166

2000–2022 Q2, as of August 10, 2022

Source: Defense Medical Surveillance System (DMSS), Theater Medical Data Store (TMDS) provided by the Armed Forces Health Surveillance Division (AFHSD).

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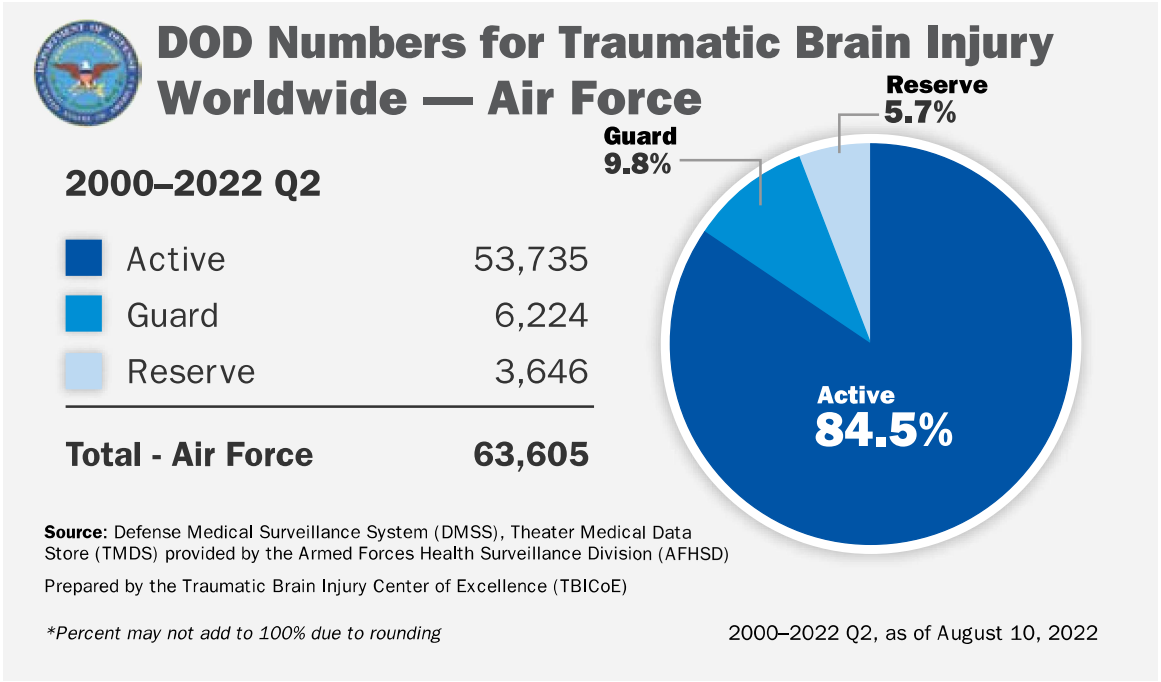

Service	Component	Severity	Diagnosed
Air Force	Active	Penetrating	552
		Severe	487
		Moderate	5,674
		Mild	45,712
		Not Classifiable	1,310
	Guard	Penetrating	59
		Severe	49
		Moderate	740
		Mild	5,225
		Not Classifiable	151
	Reserve	Penetrating	34
		Severe	29
		Moderate	436
		Mild	3,053
		Not Classifiable	94

2000–2022 Q2, as of August 10, 2022

Source: Defense Medical Surveillance System (DMSS), Theater Medical Data Store (TMDS) provided by the Armed Forces Health Surveillance Division (AFHSD).

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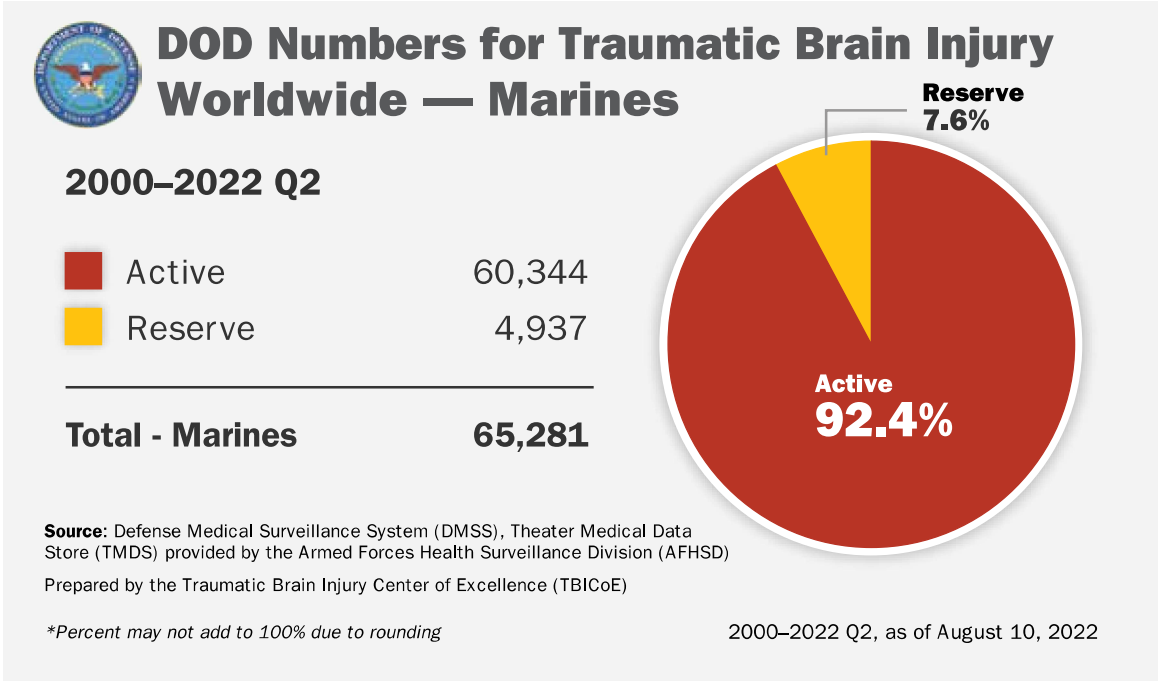

Service	Component	Severity	Diagnosed
Marines	Active	Penetrating	789
		Severe	686
		Moderate	7,141
		Mild	49,880
		Not Classifiable	1,848
	Reserve	Penetrating	69
		Severe	58
		Moderate	547
		Mild	4,067
		Not Classifiable	196

2000–2022 Q2, as of August 10, 2022

Source: Defense Medical Surveillance System (DMSS), Theater Medical Data Store (TMDS) provided by the Armed Forces Health Surveillance Division (AFHSD).

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