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(U) Evaluation of Traumatic Brain Injuries in the U.S. Central Command Area of Responsibility

INTEGRITY ***** INDEPENDENCE ***** EXCELLENCE

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Results in Brief

(U) Evaluation of Traumatic Brain Injuries in the U.S. Central Command Area of Responsibility

November 1, 2021

(U) Objective

(U) The objective of this evaluation was to determine whether the U.S. Central Command (USCENTCOM) tracked and reported potentially concussive events (PCEs) and DoD Service members involved in PCEs in order to provide the Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC) Program Office with PCE data to conduct actionable analysis to prevent or mitigate traumatic brain injuries (TBIs).

(U) Background

(U) According to the DoD TBI Center of Excellence, TBI is a disruption of brain function, sustained as a result of a PCE, such as a blast event, vehicle collision, or direct blow to the head, that may impair thinking, memory, movement, vision, hearing, or emotional functioning. A PCE can, but does not always, result in a TBI. The TBI Center of Excellence stated that, since 2000, more than 413,858 Service members have been diagnosed with a TBI sustained in training or combat. According to the TBI Center of Excellence, the high rate of TBIs directly impacts the health and safety of Service members, unit readiness, and troop retention.

(U) DoD Instruction (DoDI) 6490.11 provides unified guidelines to the Services for the management of mild TBIs in a deployed setting, with the intention of providing maximum protection for Service members. DoDI 6490.11 requires the combatant commands and the Services to

(U) Background (cont'd)

report all PCEs to the JTAPIC Program Office in a monthly tracking report. The JTAPIC Program Office conducts research using the monthly reports to inform recommendations that may prevent or mitigate injuries to Service members in the deployed environment.

(U) Finding

(U) USCENTCOM and its Service Component Commands did not track or report PCEs or DoD Service members involved in PCEs, as required by DoDI 6490.11. This occurred because the Service Components thought the requirements in USCENTCOM Regulation 40-1 were unclear and because USCENTCOM relied on electronic health records to identify and track DoD Service members involved in PCEs.

(U) Additionally, the Joint Staff did not monitor USCENTCOM compliance with the requirements in DoDI 6490.11, as required. This occurred because the Joint Staff did not designate an office of primary responsibility to monitor compliance with DoDI 6490.11.

(U) As a result, the DoD cannot ensure actionable TBI analysis is conducted because the JTAPIC Program Office is lacking PCE and TBI data to inform the DoD's efforts to develop solutions to prevent or mitigate TBIs in the deployed environment. Additionally, according to JTAPIC, the DoD cannot determine whether all Service members are being properly diagnosed and treated for TBIs in deployed settings, due to the lack of PCE reporting. Furthermore, the JTAPIC Program Office may be unable to verify whether Service members were involved in a PCE. Therefore, the DoD may not know the number of Service members involved in PCEs in the USCENTCOM Area of Responsibility. Finally, without consistent and adequate information on PCEs, Service members may not be eligible to receive disability benefits or care associated with a PCE from the Department of Veterans Affairs after separating from the military.



Results in Brief

(U) Evaluation of Traumatic Brain Injuries in the U.S. Central Command Area of Responsibility

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(U) Recommendations

(U) We recommend that the Chairman of the Joint Chiefs of Staff appoint an Office of Primary Responsibility to monitor compliance with the requirements in DoDI 6490.11. Additionally, we recommend that the USCENTCOM Commander revise USCENTCOM Regulation 40-1 to:

- (U) Designate an office of primary responsibility to receive, review, and monitor USCENTCOM Service Components' reporting of PCEs.
- (U) Include requirements for USCENTCOM to submit monthly PCE tracking reports and monitor Service Component compliance with the monthly reporting requirements.
- (U) Include specific details on the minimum required field for the monthly reporting.

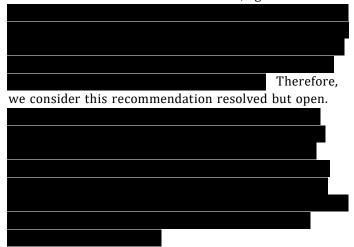
(U) Management Comments and Our Response

(CUI) The Vice Director of the Joint Staff, responding on behalf of the Chairman of the Joint Chiefs of Staff, agreed with the recommendation to appoint an office

(CUI)

The action taken by the Vice Director meets the intent of the recommendation; therefore, we consider this recommendation closed.

(CUI) The Vice Director of the Joint Staff, responding on behalf of the USCENTCOM Commander, agreed with the



(U) Recommendations Table

Management	Recommendations Unresolved	Recommendations Resolved	Recommendations Closed
(U) Chairman, Joint Chiefs of Staff	None	1	1
(U) Commander, U.S. Central Command	None	2.a, 2.b, 2.c	None

Note: The following categories are used to describe agency management's comments to individual recommendations.

- Unresolved Management has not agreed to implement the recommendation or has not proposed actions that will address the recommendation.
- **Resolved** Management agreed to implement the recommendation or has proposed actions that will address the underlying finding that generated the recommendation.
- **Closed** OIG verified that the agreed upon corrective actions were implemented.



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INSPECTOR GENERAL DEPARTMENT OF DEFENSE 4800 MARK CENTER DRIVE ALEXANDRIA, VIRGINIA 22350-1500

November 1, 2021

(U) MEMORANDUM FOR CHAIRMAN OF THE JOINT CHIEFS OF STAFF COMMANDER, U.S. CENTRAL COMMAND

(U) SUBJECT: Evaluation of Traumatic Brain Injury in the U.S. Central Command Area of Responsibility (Report No. DODIG-2022-006)

(U) This final report provides the results of the DoD Office of Inspector General's evaluation. We provided copies of the draft report and requested written comments on the recommendations.

(CUI) This report contains one recommendation that is considered closed and three recommendations considered resolved but open.

The action taken by the Vice Director meets the intent of the

recommendation; therefore, we consider this recommendation closed.

(CUI) The Vice Director of the Joint Staff, responding on behalf of the USCENTCOM Commander, agreed with the recommendation to revise USCENTCOM Regulation 40-1.

Therefore, we consider this recommendation resolved but open.

(U) DoD Instruction 7650.03 requires the recommendations be resolved promptly. Therefore, please provide us within 30 days your response concerning specific actions in process or alternative corrective actions proposed on the recommendations. Send your response to either

if classified

SECRET. If you have any questions, please contact

Bryan Clark

Bryan T. Clark Acting Assistant Inspector General for Programs, Combatant Commands, and Overseas Contingency Operations Evaluations Directorate

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(U) Introduction

(U) Objective

(U) The objective of this evaluation was to determine whether the U.S. Central Command (USCENTCOM) tracked and reported potentially concussive events (PCEs) and DoD Service members involved in PCEs in order to provide the Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC) Program Office with PCE data to conduct actionable analysis to prevent or mitigate Traumatic Brain Injuries (TBIs).

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(U) Background

(U) Traumatic Brain Injuries

(U) According to the DoD, a TBI is one of the invisible wounds of war and one of the signature injuries of troops wounded in Afghanistan and Iraq.¹ Since 2000, more than 413,858 Service members have been diagnosed with a TBI. The DoD defines a TBI as:

(U) a traumatically induced structural injury or physiological disruption of brain function, as a result of an external force, that is indicated by new onset or worsening of at least one of the following clinical signs immediately following the event:

- (U) any alteration in mental status (for example, confusion, disorientation, or slowed thinking);
- (2) (U) any loss of memory for events immediately before or after the injury; or
- (3) (U) any period of loss of or a decreased level of consciousness either observed by another person or self-reported.²

(U) There are four categories of TBIs – mild (concussion), moderate, severe, and penetrating. A TBI can cause temporary or permanent memory loss, and can lead to the Service member's absence from training, deployment, and combat. Effects of a TBI can be short- or long-term, and include impaired thinking, memory, movement, vision, and hearing. A TBI can also impair emotional functioning, such as personality changes or depression. In some cases, a TBI can be fatal.

¹ (U) For the purposes of this report, the term "TBI" encompasses all TBI severity levels, including mild, severe, and penetrating, unless otherwise specified.

² (U) Assistant Secretary of Defense for Health Affairs Memorandum, "Traumatic Brain Injury: Updated Definition and Reporting," April 6, 2015.

(U) According to the Traumatic Brain Injury Center of Excellence (TBICoE), a TBI is a significant health issue that affects Service members and veterans, regardless of combat exposure.³ However, the high rate of TBIs resulting from combat operations directly impacts the health and safety of individual Service members and subsequently the level of unit readiness and troop retention. The impacts of TBIs are felt within each branch of Service and throughout both the DoD and the Department of Veterans Affairs health care systems.

(U) Potentially Concussive Events

(U) A potentially concussive event (PCE) is an event or incident that may result in an individual experiencing a TBI. A PCE requires mandatory rest periods, medical evaluation, and reporting of exposure of all involved personnel. A PCE can, but does not always, result in a TBI.

(U) TBIs Sustained as a Result of the January 7, 2020, Iranian Missile Strike in the USCENTCOM Area of Responsibility

(U) According to a DoD press release on January 7, 2020, Iran launched more than a dozen ballistic missiles against U.S. military and coalition forces in Iraq.⁴ These missiles targeted at least two Iraqi military bases hosting U.S. military and coalition personnel, Al-Asad and Erbil (the Al-Asad missile strike).

(U) Shortly after the attack, the U.S. House of Representatives Brain Injury Task Force requested that the DoD Office of Inspector General review how the DoD determines whether Service members received a TBI during combat operations and the treatment protocols used to determine evacuation or return to duty status. In Section 750 of the National Defense Authorization for Fiscal Year 2020, Congress directed the Secretary of Defense to conduct analysis of TBI mitigation efforts that demonstrated the best clinical effectiveness in the treatment of Service members with TBI. These TBI mitigation efforts included identification and implementation of TBI-related protocols across the military health system, including the process for receiving treatment, patient outcomes, cost, patient and command satisfaction, and documentation to monitor system-wide implementation measures.

(U) Evaluating and Treating Traumatic Brain Injuries

(U) DoD Instruction (DoDI) 6490.11 is the primary policy for managing mild TBIs in the deployed environment, and the Military Acute Concussion Evaluation 2 (MACE2) is the primary screening tool used to evaluate personnel for TBIs following PCEs.

 $^{^{\}rm 3}$ $\,$ (U) TBICOE was previously known as the Defense and Veterans Brain Injury Center.

⁴ (U) Office of the Assistant to the Secretary of Defense for Public Affairs, "DoD Statement on Iranian Ballistic Missile Attacks in Iraq," January 7, 2020.

(U) DoD Instruction 6490.11 Establishes DoD Policy for Management of Mild Traumatic Brain Injuries

(U) DoDI 6490.11 provides unified guidelines to the Services for the management of mild TBIs in the deployed setting.⁵ Prior to the publication of DoDI 6490.11 in 2012, the DoD relied on Service members to self-report symptoms. DoDI 6490.11 established a new requirement for the reporting of potentially concussive events (PCE) and medical evaluation or assessment following the PCE. Using event-based protocols, such as blast-event reporting, maximizes the chances of identifying a PCE or actual TBI, instead of relying on the Service member to self-report.

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(U) According to DoDI 6490.11, the combatant commands and the Services must submit monthly tracking reports of all PCEs and all Service members involved to the JTAPIC Program Office, regardless of whether a TBI was sustained. DoDI 6490.11 states that, at a minimum, a PCE includes the following:

- (U) involvement in a vehicle blast event, collision, or rollover;
- (U) presence within 50 meters of a blast;
- (U) a direct blow to the head or witnessed loss of consciousness; or
- (U) exposure to more than one blast event.

(U) For example, if a vehicle carrying four service members is involved in a PCE, such as a collision in theater, a medical professional must evaluate all four Service members for a TBI, even if only one Service member presents symptoms. The PCE triggers the evaluation and reporting to the JTAPIC Program Office, not the presence of symptoms.

(U) DoDI 6490.11 also states that, if a PCE occurs, operational commanders are required to refer all impacted Service members to medical personnel for medical evaluation. Additionally, DoDI 6490.11 states that, if a PCE occurs, the combatant commands and the Services must report the following information to the JTAPIC Program Office:

- (U) the date of the PCE
- (U) the type of PCE triggering evaluation
- (U) the significant action number⁶
- (U) a personal identifier
- (U) the Service member's name

⁵ (U) DoD Instruction 6490.11, "DoD Policy for Management of Mild Traumatic Brain Injury/Concussion in the Deployed Setting," September 18, 2012, Incorporating Change 2, Effective November 26, 2019.

⁶ (U) A significant action report is a required report that includes the results for each individual involved in a PCE.

- (U) the unit name, unit identification code, and home duty station
- (U) the combatant command in which the event occurred
- (U) the Service member's distance from the blast (when applicable)
- (U) the disposition following the medical evaluation (return to duty after 24 hours, commander's justification to return to duty prior to 24 hours, or did not return to duty after 24 hours)

(U) Military Acute Concussion Evaluation

(U) Following a PCE, medical personnel use the MACE2, a screening and assessment tool for TBI evaluations. The MACE2 provides guided questions to determine whether a concussion occurred and if further assessment and treatment is required. If the MACE2 reveals that the Service member in a deployed environment did not sustain a TBI, the Service member may be returned to duty after 24 hours of mandatory rest and normal evaluation upon follow up. If the MACE2 reveals that further assessment and treatment is required, the operational commander is required to refer the Service member for medical evaluation with a medical care provider in accordance with DoDI 6490.11.

(U) According to the MACE 2 guidance, medical personnel are required to document and report the MACE2 in the Service member's electronic health record (EHR), regardless of symptoms. According to the Fundamentals of Military Medicine, the MACE's section for a scripted history of the event is critical, "not only for documentation within the health record, but also for the Service member's records as he or she transitions from active duty service."⁷

(U) Roles and Responsibilities for the Management of TBIs

(U) DoDI 6490.11 establishes roles and responsibilities for the management of mild TBIs for DoD organizations.

(U) The Chairman of the Joint Chiefs of Staff

(U) DoDI 6490.11 requires the Chairman of the Joint Chiefs of Staff to incorporate the TBI related requirements in DoDI 6490.11 into relevant joint doctrine, training, and plans. In consultation with the commanders of combatant commands and the Secretaries of the Military Departments, the Joint Staff is required to monitor the execution of DoDI 6490.11. Furthermore, the Joint Staff must monitor compliance with the requirements for documented tracking and reporting of Service members involved in a PCE.

⁷ (U) U.S. Army Medical Center of Excellence, Borden Institute, "Fundamentals of Military Medicine," Chapter 38: "Traumatic Brain Injury in the Military," 2019.

(U) USCENTCOM is a geographic combatant command with an area of responsibility (AOR) covering 20 nations located in the Middle East and Central and South Asia and their strategic waterways. USCENTCOM directs and enables military operations and activities with allies and partners to increase regional security and stability in support of enduring U.S. interests. With regard to TBIs, USCENTCOM is responsible for submitting monthly tracking reports of PCEs to the JTAPIC Program Office, in accordance with DoDI 6490.11. Additionally, USCENTCOM is responsible for establishing policy and guidance for all subordinate medical units to comply with clinical documentation and upload all records into the EHRs, in accordance with U.S. Central Command Regulation (CCR) 40-1.⁸ Finally, USCENTCOM is responsible for developing command-specific procedures for Service Component reporting of PCEs and monitoring Service Component compliance of the monthly reporting requirements.

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(U) USCENTCOM SERVICE COMPONENTS

(U) USCENTCOM consists of a headquarters element without any military units permanently assigned to it, operating with one Service Component Command for each of the U.S. Armed Services, along with a joint special operations component and a number of subordinate joint task forces. The four USCENTCOM Service Component Commands are:

- (U) U.S. Army Central,
- (U) U.S. Naval Forces Central Command,
- (U) U.S. Air Forces Central Command, and
- (U) U.S. Marine Corps Forces Central Command.

(U) USCENTCOM Service Components are responsible for implementing appropriate screening procedures for mild TBIs and documenting and reporting all personnel exposed to PCEs. According to DoDI 6490.11, at a minimum, the Service Components must conduct medical evaluations and report Service members involved in a PCE to USCENTCOM.

(U) Defense Health Agency

(U) The Defense Health Agency (DHA) is a Combat Support Agency that enables the military medical services to provide a medically ready force to the combatant commands and provides an integrated system of medical training and readiness. The DHA supports the delivery of integrated, affordable, and high quality health

⁸ (U) Monitoring medical documentation includes ensuring that treatment and medical care is documented in the Service member's EHR. U.S. Central Command Regulation 40-1, "Healthcare Operations" September 18 2020.

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(U) services, and is responsible for driving greater integration of clinical and business processes across the Military Health System. The DHA is also responsible for ensuring that TBICoE executes the responsibilities outlined in the TBICoE section below, in accordance with DoDI 6490.11.

(U) Traumatic Brain Injury Center of Excellence

(U) According to its website, the TBICoE is a congressionally mandated collaboration of the DoD and Department of Veterans Affairs to provide TBI education and research regarding clinical innovation, research, and care along the entire TBI life cycle—from PCE, through medical evaluation, rehabilitation, and a return to duty—to prevent and mitigate the consequences of TBIs.⁹ The TBICoE is responsible for coordinating PCE and TBI exposure surveillance, conducting data analysis, and developing event-specific PCE and TBI monitoring summaries in coordination with the Services and the combatant commands.

(U) Additionally, the TBICoE is responsible for generating comprehensive, retrospective analytical summary reports of TBI data and activities of the Services and combatant commands, and recommending modifications to policy based on those summary reports. The TBICoE also conducts coordinated blast-specific data analyses with the Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC) Program Office and provides the results to the combatant commands, Military Department Secretaries, Service Chiefs, and the Under Secretary of Defense for Research and Engineering.

(U) Armed Forces Health Surveillance Division

(U) The DHA Armed Forces Health Surveillance Division (AFHSD) is the central epidemiologic resource for the U.S. Armed Forces, and is responsible for conducting medical surveillance to protect Service members and allies. The AFHSD is responsible for providing timely, relevant, actionable, and comprehensive health surveillance information (including TBI surveillance information) to promote, maintain, and enhance the health of Service members through AFHSD critical functions. These critical functions include analyzing and disseminating information; recommending evidence based policy; and developing, refining, and improving health surveillance methods.

⁹ (U) The TBICoE is within the DHA.

(U) Joint Trauma Analysis and Prevention of Injury in Combat Program Office

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(U) The JTAPIC Program Office, which is part of the Army Futures Command, is responsible for collecting, integrating, analyzing, and storing operations, intelligence, materiel, and medical data to inform solutions and decisions that prevent or mitigate injury during the full range of military operations. The JTAPIC Program Office also conducts research to inform recommendations that may prevent or mitigate injuries to Service members in the deployed environment, including recommendations to update tactics, techniques, procedures, equipment, and policies.

(U) Additionally, DoDI 6490.11 requires the JTAPIC Program Office to receive monthly PCE tracking reports from the combatant commands and the Services. The purpose of the monthly PCE tracking reports are to conduct actionable analyses to provide data to the DoD, informing solutions and decisions to identify vulnerabilities in operational tactics, vehicles, and protective equipment and lead to prompt and meaningful improvements in equipment, tactics, techniques, and procedures in theater. The JTAPIC Program Office also correlates the monthly PCE tracking reports with the EHRs to verify whether DoD Service members involved in PCEs were adequately screened and treated. Furthermore, the JTAPIC Program Office generates blast-specific data analyses and, in coordination with the DHA, generates comprehensive, retrospective analytical reports of PCE and TBI data and activities of the Services and the combatant commanders.

(U) Finding

(U) USCENTCOM Did Not Track or Report Potentially Concussive Events

(U) USCENTCOM and its Service Component Commands did not track or report PCEs, or the DoD Service members involved in PCEs, to provide the JTAPIC Program Office with PCE data to conduct actionable analysis to prevent or mitigate TBIs, as required by DoDI 6490.11. Specifically, according to JTAPIC Program Office personnel, USCENTCOM has not submitted PCE monthly tracking reports to the JTAPIC Program Office since October 2014. USCENTCOM also did not ensure that the Service Components reported PCEs in accordance with DoDI 6490.11. This occurred because USCENTCOM relied on EHRs to identify DoD Service members who were involved in PCEs rather than creating PCE monthly tracking reports. According to USCENTCOM personnel, the requirement to report PCEs is redundant with the information in the EHRs. However, according to the JTAPIC Program Office, the EHRs did not always include operational data on PCEs, the information necessary to track PCEs, or all of the DoD Service members involved in PCEs.¹⁰

(U) Additionally, USCENTCOM Service Components did not report PCEs to USCENTCOM in accordance with the U.S. Central Command Regulation 40-1 (CCR 40-1). The Service Components did not report PCEs because, according to Service Component personnel, the reporting requirements in CCR 40-1 were unclear, and in some cases, the Service Components were not sure if it was their responsibility. Specifically, according to the U.S. Marine Corps Forces Central Command (USMARCENT) personnel, CCR 40-1 did not clearly identify or specify how or how often the Service Components should report PCEs. We reviewed CCR 40-1 and agreed with the statements made by USMARCENT personnel. USMARCENT personnel also explained that TBIs would only be reported to leadership, and then to USCENTCOM, if a Marine was evacuated from the AOR. Furthermore, according to Service Component personnel, they were also unaware of the requirements to report PCEs because USCENTCOM never requested the data.

(U) Finally, the Joint Staff did not monitor USCENTCOM compliance with the requirements for tracking and reporting PCEs or Service members involved in a PCE, as required by DoDI 6490.11. This occurred because the Joint Staff did not

¹⁰ (U) According to DoDI 6490.11, operational data on PCEs includes the date of the PCE; type of PCE; significant action number (if applicable); a personal identifier; the Service member's name; unit name, identification code, and home duty station; combatant command in which the event occurred; the distance from the blast; and the disposition following medical evaluation.

(U) designate an Office of Primary Responsibility for monitoring the tracking and reporting of PCEs. Joint Staff individuals were unable to explain the reason the Joint Staff did not monitor compliance or why the Joint Staff did not establish an office of primary responsibility to monitor compliance as required.

(U) As a result, the DoD cannot ensure actionable TBI analysis is conducted with PCE data from the USCENTCOM AOR because the JTAPIC Program Office is lacking vital PCE and TBI data to inform the DoD's efforts to develop solutions to prevent or mitigate TBIs in the deployed environment. Additionally, according to JTAPIC Program Office personnel, the DoD cannot ensure all Service members are being properly diagnosed and treated for TBIs in deployed settings, due to the lack of PCE reporting. Furthermore, the JTAPIC Program Office may be unable to verify Service members' involvement in a PCE, determine if the TBI was sustained in the USCENTCOM AOR, or determine whether the Service member had been cleared for return to duty status because the information captured in the EHRs may be inadequate. Therefore, the DoD may not know the number of Service members involved in PCEs in the USCENTCOM AOR. Furthermore, without consistent and adequate information on PCEs, Service members may not be eligible to receive disability benefits or care associated with a PCE from the Department of Veterans Affairs after separating from the military.

(U) USCENTCOM Did Not Track or Report Potentially Concussive Events

(U) USCENTCOM and its Service Component Commands did not track or report PCEs and information on the DoD Service members involved in PCEs to provide the JTAPIC Program Office with PCE data to conduct actionable analyses to prevent or mitigate TBIs, as required by DoDI 6490.11. Specifically, according to JTAPIC Program Office personnel, USCENTCOM has not submitted PCE monthly tracking reports to the JTAPIC Program Office since October 2014, when USCENTCOM stopped reporting through the Combined Information Data Network Exchange, USCENTCOM's operational reporting system.¹¹ DoDI 6490.11 requires the commanders of the geographic combatant commands to submit monthly tracking reports of PCEs to the JTAPIC Program Office.

(U) According to JTAPIC Program Office personnel, USCENTCOM changed its reporting requirements within the Combined Information Data Network Exchange, in October 2014. According to USCENTCOM personnel, units started reporting

¹¹ (U) The Combined Information Data Network Exchange was the USCENTCOM operational reporting tool used to collect, correlate, aggregate, and share information. It included a module that could track PCEs and served as a standardized reporting framework across multifunctional disciplines supporting operations and intelligence. The Combined Information Data Network Exchange was taken offline in 2020.

(U) data by spreadsheet rather than through the Combined Information Data Network Exchange. However, according to JTAPIC Program Office personnel, the JTAPIC Program Office has not received PCE reporting or spreadsheets from USCENTCOM since October 2014. Instead, JTAPIC Program Office personnel have searched through the EHRs and health surveillance data to determine if a Service member in the USCENCTOM AOR sustained a TBI. Additionally, the JTAPIC Program Office is still trying to collect data to determine the number of TBIs sustained in the USCENTCOM AOR during the years that they did not receive PCE reporting.

(U) USCENTCOM Relied on the Electronic Health Records

(U) USCENTCOM personnel did not track or report PCEs to the JTAPIC Program Office because USCENTCOM relied on the EHRs to identify DoD Service members who were involved in PCEs, and they believed reporting the information would be duplicative to the EHRs. According to USCENTCOM Surgeon's Office personnel, the command did not provide monthly tracking reports to the JTAPIC Program Office because USCENTCOM personnel believed the requirement to report PCEs was redundant with the EHRs, and the information that DoDI 6490.11 required to be reported was already recorded in the EHRs. Specifically, according to USCENTCOM Surgeon's Office personnel, the JTAPIC Program Office would be able to generate reports of Service members exposed to PCEs or suspected of sustaining a TBI without USCENTCOM's monthly tracking reports. However, the requirement to provide monthly tracking reports to the JTAPIC Program Office remains in DoD and USCENTCOM policies.

(U) According to JTAPIC Program Office personnel, the EHRs did not always include operational data on PCEs or the necessary information to track PCEs. According to AFHSD personnel, the lack of information made it difficult to determine if the Service member was involved in a PCE, if the TBI was sustained in the USCENTCOM AOR, or if the Service member had been cleared for return to duty status. Additionally, according to the Office of the Assistant Secretary of Defense for Health Affairs personnel, even if the EHRs were complete, the PCE reporting requirement would not be duplicative, and the JTAPIC Program Office still would not have the operational information that DoDI 6490.11 requires USCENTCOM to report. We also reviewed a non-statistical sample of EHRs to determine if the PCE reporting requirement was duplicative. Please see our observations section for more details.

(U) Furthermore, according to AFHSD personnel, in their efforts to conduct epidemiological surveillance on PCEs and TBIs, AFHSD personnel could only determine if a Service member sustained a PCE or TBI in the USCENTCOM AOR if it was identified in the Theater Medical Data Store reporting, since it was not (U) included in the EHRs.¹² If the location of the PCE or TBI was not included in the operational reporting, AFHSD personnel had to make an assumption based on their analysis of the data available to them in the Theater Medical Data Store reports.

(U) USCENTCOM Service Components Did Not Report Potentially Concussive Events

(U) USCENTCOM Service Components did not report PCEs to USCENTCOM in accordance with CCR 40-1. CCR 40-1 states that the Service Components must implement appropriate screen ng procedures for mild TBIs as well as "document/report" all personnel exposed to actual or potential concussive events. CCR 40-1 outlines the PCE reporting requirements, such as sending the PCE data directly to USCENTCOM, but Service Component personnel stated that the reporting requirements were unclear.

(U) The Potentially Concussive Event Reporting Requirements in CCR 40-1 Were Unclear

(U) According to USMARCENT personnel, the Service Components did not report PCEs because, Service Component personnel believed that the reporting requirements in CCR 40-1 were unclear due to the phrasing "document/report." USMARCENT personnel stated that they believed that they had to either document or report, but not both. Service Component personnel emphasized that the CCR 40-1 requirements do not specify how, how often, or to whom to report PCEs. As a result, the Service Components did not report PCEs to USCENTCOM because Service Component personnel did not believe they were required to do so. We reviewed CCR 40-1 and found that the regulation did not clearly identify responsibilities for the Service Components to execute the reporting requirements, and lacked details in regards to how, how often, and to whom to report PCEs.

(U) Furthermore, Service Component personnel stated that they believed they were complying with CCR 40-1 because they were documenting TBIs in the EHRs and because USCENTCOM had never asked them for reporting in their weekly meetings. However, the Service Components were not providing separate reports to USCENTCOM as required by DoDI 6490.11 and CCR 40-1. Personnel from the U.S. Naval Forces Central Command stated that they could, and would be willing to, submit additional PCE reports to the JTAPIC Program Office.

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¹² (U) The Theater Medical Data Store is a web-based system that allows clinicians and caregivers worldwide the ability to view individual inpatient and outpatient records for those treated in an operational environment.

(U) The Joint Staff Did Not Monitor USCENTCOM Reporting of Potentially Concussive Events

(U) The Joint Staff did not monitor USCENTCOM's compliance with the requirements for tracking and reporting of Service members involved in a PCE, as required by DoDI 6490.11. DoDI 6490.11 requires the Joint Staff in consultation with the commanders of the combatant commands and the Secretaries of the Military Departments to monitor compliance with the requirements for documented tracking and reporting of Service members involved in a PCE.

(U) However, the Joint Staff did not designate an Office of Primary Responsibility to monitor USCENTCOM's compliance with DoDI 6490.11. According to Joint Staff personnel, the Joint Staff was aware of requirements that concussive events must be recorded in the EHRs, but none of the Joint Staff personnel we met with were aware of the requirement to document and report PCEs through a different vehicle. Furthermore, Joint Staff personnel stated that they were unaware of the requirement for combatant commands to report PCEs to the JTAPIC Program office, or that USCENTCOM had not submitted PCE monthly tracking reports to the JTAPIC Program Office since October 2014.

(U) The Joint Staff Did Not Designate an Office of Primary Responsibility for Monitoring Potentially Concussive Events

(U) The Joint Staff did not designate an Office of Primary Responsibility for monitoring the tracking and reporting of PCEs, and none of the Joint Staff individuals we met with were able to explain why the Joint Staff was not monitoring compliance or why it did not establish an office of primary responsibility to monitor compliance as required. According to Joint Staff Surgeon's office personnel, the Joint Staff Surgeon's office was not tracking or monitoring any PCE data. According to Joint Staff Surgeon's office personnel, the Surgeon's office tracked medical requirements, such as direct blows to the head, but did not monitor PCEs, in accordance with DoDI 6490.11, because that reporting was an operational requirement. Additionally, according to JTAPIC Program Office personnel, not only did USCENTCOM not report PCEs, but also none of the other combatant commands reported PCEs either.

(U) The DoD May Be Leaving Some Service Members Undiagnosed or Untreated for TBIs

(U) The DoD cannot ensure it conducted actionable TBI analysis because the JTAPIC Program Office lacks the PCE and TBI data needed to inform DoD solutions to prevent or mitigate TBIs in the deployed environment. The JTAPIC Program (U) Office requires complete and accurate information to conduct research to generate analytical reports of PCEs and inform the DoD's efforts to develop solutions to prevent or mitigate TBIs. These analytical reports help the DoD improve policy, tactics, techniques, equipment, and procedures to prevent or mitigate TBIs.

(U) The JTAPIC Program Office Cannot Verify DoD Service Members Involved in Potentially Concussive Events As Screened

(U) The JTAPIC Program Office cannot verify that DoD Service members involved in PCEs are screened for a TBI. Specifically, the JTAPIC Program Office gathers PCE data and compares it with the EHRs to determine whether DoD Service members involved in PCEs were adequately screened and treated. If the JTAPIC Program Office does not have complete and accurate PCE information, it cannot verify Service members' involvement in a PCE to ensure adequate screening and treatment.

(U) As a result, the DoD cannot ensure that the JTAPIC Program Office informs appropriate policy changes for the prevention of TBIs in the deployed settings. Specifically, without the PCE reporting, the JTAPIC Program Office cannot correlate Service members involved in PCEs to the EHRs to determine if the Service members were adequately diagnosed or treated following a PCE. According to the JTAPIC Program Office personnel, the lack of PCE reporting may result in policies that cannot guarantee that Service members are diagnosed or treated for TBIs in deployed settings. Additionally, according to JTAPIC Program Office personnel, if the treatment of concussions (blast or non-blast related) is delayed or unreported, then it can be detrimental to both the Service members and their units. For example, Service members may experience poor marksmanship, slower reaction time, decreased concentration, and reduced work quality. According to JTAPIC Program Office personnel, these impairments affect not only the physical health and performance of the Service member, but are also often accompanied by behavioral problems, emotional problems, and other unexplained symptoms. All of these degrade the Service members' cohesiveness with their unit and could lead to more serious behavioral health matters including isolation and suicide.

(U) Service members who are not adequately screened may not be treated for their TBI symptoms. A high rate of TBIs in the USCENTCOM AOR directly impacts the health and safety of individual Service members and subsequently the level of unit readiness and troop retention for the DoD. Untreated TBIs in deployed Service members may bring an increased risk to the mission or operations if the Service member is actively experiencing symptoms.

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(U) DoD Service Members May Not Receive Benefits or Health Treatment

(U) Without complete and accurate PCE information, the JTAPIC Program Office may be unable to provide the Department of Veterans Affairs with information to substantiate Service-connected injury claims. Specifically, the JTAPIC Program Office could not provide the Department of Veterans Affairs with evidence to substantiate a TBI claim if the EHRs were incomplete. For example, when the Department of Veterans Affairs is unable to substantiate a TBI claim using the EHRs, it could contact the JTAPIC Program Office, among others, to determine if the Service member was involved in a PCE. Without appropriate PCE reporting and with incomplete EHRs, the JTAPIC Program Office may not have any evidence to substantiate the involvement in a PCE. If the JTAPIC Program Office cannot provide evidence, the DoD Service member may not have appropriate documentation to support a claim for a TBI from a PCE. Therefore, the Service member may not be eligible to receive disability benefits or care in support of their TBI claim from the Department of Veterans Affairs after separating from Service.

(U) The DoD May Not Know the Number of Service Members Involved in PCEs

(U) The DoD may not know the number of Service members involved in PCEs in the USCENTCOM AOR, and Service members may not be receiving adequate TBI screening or support. For example, USCENTCOM provided us with data that detailed the number of Service members who sustained TBIs from the January 2020 Iranian missile strike at Al-Asad Airbase. We also obtained the health surveillance data from the JTAPIC Program Office from the same missile strike. The two sets of data are significantly different.

(U) USCENTCOM reported 110 Service members as having sustained a TBI to DoD leadership as a result of the Al-Asad missile strike PCE, while the JTAPIC Program Office identified 87 Service members through the EHRs as having sustained a TBI for that same event.¹³ This could mean that 23 Service members did not have the TBI documented in the EHRs, because the JTAPIC Program Office identified 23 fewer Service members with a TBI than USCENTCOM had reported.

¹³ (U) JTAPIC Program Office personnel provided a universe of 261 Service members who were involved in a PCE during the Al-Asad missile strike, or who had sustained a TBI as a result of the strike. Of the 261 Service members, 87 sustained a TBI as a result of the PCE. The remaining 174 Service members did not sustain a TBI but were involved in the PCE.

(U) Additionally, the JTAPIC Program Office used data derived from the Theater Medical Data Store to identify 174 additional Service members involved in the Al-Asad missile strike PCE that did not sustain a TBI. However, USCENTCOM did not report any Service members as being involved in the PCE to the JTAPIC Program Office, as stated throughout our finding.

(U) Recommendations, Management Comments and Our Response

(U) Recommendation 1

(U) We recommend that the Chairman of the Joint Chiefs of Staff appoint an Office of Primary Responsibility to monitor compliance with the requirements for documented tracking and reporting of Service members involved in a potentially concussive event, in accordance with DoD Instruction 6490.11, "DoD Policy Guidance for Management of Mild Traumatic Brain Injury/Concussion in the Deployed Setting," Incorporating Change 2, Effective November 26, 2019.

(U) Joint Staff Comments

(CUI) The Vice Director of the Joint Staff, responding on behalf of the Chairman of the Joint Chiefs of Staff, agreed with the recommendation

(U) Our Response

(CUI) The response from the Vice Director addressed all specifics of the recommendation and the actions

meets the intent of the recommendation; therefore,

the recommendation is closed.

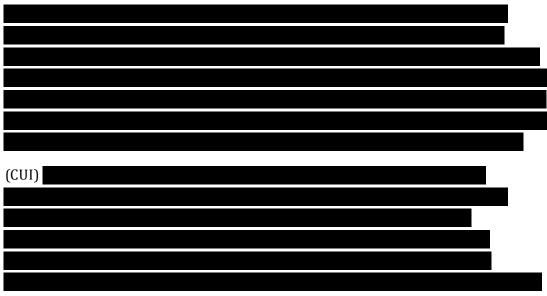
(U) Recommendation 2

(U) We recommend that the Commander of the U.S. Central Command revise U.S. Central Command Regulation 40-1, "Healthcare Operations," September 18, 2020, to:

- a. (U) Designate an Office of Primary Responsibility to receive, review, and monitor Service Component reporting of potentially concussive events, in accordance with DoD Instruction 6490.11, "DoD Policy Guidance for Management of Mild Traumatic Brain Injury/Concussion in the Deployed Setting," Incorporating Change 2, Effective November 26, 2019.
- b. (U) Clarify requirements for the U.S. Central Command to submit monthly tracking reports to the Joint Trauma Analysis and Prevention of Injury in Combat Program Office and monitor Service Component compliance with the monthly reporting requirements, in accordance with DoD Instruction 6490.11, "DoD Policy Guidance for Management of Mild Traumatic Brain Injury/Concussion in the Deployed Setting," Incorporating Change 2, Effective November 26, 2019.
- c. (U) Include specific details on the minimum required data fields for the monthly potentially concussive event reporting, in accordance with DoD Instruction 6490.11, "DoD Policy Guidance for Management of Mild Traumatic Injury/Concussion in the Deployed Setting," Incorporating Change 2, Effective November 26, 2019.

(U) U.S Central Command Comments

(CUI) The Vice Director of the Joint Staff, responding for the USCENTCOM Commander, concurred with all three elements of the recommendation.



(U) Our Response

(CUI) Comments from the Vice Director addressed all specifics of the recommendation; therefore, the recommendation is resolved but will remain open.



(U) Appendix

(U) Scope and Methodology

(U) We conducted this evaluation from July 2020 through August 2021 in accordance with the "Quality Standards for Inspection and Evaluation," published in December 2020 by the Council of Inspectors General on Integrity and Efficiency. Those standards require that we adequately plan the evaluation to ensure that objectives are met and that we perform the evaluation to obtain sufficient, competent, and relevant evidence to support the findings, conclusions, and recommendations. We believe that the evidence obtained was sufficient, competent, and relevant to lead a reasonable person to sustain the findings, conclusions, and recommendations.

(U) The scope of this evaluation focused on Service members who sustained actual or potential TBIs in the USCENTCOM AOR from January 2018 to December 2020. We reviewed national, operational, and base level policy and guidance in support of the procedures for tracking TBIs and determining evacuation from current combat operations or return to duty status. Additionally, we identified current DoD and combatant command criteria applicable to tracking TBIs, the application of the criteria. We used two samples of TBI data collected by USCENTCOM, to identify any deviations from the prescribed criteria. Specifically, we reviewed the following criteria to gain an understanding of the requirements to track TBIs.

- (U) DoD Instruction 6490.11, "DoD Policy Guidance for Management of Mild
- (U) Traumatic Brain Injury/Concussion in the Deployed Setting," Incorporating Change 2, Effective November 26, 2019
- (U) "MOD Fifteen to USCENTCOM Individual Protection and Individual-Unit Deployment Policy," April 2020
- (U) Headquarters United States Central Command Regulation 40-1, "Healthcare Operations," September 18, 2020

(U) Furthermore, we gathered documentation and conducted interviews to determine how DoD organizations applied guidance for tracking TBIs. Specifically, we conducted interviews with personnel from the following organizations.

- (U) Joint Staff
- (U) Under Secretary of Defense for Personnel and Readiness
- (U) Assistant Secretary of Defense for Health Affairs
- (U) Deputy Assistant Secretary of Defense for Health Readiness Policy and Oversight
- (U) DHA

- (U) JTAPIC Program Office
- (U) AFHSD
- (U) USCENTCOM and USCENTCOM Service Components

(U) We also gathered TBI records in the USCENTCOM AOR from January 2018 to December 2020, as well as records pertaining to the Al-Asad missile strike on January 7, 2020. AFHSD provided a universe of records dating from January 2018 to December 2020 consisting of about 2600 Service members who had sustained TBIs. However, AFHSD personnel stated that they would only be able determine where the TBI was sustained if it was specifically stated in the EHRs. For example, if data was missing or incomplete, it was because the operational units did not report a TBI to medical personnel or medical personnel did not input the data into EHRs. To mitigate this, we filtered the data set of 2600 Service members by TBIs listed as being sustained in the USCENTCOM AOR. This decreased the universe to 224 Service members, of which we identified a non-statistical sample by choosing every tenth Service member, resulting in a total of 10 Service members in the sample.

(U) Additionally, the JTAPIC Program Office provided a universe of 261 Service members who were involved in a PCE during the Al-Asad missile strike, or who had sustained a TBI as a result of the strike. We conducted a non-statistical sample choosing every tenth Service member, resulting in a total of 10 Service members. We crossed referenced the two samples of 20 Service members with their respective EHRs to determine if DoD Service members were adequately screened using a MACE2, if medical personnel followed up with Service members who sustained a TBI, and if Service members were returned to duty following TBI treatment. Additionally, we compared records of the Al-Asad missile strike from USCENTCOM and the JTAPIC Program Office to determine if both entities identified and reported the same number of PCEs and TBIs following the strike. We analyzed the information to determine whether the EHRs were missing TBI screening and treatment information. For more information, see the Observations section.

(U) We intended to conduct the evaluation to address congressional concerns. Specifically, the U.S. House of Representatives Brain Injury Task Force requested that the DoD Office of Inspector General review how the DoD determines whether Service members received a TBI during combat operations and the treatment protocols used to determine evacuation or return to duty status. However, due to Coronavirus disease- 2019 constraints, we changed our scope and methodology. Therefore, we plan to conduct a future evaluation on the DoD's implementation of procedures for screening individuals involved in a PCE—from point of injury through the medical process to approval for return to duty—to determine if the appropriate level of care was provided.

(U) Use of Computer-Processed Data

(U) We used computer-processed data to perform this evaluation. Specifically, we obtained lists of Service members who had been involved in potential or actual concussive events from the AFHSD and the JTAPIC Program Office, which they gathered from the Theater Medical Data Store, and from the EHRs. We collected this data to determine which Service members had been involved in potential or actual concussive events from 2018 to 2020 in the USCENTCOM AOR, and as a result of the Al-Asad missile strike in January 2020. We conducted an analysis of a non-statistical sample of Service members reported by the AFHSD and the JTAPIC Program Office and compared the sample with the EHRs to determine if the Service members reported had potential or actual concussive event documented. We determined that the data were sufficiently reliable for the purposes of this evaluation.

(U) Prior Coverage

(U) During the last 5 years, the Government Accountability Office (GAO) issued one report discussing TBIs.

(U) GAO

(U) GAO-17-260, "GAO Actions Needed to Ensure Post-Traumatic Stress Disorder and Traumatic Brain Injury are Considered in Misconduct Separations," May 2017

The report examined the extent to which the DoD, the Army, and the Marine Corps monitor adherence to policies to address the impact of PTSD and TBIs on the separation of Service members for misconduct. The report found that the Air Force and Navy's pre-separation screening and training policies are inconsistent with DoD policy and that the Army and Marine Corps may not always be adhering to or monitoring their own policies. The GAO recommended that policy inconsistencies between the DoD and the Services be resolved and routine monitoring be undertaken to ensure adherence and avoid increased risk that Service members may inappropriately be separated for misconduct without adequate consideration of the conditions' effects on behavior, separation characterization, or eligibility for VA benefits and services.

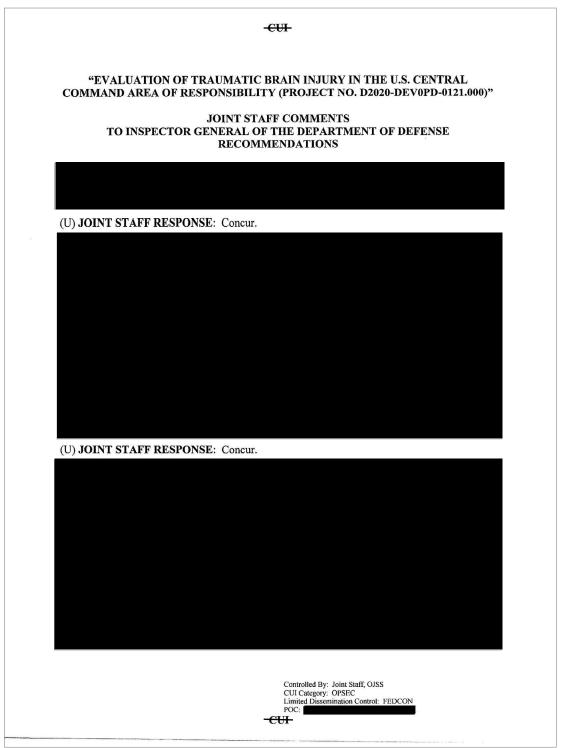
(U) Management Comments

(U) Joint Staff

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177	THE JOINT STAFF	
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MEMORANDUM FOR INS	SPECTOR GENERAL OF THE DEPART	MENT OF DEFENSE
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	GEORGE M. WIKO	FF, RADM, USN
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(U) Joint Staff (cont'd)



(U) Observation

(U) The Electronic Health Records Were Missing TBI Screening and Treatment Information

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(U) During the evaluation, we reviewed a sample of 20 EHRs known to have been involved in a PCE or have sustained a TBI to determine if USCENTCOM adequately documented potential or actual concussive events. We chose these records because USCENTCOM relied on the EHRs to track Service members involved in potential or actual concussive events. Specifically, in our sample, we reviewed the EHRs for screening documentation, including a MACE2, following a PCE; a documented TBI follow-up appointment; and a return to duty date following completion of TBI treatment. We determined that EHRs were missing TBI screening and treatment information. Specifically, we determined that:

- (U) five Service members' medical records did not contain data to demonstrate they were screened with a MACE2 following a PCE,
- (U) two Service members' medical records did not contain data showing they followed up with medical professionals as required following the initial TBI diagnosis, and
- (U) three Service members' medical records did not demonstrate that the Service members received approval to return to duty.

(U) EHRs are required to include the MACE2, in accordance with DoDI 6490.11, because the MACE2 represents the initial screening immediately following the Service member's involvement in a PCE. According to TBICoE, after the initial screening, medical personnel should follow up with Service members diagnosed with a TBI after a period of rest. Following the rest period, medical personnel should reevaluate Service members for TBI symptoms. If the Service member's symptoms have improved, medical personnel may approve that the Service member return to duty. If not, medical personnel should follow up with the Service member until they are able to return to duty or until they separate from the Service. Medical service personnel are required to document the screening, follow up, treatment, and additional medical care performed in the EHRs to ensure complete and accurate records, in accordance with DoDI 6040.45.¹⁴

¹⁴ (U) DoD Instruction 6040.45, "DoD Health Record Life Cycle Management," Incorporating Change 1, April 11, 2017.

(U) We did not interview DoD, Service, or USCENTCOM medical personnel regarding the incomplete EHRs and did not conduct analysis to determine why the EHRs were incomplete because it was outside the scope of this evaluation. Therefore, we plan to conduct a future evaluation on the DoD's implementation of procedures for screening individuals involved in a PCE—from point of injury through the medical process to approval for return to duty—to determine if the appropriate level of care was provided.

(U) Acronyms and Abbreviations

- AFHSD Armed Forces Health Surveillance Division
 - AOR Area of Responsibility
 - DHA Defense Health Agency
 - EHR Electronic Health Record
- JTAPIC Joint Trauma Analysis and Prevention of Injury in Combat
- MACE2 Military Acute Concussion Evaluation 2
 - PCE Potentially Concussive Event
 - TBI Traumatic Brain Injury
- TBICOE Traumatic Brain Injury Center of Excellence



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