

Screening for Traumatic Brain Injury in Direct Service Settings

Why is screening important?

Traumatic brain injury (TBI) is a leading cause of death and disability in the United States. However, because there may be no visible signs of injury, TBIs are frequently unreported, overlooked, or misdiagnosed. Systematic screening allows for the identification of previously unrecognized brain injuries; this is particularly important in direct service settings, where a brain injury might not be evident during the initial interactions with a client. A person might present with one or more disorders that frequently co-occur with brain injury, such as substance abuse or mental and/or behavioral health issues. The screening process might prompt an individual's or family member's memory of an event that could have caused a TBI but was not recognized at the time of injury.

Better screening for TBI could also significantly affect allocation of resources. Because TBIs often go unrecognized, it's difficult to get an accurate count of the number of people with TBI seeking state and community services. This in turn affects the allocation of funds and resources needed to support this population. Systematic screening directly aids the effort to define the size of this population, and it is an important first step in coordinating appropriate resources and services for people who need them.

Who should be screened?

In general, all clients seen in direct service settings should be screened for TBI. Homeless shelters, vocational rehabilitation centers, employment agencies, mental health facilities, prison systems, and domestic abuse facilities are all likely to serve clients with unidentified TBI. Research has shown that veterans/military personnel, the homeless, criminal offenders, and mental health clients all have large populations with TBI.

Veterans/Military Personnel: The [Department of Defense \(DOD\)](#) identifies TBI as one of the signature injuries of those wounded in the wars in Iraq and Afghanistan. In recent years, the DOD and the Department of Veterans Affairs (VA) have made a concentrated effort to identify and treat active military personnel and veterans who have sustained service-related brain injuries. Many of these people receive services through the VA system and are potentially screened using a tool designed for military personnel and veterans, such as the [VA TBI Screening Tool \(VATBIST\)](#) or the [Brief Traumatic Brain Injury Screen \(BTBIS\)](#). These instruments ask questions specific to experiences during military deployment.

Homeless: A [2012 systematic review](#) by Topolovec-Vranic and colleagues found that although the rate of TBI varies across studies, the results consistently reflect that TBI is more common among homeless people than in the general population. Two studies looked specifically at the timing of the brain injury and found that for most participants, the first incidence of TBI occurred before the person became homeless, suggesting that TBI might be a risk factor for homelessness. Determining the prevalence of TBI among homeless people is essential to the development and implementation of appropriate interventions for this vulnerable population.

Offenders/Inmates: A [2010 meta-analysis](#) conducted by Shiroma and colleagues found that the estimated prevalence of TBI in the adult offender population was 60%. The lack of recognition and information about TBI and its associated challenges among both inmates and corrections staff increases the likelihood that issues will not be managed appropriately. Within the prison system this can lead to disciplinary problems and a more difficult time upon release.

What is a validated tool for assessing lifetime exposure to TBI for the general population?

Ohio State University TBI Identification Method (OSU TBI-ID)

The OSU TBI-ID includes self-report questions and was based on the Centers for Disease Control's framework to provide a systematic retrospective identification method. This tool is free, as is the online training on how to administer it. Resources and links to the OSU TBI-ID short form and clinical version are available on the [Ohio Valley Center for Brain Injury Prevention and Rehabilitation website](#).

A final caveat, it is important to recognize that screening measures have the potential for errors. These include false negatives and false positives, as well as a limited ability to distinguish TBI from other disabilities with similar symptom profiles. The potential for these types of errors should be taken into consideration during any screening process.

Where can I find more information?

- *Traumatic Brain Injury Screening: An Introduction*. (2006). U.S. Department of Health and Human Services, Health Resources and Services Administration. <https://tbitac.hrsa.gov/download/ScreeningInstruments508.pdf>
 - *Traumatic Brain Injury in Prisons and Jails: An Unrecognized Problem*. Centers for Disease Control and Prevention. http://www.cdc.gov/traumaticbraininjury/pdf/Prisoner_TBI_Prof-a.pdf
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- Topolovec-Vranic, J., Ennis, N., Colantonio, A., Cusimano, M. D., Hwang, S. W., Kontos, P., Stergiopoulos, V. (2012). Traumatic brain injury among people who are homeless: a systematic review. *BMC Public Health*, 12(1), 1059-1066. <http://www.ncbi.nlm.nih.gov/pubmed/23216886>
- Shiroma, EJ, Ferguson, P, Pickelsimer, E. Prevalence of TBI in an Offender Population: A Meta-Analysis. (2010). *Journal of Correctional Health*, 16(2): 147-159. <http://jcx.sagepub.com/content/16/2/147.abstract>
- U.S. Department of Defense. (2012). *Traumatic Brain Injury*. http://www.defense.gov/home/features/2012/0312_tbi/
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