

Research In Focus: A Weekly Digest of New Research from the NIDILRR Community

For People with TBI. Access to State-Level Supports May Contribute to Better Participation, Life Satisfaction, and Cognitive Function

A study funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR).

Traumatic brain injury (TBI) is lasting brain damage from an injury that results from an external force (either blunt or penetrating). TBI is a major cause of death and disability in the US. People who experience a TBI may turn to resources and supports available from agencies within their state to help them fully participate in their communities. These supports can include residential services, care management, and transportation services, among many others.

Access to long-term services and supports for this population is often provided through the Home and Community-Based Services (HCBS) waiver program, which is funded and authorized under Medicaid's Long-Term Services and Supports (LTSS). However, services and resources vary between states, as do eligibility requirements. Services may be spread across several agencies, and family members are often tasked with navigating these programs on their own. Having dedicated TBI resources such as brain injury waiver programs or TBI State Partnerships, which are focused on the needs of people with TBI and their families, may positively impact their ability to safely live and participate in the community. These variations may affect people with TBI's ability to live and participate in the community.

In a recent NIDILRR-funded study, researchers looked at the relationship between TBI-related state-level supports and outcomes following TBI. Specifically, they wanted to know how variations of TBI-related supports among states may be related to outcomes on community participation, level of function, and life satisfaction, above and beyond the role that individual differences such as survivors' socio-demographic background or injury characteristics played in achieving those outcomes

Researchers from TBI Model System Centers in Colorado, Ohio, North Carolina, and New Jersey looked at data collected from 6,495 participants in the TBI Model Systems (TBIMS) National Database between 2011 and 2018. The participants were age 16 years or older at the time of their injury and received treatment in a TBIMS acute rehabilitation program. Participants lived in 48 states and the District of Columbia. When they were admitted to the rehabilitation hospital, data were collected about demographics, pre-injury characteristics such as health and employment status, and injury-related characteristics such as their motor and cognitive function at discharge. Participants had subsequent follow-up interviews at 1, 2, and 5 years post-injury, during which they or their caregivers answered questions about their participation in the community and motor and cognitive function. Participants were also asked about their life satisfaction.

The researchers examined four measures to represent state-level supports. For each of the 48 states and DC, they looked at the following measures:

- Whether the state participated in the Health Resources and Services Administration (HRSA) TBI State Partnership program;
- Per capita revenue from brain injury trust funds set up to provide services and supports to residents with TBI;
- Percentage of HCBS waiver funds spent on TBI programs; and
- The LTSS State Scorecard from the American Association of Retired Persons (AARP), which ranks the quality of a state's supports for the needs of older adults and people with disabilities.

After individual differences that existed before the injury and difference in injury severity were taken into account, the researchers found the following results:

- Participants who lived in states with higher LTSS State Scorecard ranking had greater community participation and life satisfaction. Of those, younger participants reported more satisfaction with life, while there was no difference in life satisfaction among older participants.
- Community participation was slightly higher for participants in states with a higher percentage of HCBS brain injury waiver expenditures.
- Community participation was higher, and increased over time, for participants in states with higher per capita brain injury trust fund spending.
- Participants in states that were part of the HRSA TBI State Partnership program had more cognitive improvement at follow-up than those in non-Partnership states. This was especially true for those with more significant cognitive disabilities due to their injuries. There was no difference in motor function improvement between those in Partnership or non-Partnership states.

For the findings that older people with TBI who lived in states with higher LTSS rankings didn't necessarily report better life satisfaction, the authors suggested that it might be because the needs of the older adults are already being adequately met through other aging-related programs and services, regardless of the state's level of support for LTSS. Therefore, the difference in life satisfaction was only observed in younger people with TBI.

The authors noted there appeared to be a connection between comprehensive and person-centered state-level TBI-related supports and more community participation and higher life satisfaction among those participants. However, they acknowledged that there might be other environmental factors (other than state-level supports) that could have also contributed to the result of this study, such as family support. These state-level supports, particularly those funded through the HRSA/ACL TBI State Partnerships,

tend to focus on the cognitive effects of TBI, which could explain why people with lower cognitive function fared better in these states.

The authors suggested that this study's results offer some promise for future research to further investigate environmental factors that may impact outcomes for people with TBI.

[To Learn More](#)

The Model Systems Knowledge Translation Center (MSKTC) offers a [large collection of resources for people with TBI and their families](#). These include factsheets, videos, and hot topic modules including what to expect during inpatient rehabilitation and the physical, emotional, and cognitive effects of TBI.

The [Brain Injury Association](#) and its state affiliates offer support, information, and resources to people with TBI, caregivers, brain injury professionals, and more.

The Administration for Community Living funds the TBI State Partnership Grant Program, which includes a technical assistance and resources center and, in 2021, 24 state programs. [Learn more about how these partnerships support the participation of people with TBI](#).

[To Learn More About this Study](#)

Corrigan, J.D., Vuolo, M., Bogner, J., Botticello, A.L., Pinto, S.M., and Whiteneck, G.G. (2021) [Do state supports for persons with brain injury affect outcomes in the 5 years following acute rehabilitation?](#) *Health and Place*, 72. This article is available from the NARIC Collection under Accession Number J87659 and in full text from the publisher.

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