

Novel screening tool and recovery program may help reduce mental health problems after trauma

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A novel screening tool helps to identify hospitalized trauma patients at high risk for later mental health problems, and an emotional recovery program for trauma patients is feasible, according to two studies

published in the *Journal of the American College of Surgeons (JACS)*.

At least one in five Americans hospitalized after traumatic injury develops posttraumatic stress disorder (PTSD), depression, and/or other psychiatric disorders. However, most U.S. trauma centers report not routinely screening trauma patients for mental health problems, a 2022 survey found. In 2022, the American College of Surgeons Committee on Trauma began requiring ACS-verified trauma centers to routinely screen trauma patients for mental health risks and to refer affected patients to mental health care practitioners.

"Early responses to trauma do not accurately predict who will develop mental health problems," said Eve Carlson, Ph.D., a clinical psychologist researcher with the National Center for PTSD and lead author of a study published in *JACS* that described the development and initial performance of a novel mental health risk screen for hospitalized patients.

David Spain, MD, FACS, a trauma surgeon at Stanford Medical Center in Stanford, California, who co-led the study, noted that "existing mental health screening tools are fairly long and have not been widely tested in large groups with different racial or ethnic subgroups."

Screening for mental health risk

Drs. Carlson and Spain collaborated to develop a mental health risk screening tool, called the Hospital Mental Health Risk Screen (HMHRS). The researchers also studied whether the HMHRS would be useful for screening hospitalized patients with acute illnesses since in a prior study, the investigators found that uninjured and injured patients had comparable rates of mental health problems after hospitalization.

Between June 2018 and January 2021, the researchers assessed 1,320

[adult patients](#) from three hospital emergency departments that were also Level I trauma centers. Participating centers were Summa Health Traumatic Stress Center, Akron, Ohio; R. Adams Cowley Shock Trauma Center, Baltimore; and Stanford Health Care trauma service, Stanford, California.

Nearly 50% of the [hospitalized patients](#) had acute illnesses, and the rest had injuries sustained from motor vehicle crashes, falls, or other causes. The study included patients who identified with one or more of five racial-ethnic subgroups: white, Black, Latino, Asian or Pacific Islander, and multiracial. According to the authors, the study is the first to test the performance of a mental health risk screen for patients in the five largest U.S. ethnic and racial groups.

During hospitalization, mental health risk factors were measured, and the researchers conducted analyses to identify the most predictive risk factors, select items to assess each risk, and determine the fewest items needed to predict mental health symptoms at follow-up. Two to three months after hospital discharge, 800 patients' mental health symptoms were measured.

Main findings

- Both ill and injured patients hospitalized after [emergency care](#) are at increased risk for later mental health disorders.
- Ten HMHRS screening items predicted mental health risk, allowing for a quick screening tool.
- The 10 items are acute symptoms of PTSD (four items), depression, and anxiety; acute dissociation, or feeling disconnected from reality; prior mental health problems; everyday experience of discrimination; and expected life stress.
- The 10-item HMHRS correctly predicted 75% of patients who later had mental health issues and 71% of those who did not.

Predictive performance was very good overall and ranged from good to excellent in the five racial-ethnic subgroups.

If screened patients know their risk of future mental health problems is high, Dr. Spain said they may be willing to take [preventive measures](#) and be less likely to develop psychiatric disorders.

According to Dr. Carlson, routine mental health risk screening could increase health equity by providing historically underserved patient populations with the same care as more privileged patients. "We also expect that identification of patients at risk for [mental health problems](#) will foster research on preventive mental health care."

Connecting trauma patients with mental health resources

Authors of another *JACS* study implemented an in-hospital intervention, called the Trauma Resilience and Recovery Program (TRRP), to address the mental health needs of 475 adult [trauma patients](#) from July 2017 through June 2020. Patients were from three Level I or II trauma centers in South Carolina: Prisma Health Midlands, Columbia; Prisma Health Upstate, Greenville; and Trident Medical Center, Charleston.

TRRP is a stepped-care model designed to match patients' needs to the appropriate level of care, said lead study author Tatiana Davidson, Ph.D., a clinical psychologist at the Medical University of South Carolina in Charleston, which developed the program.

In the first of four program steps, all patients underwent a brief screening for risk of PTSD and depression and received in-hospital education about mental health recovery after trauma.

In the second step, patients identified as having a high risk received a daily text message promoting self-monitoring of mental health symptoms for 30 days after discharge. Third, these patients received automated and/or telephone-based rescreening for PTSD and depression symptoms. Finally, patients who showed severe symptoms at rescreening received referrals for mental health treatment.

This qualitative improvement initiative showed that TRRP can be feasibly implemented and can be adapted to individual [trauma](#) centers' differing needs, resources, and patient populations, Dr. Davidson reported. She added that the program was sustainable because all stakeholders participated in the early stages of implementation.

"We want a recovery program that is going to stay, so we can meet the mental health needs of all these patients, who otherwise may not receive mental [health](#) treatment," she said.

More information: Eve Carlson et al, Development and Initial Performance of the Hospital Mental Health Risk Screen, *Journal of the American College of Surgeons* (2023). [DOI: 10.1097/XCS.0000000000000904](#)

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