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Trauma centers expand care to treat patients beyond physical injury

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Most patients who show signs of alcohol or opioid/stimulant drug use associated with injury now undergo screening and/or intervention in Level I and II trauma centers, according to national survey results.

Screenings and interventions are also conducted for some trauma patients who show signs of depression, suicidal ideation, post-traumatic stress disorder (PTSD), and exposure to firearm violence, which can lead to PTSD, although some of these mental health conditions are not screened for as consistently.

Alcohol and drug use problems and other mental health disorders are "endemic among patients admitted to U.S. trauma centers," note study authors in an "article in press" published online in the *Journal of the American College of Surgeons*.

"In trauma care, there's an intention to better understand the risk factors for patients who are injured and how we can intervene to reduce their rate of reentry into a trauma center. The first studies were done to study the relationship between alcohol use and traumatic injury. Out of that work, grew a really convincing evidence base, which showed that if you did even a brief intervention with those patients while they were still in the hospital, that intervention would substantially reduce their risk of subsequent injury," said lead study author Eileen M. Bulger, MD, FACS, Chair of the American College of Surgeons Committee on Trauma (ACS COT), and chief of trauma and trauma medical director for adults and pediatrics, Harborview Medical Center, Seattle.

For trauma patient interventions, an integrated mental health care approach is key, especially in acute care trauma and emergency department settings, explained study coauthor Douglas F. Zatzick, MD, a psychiatrist who works with trauma survivors with Dr. Bulger at the Harborview Medical Center Level I trauma center and is a professor of psychiatry and behavioral sciences at the University of Washington School of Medicine, Seattle. "Our model is to meet people by the bedside, and we don't necessarily start with mental health. We start with a very patient-centered approach to post-injury care by asking patients about what concerns them the most following their injury. After eliciting

patient concerns, we initially address patients' most pressing concerns. It turns out that we can establish a therapeutic alliance with injury survivors by initially working with patients to address concerns, which relate to multiple social determinants of health, including post-injury financial worries and return to work. After establishing this alliance, it's often easier to address specific mental health issues such as PTSD symptoms."

About the survey

Researchers identified U.S. Level I and II trauma centers using the American Trauma Society's Information Exchange system, the ACS COT listing of verified trauma programs, and through internet searches of state departments of health websites. The survey extended beyond ACS-verified trauma centers, although all ACS verified trauma centers were invited to participate.

Next, 627 Level I and II sites were contacted to complete the survey inquiring about screening and intervention procedures for alcohol and substance abuse, PTSD symptoms, depression, and suicidality [thoughts and/or attempts to deliberately hurt oneself with an intent to die], and violence intervention programs. The capacity of trauma centers to offer peer interventions and to deliver information technology screening intervention procedures was also queried.

The survey attained a 51% response rate (n=322), which the authors view as a limitation since prior national trauma program surveys had a response rate greater than 70%. The authors cite the COVID-19 pandemic as the likely cause for a lower response rate as hospitals were significantly impacted with patient care responsibilities during the investigation period (May 14, 2019—May 18, 2021).

Overview of key findings

Alcohol screenings/interventions are routine

More than 95% of the centers who responded reported routinely screening and/or intervening for alcohol use problems for high-risk patients. Three screening methods are used: laboratory test, a patient questionnaire, or electronic health record screen, which identifies risk factors.

This finding shows a significant increase in the number of trauma centers performing alcohol screening/intervention over time. In 2008, alcohol screenings were reported by 70% of Level I centers, however, only 25% followed through with evidence-based interventions for patients who needed it.

When the ACS COT published new trauma center standards in 2014, alcohol screening and brief intervention became a verification requirement for Level I and II centers. A concurrent nationwide survey documented alcohol screening and intervention rates at more than 90% of all Level I and II centers.

"These changes show how effective ACS COT standards are for changing a practice," said Dr. Bulger.

Many trauma centers screen for opioids and stimulants

Survey results shed new light on national screening and intervention efforts for trauma patients at risk for abusing opioids and stimulants with the same three screening methods as alcohol use. Trauma centers have extrapolated their experience with alcohol screening and intervention to support patients with other substance abuse disorders:

- For opioids, 82% of sites reported using at least one of the three screening methods also used for alcohol
- For stimulants, 78% of sites endorsed using at least one of the three screening methods

Screening and support for some mental health issues lacking

Routine screening patients for PTSD symptoms and the factors contributing to firearm injury were lacking among at least 70% of all reporting centers:

- 28% of responding centers offer routine services to support patients with PTSD
- 30% of centers conduct programmatic screening and intervention for the impact of firearm injury on patients

Screening rates for suicidal ideation and depressive symptoms were higher than for PTSD symptoms, with 77.5% of sites screening for suicidal ideation and 38.3% of sites endorsing depression screening.

Study authors note "that while screening for suicide risk is becoming more common, there is considerable opportunity to continue to increase screening and intervention for PTSD symptoms in U.S. trauma centers."

Leverage Electronic Health records for screening and develop peer support programs

Expanding technological capacity to support electronic health record screening and strengthening referrals for peer services for trauma survivors are two areas where centers can expand to better assist patients.

Only 20% of sites reported current use of highly efficient automated screening procedures for alcohol and substance abuse and 10% of sites reported current use of automated screening procedures for some mental health conditions.

Peer support programs were reported to be in place by 15% of centers, but 86% of centers expressed interest in having such programs.

Strengthening peer support through trauma centers provides an opportunity to address the long-term recovery for trauma survivors across the U.S.

Looking ahead

The evolution of the ACS standards for trauma center verification have incorporated evidence from research to advance the care and support for injured patients. The implementation of alcohol screening and intervention as a standard for trauma centers is an example of how this program can change care across the U.S. "By doing the alcohol mandate and having evidence behind that, we were able to substantially show a change in practice over time. This approach can be applied to PTSD screening or screening for other mental health disorders or substance abuse," said Dr. Bulger.

PTSD and firearm injury survival are two important areas where many trauma patients need support, particularly in a collaborative care setting where their injury and their mental health issues can be treated as comorbid conditions. However, their risk needs to be identified and addressed early on. Many patients are at risk to develop PTSD after a traumatic injury. By screening for risk factors up front, professionals can intervene and reduce their risk so they have a better recovery.

Firearm injury survivors are at risk for PTSD, as well as other mental health issues, and substance abuse. Patients that survive firearm injuries are high risk for reinjury. If they survive the initial firearm injury but go back to the same environment, there's a high risk that they'll be injured again. "A number of trauma centers have put in place hospital-based violence intervention programs, where they bring in trained survivors of firearm injury as violence intervention specialists. They work with patients in the hospital to build a relationship so that when they're discharged back into the community, the survivors can be connected to resources to support their recovery and address their social needs to hopefully reduce their risk of reinjury," Dr. Bulger explained.

While screening and intervention for both mental health disorders and violence prevention can be found in some trauma centers, the number of trauma patients who are participating is not commensurate with the number who may need it, and the research evidence base lags behind what has been established for alcohol screening and intervention.

"The work now being done with alcohol screening and intervention in trauma centers shows the influence of the structure of the trauma center verification program in that it allows us to take evidence, translate it into program standards, and really change practice across the country. With continued research and more evidence to come, the potential is there to make the verification standards even more effective and beneficial for trauma patients in the future," concluded Dr. Bulger.

More information: Bulger, Eileen et al, Nationwide Survey of Trauma Center Screening and Intervention Practices for Posttraumatic Stress Disorder, Firearm Violence, Mental Health, and Substance Use Disorders, *Journal of the American College of Surgeons* (2022). DOI: 10.1097/XCS.0000000000000064

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