

Screening tool administered in pediatric ER accurately gauges suicide risk

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A suicide risk screening tool that Johns Hopkins Medicine implemented in its pediatric emergency department six years ago appears to provide

an accurate gauge of which youth are most vulnerable and has identified more than 2,000 patients who might benefit from mental health treatment and resources, according to a study led by researchers at Johns Hopkins Bloomberg School of Public Health and Johns Hopkins Medicine.

The authors suggest that these findings, published online October 25 in *JAMA Network Open*, validate what's since become the standard of care in the Pediatric ER and Pediatric inpatient units at the Johns Hopkins Children's Center and neighboring hospitals, and has the potential to save countless lives.

Senior author Holly C. Wilcox, Ph.D., associate professor in the Bloomberg School's Department of Mental Health and in the School of Medicine's Department of Psychiatry and Behavioral Sciences, notes that the tool, known as the Ask Suicide-Screening Questions (ASQ), was implemented in 2013 for youth between ages 8 and 18 presenting to the [emergency department](#) with behavioral and [psychiatric problems](#) as part of anticipated requirements from The Joint Commission, the body that accredits hospitals and [health](#) care programs in the U.S.

Starting in 2017, all other youth between ages 10 and 18 presenting to the emergency department with any medical complaint have also been screened with the ASQ, based on recommendations from emergency department staff.

Although this four-item questionnaire has been previously validated in a young population, Wilcox says its ability to accurately gauge suicide risk in pediatric populations under real world conditions as routine care was unknown. In addition, it's unclear how many more at-[risk patients](#) this screening tool would identify beyond those who self-disclosed [suicidal thoughts](#) or ideation, especially in patients who weren't coming to the emergency department for mental health issues.

To answer these questions, Wilcox and her colleagues collected data from the electronic health records of the 15,003 patients who received the two-minute questionnaire during triage since the Johns Hopkins Children's Center's [pediatric emergency department](#) started administering it. They counted how many patients had independently reported suicidal thoughts or ideation to the medical team compared to how many had a positive ASQ score, a factor which in previous studies had suggested an elevated suicide risk.

The researchers looked for differences in positive scores between those patients coming to the pediatric emergency department for mental health complaints and those coming for other health problems, and differences in scores between different demographic groups. They also validated whether the ASQ truly predicted suicide risk by following patients for a year or more on average, looking for evidence in their [electronic health records](#) of subsequent visits to the emergency department for suicidal thoughts or attempts, and suicide-related death records from the Office of the Chief Medical Examiner in Maryland.

Over the study period—from March 2013 to December 2018—4,666 pediatric patients received the ASQ screen when they presented to the ED with behavioral or psychiatric problems, and 10,337 were screened after the ASQ was implemented universally. There were 275 subsequent suicide-related emergency department visits and 3 suicide-related deaths in patients who had presented earlier with mental health complaints, and 118 subsequent suicide-related emergency department visits and no deaths in the group presenting with other health issues.

The researchers' analysis showed that these patients' ASQ scores accurately predicted these later outcomes. Specifically, positive ASQ screens among those seeking treatment for psychiatric or behavioral concerns were associated with an approximately five-fold greater risk for subsequent suicide-related outcomes, including attempts and

suicides. The effect was greater in the patients screened under universal conditions by including those with medical concerns as well as psychiatric or behavioral concerns.

Results showed that 1,435 patients screened positive in those presenting to the pediatric emergency department for mental health issues, and 806 screened positive when the ASQ was administered universally. Notably, Wilcox says, 1,229 of 2,241 patients with positive screens did not report suicidal ideation or behavior to the medical team directly, a risk that might have gone undetected otherwise. This group was disproportionately more likely to be male or black—populations at elevated suicide risk.

Wilcox explains that when patients screen positive at the Johns Hopkins Children's Center's pediatric emergency department, they receive further evaluation that helps the medical team consequently refer them for [mental health](#) care and resources.

"We're hoping that hospitals and health care systems across the country will see this screen as feasible, and that it can successfully catch a substantial subset of patients who doctors may not have identified as at high risk for suicide," Wilcox says. "This tool can give us the opportunity to link at-risk patients with services that can save their lives."

More information: Jordan E. DeVlyder et al. Assessment of Selective and Universal Screening for Suicide Risk in a Pediatric Emergency Department, *JAMA Network Open* (2019). [DOI: 10.1001/jamanetworkopen.2019.14070](https://doi.org/10.1001/jamanetworkopen.2019.14070)

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