



# New tool predicts patient's gun violence risk in ER

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April 12 (UPI) -- Researchers at the University of Michigan have developed a new assessment tool for use in the ER to predict a patient's risk of future gun violence.

"Firearm violence is a public health problem," Dr. Jason Goldstick, an assistant professor of research in emergency medicine at the University of Michigan, [said in a press release](#). "At-risk youth may not have many ways to connect to violence-prevention services. This means the emergency department is a critical access point for identifying youth that are most at risk and intervening to hopefully decrease their risk of future firearm violence."

Goldstick and his team created a clinical risk index tool to allow doctors to gauge gun violence risk among urban youth who come into the ER.

Previous screening tools for youth violence were focused on primary care settings, lacked a specific focus on gun violence and were too lengthy for practical use in an ER setting, Goldstick said.

Researchers analyzed data from the Flint Youth Injury study, a two-year cohort of patients ages 14 to 24 who reported drug use in the previous six months and sought care at a Level 1 trauma center in Flint, Mich., comparing patients who were injured in assaults to those seen for other reasons.

The Flint Youth Injury study was a self-reported survey of 115 questions about violence involving partners and peers, community violence exposure, alcohol and drug use and peer influences taken by 599 youth.

Researchers identified 483 youth that could be classified as being involved with gun violence during the study's six-, 12-, 18- and 24-month follow-up periods.

"We randomly split the data into a training set and a validation set with prevalence of firearm violence equivalent in each," Goldstick said. "Using only training data, we used a machine-learning classification approach to identify the most predictive factors for future firearm violence. Those factors fell predominantly into four domains: peer and partner violence victimization, community violence exposure, peer/family influences and fighting."

From that researchers created a 10-point score called SaFETy, which stands for Serious fighting, Friend weapon-carrying, community Environment and firearm Threats.

"Before this tool, there was no way to gauge risk of future firearm violence," Goldstick said. "We know that someone presenting to the emergency department with a violent injury is at elevated risk, but the SaFETy score shows superior predictive power than just knowing they were treated for a violent injury."

The study was [published in the Annals of Internal Medicine](#)

