

# Is violent injury a chronic disease? Study suggests so and may aid efforts to stop the cycle

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Teens and young adults who get seriously injured in an assault are nearly twice as likely as their peers to end up back in the emergency room for a violent injury within the next two years, a new University of Michigan Injury Center study finds.

The researchers call this repeating pattern of [violent injury](#) a reoccurring disease, but their landmark study also suggests potentially powerful opportunities to intervene in ways that could stop the cycle.

The first six months after a young person seeks care for a violence-related injury is an especially important time, the study shows.

Patients with post-traumatic stress disorder or drug abuse problems have the highest likelihood of suffering injuries in another violent incident, the researchers find.

The findings come from a unique effort that involved multiple interviews and medical record chart reviews conducted over two years with nearly 600 residents of the Flint, Mich. area between the ages of 14 and 24—starting when each one sought emergency care at a single hospital. Nearly 350 of them were being treated for assault injuries at that first encounter.

The findings are published online in *JAMA Pediatrics* by a group from

the University of Michigan Medical School and School of Public Health, the VA Ann Arbor Healthcare System, and other colleagues.

Rebecca Cunningham, M.D., director of the U-M Injury Center and first author of the new paper, notes that it's the first prospective study of its kind, and 85 percent of the young people enrolled were still in the study at 24 months. Five of the participants died before the study period ended, three from violence, one from a drug overdose, and one in a motor vehicle crash.

"In all, nearly 37 percent of those who qualified for this study because they were being treated for assault-related injuries wound up back in the ER for another violent injury within two years, most of them within six months," says Cunningham, who is a Professor in the Department of Emergency Medicine at the U-M Medical School and the Department of Health Behavior and Health Education in the U-M School of Public Health.

"This ER recidivism rate is 10 percentage points higher than the rate for what we traditionally call chronic diseases," she continues. "Yet we have no system of standard medical care for young people who come to us for injuries suffered in a violent incident. We hope these data will help inform the development of new options for these patients."

The authors note that non-fatal assault-related injuries lead to more than 700,000 emergency visits each year by youth between the ages of 10 and 24. Fatal youth violence injuries cost society more than \$4 billion a year in medical costs and \$32 billion in lost wages and productivity.

Despite this costly toll, most research on how often the cycle of violent injury repeats itself, and in which [young people](#), has relied on looking back at medical records. This has resulted in widely varying estimates of how big the problem is.

But through the Flint Youth Injury Study, based at U-M, the research team was able to study the issue prospectively, or starting with an index visit and tracking the participants over time. The study was performed at Hurley Medical Center in Flint, where Cunningham holds an appointment and where U-M emergency physicians work with Hurley staff to provide care.

The study's design allowed them to compare two groups—those whose index visit was for assault injuries and those seen for other emergency care. Each time a new assault victim was enrolled, the research team sought to enroll the next non-assault patient of the same gender and age range who was treated at the same ER.

Nearly 59 percent of the participants were male, and just over 58 percent were African American, reflecting the broader population of Flint. Nearly three-quarters of those in the study received some form of public assistance.

Among those whose first visit was for assault, nearly 37 percent wound up back in the ER for violent injuries in the next two years, compared with 22 percent of those whose first visit wasn't for an assault injury. And a larger proportion of the "assault group" actually came back more than once for violent injuries, compared with the other group.

"Future violence interventions for youth sustaining assault-related injury may be most effective in the first six months after [injury](#), which is the period with the highest risk for recidivism," says Maureen Walton, MPH, Ph.D. senior author and associate professor in the U-M Department of Psychiatry. "These interventions may be most helpful if they address substance use and PTSD to decrease future morbidity and mortality."

Provided by University of Michigan Health System

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