Regions with stronger gun laws have fewer
gun-related pediatric emergency department
visits
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Regions of the United States with the strictest gun
laws also have the fewest emergency department
visits for pediatric firearm-related injuries,
according to a new study by Children's National
Health System researchers. The findings,
presented at the 2017 annual meeting of the
Pediatric Academic Societies, could inform policies
at the state and regional levels.

"Our results suggest an association between
regional gun laws and firearm-related injuries in
children," says Monika K. Goyal, M.D., M.S.C.E.,
director of research within Children's Division of
Emergency Medicine and senior author of the
poster. "Regions with stricter gun laws had lower
incidence rates of firearm-related emergency
department visits by children."

Firearm-related injuries are a leading cause of
death and disability among children and
adolescents in the United States. It is well
established that states with more restrictive gun
laws have fewer firearm-related fatalities. However,
it has been unclear how these laws affect the rates
of firearm-related injuries among children.

To investigate this question, Children's National
researchers gathered data from the Nationwide
Emergency Department Sample (NEDS), a set of
hospital-based emergency department databases
created by the federal Agency for Healthcare
Research and Quality to aggregate data about
emergency department visits across the country.
The researchers matched NEDS data from 2009 to
2013 in patients 21 and younger with state-level
Brady Gun Law Scores, a measure of the strength
of firearm laws, in four geographic regions: The
Midwest, Northeast, South and West.

The researchers found that during this five-year
study period, there were 111,839 emergency
department visits for pediatric firearm-related
injuries nationwide, an average of 22,368 per year.
The mean age of patients was 18 years, and the
vast majority was male. Just over one-third were
publicly insured. About 30 percent of these
recorded injuries resulted in hospital admission,
and about 6 percent resulted in death.

Overall, firearm-related visits to emergency
departments remained consistent over time at a
rate of 65 per every 100,000 visits until 2013, when
they decreased slightly to 51 per 100,000 visits.
However, these rates varied significantly by
geographic region. The Northeast had the lowest
rate at 40 per 100,000 visits. This was followed by
the Midwest, West and South at 62, 68 and 71 per
100,000 visits, respectively.

These numbers roughly matched the Brady Gun
Law Scores for each region. The Northeast had the
highest Brady score at 45, followed by 8, 9 and 9
for the South, West and Midwest.

These findings, the study authors say, suggest that
stricter gun laws might lead to fewer fatalities as
well as fewer gun-related injuries among children.
Future studies about the role of regional gun culture
and its impact on firearm legislation at the regional
level, they say, is an important next step in
advocating for changes to firearm legislation and
reducing pediatric firearm-related injuries.

"Future research work should seek to elucidate the
association of specific gun laws with the incidence
rates of pediatric firearm-related injuries," says
Shilpa Patel, M.D., M.P.H., an assistant professor
of pediatrics and emergency medicine at Children's
National and co-author of the poster. "This work
also could evaluate how regional differences—such
as social gun culture, gun ownership and other
factors—contribute to the significant regional
variation in firearm legislation."

The American Academy of Pediatrics, an organization of 66,000 pediatricians, has repeatedly advocated for stricter gun laws, violence prevention programs, research for gun violence prevention and public health surveillance, physician counseling to patients on the health hazards of firearms and mental health access to address exposure to violence.

**More information:** "Geographic regions with stricter gun laws have fewer emergency department visits for pediatric firearm-related injuries: A five-year national study," poster presentation

Provided by Children’s National Medical Center


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