

CORRESPONDENCE



Reduction in Firearm Injuries during NRA Annual Conventions

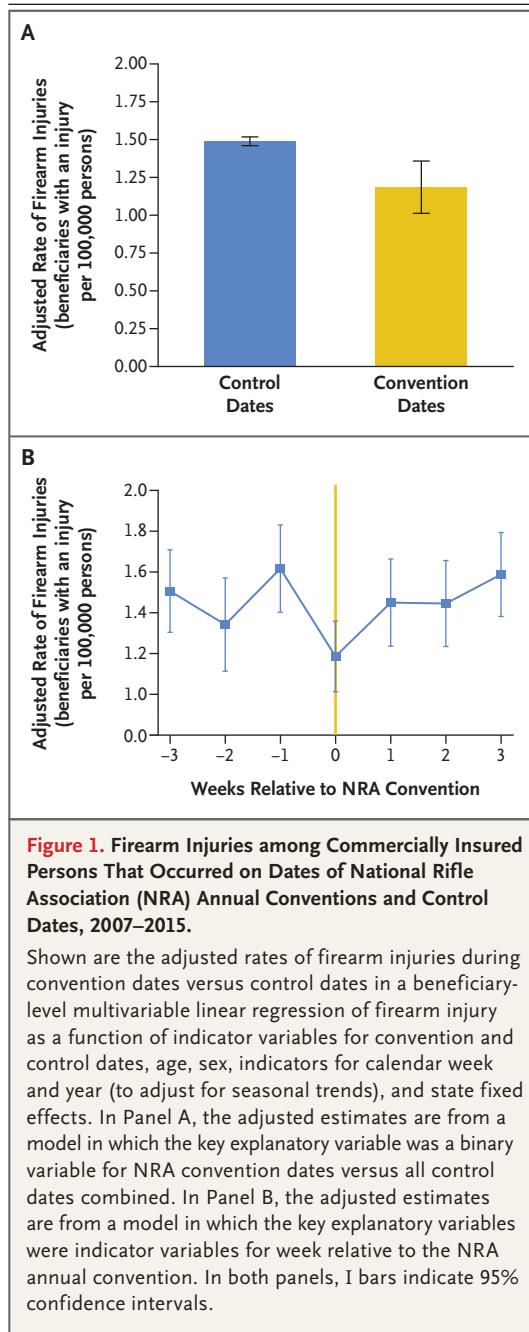
TO THE EDITOR: Despite high rates of unintentional firearm injuries,^{1,3} and recognition by the National Rifle Association (NRA) that firearm education is important,⁴ it is often said that firearm injuries occur primarily among inexperienced users and that firearm safety comes with experience and training. To investigate this contention, we conducted a study in which we hypothesized that firearm use would decline during the dates of NRA meetings — which attract tens of thousands of members from across the United States,⁵ including firearm owners and owners of venues where firearms are used (e.g., firing ranges and hunting grounds) — and that firearm injuries would also decline even among experienced users.

We identified emergency department visits and hospitalizations for firearm injuries during NRA convention dates and during identical days in the 3 weeks before and 3 weeks after NRA conventions in a national database of privately insured patients during 2007 through 2015. We estimated the rates of firearm injuries during convention dates versus control dates in a beneficiary-level multivariable linear regression of firearm injury (a binary variable) as a function of indicator variables for convention and control dates, patient age, sex, indicators for calendar week and year, and state fixed effects. We conducted subgroup analyses according to census region and state-level stratum of gun-ownership rates, hypothesizing that larger reductions in the rates of injury would occur in areas with more firearm use; according to patient sex, hypothesizing that larger reductions would occur among males, who disproportionately attend NRA meetings⁵; and according to whether a convention was held in a beneficiary's state, hypothesizing that larger reductions would occur when conventions are easier to attend. In addition, we used the National Incident-Based Reporting System to analyze the proportion of crimes involving a firearm that occurred during convention versus control dates. Additional methods, results, and discussion are provided in the Supplementary Appendix, available with the full text of this letter at NEJM.org.

Among 75,567,650 beneficiary-period observations in the claims analysis, 14.3% occurred on NRA convention dates. The unadjusted rate of firearm injuries was lower during convention dates than during control dates (129 beneficiaries with a firearm injury among 10,883,304 persons [1.19 per 100,000] vs. 963 beneficiaries with a firearm injury among 64,683,254 persons

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[1.49 per 100,000]; $P=0.004$; relative difference, 20.1%; 95% confidence interval, 6.7 to 34.0). The findings were unaffected by adjustment for covariates (Fig. 1).

Reductions in firearm injuries during convention dates were largest among men, in the South and West, in states in the highest third of gun-ownership rates, and among people who resided in the state hosting the convention. There was no difference in the proportion of crimes involving a firearm between convention and control dates.

These findings are consistent with reductions in firearm injuries occurring as a result of lower rates of firearm use during the brief period when many firearm owners and owners of places where firearms are used may be attending an NRA convention. Our results suggest that firearm-safety concerns and risks of injury are relevant even among experienced gun owners.

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Disclosure forms provided by the authors are available with the full text of this letter at NEJM.org.

1. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. WISQARS (Web-based Injury Statistics Query and Reporting System) nonfatal injury reports, 2000–2015 (<https://webappa.cdc.gov/sasweb/ncipc/nfirates.html>).
2. Grossman DC, Mueller BA, Riedy C, et al. Gun storage practices and risk of youth suicide and unintentional firearm injuries. *JAMA* 2005;293:707-14.
3. Kellermann AL, Somes G, Rivara FP, Lee RK, Banton JG. Injuries and deaths due to firearms in the home. *J Trauma* 1998; 45:263-7.
4. National Rifle Association. NRA gun safety rules (<https://gunsafetyrules.nra.org/>).
5. National Rifle Association. 2017 Annual meetings attendee survey results (<https://www.nraam.org/exhibit/attendee-profile/>).

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Correcting the Record on a Fracture Risk Assessment Tool

TO THE EDITOR: The World Health Organization (WHO) has requested corrections of the record with respect to the fracture risk assessment tool (FRAX) released by the University of Sheffield in

2007.¹ The University of Sheffield Department of Genomic Medicine was a WHO Collaborating Center from 1991 through 2010. The FRAX tool is not a “WHO tool” and was not developed,