Officer-involved Shootings and Concealed Carry Weapons Permitting Laws, 2014-2020

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Officer-involved Shooting and Firearms

1 Methods
2 Results
3
4 Discussion
1 Officer-involved Shootings and Firearms
Estimates of Officer-involved Shooting in the U.S.

<table>
<thead>
<tr>
<th>Officer-involved Shooting</th>
<th>Deaths</th>
<th>Year reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centers for Disease Control</td>
<td>652</td>
<td>2019</td>
</tr>
<tr>
<td>Fatal Force (Washington Post)</td>
<td>999</td>
<td>2019</td>
</tr>
<tr>
<td>The Counted (The Guardian)</td>
<td>1,093</td>
<td>2016</td>
</tr>
<tr>
<td>Gun Violence Archive</td>
<td>1,289</td>
<td>2019</td>
</tr>
</tbody>
</table>
States with weak firearm legislative environment have higher rates of fatal OIS

(Kivisto et al., 2017)

Note. Line represents regression line with 95% confidence interval (P<.001).

Source. Police shootings are from The Guardian’s online database The Counted and firearm legislative strength is from The Brady Center’s legislative scorecards.

States with greater firearm availability have higher rates of fatal OIS

(Hemenway et al., 2019)
(Nagin, 2020)
The Problem

Majority of Fatal OIS occur outside the home and many victims are armed with a firearm (Zimring, 2018)

Permissive CCW laws lower barrier to behavior adoption

– Recent survey of gun owners find greater proportion of loaded gun carrying in public in permissive CCW states compared to May issue states (Rowhani-Rahbar et al., 2017)

**Hypothesis:** Adoption of a Permitless CCW law would increase OIS victimization rates
Methods
What is the Impact of Adopting a Permitless CCW law on OIS?

Measure causal impact of adopting a Permitless CCW law on OIS rates from 2014-2020

- Augmented Synthetic Control Method (Ben-Michael et al., 2021)

Eleven States adopted Permitless CCW laws during this time period

The Gun Violence Archive (GVA)

Web-based source updated daily from media, law enforcement, government, and commercial sources)

Includes fatal and nonfatal outcomes

Data abstracted and coded:
- State, year, and fatal and non-injury counts

Slide courtesy of Julie Ward

Gun Violence Archive
https://www.gunviolencearchive.org/
Outcome Data and Covariates

Covariates included in Analysis:
Percent Population
- Living in a metropolitan statistical area
- White, Non-Hispanic Males, 15-19
- Black, Non-Hispanic Males, 15-19
Rates of:
- Unemployment
- Law enforcement
- Incarceration
Data Structure

Panel Data
- Biannual rates of OIS
- 14 state-time indexes (7 years)

Outcome
- Rates of Total OIS victimization per 1 Million
Comparative Time-series Analysis

**Augmented Synthetic Control Method** (Ben-Michael et al., 2021)

Creates a weighted synthetic state based on covariate values, referred to as the control state from a pool of non-treated states (Abadie & Gardeazabal, 2003)

Seeks to minimize root mean square prediction error (RMSE) in the pre-treatment period to create best possible counterfactual

Synthetic state likely to satisfy the parallel line assumption with limited selection bias

Conducted 11 analyses for each Permitless CCW adoption state
Random-effects, Meta-analysis (REMA)

Overall effect

ASCM produce state-specific estimates

REMA produces an inverse standard error weighted average effect (Schwarzer et al., 2015)
3 Results
Missouri’s OIS victimization rate was 27.6% greater than expected.
Adopting a Permitless CCW law increased OIS victimization rates 12.9% above expected.

An Average 0.78 Difference Translates to an additional 4 victims per year, or a 12.9% increase.
4 Discussion
Implications

Adopting a Permitless CCW law led to increased OIS victimization rates above what we would have expected had the law change not occurred.

Permissive CCW laws increase the probability that an officer may meet an armed person in the line of duty.

Are there differential policy effects by race/ethnicity? (DeGue et al., 2016; Edwards et al., 2019; Krieger et al., 2015; Sikora & Mulvihill, 2002)
Thank you!

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Citations


