

## Factors Associated with Law Enforcement Shooting Deaths: Implications for Public Health Policy Development

Karen Teeple-The University of Toledo  
Nicola Perry MS.-Glendale Community College  
Amy Thompson Ph.D., CHES-The University of Toledo  
Joe Dake Ph.D., MPH.-The University of Toledo  
James Price Ph.D., MPH.-The University of Toledo

---

---

---

---

---

---

---

---

## Remembering Ohio's Own.....



**Andrew Dunn**  
Age: 30  
Tour of Duty: 3 years  
**Incident Details**  
Cause of Death: Gunfire  
Date of Incident: March 19, 2011  
Weapon Used: Handgun; .38 caliber



**Suzanne Hopper**  
Age: 40  
Tour of Duty: 12 years  
**Incident Details**  
Cause of Death: Gunfire  
Date of Incident: January 1, 2011  
Weapon Used: Shotgun  
Suspect Info: Shot and killed

---

---

---

---

---

---

---

---

## Background

- ◆ Since 2005 there have been 552 officers killed in the United States.
- ◆ Midway into the year 2011, 100 law enforcement officers in the United States have been killed in the line of duty.
- ◆ Of those killed – 42 officers died by firearms.
- ◆ These statistics represent a 3% increase in overall law enforcement deaths and a 27% increase of deaths by firearm.

---

---

---

---

---

---

---

---

Factors which have been found to be related to shooting deaths:

- Firearm control laws
- Concealed carry or assault weapon bans
- Poverty index
- Number of firearm dealers
- Total firearm related deaths
- Racial percentages
- Per capita alcohol consumption
- Drug arrest rates and violent crime rates

---

---

---

---

---

---

---

---

---

---

## Purpose of the Study

- ◆ This study investigates state variations in law enforcement officer deaths by firearms from 2005-2011.
- ◆ Data focuses on 32 variables that may be predictive of present and future law enforcement deaths by firearms.
- ◆ From this data, public health interventions at every level may be used to reduce injury and death by firearms in law enforcement officers.

---

---

---

---

---

---

---

---

---

---

## Possible Firearm Laws

Policy Related to Manufacture of Guns	Regulate the Manufacture of Guns	Policy Related to Sale of Guns	Policy Related to Possession of Guns
<ul style="list-style-type: none"> <li>• Ban the manufacture of all guns</li> <li>• Ban the manufacture of certain guns</li> <li>• Ban all handguns</li> <li>• Ban Saturday night specials</li> <li>• Ban assault weapons</li> <li>• Ban automatic weapons</li> <li>• Ban long guns</li> <li>• Ban other type of guns</li> </ul>	<ul style="list-style-type: none"> <li>• Personalized guns</li> <li>• Childproofing</li> <li>• Safety features- magazine and chamber indicators</li> <li>• Other safety criteria for manufacture or importation</li> <li>• Regulate the quantity of guns manufactured</li> <li>• Impose strict liability on manufacturers for gun injuries</li> <li>• Tax manufacturers for firearms produced</li> </ul>	<ul style="list-style-type: none"> <li>• Ban the sale of all guns</li> <li>• Ban the sale of certain guns</li> <li>• Ban the sale of guns to certain people-age, mental health status</li> <li>• Ban the sale of guns to those with criminal history-by felony, misdemeanor, or arrest record</li> <li>• Ban the sale by citizenship</li> <li>• Ban the sale by high-risk behavior, such as substance abuse addiction</li> <li>• Limit the number of guns that can be sold during a certain time period</li> <li>• Impose waiting periods</li> <li>• Require background checks on all guns on certain guns</li> <li>• Various durations of waiting periods</li> <li>• Waiting periods for dealers</li> <li>• Waiting periods for nondealers</li> <li>• Stricter requirements for licensed sellers-Inspection and compliance monitoring</li> <li>• Prosecution for "straw sales"</li> <li>• Prosecution for direct sales to prohibited persons</li> <li>• Higher license fees on all sellers (including private sales)</li> <li>• Imposing strict liability on sellers</li> <li>• Require sales to include after-market safety device</li> </ul>	<ul style="list-style-type: none"> <li>• Ban possession of all guns</li> <li>• Ban possession of certain guns</li> <li>• Ban possession by certain people</li> <li>• Regulate possession of all guns</li> <li>• Register certain guns</li> <li>• Increase registration fees</li> <li>• Restrict possession by location-public places, high risk places, in schools</li> <li>• Requiring proper storage-childproof</li> <li>• Requiring safety courses to possess</li> <li>• Licensing carrying of guns, type, location by carrying mode (concealed, exposed)</li> <li>• Enhance detection of illegal possession</li> </ul>

---

---

---

---

---

---

---

---

---

---

## Methods

- Firearm mortality data from 2007 was obtained for each U.S. state using the web-based injury statistics query and reporting system (WISQUAR) database from the Centers for Disease Control and Prevention.
- Individual state firearm laws that were in place during 2011 were obtained from the Firearms Law Center, the Brady Center, and the National Rifle Association.
- Each organization's data set was cross referenced to ensure concurrent validity.

---

---

---

---

---

---

---

---

## Methods

- Data on key firearm-related laws were examined.
  - State has large capacity ban
  - Assault weapon ban
  - Mandatory waiting periods
  - Ban on purchasing multiple firearms
  - Required on sales
  - Saturday-night Special ban
  - Banned in bars and restaurants
  - Banned in cars
- The presence of individual laws in each state were categorized into three categories: states that had the individual law; states that did not have the individual law; and states that partially had the law enacted. These categories were coded 1, 0, or 0.5, respectively.

---

---

---

---

---

---

---

---

## Methods

- State-level analyses controlled for three measures of SES: percent college graduates; poverty index; and unemployment rate.
- Similar methods were utilized to control for potential confounding variables impacting homicide rates. Urbanization (percentage of the population living in metropolitan areas), per capita alcohol consumption, and racial/ethnic population composition were also included in the analyses.
- Household firearm ownership rates per state using the FS/S ratio, which is the portion of all suicides in a state caused by firearms.
  - This ratio has been shown to be the best existing proxy for household firearm ownership since there are no accurate records available of firearm ownership.

---

---

---

---

---

---

---

---

## Methods

- Officer homicides from firearms were gleaned from the officer down memorial webpage ([www.odmp.org](http://www.odmp.org)) from 2005-2011.
  - This website is the most comprehensive website for officer shooting information.
- Additional information gathered included officer gender, type of firearm used and the state where the homicide occurred.

---

---

---

---

---

---

---

---

## Data Analysis

- A series of descriptive tests, regression analysis and t- tests were conducted using SPSS 17.0

---

---

---

---

---

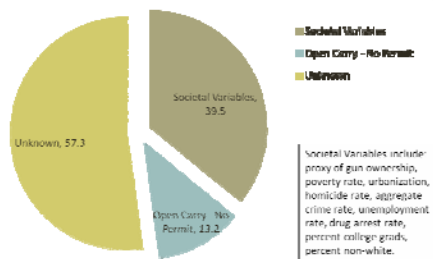
---

---

---

## Results

**Factors That Account for Significant Variance in Police Officer Homicide Rates**



---

---

---

---

---

---

---

---



## Descriptive Analysis of Firearms used in Officer Shootings

- Since 2005, 542 officers were shot in the line of duty
- In 131 shootings a handgun was used
- In 54 shootings a shotgun was used
- In 16 shootings an assault weapon was used
- In 341 shootings the type of firearm was unknown

---

---

---

---

---

---

---

---

## Discussion

- There was only one firearm law (no permit required ) that was found to significantly impact officer shooting deaths.
- There was also data (non significant) to show in states that have CCW laws (n=45) that “may” issue states have slightly lowers officer deaths than “shall” issue states.

---

---

---

---

---

---

---

---

## Discussion

- Several other studies have been conducted that suggest that law enforcement officers are supportive of the majority of firearm control laws .

Thompson, A., Khubchandani, J., Price, J. & Dowling, J. (2011). “Sheriffs Perceptions of Firearm Policies”. *Journal of Community Health*. Volume 36, Issue 5 (2011), Page 715-720.

Thompson, A., Price, J., Mrdjenovich, A. & Khubchandani, J. (2009). “Reducing Firearm-Related Violence on College Campuses--Police Chiefs' Perceptions and Practices”. *Journal of American College Health* 58:(3):247-254.

Thompson, A., Price, J., Dake, J. & Tatchell, T. (2005). “Police Chiefs' Perceptions Regarding the Regulation of Firearms”. *American Journal of Preventive Medicine*, 30 (4): 305-312.

---

---

---

---

---

---

---

---

## Discussion

- Members of law enforcement are often sought out for their opinions regarding the development of firearm control policies.
- Because of the significant impact that firearms play in officer deaths these individuals may be called on as advocates and may assist with community capacity building to help reduce firearm deaths and injury.
- This partnership may be particularly beneficial with new proposed legislation involving carrying concealed firearms in bars, restaurants and college campuses.

---

---

---

---

---

---

---

---

## Conclusions

- This study adds a new dimension to existing research on firearm related deaths by examining the effects of firearm laws and a variety of independent variables that may be predictive of law enforcement death.
- Such data can be used to help design public health interventions and local, state, and national advocacy initiatives to reduce injury and mortality in law enforcement officers

---

---

---

---

---

---

---

---

## Conclusions

- States that allow the carrying of firearms both openly and concealed without a permit may be increasing the likelihood of officer shootings.
- Data surveillance for officer shootings needs to be improved to understand the circumstances involved and the type of weapon used.

---

---

---

---

---

---

---

---

## Implications

- Law enforcement officers may be effective partners and advocates for creating policies and programs to reduce firearm injury given the significant impact that firearms play in officer mortality rates.

---

---

---

---

---

---

---

---

## Questions



---

---

---

---

---

---

---

---