



CHART

Department of
Public Health

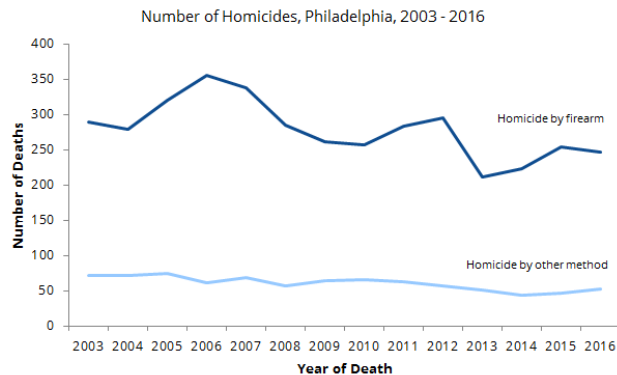
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Philadelphia Department of Public Health
Thomas Farley, MD, MPH, Commissioner

Deaths and Injuries from Firearms in Philadelphia

Firearms are important causes of deaths and injuries. Those deaths and injuries can be either self-inflicted or inflicted by one person against another. This issue of CHART examines the risks of firearms in Philadelphia.

Most Homicides Involve Firearms

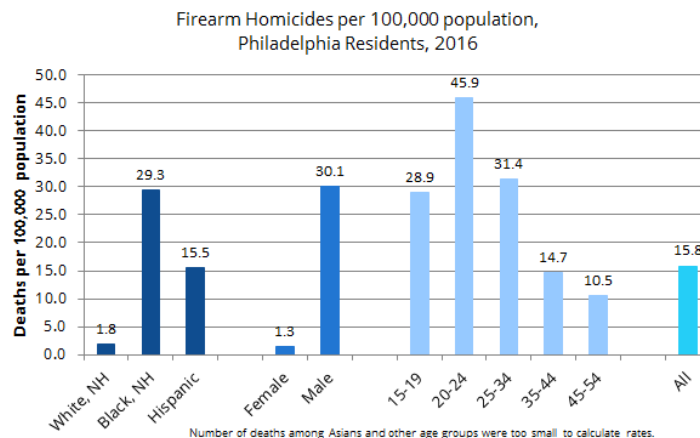


- Nearly 82% of homicides involve firearms. Overall, the number of firearm homicides has declined, with the highest annual number (356) in 2006. There were 247 firearm homicides in 2016, representing a 17% increase from 2013, the year with the lowest number.

* This excludes deaths that were attributed to legal intervention.

(Source: Philadelphia Department of Public Health, Medical Examiner's Office)

Firearm Homicide Victims are Teenage and Young Adult Minority Males

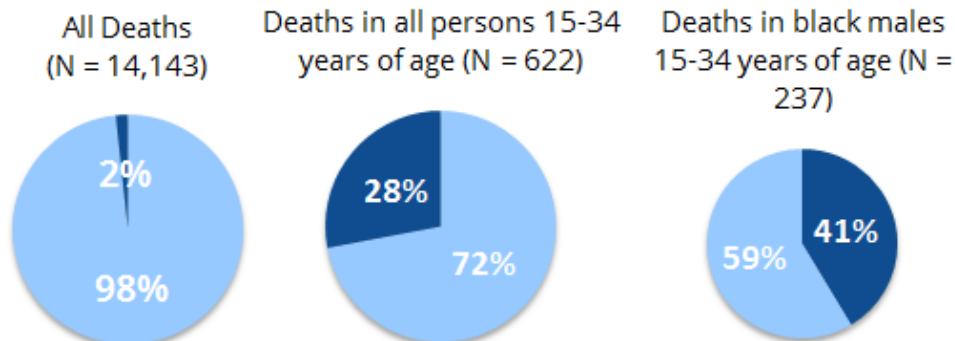


- Of the 247 firearm homicides that occurred in Philadelphia in 2016, 233 (94%) were in city residents, corresponding to 15.8 deaths per 100,000 population city-wide. Rates were highest among non-Hispanic blacks, Hispanics, males, and people 20-24 years of age. Approximately three-fourths of firearm homicide deaths occurred among non-Hispanic blacks, one-fourth among people 20-24 years of age, and 95% among males.

(Source: Philadelphia Department of Public Health, Medical Examiner's Office)

Firearm Homicide is the Leading Cause of Death for Young non-Hispanic Black Males

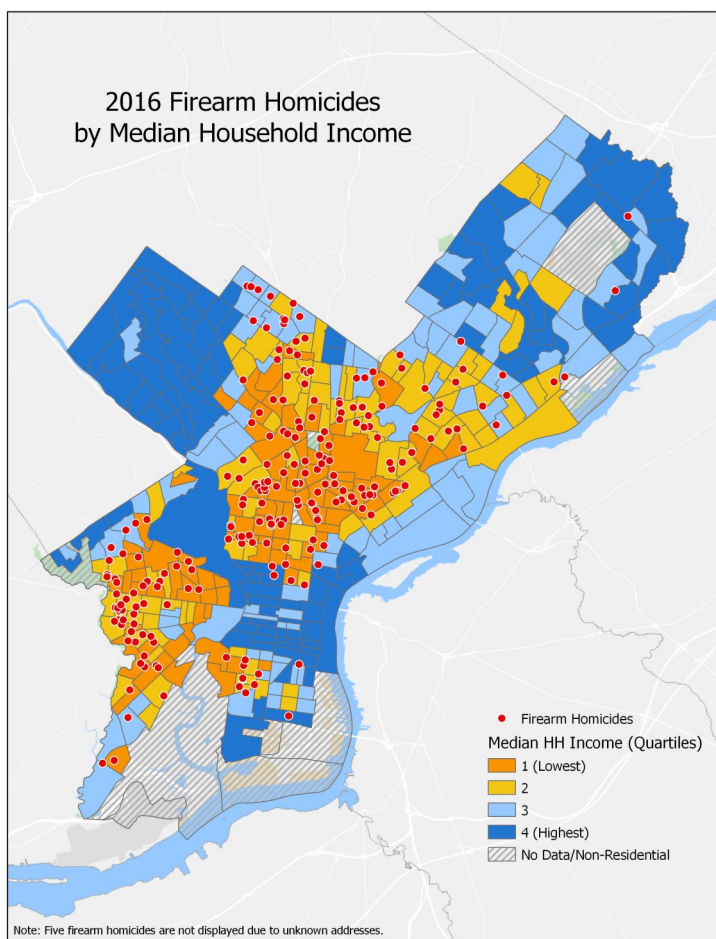
Percentage of Deaths Due to Firearm Homicide Philadelphia, 2015



- Based on data from the National Vital Statistics System for 2015 (the most recent year available), firearm homicides accounted for <2% of all deaths in Philadelphia, about one fourth of all deaths in people 15-34 years of age, and nearly 60% of all deaths among non-Hispanic black males 15-34 years of age.

(Source: Centers for Disease Control and Prevention, <http://wonder.cdc.gov>)

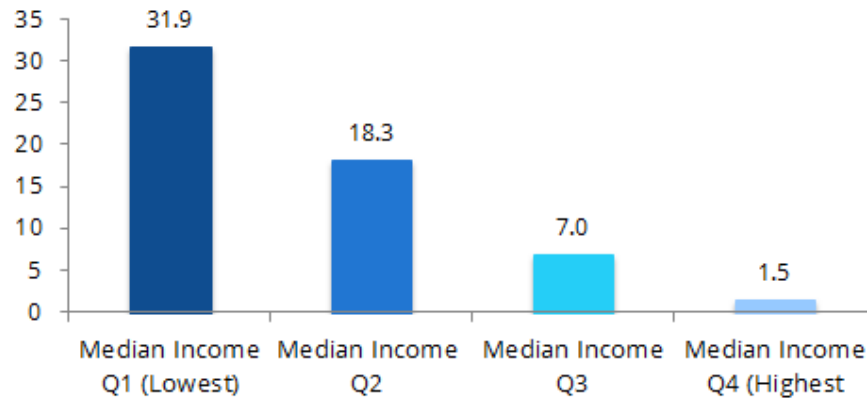
Firearm Homicides Occur Most Frequently among Residents in the Lowest Income Neighborhoods



- Firearm homicides clustered in neighborhoods with lower income levels.

Firearm Homicides Occur Most Frequently among Residents in the Lowest Income Neighborhoods

Firearm Homicide Deaths per 100,000 Population, by Census Tract Income, 2016



- The rate of firearm homicide is highest among those living in areas (census tracts) with the lowest median household incomes. Among all Philadelphia residents who died from firearm homicide in 2016, 50% lived in census tracts with the lowest median annual household incomes (less than \$25,800 per year), while only 2% lived in census tracts with the highest incomes (median household incomes greater than \$52,200 per year). Rates of firearm homicides ranged from 31.9 to 1.5 per 100,000 residents for those living in the lowest to highest income areas—a 21-fold difference.

(Source: Philadelphia Department of Public Health, Medical Examiner's Office; Census Bureau's 2014 American Community Survey)

Half of Victims Used Drugs or Alcohol

Drugs detected among persons who died from firearm homicides, 2016, Philadelphia

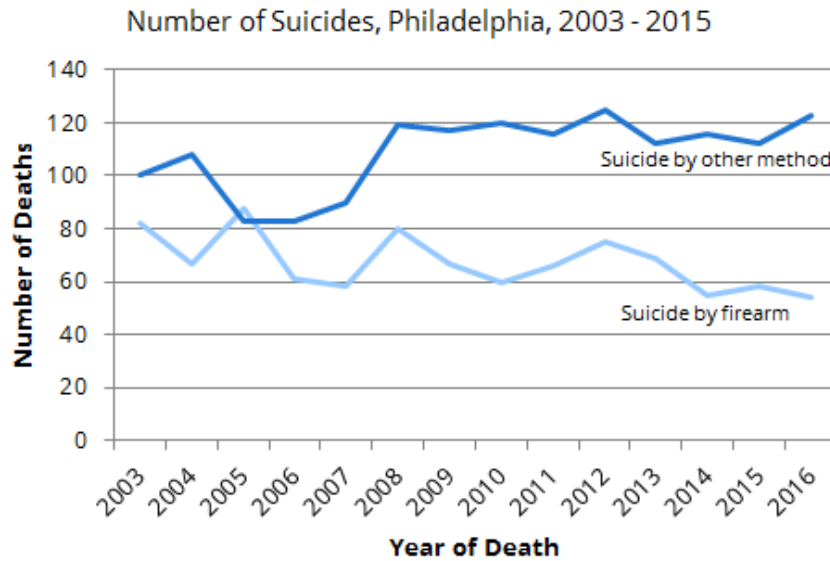
	Decedents	
	Number	Percentage
Total number of deaths	247	100%
No drug detected	122	49%
Any of the following drugs detected:	125	51%
Benzodiazepines	55	22%
Pharmaceutical opioids	54	22%
Alcohol	34	14%
Phencyclidine	20	8%
Cocaine	18	7%
Methamphetamine	7	3%
Heroin/morphine*	5	2%
Ketamine	3	1%

* Heroin is an illegal drug that is metabolized to morphine and typically recognized post-mortem by detection of morphine. Morphine detection postmortem might reflect legal administration during medical treatment

- Alcohol and illicit drug use are associated with an increased risk of firearm.¹ Among the 247 people who died from firearm homicides in 2016, over half had detectable levels of alcohol or other drugs at autopsy. Among other drugs, benzodiazepines and pharmaceutical opioids were the most commonly detected. It is unknown how many of these decedents were using these drugs legally or illicitly.

(Source: Philadelphia Department of Public Health, Medical Examiner's Office)

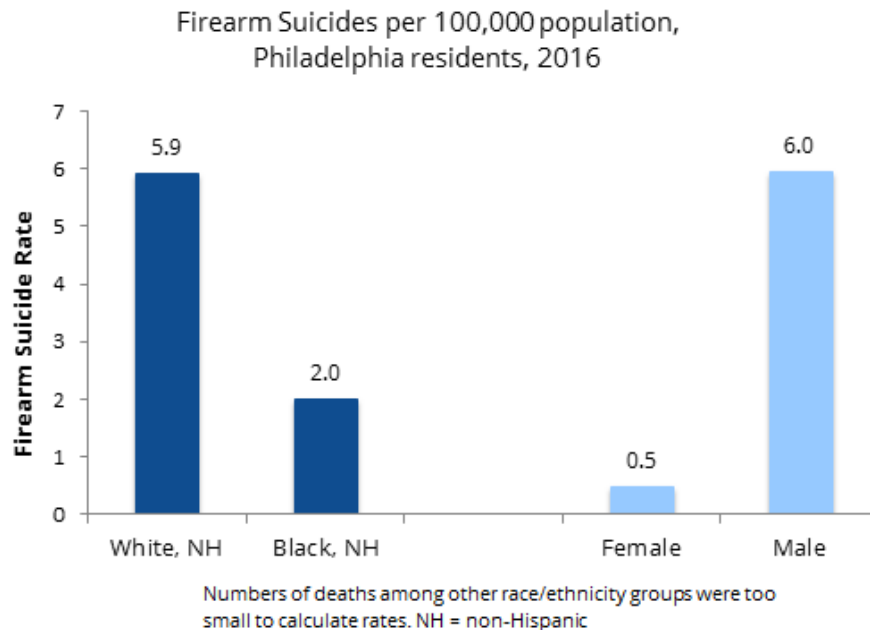
Two-Fifths of Suicides Involve a Firearm



- From 2003-2016, there were 2,464 suicides in Philadelphia, approximately half the number of homicides during the same period. Among suicides, two-fifths were firearm. During this period, firearm suicides have gradually declined, from a high of 88 in 2005 to a low of 54 in 2016. The 54 firearm suicides in 2016 represents approximately one-fifth of the number of firearm homicides that year.

(Source: Philadelphia Department of Public Health, Medical Examiner’s Office)

Firearm Suicides are More Common in White Males

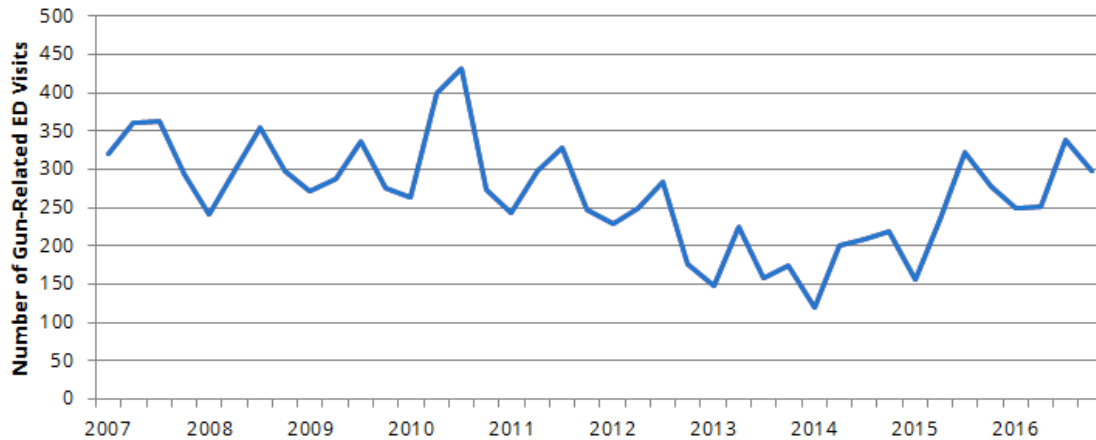


- Among the 54 firearm suicides that occurred in Philadelphia in 2016, 48 (89%) occurred among residents, corresponding to a rate of 3.1/100,000 population. Rates of firearm suicide were 3 times higher among non-Hispanic whites than non-Hispanic blacks and 12 times higher among males than females.

(Source: Philadelphia Department of Public Health, Medical Examiner’s Office)

There are Four Nonfatal Firearm Injuries for Every Firearm Homicide

Number of Emergency Department Visits for Firearm Injuries, by Quarter, Philadelphia, 2007 - 2016



- Most nonfatal firearm injuries are treated in hospital emergency departments. From 2007-2016, number of visits to emergency departments for treatment of gunshot injuries was typically highest during the 3rd quarter (July-September) and lowest during the first quarter (January-March) of each year. Very few emergency department records indicated that these injuries were self-inflicted. In 2016, over 1,100 persons received emergency department treatment for firearm injuries, over 4.5 times the number of firearm homicides.

(Source: Philadelphia Department of Public Health, Division of Disease Control)

Comments

The impact of firearm homicides in Philadelphia is greatest among those living in low-income areas and, especially, among young black men. Poverty is a well-recognized risk factor for homicide, and approximately one-fourth of Philadelphians live in poverty—the highest proportion among the nation’s ten largest cities.

Nationally, suicides account for the majority of firearm deaths¹, but in Philadelphia firearm homicides greatly outnumber suicides. While the rate of firearm homicides is higher among blacks than whites, the rate of firearm suicide is higher among whites than blacks—a pattern that is consistent with national trends.¹

In recent years there has been an overall downward trend in firearm deaths. This has occurred coincidentally with modest declines in poverty. In addition, there have been many efforts to address gun violence in high-risk neighborhoods, involving a diverse mix of law enforcement and other government agencies, community-based organizations, and university-based partners.

What Can Be Done

Government agencies and other organizations are:

- Carrying out community-based policing
- Engaging high-risk youth through programs like the Youth Violence Reduction Partnership and focused deterrence efforts
- Carrying out community-based programs to interrupt retaliatory shootings after a prior shooting
- Offering social and other supports for people who have suffered gunshot injuries
- Helping children exposed to trauma to prevent psychological impacts
- Conducting outreach and education among high risk communities to prevent gun-related violence

People can:

- Not carry guns and discourage others from carrying guns
- Report instances of illegal gun selling
- Work with high-risk youth and young adults to discourage violence as a solution to interpersonal problems and to help them find employment and social support

Policy-makers can:

- Work to reduce illegal gun sales
- Support programs designed to prevent shootings and that offer alternatives to high-risk youth and young adults

References

- 1) Wintemute GJ. The epidemiology of firearm violence in the twenty-first century United States. *Annual Review of Public Health* 2015; 36:5-19.

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Thomas Farley, MD, MPH
Commissioner
Philadelphia Department of Public Health
1401 John Fitzgerald Kennedy Boulevard, Room 600
Philadelphia, PA 19102

215-686-5200
healthdept@phila.gov
<http://www.phila.gov/health>

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