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Abstract

In the United States, more than 17 million people over the age of 65 own a firearm. They have the highest rate of suicide by a firearm, and recent data suggest that a disproportionate number apply to carry a concealed weapon. At least one new handgun has been designed and marketed with older people in mind. Memory, thinking, and judgment as well as physical and behavioral competence issues related to an elder's safe operation of a motor vehicle apply to firearms, too. Gun availability can pose a particular risk to those with dementia as well as to their caretakers. The elderly constitute a substantial and rapidly growing population/market segment for whom the public health implications of firearm production, promotion, access, ownership, and use merit consideration.

Comments

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Commentary

As we age: Current considerations about the elderly and firearms

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Abstract

In the United States, more than 17 million people over the age of 65 own a firearm. They have the highest rate of suicide by a firearm, and recent data suggest that a disproportionate number apply to carry a concealed weapon. At least one new handgun has been designed and marketed with older people in mind. Memory, thinking, and judgment as well as physical and behavioral competence issues related to an elder's safe operation of a motor vehicle apply to firearms, too. Gun availability can pose a particular risk to those with dementia as well as to their caretakers. The elderly constitute a substantial and rapidly growing population/market segment for whom the public health implications of firearm production, promotion, access, ownership, and use merit consideration.

Introduction

In 2008, Constitution Arms, a New Jersey based firearms manufacturing company, announced plans to produce the “Palm Pistol,” a single chamber firing mechanism that could be fired via a squeeze ball instead of the standard trigger. (See Figure 1.) Designed for those with limited manual dexterity and “ideal for seniors,”¹ the manufacturer registered the pistol as a medical device, which would make its purchase reimbursable under Medicare and other health care plans. The FDA accepted and, within a few days, revoked the registration.² Pre-production reservations are being accepted¹ and the device is expected to be brought to market.³

The Palm Pistol is one indicator of the firearm industry’s interest in the elderly as potential consumers. Given current patterns of gun ownership and population growth, the number of elderly people who own a firearm can be expected to grow. (Herein, we use the U.S. Census definition of elderly – individuals who are 65 or more years old.) This commentary will focus on the specific and unique relationship between the elderly and firearms and its potential implications for personal and public health.

Market considerations

In order to tap into the expanding elderly market, which, as a group has substantial disposable income,⁴ manufacturers and service providers must create and provide products and services that the elderly want and can use. Firearms are no exception. Long guns (rifles and shotguns, which law enforcement officers describe as the weapon of choice for home protection⁵) can be heavy and awkward to handle. Given the various infirmities and physical limitations that develop with age, it may be reasonable to assume that, if an elderly person wants to purchase a firearm, he or she will likely buy a handgun.

In anticipation of a firearm purchase, an elderly person may turn to a variety of informational sources. They may, like many people who are interested in purchasing a firearm,

consult their friends and families for advice and information.⁶ They may also seek advice from staff at the more than 62,500 federally-licensed firearm dealers in the U.S.⁷ or refer to printed sources for information. Some regional newspapers include firearm advertisements in their classified ad section.^{8,9} The U.S. also has nearly three dozen different monthly or semi-monthly magazines about firearms.¹⁰ Photographs, product reviews, and the large print of several magazines make them a useful resource for elders. At least one firearms magazine addresses the elderly directly. *The Armed Senior Citizen*, a monthly column in *Concealed Carry Magazine*, is available in print and online.¹¹ Columns such as "Teaching an Old Dog New Tricks" and "Senior Citizen Defensive Realities" advise senior citizens on how they can protect themselves with a gun.

The Internet is a growing source of information for people who are interested in purchasing, maintaining, and using firearms. This includes the elderly, over 10.2 million of whom used Google in 2009.¹² Online manufacturers and distributors appear to focus on a gun's features rather than potential buyers. Thus, it is not surprising that few, if any, firearm manufacturers or distributors appear to explicitly market their products online to older or elderly people. Nevertheless, the emergence of products like the Palm Pistol hints at awareness of a potential growth market.

A cursory review of Internet search results for "senior citizen" and "gun" locates numerous websites by gun rights organizations that encourage seniors to purchase and possess firearms. The websites typically provide testimonials about or links to news stories that feature an older person using a gun to defend his or her home from an intruder. Those who post such stories sometimes add their own commentary, which often refers to the physical vulnerability related to the frailties or weaknesses of an older body. These comments warn readers that violent criminals will take advantage of the elderly if they do not have personal protection that is, a gun.

Few unarmed senior citizens can fight off even a single younger, stronger, and faster attacker—even if that attacker is unarmed. When that senior citizen is also disabled, things are even worse. The result can [be] terrible for that elderly citizen, as well as their loved ones.... Armed senior citizens, on the other hand, have the best possible chance of defending themselves against attack by criminals...gun ownership saves lives every day and allows crime victims to defend themselves against even the strongest of criminals.¹³

The content of these articles suggests why firearms – in particular, handguns – might be attractive to people who are concerned about their personal safety in the face of decreasing physical strength.

Ownership and availability

Gun ownership and availability are common among the elderly. A higher percentage of older persons than younger persons own a gun and live in a home with a gun.^{14,15} The *2004 National Firearms Survey* reports that 27% of those 65 or more years old personally own a firearm, compared to 16% of those 18 to 25 years old.¹⁴ Among the nearly 38 million Americans who are 65 or older,¹⁶ an estimated 17.5 million own a firearm and about 11 million of these owners have a handgun.¹⁴ Availability is wider than ownership. The most recent data from the General Social Survey indicate that 37.2% of those 65 or more years old live in a home with a firearm, compared to 25.8% of those under 30.¹⁵

Some elderly appear to be interested in arming themselves outside the home, too. A statewide review of applications for a permit to carry a concealed weapon during 2006-2010 in Kansas documented a concentration among older persons: although persons 60 or more years old comprised 18% of the adult population, they accounted for 31% of the applications for a concealed carry permit.¹⁷ Media reports from Ohio and Arizona also have noted an increase in elderly persons' applications for concealed weapons.^{18,19} Gun carrying, however, is historically

lower among the elderly: in 2001, about 3% of those 65 or more years old (vs. about 7% of those under 30) reported that, in the past year, they carried a gun for self protection.¹⁵ The age-related patterns of carrying and concealed carry applications may reflect the fact that the elderly generally are more law abiding than younger persons (and, thus, perhaps more likely to apply for a permit to carry a concealed weapon) or there may be an actual increase in gun carrying among the elderly. Subsequent research can help identify patterns by age, geography, and time as well as the characteristics and motivations of elderly who apply for a concealed carry permit.

Over 75% of handgun owners say that self-protection is the primary reason for having the gun.⁶ Despite the fact that they are far less likely than younger persons to be the victim of a violent crime,²⁰ a substantial literature documents that fear of crime is very high among the elderly.^{e.g.,²¹} Fear can inhibit pro-social behaviors, such as walking in the neighborhood and leaving the house at night. It also can motivate pro-active self-defense measures, such as installing locks, installing a security system, getting a dog, and owning a handgun. The literature on whether a handgun is useful in deterring crime is mixed at best,²² and at present the case is not convincing. Handgun ownership is potentially problematic for the elderly given that well-designed studies document a substantially increased risk of violent death, particularly among the elderly, following the purchase of a handgun, a risk that is maintained for at least five years.^{23,24} Thus, despite intentions to the contrary, a firearm may have the unintended consequence of making the occupants of a household less safe.

We turn now to a brief overview of current knowledge about the relevance of firearms to the health of the elderly and others.

Consequences of having an aged and armed population

Mortality

Firearm ownership among the elderly deserves attention for its negative population health

effects. A firearm is the most common means of suicide in the U.S., and rates of firearm suicide are highest among those 75 or more years old.²⁵ By contrast, as shown in Table 1, the elderly's rate of suicide by other means is generally substantially lower than that of younger age groups. Also, as shown in Table 1, the elderly who commit suicide with a firearm appear to be different from their younger counterparts and from those who commit suicide without the use of a firearm: they are less likely to have made a prior suicide attempt, have a current mental health problem or receive treatment for a mental health problem, and more likely to have a physical health problem. Thus, traditional mental health risk factors may be less important than physical health status. It does appear that the elderly may be more intent on killing themselves given that they are more likely than younger persons to use a firearm, which has the highest case fatality rate (91%) of any suicide method.^{26,27} As the elderly population grows, the number of suicides can be expected to increase if effective prevention strategies are not put in place.

There are important demographic differences in elderly suicide. Elderly men (vs. elderly women) commit far more firearm suicides and have a higher rate of firearm suicide. Firearms, however, also are a substantial mechanism of suicide among elderly women; from 1990 until 2005, when their suicide-by-poisoning rates increased, firearms were the leading cause of suicide among elderly women. Racial variations in elderly firearm suicide rates should also be noted: Whites, Blacks, and Alaskan Natives/American Indians are likely to use a gun to commit suicide, whereas Asian are more likely to choose suffocation than a firearm.²⁸ Suicide among the elderly is higher, as is gun ownership, in rural areas.^{14,29}

Elderly homicide perpetrators comprise a small percentage of total homicide offenders; persons 65 or more years old were 1.9% of the 15,670 suspects in the homicides committed in the U.S. in 2009.³⁰ Some researchers have hypothesized that homicide offending among the elderly is low because of opportunity limits, specifically, the reduced physical ability to carry out

a violent act³¹ and limited interaction with others.³² Nevertheless, the elderly do perpetrate homicide and elderly perpetrators are more likely than their younger counterparts to kill with a gun (80.9 % vs. 65.8%),³³ perhaps, in contrast to more strenuous behaviors such as stabbing or beating, a firearm provides an efficient way to kill.

Data from the National Violent Death Reporting System, based on 18 U.S. states, suggest that as many as half (55.8%) of elderly people who commit homicide follow the act by committing suicide.³⁴ About 13% of homicide-suicides are by persons over the age of 65, which is substantially higher than the percentage of homicides that are perpetrated by the elderly (1.9%). A firearm is the weapon of choice in 85% of the cases.³⁴ Moreover, 92.9% of the homicide-suicide cases with a victim over the age of 65 involve intimate partners, most often a man killing his female intimate.³⁴ Such incidents are sometimes characterized as “mercy killings” in which one or both partners decide to end their suffering, often from long bouts of illness. The perpetrators, however, often are depressed and the events frequently are preceded by a major crisis.^{35,36} Murder-suicide among the elderly might be out of desperation, not compassion, or it may be the endpoint in long-standing domestic violence. The role of firearms in these acts of violence merits further consideration and concern.

Dementia and care considerations

Dementia and Alzheimer's disease, conditions that afflict largely the elderly, must be taken into consideration in the context of firearms. People with Alzheimer's disease can exhibit memory loss, personality changes, confusion, anxiety, fluctuating lucidity and other symptoms that can affect a person's ability to responsibly, competently, and safely own and operate a firearm.³⁷ Some symptoms of Alzheimer's disease (e.g., hallucinations) have been associated with aggressive behavior.^{38,39} Aggressiveness combined with a highly intimidating and lethal weapon like a firearm creates a particularly dangerous situation for the person with Alzheimer's

and his caretakers. Anecdotal reports of this issue include a July 2010 *New York Times* article which discussed the fear expressed by caretakers of armed Alzheimer's and dementia patients.⁴⁰

Exploratory research suggests that firearm prevalence may be higher in households with (vs. those without) a demented family member.⁴¹ The Department of Veterans Affairs has responded to the potential problem of veterans with diminished mental capacity who have access to firearms by issuing a pamphlet that advises safe storage or removal of firearms.⁴² Families typically have limited legal means to remove firearms from their elderly family members.³⁷

A few suggestions for future research

Research is crucial to understanding how to respond to a growing aged and armed population. In addition to the topics already mentioned (elders' patterns of carrying a concealed weapon, applications for concealed carry permits, and firearms use in murder-suicide), we would like to offer a few suggestions.

First, it is important to consider the demand side, that is, why elderly people are interested in acquiring, keeping, and carrying firearms. Research on how the elderly perceive their personal safety in their residences and the places they frequent may help identify particular points for prevention and intervention. A greater sense of security may contribute to reduced firearm purchase and possession. And, as part of consumer demand, the practices of firearm manufacturers and marketers merit monitoring as the population ages.

Second, researchers should attempt to understand how the elderly's access to firearms affects their families and caretakers. We know relatively little about the potential safety threat that caretakers face when caring for, in particular, demented patients who have access to firearms. Interpersonal conflicts over such access likely will grow as the population ages. In addition, research should focus on families and caretakers because they can be expected to be the ones who are most likely to encourage and facilitate safer gun ownership and/or firearm removal.

Investigating communication and negotiation between elders with various levels of cognitive impairment and their caretakers may suggest ways in which the issue of firearms can be addressed with demented elders. In addition, researchers should explore how the elderly interface with firearms as objects, particularly how elderly gun owners operate and store them. Such information could contribute to a greater understanding of competency and safety regarding firearm ownership as well as better-informed policies.

Third, researchers should further explore the characteristics of the elderly who use firearms against themselves or others. Such work could help identify and mediate potential risk factors in elderly perpetrators of homicide and suicide. For example, although mental health problems have long been linked to suicide, it is important to acknowledge the dominant role of physical health problems in the suicide of elders. As we found, the National Violent Death Reporting System indicates that half or more of the elderly who commit suicide have a physical health problem; nearly two-thirds of the elderly who commit suicide with a firearm have a physical health problem.

A few considerations for practice and policy

Knowledge gained through new research could inform the development of multiple interventions. Neighborhood improvements and the availability of less dangerous means of self-protection (e.g., high quality door locks) may reduce fear among the elderly and, in turn, the perception that a firearm is needed to protect oneself. Cognitive and emotional impairments associated with advanced age can affect judgment, including judgment associated with the use of a firearm. Research could contribute to the development of widely-disseminated guidelines for families who are concerned about their own safety as well as the safety of the person they are caring for who has access to a firearm. Such information also could help nursing homes and other care facilities for the aged as they develop policies regarding their residents' possession of

firearms. Similar to college campuses, these residential institutions must discuss the safety considerations of allowing their residents to own firearms.

Knowledge about other arenas of elders' lives provides a useful basis for public health practice. Reducing risk through safe storage of firearms can build upon recommended practices and knowledge about the safe storage of medication for cognitively-impaired elders.⁴⁰ And perhaps public health can build on what has been learned about age-related impairment and the emotionally-fraught competency issues related to the operation of a motor vehicle.⁴³

And, finally, improving options for the elderly may prove useful. Training health care providers so that they can confidently and competently deal with patients about the prospect and process of dying (e.g., increasing information about and access to pain management and hospice care) may reduce the likelihood that some seniors would resort to suicide.

In sum, reducing access to firearms (particularly for the cognitively impaired), increasing neighborhood safety and household security, and improving health care options at the end of life may help reduce health risks associated with armed elders.

Conclusions

By 2030, nearly one in five U.S. residents is expected to be over the age of 65, and by 2050 the elderly population is expected to double.⁴⁴ Given this substantial and anticipated population shift, we must reconsider multiple aspects of society, including firearms and the elderly. Like most Americans, the elderly have the Constitutional right to own firearms, and many elderly people are responsible gun owners. The available evidence, however, suggests that having more older people with guns may not be a benefit to society. Public health must take action to promote the health of elders and the safety of their caretakers.

About the Authors

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Contributor Statement

Mertens originated the idea, wrote the first draft, and contributed to revisions. Sorenson supervised the development of the paper, analyzed data, drafted sections of the paper, and contributed to revisions.

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Human Participant Protection

IRB review was not needed because analysis was of existing data that are publicly available and contain no personal identifiers.

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Figure 1. Computer rendering of a handgun designed for elderly and disabled persons



Table 1. Characteristics of firearm and non-firearm suicides, by elderly status, U.S.

	nonfirearm		firearm	
	<65	65+	<65	65+
Age-adjusted rate (per 100,000) ^a	5.7	4.0	5.1	10.4
<i>Characteristics of suicide victims,</i> % ^b	n=14161	n=1231	n=12892	n=3366
Current mental health problem	52.7	51.3	38.2	29.8
Ever in mental health treatment	48.9	43.9	33.5	25.3
History of suicide attempt	29.9	19.3	13.8	5.5
Physical health problem	15.4	46.5	16.1	66.1

^a Centers of Disease Control and Prevention. *WISQARS Injury Mortality Reports*, 2005-2007.

http://webappa.cdc.gov/sasweb/ncipc/mortrate10_sy.html

^b Centers of Disease Control and Prevention. *National Violent Death Reporting System*,

2005-2008. <http://www.cdc.gov/injury/wisqars/nvdrs.html> These percentages are

based on suicides for which circumstances could be determined from official sources.

Note. No differences were noted between < 65 and 65+ year olds regarding current depressed mood, left suicide note, disclosed intent to commit suicide, and suicide of a friend or family member in the past 5 years. A lower proportion of those 65+ (vs. < 65) had a current mental health problem, current mental health treatment, ever been treated for mental illness, history of suicide attempt, crisis in the past

2 weeks, intimate partner problem, other relationship problem, alcohol dependence, other substance problem, recent criminal legal problem, other legal problems, job problem, financial problem, and perpetrated interpersonal violence in the past month.

A higher proportion of those 65+ (vs. <65) had a physical health problem and other (non-suicide) death of friend or family.