

The Cost and Consequence of Community Violence

The Center for Public Safety Initiatives

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What are the medical costs associated with gun-related injuries and deaths?

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According to research, the medical costs associated with firearm injuries and deaths are a small portion of the total estimated costs associated with firearms, such as change in quality of life and deterioration in community living (Firearm and Injury Center at Penn, n.d.; Cook, 2000)

Recent studies have not been conducted on firearm costs. However, a number of older studies on the costs have been completed.

“There are enormous costs associated with the private and public response to violence, including physicians, hospitals, prisons, police, and protective security services and devices (including weapons)” (Pridemore, 2003).

It should be noted that most injuries that result in hospitalization will require additional follow-up treatment after discharge (Corso, 2006).

Firearm-related data:

For a study conducted across 36 states on injury-related data among children aged 0-19 it was found that “the highest per person costs of injury are for firearms, motor vehicle, and burns” (Pressley, 2007).

Interpersonal violence is very expensive and in some countries, violence-related injuries take up more than 4% of the Gross Domestic Product (GDP). According to the World Health Organization’s article, the United States spends \$300 billion annually on violence-related issues. Prevention of violence is less costly than reacting to it (Khan, 2004).

According to World Health Organization’s (WHO) 2001 report on small arms, medical care for premature disability and death, firearms injuries, and fatalities cost the health care system \$126,000 million, however a

follow up study lowered the costs to closer to \$100,000 million annually in the late nineties (Villaveces, 2001).

One study looked at gunshot injuries in Maryland and New York. According to the results, the average cost for acute-care treatment in New York for gunshot injuries was \$14,497 for victims hospitalized and average lifetime medical costs were \$34,420 (Cook, 1999).

The most serious disabilities for survivors of firearms are amputation, brain injury, and spinal cord injury. 16.5% of spinal cord injuries in the United States are caused by gunshot injuries (Firearm and Injury Center at Penn, nd).

However, according to a publication of the National Spinal Cord Injury Statistical Center's *Facts and Figures at a Glance 2006* report, as of 2000, 13.7% of spinal cord injuries are caused by violence, primarily gunshot wounds. The most common cause of spinal cord injuries are motor vehicle crashes, followed by falls, followed by acts of violence. The most severe spinal cord injury (High Tetraplegia) has estimated lifetime healthcare and living expenses if injured at 25 years old to be \$2,924,513. The least severe spinal cord injury (Incomplete Motor Functional at Any Level) has estimated lifetime healthcare and living expenses if injured at 25 years old to be \$651,827 (National Spinal Cord Injury statistical Center, 2006).

Nelson, et. al. (1987) conducted research on the cost of medical treatment on two victims of assault-related gunshot wounds. The hospital charges were \$16,569.26 for patient A and \$17,598.01 for patient B. Physician fees were \$2,349.50 and \$5,457.00 respectively, with total charges for patient A \$18,918.76 and for patient B \$23,055.01.

According to WHO (2004), Vassar and Kizer (1996) found mean hospital charges for firearm-related injuries to be \$23,187 per patient and Cook et al. (1999) found the average medical expenses to be an additional \$20,304 per victim and lifetime medical treatment costs per person were found to be between \$37,000 and \$42,000 (Waters, 2004).

What does this mean to Rochester?

Using Cook's data from 1999 that the average medical expense for a victim of a gunshot wound is \$20,304 for the *immediate* medical care and that the mean *lifetime* medical costs per victim range between \$37,000 and \$42,000, and assuming the firearm-related data is similar for Rochester, then:

- The 133 shootings in 2000 in Rochester could be estimated at totaling \$2,700,432 in immediate medical costs using Cook's data. The lifetime medical treatment costs would range between \$4,921,000 and \$5,586,000 total for the 133 victims.
- The 151 shootings in 2001 in Rochester could be estimated at totaling \$3,065,904 in immediate medical costs using Cook's data. The lifetime medical treatment costs would range between \$5,587,000 and \$6,342,000 total for the 151 victims.
- The 164 shootings in 2002 in Rochester could be estimated at totaling \$3,329,856 in immediate medical costs using Cook's data. The lifetime medical treatment costs would range between \$6,068,000 and \$6,888,000 total for the 164 victims.
- The 226 shootings in 2003 in Rochester could be estimated at totaling \$4,588,704 in immediate medical costs using Cook's data. The lifetime medical treatment costs would range between \$8,362,000 and \$9,492,000 total for the 226 victims.
- The 191 shootings in 2004 in Rochester could be estimated at totaling \$3,878,064 in immediate medical costs using Cook's data. The lifetime medical treatment costs would range between \$7,067,000 and \$8,022,000 total for the 191 victims.
- The 251 shootings in 2005 in Rochester could be estimated at totaling \$5,096,304 in immediate medical costs using Cook's data. The lifetime medical treatment costs would range between \$9,287,000 and \$10,542,000 total for the 251 victims.
- The 273 shootings in 2006 in Rochester could be estimated at totaling \$5,542,992 in immediate medical costs using Cook's data. The lifetime medical treatment costs using Waters' results would range between \$10,101,000 and \$11,466,000 total for the 273 victims.
- The 198 shootings in 2007 in Rochester could be estimated at totaling \$4,020,192 in immediate medical costs using Cook's data. The lifetime medical treatment costs would range between \$7,326,000 and \$8,316,000 total for the 198 victims.

With Rochester's average of 198 shootings each year, the average total cost spent on the short term medical care is over \$4 million annually and the average long term medical care could be estimated at over \$7 million.

From 2000 to 2007 there have been a total of 1,587 shooting victims in Rochester. This totals over \$32 million in short term medical expenses.

Other cost-related data:

According to the National Spinal Cord Injury Statistical Center, since 2003, 15.4% of spinal cord injuries have occurred as a result of firearm violence. (National Spinal Cord Injury Statistical Center, 2008)

In 2002, the average length of hospital stay for mild to moderate firearm injuries was 10-13 days. (Firearm and Injury Center at Penn, n.d.)

Violence-related data:

According to the Agency for Healthcare Research and Quality (AHRQ), in 2005 there were an estimated 308,200 violence-related hospitalizations which totaled \$2.3 billion in hospital costs (Russo, 2008).

Can we get the number of violence-related stays in Rochester?

According to AHRQ in 2003, the average expense for a visit to the emergency room which resulted in a surgical procedure was \$904 while the average cost for a visit that resulted in no special services was \$302 (Maclin, 2006).

According to AHRQ in 2002, \$73.4 billion was spent on treatment for injury-related conditions in the United States; this includes motor vehicle accidents, sports injuries, falls, and weapons (Maclin, 2005).

Rochester, NY Care

Per conversation on May 27, 2008 with Dr,Mark Gestring, head trauma surgeon at Strong Memorial Hospital:

What care is received? Care for gunshot wounds ranges from any number of injuries, such as amputation to spinal cord injuries.

Where is the treatment received? The overwhelming majority of severe gunshot wounds are treated at Strong Memorial Hospital; a much smaller number of gunshot wounds are treated at Rochester General Hospital. If the wound is not severe and is a flesh wound, care may be received from another Medical Center, such as Park Ridge (this is believed to be on very rare occasions).

What follow-up care is received and where? This can vary dramatically depending on the injury. However, if the victim requires physical therapy and/or rehabilitation and was treated initially at Strong, then the follow-

up care will continue to be at Strong. Otherwise, it is unknown which other medical centers are performing follow-up care for gunshot injuries.

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