CD Summary

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OREGON PUBLIC HEALTH DIVISION • OREGON HEALTH AUTHORITY

PRIVATE GUNS, PUBLIC HEALTH: FIREARM INJURY IN OREGON

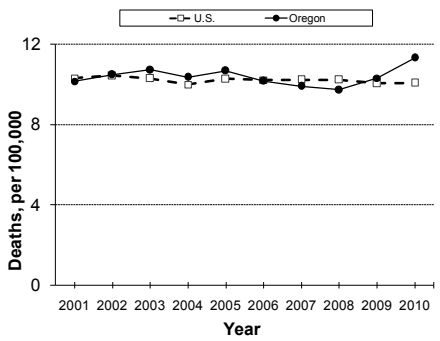
Recent mass shootings at Clackamas Town Center mall and Sandy Hook Elementary School have drawn considerable attention to the issue of gun violence by the media, policy-makers and the public. Unfortunately, these highly-publicized events are the tip of the iceberg: each day, close to 85 Americans lose their lives due to firearm injury. This *CD Summary* highlights data on firearm injury from Oregon's Violent Death Reporting System (ORVDRS), a data system that collects information from many data sources and compiles incident-based cases for all violent deaths in Oregon.

THE NUMBERS

The United States has the highest rate of gun-related injuries among developed countries. Every year, firearms are the mechanism of injury in approximately 30,000 deaths and 70,000 injuries in the U.S. In 2010, this corresponded to an unadjusted fatality rate of 10.3 per 100,000 population in the U.S.[1] In contrast, during 2010, the crude gun-related death rate in Germany was 1.1 per 100,000, Sweden was 1.5 and the United Kingdom was 0.3.[2]

During 2010, firearms were the mechanism of death among 458 Oregonians, corresponding to an unadjusted rate of 12.0 per 100,000 (age-adjusted = 11.3 per 100,000).[1] Rates of firearm fatalities did not change much over the past decade in either Oregon or the rest of the country until 2010 (Figure 1). Of note, the higher Oregon rate in 2010 is mainly due to an increase in suicides, from 343 in 2009 to 376 in 2010.*

Figure 1. Age-adjusted firearm fatality rates, 2001–2010

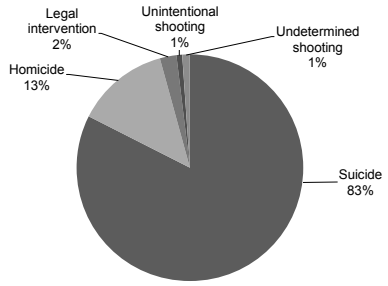


Source: CDC -Injury-WISQARS

MANNER OF FIREARM DEATHS

Firearm deaths occur due to a variety of intents ("manners"). While homicides using a firearm get the most media coverage, the manner associated with the majority of firearm deaths in Oregon is suicide (83%), followed by homicide (13%), legal intervention and unintentional shootings (Figure 2). Looking at the data another way, firearms were the mechanism of injury for 55% of suicides, 53% of homicides, and 86% of deaths in homicide-suicide events.†

Figure 2. Firearm fatalities by manner, Oregon, 2006-2010 (n=2,036)



Source: ORVDRS

TYPE OF INCIDENT

Most fatal firearm injuries involve one death (e.g. a suicide). However, from 2003 to 2012, 103 incidents in Oregon involved more than one death; these 103 incidents resulted in 225 deaths. Most incidents (76%) were homicide-suicide events; followed by multiple-homicide events (19%); homicide-legal intervention events (2%); and suicide pacts/other undetermined events (3%). Table 1 (ORVDRS) shows that the number of events and associated deaths in Oregon has remained stable over the past decade.

Table 1. Firearm fatalities involving multiple deaths, Oregon, 2003–2012§

Year	Homicide-Suicide		Multiple Homicides¶	
	Events	Deaths	Events	Deaths
2003	5	11	2	4
2004	7	14	1	2
2005	11	22	2	4
2006	8	17	2	5
2007	7	14	2	4
2008	2	4	4	8
2009	12	29	4	9
2010	11	25	1	2
2011	9	18	1	2
2012#	5	17	3	6

§ Suicide pacts/undetermined events not shown
¶ Includes homicide-legal intervention events
# Preliminary data

WHO IS AT RISK?

From 2006–2010 in Oregon, males were nearly six times more likely than females to die from firearm injury (Table 2, *verso*). Older males (≥65 years of age) had the highest firearm death rate, due to high suicide rates. Young adults ages 18 to 24 years were at the highest risk of dying by homicide using a firearm. White males had the highest risk of any racial group of dying by suicide using a firearm, and African American males had the highest risk of dying by homicide using a firearm.

CIRCUMSTANCES SURROUNDING DEATHS IN OREGON

According to ORVDRS data (2006–2010) weapons used in firearm fatalities in Oregon were handguns (73%), rifles (15%), and shotguns (11%).† Forty-one percent of people who died by suicide using a firearm had depressed mood, 35% had been diagnosed and 28% were being treated for a mental illness.

Limited information is available about suspects in homicide cases. During

* See Violent Deaths in Oregon: Data by Year at *http://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Pages/nvdrs.aspx*

† See 2012 firearm fatality factsheet at *http://public.health.oregon.gov/DiseasesConditions/InjuryFatalityData/Pages/index.aspx*

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Table 2. Firearm fatalities and rates (per 100,000) by sex and age group, Oregon, 2006–2010

Age group (yrs)	Male		Female		Total	
	Deaths	Rate	Deaths	Rate	Deaths	Rate
0–4	1	0.2	0	0.0	1	0.1
5–9	5	0.8	4	0.7	9	0.8
10–17	34	3.4	7	0.7	41	2.1
18–24	180	19.8	21	2.4	201	11.2
25–44	505	19.7	101	4.0	606	12.0
45–64	608	24.2	126	4.8	734	14.3
≥65	402	35.8	42	3.0	444	17.5
All ages	1,735	18.6	301	3.2	2,036	10.8

Source: ORVDRS

2006–2010, most homicide suspects were male (93%), and between the ages of 15 and 44 years (68%). Firearms were used among 70% of gang-related homicides, and 61% of intimate partner homicides. Data indicate 90% of homicide suspects killed people they knew (such as intimate partners).

LOCATION

From 2006–2010 in Oregon, firearm homicides took place at a house/apartment (61%), street/road (15%), park/public use area/nature area (9%), and parking lot/garage (4%). Firearm suicides most often took place at a house/apartment (80%) and park/public use area/nature area (9%).

HOUSEHOLD FIREARMS AND STORAGE

Research by Okoro et al [3] estimated that, in 2002, about 40% of households in Oregon had firearms; approximately 58,000 children lived in households with loaded firearms, 26,000 of them in households where the loaded firearms were unlocked.

PREVENTION

Firearm injuries occur in a social context where child maltreatment, sexual violence, intimate partner violence, elder abuse, and many forms of social discrimination are endemic. A public health approach to gun violence prevention needs to emphasize primary prevention, focus on the community, use a range of policies, and collaborate with different/diverse interest groups.[4]

Health-care professionals have unique and important roles in their communities. All health-care professionals are mandated by law to report child maltreatment and elder abuse. These referrals can save lives and change the course of intergenerational violence in families — violence that is associated with the emergence of mental health problems, other forms of violence, and is directly linked to gun violence.

Several medical specialty societies have supported a number of specific measures for patient safety and urged health care professionals to counsel patients/parents regarding the implications of keeping firearms in the home and appropriate storage.[5–7] The American Academy of Pediatrics recommends that pediatricians teach parents that the safest home for a child or adolescent is one without firearms, and that they urge parents who possess guns to prevent access to those guns by children.[5]

At the forefront of discussions about gun violence is concern about people with mental illness and their access to guns. The national comorbidity survey indicated that individuals with lifetime mental illness were as likely as those without to have access to a firearm (34.1% vs 36.3%).[8] An international expert review of suicide prevention strategies concluded that identifying mental health problems early, treating them properly and restricting access to lethal means of self-destruction are important and effective in reducing suicide.[9]

SUMMARY

Deaths from firearm injuries continue to be a public health imperative in the United States and in Oregon. Understanding the data behind these deaths — who is dying, under what manner and circumstances — is the first step in addressing this problem.

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