



HSC Statistical Brief

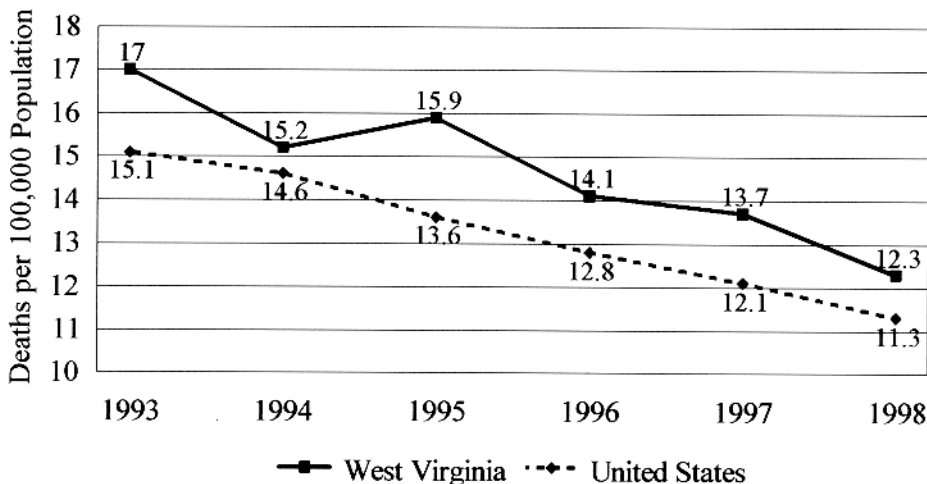


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Firearm-Related Fatality Rates – West Virginia and United States 1993-1998: A Comparison Brief No. 5

The U. S. Centers for Disease Control and Prevention (CDC) recently published a report on fatal and nonfatal firearm-related injuries in the United States from 1993 through 1998¹. This brief provides a comparison of national firearm-related fatality rates with West Virginia firearm-related fatality rates during that time period. (Comparable state data on nonfatal firearm-related injuries were not available for the current study.) A firearm injury was defined as “a gunshot wound or penetrating injury from a weapon that uses a powder charge to fire a projectile,” such weapons including handguns, rifles, and shotguns but excluding air-powered BB and pellet guns.

Figure 1. Rates* of Firearm-Related Deaths
West Virginia and United States, 1993-1998



*West Virginia and United States rates are age adjusted to the 2000 U.S. standard million.

¹CDC. Surveillance for fatal and nonfatal firearm-related injuries – United States, 1993-1998. MMWR 2001;50(SS-2).

Firearm-related fatalities declined steadily in both the state and the nation from 1993 through 1998 (Figure 1). The United States experienced a 25.2% decrease in mortality rates between 1993 and 1998, West Virginia a 27.6% decrease. Nationally, this decline was seen for both genders, by race and intent, and across all age groups. The state showed the same trends, with the exception of certain groups where the number of deaths in any single year was too small for valid rate calculation.

Table 1. Rates (Deaths per 100,000 Population) of Firearm-Related Mortality by Sex, Age, Race, and Intent, West Virginia and United States, 1993-1998

	1993		1994		1995		1996		1997		1998	
	WV	US	WV	US	WV	US	WV	US	WV	US	WV	US
Total	17.4	15.4	15.6	14.8	16.4	13.7	14.7	12.8	14.1	12.1	12.6	11.4
Age-adjusted*	17.0	15.1	15.2	14.6	15.9	13.6	14.1	12.8	13.7	12.1	12.3	11.3
Sex												
Male	30.0	26.8	27.6	26.0	29.3	24.0	25.7	22.5	24.6	21.2	21.6	19.8
Female	5.7	4.5	4.4	4.1	4.4	3.9	4.4	3.6	4.2	3.4	4.2	3.3
Age												
0-14	***	1.7	***	1.5	***	1.5	***	1.2	***	1.1	***	1.1
15-19	16.3	27.6	***	28.0	17.0	24.4	***	21.1	14.2	18.8	***	16.3
20-24	24.7	34.1	19.5	33.2	19.5	29.7	20.2	27.5	***	26.2	20.2	24.0
25-34	31.2	22.5	24.3	22.0	20.8	20.2	17.8	18.4	26.0	17.8	13.9	16.3
35-44	23.5	16.0	18.3	15.6	19.3	14.4	17.9	14.0	14.8	13.2	17.6	12.8
45+	16.7	13.9	18.6	13.0	20.5	12.8	19.0	12.6	16.4	12.0	14.8	11.6
Race												
White	17.2	11.6	15.1	11.3	16.2	10.9	14.6	10.5	14.2	10.2	12.3	9.9
Black	***	36.6	***	34.4	***	29.1	***	27.4	***	24.7	***	21.8
Intent												
Unintentional	***	0.6	***	0.5	***	0.5	***	0.4	***	0.4	***	0.3
Suicide	11.6	7.5	10.4	7.3	12.4	7.1	11.3	6.9	10.1	6.6	8.8	6.5
Assault**	5.3	7.3	4.8	7.0	3.6	6.1	3.0	5.5	3.6	5.1	3.5	4.5

*Age-adjusted WV and U.S. rates are adjusted to the 2000 U.S. standard million.

**Includes legal intervention

***Number of deaths was too small for valid rate calculation.

Overall firearm-related mortality rates in West Virginia exceeded national rates every year from 1993 through 1998; this was true for both males and females. By age group, national firearm-related death rates were consistently higher among persons aged 20-24; state rates were more often higher among persons aged 25-34. West Virginia's firearm-related suicide rates were higher than corresponding U.S. rates throughout the time period, while the state's firearm-related assault rates were lower than the national rates during each of the six years.

Aggregating 1993-98 data allowed a more detailed comparison of firearm-related deaths by intent, gender, age, and race. As shown in Figure 2, West Virginia and the United States had similar percentages of unintentional firearm deaths; proportionally, however, more of the state's deaths were due to suicide than in the nation as a whole.

Figure 2. Distribution of Firearm-Related Deaths by Intent
West Virginia and United States, 1993-1998

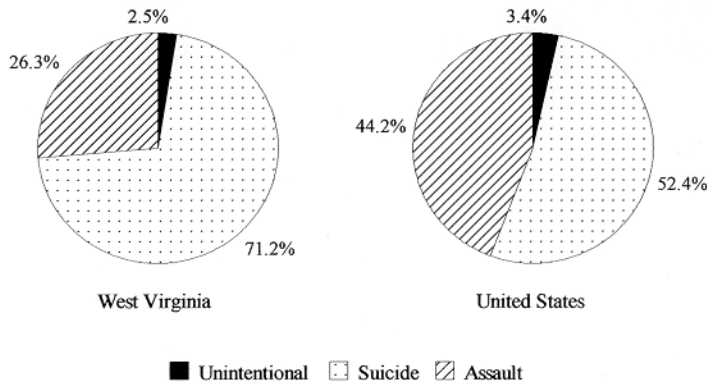


Table 2 on the following page displays 1993-98 firearm death rates by gender, race, and intent. Total rates among whites were higher in the state than in the nation for both males and females but lower statewide for black residents. Little difference between the state and the nation was noted for unintentional deaths, with state numbers too small among white women and all black residents to allow a valid comparison.

West Virginia's rate of suicide firearm deaths from 1993-98 was 10.8 deaths per 100,000 population, compared to a U.S. rate of 6.9. The state rate among white males was 42.3% higher than that of white males nationally, 20.2 compared to 14.2. White females in the state were also more likely than their national counterparts to die as the result of a firearm-related suicide (2.4 suicides per 100,000 females vs. 2.1).

While the overall rates for fatal firearm-related assaults were lower in the state than in the nation, rates among white West Virginians were actually higher than comparable national rates. White males in West Virginia had a rate of 5.1 deaths per 100,000 male population from 1993-98, while white males in the U.S. as a whole had a rate of 3.2. White females were also more likely to die from a firearm-related assault in West Virginia, with a rate of 2.1 versus 1.1 nationally. The rate among black residents, on the other hand, was lower than the comparable national rate, with an overall rate of 16.9 deaths per 100,000 black population compared to a U. S. rate of 24.0. The state rate among black males was 34.4, compared to 44.4 for the nation.

**Table 2. Firearm-Related Death Rates by Type of Death, Gender, and Race
West Virginia and the United States, 1993-1998**

Type of Death	Total		White		Black	
	WV	US	WV	US	WV	US
Total* (Age-adjusted**)	15.1 (14.7)	13.3 (13.2)	14.9 (14.5)	10.7 (10.4)	23.3 (22.8)	28.9 (26.7)
Male* (Age-adjusted**)	26.5 (26.4)	23.4 (23.3)	26.0 (25.9)	18.4 (18.2)	45.5 (44.1)	53.6 (49.1)
Female* (Age-adjusted**)	4.6 (4.6)	3.8 (3.8)	4.6 (4.6)	3.4 (3.4)	*** ***	6.6 (6.3)
Unintentional Firearm Deaths	0.4	0.4	0.4	0.4	***	0.8
Male	0.7	0.8	0.7	0.7	***	1.4
Female	***	0.1	***	0.1	***	0.2
Suicide Firearm Deaths	10.8	6.9	11.0	8.0	***	3.9
Male	19.8	12.3	20.2	14.2	***	7.2
Female	2.4	1.8	2.4	2.1	***	0.9
Assault/Legal Intervention Firearm Deaths	4.0	5.8	3.6	2.1	16.9	24.0
Male	6.0	10.0	5.1	3.2	34.4	44.4
Female	2.1	1.8	2.1	1.1	***	5.5

Rates are deaths per 100,000 population.

*Total includes firearm-related deaths undetermined to be unintentionally or intentionally inflicted.

**Age-adjusted West Virginia and United States rates were adjusted to the 2000 U.S. standard million.

***Number of deaths was too small for valid rate calculation.

Table 3 provides 1993-98 state and national firearm-related death rates by age group and intent. In both the state and the nation, the overall firearm-related death rates for males were approximately six times higher than those for females. Both sexes in West Virginia, however, had higher rates of overall firearm-related mortality in all age groups over 24 than in the U.S. as a whole. While the highest rates of firearm-related suicide by age were found among persons aged 65 and older both nationally and statewide, West Virginia residents had higher rates than their national counterparts in all age groups. National rates for firearm-related assault deaths were higher than state rates through age 44, with WV rates exceeding U.S. rates among ages 45 and older. Figures 3 and 4 present firearm-related suicide and assault mortality rates among males. Taken together, these graphs illustrate the marked differences in intent behind firearm deaths in the state and the nation, differences important in understanding and addressing the problem of firearm mortality.

Table 3. Firearm-Related Death Rates by Intent and Age
West Virginia and the United States, 1993-1998

Type of Death	All Ages*		0-14		15-19		20-24		25-34		35-44		45-64		65+	
	WV	US	WV	US	WV	US	WV	US	WV	US	WV	US	WV	US	WV	US
Total Firearm Deaths**	14.7	13.2	1.3	1.3	13.4	22.5	19.6	29.2	22.3	19.6	18.6	14.3	16.2	11.8	19.9	13.9
Male	26.4	23.3	***	1.9	21.1	38.8	34.9	51.6	37.6	33.5	29.9	23.5	28.7	20.3	44.8	30.2
Female	4.6	3.8	***	0.7	5.1	5.2	***	6.1	8.1	5.8	7.3	5.2	4.6	3.9	3.1	2.6
Unintentional Firearm Deaths	0.4	0.4	***	0.3	***	1.3	***	1.0	***	0.5	***	0.4	***	0.3	***	0.3
Male	0.7	0.8	***	0.5	***	2.4	***	1.8	***	0.9	***	0.6	***	0.5	***	0.6
Female	***	0.1	***	0.1	***	0.2	***	0.2	***	0.1	***	0.1	***	0.1	***	0.1
Suicide Firearm Deaths	10.3	6.9	***	0.3	8.3	6.6	12.0	9.4	13.1	8.0	12.6	7.7	12.4	8.3	18.0	12.4
Male	19.8	12.3	***	0.4	13.8	11.1	21.8	16.7	23.4	13.9	21.3	12.9	22.6	14.6	42.1	27.7
Female	2.4	1.8	***	0.1	***	1.8	***	1.9	3.6	2.2	4.0	2.6	3.0	2.5	***	1.8
Assault/Legal Intervention Firearm Deaths	4.0	5.8	***	0.7	4.1	14.2	6.5	18.4	8.5	10.8	5.8	6.1	3.6	3.1	1.7	1.2
Male	6.0	10.0	***	1.0	5.7	24.5	10.8	32.4	13.2	18.4	8.2	9.8	5.8	5.0	***	1.8
Female	2.1	1.8	***	0.5	***	3.2	***	3.9	4.2	3.3	3.4	2.4	1.6	1.3	***	0.8

Rates are deaths per 100,000 population

*West Virginia and the United States rates for all ages were age adjusted to the 2000 U.S. standard million.

**Total includes firearm-related deaths undetermined to be unintentionally or intentionally inflicted.

***Number of deaths was too low for valid rate calculation.

Figure 3. Suicide Firearm Death Rates Among Males, by Age West Virginia and United States, 1993-1998

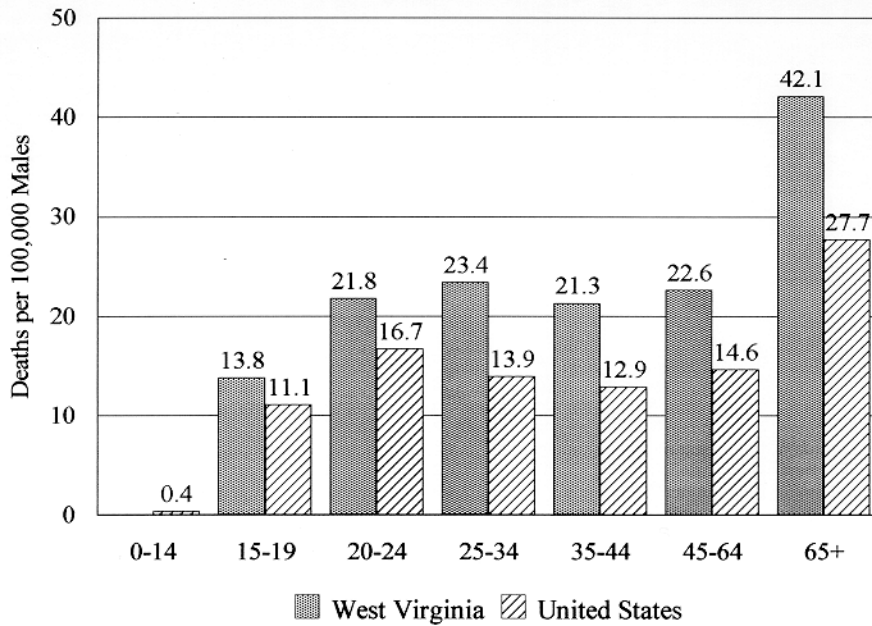
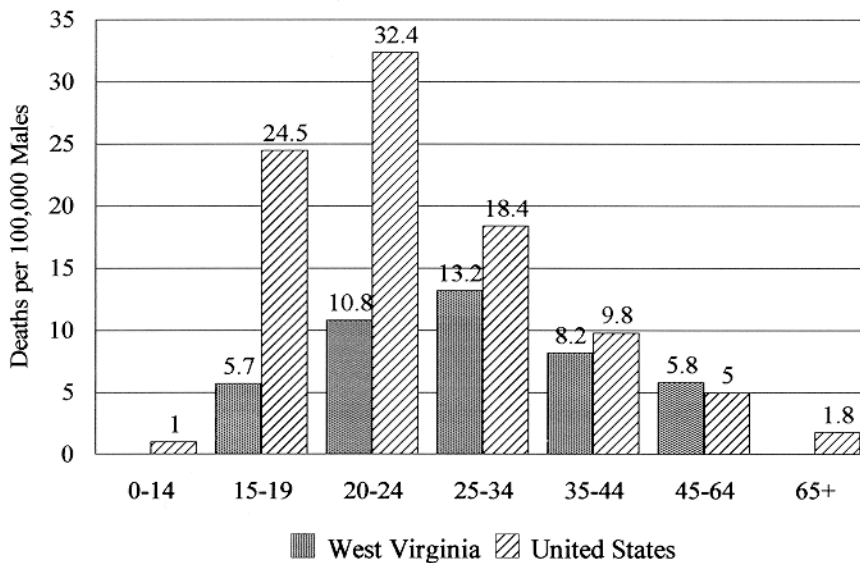


Figure 4. Assault Firearm Death Rates Among Males, by Age West Virginia and United States, 1993-1998



*State numbers for ages 0-14 and 65+ assault deaths were too small for valid rate calculation.