

**HSC Statistical Brief No. 23**

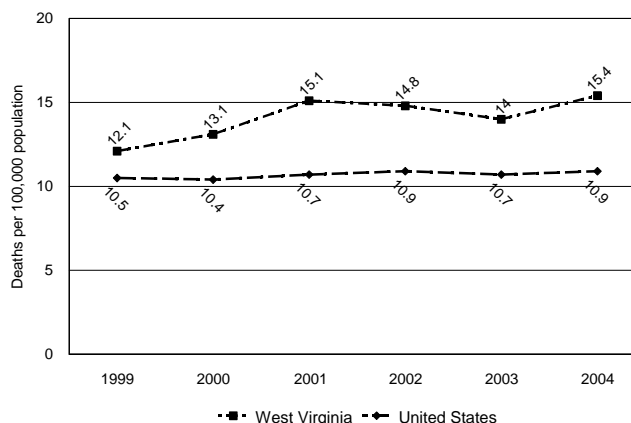
**Selected Data on Suicides by Age Group  
West Virginia and the United States, 1999-2004**

Suicide is a major cause of death in both West Virginia and the United States. Approximately 31,000 people die by suicide each year in the nation, while the state loses an average of 265 residents to suicide annually. Over 80% of suicides occur among males, both nationally and statewide. *The Surgeon General's Call to Action to Prevent Suicide*, published in 1999 by the U.S. Centers for Disease Control and Prevention (CDC), recognizes suicide as a significant public health problem.

The CDC released data in February 2008 showing a significant increase in the rate of suicide among middle-aged Americans from 1999 through 2004. The West Virginia Health Statistics Center examined state data from this same time period to determine if the state was following the national trend. Instead, a marked increase in suicides among West Virginia's younger residents, especially those in their early twenties, was found<sup>1</sup>. This brief presents these findings, which are quite different than those for the nation as a whole.

**Suicide Overview.** West Virginia has traditionally had higher rates of suicide than the United States. As Figure 1 indicates, the overall state rate exceeded the comparable national rate during each of the study years. In addition, while the overall U.S. age-adjusted rate remained relatively stable, from 10.5 suicides per 100,000 population in 1999 to 10.9 in 2004, the West Virginia age-adjusted rate increased 27.3% over the period, from 12.1 in 1999 to 15.4 in 2004.

Figure 1. Annual Suicide Rates\*, All Ages  
West Virginia and United States, 1999-2004

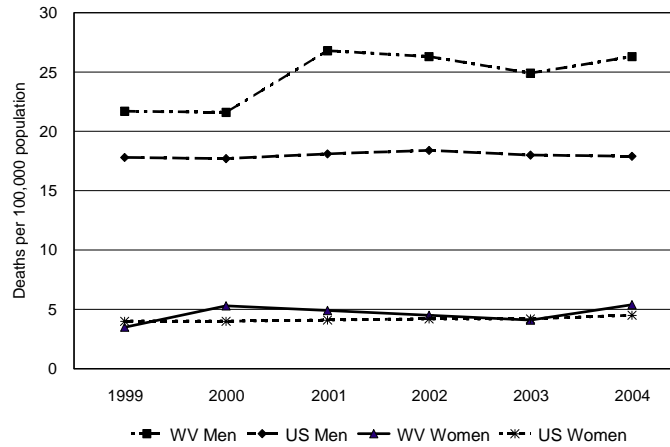


\*Rates are age adjusted to the 2000 U.S. standard population.

<sup>1</sup> All data in this brief were obtained from the CDC, National Center for Injury Prevention and Control, WISQARS (Web-based Injury Statistics Query and Reporting System), available online at [www.cdc.gov/NCIPC/WISQARS](http://www.cdc.gov/NCIPC/WISQARS).

The annual number and age-adjusted rate for suicides from 1999 through 2004 are presented by gender in Figure 2 and Table 1 below. Little difference in national and state rates is noted for women. The rates for men are significantly higher than those for women both nationally and statewide, with male rates in West Virginia consistently exceeding those in the country as a whole.

Figure 2. Annual Suicide Rates\* by Gender, All Ages  
West Virginia and United States, 1999-2004



\*Rates are age adjusted to the 2000 U.S. standard population.

Table 1. Annual number and rate\* of suicides by gender, all ages  
West Virginia and United States, 1999-2004

	West Virginia		United States	
	Number	Rate	Number	Rate
<b>Males</b>				
1999	195	21.7	23,458	17.8
2000	194	21.6	23,618	17.7
2001	240	26.8	24,672	18.1
2002	235	26.3	25,409	18.4
2003	226	24.9	25,203	18.0
2004	236	26.3	25,566	17.9
<b>Females</b>				
1999	34	3.5	5,741	4.0
2000	51	5.3	5,732	4.0
2001	46	4.9	5,950	4.1
2002	41	4.5	6,246	4.2
2003	40	4.1	6,281	4.2
2004	49	5.4	6,873	4.5

\*Deaths per 100,000 population. Rates are age adjusted to the 2000 U.S. standard population.

**Suicide Rates by Major Age Group and Gender, 1999-2004.**

Aggregated suicide rates for the six years in the study period are presented in Figure 3, broken into four major age groups (adolescents, young adults, middle-aged adults, and older adults). Overall rates were higher in the state than in the nation for all four age groups. As illustrated in Figure 4, state and national female rates did not differ greatly, with the exception of ages 10-19; the state rate of 3.3 suicides per 100,000 population among female adolescents in West Virginia was nearly double the comparable national rate of 1.7. Suicide rates among males of all ages, however, were markedly higher in West Virginia than in the United States as a whole.

Figure 3. Suicide Rates by Major Age Group, Both Sexes  
West Virginia and United States, 1999-2004

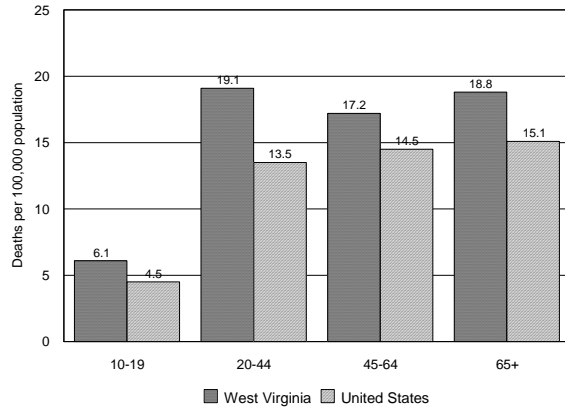
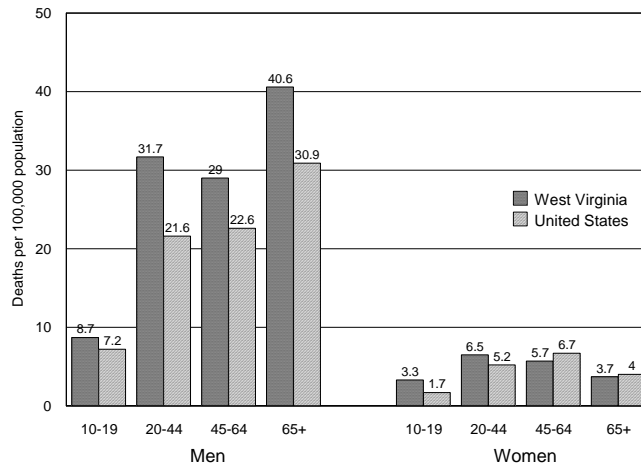


Figure 4. Suicide Rates by Major Age Group and Gender  
West Virginia and United States, 1999-2004



**Changes in Suicide Rates by Major Age Groups, 1999-2001 and 2002-2004.** Table 2 and Figures 5 and 6 present the changes in suicide rates between the first three years of the study period (1999-2001) and the latter three years (2002-2004) in West Virginia and the United States. Distinct differences are noticeable between the state and the nation. The national increase in middle-aged suicides is evident, as is a small increase in suicides among younger adults and small decreases in suicides among adolescents and older adults. A decrease in rates among older adults was also noted in the state; however, while West Virginia rates among middle-aged adults and adolescents showed slight increases, there was a notably larger increase among adults aged 20-44. (Rates are not presented by gender because of small numbers and unstable rates for women in the state by three-year aggregates.)

Table 2. Number of suicides by major age group, both sexes West Virginia and United States, 1999-2001 and 2002-2004								
	West Virginia				United States			
	1999-2001		2002-2004		1999-2001		2002-2004	
	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total
10-19	41	5.7	46	5.6	5,661	6.4	5,487	5.7
20-44	320	42.2	382	46.2	41,650	46.7	42,890	44.9
45-64	233	30.7	252	30.5	25,618	28.7	31,167	32.6
65+	165	21.7	147	17.8	16,188	18.2	15,994	16.7
Total	759	100.0	827	100.0	89,117	100.0	95,538	100.0

Figure 5. Suicide Rates by Major Age Group West Virginia, 1999-2001 and 2002-2004

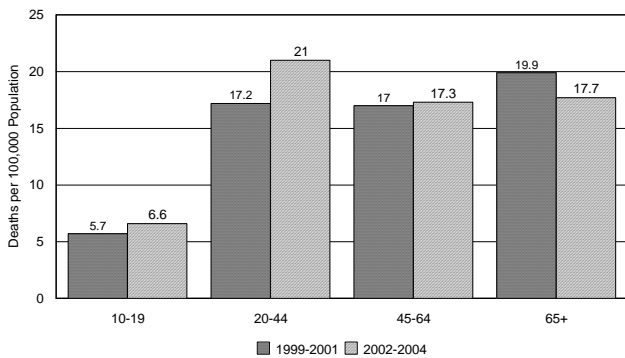
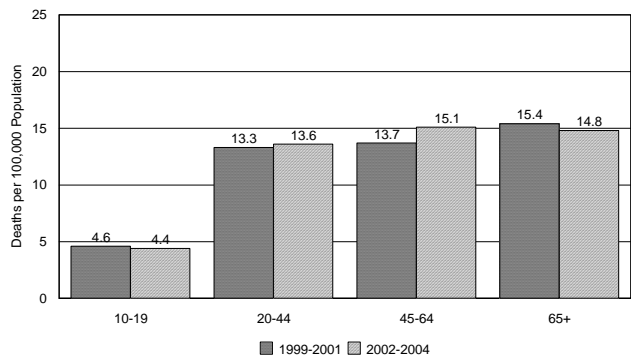


Figure 6. Suicide Rates by Major Age Group United States, 1999-2001 and 2002-2004



**Changes in Suicide Rates by Five-Year Age Groups, 1999-2001 and 2002-2004.** The four major age groups were reexamined in five-year age groups to more precisely determine which individuals were most likely to die of suicide over the time period. Figures 7 and 8 illustrate the changes between 1999-2001 and 2002-2004 among adolescents and young adults nationally and statewide. (Suicides among those aged 10-14 are not included due to small numbers and unstable rates in the state.) Little difference is seen in national rates for these six age groups between 1999-2001 and 2002-2004. Increases occurred, however, among all adolescent and young adult age groups in the state, with the largest increase found among 20- through 24-year-old residents.

Figure 7. Suicide Rates among Adolescents and Young Adults West Virginia, 1999-2001 and 2002-2004

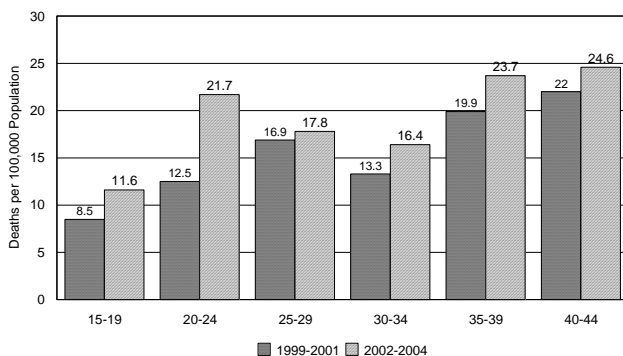
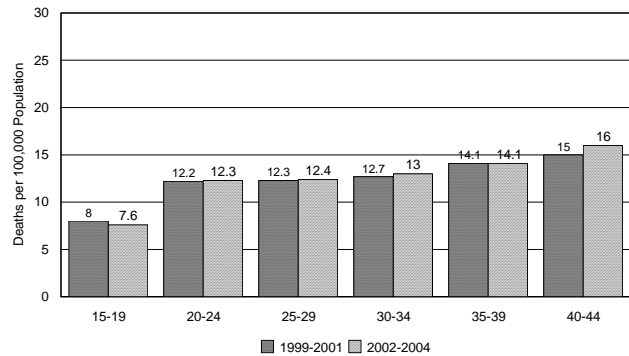


Figure 8. Suicide Rates among Adolescents and Young Adults United States, 1999-2001 and 2002-2004



Figures 9 and 10 illustrate the difference in suicide trends among middle-aged and older adults in West Virginia and the United States. With the exception of ages 55-59, rates decreased among these six age groups in the state. In the nation, on the other hand, suicide rates increased among all ages from 45 through 64, after which there were slight declines.

Figure 9. Suicide Rates among Middle-Aged and Older Adults West Virginia, 1999-2001 and 2002-2004

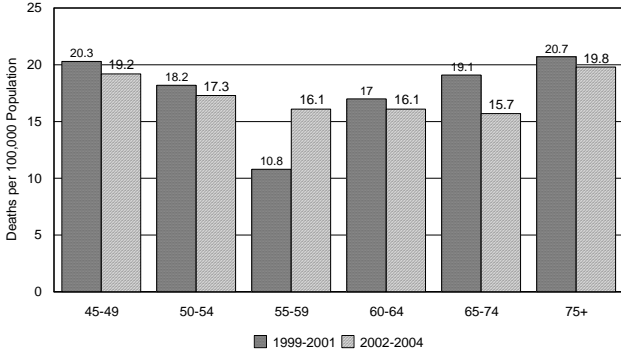
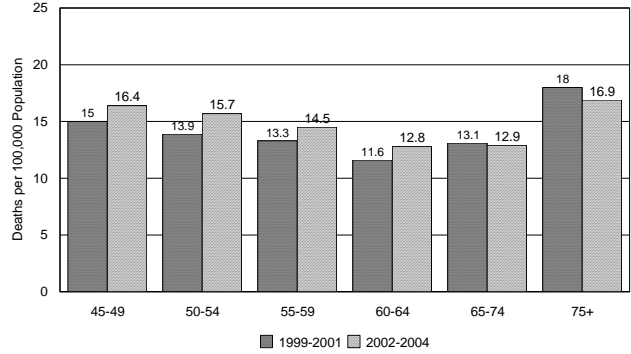



Figure 10. Suicide Rates among Middle-Aged and Older Adults United States, 1999-2001 and 2002-2004



**Discussion.** An examination of suicide by age from the years 1999 through 2004 revealed different trends in the state than those occurring in the nation over the time period. While middle-aged suicides increased nationally, notable increases occurred instead among adolescents and young adults in West Virginia, with the largest increase seen among residents aged 20-24. Families, state health professionals, and policymakers need to work together to determine how to address the factors putting our younger residents at risk.

For information on the identification of those at risk for suicide and prevention strategies, as well as the schedule for and location of suicide prevention workshops around the state, contact the West Virginia Council for the Prevention of Suicide at (304) 296-1731.



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