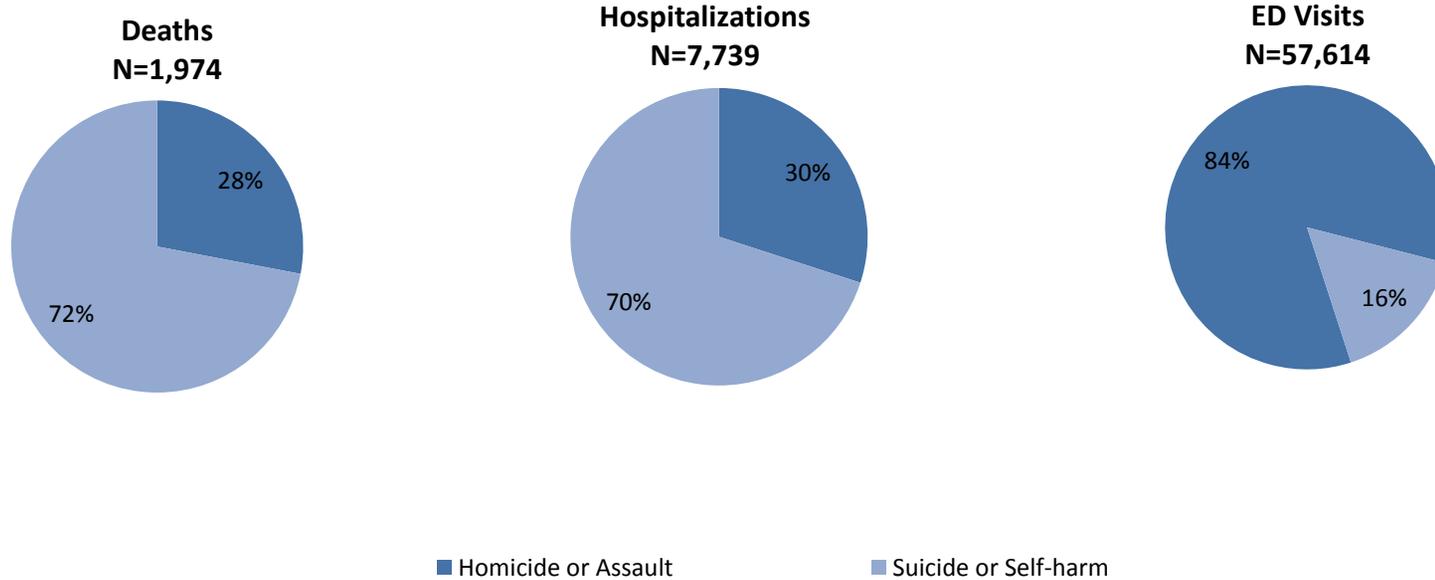
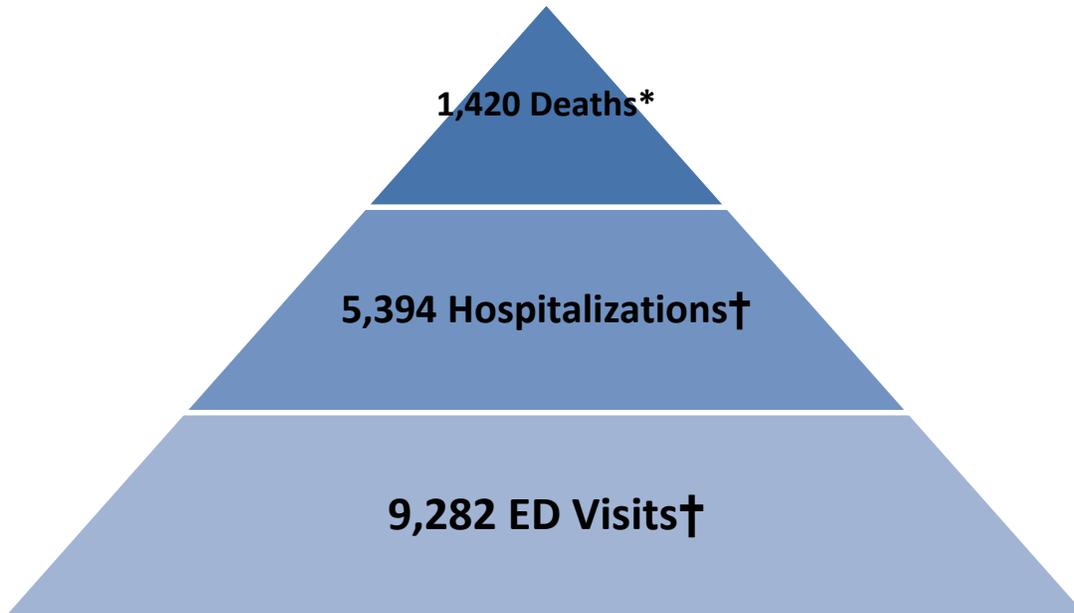


SECTION 4: INTENTIONAL INJURIES



Intentional injuries were responsible for nearly 2,000 deaths, 7,700 hospitalizations, and 58,000 ED visits in 2010. The distribution of intentional injuries varies by severity. Approximately 3 out of every 4 intentional injury deaths and hospitalizations were associated with suicide or self-harm behaviors while 8 in 10 intentional injury ED visits were associated with assaults.

SECTION 4.1: SUICIDES AND SELF-HARM



*SOURCE: OHIO DEPARTMENT OF HEALTH, VITAL STATISTICS, 2010

† SOURCE: OHIO HOSPITAL ASSOCIATION

CHAPTER HIGHLIGHTS:

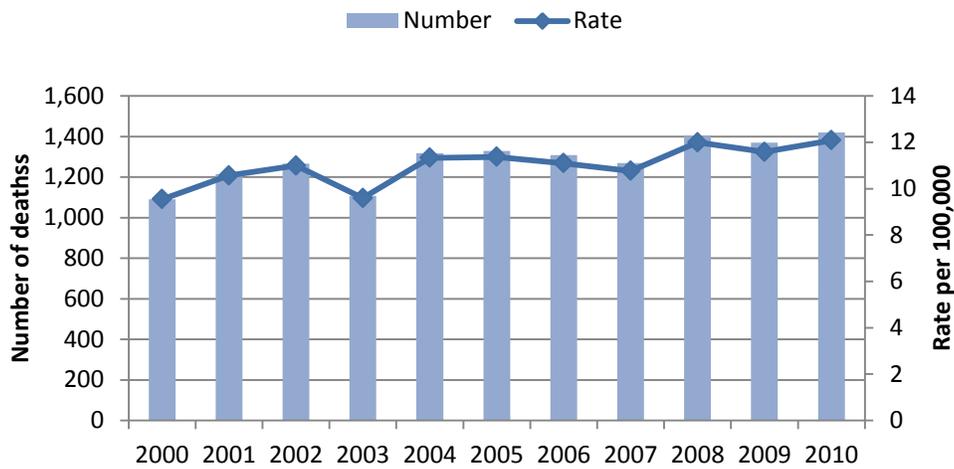
Patterns:

- Suicide rates were 4 times higher among males while females were more likely to experience a non-fatal self-harm injury than males.
- Highest rates of suicide were found among adults ages 45-54.
- Highest rates of non-fatal self-harm related injuries were among ages 15-44.
- Most suicides involved the use of a firearm and self-harm related injuries were caused by poisoning.

Trends:

- Suicide rates have increased 27 percent since 2000.
- Hospitalization and ED visit rates increased in 2002-2007 and then leveled off in 2007-2010.
- Most suicides involved the use of a firearm while poisoning was associated with most self-harm hospitalizations and ED visits throughout the study period.

Figure 11.1. Number and age adjusted rate for suicides by year, Ohio, 2002-2010



Source: Ohio Hospital Association

DEATHS:

In 2010, 1,420 deaths resulted from a suicide in Ohio. The suicide rate was 12.1 per 100,000 (see Figure 11.1). Suicide rates were 4 times higher among males (20 per 100,000) compared to females (5 per 100,000). Rates among males increased among ages 15-34, leveled off between ages 35-84 and then increased among ages 85 or older. Among females, the highest rates were found among ages 45-54 (see Figure 11.2). See Table 11.1 for a suicide risk profile.

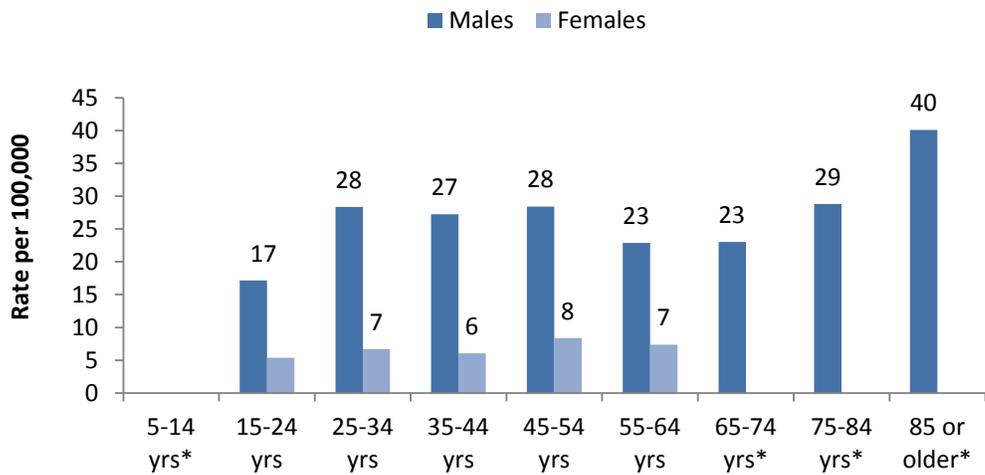
Approximately one-half of suicides resulted from firearms. Other leading mechanisms included hanging (26 percent) and poisoning (17 percent).

	2010 At Risk Groups	Annual trend since 2000
Overall		+27%
Sex	Males	Females (largest increase)
Age	45-54	45-54 (largest increase)
Race and ethnicity	Whites	Whites (largest increase)

TRENDS:

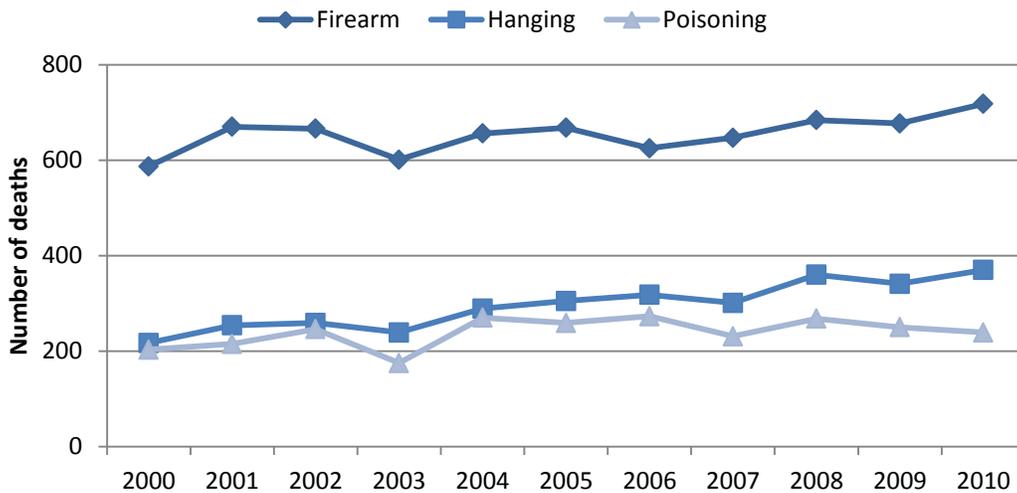
The suicide rate increased 27 percent from 9.5 per 100,000 in 2000 to 12.1 per 100,000 in 2010 (Figure 11.1). The average annual increase was 0.2 per 100,000 per year. Suicide rates increased among females (0.2 per 100,000 per year) while rates among males did not follow a consistent trend. Rates increased among adults ages 45-64 while rates decreased among adults 75-84. Rates did not follow a consistent trend among other age groups. Suicide rates increased among whites (0.3 per 100,000 per year) while rates did not follow a consistent trend among blacks. The number of suicides resulting from hanging increased by an average of 14 deaths per year while the number of suicides resulting from other mechanisms did not follow a consistent trend (Figure 11.3). See Tables 40a-c located at the end of this section for more detailed information on the number and rate of suicides in Ohio.

Figure 11.2. Suicide rates by sex and age group, Ohio, 2010



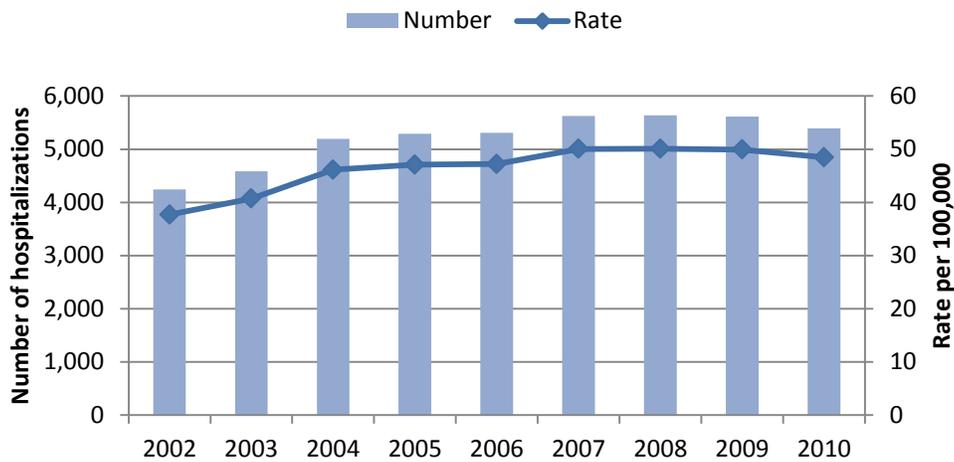
Source: Ohio Department of Health, Vital Statistics
 *Rates suppressed due to small cell sizes

Figure 11.3. Number of suicides by mechanism, Ohio, 2010



Source: Ohio Department of Health, Vital Statistics

Figure 11.4. Number and age adjusted rate for self-harm hospitalizations by year, Ohio, 2002-2010



Source: Ohio Hospital Association

HOSPITALIZATIONS:

In 2010, nearly 5,400 hospitalizations resulted from self-harm. The self-harm hospitalization rate was 48.5 per 100,000 (Figure 11.4). The rate was higher among females (57 per 100,000) than males (40 per 100,000). For both males and females, hospitalization rates were highest among ages 15-54 then decreased among ages 55 and older (Figure 11.5). See Table 11.2 for a self-harm hospitalization risk profile.

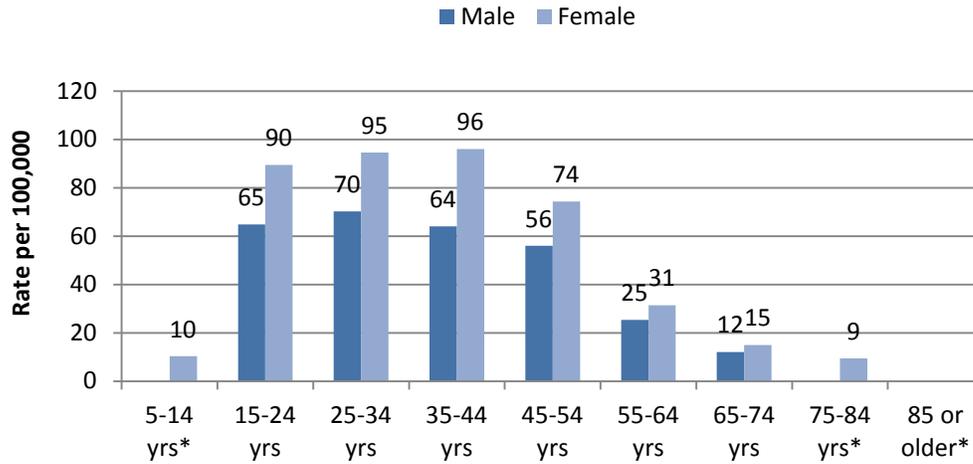
Roughly 92 percent of hospitalizations were associated with poisoning (Figure 11.6).

Table 11.2 Self-Harm Hospitalization Risk Profile		
	2010 At Risk Groups	Annual trend Since 2002
Overall		+29%
Sex	Females	Similar for males and females
Age	15-44 yrs	45-54 (largest increase)

TRENDS:

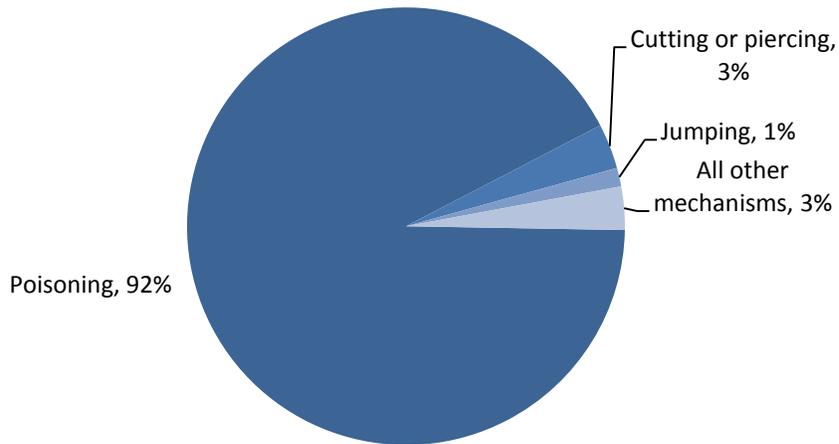
Hospitalization rates increased 29 percent from 37.7 per 100,000 in 2002 to 48.5 per 100,000 in 2010 (Figure 11.4). The average annual increase was 1.4 per 100,000 per year. The increase in rates was similar among males and females. Rates increased among ages 15-64 with the largest average increase found among adults ages 45-54 (3 per 100,000 per year). Rates among children ages 5-14 and adults ages 65-84 did not follow consistent trend. The number of self-harm hospitalizations resulting from poisoning increased by an average of 170 per year. Trends in other mechanisms did not following a consistent pattern over time. See Tables 41a-c located at the end of this section for more detailed information on the number and rates of self-harm related hospitalizations in Ohio.

Figure 11.5. Hospitalization rates for self-harm by age and sex, Ohio, 2010



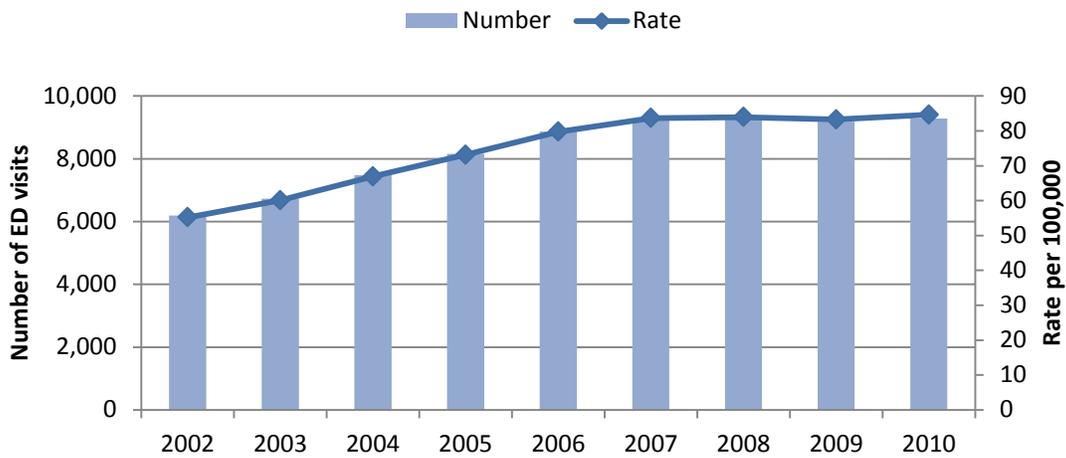
Source: Ohio Hospital Association

Figure 11.6. Distribution of hospitalizations resulting from self-harm, by mechanism, Ohio, 2010



Source: Ohio Hospital Association

Figure 11.7. Number and age adjusted rate for self-harm related ED visits by year, Ohio, 2002-2010



Source: Ohio Hospital Association

EMERGENCY DEPARTMENT VISITS:

Over 9,000 ED visits were associated with self-harm in 2010. The ED visit rate was 85 per 100,000 (Figure 11.7). Females were more likely than males to visit the ED. The highest rates of ED visits were among ages 15-24 and a steadily decrease in rates were found after age 25 (Figure 11.8). See Table 11.3 for a self-harm ED visit risk profile.

Most self-harm related ED visits were associated with poisonings (51 percent) and cutting or piercing (30 percent). Approximately 14 percent of self-harm related ED visits did not have a specified mechanism.

Table 11.3 Self-Harm ED Visit Risk Profile		
	2010 At Risk Groups	Trend since 2002
Overall		+53%
Sex	Females	Similar for males and females
Age	15-24	15-24 (largest increase)

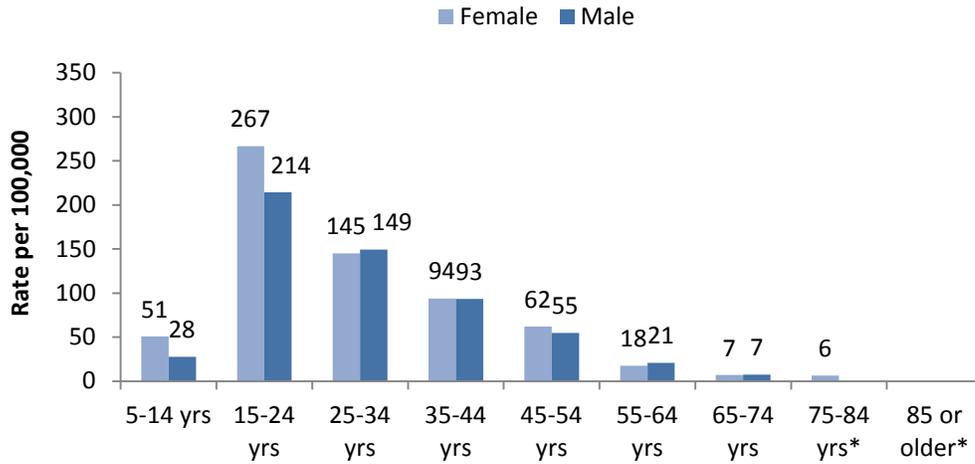
TRENDS:

Between 2002 and 2010, the rate of ED visits resulting from self-harm increased 53 percent from 55 per 100,000 to 85 per 100,000 in 2010. Rates increased by an average of 4 per 100,000 per year. The increase was similar among males and females. ED visit rates increased among all age groups with the largest increases found among ages 15-24 (12 per 100,000 per year). The number of self-harm related ED visits resulting from cutting or piercing, poisoning, and other or unspecified mechanisms increased. The number of ED visits resulting from cutting or piercing increased by an average of 157 per year. An annual increase of 137 was found for poisoning while other and unspecified increased by an average of 88 ED visits per year (Figure 11.9). See Tables 42a-c located at the end of this section for more detailed information on self-harm related ED visits.

Burden of Injury in Ohio, 2000-2010

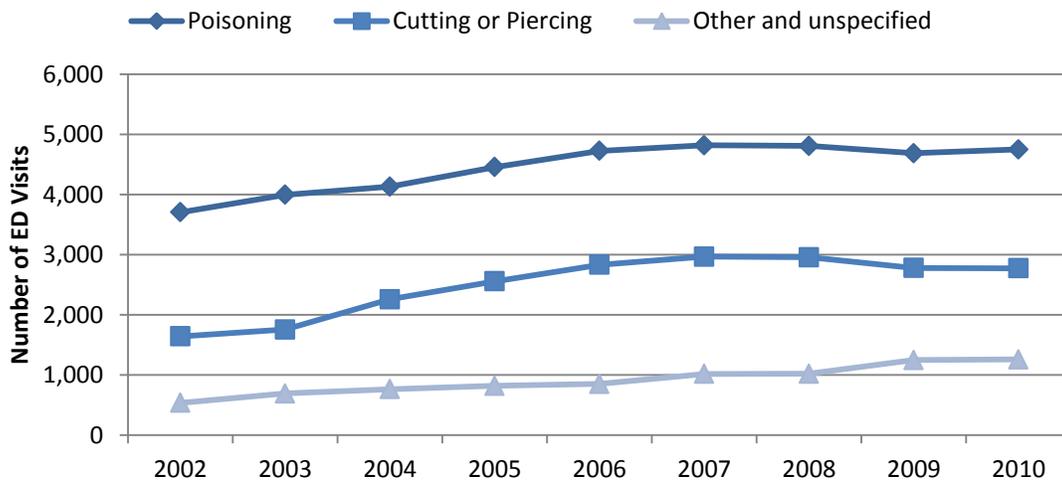
Ohio Violence and Injury Prevention Program, Ohio Department of Health

Figure 11.8. ED visit rates for self-harm by age and sex, Ohio, 2010



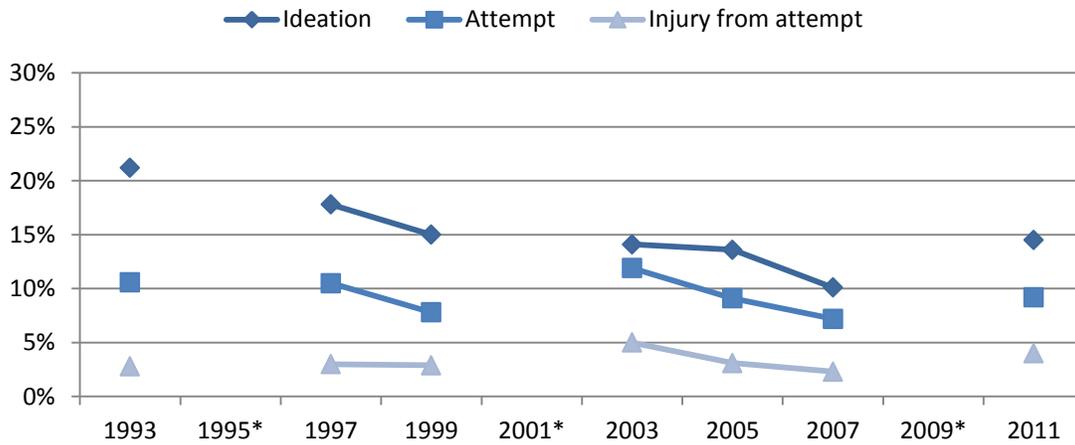
Source: Ohio Hospital Association

Figure 11.9. Number of ED visits resulting from self-harm, by mechanism and year, Ohio, 2002-2010



Source: Ohio Hospital Association

Figure 11.10. Percentage of high school students who reported self-harm behaviors by behavior and year, Ohio, 1993-2011



Source: Ohio Youth Risk Behavior Survey
 *Rates suppressed due to poor response rates

SELF-HARM BEHAVIORS AMONG YOUTH:

In 2011, approximately 1 in 7 or 14 percent of high school students reported to have seriously considered suicide in the past 12 months (Figure 11.10). Female (18%) were more likely to report suicide ideation than males (11%). Suicide ideation was reported more frequently by 9th graders and Hispanics compared students in other grades and race or ethnic group.

Approximately 1 in 10 or 9 percent of high school students reported to have attempted suicide in the past 12 months (Figure 11.10). The percentage of students who reported at least one suicide attempt was similar by sex and race or ethnic groups. Ninth grade students were nearly 3 times more likely to report a suicide attempt than students in the 12th grade.

In 2011, 1 in 25 or 4 percent of high school students reported an injury resulting from a suicide attempt in the last 12 months (Figure 11.10). The percentage of students who reported at least one suicide attempt related injury was similar by sex and race or ethnic groups. Ninth grade students were 2 times more likely to report a suicide attempt related injury than students in grades in 10, 11 or 12.

Table 11.4 Youth Self-Harm Trends

	2011	1993
Ideation	14%	28%
Attempts	9%	11%
Attempt Injuries	4%	3%

TRENDS:

The percentage of students who reported suicide ideation decreased from 1993 to 2007 and then increased between 2007 and 2011. The percentage of students who reported suicide attempts and injuries resulting from suicide attempts did not change significantly since 1993. See Tables 43a-c located at the end of this section for more detailed information about self-harm behaviors among high school students in Ohio.

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 40a. Number of deaths resulting from suicides, by year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	1,091	1,214	1,267	1,108	1,318	1,330	1,309	1,269	1,402	1,370	1,420
Sex											
Males	899	1,000	1,015	920	1,035	1,095	1,029	1,041	1,117	1,082	1,129
Females	192	214	252	188	283	235	280	228	285	288	291
Age											
< 1 yr	0	0	0	0	0	0	0	0	0	0	0
1-4 yrs	0	0	0	0	0	0	0	0	0	0	0
5-14 yrs	10	6	16	12	19	10	12	8	15	15	6
15-24 yrs	140	157	148	137	182	179	174	166	186	167	180
25-34 yrs	162	192	204	207	211	195	215	193	223	198	246
35-44 yrs	259	270	271	226	252	270	226	252	293	262	245
45-54 yrs	207	242	247	226	290	282	306	284	308	330	317
55-64 yrs	97	128	135	125	166	182	187	190	188	206	216
65-74 yrs	88	90	108	79	98	80	77	80	103	100	108
75-84 yrs	96	97	100	71	75	96	82	71	60	61	72
85 or older	32	32	38	25	25	36	30	25	26	31	30
Race and ethnicity											
White‡	997	1,096	1,148	1,008	1,179	1,232	1,191	1,158	1,256	1,252	1,308
Black‡	83	96	83	83	100	80	93	92	111	92	79
Hispanic	6	11	18	8	25	9	17	11	21	17	21
Other‡	<5	9	7	6	11	<5	5	7	14	9	11

‡Non-Hispanic

Source: Ohio Department of Health, Office of Vital Statistics

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 40b. Death rates per 100,000 resulting from suicides, by year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	9.5	10.6	11.0	9.6	11.3	11.4	11.1	10.8	12.0	11.6	12.1	0.20
Sex†												
Males	16.9	18.6	18.8	16.8	18.7	19.6	18.2	18.4	19.8	19.0	20.0	0.21 (NL)
Females	3.3	3.6	4.2	3.2	4.7	3.9	4.6	3.7	4.8	4.8	4.8	0.15
Age												
< 1 yr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*
1-4 yrs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*
5-14 yrs	*	*	*	*	*	*	*	*	*	*	*	*
15-24 yrs	9.0	10.0	9.4	8.6	11.5	11.3	11.0	10.5	11.8	10.7	11.3	0.23 (NL)
25-34 yrs	10.7	12.9	13.8	14.0	14.3	13.3	14.7	13.2	15.2	13.4	17.5	0.35 (NL)
35-44 yrs	14.4	15.2	15.5	13.2	15.0	16.4	13.9	15.8	18.8	17.2	16.6	0.30 (NL)
45-54 yrs	13.1	14.8	15.0	13.5	17.1	16.4	17.6	16.2	17.5	18.8	18.2	0.50
55-64 yrs	9.6	12.5	12.5	11.1	14.2	15.0	14.8	14.6	14.1	14.9	14.9	0.44
65-74 yrs	11.2	11.5	14.0	10.3	12.7	10.4	9.9	10.1	12.6	12.0	12.7	0.02 (NL)
75-84 yrs	17.7	17.7	18.0	12.7	13.4	17.2	14.7	12.8	11.0	11.3	13.3	-0.61
85 or older	18.0	17.7	20.6	13.2	12.9	18.1	14.5	11.7	11.8	13.7	13.0	-0.62 (NL)
Race and Ethnicity†												
White‡	10.1	11.1	11.6	10.2	11.9	12.4	11.9	11.6	12.7	12.6	13.4	0.26
Black‡	6.5	7.6	5.9	6.4	7.3	5.9	6.9	6.6	8.0	6.7	5.5	-0.02 (NL)
Hispanic	*	*	*	*	9.7	*	*	*	6.9	*	6.3	*
Other‡	*	*	*	*	*	*	*	*	*	*	*	*

*Rates suppressed due to less than 20 deaths.

†Rates are age adjusted to 2000 U.S. standard population

‡Non-Hispanic

NL: Interpret with caution because trend does not follow linear pattern

Source: Ohio Department of Health, Office of Vital Statistics

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 40c. Number of deaths resulting from suicides, by mechanism and year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Poisoning	203	215	246	175	270	259	273	231	268	250	239	17%	4.5 (NL)
Hanging	217	254	259	239	289	305	318	301	360	341	370	26%	14.3
Drowning	9	5	16	8	14	12	9	10	12	11	7	0%	*
Firearm	587	670	666	601	656	668	625	647	684	677	718	51%	7.3 (NL)
Explosive material	0	0	<5	0	<5	0	0	<5	0	0	0	0%	*
Smoke, fire, or flames	10	5	9	11	7	6	8	7	8	8	<5	*	*
Steam or hot vapors	0	0	0	0	0	0	0	0	<5	0	0	0%	*
Sharp object	18	20	23	16	21	21	16	14	17	30	22	2%	*
Jumping	28	27	29	45	46	39	42	22	33	30	35	2%	0.08 (NL)
Motor vehicle crash	6	<5	7	<5	<5	5	<5	8	5	<5	8	1%	*
Other means	7	<5	<5	6	5	<5	9	<5	8	6	10	1%	*
Unspecified means	5	11	7	<5	5	12	<5	24	<5	9	<5	*	*
Sequelae of suicide	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	*	*

NL: Interpret with caution because trend does not follow linear pattern

Source: Ohio Department of Health, Office of Vital Statistics

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 41a. Number of hospitalization resulting from self-harm, by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	4,245	4,587	5,196	5,289	5,308	5,624	5,636	5,613	5,394
Sex									
Males	1,713	1,899	2,118	2,178	2,155	2,405	2,414	2,409	2,231
Females	2,532	2,688	3,078	3,111	3,153	3,219	3,222	3,204	3,163
Age									
5-14 yrs	131	119	116	148	130	128	100	80	95
15-24 yrs	1,014	1,107	1,204	1,230	1,277	1,268	1,320	1,269	1,223
25-34 yrs	916	1,023	1,188	1,101	1,170	1,199	1,194	1,180	1,163
35-44 yrs	1,180	1,194	1,306	1,390	1,265	1,381	1,284	1,301	1,187
45-54 yrs	639	778	935	977	968	1,115	1,140	1,189	1,139
55-64 yrs	188	227	291	295	325	354	409	425	414
65-74 yrs	86	65	76	82	107	99	111	89	116
75-84 yrs	67	56	58	46	58	58	54	65	43
85 or older	24	18	22	20	8	22	24	15	14

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 41b. Hospitalization rates per 100,000 resulting from self-harm, by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	40.5	43.7	49.5	50.6	50.7	53.8	53.8	53.6	52.1	1.5
Sex†										
Males	33.3	36.6	40.9	42.1	41.6	46.3	46.4	46.5	43.3	1.4
Females	47.8	50.9	58.2	59.1	59.8	61.3	61.2	60.8	60.8	1.5
Age										
5-14 yrs	8.1	7.4	7.3	9.5	8.5	8.4	6.7	5.4	6.2	-0.27 (NL)
15-24 yrs	64.1	69.4	75.5	77.2	80.7	80.5	84.0	81.1	77.1	1.79
25-34 yrs	62.1	69.8	81.3	75.5	80.3	82.1	81.6	79.8	82.5	1.98
35-44 yrs	67.6	70.0	77.9	84.4	78.0	86.7	82.5	85.6	80.2	1.80
45-54 yrs	38.8	46.5	55.1	56.9	55.7	63.8	65.1	67.8	65.4	3.28
55-64 yrs	17.4	20.2	24.9	24.3	25.9	27.3	30.7	30.7	28.5	1.51
65-74 yrs	11.1	8.5	9.9	10.7	13.9	12.7	13.8	10.6	13.6	0.44 (NL)
75-84 yrs	12.1	10.1	10.4	8.3	10.6	10.7	10.1	12.0	7.9	-0.16 (NL)
85 or older	12.7	*	11.0	9.7	*	9.9	10.5	*	*	*

*Rates suppressed due to less than 20 hospitalizations.

†Rates are age adjusted to 2000 U.S. standard population

Source: Ohio Hospital Association

NL: Interpret with caution because trend does not follow linear pattern

Table 41c. Number of hospitalizations resulting from self-harm by mechanism and year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Poisoning	3,730	4,026	4,695	4,869	4,919	5,269	5,297	5,238	4970	92.1%	170
Hanging	126	166	127	44	53	41	44	37	<5	*	*
Drowning	52	69	40	41	<5	<5	<5	86	31	0.6%	*
Firearms	106	89	89	68	83	80	73	164	43	0.8%	-1 (NL)
Cutting or piercing	132	144	141	166	169	139	140	26	74	1.4%	-10 (NL)
Jumping	38	25	32	24	27	33	21	60	180	3.3%	11 (NL)
Other and unspecified	57	61	62	69	54	61	56	<5	27	0.5%	*
Late effects	5	7	10	10	<5	0	<5	0	66	1.2%	*

*Suppressed due to less than 20 hospitalizations.

NL: Interpret with caution because trend does not follow linear pattern

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 42a. Number of ED visits resulting from self-harm by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	6,180	6,716	7,473	8,158	8,864	9,252	9,264	9,170	9,276
Sex									
Males	2,689	2,860	3,241	3,554	4,037	4,186	4,300	4,155	4,350
Females	3,491	3,856	4,232	4,604	4,827	5,066	4,964	5,015	4,926
Age									
5-14 yrs	387	476	586	508	587	618	575	594	593
15-24 yrs	2,419	2,684	3,075	3,311	3,551	3,771	3,742	3,821	3,810
25-34 yrs	1,462	1,570	1,632	1,774	1,996	2,042	2,105	2,001	2,076
35-44 yrs	1,195	1,225	1,297	1,463	1,505	1,588	1,494	1,424	1,385
45-54 yrs	547	593	655	849	883	896	1,005	1,022	1,019
55-64 yrs	104	118	154	172	238	252	246	226	280
65-74 yrs	35	29	42	47	53	46	59	47	61
75-84 yrs	23	15	19	28	35	27	27	28	39
85 or older	8	6	13	6	16	12	11	7	13

Source: Ohio Hospital Association

Table 42b. ED visit rates per 100,000 resulting from self-harm by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	55.1	60.0	66.8	73.1	79.7	83.6	83.9	83.2	84.6	3.9
Sex†										
Males	48.8	51.2	58.0	63.7	72.6	75.4	77.7	75.0	79.5	4.1
Females	62.2	68.9	75.9	82.7	87.3	92.1	90.3	91.6	90.0	3.6
Age										
5-14 yrs	24.0	29.8	37.1	32.7	38.2	40.8	38.4	39.7	38.9	1.7
15-24 yrs	152.9	168.3	192.7	207.9	224.5	239.5	238.1	244.2	240.1	11.7
25-34 yrs	99.1	107.1	111.7	121.7	137.1	139.7	143.8	135.4	147.2	6.0
35-44 yrs	68.5	71.8	77.4	88.8	92.8	99.7	96.0	93.7	93.6	3.6
45-54 yrs	33.2	35.5	38.6	49.4	50.8	51.3	57.4	58.3	58.5	3.5
55-64 yrs	9.6	10.5	13.2	14.2	18.9	19.4	18.5	16.3	19.3	1.2
65-74 yrs	4.5	3.8	5.5	6.1	6.9	5.9	7.3	5.6	7.2	0.3
75-84 yrs	4.2	*	*	5.1	6.4	5.0	5.0	5.2	7.2	*
85 or older	*	*	*	*	*	*	*	*	*	*

*Rates suppressed due to less than 20 ED visits

†Rates are age adjusted to 2000 U.S. standard population

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 42c. Number of ED visit resulting from self-harm by method and year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Poisoning	3,706	3,998	4,131	4,457	4,729	4,820	4,809	4,687	4,751	51%	138
Hanging	153	159	195	197	268	281	312	303	301	3%	22
Drowning	16	13	6	5	8	5	11	10	11	*	*
Firearms	87	72	52	85	98	102	75	89	90	1%	2 (NL)
Cutting or piercing	1,643	1,757	2,259	2,558	2,832	2,968	2,958	2,780	2,774	30%	157
Jumping	33	26	32	26	55	47	53	44	40	0%	2 (NL)
Other and unspecified	535	692	763	818	851	1,017	1,021	1,247	1,258	14%	88
Late effects	16	11	15	17	29	22	35	21	23	*	*

NL: Interpret with caution because trend does not follow linear pattern.

Source: Ohio Hospital Association

Table 43a. Percentage of high school students who reported suicide ideation, by sex, grade level, and race/ethnicity, Ohio, 1993-2011

	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011
Overall	28.1%	UW	23.0%	20.3%	**	18.2%	17.9%	13.4%	UW	14.3%
Sex										
Males	20.9%		15.2%	15.7%		15.2%	14.6%	10.6%		10.7%
Females	35.6%		30.8%	24.9%		21.3%	21.5%	16.0%		18.1%
Grade										
9th	24.8%		24.8%	18.5%		18.3%	16.0%	14.3%		18.1%
10th	24.9%		24.9%	24.5%		19.6%	21.8%	13.0%		13.8%
11th	22.3%		22.3%	18.1%		17.1%	15.8%	13.2%		14.7%
12th	18.8%		18.8%	19.7%		17.3%	18.7%	12.7%		10.3%
Race and Ethnicity										
White, non-Hispanic	NA		23.0%	20.2%		16.6%	18.9%	12.5%		14.4%
Black, non-Hispanic			*	*		*	11.9%	14.5%		10.9%
Hispanic			*	*		*	*	19.9%		21.9%

*Percentages suppressed to due to fewer than 100 respondents.

**Survey was not conducted.

NA: Not available

Source: Ohio Youth Risk Behavior Survey

UW: Ohio did not achieve sufficient response rate for weighted data.

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 43b. Percentage of high school students who reported making a suicide attempt, by sex, grade level, and race/ethnicity, Ohio, 1993-2011

	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011
Overall	10.6%	UW	10.5%	7.8%	**	11.9%	9.1%	7.2%	UW	9.1%
Sex										
Males	6.3%		6.0%	5.0%		10.8%	6.9%	4.9%		8.0%
Females	15.0%		15.0%	10.6%		12.8%	11.3%	9.4%		9.9%
Grade										
9th	12.5%		11.0%	9.0%		13.6%	10.8%	7.3%		13.3%
10th	9.3%		13.3%	9.1%		9.2%	12.9%	7.2%		8.6%
11th	9.8%		11.3%	6.0%		13.6%	6.2%	6.0%		8.7%
12th	10.0%		5.7%	6.4%		11.0%	6.3%	7.4%		5.3%
Race and Ethnicity										
White, non-Hispanic	NA		9.7%	7.1%		11.2%	8.7%	6.4%		8.3%
Black, non-Hispanic			10.0%	4.5%		*	12.6%	8.6%		8.7%
Hispanic			*	*		*	*	12.5%		*

*Percentages suppressed to due to fewer than 100 respondents.

**Survey was not conducted.

NA: Not available

Source: Ohio Youth Risk Behavior Survey

UW: Ohio did not achieve sufficient response rate for weighted data.

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 43c. Percentage of high school students who reported an injury after making a suicide attempt, by sex, and grade level, Ohio, 1993-2011

	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011
Overall	2.8%	UW	3.0%	2.9%	**	5.0%	3.1%	2.3%	UW	4.0%
Sex										
Males	1.3%		2.2%	2.5%		4.2%	2.0%	1.5%		4.1%
Females	4.2%		3.7%	3.3%		5.7%	4.1%	3.1%		3.9%
Grade										
9th	4.0%		3.1%	4.3%		5.9%	3.2%	1.8%		6.8%
10th	2.7%		4.0%	2.2%		2.8%	5.1%	3.1%		3.0%
11th	1.3%		2.7%	2.0%		6.9%	2.8%	2.0%		3.2%
12th	2.3%		1.6%	2.2%		4.3%	1.1%	1.6%		2.9%
Race and Ethnicity										
White, non-Hispanic	NA		2.4%	2.7%		4.0%	2.8%	1.7%		3.7%
Black, non-Hispanic			3.2%	0.7%		*	5.0%	2.6%		3.8%
Hispanic			*	*		*	*	6.3%		*

*Percentages suppressed to due to fewer than 100 respondents.

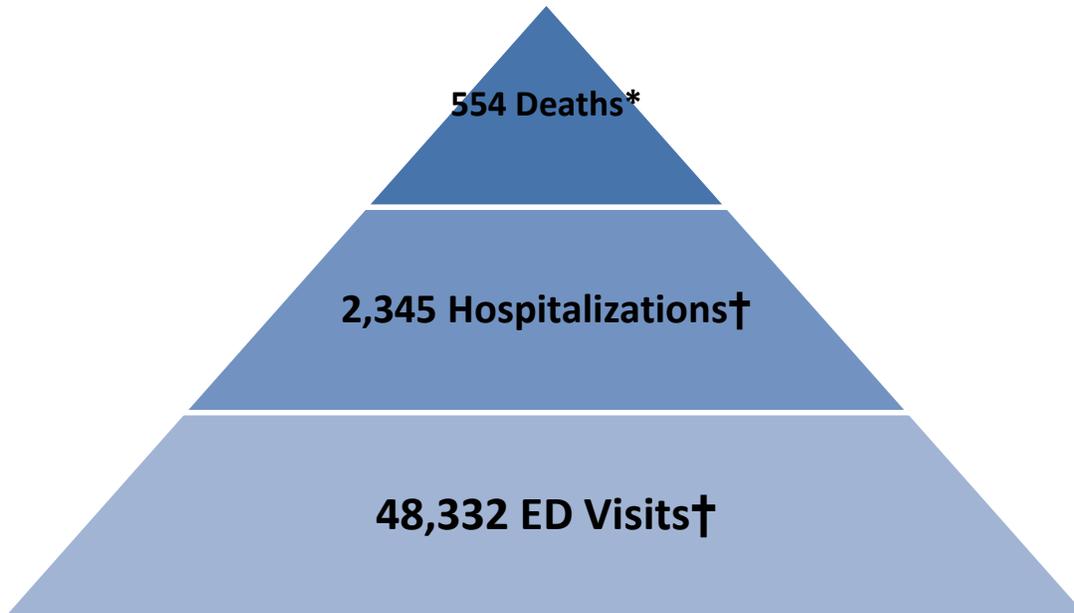
**Survey was not conducted.

NA: Not available

Source: Ohio Youth Risk Behavior Survey

UW: Ohio did not achieve sufficient response rate for weighted data.

SECTION 4.2: HOMICIDES AND ASSAULTS



*SOURCE: OHIO DEPARTMENT OF HEALTH, VITAL STATISTICS, 2010

† SOURCE: OHIO HOSPITAL ASSOCIATION

CHAPTER HIGHLIGHTS:

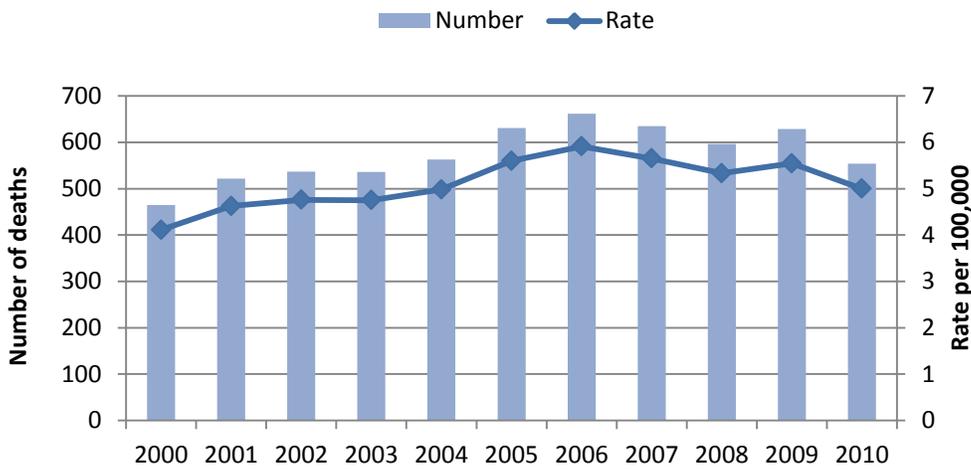
Patterns:

- Significant disparities were found in homicide rates by race and sex. Blacks were 10 times more likely to die from homicides than whites. Males were 4 times more likely to die from homicides than females.
- Highest rates of homicides and assaults were found among males ages 15-34.
- Firearms were the most common cause of homicide and assault related hospitalizations while fighting was the most common cause of assault related ED visits.
- 1 in 3 high school students reported being in a physical fight during the last 12 months.

Trends:

- Disparities in homicide rates by race and sex have increased since 2000.
- Hospitalization rates increased slightly while ED visits increased 50 percent.
- The largest increases in homicides and assault related ED visits were found among males ages 25-34
- Firearms were the most common cause of homicide and assault related hospitalizations while fighting was the most common cause of assault related ED visits throughout the study period.
- Percentage of high school students who reported being in a physical fight decreased since 1997.

Figure 12.1 Number and age adjusted rate for homicides by year, Ohio, 2002-2010



Source: Ohio Department of Health, Office of Vital Statistics

DEATHS:

In 2010, 554 homicides occurred in Ohio. The homicide rate was 5.0 per 100,000 (Figure 12.1). Rates varied significantly by sex, age, and race. Homicide rates were 4 times higher among males (8.0 per 100,000) compared to females (2.1 per 100,000). The highest rates were found among ages 25-34 (11.3 per 100,000) followed by ages 15-24 (9.1 per 100,000). A significant disparity in rates was found by race. Blacks were 10 times more likely to die from a homicide than whites (22.7 per 100,000 compared to 2.2 per 100,000). See Table 12.1 for homicide risk profile.

Table 12.1 Homicide Risk Profile		
	2010 At Risk Groups	Annual Trend since 2000
Overall		Inconsistent
Sex	Males	Males (largest increase)
Age	25-34	25-34 (largest increase)
Race and ethnicity	Blacks	Blacks (largest increase)

The most common mechanisms associated with homicides were firearms (70 percent) followed by sharp objects (10 percent) and hanging (4 percent). Approximately 9 percent of homicides had an unspecified mechanism.

TRENDS:

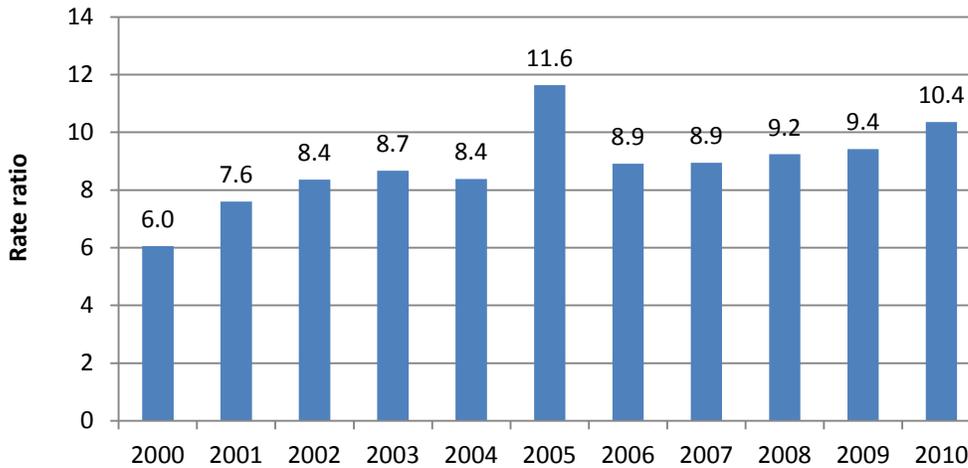
Homicide rates increased from 4.0 per 100,000 in 2000 to 5.0 per 100,000 in 2010. While an increase in rates was observed, results from the trend analysis indicate that rates did not follow a consistent linear pattern throughout the period. Disparities in homicide rates increased by sex and race. Males were 2 times more likely than females to die from a homicide in 2000 and were 4 times more likely to die from a homicide than females in 2010 (data not shown). Blacks were 6 times more likely than whites to die from a homicide in 2000 and were 10 times more likely than whites to die from a homicide in 2010 (Figure 12.2). Firearms were the most common mechanism associated with homicides throughout the study period. The number of homicides associated with firearms increased by an average of 17 per year while homicides resulting from sharp objects,

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

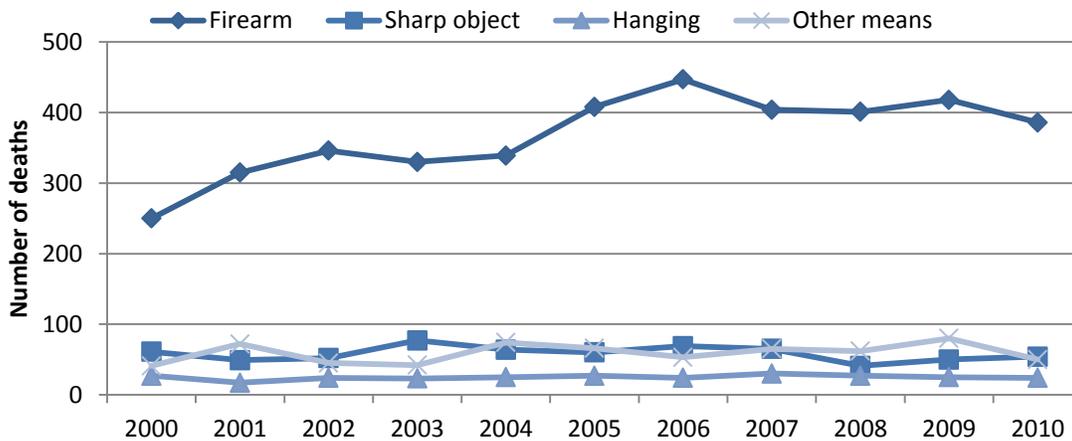
hanging, and other means did not follow a consistent trend (Figure 12.3). See Tables 44a-c located at the end of the section for more detailed information on homicides.

Figure 12.2. Black to white homicide rate ratio by year, Ohio, 2000- 2010



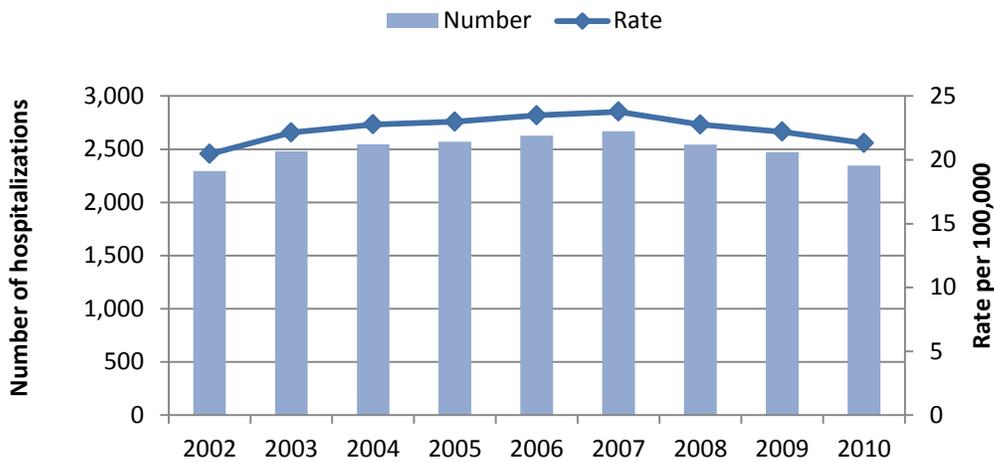
Source: Ohio Department of Health, Office of Vital Statistics

Figure 12.3. Number of homicides by mechanism and year, Ohio, 2000-2010



Source: Ohio Department of Health, Office of Vital Statistics

Figure 12.4. Number and age adjusted rate for assault related hospitalizations by year, Ohio, 2002-2010



Source: Ohio Hospital Association

HOSPITALIZATIONS:

In 2010, approximately 2,300 hospitalizations resulted from assaults. The assault hospitalization rate was 21.3 per 100,000 (see Figure 12.4). The rate was 6 times higher among males (37 per 100,000) than females (6 per 100,000). Among males, the highest hospitalization rates were found among ages 15-34. Among females, the highest rates were found among infants less than 1 year of age (Figure 12.5). See Table 12.2 for an assault hospitalization risk profile.

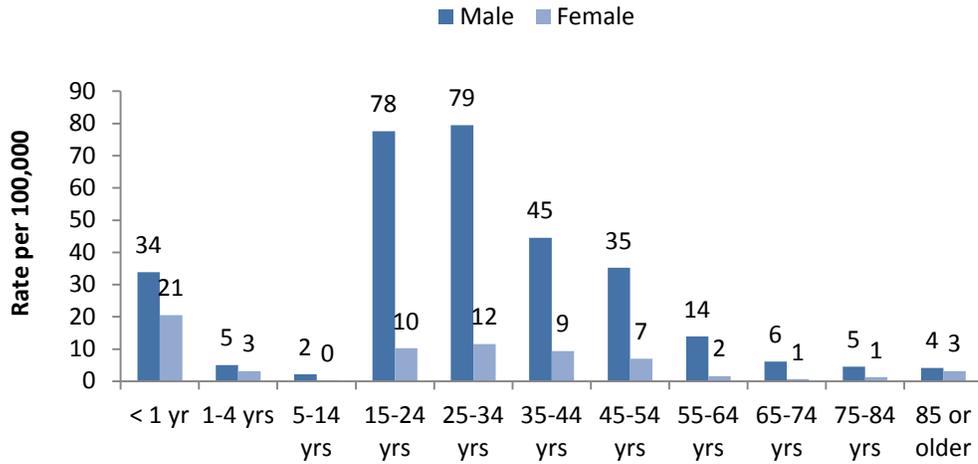
	2010 At Risk Groups	Annual Trend Since 2002
Overall		Inconsistent
Sex	Males	Inconsistent
Age	15-34	Inconsistent

The leading mechanisms associated with assault related hospitalizations were firearms or explosives (27 percent), fights or brawls (24 percent), and cutting or piercing (14 percent). An additional 31 percent of hospitalizations listed other or unspecified mechanisms (Figure 12.6).

TRENDS:

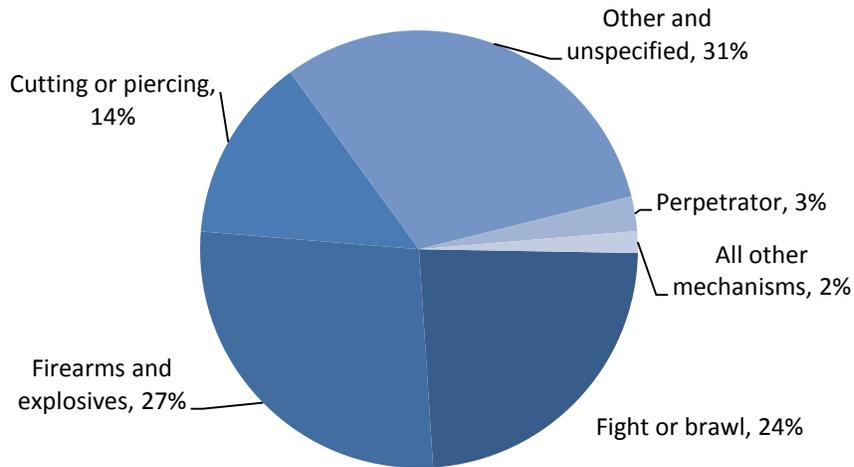
The assault related hospitalization rate increased slightly from 20.5 per 100,000 in 2002 to 21.3 per 100,000 in 2010. While a slight increase was found, rates did not follow a consistent pattern. Inconsistent patterns were also found among males, females, and all age groups. Firearms, fights, cuts or pierces, and other or unspecified means were the most common mechanisms associated with assault related hospitalizations throughout the study period. However, none of the leading mechanisms followed a consistent trend. See Tables 45a-c located at the end of this section for more detailed information about assault related hospitalizations in Ohio.

Figure 12.5. Hospitalization rates for assaults by age and sex, Ohio, 2010



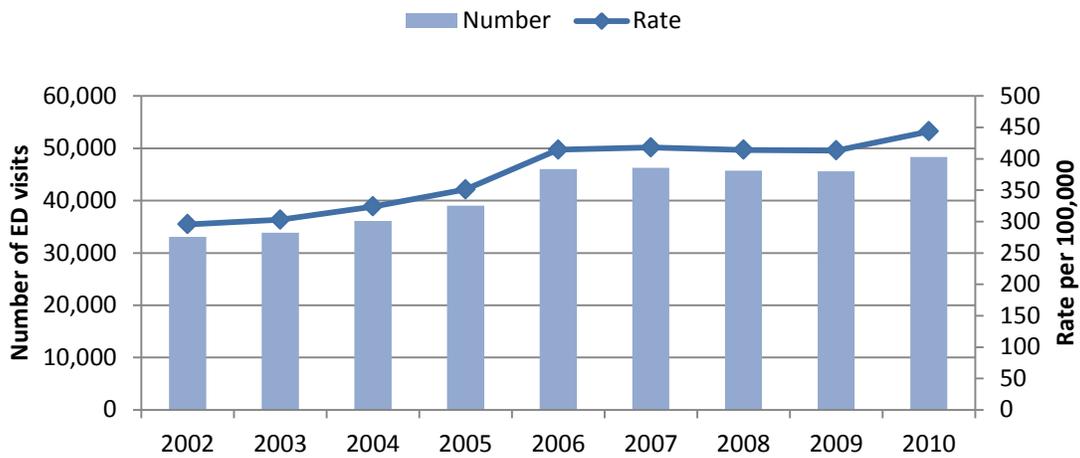
Source: Ohio Hospital Association

Figure 12.6. Distribution of hospitalizations resulting from assaults, by mechanism, Ohio, 2010



Source: Ohio Hospital Association

Figure 12.7. Number and age adjusted rate for assault related ED visits by year, Ohio, 2002-2010



Source: Ohio Hospital Association

EMERGENCY DEPARTMENT VISITS:

Approximately 48,000 ED visits were associated with assaults in 2010. The ED visit rate was 444 per 100,000 (Figure 12.7). ED visit rates were higher among than females throughout the lifespan. ED visits increased from birth through age 24 and then steadily decreased after age 25 (Figure 12.8). See Table 12.3 for an assault ED visit risk profile.

Nearly one-half of assault related ED visits were associated with fights or brawls (43 percent) and 42 percent were associated with other or unspecified reasons.

	2010 At Risk Groups	Annual Trend since 2002
Overall		+50%
Sex	Males	Males (largest increase)
Age	15-24	25-34 (largest increase)

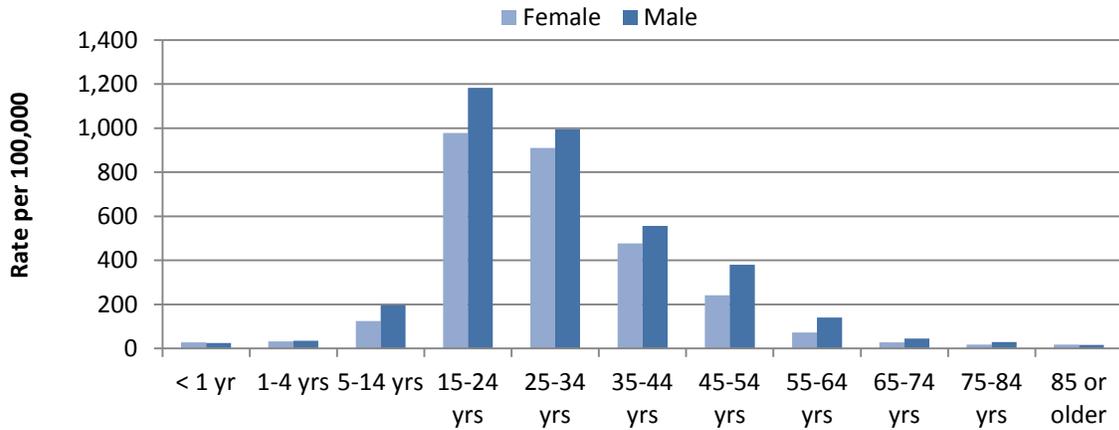
TRENDS:

Assault related ED visits increased 50 percent from 296 per 100,000 in 2002 to 444 per 100,000 in 2010. Rates increased by an average of 20 per 100,000 per year. The average annual increase was slightly larger among males (26 per 100,000 per year) than females (20 per 100,000 per year). The largest annual increases were found among ages 25-34 (48 per 100,000 per year) and ages 15-24 (44 per 100,000). The largest annual increases in the number of ED visits resulted from other or unspecified means (1,056) and fights or brawls (623 per year). The number of ED visits resulting cuts or pierces did not follow a consistent linear trend (Figure 12.9). See Tables 46a-c located at the end of this section for more detailed information on assault related ED visits.

Burden of Injury in Ohio, 2000-2010

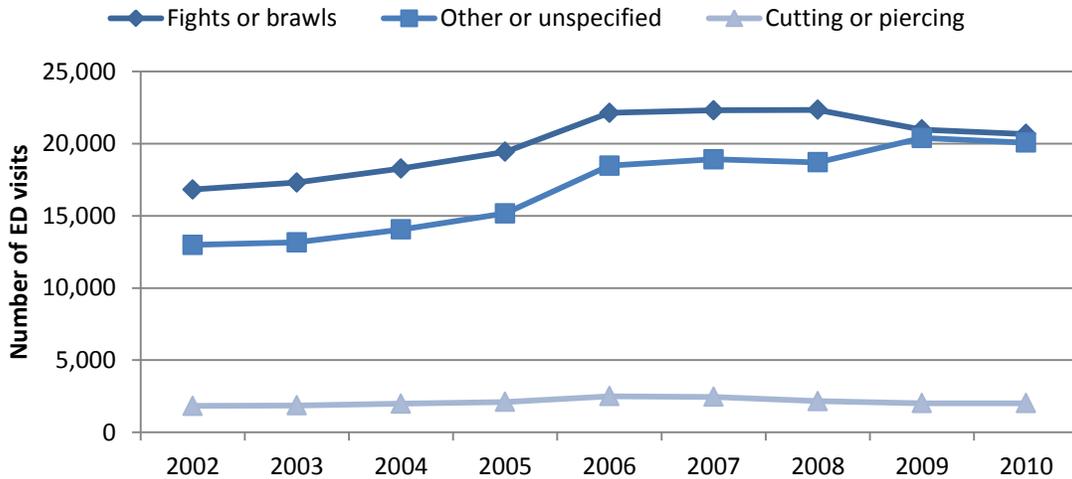
Ohio Violence and Injury Prevention Program, Ohio Department of Health

Figure 12.8. ED visit rates resulting from assaults by age and sex, Ohio, 2010



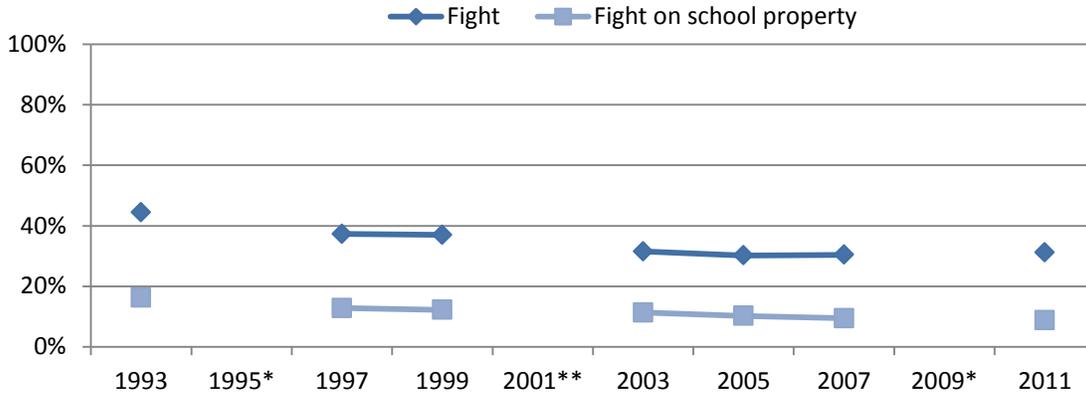
Source: Ohio Hospital Association

Figure 12.9 Number of ED visits resulting from assaults, by mechanism and year, Ohio, 2002-2010



Source: Ohio Hospital Association

Figure 12.10. Percentage of high school students who reported a physical fight and a fight on school property in last 12 months, Ohio, 1993-2011



Source: Ohio Youth Risk Behavior Survey. **Data not collected.

*Suppressed due to poor response rate.

PHYSICAL FIGHTING AMONG HIGH SCHOOL STUDENTS

In 2011, Approximately 1 in 3 high school students reported being in a physical fight in the last 12 months (Figure 12.10). Males were more likely than females to report physical fighting (38 percent versus 24 percent). Students in 9th grade (28 percent) were more likely to report being in a physical fight than students in 12th grade (21 percent). Hispanic students (45 percent) were more likely to report being in a physical fight than white, non-Hispanic students (29 percent) (Figure 12.11). See Table 12.4 for a youth physical fight risk profile.

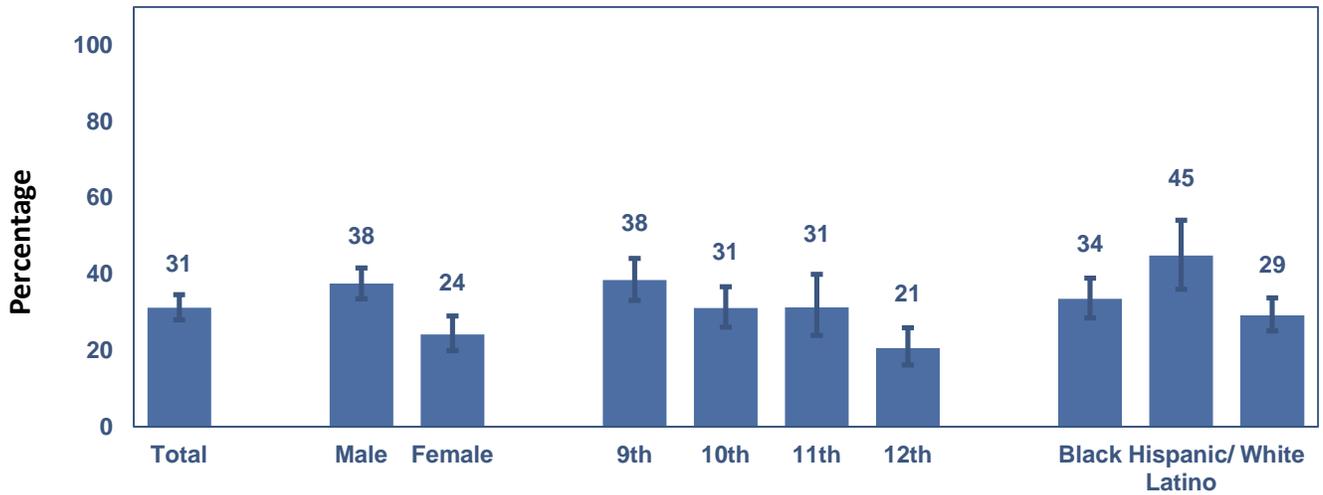
Since 1997, the percentage of students who reported being in a physical fight decreased 16 percent. The largest decreases in physical fighting were reported among female, 10th grade, and black non-Hispanic students (Figure 12.10).

In 2011, approximately 1 in 12 or 9 percent of high school students reported being in a physical fight on school property in the last 12 months (Figure 12.10). Males were nearly two times more likely than females to report being in physical fight (11 percent versus 6 percent). Students in 9th grade (13 percent) were approximately 2 times more likely to report being in a physical fight than students in 12th grade (6 percent). Black non-Hispanic students (13 percent) were more likely to report being in a physical fight than white, non-Hispanic students (8 percent) (Figure 12.12).

Fighting on school property followed a similar trend as physical fighting among youth as a whole with a 31 percent decrease since 1997.

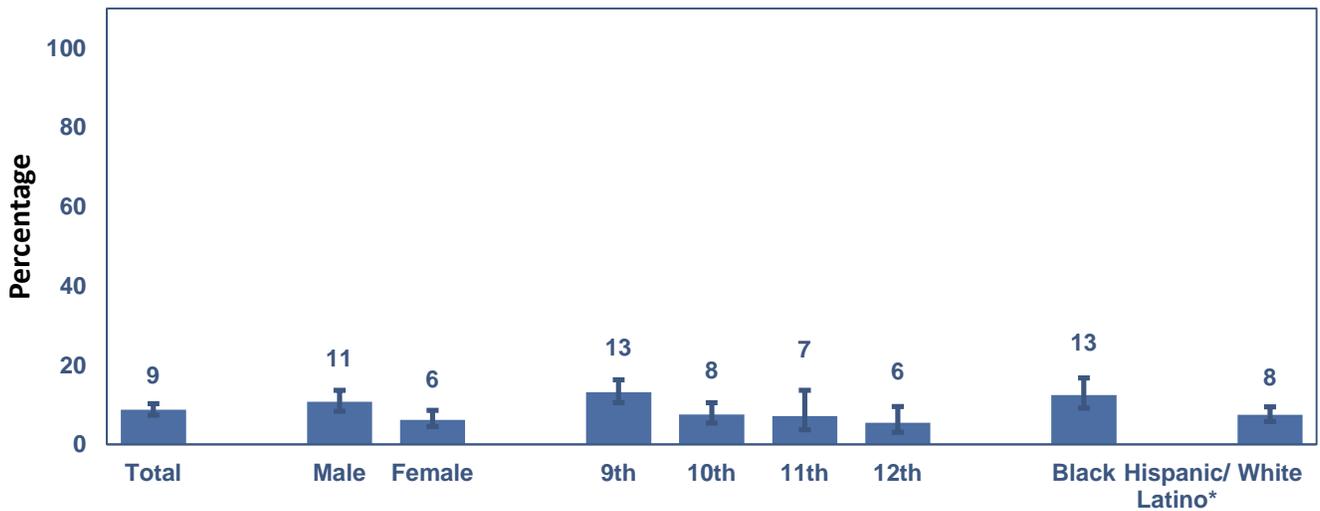
	2011 At Risk Groups	Trend since 1997
Overall	31%	Decrease (-16%)
Sex	Males	Females (-19%)
Grade	9 th grade	10 th grade (-20%)
Race and ethnicity	Hispanic	Blacks (-26%)

Figure 12.11. Percentage of high school students who reported being in a physical fight in last 12 months, Ohio 2011



Source: Ohio Youth Risk Behavior Survey

Figure 47c. Percentage of high school students who reported being in a physical fight on school property in last 12 months, Ohio 2011



Source: Ohio Youth Risk Behavior Survey

*Suppressed due to poor response rate.

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 44a. Number of deaths resulting from assaults, by year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	465	522	537	536	563	631	662	635	597	629	554
Sex											
Males	313	373	387	406	421	479	506	491	465	486	436
Females	152	149	150	130	142	152	156	144	132	143	118
Age											
< 1 yr	7	17	16	17	10	14	14	11	16	13	14
1-4 yrs	18	23	18	16	12	11	19	25	17	23	16
5-14 yrs	22	14	9	9	11	20	26	10	7	16	6
15-24 yrs	104	125	146	160	156	171	168	160	159	147	145
25-34 yrs	95	115	126	132	133	168	167	174	157	165	159
35-44 yrs	88	108	100	87	102	102	124	103	102	90	79
45-54 yrs	66	66	57	64	77	84	80	97	72	88	69
55-64 yrs	21	19	30	21	27	33	35	25	32	52	36
65-74 yrs	22	20	16	13	17	18	12	18	14	16	19
75-84 yrs	17	10	16	12	15	8	10	9	19	10	8
85 or older	5	5	<5	5	<5	<5	7	<5	<5	9	<5
Race and ethnicity											
White‡	246	240	235	224	236	217	268	255	234	247	202
Black‡	207	264	285	288	289	383	363	351	336	352	335
Hispanic	6	11	7	22	30	23	23	24	23	29	12
Other‡	<5	5	6	0	<5	6	6	5	<5	<5	5

‡Non-Hispanic

Source: Ohio Department of Health, Office of Vital Statistics

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 44b. Death rates per 100,000 resulting from assaults, by year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	4.1	4.6	4.8	4.8	5.0	5.6	5.9	5.7	5.3	5.5	5.0	0.11 (NL)
Sex†												
Males	5.6	6.7	7.0	7.3	7.5	8.5	9.1	8.8	8.4	8.7	8.0	0.26
Females	2.6	2.6	2.6	2.3	2.5	2.7	2.7	2.5	2.3	2.4	2.1	-0.01
Age												
< 1 yr	*	*	*	*	*	*	*	*	*	*	*	*
1-4 yrs	3.0	3.8	3.0	2.7	2.0	1.8	3.2	4.2	*	3.9	2.8	0.03 (NL)
5-14 yrs	1.3	*	*	*	*	*	*	*	*	1.1	*	*
15-24 yrs	6.7	8.0	9.2	10.1	9.8	10.8	10.6	10.2	10.1	9.4	9.1	0.19 (NL)
25-34 yrs	6.3	7.7	8.5	8.9	9.0	11.4	11.4	11.9	10.7	11.2	11.3	0.49
35-44 yrs	4.9	6.1	5.7	5.1	6.1	6.2	7.6	6.4	6.5	5.9	5.3	0.08 (NL)
45-54 yrs	4.2	4.0	3.5	3.8	4.5	4.9	4.6	5.5	4.1	5.0	4.0	0.07 (NL)
55-64 yrs	2.1	*	2.8	1.9	2.3	2.7	2.8	1.9	2.4	3.8	2.5	0.07 (NL)
65-74 yrs	2.8	2.6	*	*	*	*	*	*	*	*	*	*
75-84 yrs	*	*	*	*	*	*	*	*	*	*	*	*
85 or older	*	*	*	*	*	*	*	*	*	*	*	*
Race and ethnicity†												
White‡	2.6	2.5	2.5	2.4	2.5	2.3	2.8	2.7	2.5	2.6	2.2	<-0.01 (NL)
Black‡	15.4	19.1	20.5	20.5	20.7	27.0	25.3	24.2	23.1	24.1	22.7	0.7
Hispanic	*	*	*	8.6	9.7	8.4	7.2	6.6	8.5	7.4	*	*
Other‡	*	*	*	*	*	*	*	*	*	*	*	*

*Rates suppressed due to fewer than 20 deaths.

‡Non-Hispanic

Source: Ohio Department of Health, Office of Vital Statistics

†Rates are age adjusted to 2000 U.S. standard population

NL: Interpret with caution because trend does not follow linear pattern

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 44c. Number of deaths resulting from assaults, by cause and year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Drugs or biologic substances	0	0	<5	<5	<5	5	<5	<5	<5	<5	0	0%	*
Gases and vapors	5	<5	0	<5	10	<5	0	0	6	<5	0	0%	*
Unspecified chemicals	0	<5	0	0	0	0	0	0	0	0	0	0%	*
Hanging	27	17	24	23	25	27	24	30	27	25	24	4%	*
Drowning	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	*	*
Firearm	250	315	346	330	339	408	447	404	401	418	386	70%	14
Explosive material	0	0	0	0	0	0	<5	0	0	0	0	0%	*
Smoke, fire, or flames	16	<5	16	12	11	13	19	10	15	6	6	1%	*
Sharp object	61	49	52	77	64	60	69	65	41	50	54	10%	-0.75
Blunt object	<5	<5	<5	<5	<5	<5	<5	7	<5	0	0	0%	*
Pushing	<5	0	0	0	<5	<5	0	0	<5	<5	0	0%	*
Motor vehicle crash	9	10	<5	<5	<5	0	0	<5	0	0	<5	*	*
Bodily force	<5	10	<5	11	<5	<5	<5	<5	<5	<5	<5	*	*
Negligence or abandonment	<5	5	<5	<5	0	0	0	0	<5	<5	0	0%	*
Other maltreatment	8	12	13	9	9	10	8	12	10	16	9	2%	*
Other means	30	7	22	15	5	21	19	22	19	12	8	1%	*
Unspecified means	41	72	45	42	74	66	53	65	62	80	50	9%	1.39 (NL)
Sequelae of assault	8	13	<5	5	13	12	12	12	5	9	10	2%	*

*Suppressed due less than 20 deaths.

NL: Interpret with caution, does not follow linear trend ($R^2 < 0.5$)

Source: Ohio Department of Health, Office of Vital Statistics

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 45a. Number of hospitalizations resulting from assaults by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	2,295	2,480	2,547	2,572	2,628	2,668	2,543	2,473	2,345
Sex									
Males	1,909	2,077	2,113	2,179	2,198	2,257	2,110	2,069	2,002
Females	386	403	434	393	430	411	433	404	343
Age									
< 1 yr	63	70	64	62	84	86	76	76	38
1-4 yrs	35	35	30	34	38	39	50	37	24
5-14 yrs	23	31	29	39	52	41	29	35	19
15-24 yrs	693	709	729	798	740	760	741	763	705
25-34 yrs	565	599	641	604	605	632	634	601	640
35-44 yrs	512	568	570	525	527	478	449	434	397
45-54 yrs	295	343	349	351	387	472	375	359	363
55-64 yrs	57	73	81	96	120	104	125	115	110
65-74 yrs	24	22	24	36	32	31	27	27	27
75-84 yrs	23	17	22	22	28	16	24	14	14
85 or older	5	13	8	5	15	9	13	12	8

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 45b. Hospitalization rates per 100,000 resulting from assaults by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	20.5	22.1	22.8	23.0	23.5	23.8	22.8	22.2	21.3	0.07 (NL)
Sex†										
Males	34.2	37.3	38.0	39.0	39.3	40.2	37.8	37.1	36.5	0.16 (NL)
Females	6.9	7.2	7.7	7.0	7.6	7.4	7.7	7.2	6.2	-0.03 (NL)
Age										
< 1 yr	42.8	47.5	42.9	42.3	56.7	56.7	49.8	51.4	27.3	-0.36 (NL)
1-4 yrs	5.8	5.9	5.0	5.7	6.5	6.6	8.5	6.3	4.1	0.04 (NL)
5-14 yrs	1.4	1.9	1.8	2.5	3.4	2.7	1.9	2.3	*	*
15-24 yrs	43.8	44.5	45.7	50.1	46.8	48.3	47.1	48.8	44.4	0.28 (NL)
25-34 yrs	38.3	40.8	43.9	41.4	41.5	43.3	43.3	40.7	45.4	0.48 (NL)
35-44 yrs	29.3	33.3	34.0	31.9	32.5	30.0	28.9	28.6	26.8	-0.61 (NL)
45-54 yrs	17.9	20.5	20.6	20.4	22.3	27.0	21.4	20.5	20.8	0.33 (NL)
55-64 yrs	5.3	6.5	6.9	7.9	9.5	8.0	9.4	8.3	7.6	0.33 (NL)
65-74 yrs	3.1	2.9	3.1	4.7	4.2	4.0	3.3	3.2	3.2	0.02 (NL)
75-84 yrs	4.2	*	4.0	4.0	5.1	*	4.5	*	*	*
85 or older	*	*	*	*	*	*	*	*	*	*

*Rates suppressed due to less than 20 hospitalizations.

†Rates are age adjusted to 2000 U.S. standard population

NL: Interpret with caution because trend does not follow linear pattern

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 45c. Number of hospitalizations resulting from assaults by type and year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Fight or brawl	513	525	489	511	478	578	574	530	555	24%	7 (NL)
Rape	6	6	13	5	14	6	15	8	<5	*	*
Corrosive substance	<5	<5	5	<5	<5	<5	<5	0	<5	*	*
Poisoning	4	13	9	<5	15	5	<5	<5	9	0%	*
Strangulation	<5	<5	7	<5	7	<5	<5	9	5	0%	*
Drowning	0	<5	0	0	0	<5	0	0	0	0%	*
Firearms and explosives	534	577	610	691	747	647	629	649	640	27%	11 (NL)
Cutting or piercing	347	390	379	378	361	381	357	309	321	14%	-6 (NL)
Perpetrator of abuse	67	51	65	80	110	112	98	99	60	3%	*
Other and unspecified	807	894	934	868	869	904	840	841	729	31%	-10 (NL)
Late affects of injury by other person	17	19	36	29	25	29	23	24	21	1%	*

*Suppressed due to less than 20 hospitalizations.
Source: Ohio Hospital Association

NL: Interpret with caution because trend does not follow linear pattern

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 46a. Number of ED visits resulting from assaults by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	33,109	33,897	36,150	39,063	46,029	46,272	45,736	45,583	48,332
Sex									
Males	20,404	20,669	22,212	23,945	28,479	28,493	27,861	27,120	26,744
Females	12,705	13,228	13,938	15,118	17,550	17,779	17,875	18,463	21,588
Age									
< 1 yr	22	30	23	21	34	29	35	23	37
1-4 yrs	119	122	140	133	141	151	148	155	199
5-14 yrs	2,194	2,182	2,216	2,349	2,701	2,481	2,551	2,318	2,459
15-24 yrs	12,267	12,893	13,448	14,526	17,092	16,645	16,797	16,838	17,169
25-34 yrs	8,390	8,351	9,108	9,832	11,672	12,089	11,793	12,345	13,425
35-44 yrs	6,354	6,287	6,725	7,048	7,893	7,983	7,527	7,077	7,645
45-54 yrs	2,828	3,057	3,402	3,914	4,794	5,247	5,123	5,128	5,394
55-64 yrs	594	674	779	891	1,286	1,221	1,294	1,311	1,537
65-74 yrs	197	176	183	220	260	297	293	270	304
75-84 yrs	104	91	88	101	112	89	123	85	122
85 or older	40	34	38	28	44	40	52	33	41

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 46b. ED visit rates per 100,000 resulting from assaults by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	296	303	324	351	414	418	414	413	444	19.5
Sex†										
Males	365	237	398	429	511	512	502	489	488	25.7
Females	227	237	250	273	318	324	326	337	399	19.9
Age										
< 1 yr	15	20	15	14	23	19	23	16	27	0.9 (NL)
1-4 yrs	20	20	24	22	24	26	25	26	34	1.4
5-14 yrs	136	137	140	151	176	164	170	155	162	3.9
15-24 yrs	775	808	843	912	1,080	1,057	1,069	1,076	1,082	43.8
25-34 yrs	569	570	623	675	801	827	806	835	952	47.5
35-44 yrs	364	368	401	428	487	501	484	466	517	19.0
45-54 yrs	172	183	201	228	276	300	293	292	310	18.9
55-64 yrs	55	60	67	73	102	94	97	95	106	6.5
65-74 yrs	26	23	24	29	34	38	36	32	36	1.7
75-84 yrs	19	16	16	18	20	16	23	16	23	0.4
85 or older	21	17	19	14	20	18	23	15	18	NL

†Rates are age adjusted to the 2000 U.S. standard population
 NL: Interpret with caution because trend does not follow linear pattern

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

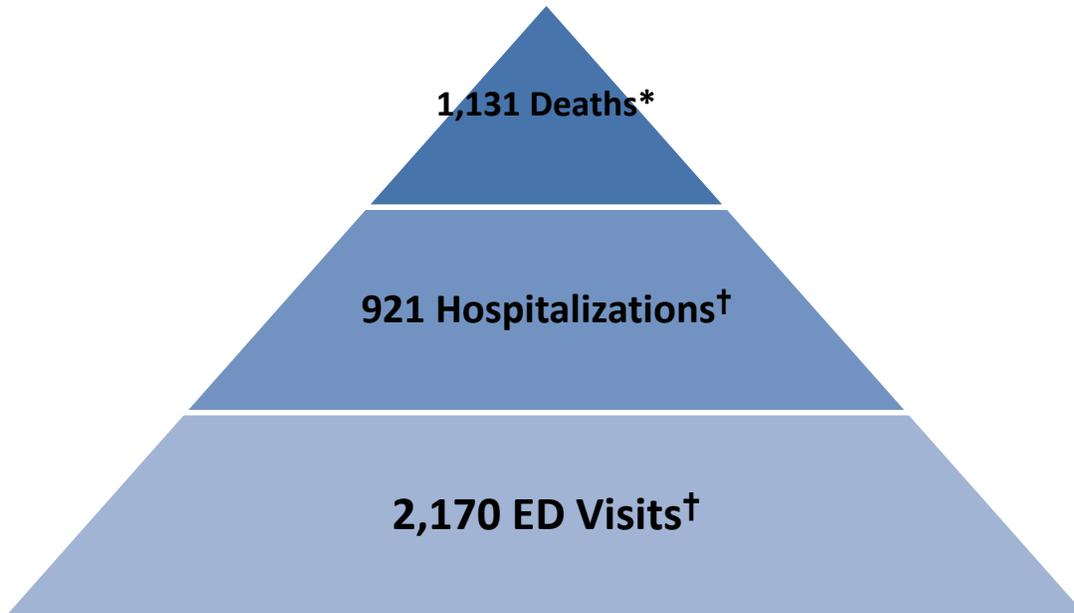
Table 46c. Number of ED visit rates resulting from assaults by type and year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Fight or brawl	16,826	17,309	18,279	19,429	22,141	22,316	22,343	20,982	20,668	42.8%	623
Rape	516	378	342	416	457	435	420	492	484	1.0%	6 (NL)
Corrosive substance	25	23	23	29	46	30	41	27	31	0.1%	1 (NL)
Poisoning	46	41	46	47	66	35	42	33	48	0.1%	-1 (NL)
Strangulation	41	68	64	67	101	106	88	99	143	0.3%	10
Drowning	<5	5	<5	0	<5	<5	<5	0	0	0.0%	*
Firearms and explosives	484	522	722	821	1,184	1,018	1,059	706	737	1.5%	41 (NL)
Cutting or piercing	1,829	1,862	1,981	2,103	2,493	2,449	2,159	2,009	2,009	4.2%	31 (NL)
Perpetrator of abuse	0	0	0	0	0	0	0	0	3,292	6.8%	*
Other and unspecified	12,988	13,161	14,054	15,169	18,470	18,917	18,708	20,395	20,072	41.5%	1052
Late affects of injury by other person	357	532	639	987	1,073	967	877	841	848	1.8%	56 (NL)

*Suppressed due to small cell sizes.
Source: Ohio Hospital Association

NL: Interpret with caution because trend does not follow linear pattern

SECTION 4.3: FIREARMS



*SOURCE: OHIO DEPARTMENT OF HEALTH, VITAL STATISTICS, 2010

† SOURCE: OHIO HOSPITAL ASSOCIATION

CHAPTER HIGHLIGHTS:

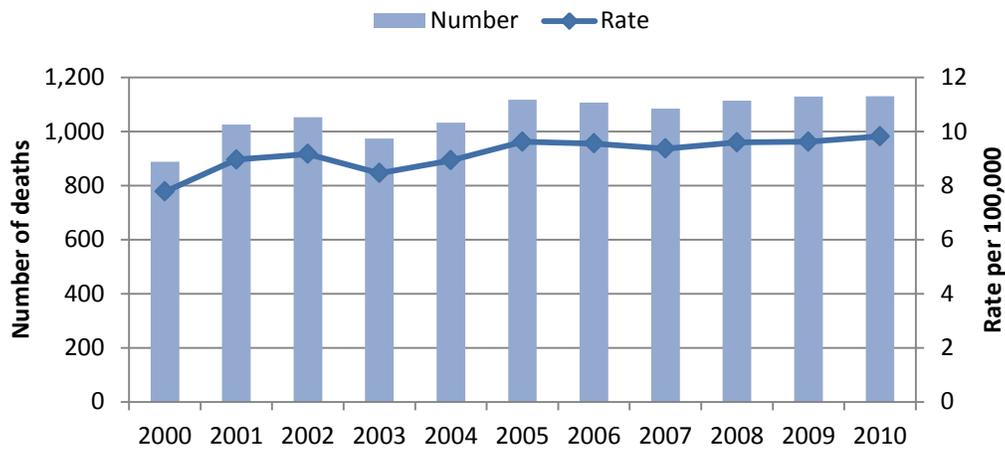
Patterns:

- 3 people die from a firearm fatality in Ohio each day.
- Males were more likely to experience a fatal or non-fatal injury than females.
- Blacks were 6 times more likely to die from a firearm related injury than whites.
- Highest rates of fatal and non-fatal injuries were found among persons age 15-34.
- Among households with a firearm, nearly one-half reported the firearm was in an unlocked location.

Trends:

- Firearm related fatalities increased 26 percent since 2000.
- Hospitalization and ED visit rates increased from 2002 to 2006 then decreased between 2006 and 2010.
- Fatal and non-fatal firearm injury rates were consistently higher among males and ages 15-34.
- Fatal injury rates were consistently higher among blacks compared to other race or ethnic groups.

Figure 13.1. Number and age adjusted death rate for firearm related injuries by year, Ohio, 2002-2010



Source: Ohio Department of Health, Office of Vital Statistics

DEATHS:

In 2010, 1,131 people died from a firearm related injury in Ohio. The firearm related fatality rate was 9.8 per 100,000 (Figure 13.1). Males were 6 times more likely to die from a firearm related injury than females (17.6 per 100,000 versus 2.6 per 100,000). The age distribution of firearm related fatalities differed by sex. Among males, the highest rates were found among ages 25-34 and 85 or older. Among females, the highest rates were found ages 15-44 (Figure 13.2). The highest fatality rates were found among ages 25-34 (17 per 100,000) and 15-24 (13 per 100,000). Blacks (22 per 100,000) were 6 times more likely to die from a firearm related injury than whites (3.7 per 100,000). See Table 13.1 for a firearm death risk profile. Most firearm related deaths were associated with suicides (63 percent) and homicides (34 percent).

Table 13.1 Firearm Death Risk Profile		
	2010 At Risk Groups	Annual Trend since 2000
Overall		+26%
Sex	Males	Males (largest increase)
Age	25-34	25-34 (largest increase)
Race and ethnicity	Blacks	Blacks (largest increase)

TRENDS:

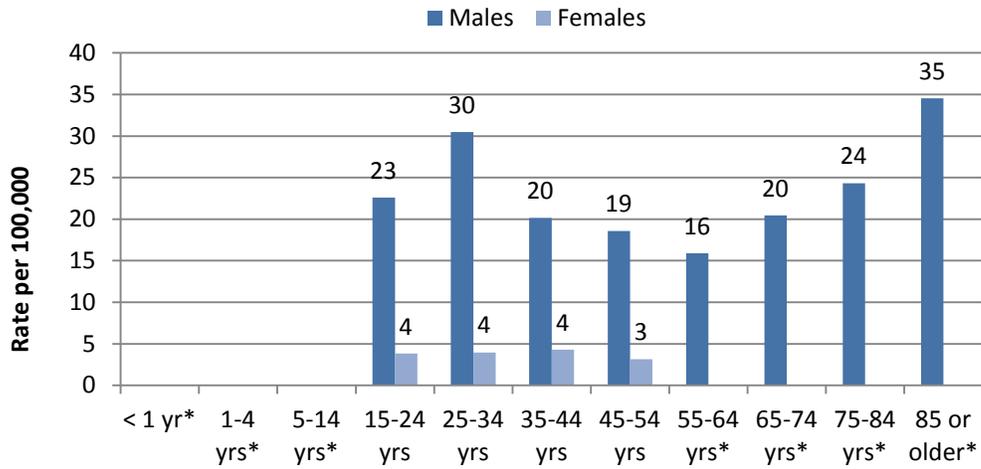
Firearm related death rates increased 26 percent from 7.8 per 100,000 in 2000 and 9.8 per 100,000 in 2010. The average annual increase was 0.15 per 100,000 per year. Rates increased by an average of 0.2 per 100,000 per year among males while rates did not follow a consistent trend among females. The largest increases in rates were found among ages 25-34 (0.5 per 100,000 per year) and ages 35-44 (0.2 per 100,000 per year). A decrease in rates was found among older adults ages 75-84 (0.4 per 100,000 per year). Increases were found among both blacks and whites with a larger annual increase found among blacks (0.6 per 100,000 per year). The number of firearm related homicides increased by an average of 14 per year while the number of firearm

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

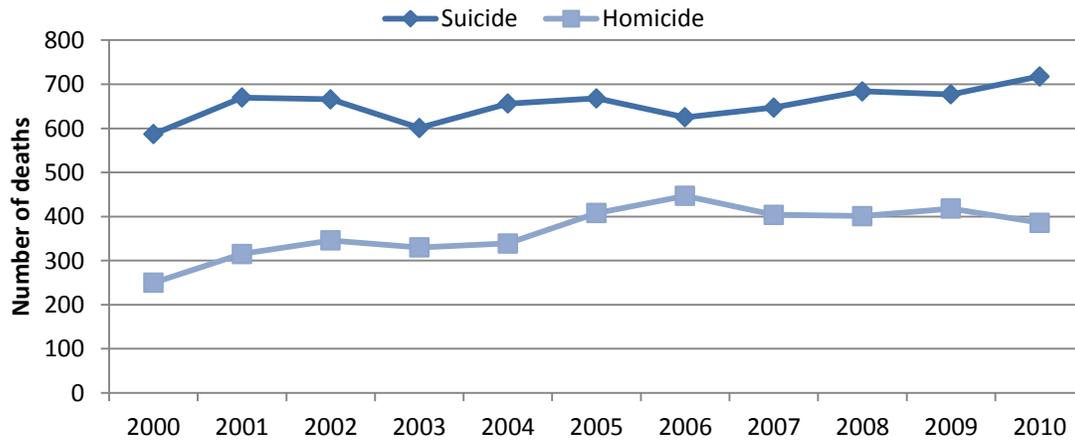
related suicides did not follow a consistent pattern (Figure 13.3). See Tables 48a-c located at the end of this section for more detailed information on firearm related deaths in Ohio.

Figure 13.2. Firearm related fatality rates by age and sex, Ohio, 2010



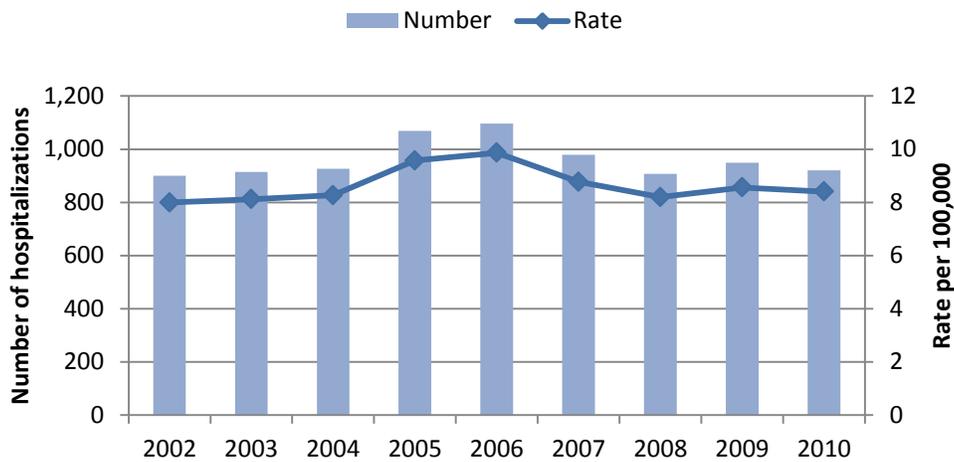
Source: Ohio Department of Health, Office of Vital Statistics
 *Data suppressed due to less than 20 deaths

Figure 13.3. Number of firearm related deaths by intent and year, Ohio, 2000-2010



Source: Ohio Department of Health, Office of Vital Statistics

Figure 13.4. Number and age adjusted rate for firearm related hospitalizations by year, Ohio, 2002-2010



Source: Ohio Hospital Association

HOSPITALIZATIONS:

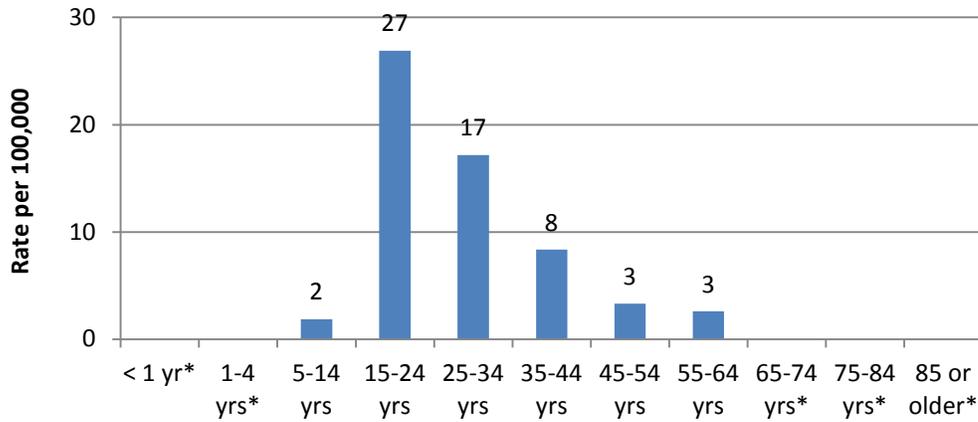
In 2010, approximately 900 hospitalizations were associated with firearms. The hospitalization rate was 8.4 per 100,000 (Figure 13.4). The rate was over 10 times higher among males (15.5 per 100,000) than females (1.4 per 100,000). Among males and females, the highest hospitalization rates were found among ages 15-24 (25 per 100,000) followed by ages 25-34 (18 per 100,000) (Figure 13.5). See Table 13.2 for an assault hospitalization risk profile. Approximately 68 percent of firearm related hospitalizations were associated with assaults and 20 percent were related to unintentional mechanisms (Figure 13.6).

Table 13.2 Assault Hospitalization Risk Profile		
	2010 At Risk Groups	Annual Trend Since 2002
Overall		Increase then decrease
Sex	Males	Females (largest decrease)
Age	15-34	15-24 (largest increase)

TRENDS:

Rates of firearm related hospitalizations increased between 2002 and 2006 then decreased from 2006 to 2010. A slight decrease was found among females (-0.1 per 100,000 per year) while rates among males did not follow a consistent pattern. An increase in rates was found among ages 25-34 (0.3 per 100,000 per year) while rates among other age groups did not follow a consistent trend over time. The distribution of assault related hospitalizations by mechanism remained the same throughout the study period. See Tables 49a-c located at the end of this section for more detailed information about assault related hospitalizations in Ohio.

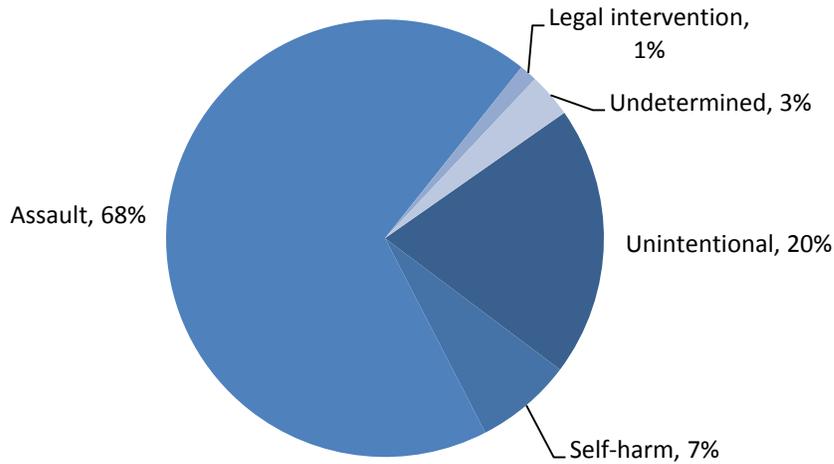
Figure 13.5. Hospitalization rates for firearm related injuries by age, Ohio, 2010



Source: Ohio Hospital Association

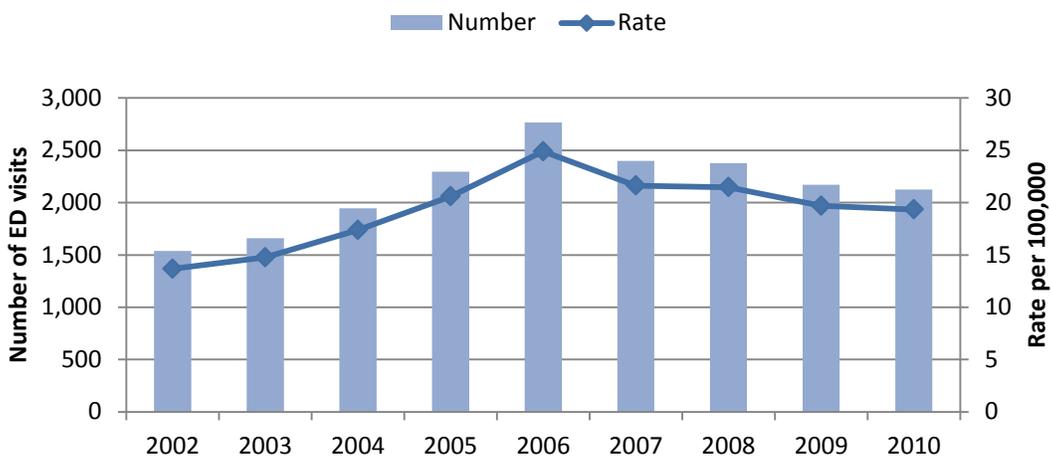
*Rates suppressed due to less than 20 hospitalizations

Figure 13.6. Percentage of hospitalizations resulting from assaults, by intent, Ohio, 2010



Source: Ohio Hospital Association

Figure 13.7. Number and age adjusted rate for firearm related ED visits by year, Ohio, 2002-2010



Source: Ohio Hospital Association

EMERGENCY DEPARTMENT VISITS:

Approximately 2,100 ED visits were associated with firearms in 2010. The ED visit rate was 19.3 per 100,000 (Figure 13.7). Males were 7 times more likely than females to visit the ED for a firearm related injury. For both males and females, ED visits increased from birth through age 24 and then steadily decreased after age 25 (Figure 13.8). The highest rates occurred among ages 15-24. See Table 13.3 for a firearm ED visit risk profile. Over half of ED visits were associated with unintentional mechanisms (58 percent) and 31 percent resulted from assaults.

Table 13.3 Firearm ED Visit Risk Profile		
	2010 At Risk Groups	Annual trend since 2002
Overall		Increase then decrease
Sex	Males	Females (largest increase)
Age	15-24	Inconsistent trends

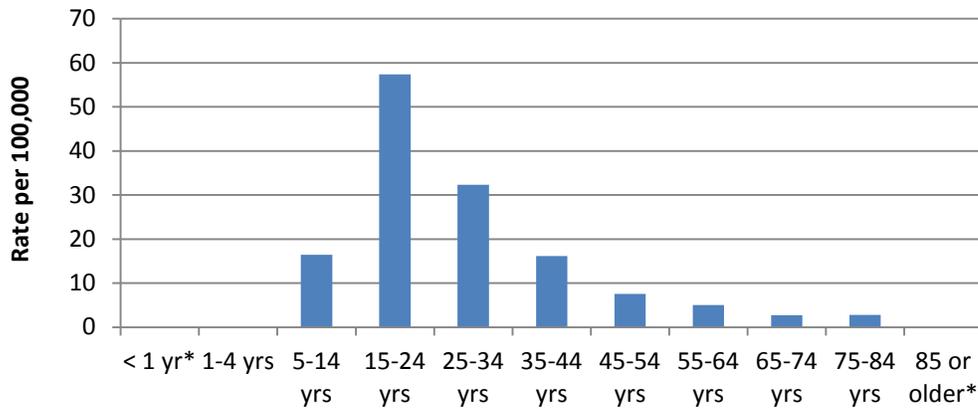
TRENDS:

ED visit rates resulting from firearm related injuries increased between 2002 and 2006 then decreased from 2007 to 2010. Rates among females increased slightly (0.2 per 100,000 per year) while rates among males did not follow consistent trend. Rates did not follow a consistent trend among any age group. The number of ED visits associated unintentional mechanisms increased by an average of 41 per year while the number of ED visits resulting from assaults increased in 2002-2006 and then decreased in 2007-2010 (Figure 13.9). See Tables 50a-c located at the end of this section for more detailed information on self-harm related ED visits.

Burden of Injury in Ohio, 2000-2010

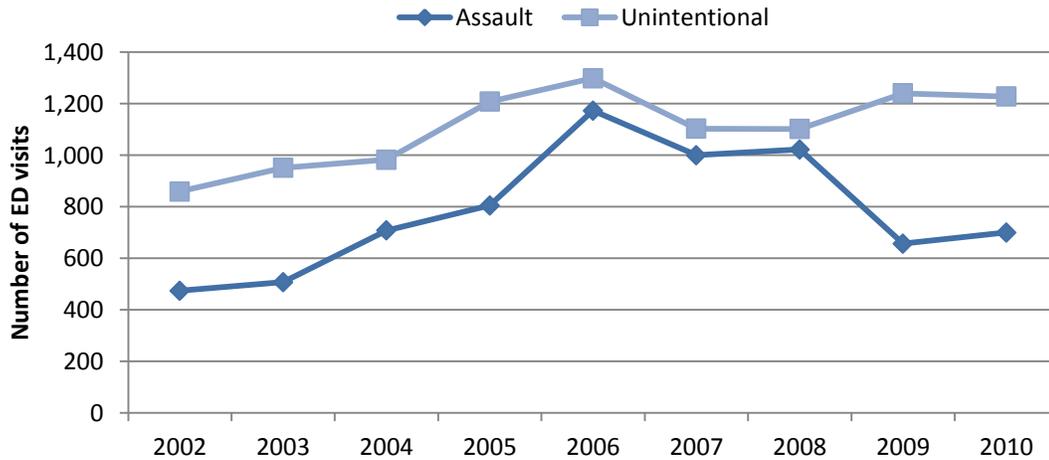
Ohio Violence and Injury Prevention Program, Ohio Department of Health

Figure 13.8. ED visit rates resulting from firearm injuries by age and sex, Ohio, 2010



Source: Ohio Hospital Association
*Suppressed due to small cell sizes

Figure 13.9. Number of ED visits resulting from firearm injuries, by intent and year, Ohio, 2002-2010



Source: Ohio Hospital Association

FIREARMS AND STORAGE PRACTICES IN HOMES:

According to the results from the Behavioral Risk Factor Surveillance System, an estimated 1.7 million or 37 percent of households in Ohio reported a firearm in their home. Males were more likely to report a firearm in their home than females (43 percent versus 31 percent). Respondents from households above the federal poverty level (39 percent) were more likely to report a firearm in their home than respondents below the poverty level (25 percent). Respondents from suburban (40 percent), rural (44 percent) or Appalachian (53 percent) counties were more likely to have a firearm in their home compared to respondents from households from metropolitan (28 percent) counties. The percentage of respondents with a firearm in their home was similar across all age groups (Table 13.4). See Tables 51a for more detailed information on the percentage of adults who reported a firearm in their home.

Table 13.4 Firearm Storage Risk Profile		
	Firearm in home	Unlocked firearm in home
Overall	1.7 million*	800,000*
Sex	Males	Males
Age	Similar for all ages	45 or older
Household income	Above poverty	Similar for all income levels
Economic development	Rural and Appalachian	Similar for all county groups
*Households in Ohio		

Among households with a firearm, nearly 800,000 or one-half (46 percent) reported their firearm was in an unlocked location. Males were more likely to report an unlocked firearm in their home than females (50 percent versus 40 percent). Adults ages 45 or older were more likely report unlocked firearms in their home than adults less than 45 years of age. No differences were found by poverty levels or county economic development level (Table 13.4). See Table 51b located at the end of this section for more detailed information on the percentage of adults who reported an unlocked firearm in their home.

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 48a. Number of deaths resulting from firearms, by year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	888	1,026	1,053	974	1,033	1,118	1,107	1,085	1,114	1,129	1,131
Sex											
Males	763	894	922	868	885	983	957	959	989	971	983
Females	125	132	131	106	148	135	150	126	125	158	148
Age											
< 1 yr	0	0	0	<5	0	0	0	0	0	<5	0
1-4 yrs	0	<5	<5	<5	0	<5	<5	<5	<5	7	<5
5-14 yrs	19	11	11	6	8	17	16	10	7	13	7
15-24 yrs	155	193	203	208	206	224	229	226	226	211	212
25-34 yrs	164	188	199	211	204	209	242	222	227	219	242
35-44 yrs	166	195	188	153	167	176	168	183	188	170	180
45-54 yrs	140	165	159	152	191	198	193	194	181	206	187
55-64 yrs	74	98	98	95	98	124	109	109	127	149	128
65-74 yrs	69	76	89	65	79	65	58	63	84	73	86
75-84 yrs	75	74	79	62	65	75	68	58	55	54	60
85 or older	26	24	26	19	15	27	21	17	18	26	25
Race and ethnicity											
White‡	676	747	767	686	744	762	739	736	748	775	785
Black‡	201	260	256	269	260	326	341	326	332	328	320
Hispanic	5	12	15	13	24	23	20	14	26	23	17
Other‡	<5	7	6	<5	<5	<5	5	8	7	<5	8

‡Non-Hispanic

Source: Ohio Department of Health, Office of Vital Statistics

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 48b. Death rates per 100,000 resulting from firearms, by year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	7.8	9.0	9.2	8.5	8.9	9.6	9.6	9.4	9.6	9.6	9.8	0.15
Sex†												
Males	14.3	16.5	17.0	15.7	16.0	17.6	17.1	17.1	17.6	17.1	17.6	0.22
Females	2.1	2.3	2.2	1.8	2.5	2.3	2.6	2.1	2.1	2.7	2.6	0.04 (NL)
Age												
< 1 yr	*	*	*	*	*	*	*	*	*	*	*	*
1-4 yrs	*	*	*	*	*	*	*	*	*	*	*	*
5-14 yrs	*	*	*	*	*	*	*	*	*	*	*	*
15-24 yrs	10.0	12.3	12.8	13.1	13.0	14.1	14.5	14.4	14.4	13.5	13.4	0.28 (NL)
25-34 yrs	10.8	12.6	13.4	14.3	13.8	14.2	16.5	15.1	15.4	14.8	17.2	0.46
35-44 yrs	9.2	11.0	10.8	9.0	10.0	10.7	10.3	11.4	12.0	11.2	12.2	0.23
45-54 yrs	8.9	10.1	9.7	9.1	11.3	11.5	11.1	11.1	10.3	11.7	10.7	0.20 (NL)
55-64 yrs	7.3	9.6	9.0	8.4	8.4	10.2	8.6	8.4	9.5	10.8	8.8	0.13 (NL)
65-74 yrs	8.8	9.7	11.5	8.4	10.3	8.5	7.5	8.0	10.3	8.7	10.1	-0.04 (NL)
75-84 yrs	13.8	13.5	14.2	11.1	11.6	13.4	12.2	10.5	10.0	10.0	11.1	-0.37
85 or older	14.6	13.3	14.1	*	*	13.6	10.2	*	*	11.5	10.9	-0.5 (NL)
Race and ethnicity†												
White‡	2.1	2.8	2.7	2.9	2.8	3.6	3.8	3.6	3.7	3.6	3.7	0.15
Black‡	15.1	19.2	18.7	19.4	18.4	22.7	23.8	22.5	22.9	22.5	21.7	0.64
Hispanic	*	*	*	*	8.3	8.9	6.2	*	8.4	8.6	*	*
Other‡	*	*	*	*	*	*	*	*	*	*	*	*

*Rates suppressed due to fewer than 20 deaths.

‡Non-Hispanic

Source: Ohio Department of Health, Office of Vital Statistics

†Rates are age adjusted to 2000 U.S. standard population

NL: Interpret with caution because trend does not follow linear pattern

Table 48c. Number of deaths resulting from firearms, by intent and year, Ohio, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Unintentional	33	25	19	18	19	26	23	17	12	13	8	1%	*
Suicide	587	670	666	601	656	668	625	647	684	677	718	63%	7 (NL)
Homicide	250	315	346	330	339	408	447	404	401	418	386	34%	14
Undetermined	11	8	12	11	10	5	5	9	9	9	10	1%	*
Legal intervention	7	8	10	14	9	11	7	8	8	12	9	1%	*

*Trends suppressed due to fewer than 20 deaths.

Source: Ohio Department of Health, Office of Vital Statistics

NL: Interpret with caution because trend does not follow linear pattern

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 49a. Number of hospitalizations resulting from firearms by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	900	915	926	1,069	1,096	979	907	949	921
Sex									
Males	804	820	826	966	996	904	824	877	846
Females	96	95	100	103	100	75	83	72	75
Age									
< 1 yr	0	0	<5	0	0	0	0	<5	0
1-4 yrs	<5	<5	<5	<5	6	<5	<5	<5	<5
5-14 yrs	18	18	23	28	45	33	23	28	15
15-24 yrs	348	394	381	477	465	424	401	421	400
25-34 yrs	262	241	267	276	301	242	223	254	250
35-44 yrs	129	132	138	166	157	136	138	127	130
45-54 yrs	83	82	82	75	75	90	68	58	80
55-64 yrs	21	24	22	24	26	34	24	36	24
65-74 yrs	14	9	9	14	8	10	20	12	13
75-84 yrs	13	10	<5	7	10	5	5	8	<5
85 or older	9	<5	0	<5	<5	<5	<5	<5	<5

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 49b. Hospitalization rates per 100,000 resulting from firearms by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	8.0	8.1	8.3	9.6	9.9	8.8	8.2	8.6	8.4	0.03 (NL)
Sex†										
Males	14.5	14.6	15.1	17.3	17.9	16.2	14.9	15.8	15.5	0.1 (NL)
Females	1.69	1.67	1.75	1.84	1.77	1.35	1.49	1.27	1.37	-0.06
Age										
< 1 yr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*	0.0	*
1-4 yrs	*	*	*	*	*	*	*	*	*	*
5-14 yrs	*	*	1.5	1.8	2.9	2.2	1.5	1.9	*	*
15-24 yrs	22.0	24.7	23.9	29.9	29.4	26.9	25.5	26.9	25.2	0.33 (NL)
25-34 yrs	17.8	16.4	18.3	18.9	20.7	16.6	15.2	17.2	17.7	-0.11 (NL)
35-44 yrs	7.4	7.7	8.2	10.1	9.7	8.5	8.9	8.4	8.8	0.12 (NL)
45-54 yrs	5.0	4.9	4.8	4.4	4.3	5.1	3.9	3.3	4.6	-0.13 (NL)
55-64 yrs	1.9	2.1	1.9	2.0	2.1	2.6	1.8	2.6	1.7	0.01 (NL)
65-74 yrs	*	*	*	*	*	*	2	*	*	*
75-84 yrs	*	*	*	*	*	*	*	*	*	*
85 or older	*	*	*	*	*	*	*	*	*	*

*Rates suppressed due to less than 20 hospitalizations

†Rates are age adjusted to 2000 U.S. standard population

NL: Interpret with caution because trend does not follow linear trend pattern

Source: Ohio Hospital Association

Table 49c. Number of hospitalizations resulting from firearms by intent and year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Unintentional	202	195	173	197	205	200	172	203	184	20%	-1 (NL)
Self-harm	86	76	74	61	69	72	63	71	66	7%	-2 (NL)
Assault	528	561	601	685	729	640	619	630	629	68%	10 (NL)
Legal intervention	9	16	13	18	8	13	16	9	12	*	*
Undetermined	75	67	65	108	85	55	37	36	30	3%	-6 (NL)

*Suppressed due to less than 20 hospitalizations

NL: Interpret with caution because trend does not follow linear trend pattern

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 50a. Number of ED visits resulting from firearms by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overall	1,538	1,661	1,946	2,296	2,766	2,398	2,377	2,170	2,125
Sex									
Males	1,371	1,467	1,713	2,019	2,457	2,122	2,106	1,934	1,831
Females	167	194	233	277	309	276	271	236	294
Age									
< 1 yr	0	0	<5	<5	<5	<5	0	<5	0
1-4 yrs	12	8	13	11	9	7	22	11	16
5-14 yrs	217	246	264	281	341	239	285	274	250
15-24 yrs	589	666	781	996	1,238	1,037	1,041	898	911
25-34 yrs	313	336	430	474	594	528	483	493	456
35-44 yrs	206	201	240	294	300	297	252	244	239
45-54 yrs	103	107	135	150	153	172	181	126	132
55-64 yrs	35	60	49	48	64	63	61	68	73
65-74 yrs	26	24	20	27	36	24	30	24	23
75-84 yrs	23	10	10	9	20	20	13	22	15
85 or older	14	<5	<5	<5	10	10	9	9	10

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 50b. ED visit rates per 100,000 resulting from firearms by year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	Trend (per yr)
Overall†	13.7	14.8	17.4	20.6	24.9	21.6	21.5	19.7	19.3	0.78 (NL)
Sex†										
Males	24.6	26.1	30.6	36.1	44.1	38.1	37.9	35.0	33.3	1.33 (NL)
Females	3.0	3.4	4.2	5.0	5.6	5.1	4.9	4.3	5.4	0.2
Age										
< 1 yr	0.0	0.0	*	*	*	*	0.0	*	0.0	*
1-4 yrs	*	*	*	*	*	*	3.7	*	*	*
5-14 yrs	13.4	15.4	16.7	18.1	22.2	15.8	19.0	18.3	16.4	0.39 (NL)
15-24 yrs	37.2	41.8	48.9	62.5	78.3	65.9	66.2	57.4	57.4	2.76 (NL)
25-34 yrs	21.2	22.9	29.4	32.5	40.8	36.1	33.0	33.4	32.3	1.44 (NL)
35-44 yrs	11.8	11.8	14.3	17.8	18.5	18.6	16.2	16.1	16.2	0.58 (NL)
45-54 yrs	6.3	6.4	8.0	8.7	8.8	9.8	10.3	7.2	7.6	0.22 (NL)
55-64 yrs	3.2	5.3	4.2	4.0	5.1	4.9	4.6	4.9	5.0	0.13 (NL)
65-74 yrs	3.4	3.1	2.6	3.5	4.7	3.1	3.7	2.9	2.7	-0.03 (NL)
75-84 yrs	4.2	*	*	*	3.6	3.7	*	4.1	2.8	*
85 or older	*	*	*	*	*	*	*	*	*	*

*Rates suppressed due to less than 20 ED visits

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

NL: Interpret with caution because trend does not follow linear pattern

Source: Ohio Hospital Association

Table 50c. Number of ED visits resulting from firearms by intent and year, Ohio, 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010	% in 2010	Trend (per yr)
Assault	474	507	708	805	1,173	1,000	1,022	657	700	31%	36 (NL)
Legal intervention	23	25	24	36	46	25	33	57	36	3%	3 (NL)
Suicide	73	56	74	68	73	83	54	69	80	3%	1 NL
Undetermined	112	122	157	179	176	187	167	147	81	7%	<-1 (NL)
Unintentional	859	951	983	1,208	1,299	1,103	1,102	1,240	1,228	58%	41

NL: Interpret with caution because trend does not follow linear pattern

Source: Ohio Hospital Association

Burden of Injury in Ohio, 2000-2010

Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 51a. Percentage of respondents who reported a firearm in their home, Ohio, 2010*

	N	Percent	95% CI
Overall	1,838	36.6	(34.8-38.4)
Sex			
Male	903	43.2	(40.2-46.3)
Female	935	30.7	(28.6-32.8)
Age			
18-24 yrs	30	32.6	(21.3-44.0)
25-34 yrs	124	32.6	(27.1-38.0)
35-44 yrs	275	38.7	(34.5-43.0)
45-54 yrs	398	37.2	(33.8-40.7)
55-64 yrs	478	38.8	(35.6-42.1)
65 or older yrs	533	35.5	(32.6-38.3)
Household Poverty Status			
Below poverty	97	24.7	(18.9-30.4)
Above poverty < 200%	307	34.9	(30.8-39.0)
Above poverty ≥ 200%	1,239	39.9	(37.6-42.2)
Missing household income	194	32.5	(26.9-38.0)
County Urbanality			
Metropolitan	909	28.4	(26.2-30.7)
Suburban	344	39.8	(35.4-44.2)
Rural	228	43.7	(38.4-49.0)
Appalachian	340	52.5	(47.5-57.5)

*Source: Behavioral Risk Factor Surveillance System (BRFSS)

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Ohio Violence and Injury Prevention Program, Ohio Department of Health

Table 51b. Percentage of respondents who reported an unlocked firearm in their home among those who have a firearm, Ohio, 2010

	N	Percent	95% CI
Overall	903	45.8	(42.6-48.9)
Sex			
Male	500	50.3	(45.7-55.0)
Female	403	39.9	(35.8-44.0)
Age			
18-24 yrs	10	+	(7.8-44.9)
25-34 yrs	52	43.6	(33.3-53.8)
35-44 yrs	98	37.0	(29.9-44.1)
45-54 yrs	197	50.9	(44.9-56.9)
55-64 yrs	249	51.6	(46.0-57.1)
65 or older yrs	297	55.7	(50.4-61.1)
Household Poverty Status			
Below poverty	38	38.9	(25.4-52.4)
Above poverty < 200%	143	43.5	(36.0-51.0)
Above poverty ≥ 200%	627	46.9	(43.1-50.7)
Missing household income	95	47.7	(36.7-58.7)
County Urbanality			
Metropolitan	438	45.2	(40.5-49.9)
Suburban	179	47.5	(40.3-54.7)
Rural	109	46.0	(37.6-54.5)
Appalachian	169	43.5	(37.0-49.9)

*Source: Behavioral Risk Factor Surveillance System (BRFSS)

+Suppressed due to less than 20 respondents

APPENDICES

APPENDIX 1: DATA SOURCES

This report uses data from behavioral risk factor surveys, hospital discharge records and death certificates to study patterns and trends in injuries among Ohio residents. The following is brief summary of each data source referenced in this report.

Cost of Injuries

The medical and work loss cost of injuries was estimated by the Centers for Disease Control and Prevention (CDC). Cost estimates for fatal and non-fatal injuries can be queried on the CDC's Web-based Injury Statistics Query and Reporting System Web (WISQARS).

http://www.cdc.gov/injury/wisqars/pdf/WISQARS_Cost_Methods-a.pdf

Death Records

Death records are maintained by ODH's Office of Vital Statistics. Death certificates provide limited information about circumstances of injury circumstances or contributing factors. Both injuries and their external causes were classified according to the 10th Revision of the International Classification of Diseases (ICD-10). See Appendix 3 for a complete list of external cause of injury codes by mechanism and intent.

<http://dwhouse.odh.ohio.gov/datawarehousev2.htm>

Hospital Discharge Records

Hospital discharge records are collected and maintained by the Ohio Hospital Association (OHA) from information provided by member hospitals. Both injuries and their external causes were classified according to the 9th Revision of the International Classification of Diseases, Clinical Modification (ICD-9-CM). For hospitalizations, a case was defined as an Ohio resident with an injury listed in the primary diagnosis field. For ED visits, a case was defined as an Ohio resident with an injury listed in the primary diagnosis field or a valid external cause of injury code any of the 15 diagnosis fields. Injury mechanisms for both hospitalizations and ED visits were based on the first listed external cause of injury. See Appendix 2 for a complete list external cause of injury codes by mechanism and intent.

<http://www.ohanet.org/>

Leading Causes of Death

The data source for WISQARS Fatal Injury Data is the National Vital Statistics System (NVSS) operated by the National Center for Health Statistics. WISQARS provides death counts and death rates for the United States and by state, county, age, race, Hispanic ethnicity, sex, and leading cause of death, injury intent, and injury mechanism categories. WISQARS can be used to query death data for the years 1999 - 2009, of which the underlying cause of death is specified using ICD-10 codes.

http://www.cdc.gov/injury/wisqars/leading_causes_death.html

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Ohio Behavioral Risk Factor Surveillance System (BRFSS)

The Ohio Behavioral Risk Factor Surveillance System (BRFSS) is a random digit dial telephone survey of non-institutionalized adults aged 18 years of older. The BRFSS has been conducted annually by the Ohio Department of Health since 1984. The survey collects information on the prevalence of health behaviors, health care usage, and disease diagnosis associated with the leading cause of disease, injury and death in the United States. Results from the survey are weighted to represent the age, sex, race, and ethnic composition of Ohio.

<http://www.odh.ohio.gov/healthstats/brfss/behrisk1.aspx>

Ohio Population Estimates

The National Center for Health Statistics releases bridged-race population estimates of the resident population of the United States for use in calculating vital rates. These estimates result from bridging the 31 race categories used in Census 2000 and Census 2010. The bridged-race population estimates are produced under a collaborative arrangement with the U. S. Census Bureau.

http://www.cdc.gov/nchs/nvss/bridged_race.htm

Ohio Pregnancy Risk Assessment Monitoring System (PRAMS)

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a population-based survey designed to examine maternal behaviors and experiences before, during and after a woman's pregnancy, and during the early infancy of her child. The Centers for Disease Control and Prevention initiated PRAMS in 1987 in an effort to reduce infant mortality and the incidence of low birth weight. PRAMS were implemented in Ohio in 1999.

<http://www.odh.ohio.gov/healthstats/pramshs/prams1.aspx>

Ohio Traffic Crash Reports

The Ohio Department of Public Safety compiles statistical data on crashes that occur on Ohio's roads and highways. Crash data is available in the form of annual reports. Users can also develop customized queries of the data online.

http://ohiohighwaysafetyoffice.ohio.gov/otso_annual_crash_facts.stm

Ohio Youth Risk Behavior Survey (YRBS)

The Ohio Youth Risk Factor Survey (YRBS) is an anonymous paper and pencil survey of high school students enrolled in public and non-public schools. The YRBS has been conducted in Ohio since 1993 and is collaborative project between the Ohio Departments of Education and Health. The survey collects information on the prevalence of health behaviors, health care usage, and disease diagnosis associated with the leading cause of disease, injury and death in the United States. Results from the survey are weighted to represent the age, sex, race, and ethnic composition of Ohio.

http://www.odh.ohio.gov/odhprograms/chss/ad_hlth/youthrsk/youthrsk1.aspx

APPENDIX 2: ANALYTIC METHODS

This analysis was limited to descriptive statistics, which were generated through the use of Statistical Analysis System (SAS) Version 9.1, Cary, N.C. The data were analyzed using injury surveillance guidelines from the Centers for Disease Control and Prevention (CDC).

Deaths:

- Injury deaths were defined as a death with the underlying cause of death listed as an injury. Traumatic brain injury deaths were defined as deaths with an injury as underlying cause of death and a traumatic brain injury listed in one of the multiple cause of death fields. See Appendix 4 for a list of ICD-10 codes for injury mechanisms and Appendix 6 for a list of mechanism subcategories.
- Deaths included in this report were restricted to Ohio residents.
- Rates were calculated by dividing the number of injuries by the number of Ohio residents. Population estimates were based on estimates from the National Center for Health Statistics. Rates were age adjusted to the 2000 U.S. standard population.

Hospitalizations:

- Discharge dataset includes nonfederal, acute care, or inpatient facilities. The dataset does not include Veterans' Affairs and other federal hospitals, rehabilitation centers, or psychiatric hospitals.
- Injury hospitalizations were defined as an inpatient visit with an injury listed in the primary discharge diagnosis field. See Appendix 5 for a list of ICD-9-CM codes for injury mechanisms and Appendix 7 for a list of mechanism subcategories.
- Datasets include readmissions, transfers, and deaths occurring in the hospital.
- Hospitalizations included in this report were restricted to Ohio residents.
- The external cause of injury code used in the analysis was the first listed cause of the discharge diagnosis fields. If the codes E000-E030, E849, E967, E869.4, E870-E879, or E930-E949 were the first listed codes then the next valid external cause code was used.
- Rates were calculated by dividing the number of injuries by the number of Ohio residents. Population estimates were based on estimates from the National Center for Health Statistics. Rates were age adjusted to the 2000 U.S. standard population.

Emergency Department Visits:

- Discharge dataset includes nonfederal, acute care, or inpatient facilities. The dataset does not include Veterans' Affairs and other federal hospitals, rehabilitation centers, or psychiatric hospitals.
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- Injury ED visits were defined as an ED visit with an injury listed in the primary discharge diagnosis field or a valid external cause of injury code in any of the discharge diagnosis fields. See Appendix 5 for a complete list of ICD-9-CM codes.
- ED visits included in this report were restricted to Ohio residents.
- Persons who are treated at an ED and later admitted to a hospital are removed from the ED dataset, and therefore are not included in any analysis of ED data.
- The external cause of injury code used in the analysis was the first listed cause of the discharge diagnosis fields. If the codes E000-E030, E849, E967, E869.4, E870-E879, or E930-E949 were the first listed codes then the next valid external cause code was used.
- Rates were calculated by dividing the number of injuries by the number of Ohio residents. Population estimates were based on estimates from the National Center for Health Statistics. Rates were age adjusted to the 2000 U.S. standard population.

Trend Analysis for Deaths, Hospitalizations and Emergency Department Visits:

- Trend analysis for annual injury death, hospitalization, and ED visit rates was conducted in Microsoft Excel. Annual injury rates were plotted and a linear trend line was drawn to minimize the distance between the trend line and data point. The goodness of fit for the linear trend line was determined by the R-squared value. Linear trends were defined as a trend line with an R-squared value of 0.5 or higher. Non-linear trends were defined as a trend line with an R-squared value of less than 0.5. The slope and goodness of fit of the trend line were reported in the data tables. Non-linear trends were labeled with (NL) next to the slope.

Poverty Status and County Urbanity Classifications:

- County urbanity was derived from county of residence reported by Ohio Behavioral Risk Factor Surveillance System respondents. County urbanity classifications were based on a combination of proximity and connectedness to urban core economic development area and definitions of Appalachian counties established by the Appalachian Development Commission. See Appendix 11 for a map with county classifications.
- Poverty status was derived from household income and household composition reported by Ohio Behavioral Risk Factor Surveillance System respondents. Respondents were grouped into categories based on the 2010 Federal Poverty Guidelines. See Appendix 12 for household income and composition thresholds.

Cost of Injuries:

- Fatal Injury costs were calculated by multiplying the number of injury deaths in Ohio by the average cost associated the death for Ohio published on the CDC's
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WISQARS website. See Appendix 8 for average cost estimates by mechanism and intent.

- Non-fatal injury costs for hospitalizations were calculated by multiplying the number of hospitalizations by the average cost associated with hospitalizations for the United States published on the CDC's WISQARS website. See Appendix 9 for average cost estimates by mechanism and intent.
 - Non-fatal injury costs for ED visits were calculated by multiplying the number of ED visits by the average cost associated with ED visits for the United States published on the CDC's WISQARS website. See Appendix 10 for average cost estimates by mechanism and intent.
 - Total injury costs were calculated by adding the estimated costs for injury deaths, hospitalizations and ED visits.
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APPENDIX 3: LIMITATIONS OF INJURY SURVEILLANCE DATA

Death Certificate Data:

- The cause of death reported on the death certificate is based on the underlying cause of death determined by a physician or coroner. While physicians and coroners are well trained to investigate and determine causes of death, a standardized process for investigating and determining causes of death does not exist in Ohio. This lack of uniformity may lead to differences in how underlying causes of death are classified and pose limitations for comparing rates across local jurisdictions.

Hospital Discharge Data:

- In each year of the study period, approximately 30 percent of injuries treated in the as inpatients and emergency departments were not assigned an external cause code (E-code). This most likely resulted in an underestimate of total costs and incidence rates, because not all mechanism and intents for injuries could be identified and included in the analysis by mechanism.
- Of the non-fatally injured, only those who sought medical care were captured for this analysis.
- Discharges, not individuals, were the unit of measurement, thereby resulting in duplication when readmissions for the same initial event occurred. The inclusion of readmissions would lead to an overestimate of incidence rates.
- Race and ethnicity are largely incomplete in the hospital discharge data and were not included in the analysis.
- Ohio residents treated in out-of-state hospitals are not consistently included, thereby affecting rates, particularly of border counties.
- Severity of injury is assumed based on type of medical treatment received (i.e., inpatient treatment is for more severe injuries than ED visits).

Behavioral Risk Factor Data:

- Data from the Pregnancy Risk Assessment Monitoring System (PRAMS), Ohio Youth Risk Behavior Survey (YRBS) and Behavioral Risk Factor Surveillance System (BRFSS) are based on self-reported behaviors by respondents. The accuracy of self-reported data depends on the respondents' ability to recall and willing to report the information. Self-reported data can lead to overestimates or underestimates of the true prevalence in the population depending on the topic being asked.
 - Results from Ohio YRBS represent a random sample of students enrolled in high schools in Ohio. The results do not represent high school age youth who have dropped out of school.
 - Results from the Ohio BRFSS represent a random sample of non-institutionalized adults ages 18 or older in Ohio with a landline in their home. The BRFSS excludes institutionalized adults and adults living in cell phone only households.
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