

# DROWNING AND SUBMERSION

- The annual number and the age-adjusted rates for resident deaths due to drowning and submersion have declined slightly between 1985 and 1995. In 1985, the number of deaths were 133, compared to 102 in 1995. The 1995 age-adjusted death rate was 0.9 per 100,000, compared to 1.1 in 1985.
- The national year 2000 objective is for an age-adjusted death rate of no more than 1.3 per 100,000. Pennsylvania's rates have been at or below that goal throughout the period of 1985-1995.
- Males consistently had much higher annual age-adjusted death rates than females during 1985-1995. For example, the 1995 rate for males was 1.5 per 100,000 – almost four times higher than the 1995 females rate of 0.4.
- The annual age-adjusted death rates for males between 1985 and 1995 were somewhat lower in recent years. Rates for females remained about the same throughout that period.
- As occurred with the annual age-adjusted rates, age-specific death rates covering the five-year period of 1991-1995 were much higher among males than females.
- The highest age-specific death rates for females occurred among the youngest (under five years of age) and oldest (aged 75+) age groups. Among males, these death rates were also high among the youngest but remained high until about age 40 and then started to rise again at about age 75.
- Approximately one-third or 193 of the 574 deaths due to drowning or submersion during 1991-1995 were among residents under 20 years of age.
- Two counties, Beaver and Philadelphia, had average annual age-adjusted death rates for 1991-1995 that were considered to be significantly higher than the corresponding state rate.
- Only seven counties had 20 or more resident deaths reported during the five-year period of 1991-1995 (Allegheny, Beaver, Bucks, Luzerne, Montgomery, Philadelphia, and York).
- Philadelphians accounted for 114 or almost 20 percent of the total 574 drowning deaths among Pennsylvania residents in 1991-1995.

**HIGHEST AGE-ADJUSTED DEATH RATES:**

**Male residents**

**HIGHEST AGE-SPECIFIC DEATH RATES:**

**Young male residents**

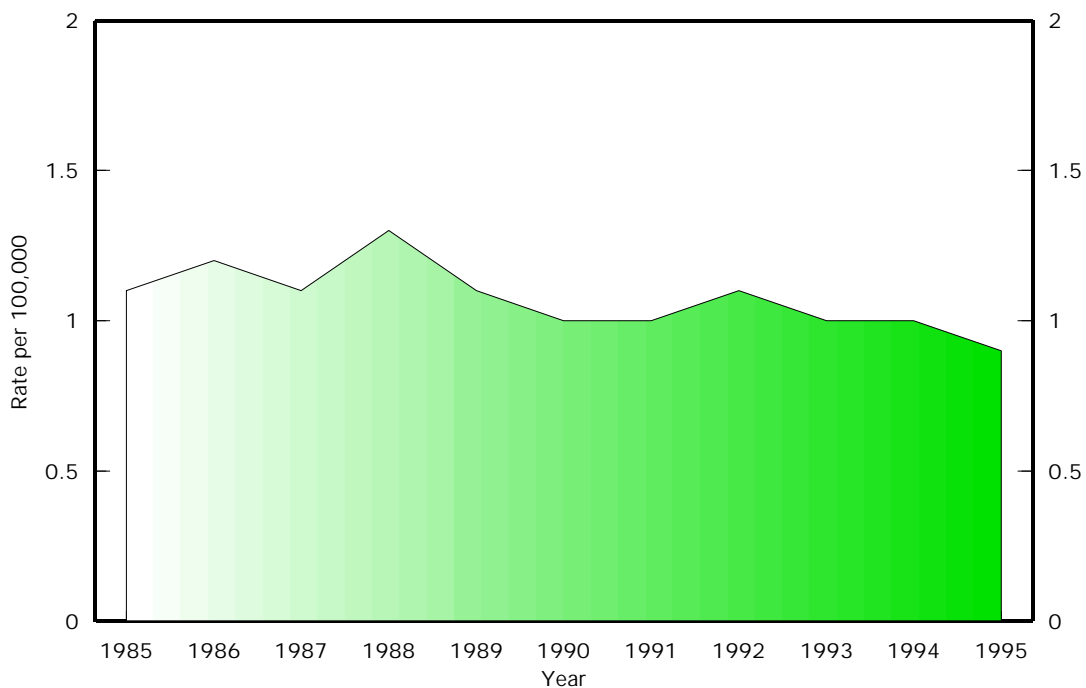
# DROWNING AND SUBMERSION

**TABLE 6-A**  
**TOTAL NUMBER OF DEATHS AND AGE-ADJUSTED DEATH RATES, BY YEAR**  
**PENNSYLVANIA RESIDENTS, 1985-1995**

YEAR	NO.	RATE	YEAR	NO.	RATE
1985	133	1.1	1991	116	1.0
1986	143	1.2	1992	126	1.1
1987	135	1.1	1993	114	1.0
1988	151	1.3	1994	116	1.0
1989	130	1.1	1995	102	0.9
1990	113	1.0			

NOTE: Age-adjusted rates are computed by the direct method using the 1940 standard million population. Rates are per 100,000.

**FIGURE 6-A**  
**AGE-ADJUSTED DEATH RATE**  
**PENNSYLVANIA RESIDENTS, 1985-1995**



*National Year 2000 Health Objective 9.5*  
 Reduce drowning deaths to no more than 1.3 per 100,000.

# DROWNING AND SUBMERSION

**TABLE 6-B**  
**NUMBER OF DEATHS AND AGE-ADJUSTED DEATH RATES BY SEX AND RACE, BY YEAR**  
**PENNSYLVANIA RESIDENTS, 1985-1995**

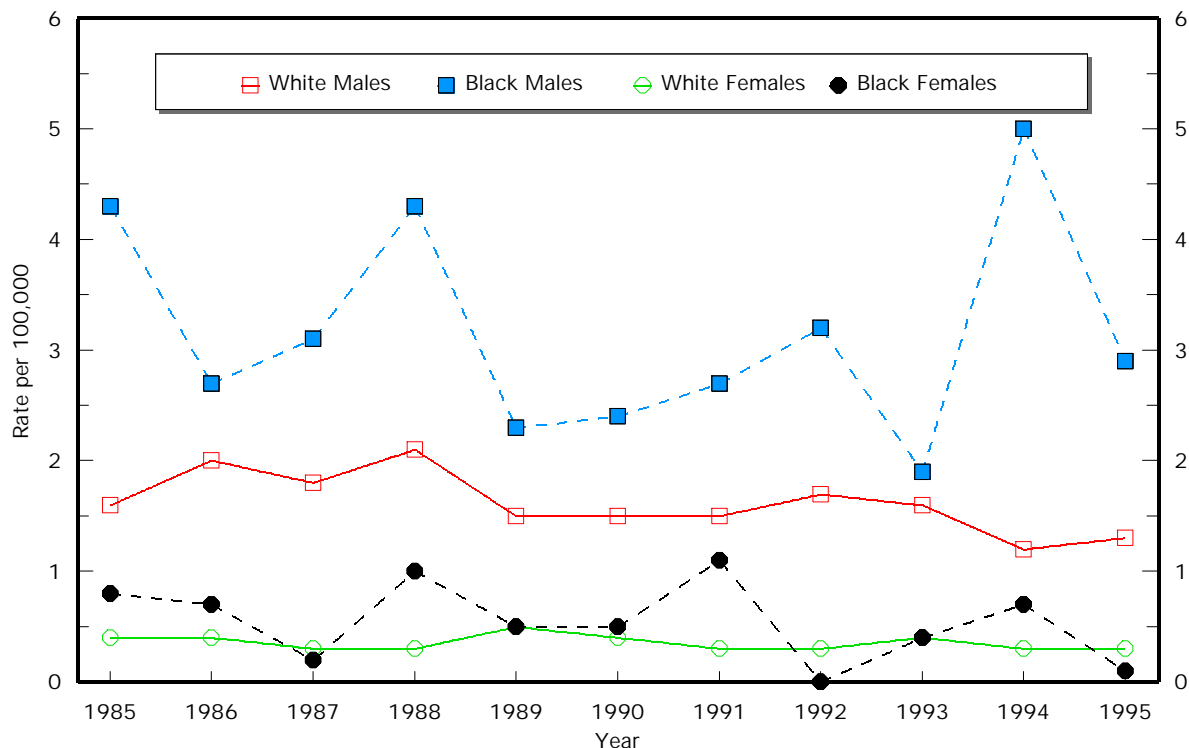
YEAR	M A L E S*						F E M A L E S					
	ALL RACES		WHITE**		BLACK		ALL RACES		WHITE**		BLACK	
	NO.	RATE	NO.	RATE	NO.	RATE	NO.	RATE	NO.	RATE	NO.	RATE
1985	104	1.8	82	1.6	22	4.3	29	0.4	24	0.4	4	0.8
1986	118	2.1	103	2.0	14	2.7	25	0.4	20	0.4	4	0.7
1987	113	2.0	93	1.8	16	3.1	22	0.3	21	0.3	1	0.2
1988	129	2.3	106	2.1	22	4.3	22	0.4	17	0.3	5	1.0
1989	96	1.6	81	1.5	12	2.3	34	0.5	30	0.5	3	0.5
1990	88	1.6	73	1.5	13	2.4	25	0.4	22	0.4	3	0.5
1991	90	1.6	75	1.5	15	2.7	26	0.4	19	0.3	7	1.1
1992	105	1.8	86	1.7	17	3.2	21	0.3	20	0.3	1	0.0
1993	91	1.6	79	1.6	10	1.9	23	0.4	21	0.4	2	0.4
1994	92	1.6	64	1.2	27	5.0	24	0.3	18	0.3	5	0.7
1995	81	1.5	64	1.3	16	2.9	21	0.4	16	0.3	1	0.1

\* Unknown sex included in the male category.

\*\* Unknown race included in the white category.

NOTE: Age-adjusted rates are computed by the direct method using the 1940 U.S. standard million population.  
 Rates are per 100,000.

**FIGURE 6-B**  
**AGE-ADJUSTED DEATH RATES BY SEX AND RACE**  
**PENNSYLVANIA RESIDENTS, 1985-1995**



# DROWNING AND SUBMERSION

**TABLE 6-C**  
**TOTAL NUMBER OF DEATHS AND AVERAGE ANNUAL AGE-SPECIFIC DEATH RATES BY SEX AND RACE**  
**PENNSYLVANIA RESIDENTS, 1991-1995**

AGE GROUP	ALL DEATHS		M A L E S*						F E M A L E S					
	NO.	RATE	ALL RACES		WHITE**		BLACK		ALL RACES		WHITE**		BLACK	
			NO.	RATE	NO.	RATE	NO.	RATE	NO.	RATE	NO.	RATE	NO.	RATE
TOTAL***	574	1.0	459	1.6	368	1.4	85	3.2	115	0.4	94	0.3	16	0.5
< 5	67	1.6	47	2.2	40	2.3	7	2.5	20	1.0	16	1.0	4	1.5
5-9	35	0.9	27	1.3	11	0.6	14	5.7	8	0.4	4	0.2	3	1.3
10-14	40	1.0	32	1.6	16	0.9	14	6.2	8	0.4	5	0.3	1	0.5
15-19	51	1.2	46	2.2	39	2.1	7	3.0	5	0.2	5	0.3	0	-
20-24	46	1.1	38	1.8	34	1.9	4	1.7	8	0.4	7	0.4	0	-
25-29	48	1.1	45	2.1	38	2.0	7	3.1	3	0.1	1	0.1	2	0.9
30-34	61	1.3	53	2.3	45	2.2	6	2.7	8	0.3	7	0.3	1	0.4
35-39	46	1.0	40	1.7	35	1.7	5	2.5	6	0.3	6	0.3	0	-
40-44	41	0.9	36	1.7	32	1.6	4	2.3	5	0.2	4	0.2	1	0.5
45-49	15	0.4	13	0.7	9	0.5	4	3.0	2	0.1	2	0.1	0	-
50-54	18	0.6	14	0.9	11	0.8	3	2.8	4	0.3	4	0.3	0	-
55-59	11	0.4	8	0.6	6	0.5	2	2.1	3	0.2	3	0.2	0	-
60-64	22	0.8	18	1.4	16	1.3	2	2.3	4	0.3	3	0.2	1	0.8
65-69	14	0.5	10	0.8	9	0.8	1	1.2	4	0.3	4	0.3	0	0.0
70-74	16	0.6	10	1.0	7	0.7	3	4.9	6	0.4	5	0.4	1	1.1
75-79	17	0.9	11	1.5	9	1.3	2	4.8	6	0.5	6	0.5	0	-
80-84	12	1.0	5	1.2	5	1.2	0	-	7	0.9	6	0.8	1	2.1
85+	13	1.3	5	1.8	5	1.9	0	-	8	1.1	6	0.9	1	2.5

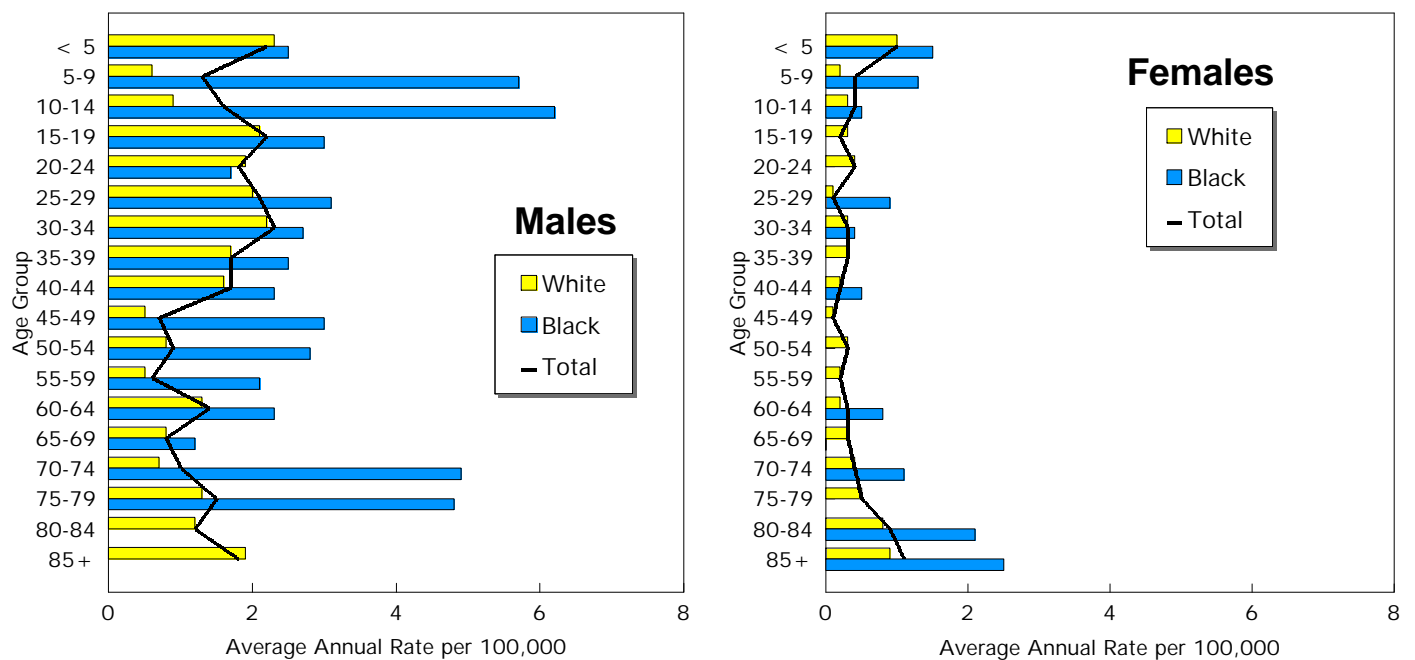
\* Unknown sex included in the male category.

\*\* Unknown race included in the white category.

\*\*\* Unknown age included in totals.

NOTE: Rates are per 100,000 population (1991-1995) for each specified group.

**FIGURE 6-C**  
**AVERAGE ANNUAL AGE-SPECIFIC DEATH RATES**  
**BY SEX AND RACE, PENNSYLVANIA RESIDENTS, 1991-1995**



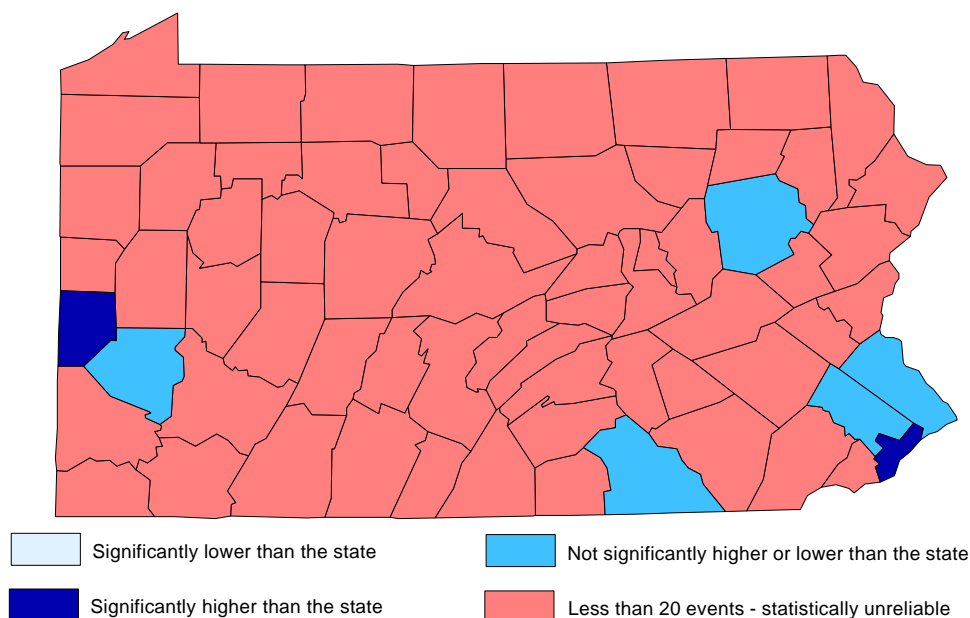
# DROWNING AND SUBMERSION

**TABLE 6-D**  
**NUMBER OF DEATHS, AVERAGE ANNUAL AGE-ADJUSTED DEATH RATES, 95 PERCENT CONFIDENCE INTERVALS,**  
**AND SIGNIFICANCE TEST RESULTS, BY COUNTY, PENNSYLVANIA RESIDENTS, 1991-1995**

COUNTY	NUMBER	RATE	CI (95%)	COUNTY	NUMBER	RATE	CI (95%)
Adams	3	0.8		Lackawanna	8	0.9	
Allegheny	62	0.9	0.7-1.1	Lancaster	17	0.8	
Armstrong	3	0.7		Lawrence	8	1.8	
Beaver	21	2.6	1.5-3.7 +	Lebanon	3	0.6	
Bedford	0	-		Lehigh	4	0.3	
Berks	16	0.9		Luzerne	22	1.3	0.8-1.8
Blair	6	1.0		Lycoming	7	1.3	
Bradford	1	0.3		McKean	3	1.1	
Bucks	23	0.8	0.5-1.1	Mercer	5	0.7	
Butler	3	0.3		Mifflin	3	1.6	
Cambria	4	0.4		Monroe	3	0.7	
Cameron	0	-		Montgomery	27	0.7	0.4-1.0
Carbon	1	0.5		Montour	1	1.0	
Centre	1	0.1		Northampton	9	0.7	
Chester	12	0.7		Northumberland	10	2.5	
Clarion	7	4.4		Perry	3	1.5	
Clearfield	2	0.6		Philadelphia	114	1.5	1.2-1.8 +
Clinton	0	-		Pike	2	1.2	
Columbia	3	0.8		Potter	1	1.6	
Crawford	6	1.5		Schuylkill	6	0.9	
Cumberland	4	0.4		Snyder	1	0.6	
Dauphin	14	1.3		Somerset	3	0.8	
Delaware	18	0.7		Sullivan	0	-	
Elk	3	1.5		Susquehanna	2	1.1	
Erie	13	1.0		Tioga	1	0.4	
Fayette	10	1.6		Union	1	0.6	
Forest	0	-		Venango	4	1.4	
Franklin	8	1.3		Warren	3	1.6	
Fulton	0	-		Washington	6	0.6	
Greene	5	3.0		Wayne	3	1.8	
Huntingdon	3	1.3		Westmoreland	15	1.0	
Indiana	3	0.8		Wyoming	1	0.7	
Jefferson	2	1.1		York	20	1.1	0.6-1.6
Juniata	1	1.0					
				Pennsylvania	574	1.0	0.9-1.1

NOTE: A + or - after the confidence interval (CI) denotes if the county rate was higher or lower than the state rate.  
 No + or - after a CI denotes no significant difference. CIs and testing results were not calculated and shown  
 for rates based on less than 20 events. See Technical Notes.

**FIGURE 6-D**  
**AVERAGE ANNUAL AGE-ADJUSTED DEATH RATES AND SIGNIFICANCE TEST RESULTS, BY COUNTY**  
**PENNSYLVANIA RESIDENTS, 1991-1995**



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TABLE 6-E  
NUMBER OF DEATHS, TOTAL AND BY SELECTED AGE GROUPS, BY COUNTY  
PENNSYLVANIA RESIDENTS, 1991-1995

COUNTY	TOTAL DEATHS*	AGE AT DEATH (IN YEARS)			COUNTY	TOTAL DEATHS*	AGE AT DEATH (IN YEARS)		
		< 20	20-64	65+			< 20	20-64	65+
Pennsylvania	574	193	308	72					
Adams	3	1	2	0	Juniata	1	0	1	0
Allegheny	62	16	34	12	Lackawanna	8	4	4	0
Armstrong	3	1	1	1	Lancaster	17	5	12	0
Beaver	21	8	11	2	Lawrence	8	1	6	1
Bedford	0	0	0	0	Lebanon	3	0	3	0
Berks	16	4	10	2	Lehigh	4	1	3	0
Blair	6	3	2	1	Luzerne	22	5	13	4
Bradford	1	0	1	0	Lycoming	7	3	4	0
Bucks	23	7	12	4	McKean	3	1	1	1
Butler	3	0	3	0	Mercer	5	1	3	1
Cambria	4	1	1	2	Mifflin	3	2	1	0
Cameron	0	0	0	0	Monroe	3	3	0	0
Carbon	1	1	0	0	Montgomery	27	5	13	9
Centre	1	0	1	0	Montour	1	0	1	0
Chester	12	5	6	1	Northampton	9	2	6	1
Clarion	7	5	2	0	Northumberland	10	4	6	0
Clearfield	2	2	0	0	Perry	3	2	1	0
Clinton	0	0	0	0	Philadelphia	114	41	57	15
Columbia	3	0	2	1	Pike	2	1	1	0
Crawford	6	1	5	0	Potter	1	1	0	0
Cumberland	4	1	3	0	Schuylkill	6	4	1	1
Dauphin	14	8	6	0	Snyder	1	0	1	0
Delaware	18	4	13	1	Somerset	3	0	2	1
Elk	3	1	1	1	Sullivan	0	0	0	0
Erie	13	5	8	0	Susquehanna	2	2	0	0
Fayette	10	3	6	1	Tioga	1	0	1	0
Forest	0	0	0	0	Union	1	0	1	0
Franklin	8	3	4	1	Venango	4	1	2	1
Fulton	0	0	0	0	Warren	3	1	2	0
Greene	5	4	1	0	Washington	6	3	1	2
Huntingdon	3	1	2	0	Wayne	3	2	1	0
Indiana	3	1	2	0	Westmoreland	15	6	8	1
Jefferson	2	0	2	0	Wyoming	1	0	1	0
					York	20	6	10	4

\* Unknown age included in total.