



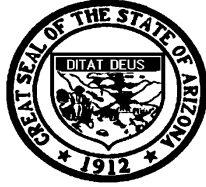
**9.  
DROWNING  
DEATHS**

**ARIZONA,  
1993-2003**

**Public Health Services**  
Bureau of Public Health Statistics  
Health Status and Vital Statistics Section



~ Leadership for a Healthy Arizona ~



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**Arizona Department of Health Services**

**HEALTH STATUS AND VITAL STATISTICS SECTION**  
**BUREAU OF PUBLIC HEALTH STATISTICS**  
**ARIZONA DEPARTMENT OF HEALTH SERVICES**  
150 N. 18<sup>th</sup> Avenue, Suite 550  
Phoenix, Arizona 85007-3248  
Phone: 602/542-7333; FAX: 602/542-2940  
[www.azdhs.gov/plan](http://www.azdhs.gov/plan)

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**INJURY MORTALITY AMONG ARIZONA RESIDENTS**

**DROWNING DEATHS**  
**ARIZONA, 1993-2003**

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BY

CHRISTOPHER K. MRELA, PH.D., *ASSISTANT REGISTRAR OF VITAL STATISTICS*

**January 2005**

# DROWNING DEATHS, ARIZONA, 1993-2003

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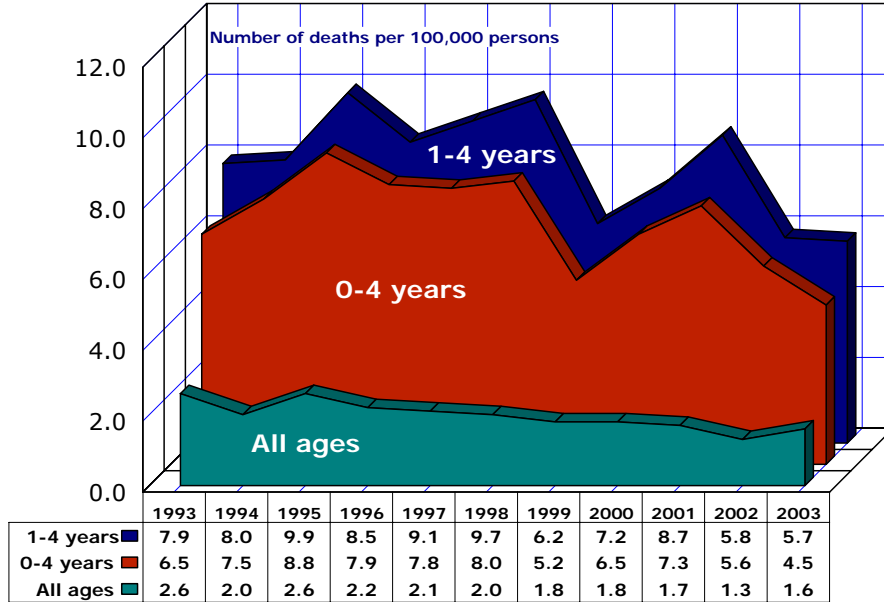
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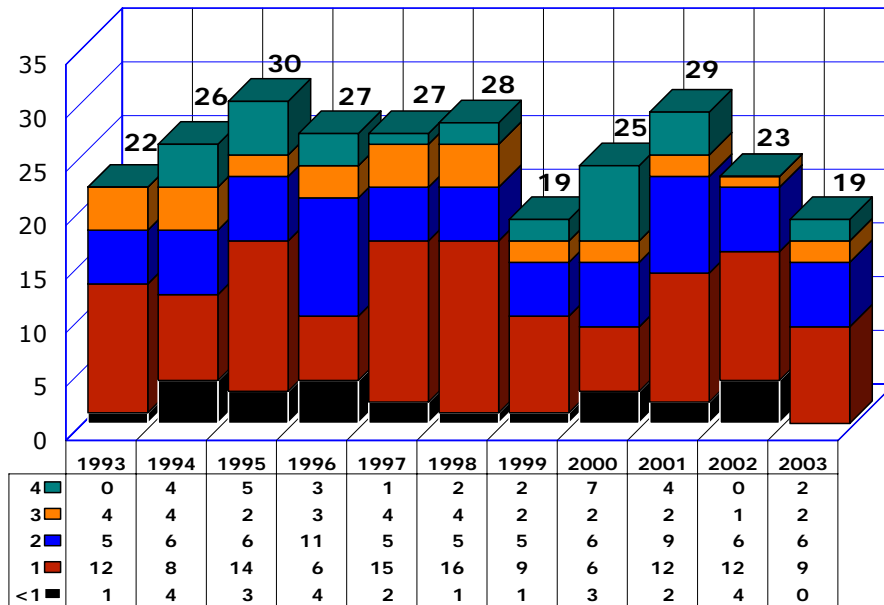
**Figure 9-1**  
**Drowning Death Rates for Arizonans of All Ages**  
**and Children 0-4 and 1-4 Years Old,**  
**Arizona, 1993-2003**



Both nationally and in Arizona, the highest age-specific drowning rate is for children 1-4 years of age. In 2003, the drowning rate among preschoolers 1-4 years old was 3.6 times higher than the rate for persons of all ages (Figure 9-1).

The number of drowning deaths per 100,000 Arizona children 1-4 years old dropped from a recent high of 8.7/100,000 in 2001 to 5.7/100,000 in 2003.

**Figure 9-2**  
**Drowning Deaths by Year Among Children 0-4 Years**  
**Old, Arizona, 1993-2003**



From 1993 to 2003, one year olds accounted for one out of two drowning deaths (119/250 or 47.6 percent) among preschoolers 1-4 years old.

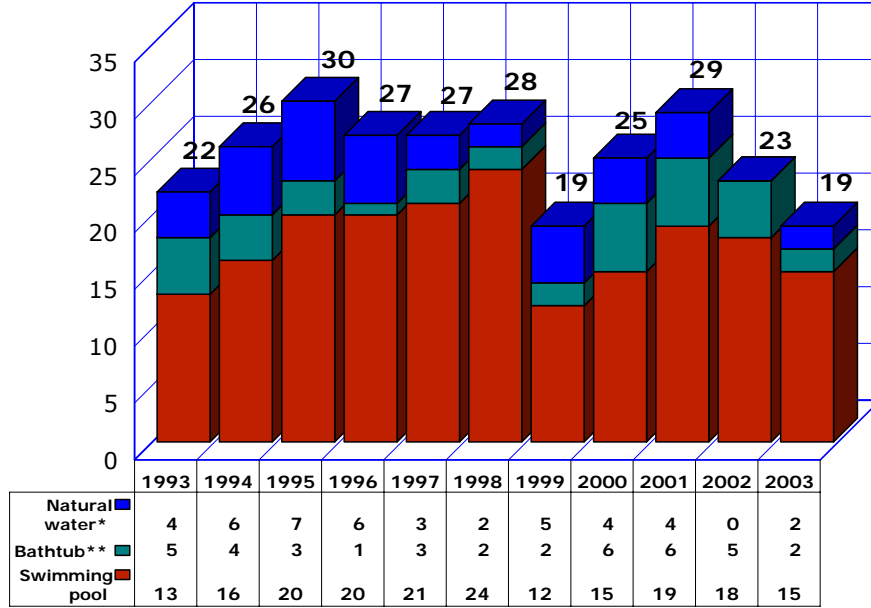
There were no drowning fatalities among infants under one year of age in 2003 (Figure 9-2).

DROWNING DEATHS, ARIZONA, 1993-2003

KEY FINDINGS

Figure 9-3  
Drowning by Place and Year Among Children 0-4 Years Old, Arizona, 1993-2003

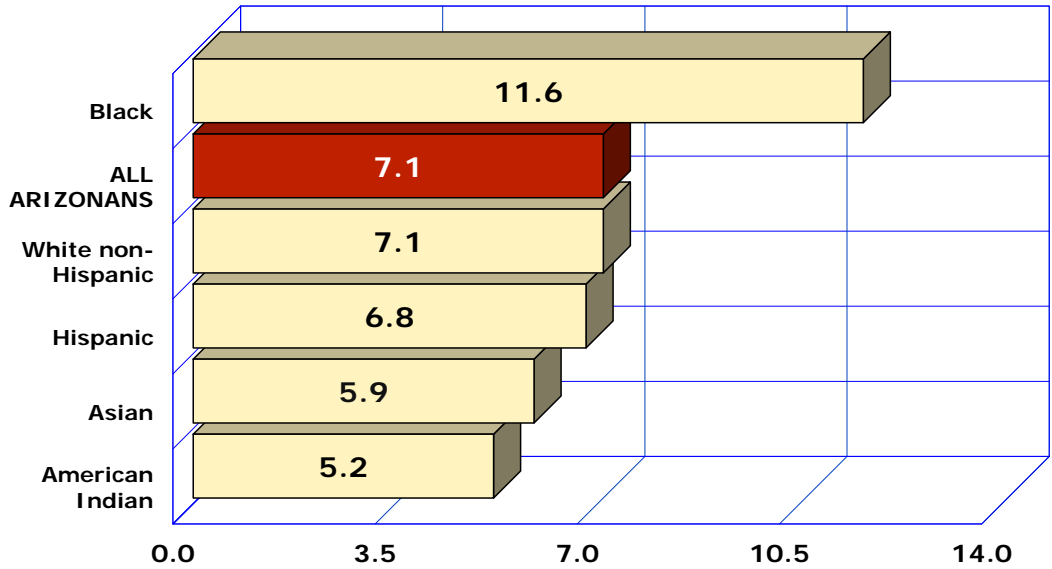
Seven out of every ten (70.2 percent) of children 0-4 years old who drowned between 1993 and 2003 did so in a swimming pool (Figure 9-3).



\*Includes irrigation canals.  
\*\* Includes drowning in a bucket of water or jacuzzi.

Figure 9-4  
Average Annual Mortality Rates for Accidental Drowning by Race/Ethnic Group Among Children 0-4 Years Old, Arizona, 1993-2003

During 1993-2003, Black children 0-4 years old had the highest average annual drowning mortality rate (Figure 9-4), followed by White non-Hispanics and Hispanics.

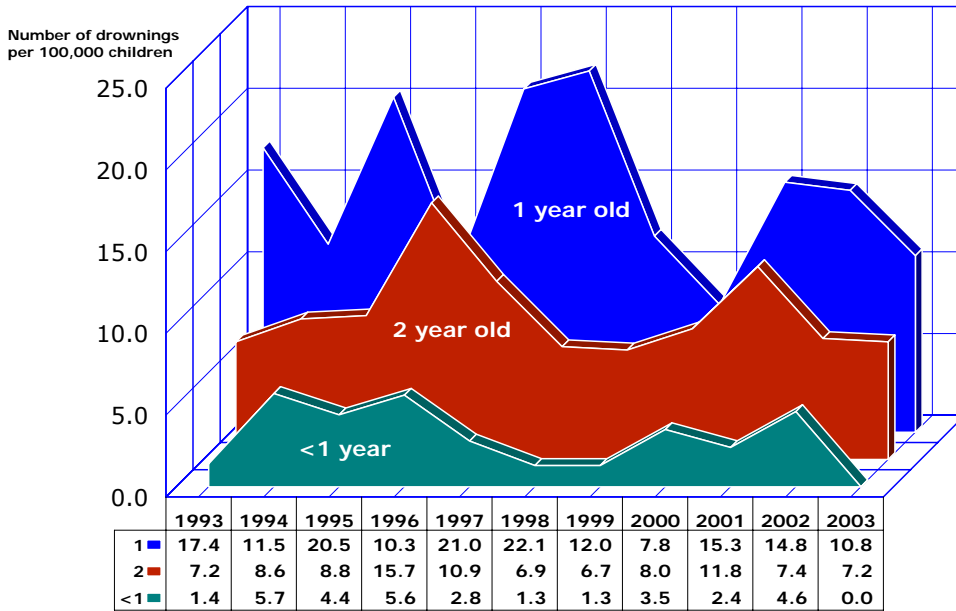


Number of drowning deaths per 100,000 population in specified group per year from 1993 to 2003. The rates were computed using an 11-year total number of deaths for 1993-2003. The 1998 population figures by race/ethnicity (i.e., population at mid-point) multiplied by eleven were used as denominators.

DROWNING DEATHS, ARIZONA, 1993-2003

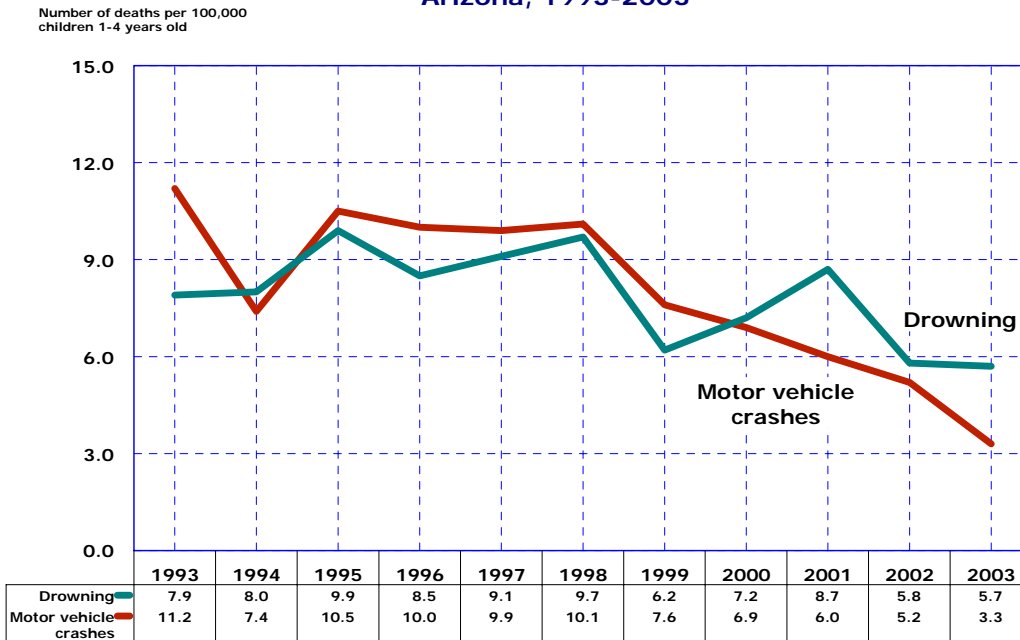
KEY FINDINGS

Figure 9-5  
Drowning Death Rates by Year and Age  
Among Children 2 Years Old or Younger,  
Arizona, 1993-2003



Among children under 5 years of age, one year olds, followed by two year olds, continue to be at the highest risk for drowning death (Figure 9-5).

Figure 9-6  
Mortality Rates for Drowning and Motor Vehicle  
Crashes Among Children 1-4 Years Old,  
Arizona, 1993-2003



Motor vehicle-related injuries were the leading cause of unintentional injury death among Arizona preschoolers (one to four year old children) in 6 of 11 years from 1993 to 2003 (Figure 9-6). However, unlike the drowning rate, the mortality rate for motor vehicle crashes declined for the fifth consecutive year from 10.1 deaths per 100,000 preschoolers in 1998 to 3.3/100,000 in 2003. All annual drowning rates from 2000 to 2003 were greater among children 1-4 years old in Arizona than their mortality rates for motor vehicle crashes.

**TABLE 9-1  
DROWNING DEATHS BY INTENT AND YEAR, ARIZONA RESIDENTS, 1993-2003**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>ACCIDENTAL DROWNING AND SUBMERSION (ICD-9 CODE E910 / ICD 10 CODES W65-W74)</b>	94	72	103	95	91	94	83	94	80	65	83
<b>DROWNING IN WATER TRANSPORT ACCIDENT (ICD-9 CODES E830, E832/ ICD-10 CODES V90, V92)</b>	5	5	2	0	4	2	4	0	2	2	1
<b>ASSAULT (HOMICIDE) BY DROWNING (ICD-9 CODE E964 / ICD-10 CODE X92)</b>	1	1	0	0	0	1	0	1	1	0	1
<b>INTENTIONAL SELF-HARM (SUICIDE) BY DROWNING (ICD-9 CODE E954 / ICD-10 CODE X71)</b>	1	4	1	2	3	1	2	3	1	5	4
<b>DROWNING AND SUBMERSION, UNDETERMINED INTENT (ICD-9 CODE E984 / ICD-10 CODE Y21)</b>	2	2	2	2	3	3	1	0	7	3	4
<b>TOTAL</b>	103	84	108	99	101	101	90	98	91	75	93

Note: The Tenth Revision of the International Classification of Diseases (ICD-10) replaced the Ninth Revision (ICD-9) beginning with the 2000 data year.



**TABLE 9-2  
DROWNING\* BY AGE GROUP AND YEAR, ARIZONA RESIDENTS, 1993-2003**

AGE GROUP	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
0- 4	22	26	30	27	27	28	19	25	29	23	19
5- 9	8	6	7	2	5	3	2	7	5	2	3
10-14	2	0	5	3	2	3	2	1	2	1	2
15-19	5	5	8	7	9	4	2	7	5	6	4
20-24	6	9	13	12	3	4	5	6	6	4	12
25-34	17	9	15	11	13	7	10	10	9	5	6
35-44	15	6	12	9	17	19	12	10	10	8	11
45-54	11	7	7	8	7	10	19	7	8	10	14
55-64	4	2	4	1	3	7	5	7	5	3	6
65 and over	11	9	6	16	9	13	11	12	8	9	10
Unknown	0	0	0	1	3	1	0	2	2	1	1
Arizona, all ages	101	79	107	97	98	99	88	94	89	70	88

\*For consistency with the previously published data, drowning in this table includes accidental drowning and submersion, drowning and submersion in water transport accidents, and drowning and submersion, undetermined intent.

**TABLE 9-3**  
**TOTAL AND AGE-SPECIFIC DROWNING RATES\* BY YEAR,**  
**ARIZONA RESIDENTS, 1993-2003 AND U.S., 1993-2002**

AGE GROUP	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>0-4</b>	6.5	7.5	8.8	7.9	7.8	8.0	5.2	6.5	7.3	5.6	4.5
<b>5-9</b>	2.7	1.9	2.2	0.6	1.4	0.8	0.5	1.8	1.2	0.5	0.7
<b>10-14</b>	0.7	0.0	1.7	0.9	0.6	0.9	0.6	0.3	0.5	0.2	0.5
<b>15-19</b>	2.0	1.9	2.9	2.3	2.8	1.2	0.6	1.9	1.3	1.5	1.0
<b>20-24</b>	2.0	3.1	4.5	3.9	1.0	1.3	1.5	1.7	1.6	1.0	3.0
<b>25-34</b>	2.6	1.4	2.3	1.6	1.9	1.0	1.4	1.3	1.2	0.6	0.7
<b>35-44</b>	2.5	1.0	1.9	1.3	2.4	2.6	1.6	1.3	1.3	1.0	1.3
<b>45-54</b>	2.7	1.6	1.5	1.6	1.3	1.8	3.2	1.1	1.2	1.5	2.0
<b>55-64</b>	1.3	0.7	1.2	0.3	0.8	1.8	1.3	1.6	1.1	0.6	1.2
<b>65 and over</b>	2.1	1.7	1.0	2.6	1.4	2.0	1.6	1.8	1.2	1.3	1.4
<b>Arizona, all ages</b>	2.6	2.0	2.6	2.2	2.1	2.0	1.8	1.8	1.7	1.3	1.6
<b>U.S., all ages</b>	1.5	1.6	1.7	1.5	1.5	1.6	1.3	1.3	1.2	1.3	NA

\*Number of drowning deaths per 100,000 population in specified group. The numerators include accidental drowning and submersion, drowning and submersion in water transport accidents, and drowning and submersion, undetermined intent (See Table 9-2).

**TABLE 9-4  
NUMBER OF DROWNINGS\* BY RACE/ETHNICITY, GENDER AND YEAR, ARIZONA, 1993-2003**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Total</b>	101	79	107	97	98	99	88	94	89	70	88
<b>Male</b>	80	52	87	69	72	78	66	68	62	48	72
<b>Female</b>	21	27	20	28	26	21	22	26	27	22	16
<b>White non-Hispanic</b>	58	47	64	63	60	63	56	52	57	45	48
<b>Male</b>	45	31	53	48	41	51	42	34	36	32	37
<b>Female</b>	13	16	11	15	19	12	14	18	21	13	11
<b>Hispanic</b>	17	19	27	22	15	21	16	21	21	19	26
<b>Male</b>	15	13	21	13	10	16	11	17	17	11	25
<b>Female</b>	2	6	6	9	5	5	5	4	4	8	1
<b>Black</b>	4	5	3	4	6	2	3	6	3	1	6
<b>Male</b>	2	3	3	3	5	2	3	6	2	1	3
<b>Female</b>	2	2	0	1	1	0	0	0	1	0	3
<b>American Indian</b>	20	8	11	7	16	10	12	13	3	3	7
<b>Male</b>	18	5	9	4	15	7	9	9	3	2	6
<b>Female</b>	2	3	2	3	1	3	3	4	0	1	1
<b>Asian</b>	2	0	2	1	0	3	0	1	4	2	1
<b>Male</b>	0	0	1	1	0	2	0	1	3	2	1
<b>Female</b>	2	0	1	0	0	1	0	0	1	0	0
<b>Other/Unknown</b>	0	0	0	0	1	0	1	1	1	0	0
<b>Male</b>	0	0	0	0	1	0	1	1	1	0	0

\*For consistency with the previously published data, drowning in this table includes accidental drowning and submersion, drowning and submersion in water transport accidents, and drowning and submersion, undetermined intent.

**TABLE 9-5  
DROWNING DEATHS OCCURRING IN ARIZONA BY COUNTY OF OCCURRENCE AND  
AGE GROUP IN 2003**

	TOTAL	Age group											Unknown
		<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65+			
<b>TOTAL</b>	106	0	19	5	22	13	12	14	5	15	1		
<b>County of occurrence</b>													
Apache	1	0	0	0	0	0	1	0	0	0	0	0	
Coconino	1	0	0	0	0	1	0	0	0	0	0	0	
Gila	1	0	0	0	1	0	0	0	0	0	0	0	
Maricopa	66	0	16	2	15	3	5	10	2	13	0	0	
Mohave	6	0	0	0	0	5	0	1	0	0	0	0	
Navajo	3	0	0	1	0	1	1	0	0	0	0	0	
Pima	6	0	1	1	0	0	0	0	3	1	0	0	
Pinal	4	0	2	0	1	0	1	0	0	0	0	0	
Santa Cruz	1	0	0	0	0	1	0	0	0	0	0	0	
Yavapai	3	0	0	0	1	0	0	2	0	0	0	0	
Yuma	9	0	0	0	2	2	3	0	0	1	1	1	
La Paz	5	0	0	1	3	0	1	0	0	0	0	0	

\*Includes 84 drowning deaths of Arizona residents and 22 drowning deaths of out-of-State residents.

**TABLE 9-6  
DROWNING DEATHS AMONG ARIZONA RESIDENTS BY COUNTY OF OCCURRENCE  
AND AGE GROUP IN 2003**

County of occurrence	TOTAL	Age group									
		<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65+	Unknown
<b>TOTAL</b>	88	0	19	5	16	6	11	14	6	10	1
Apache	1	0	0	0	0	0	0	1	0	0	0
Coconino	1	0	0	0	0	0	1	0	0	0	0
Gila	1	0	0	0	0	1	0	0	0	0	0
Maricopa	59	0	16	1	13	3	5	10	2	0	0
Mohave	2	0	0	0	0	1	0	1	0	0	0
Navajo	3	0	0	1	0	1	1	0	0	0	0
Pima	6	0	1	1	0	0	0	0	3	1	0
Pinal	3	0	2	0	1	0	0	0	0	0	0
Yavapai	3	0	0	0	1	0	0	2	0	0	0
Yuma	4	0	0	0	1	0	2	0	0	0	1
La Paz	1	0	0	1	0	0	0	0	0	0	0
Out-of-State	4	0	0	1	0	0	2	0	1	0	0

**TABLE 9-7  
ACCIDENTAL DROWNING DEATHS AND DROWNING RATES BY AGE AMONG CHILDREN 0-4 YEARS OLD,  
ARIZONA, 1993-2003**

Age	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Under 1</b>	1	4	3	4	2	1	1	3	2	4	0
<b>1</b>	12	8	14	6	15	16	9	6	12	12	9
<b>2</b>	5	6	6	11	5	5	5	6	9	6	6
<b>3</b>	4	4	2	3	4	4	2	3	2	1	2
<b>4</b>	0	4	5	3	1	2	2	7	4	0	2
<b>Subtotal, 1-4</b>	21	22	27	23	25	27	18	22	27	19	19
<b>Total, 0-4</b>	22	26	30	27	27	28	19	25	29	23	19
<b>Under 1</b>	1.4	5.7	4.4	5.6	2.8	1.3	1.3	3.5	2.4	4.6	0.0
<b>1</b>	17.4	11.5	20.5	10.3	21.0	22.1	12.0	7.8	15.3	14.8	10.8
<b>2</b>	7.2	8.6	8.8	15.7	10.9	6.9	6.7	8.0	11.8	7.4	7.2
<b>3</b>	6.1	5.7	2.9	4.3	6.5	2.8	2.7	3.9	2.6	1.2	2.4
<b>4</b>	0.0	5.6	7.3	4.3	1.7	1.7	3.1	9.1	5.1	0.0	2.4
<b>Subtotal, 1-4</b>	7.9	8.0	9.9	8.5	9.1	9.7	6.2	7.2	8.7	5.8	5.7
<b>Total, 0-4</b>	6.5	7.5	8.8	7.9	7.8	8.0	5.2	6.5	7.3	5.6	4.5

\*Per 100,000 population in specified group. For infants under 1 year of age, the number of births is used as the denominator.

**Note:** Many rates shown in this table are based on a small population, a small number of events or both. Rates based on small numbers (10 or less) are not statistically reliable.

**TABLE 9-8  
NUMBER OF DROWNINGS AMONG CHILDREN 0-4 YEARS OLD BY  
COUNTY OF RESIDENCE AND YEAR, ARIZONA, 1993-2003**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Total</b>	22	26	30	27	27	28	19	25	29	23	19
<b>Apache</b>	0	0	0	0	0	0	0	0	0	0	0
<b>Cochise</b>	0	0	0	0	0	1	0	1	0	0	0
<b>Coconino</b>	0	1	1	0	0	0	1	0	0	0	0
<b>Gila</b>	0	0	0	0	0	1	0	0	0	0	0
<b>Graham</b>	0	0	1	0	0	0	0	0	0	0	0
<b>Greenlee</b>	0	0	0	0	0	0	0	0	1	0	0
<b>Maricopa</b>	17	17	16	18	23	19	13	18	25	18	15
<b>Mohave</b>	0	1	0	0	0	1	1	1	0	0	0
<b>Navajo</b>	0	0	1	3	0	1	0	0	0	0	0
<b>Pima</b>	4	6	4	2	2	4	2	3	3	4	1
<b>Pinal</b>	1	1	5	3	0	0	1	0	0	0	2
<b>Yavapai</b>	0	0	2	1	0	0	0	1	0	0	0
<b>Yuma</b>	0	0	0	0	0	0	1	1	0	1	1
<b>Unknown</b>	0	0	0	0	2	1	0	0	0	0	0

**TABLE 9-9  
NUMBER OF DROWNINGS AMONG CHILDREN 0-4 YEARS OLD BY MONTH  
AND YEAR, ARIZONA, 1993-2003**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Total</b>	22	26	30	27	27	28	19	25	29	23	19
<b>Month of death</b>											
JAN	0	1	0	0	0	1	0	2	0	0	2
FEB	0	2	0	1	0	0	2	2	1	1	0
MAR	0	0	4	0	3	1	2	2	1	2	0
APR	0	1	2	3	0	2	0	4	5	5	2
MAY	0	2	4	6	6	3	1	2	6	3	4
JUN	6	2	5	6	4	4	7	2	2	2	1
JUL	7	3	5	3	3	6	3	5	3	2	3
AUG	4	3	4	3	4	5	3	3	6	0	5
SEP	1	5	2	0	2	3	0	2	2	2	1
OCT	1	5	1	2	3	1	1	0	2	2	0
NOV	1	0	1	2	0	0	0	0	0	2	1
DEC	2	2	2	1	2	2	0	1	1	2	0



**TABLE 9-10  
NUMBER OF DROWNINGS BY RACE/ETHNICITY, GENDER AND YEAR AMONG  
CHILDREN 0-4 YEARS OLD, ARIZONA, 1993-2003**

		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Total, all groups</b>	<b>Total</b>	22	26	30	27	27	28	19	25	29	23	19
	<b>Male</b>	13	11	21	13	15	18	11	14	15	13	12
	<b>Female</b>	9	15	9	14	12	10	8	11	14	10	7
<b>White non-Hispanic</b>	<b>Total</b>	13	13	13	16	18	16	8	15	16	11	10
	<b>Male</b>	9	6	9	10	9	10	6	9	8	8	6
	<b>Female</b>	4	7	4	6	9	6	2	6	8	3	4
<b>Hispanic or Latino</b>	<b>Total</b>	5	9	10	6	8	9	8	6	8	10	6
	<b>Male</b>	3	4	6	1	5	6	4	3	4	4	6
	<b>Female</b>	2	5	4	5	3	3	4	3	4	6	0
<b>Black or African American</b>	<b>Total</b>	3	3	1	2	1	1	0	2	2	1	3
	<b>Male</b>	1	1	1	1	1	1	0	2	1	1	0
	<b>Female</b>	2	2	0	1	0	0	0	0	1	0	3
<b>American Indian or Alaska Native</b>	<b>Total</b>	0	1	6	3	0	1	3	2	0	1	0
	<b>Male</b>	0	0	5	1	0	0	1	0	0	0	0
	<b>Female</b>	0	1	1	2	0	1	2	2	0	1	0
<b>Asian</b>	<b>Total</b>	1	0	0	0	0	1	0	0	3	0	0
	<b>Male</b>	0	0	0	0	0	1	0	0	2	0	0
	<b>Female</b>	1	0	0	0	0	0	0	0	1	0	0

**TABLE 9-11  
NUMBER OF ACCIDENTAL DROWNINGS AMONG CHILDREN 0-4 YEARS OLD, BY PLACE AND  
COUNTY OF RESIDENCE, ARIZONA, 2003**

County of residence	Total	Bathtub	Swimming pool	Irrigation canal	Bucket of water	Other specified drowning and submersion*
<b>Total State</b>	19	0	15	2	1	1
<b>Maricopa</b>	15	0	13	1	1	0
<b>Pima</b>	1	0	0	0	0	1
<b>Pinal</b>	2	0	1	1	0	0
<b>Yuma</b>	1	0	1	0	0	0

\* Jacuzzi.

**TABLE 9-12  
RESIDENT DROWNING AND NON-RESIDENT DROWNING  
OCCURRING IN ARIZONA, 2003**

	AZ resident, died in AZ	AZ resident, died elsewhere	Non-resident, died in AZ
<b>TOTAL</b>	84	4	22
<b>Age group</b>			
<1	0	0	0
1-4	19	0	0
5-14	4	1	1
15-24	16	0	6
25-34	6	0	7
35-44	9	2	3
45-54	14	0	0
55-64	5	1	0
65+	10	0	5
<b>Unknown</b>	1	0	0

Note: For consistency with the previously published data, drowning in this table includes accidental drowning and submersion, drowning and submersion in water transport accidents, and drowning and submersion, undetermined intent.