DROWNINGS IN NEW MEXICO

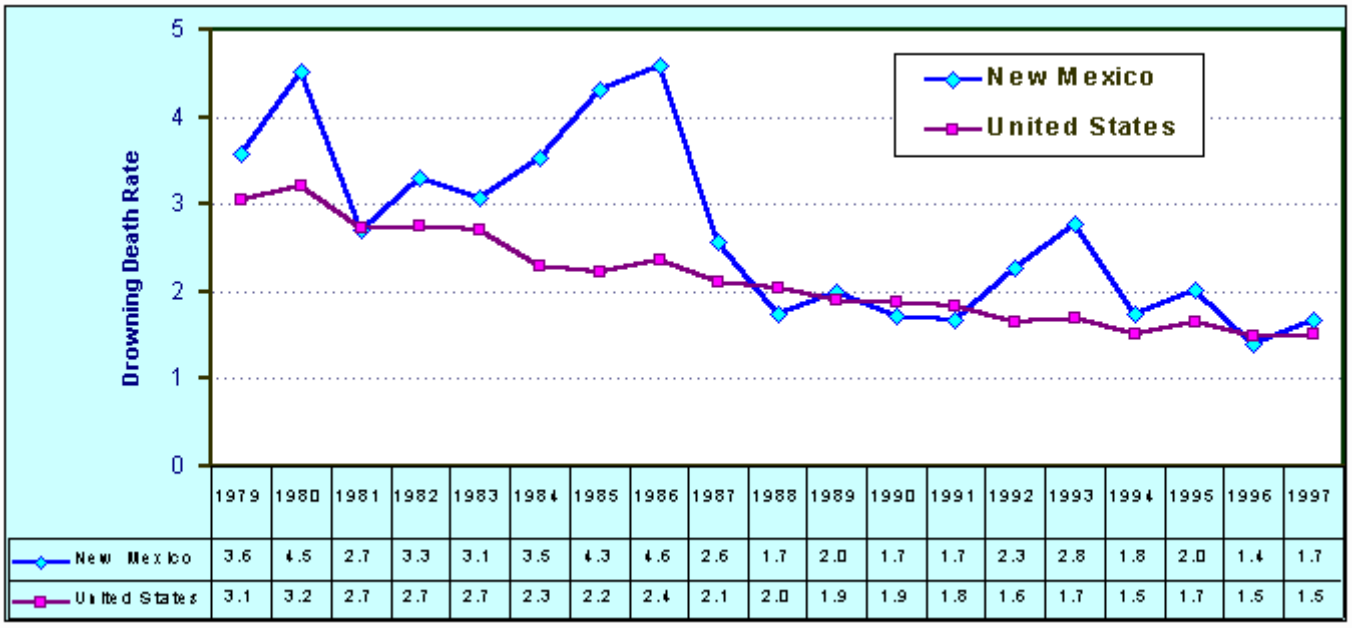
In spite of radical fluctuations from year to year, the rate of death from accidental drowning in New Mexico has generally declined since 1979. The New Mexico drowning death rate has generally been higher than that for the United States overall. Nationally, the rate of drowning has dropped more steadily. The 1997 rates for both New Mexico and the United States are less than half of what their respective rates were in 1979. In 1997, the New Mexico rate of 1.7 was 13% higher than the United States rate of 1.5 drowning deaths per 100,000 population (Figure 1). These data include all accidental drowning deaths, work and non-work, from boating accidents, and those resulting from swimming, other water recreation, or from falling in water; however, drowning from floods and other cataclysms are excluded.[1, 2]

Figure 1

Drowning Deaths by Place of Occurrence

Rates per 100,000 Population

New Mexico and United States 1979-1997



	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
New Mexico	3.6	4.5	2.7	3.3	3.1	3.5	4.3	4.6	2.6	1.7	2.0	1.7	1.7	2.3	2.8	1.8	2.0	1.4	1.7
United States	3.1	3.2	2.7	2.7	2.7	2.3	2.2	2.4	2.1	2.0	1.9	1.9	1.8	1.6	1.7	1.5	1.7	1.5	1.5

New Mexico had the 26th highest rate of drowning deaths among the fifty states, comparing rates averaged for 1995-1997; Alaska (6.6) had the highest rate and New York (0.7) the lowest rate of deaths from accidental drowning.[1]

Figure 2, on the following page, compares drowning deaths that occurred both at home and in public places for both New Mexico and the United States for the 1989 through 1997. While New Mexico generally had higher than national rates for drowning deaths occurring at home, in recent years, New Mexico rates have been at or near the national level. For drowning deaths occurring in public places, New Mexico rates have fluctuated considerably; however, for most of the years shown, rates for the State have been higher than nationally. In 1997, the rate for home occurrences was 0.4 drowning deaths per 100,000 population for both New Mexico and the United States. For drowning deaths in public places, the rate for New Mexico (1.3) was 18

% higher than the national rate (1.1). Note that the comparison of drowning by public and home occurrences exclude drowning deaths that occurred on the job, from "late effects", and those that could not be classed by category due to lack of information.[2]

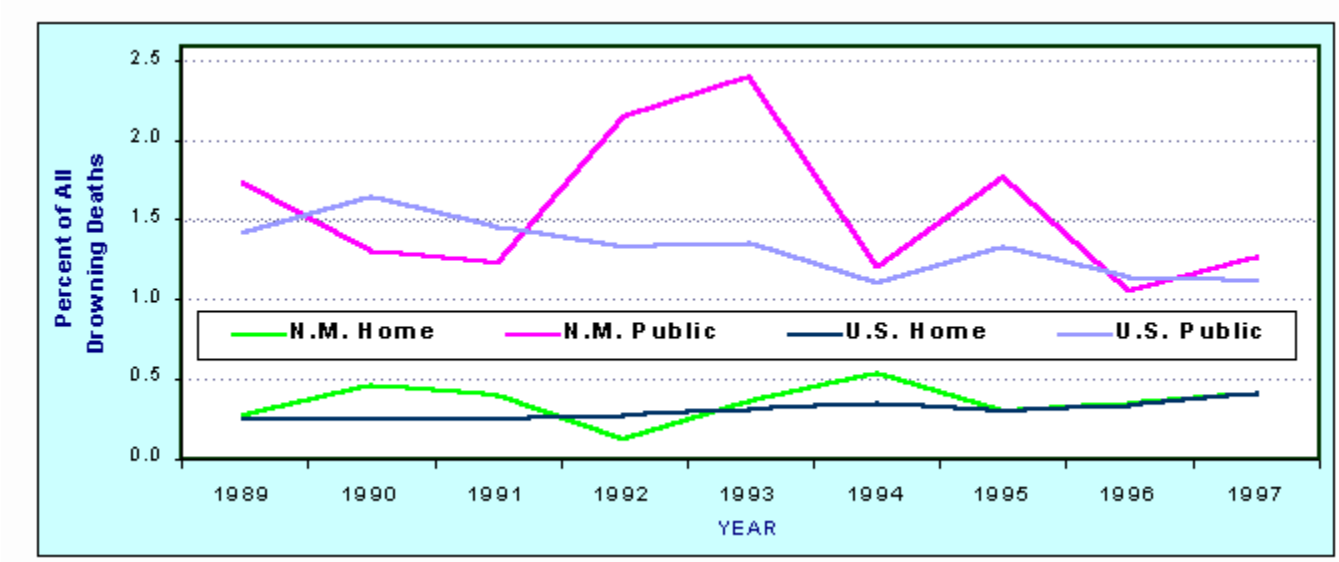
Figure 2

Drowning Deaths

Classed by Home or Public Occurrence

Rates per 100,000 Population

New Mexico and United States 1989-1997



Tables 1 and 2, on the following pages, show by county in order of health district, 3-year aggregate number of drowning deaths, 3-year average rates, and relative rankings of the rates for 1989-1991, 1992-1994 and 1995-1997. Table 1 presents data by county of occurrence, and Table 2 by county of residence. The denominator used in calculating the drowning death rates for both Table 1 and Table 2 is the resident population of each county.

Table 1 - New Mexico Drowning Deaths by County of Occurrence

Aggregate Number, Average Rate, and County Rank

1989-1991, 1992-1994, 1995-1997

COUNTY	1995-1997			1992-1994			1989-1991		
	No.	Rate	Rank	No.	Rate	Rank	No.	Rate	Rank
United States	xx	1.6	xx	xx	1.6	xx	xx	1.9	xx
New Mexico	87	1.7	xx	110	2.3	xx	82	1.8	xx
Bernalillo	19	1.2	13	19	1.2	20	16	1.1	19
Cibola	0	--	-	1	1.4	17	1	1.4	14
McKinley	6	3.0	8	5	2.6	11	8	4.4	5
Sandoval	5	2.0	11	3	1.4	17	6	3.2	7
San Juan	14	4.6	4	18	6.2	4	16	5.8	4
Torrance	0	--	-	0	--	-	1	3.2	7
Valencia	4	2.2	10	1	0.7	22	1	0.7	22
Colfax	0	--	-	2	5.0	6	1	2.6	9
Harding	0	--	-	0	--	-	0	--	-
Los Alamos	0	--	-	0	--	-	1	1.8	13
Mora	0	--	-	1	7.6	3	0	--	-
Rio Arriba	5	4.4	5	5	4.7	8	4	3.9	6
San Miguel	3	3.5	6	4	5.0	6	1	1.3	16
Santa Fe	1	0.3	17	5	1.5	15	3	1.0	20
Taos	1	1.3	12	4	5.4	5	1	1.4	14
Union	0	--	-	0	--	-	1	8.1	3
Catron	0	--	-	0	--	-	1	13.0	2
Doña Ana	5	1.0	14	6	1.3	19	5	1.2	17
Grant	0	--	-	0	--	-	1	1.2	17
Hidalgo	0	--	-	0	--	-	0	--	-
Luna	0	--	-	1	1.6	14	0	--	-
Otero	1	0.6	16	4	2.5	13	3	1.9	12
Sierra	6	18.3	3	14	44.9	1	5	16.8	1
Socorro	0	--	-	2	4.4	9	1	2.3	10
Chaves	5	2.7	9	5	2.8	10	1	0.6	23
Curry	1	0.7	15	2	1.4	16	1	0.8	21
De Baca	2	28.3	2	2	29.0	2	0	--	-
Eddy	5	3.1	7	4	2.6	11	3	2.1	11
Guadalupe	4	31.8	1	0	--	-	0	--	-
Lea	0	--	-	2	1.2	20	0	--	-
Lincoln	0	--	-	0	--	-	0	--	-
Quay	0	--	-	0	--	-	0	--	-
Roosevelt	0	--	-	0	--	-	0	--	-

Mortality rate per 100,000 population

County ranking based on rates; counties with no drowning deaths not ranked.

Table 2 - New Mexico Drowning Deaths by County of Residence

Aggregate Number, Average Rate, and County Rank

COUNTY	1995-1997			1992-1994			1989-1991		
	No.	Rate	Rank	No.	Rate	Rank	No.	Rate	Rank
United States	xx	1.6	xx	xx	1.6	xx	xx	1.9	xx
New Mexico	81	1.6	xx	107	2.2	xx	79	1.7	xx
Bernalillo	17	1.1	16	22	1.4	20	21	1.5	15
Cibola	0	--	-	0	--	-	1	1.4	16
McKinley	5	2.5	7	5	2.6	11	6	3.3	6
Sandoval	6	2.4	9	3	1.4	20	4	2.1	12
San Juan	16	5.2	2	20	6.9	4	14	5.1	5
Torrance	1	2.5	7	0	--	-	1	3.2	7
Valencia	5	2.8	6	7	4.6	6	1	0.7	22
Colfax	0	--	-	2	5.0	5	0	--	-
Harding	0	--	-	0	--	-	0	--	-
Los Alamos	0	--	-	0	--	-	1	1.8	13
Mora	1	6.9	1	1	7.6	3	0	--	-
Rio Arriba	1	0.9	18	2	1.9	14	3	2.9	8
San Miguel	0	--	-	3	3.7	8	1	1.3	17
Santa Fe	4	1.1	16	5	1.5	19	2	0.7	22
Taos	0	--	-	3	4.1	7	2	2.9	8
Union	0	--	-	0	--	-	1	8.1	2
Catron	0	--	-	0	--	-	1	13.0	1
Doña Ana	7	1.4	13	4	0.9	22	4	1.0	20
Grant	0	--	-	0	--	-	1	1.2	19
Hidalgo	0	--	-	0	--	-	0	--	-
Luna	0	--	-	1	1.6	18	1	1.8	13
Otero	1	0.6	19	4	2.5	12	2	1.3	17
Sierra	1	3.0	5	6	19.3	1	2	6.7	3
Socorro	1	2.1	11	1	2.2	13	1	2.3	11
Chaves	3	1.6	12	5	2.8	10	1	0.6	25
Curry	2	1.4	13	5	3.6	9	1	0.8	21
De Baca	0	--	-	1	14.5	2	0	--	-
Eddy	5	3.1	4	3	1.9	14	1	0.7	22
Guadalupe	0	--	-	0	--	-	0	--	-
Lea	2	1.2	15	3	1.8	17	4	2.4	10
Lincoln	1	2.2	10	0	--	-	2	5.5	4
Quay	0	--	-	0	--	-	0	--	-
Roosevelt	2	3.6	3	1	1.9	14	0	--	-

Mortality rate per 100,000 population

County ranking based on rates; counties with no drowning deaths not ranked.

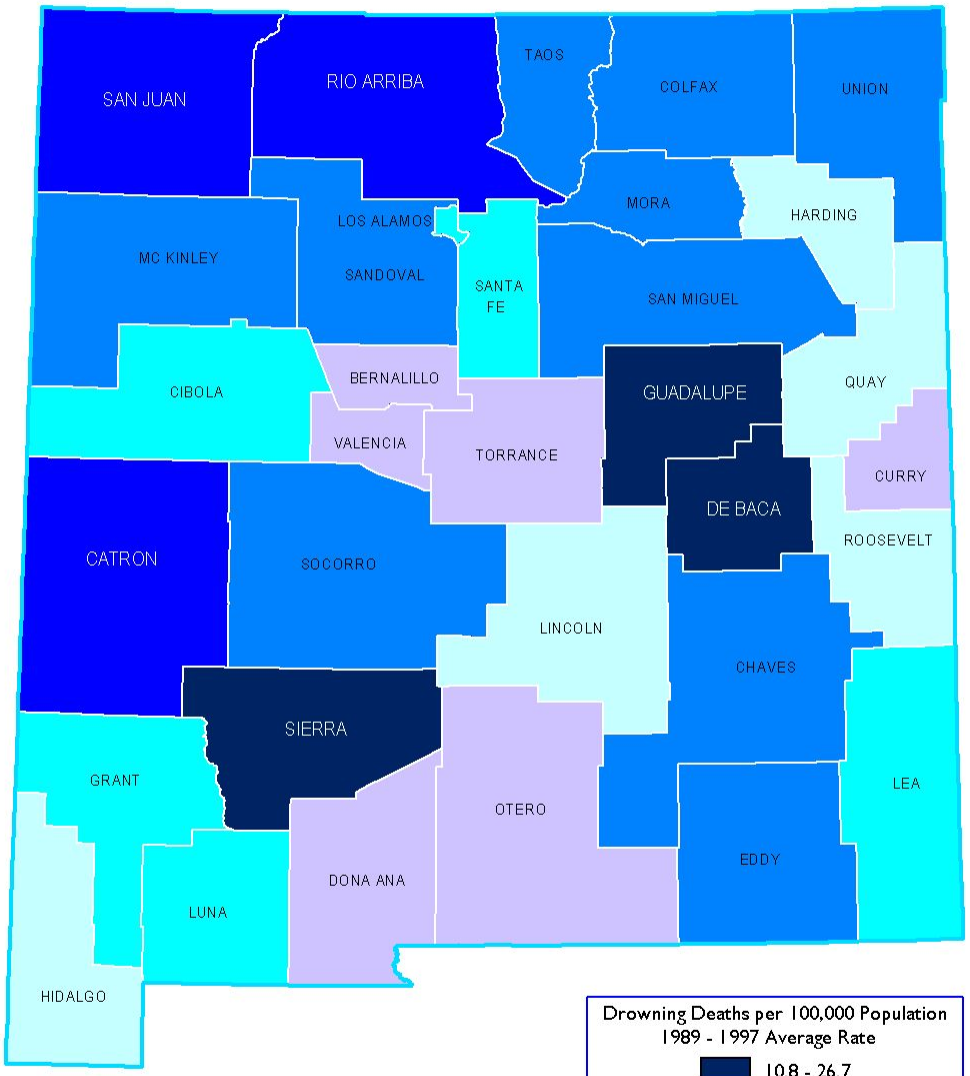
With such a relatively small frequency of events, drowning death rates and frequencies can fluctuate widely from year to year among the State's 33 counties. Aggregating three years of data lends a degree of stability to the data; however, the data still show wide variation when comparing each of the reporting periods.

In examining the data by county where death occurred (Table 1, on page 4), it is seen that five counties (Roosevelt, Quay, Lincoln, Hidalgo and Harding) had no drowning deaths from 1989 through 1997. In contrast, four counties (Sierra, San Juan, McKinley and Eddy) had rates consistently higher than both State and national rates during each of the three-year reporting periods. For years 1995-1997, eleven counties reported drowning death rates that exceeded both national and State figures; Guadalupe County, followed by De Baca and Sierra counties, reported the highest rates during this period. For years 1992-1994, thirteen counties reported higher than both State and national rates, with Sierra, De Baca and Mora counties, in that order, reporting the worst drowning death rates occurring among the 33 counties. During 1989-1991, eleven of New Mexico's 33 counties had rates greater than those for the State and nation; Sierra, Catron and Union counties had the highest rates among the counties.

Figure 3, on the next page, presents drowning death rates by county of occurrence for the nine year period, 1989-1997. Sierra County had the worst rate with 26.7 drowning deaths per 100,000 population; this rate was 14 times greater than the overall statewide rate (1.9), 16 times greater than the United States rate (1.7), and 38% more than the rate for second ranking De Baca County (19.4). Guadalupe County (10.8) had the third highest rate, followed by San Juan (5.5) and Catron and Rio Arriba counties (both with 4.4). Rates for the remainder of the 28 counties that reported occurrences of drowning deaths follow: San Miguel and McKinley counties (3.3), Union and Taos counties (2.7), Eddy County (2.6), Mora County (2.5), Socorro and Sandoval counties (2.2), Chaves County (2.0), Otero County (1.7), Valencia County (1.3), Bernalillo and Doña Ana counties (1.2), Torrance and Curry counties (1.0), Cibola and Santa Fe counties (0.9), Los Alamos County (0.6), Luna County (0.5), and, Lea and Grant counties (0.4).

Figure 3 : DROWNING DEATHS

New Mexico Mortality Rates by County of Occurrence



Source:
The State Center for Health Statistics at
New Mexico Vital Records & Health Statistics GIS
OIM/PHD NM Department of Health

On page 5, Table 2 further presents drowning deaths by resident county. Four counties (Quay, Guadalupe, Hidalgo and Harding) had no drowning deaths from 1989 through 1997. In contrast, three counties

(Sierra, San Juan and McKinley) had rates consistently higher than both State and national rates during each of the three-year reporting periods. Mora, San Juan and Roosevelt counties had the highest resident drowning rates of New Mexico's counties during the years 1995-1997. From 1992 through 1994, the worst rates were reported by Sierra, De Baca and Mora counties, and during the previous three years, Catron, Union and Sierra, in that order, had the highest rates among the counties. County death rates from drowning exceeded both national and State figures for eleven counties during 1995-1997; twelve counties during both the 1992-1994 and 1989-1991 reporting periods had higher rates than seen both nationally and statewide.

Figure 4, presents drowning death rates by county of residence for 1989-1997. The drowning death rate was highest for Sierra County residents at 9.6, and was 5 times the overall statewide rate (1.8). The second highest rate was seen in San Juan County (5.7), followed by Mora (5.1), De Baca (4.8) and Catron (4.4) counties. The following counties also reported resident drowning deaths: Valencia County (2.8), McKinley and Union counties (2.7), Lincoln County (2.5), Taos County (2.3), Socorro County (2.2), Sandoval and Torrance counties (2.0), Curry, Eddy, Roosevelt, and Rio Arriba counties (1.9), Lea County (1.8), Chaves, Colfax and San Miguel counties (1.7), Otero County (1.5), Bernalillo County (1.4), Santa Fe, Doña Ana and Luna counties (1.1), Los Alamos County (0.6), Cibola County (0.5), and Grant County (0.4).

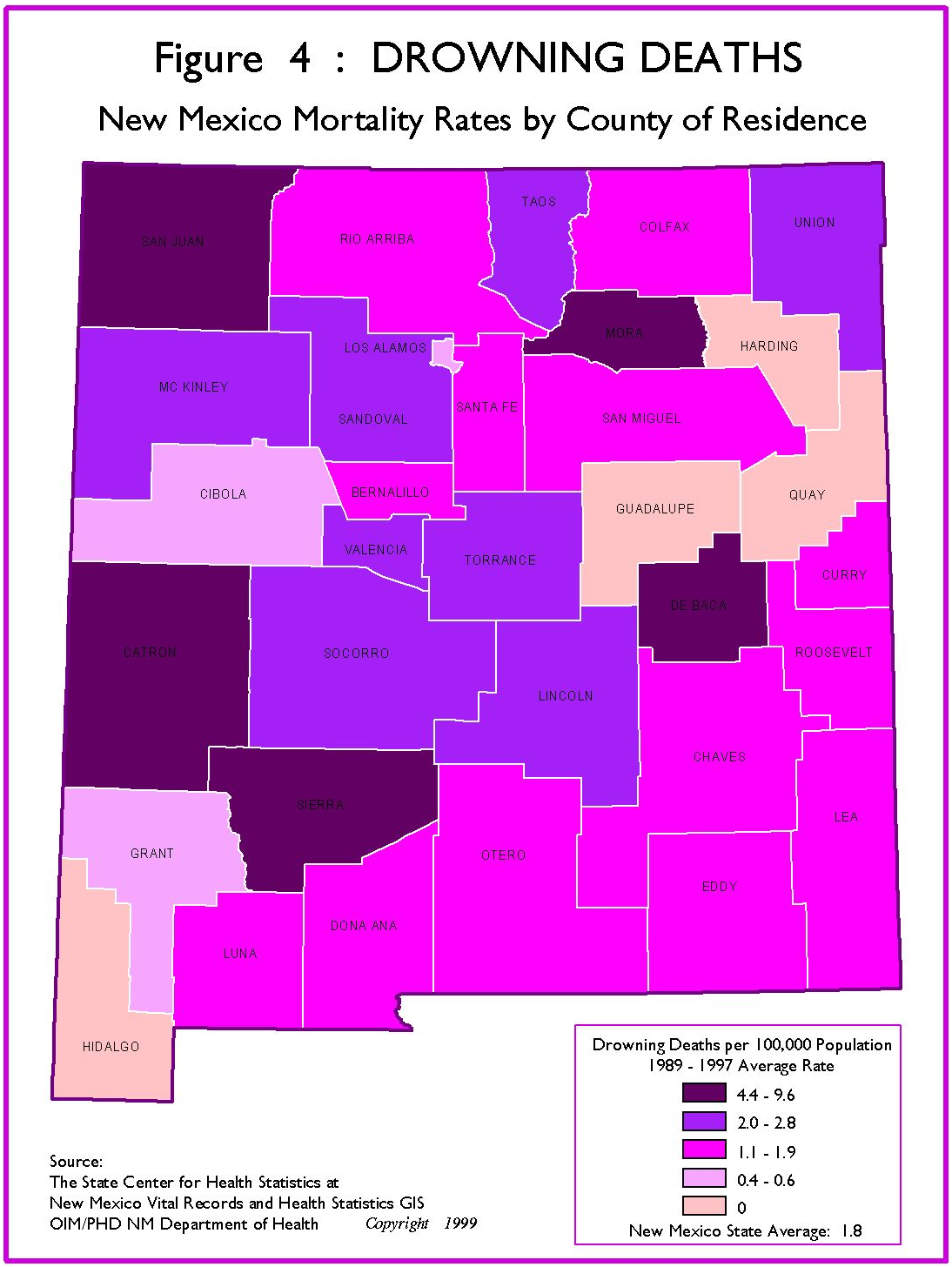


Figure 5, below, displays accidental drowning deaths by setting for New Mexico occurrences for the years 1989-1997. The largest percentage of New Mexico's 279 drowning deaths took place in lakes, accounting for over one-fourth of the total. Ditches and canals, which

provide for drainage from water runoff and for irrigation, accounted for the 17.6% of the state's drowning deaths. Rivers were the setting for 17.2% of all drowning deaths, followed by swimming pools (12.5%), bathtubs (11.1%) and ponds (5.4%). The remaining 7.5% occurred in other or unspecified settings.

Figure 5

New Mexico Occurrence

Accidental Drowning Deaths

Percent and Number by Setting

1989-1997 Aggregate

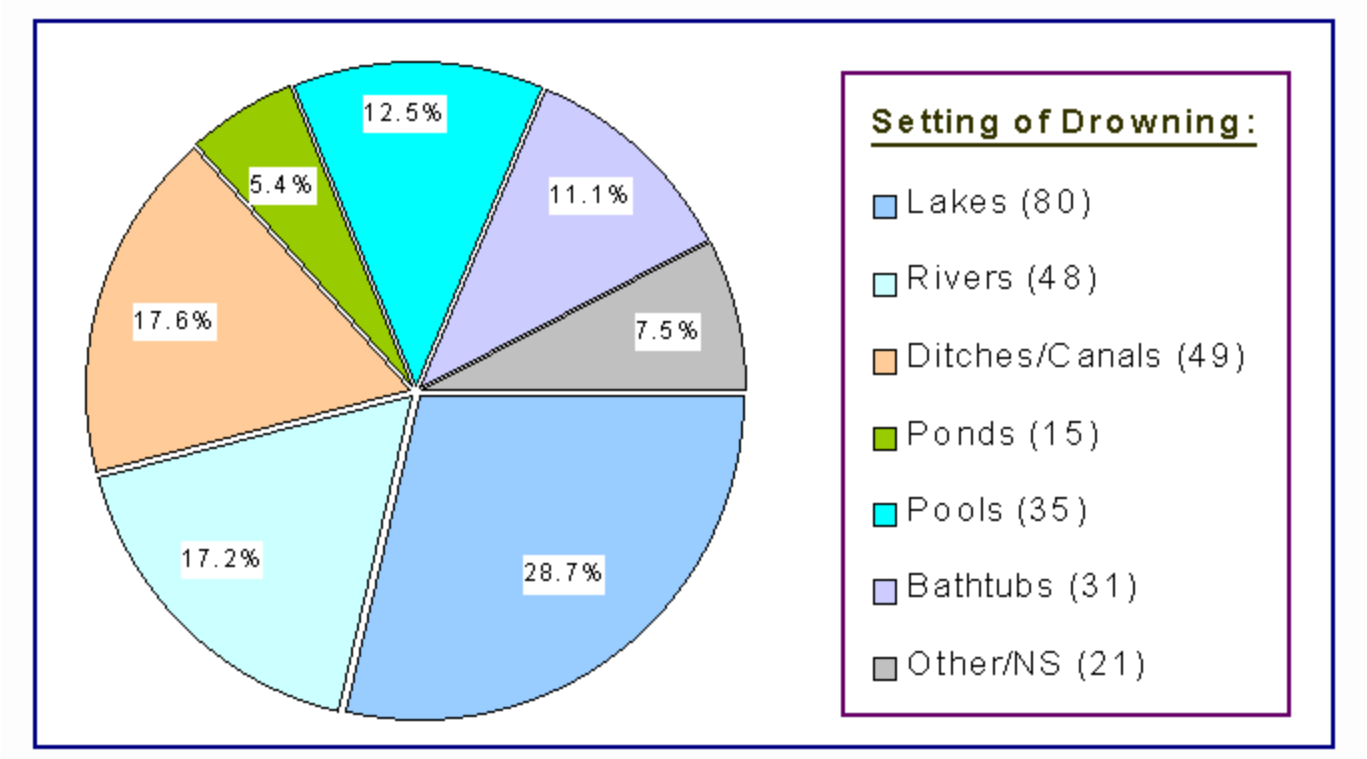


Figure 6 on the next page presents the aggregate number of 1989-1997 New Mexico occurrence drowning deaths by month and setting. July has been, by far, the worst month for drowning in New Mexico for total drowning deaths and within each setting. One-fourth of all

drowning deaths occurred during July in New Mexico. The 70 drowning deaths reported for July exceeded by 89% the number of drowning deaths reported for June, the month with next highest number. May and August were next in number of drowning deaths, followed by September, April, March, October, December, November and, January and February. Four out of every five of the State's drowning deaths were reported occurring during the six months from April through September.

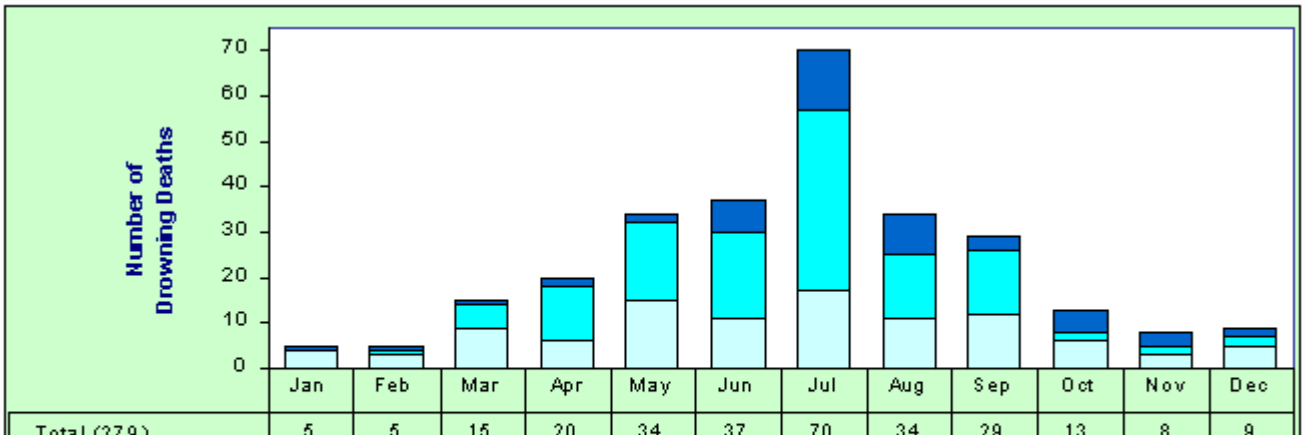
Figure 6

New Mexico Occurrence

Accidental Drowning Deaths

By Month and Setting of Drowning

1989-1997 Aggregate Number



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total (279)	5	5	15	20	34	37	70	34	29	13	8	9
Ditches/Canals (49)	1	1	1	2	2	7	13	9	3	5	3	2
Rivers & Lakes (128)	-	1	5	12	17	19	40	14	14	2	2	2
All Other (102)	4	3	9	6	15	11	17	11	12	6	3	5

For both New Mexico and nationally, drowning was the fourth overall leading cause of accidental (unintentional injury) death, after motor-vehicle crashes, poisoning and falls for 1995-1997. In New Mexico, among the leading causes of accidental death, drowning ranked as second overall for the 1-4 and 5-14 age groups, third for the less than

one and 15-24 age groups, fourth for the 25-44 age group, fifth for the 45-64 age group, and seventh for the 65 and older age group.

Figure 7 on the next page, present age-specific death rates averaged for 1989-1997 New Mexico occurrence drowning deaths by setting. Drowning death rates were highest for the 1-4 age group, which averaged for the years 1989-1997, 3.9 drowning deaths per 100,000 population in that age group. The next highest rate was in the 15-24 age group (2.6), followed by the 25-44 age group (1.8). Death rates from drowning in ditches and canals were highest in the 1-4 age group, and were three times higher than in the 15-24 age group, which had the second largest rate for this setting. Drowning deaths occurring in New Mexico's rivers and lakes, were highest for ages 15-24 with a rate of 1.6, followed by the 25-44 age group (0.9). Drowning deaths in "all other" settings (including swimming pools, ponds and bathtubs), were highest in the 1-4 age group with a rate of 2.1, followed by the less than one age group (1.6), and, at the other end of the age spectrum, the 65 and older age group had the third highest rate in this category (1.1).

Figure 7

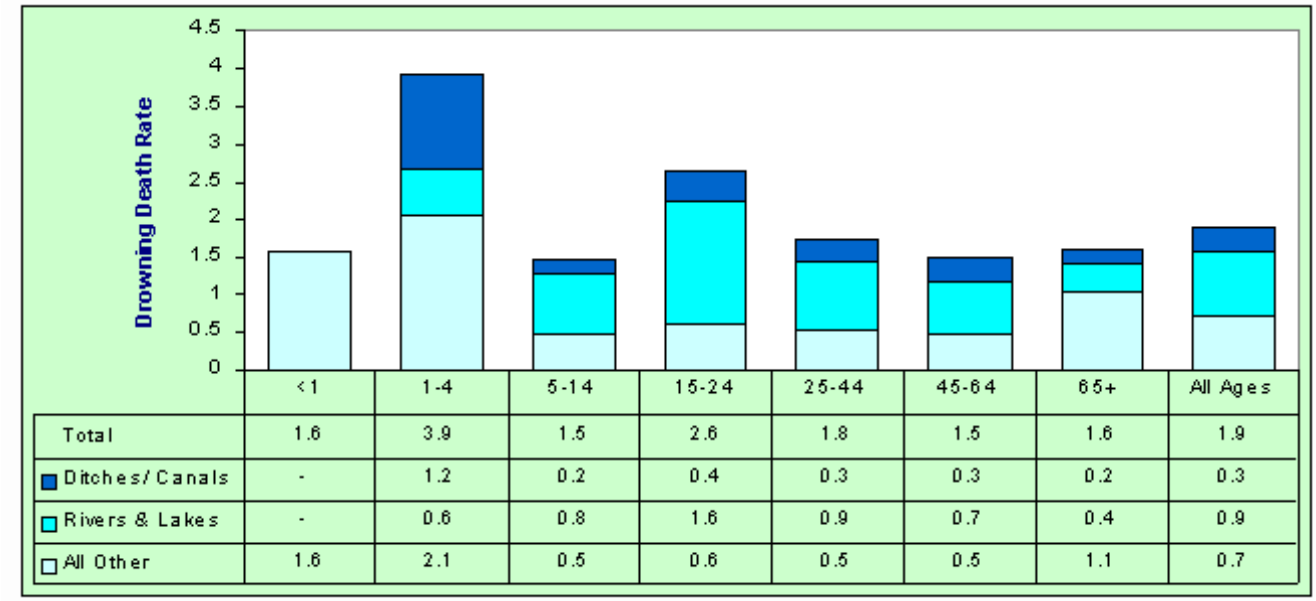
New Mexico Occurrence

Accidental Drowning Deaths

By Age Group and Setting of Drowning

1989-1997 Average Age-Specific Death Rates

Deaths per 100,000 Population in Age Group



	<1	1-4	5-14	15-24	25-44	45-64	65+	All Ages
Total	1.6	3.9	1.5	2.6	1.8	1.5	1.6	1.9
Ditches/Canals	-	1.2	0.2	0.4	0.3	0.3	0.2	0.3
Rivers & Lakes	-	0.6	0.8	1.6	0.9	0.7	0.4	0.9
All Other	1.6	2.1	0.5	0.6	0.5	0.5	1.1	0.7

Sources of national data

1. Centers for Disease Control and Prevention:

National Center for Injury Prevention and Control, National Summary of Injury Mortality

Data August 1999 from annual data tapes of the National Center for Health Statistics

(NCHS), http://www.cdc.gov/ncipc/osp/states/ and http://www.cdc.gov/ncipc/data/.

National Center for Health Statistics: Data Warehouse, Detailed Statistical Tables,

Total Deaths for Each Cause by 5-Year Age Groups, United States. http://www.cdc.gov/

nchswww/datawh/statab/unpubd/mortabs/gmwki.htm. (data for 1997,1996,1995)

2. National Safety Council. (1981-1998). *Accident Facts* [TM], 1981-1998 *Editions*.

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