

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1978 REPORTS**

**III. AGE-ADJUSTED DEATH RATES FOR LEADING CAUSES
OF DEATH IN THE UNITED STATES, 1968-77**

TABLES 1, 2, and 3 on the following pages show age-adjusted death rates per 100,000 from selected causes of death (as well as from all causes of death combined) by calendar year for the years 1968-77. These tables generally update the tables shown for the years 1950-67 on pages 113-17 of the *T.S.A., 1970 Reports Number*.

The death rates on the following pages are for all ages combined and are shown separately by sex (for males, for females, and for males and females combined) for white persons in the United States (Table 1), for nonwhite persons in the United States (Table 2), and for white and nonwhite persons combined in the United States (Table 3). Thus the figures under "males and females combined" in Table 3 are actually figures for the total population.

The death rates shown for 1970 and subsequent years are based on deaths of residents of the United States occurring within the United States, while for 1969 and prior years the death rates shown also include deaths of nonresidents of the United States occurring within the United States.

All death rates shown have been age-adjusted on the basis of the age distribution of the enumerated population of the United States in 1940. The Division of Vital Statistics continues to use the 1940 census figures to make these age adjustments, thus maintaining, in this respect, comparability of the death rates from year to year. Each figure represents the rate that would have existed if the age-specific death rates for that particular year had prevailed in a population whose age distribution was like that of the United States in 1940.

Because of the age-adjustment procedures, the age-adjusted death rates calculated and shown for a given cause of death for white and nonwhite persons combined are occasionally slightly outside the range of (rather than somewhere in between) the corresponding age-adjusted death rates shown for white and nonwhite persons separately.

Rates shown on the following pages for which there are no corresponding rates in the *1970 Reports Number* include those for (1) males and females combined, (2) white and nonwhite persons combined, (3) suicide, (4) homicide, and (5) all causes combined. Also, each rate shown on the following pages for "all causes" exceeds the sum of the corresponding rates shown for each cause individually, because death rates for a

TABLE 1
AGE-ADJUSTED* DEATH RATES PER 100,000 FROM SELECTED CAUSES
FOR WHITE PERSONS BY SEX, UNITED STATES, 1968-77

YEAR	ALL CAUSES	MAJOR CARDIOVASCULAR DISEASES				NEPHRITIS AND NEPHROSIS	MALIGNANT NEOPLASMS
		All	Cerebrovascular Diseases	Diseases of Heart	Arteriosclerosis		
Males							
1977	781.5	365.0	50.5	294.0	7.2	2.8	160.0
1976	798.8	378.1	53.7	303.0	7.4	2.9	159.1
1975	812.7	386.8	57.4	308.0	7.5	2.8	157.2
1974	843.0	409.1	63.0	322.8	8.7	2.8	158.3
1973	874.1	428.7	66.3	338.1	9.0	3.0	156.2
1972†	883.2	437.0	68.8	343.3	9.3	3.2	156.4
1971	878.4	437.9	68.9	344.4	9.3	3.2	154.9
1970	893.4	441.9	68.8	347.6	9.6	3.5	154.3
1969	909.1	454.3	70.9	356.9	10.4	3.8	152.7
1968	924.7	465.4	73.6	364.5	10.8	3.9	152.5
Females							
1977	427.8	190.2	41.5	137.2	5.5	1.6	108.3
1976	439.6	198.1	44.5	141.7	5.8	1.7	108.2
1975	445.3	203.2	46.8	144.2	5.9	1.7	106.9
1974	466.4	217.8	51.4	152.9	6.9	1.7	107.6
1973	483.7	228.8	54.5	160.3	7.2	1.8	106.8
1972†	490.8	233.8	54.9	164.7	7.4	2.0	107.4
1971	490.9	235.0	55.1	165.5	7.3	2.1	106.6
1970	501.7	238.7	56.2	167.8	7.5	2.2	107.6
1969	510.8	245.8	57.7	172.4	8.3	2.5	106.4
1968	522.9	254.9	60.2	178.5	8.7	2.4	107.1
Males and Females Combined							
1977	585.4	267.4	45.3	206.8	6.2	2.1	130.0
1976	599.9	277.8	48.5	213.5	6.5	2.2	129.5
1975	609.8	284.6	51.3	217.2	6.6	2.1	128.1
1974	635.4	302.9	56.4	228.8	7.6	2.2	129.0
1973	659.3	317.9	59.6	239.9	8.0	2.3	127.7
1972†	667.6	324.7	61.0	244.9	8.2	2.5	128.3
1971	665.8	325.9	61.1	245.9	8.2	2.6	127.3
1970	679.6	330.3	61.8	249.1	8.4	2.8	127.8
1969	691.9	339.9	63.5	256.0	9.2	3.1	126.4
1968	706.2	350.3	66.2	263.1	9.6	3.1	126.9

* Age-adjusted on the basis of the age distribution of the total population (males and females combined) of the United States in the census of April 1, 1940.

† Rates shown for 1972 were based on only a 50 percent sample of death records rather than on all death records.

TABLE 1—Continued

AGE-ADJUSTED* DEATH RATES PER 100,000 FROM SELECTED CAUSES
FOR WHITE PERSONS BY SEX, UNITED STATES, 1968-77

YEAR	ACCIDENTS			SUICIDE	HOMICIDE	PNEUMONIA AND INFLUENZA	DIABETES MELLITUS	CIRRHOSIS OF THE LIVER	TUBERCULOSIS ALL FORMS
	Total	Motor Vehicle	Other						
Males									
1977	63.2	33.2	30.0	20.6	8.8	18.1	9.8	16.7	1.2
1976	62.3	31.8	30.5	19.2	8.6	21.8	10.2	17.5	1.2
1975	64.8	31.7	33.1	19.8	9.4	21.0	10.7	17.9	1.4
1974	66.6	32.8	33.8	19.0	9.3	21.0	11.5	19.0	1.5
1973	73.6	38.4	35.2	18.7	8.7	24.6	12.0	19.3	1.7
1972†	73.5	39.1	34.4	18.5	8.2	25.4	12.3	19.1	2.0
1971	73.1	38.5	34.6	18.0	7.9	22.9	12.4	18.9	2.1
1970	76.2	40.1	36.2	18.2	7.3	26.0	12.7	18.8	2.6
1969	78.7	41.7	37.0	17.4	6.6	28.6	12.9	18.0	2.8
1968	77.9	41.9	36.0	17.2	6.5	30.9	13.3	17.7	3.1
Females									
1977	22.7	12.2	10.6	7.2	2.9	9.8	9.0	7.5	0.4
1976	22.2	11.5	10.7	7.0	2.7	12.6	9.7	7.7	0.5
1975	22.4	10.9	11.5	7.3	2.9	11.7	10.2	7.9	0.5
1974	22.9	11.0	12.0	7.1	2.9	12.0	11.2	8.6	0.5
1973	26.4	14.0	12.4	7.1	2.8	14.0	11.6	8.7	0.6
1972†	27.2	14.7	12.5	7.4	2.4	14.4	12.1	8.6	0.7
1971	26.9	14.2	12.7	7.5	2.4	13.4	12.3	8.7	0.7
1970	27.2	14.4	12.8	7.2	2.2	15.0	12.8	8.7	0.8
1969	28.0	14.8	13.2	6.9	2.1	17.1	13.2	8.4	0.8
1968	28.0	14.5	13.5	6.5	2.0	18.6	13.4	8.5	1.0
Males and Females Combined									
1977	42.5	22.5	20.0	13.6	5.9	13.2	9.4	11.8	0.7
1976	41.8	21.5	20.3	12.9	5.5	16.3	10.0	12.3	0.8
1975	43.1	21.2	21.9	13.3	6.1	15.6	10.4	12.6	0.9
1974	44.3	21.7	22.6	12.8	6.0	15.7	11.4	13.4	0.9
1973	49.5	26.0	23.5	12.6	5.7	18.5	11.8	13.7	1.1
1972†	49.8	26.6	23.1	12.7	5.2	19.2	12.2	13.5	1.3
1971	49.4	26.1	23.3	12.5	5.1	17.5	12.4	13.5	1.3
1970	51.0	26.9	24.1	12.4	4.7	19.8	12.9	13.4	1.6
1969	52.6	27.9	24.7	11.9	4.3	22.1	13.1	12.9	1.7
1968	52.2	27.8	24.4	11.5	4.2	24.1	13.4	12.8	2.0

* Age-adjusted on the basis of the age distribution of the total population (males and females combined) of the United States in the census of April 1, 1940.

† Rates shown for 1972 were based on only a 50 percent sample of death records rather than on all death records.

TABLE 2
AGE-ADJUSTED* DEATH RATES PER 100,000 FROM SELECTED CAUSES
FOR NONWHITE PERSONS BY SEX, UNITED STATES, 1968-77

YEAR	ALL CAUSES	MAJOR CARDIOVASCULAR DISEASES				NEPHRITIS AND NEPHROSIS	MALIGNANT NEOPLASMS
		Total	Cerebrovascular Diseases	Diseases of Heart	Arteriosclerosis		
Males							
1977	1,045.9	398.0	79.8	297.8	6.4	9.0	205.4
1976	1,072.1	409.3	84.6	302.8	6.2	9.1	202.3
1975	1,097.5	418.9	89.3	307.0	7.0	9.3	199.7
1974	1,149.1	449.1	98.3	325.8	8.2	9.7	199.0
1973	1,206.7	477.0	106.7	344.7	8.5	10.1	195.9
1972†	1,227.2	485.8	107.8	349.3	9.6	11.1	191.2
1971	1,210.7	482.2	109.7	343.9	8.3	10.4	186.4
1970	1,231.4	494.4	113.5	350.8	9.1	11.7	185.3
1969	1,273.1	516.2	119.9	364.6	10.2	12.2	185.9
1968	1,294.4	536.4	126.8	375.5	10.8	12.1	183.5
Females							
1977	621.3	271.9	68.0	188.7	5.1	7.4	122.4
1976	635.1	278.1	72.0	190.3	5.3	7.6	119.3
1975	648.3	287.2	76.1	194.6	5.4	6.9	118.9
1974	693.1	313.5	84.7	210.8	6.6	7.7	122.4
1973	738.9	339.5	93.0	225.8	7.2	8.5	124.3
1972†	745.0	345.8	96.0	228.5	7.5	8.2	120.4
1971	754.9	347.4	96.5	229.4	7.4	8.5	122.5
1970	770.8	360.3	101.4	236.6	7.5	8.9	117.6
1969	800.5	374.3	105.9	244.6	8.1	9.2	121.1
1968	831.3	397.0	112.6	259.1	8.9	9.7	122.4
Males and Females Combined							
1977	814.0	328.8	73.4	237.9	5.7	8.1	159.3
1976	833.7	337.2	77.6	241.1	5.7	8.3	156.3
1975	852.4	346.4	82.0	245.2	6.1	8.0	155.0
1974	901.3	374.8	90.9	262.8	7.3	8.5	156.6
1973	953.1	402.0	99.7	279.8	7.8	9.2	156.4
1972†	965.4	409.1	101.3	283.1	8.4	9.5	152.2
1971	963.6	408.4	102.4	281.3	7.8	9.4	151.2
1970	983.4	421.7	107.0	288.9	8.2	10.2	148.3
1969	1,018.5	439.4	112.4	299.6	9.1	10.5	150.5
1968	1,045.3	460.9	119.1	312.6	9.8	10.8	150.2

* Age-adjusted on the basis of the age distribution of the total population (males and females combined) of the United States in the census of April 1, 1940.

† Rates shown for 1972 were based on only a 50 percent sample of death records rather than on all death records.

TABLE 2—Continued

AGE-ADJUSTED* DEATH RATES PER 100,000 FROM SELECTED CAUSES
FOR NONWHITE PERSONS BY SEX, UNITED STATES, 1968-77

YEAR	ACCIDENTS			SCI- CIDE	HOMI- CIDE	PNEU- MONIA AND IN- FLU- ENZA	DIABETES MELLI- TUS	CIR- RHOSIS OF THE LIVER	TUBER- CULOSIS, ALL FORMS
	Total	Motor Ve- hicle	Other						
Males									
1977	84.5	35.8	48.7	12.6	60.1	29.6	16.3	31.4	5.7
1976	84.6	35.3	49.3	12.3	63.3	33.7	17.5	32.3	6.1
1975	90.7	36.6	54.1	12.1	71.6	33.5	17.9	32.1	6.1
1974	92.3	37.5	54.8	11.7	77.9	35.1	18.8	34.0	7.2
1973	106.8	47.8	59.0	11.6	77.1	42.3	21.1	33.9	8.1
1972†	109.3	49.6	59.7	11.9	83.1	44.5	21.2	35.1	9.3
1971	110.1	48.5	61.7	10.2	80.8	42.5	20.4	31.1	9.9
1970	115.7	49.7	66.0	10.3	72.8	50.1	20.4	31.3	10.2
1969	117.9	53.7	64.1	10.0	71.6	55.3	20.4	30.5	11.5
1968	120.8	53.3	67.6	9.1	68.1	60.9	20.3	29.0	13.6
Females									
1977	25.8	9.9	15.9	3.7	12.5	14.0	22.0	15.0	1.8
1976	25.8	10.2	15.6	3.5	13.2	17.0	23.7	15.4	2.0
1975	27.6	10.2	17.3	3.5	14.7	16.1	24.6	15.5	2.3
1974	29.0	10.8	18.2	3.3	15.5	17.5	27.1	17.4	2.5
1973	33.2	14.4	18.8	3.3	16.0	22.5	28.6	18.0	2.7
1972†	33.4	14.1	19.3	3.6	14.8	22.8	30.1	17.2	3.0
1971	35.5	14.9	20.5	3.8	15.5	22.8	30.2	16.9	3.2
1970	35.1	14.3	20.7	3.3	13.7	27.9	29.3	17.4	3.9
1969	36.6	15.0	21.6	3.2	13.4	31.4	31.1	17.1	4.5
1968	36.4	14.6	21.8	2.7	13.2	36.2	31.7	16.5	5.1
Males and Females Combined									
1977	53.1	21.9	31.2	7.8	34.5	21.0	19.5	22.5	3.5
1976	53.2	21.9	31.3	7.6	36.4	24.4	21.0	23.1	3.8
1975	56.9	22.5	34.4	7.5	41.1	23.9	21.7	23.1	4.0
1974	58.5	23.2	35.3	7.2	44.5	25.4	23.4	25.0	4.6
1973	67.5	30.0	37.6	7.2	44.4	31.4	25.3	25.3	5.2
1972†	68.8	30.6	38.1	7.5	46.6	32.6	26.0	25.4	5.9
1971	70.3	30.6	39.7	6.8	45.9	31.7	25.7	23.4	6.2
1970	72.8	30.9	41.9	6.5	41.3	38.1	25.2	23.8	6.8
1969	74.6	33.0	41.5	6.3	40.5	42.4	26.2	23.3	7.7
1968	75.9	32.7	43.3	5.7	38.8	47.5	26.4	22.3	9.0

* Age-adjusted on the basis of the age distribution of the total population (males and females combined) of the United States in the census of April 1, 1940.

† Rates shown for 1972 were based on only a 50 percent sample of death records rather than on all death records.

TABLE 3
AGE-ADJUSTED* DEATH RATES PER 100,000 FROM SELECTED CAUSES
FOR WHITE AND NONWHITE PERSONS COMBINED,
BY SEX, UNITED STATES, 1968-77

YEAR	ALL CAUSES	MAJOR CARDIOVASCULAR DISEASES				NEPHRITIS AND NEPHROSIS	MALIGNANT NEOPLASMS
		Total	Cerebrovascular Diseases	Diseases of Heart	Arteriosclerosis		
Males							
1977	811.9	368.7	53.5	294.7	7.1	3.4	164.5
1976	830.2	381.6	56.8	303.3	7.3	3.5	163.4
1975	845.3	390.4	60.6	308.3	7.5	3.4	161.4
1974	877.8	413.7	66.5	323.6	8.6	3.5	162.3
1973	911.7	434.2	70.4	339.3	8.9	3.7	160.1
1972†	921.9	442.5	72.7	344.5	9.3	3.9	159.8
1971	915.7	442.8	72.9	344.8	9.2	3.9	158.0
1970	931.6	447.7	73.2	348.5	9.5	4.3	157.4
1969	949.3	461.0	75.6	358.3	10.4	4.6	155.9
1968	965.2	473.0	78.7	366.2	10.8	4.7	155.5
Females							
1977	450.6	199.0	44.2	142.9	5.5	2.2	110.0
1976	462.9	206.7	47.3	147.1	5.8	2.3	109.4
1975	469.3	212.2	49.8	149.7	5.9	2.2	108.3
1974	492.9	228.1	54.9	159.2	6.9	2.4	109.2
1973	513.1	240.6	58.5	167.4	7.3	2.5	108.7
1972†	520.0	245.6	59.1	171.6	7.4	2.6	108.8
1971	521.1	246.9	59.3	172.5	7.4	2.8	108.4
1970	532.5	251.5	60.8	175.2	7.5	2.9	108.8
1969	543.4	259.2	62.5	180.1	8.3	3.2	108.1
1968	557.1	269.4	65.3	186.9	8.7	3.1	108.8
Males and Females Combined							
1977	612.3	274.2	48.2	210.4	6.2	2.7	133.0
1976	627.5	284.4	51.4	216.7	6.4	2.8	132.3
1975	638.3	291.4	54.5	220.5	6.6	2.8	130.9
1974	666.2	310.8	59.9	232.7	7.6	2.8	131.8
1973	692.9	326.9	63.7	244.4	8.0	3.0	130.7
1972†	701.8	333.8	65.0	249.3	8.2	3.2	130.7
1971	699.9	334.8	65.2	250.1	8.2	3.3	129.7
1970	714.3	340.1	66.3	253.6	8.4	3.5	129.9
1969	720.5	350.4	68.3	260.9	9.2	3.8	128.9
1968	743.8	361.8	71.3	268.5	9.6	3.9	129.2

* Age-adjusted on the basis of the age distribution of the total population (males and females combined) of the United States in the census of April 1, 1940.

† Rates shown for 1972 were based on only a 50 percent sample of death records rather than on all death records.

TABLE 3—Continued
AGE-ADJUSTED* DEATH RATES PER 100,000 FROM SELECTED CAUSES
FOR WHITE AND NONWHITE PERSONS COMBINED,
BY SEX, UNITED STATES, 1968-77

YEAR	ACCIDENTS			SUI- CIDE	HOMI- CIDE	PNEU- MONIA AND IN- FLU- ENZA	DIABETES MELLI- TUS	CIR- RHOSIS OF THE LIVER	TUBER- CULOSIS, ALL FORMS
	Total	Motor Ve- hicle	Other						
Males									
1977	65.5	33.3	32.2	19.7	15.1	19.4	10.5	18.4	1.6
1976	64.7	32.1	32.7	18.5	15.1	23.1	10.9	19.1	1.7
1975	67.7	32.2	35.5	19.0	16.8	22.5	11.4	19.5	1.9
1974	69.4	33.2	36.2	18.2	17.3	22.6	12.2	20.7	2.1
1973	77.4	39.3	38.0	18.0	16.7	26.6	12.9	20.9	2.4
1972†	77.5	40.1	37.3	17.9	16.8	27.6	13.2	20.8	2.7
1971	77.3	39.5	37.7	17.2	16.3	25.2	13.2	20.3	2.9
1970	80.7	41.1	39.6	17.3	14.9	28.8	13.5	20.2	3.3
1969	83.0	42.9	40.1	16.7	13.9	31.7	13.7	19.4	3.7
1968	82.7	43.1	39.6	16.4	13.4	34.4	14.0	18.9	4.2
Females									
1977	23.2	11.9	11.3	6.8	4.2	10.4	10.3	8.4	0.6
1976	22.7	11.3	11.4	6.6	4.1	13.2	11.1	8.7	0.6
1975	23.1	10.8	12.3	6.9	4.5	12.3	11.6	8.9	0.7
1974	23.8	10.9	12.8	6.7	4.6	12.8	12.7	9.7	0.7
1973	27.4	14.0	13.3	6.6	4.5	15.2	13.3	9.9	0.8
1972†	28.0	14.6	13.4	6.9	4.0	15.6	13.9	9.6	0.9
1971	28.0	14.3	13.7	7.1	4.1	14.6	14.0	9.7	1.0
1970	28.2	14.4	13.8	6.8	3.7	16.7	14.4	9.8	1.2
1969	29.2	14.8	14.4	6.5	3.5	19.0	14.9	9.5	1.2
1968	29.2	14.5	14.6	6.1	3.4	20.9	15.1	9.4	1.4
Males and Females Combined									
1977	43.8	22.4	21.4	12.9	9.6	14.2	10.4	13.1	1.0
1976	43.2	21.5	21.7	12.3	9.5	17.4	11.1	13.6	1.1
1975	44.8	21.3	23.5	12.6	10.5	16.6	11.6	13.8	1.2
1974	46.0	21.8	24.2	12.2	10.8	16.9	12.5	14.8	1.3
1973	51.7	26.4	25.3	12.0	10.5	20.1	13.2	15.0	1.5
1972†	52.0	27.0	25.0	12.1	10.3	20.8	13.6	14.9	1.7
1971	51.9	26.6	25.3	11.9	10.0	19.2	13.7	14.7	1.8
1970	53.7	27.4	26.3	11.8	9.1	22.1	14.1	14.7	2.2
1969	55.2	28.4	26.8	11.3	8.6	24.6	14.4	14.1	2.3
1968	55.0	28.4	26.7	10.9	8.3	26.9	14.6	13.9	2.7

* Age-adjusted on the basis of the age distribution of the total population (males and females combined) of the United States in the census of April 1, 1940.

† Rates shown for 1972 were based on only a 50 percent sample of death records rather than on all death records.

number of the lesser causes are not shown here at all. Finally, in contrast to the data in the *1970 Reports Number*, no rates are shown on the preceding pages for the overall category, "major cardiovascular-renal diseases." The rates for "major cardiovascular diseases" and "nephritis and nephrosis" are shown in adjacent columns on the preceding pages.

Some of the cause-of-death titles on the preceding pages differ from those shown in the *1970 Reports Number*. This difference occurs because the causes of death in the *1970 Reports Number* were generally coded and grouped according to the sixth and seventh revisions of the International Classification of Diseases, whereas the cause-of-death titles shown on the preceding pages are based on causes of death coded and grouped according to the Eighth Revision of the International Classification of Diseases, Adapted for Use in the United States, 1965. Thus the death rates on the preceding pages are not strictly comparable in all respects with those in the *1970 Reports Number*. A detailed discussion of the extent to which the death rate figures under the eighth revision are and are not comparable with the corresponding death rate figures under the seventh revision appears in the publication *Comparability of Mortality Statistics for the Seventh and Eighth Revisions of the International Classification of Diseases, United States*, Series 2, Number 66, DHEW Publication Number (HRA) 76-1340. Copies of that publication may be obtained free of charge from the National Center for Health Statistics, 3700 East-West Highway, Hyattsville, Maryland 20782.

For the statistics that appear in the preceding tables, the Society of Actuaries is indebted to the Division of Vital Statistics of the National Center for Health Statistics, United States Department of Health, Education, and Welfare. Questions may be directed to that organization at the above address or by telephone at (301) 436-8884.