

**III. MORTALITY BY CAUSE OF DEATH
UNDER STANDARD ORDINARY INSURANCE ISSUES
BETWEEN 1983 AND 1988 ANNIVERSARIES**

The last analysis of death rates by cause of death covered the experience from 1978 to 1983 policy anniversaries for issues in the first fifteen policy years and in the sixteenth and subsequent policy years (*TSA 1983 Reports*, p. 49). This report describes the experience from 1983 to 1988 policy anniversaries and includes data from the same companies that contribute to the annual Study of Mortality under Standard Ordinary Insurance Issues.

**EXPERIENCE DURING THE FIRST FIFTEEN POLICY YEARS
OF INSURANCE**

Table 1 presents the 1983–88 experience on standard medically examined issues in policy years 1–15 for major causes of death. The grouping by cause is based on the Committee's 1970 and 1980 Codes for Cause of Death (*TSA*, 1969 and 1979 reports, p.1). Results are shown separately for male lives, female lives, and male and female lives combined. The corresponding results for nonmedical and paramedical issues are shown in Tables 2 and 3. For the first time, issue age ranges are now subdivided for ages 50–59 and for ages 60 and over, rather than ages 50 and over as in prior studies.

A comparison of the overall death rates in Tables 1, 2, and 3 to those for the period between 1978 and 1983 anniversaries shows relatively little change in death rates by cause of death for most medical and nonmedical categories. Death rates for paramedical issues increased overall, led by the categories of "malignant neoplasms" and "diseases of the heart and circulatory system." However, relatively little paramedical business was issued prior to 1983; hence, its experience may be subject to some additional fluctuation.

A comparison by sex shows that at issue ages 30 and over, death rates from "diseases of the heart and circulatory system" are generally two to three times higher for males than for females, for medical, nonmedical, and paramedical issues. The "accidents and homicide" and "suicide" death rates for males under medical, nonmedical, and paramedical issues are generally about two times higher than for females. Death rates for "malignant neoplasms," however, do show a slightly higher pattern for females, particularly at issue ages under 50.

Because of its small volume at issue ages 50 and over, nonmedical experience is more subject to relatively large random fluctuations.

TABLE 1
STANDARD MEDICALLY EXAMINED ISSUES
DEATH RATES BY CAUSE OF DEATH
BETWEEN 1983 AND 1988 ANNIVERSARIES
POLICY YEARS 1-15 COMBINED
(DEATH RATES PER \$100,000)

Policy Years	Cause of Death										
	All Causes Combined	Tuberculosis (01, 02)*	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory Systems (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 93-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Male and Female Lives Combined [†]											
Age 0 at issue:											
1-5.....	25.5	0.0	0.0	0.0	0.0	20.7	0.0	0.0	0.0	0.0	4.8
6-15.....	11.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.7
1-15.....	17.2	0.0	5.0	0.0	0.0	8.9	0.0	0.0	0.8	0.0	2.5
Ages 1-9 at issue:											
1-5.....	5.1	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-15.....	34.5	0.0	5.8	0.0	0.0	1.1	0.0	17.3	3.3	0.0	7.1
1-15.....	22.2	0.0	5.5	0.0	0.0	0.6	0.0	10.0	1.9	0.0	4.1
Ages 10-29 at issue:											
1-5.....	60.7	0.0	3.8	0.0	0.0	4.7	0.0	34.7	5.1	0.0	12.3
6-15.....	91.9	0.0	19.7	0.2	1.6	12.4	1.0	25.3	12.8	0.0	18.8
1-15.....	79.8	0.0	13.5	0.2	1.0	9.5	0.6	28.9	9.8	0.0	16.3
Ages 30-39 at issue:											
1-5.....	74.3	0.0	11.0	0.0	1.1	11.1	0.3	26.7	6.1	0.0	18.1
6-15.....	174.6	0.2	53.9	0.1	2.4	42.7	1.4	28.1	13.8	0.0	32.0
1-15.....	112.5	0.1	27.3	0.1	1.6	23.1	0.7	27.2	9.0	0.0	23.4
Ages 40-49 at issue:											
1-5.....	148.4	0.0	39.9	0.0	4.2	35.9	0.9	28.7	9.4	0.0	29.2
6-15.....	439.1	0.0	160.6	0.6	10.3	132.0	4.4	39.8	11.7	0.4	79.2
1-15.....	245.2	0.0	80.1	0.2	6.2	67.9	2.1	32.4	10.2	0.1	45.9
Ages 50-59 at issue:											
1-5.....	303.5	0.1	104.2	0.4	9.3	84.5	2.8	35.9	10.7	0.0	55.5
6-15.....	887.0	0.2	362.6	1.6	29.0	262.0	12.6	36.7	18.3	0.0	164.1
1-15.....	490.7	0.1	187.0	0.8	15.6	141.4	6.0	36.2	13.2	0.0	90.4
Ages 60 & up at issue:											
1-5.....	647.0	1.3	288.8	0.2	15.0	189.9	5.9	24.6	3.7	0.0	117.5
6-15.....	1,873.4	1.0	643.3	10.5	96.6	657.5	64.7	38.6	15.3	0.0	346.1
1-15.....	952.4	1.2	377.1	2.8	35.3	306.4	20.6	28.1	6.6	0.0	174.4
All ages at issue:											
1-5.....	173.2	0.1	53.4	0.1	4.4	42.8	1.3	29.3	7.8	0.0	34.0
6-15.....	392.4	0.1	141.8	0.8	11.4	114.2	5.8	32.4	13.6	0.1	72.2
1-15.....	255.1	0.1	86.4	0.4	7.0	69.5	3.0	30.4	10.0	0.0	48.3

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

[†]Including data not subdivided by sex.

TABLE 1—Continued

Policy Years	Cause of Death										
	All Causes Combined	Tuberculosis (01, 02)*	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory Systems (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 93-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Male Lives											
Age 0 at issue:											
1-5.....	43.5	0.0	0.0	0.0	0.0	35.3	0.0	0.0	0.0	0.0	8.2
6-15.....	17.2	0.0	13.8	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.1
1-15.....	28.0	0.0	8.2	0.0	0.0	14.4	0.0	0.0	1.3	0.0	4.0
Ages 1-9 at issue:											
1-5.....	9.1	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-15.....	49.1	0.0	9.2	0.0	0.0	1.8	0.0	21.5	5.3	0.0	11.3
1-15.....	33.3	0.0	9.1	0.0	0.0	1.1	0.0	13.1	3.2	0.0	6.8
Ages 10-29 at issue:											
1-5.....	63.0	0.0	4.5	0.0	0.0	5.1	0.0	35.0	3.8	0.0	14.5
6-15.....	93.5	0.0	18.8	0.3	1.6	13.3	1.1	26.2	13.4	0.0	18.8
1-15.....	82.3	0.0	13.6	0.2	1.0	10.3	0.7	29.4	9.9	0.0	17.2
Ages 30-39 at issue:											
1-5.....	77.8	0.0	11.7	0.0	0.9	12.1	0.3	28.0	6.8	0.0	18.0
6-15.....	176.5	0.1	50.8	0.2	2.2	46.0	1.6	29.6	14.0	0.0	31.9
1-15.....	115.7	0.1	26.7	0.1	1.4	25.1	0.8	28.6	9.6	0.0	23.3
Ages 40-49 at issue:											
1-5.....	150.1	0.0	35.7	0.0	4.3	39.0	0.9	29.3	10.0	0.0	31.0
6-15.....	449.8	0.0	156.1	0.7	10.2	140.7	4.7	43.7	12.6	0.5	80.6
1-15.....	248.4	0.0	75.2	0.2	6.2	72.4	2.1	34.0	10.8	0.2	47.3
Ages 50-59 at issue:											
1-5.....	314.0	0.1	108.6	0.5	8.9	92.7	3.1	36.2	11.5	0.0	52.5
6-15.....	921.8	0.2	370.1	1.7	29.7	281.5	11.2	41.1	21.0	0.0	165.3
1-15.....	504.9	0.2	190.7	0.9	15.4	152.0	5.6	37.7	14.5	0.0	87.9
Ages 60 & up at issue:											
1-5.....	668.5	1.6	299.8	0.2	13.8	204.6	4.8	24.5	4.5	0.0	114.8
6-15.....	1,989.6	1.2	693.7	12.3	100.7	691.1	74.4	40.4	18.4	0.0	357.4
1-15.....	996.6	1.5	397.7	3.2	35.4	325.4	22.1	28.4	8.0	0.0	175.0
All ages at issue:											
1-5.....	176.1	0.1	52.4	0.1	4.2	45.9	1.2	30.0	8.5	0.0	33.6
6-15.....	397.1	0.1	138.8	0.9	11.1	119.1	5.8	34.9	14.5	0.1	71.6
1-15.....	258.6	0.1	84.7	0.4	6.7	73.2	2.9	31.9	10.7	0.1	47.8

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

TABLE 1—Continued

Policy Years	Cause of Death										
	All Causes Combined	Tuberculosis (01, 02) ^a	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory Systems (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 93-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Female Lives											
Age 0 at issue:											
1-5.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-15.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-15.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ages 1-9 at issue:											
1-5.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-15.....	10.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0
1-15.....	5.4	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0
Ages 10-29 at issue:											
1-5.....	50.2	0.0	0.4	0.0	0.0	3.0	0.0	33.3	10.9	0.0	2.7
6-15.....	78.8	0.0	26.8	0.0	1.6	5.2	0.2	18.2	7.7	0.0	19.2
1-15.....	64.3	0.0	13.4	0.0	0.8	4.1	0.1	25.8	9.3	0.0	10.8
Ages 30-39 at issue:											
1-5.....	45.5	0.0	5.4	0.0	2.5	2.8	0.0	16.2	0.3	0.0	18.3
6-15.....	157.5	0.5	82.3	0.0	4.3	11.7	0.3	13.6	11.5	0.0	33.5
1-15.....	85.0	0.2	32.5	0.0	3.1	6.0	0.1	15.3	4.2	0.0	23.6
Ages 40-49 at issue:											
1-5.....	133.0	0.0	79.3	0.0	3.1	7.7	1.2	24.1	4.3	0.0	13.2
6-15.....	359.8	0.0	194.4	0.1	11.6	67.1	2.2	10.4	4.9	0.0	69.1
1-15.....	218.2	0.0	122.5	0.0	6.3	30.1	1.6	18.9	4.5	0.0	34.2
Ages 50-59 at issue:											
1-5.....	226.6	0.0	71.6	0.2	12.0	24.3	1.0	34.1	5.5	0.0	78.1
6-15.....	685.3	0.2	319.1	0.7	24.5	148.6	20.7	11.6	2.9	0.0	157.0
1-15.....	394.5	0.1	162.1	0.3	16.6	69.8	8.2	25.9	4.6	0.0	106.9
Ages 60 & up at issue:											
1-5.....	558.7	0.1	243.6	0.5	20.0	129.9	10.7	25.0	0.0	0.0	128.9
6-15.....	1,404.4	0.0	439.8	3.2	79.8	522.1	25.4	31.1	2.8	0.0	300.2
1-15.....	771.4	0.1	292.9	1.2	35.1	228.6	14.4	26.5	0.7	0.0	172.0
All ages at issue:											
1-5.....	151.9	0.0	60.5	0.1	5.8	20.2	1.6	23.8	3.3	0.0	36.7
6-15.....	357.7	0.2	163.7	0.3	13.4	77.6	5.8	13.7	6.6	0.0	76.3
1-15.....	229.0	0.1	99.2	0.2	8.7	41.7	3.1	20.0	4.5	0.0	51.5

^aNumbers in parentheses refer to committee's 1970 and 1980 codes.

TABLE 2
 STANDARD NONMEDICAL ISSUES
 DEATH RATES BY CAUSE OF DEATH
 BETWEEN 1983 AND 1988 ANNIVERSARIES
 POLICY YEARS 1-15 COMBINED
 (DEATH RATES PER \$100,000)

Policy Years	Cause of Death										
	All Causes Combined	Tuberculosis (01, 02)*	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory System (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 93-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Male and Female Lives Combined [†]											
Age 0 at issue:											
1-5	39.7	0.0	3.0	0.0	0.0	2.7	0.7	10.3	0.0	0.0	23.0
6-15	19.9	0.0	4.3	0.0	0.1	1.8	0.4	6.8	0.4	0.0	6.1
1-15	31.8	0.0	3.5	0.0	0.1	2.3	0.6	8.9	0.2	0.0	16.2
Ages 1-9 at issue:											
1-5	16.7	0.0	3.2	0.1	0.1	0.4	0.3	8.8	0.1	0.0	3.6
6-15	39.4	0.0	3.4	0.1	0.4	1.4	0.4	21.4	4.6	0.0	7.8
1-15	25.1	0.0	3.3	0.1	0.2	0.8	0.3	13.5	1.8	0.0	5.1
Ages 10-29 at issue:											
1-5	50.2	0.1	4.8	0.0	0.7	3.2	0.4	26.4	3.7	0.1	10.6
6-15	83.9	0.3	14.0	0.2	1.3	10.1	0.9	27.5	9.2	0.1	20.3
1-15	61.6	0.2	7.9	0.1	0.9	5.6	0.6	26.8	5.6	0.1	13.9
Ages 30-39 at issue:											
1-5	63.3	0.5	10.9	0.0	1.3	8.9	0.4	21.4	3.5	0.0	16.4
6-15	154.6	0.4	42.6	0.3	4.4	37.5	1.5	21.0	9.8	0.0	37.2
1-15	77.2	0.4	15.8	0.1	1.8	13.3	0.6	21.3	4.5	0.0	19.5
Ages 40-49 at issue:											
1-5	145.6	0.2	33.7	0.2	4.9	39.0	1.3	24.4	4.2	0.0	37.8
6-15	421.2	0.1	130.4	0.5	10.5	116.6	3.2	24.7	10.2	0.0	125.2
1-15	172.3	0.2	43.1	0.2	5.4	46.5	1.5	24.4	4.8	0.0	46.2
Ages 50-59 at issue:											
1-5	391.0	0.2	147.7	0.3	26.4	105.8	2.8	30.3	3.7	0.1	73.7
6-15	861.4	0.4	419.0	1.0	31.9	239.1	6.5	30.7	14.0	0.0	118.8
1-15	432.6	0.2	171.7	0.3	26.9	117.6	3.1	30.3	4.6	0.1	77.7
Ages 60 & up at issue:											
1-5	523.5	0.0	186.8	0.0	20.0	212.2	2.2	7.3	5.0	0.0	89.9
6-15	1,270.8	0.0	376.4	0.0	50.8	560.4	55.1	3.5	7.0	0.0	217.7
1-15	579.2	0.0	201.0	0.0	22.3	238.2	6.1	7.0	5.2	0.0	99.4
All ages at issue:											
1-5	67.7	0.2	12.1	0.1	1.7	10.4	0.5	23.0	3.4	0.0	16.2
6-15	102.7	0.3	22.9	0.2	2.2	18.1	1.1	24.6	8.5	0.1	24.9
1-15	76.9	0.3	14.9	0.1	1.8	12.4	0.7	23.4	4.7	0.0	18.5

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

[†]Including data not subdivided by sex.

TABLE 2—Continued

Policy Years	Cause of Death										
	All Causes Combined	Tuberculosis (01-02)*	Malignant Neoplasms (18-35)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory System (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 93-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Male Lives											
Age 0 at issue:											
1-5	45.8	0.0	3.2	0.0	0.0	3.3	0.9	12.7	0.0	0.0	25.7
6-15	23.2	0.0	4.8	0.1	0.2	2.0	0.5	9.1	0.4	0.0	6.1
1-15	36.5	0.0	3.9	0.0	0.1	2.8	0.7	11.2	0.2	0.0	17.7
Ages 1-9 at issue:											
1-5	21.1	0.0	3.8	0.2	0.1	0.5	0.4	11.2	0.2	0.0	4.7
6-15	50.2	0.0	3.7	0.1	0.3	1.7	0.4	28.6	6.5	0.0	8.9
1-15	32.4	0.0	3.8	0.2	0.2	0.9	0.4	17.9	2.7	0.0	6.3
Ages 10-29 at issue:											
1-5	63.4	0.2	5.1	0.0	0.7	4.0	0.5	34.8	4.9	0.1	13.2
6-15	98.5	0.4	13.8	0.2	1.3	12.7	1.0	34.3	11.3	0.1	23.4
1-15	76.1	0.2	8.2	0.1	0.9	7.2	0.7	34.6	7.2	0.1	16.9
Ages 30-39 at issue:											
1-5	75.3	0.7	10.6	0.0	1.3	11.2	0.5	26.8	4.3	0.1	19.8
6-15	171.7	0.4	36.1	0.2	4.2	50.4	1.6	26.2	11.7	0.1	40.7
1-15	89.9	0.6	14.5	0.1	1.7	17.1	0.7	26.7	5.4	0.1	23.0
Ages 40-49 at issue:											
1-5	167.8	0.2	32.9	0.2	4.6	49.7	1.6	31.2	5.7	0.0	41.6
6-15	465.5	0.1	120.6	0.2	8.9	148.9	3.5	30.4	14.2	0.0	138.7
1-15	194.4	0.2	40.7	0.2	5.0	58.6	1.8	31.1	6.5	0.0	50.3
Ages 50-59 at issue:											
1-5	424.8	0.2	150.7	0.3	30.8	126.7	2.4	39.4	5.2	0.1	69.0
6-15	947.7	0.0	443.2	0.8	37.0	285.0	7.6	37.6	17.7	0.0	118.7
1-15	475.3	0.2	179.0	0.3	31.4	142.0	2.9	39.2	6.4	0.1	73.8
Ages 60 & up at issue:											
1-5	544.4	0.0	180.9	0.0	22.6	233.7	2.1	6.7	6.5	0.0	92.0
6-15	1,037.6	0.0	373.4	0.0	56.2	356.8	64.5	3.7	8.8	0.0	174.2
1-15	582.0	0.0	195.5	0.0	25.1	243.1	6.9	6.4	6.7	0.0	98.3
All ages at issue:											
1-5	82.7	0.3	12.5	0.1	1.8	13.5	0.6	29.8	4.4	0.1	19.4
6-15	118.5	0.3	21.6	0.2	2.1	23.1	1.2	31.2	10.6	0.1	28.1
1-15	92.4	0.3	15.0	0.1	1.9	16.1	0.8	30.2	6.1	0.1	21.8

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

TABLE 2—Continued

Policy Years	Cause of Death										
	All Causes Combined	Tuber- culosis (01, 02)*	Malignant Neo- plasms (18-33)	Dia- betes Mel- litus (37)	Cere- bro- vascu- lar Dis- eases (53)	Dis- eases of the Heart and Circu- latory System (49-52, 54,55)	Pneu- monia and Influ- enza (56,57)	Acci- dents and Homi- cide (88-91, 93-96, 98)	Sui- cide (97)	War Deaths (99)	All Other Causes (Resi- dual)
Female Lives											
Age 0 at issue:											
1-5	32.7	0.0	2.7	0.0	0.1	2.0	0.5	7.6	0.0	0.0	19.8
6-15	15.6	0.0	3.7	0.0	0.1	1.5	0.4	3.7	0.3	0.0	6.0
1-15	26.1	0.0	3.1	0.0	0.1	1.8	0.5	6.1	0.1	0.0	14.5
Ages 1-9 at issue:											
1-5	11.7	0.0	2.6	0.0	0.1	0.3	0.3	6.1	0.0	0.0	2.3
6-15	24.7	0.0	2.9	0.0	0.5	1.1	0.3	11.5	1.9	0.0	6.3
1-15	16.2	0.0	2.7	0.0	0.2	0.6	0.3	8.0	0.7	0.0	3.7
Ages 10-29 at issue:											
1-5	28.0	0.1	4.5	0.0	0.8	1.9	0.3	12.3	1.8	0.0	6.2
6-15	50.2	0.0	14.4	0.2	1.4	4.1	0.7	11.8	4.4	0.0	13.1
1-15	34.5	0.1	7.4	0.1	1.0	2.6	0.4	12.2	2.5	0.0	8.3
Ages 30-39 at issue:											
1-5	40.5	0.0	11.6	0.0	1.4	4.5	0.3	11.0	1.9	0.0	9.8
6-15	123.1	0.3	54.6	0.4	4.8	13.7	1.1	11.3	6.2	0.0	30.7
1-15	53.3	0.1	18.3	0.1	1.9	5.9	0.4	11.0	2.6	0.0	13.0
Ages 40-49 at issue:											
1-5	98.5	0.1	35.4	0.1	5.5	16.2	0.7	9.9	1.0	0.0	29.6
6-15	348.4	0.0	146.7	0.9	13.0	63.4	2.7	15.2	3.6	0.0	102.9
1-15	126.5	0.1	47.9	0.2	6.4	21.5	0.9	10.5	1.3	0.0	37.9
Ages 50-59 at issue:											
1-5	322.7	0.1	141.6	0.2	17.7	63.5	3.6	11.9	0.7	0.0	83.4
6-15	617.5	1.6	350.6	1.6	17.4	109.4	3.5	11.1	3.5	0.0	118.9
1-15	343.7	0.2	156.5	0.3	17.6	66.8	3.6	11.9	0.9	0.0	85.9
Ages 60 & up at issue:											
1-5	453.2	0.0	207.1	0.0	11.4	139.9	2.5	9.4	0.0	0.0	82.9
6-15	2,150.9	0.0	387.6	0.0	30.5	1,328.8	19.4	2.8	0.0	0.0	382.0
1-15	569.8	0.0	219.5	0.0	12.7	221.6	3.6	8.9	0.0	0.0	103.5
All ages at issue:											
1-5	41.6	0.1	11.3	0.0	1.5	4.9	0.4	11.1	1.6	0.0	10.7
6-15	71.1	0.1	25.6	0.2	2.3	8.1	0.8	11.2	4.1	0.0	18.6
1-15	48.8	0.1	14.8	0.1	1.7	5.7	0.5	11.1	2.2	0.0	12.6

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

TABLE 3
 STANDARD PARAMEDICAL ISSUES
 DEATH RATES BY CAUSE OF DEATH
 BETWEEN 1983 AND 1988 ANNIVERSARIES
 POLICY YEARS 1-15 COMBINED
 (DEATH RATES PER \$100,000)

Policy Years	Cause of Death										
	All Causes Combined	Tuberculosis (01, 02)*	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory System (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 93-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Male and Female Lives Combined†											
Age 0 at issue:											
1-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-15	50.5	0.0	0.0	0.0	0.0	0.0	0.0	42.1	0.0	0.0	8.4
1-15	24.2	0.0	0.0	0.0	0.0	0.0	0.0	20.1	0.0	0.0	4.0
Ages 1-9 at issue:											
1-5	30.7	0.0	0.0	0.0	0.0	0.0	12.3	18.4	0.0	0.0	0.0
6-15	9.1	0.0	0.8	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0
1-15	21.0	0.0	0.3	0.0	0.0	0.0	6.8	13.9	0.0	0.0	0.0
Ages 10-29 at issue:											
1-5	51.7	0.0	7.5	0.0	0.6	2.3	0.4	33.0	3.6	0.0	4.2
6-15	75.2	0.4	14.9	0.0	0.6	9.6	0.5	25.1	10.2	0.0	13.9
1-15	61.7	0.2	10.7	0.0	0.6	5.4	0.4	29.6	6.4	0.0	8.3
Ages 30-39 at issue:											
1-5	66.1	0.1	13.2	0.0	1.2	9.2	0.3	24.9	5.4	0.0	11.7
6-15	142.9	0.4	44.4	0.0	3.0	32.4	0.9	23.1	12.3	0.1	26.3
1-15	84.7	0.2	20.7	0.0	1.7	14.8	0.4	24.5	7.1	0.1	15.3
Ages 40-49 at issue:											
1-5	141.6	0.3	36.4	0.0	4.2	40.5	1.2	26.8	6.6	0.1	25.4
6-15	386.6	0.6	156.0	0.3	7.8	109.9	3.6	24.4	17.6	0.1	66.3
1-15	190.3	0.4	60.1	0.1	5.0	54.3	1.7	26.4	8.8	0.1	33.5
Ages 50-59 at issue:											
1-5	329.9	0.3	128.6	0.3	8.4	98.1	3.2	25.6	9.9	0.0	55.3
6-15	862.2	0.3	342.4	0.8	27.0	252.6	11.5	29.4	11.8	0.0	186.4
1-15	425.1	0.3	166.8	0.4	11.8	125.7	4.7	26.3	10.3	0.0	78.8
Ages 60 and over at issue:											
1-5	745.0	1.1	301.4	0.5	29.8	254.1	10.7	14.2	3.4	0.0	129.7
6-15	1,805.1	0.1	647.1	1.5	57.3	626.1	36.6	49.2	9.1	0.0	378.1
1-15	878.6	1.0	345.0	0.6	33.2	301.0	14.0	18.6	4.1	0.0	161.1
All ages at issue:											
1-5	133.6	0.2	39.7	0.0	3.6	33.9	1.2	26.0	6.1	0.1	22.9
6-15	255.9	0.5	92.4	0.1	6.0	68.2	2.6	24.5	12.9	0.1	48.7
1-15	163.4	0.3	52.5	0.1	4.2	42.3	1.5	25.7	7.7	0.1	29.2

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

†Including data not subdivided by sex.

TABLE 3—Continued

Policy Years	Cause of Death										
	All Causes Combined	Tuberculosis (01, 02)*	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory System (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 93-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Male Lives											
Age 0 at issue:											
1-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-15	81.4	0.0	0.0	0.0	0.0	0.0	0.0	67.9	0.0	0.0	13.6
1-15	38.7	0.0	0.0	0.0	0.0	0.0	0.0	32.3	0.0	0.0	6.5
Ages 1-9 at issue:											
1-5	55.9	0.0	0.0	0.0	0.0	0.0	22.4	33.5	0.0	0.0	0.0
6-15	7.3	0.0	1.2	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0
1-15	32.6	0.0	0.6	0.0	0.0	0.0	11.7	20.4	0.0	0.0	0.0
Ages 10-29 at issue:											
1-5	54.6	0.0	8.9	0.0	0.7	2.0	0.4	34.1	3.6	0.0	4.9
6-15	77.9	0.5	14.2	0.0	0.4	10.5	0.6	26.0	10.9	0.0	14.9
1-15	64.9	0.2	11.2	0.0	0.6	5.7	0.5	30.5	6.8	0.0	9.3
Ages 30-39 at issue:											
1-5	69.7	0.2	12.2	0.0	0.8	10.2	0.3	27.3	5.7	0.1	13.1
6-15	149.7	0.5	42.2	0.0	3.2	37.0	0.8	25.7	13.2	0.1	27.0
1-15	89.2	0.2	19.5	0.0	1.3	16.7	0.4	26.9	7.5	0.1	16.5
Ages 40-49 at issue:											
1-5	151.2	0.3	34.6	0.0	4.1	46.6	1.3	29.5	7.6	0.1	27.2
6-15	403.3	0.7	151.8	0.3	7.6	127.2	3.7	27.9	19.9	0.1	64.2
1-15	199.7	0.4	57.1	0.1	4.8	62.1	1.8	29.2	9.9	0.1	34.3
Ages 50-59 at issue:											
1-5	346.4	0.4	127.5	0.3	8.1	109.7	3.4	27.6	12.1	0.1	57.3
6-15	948.8	0.3	357.8	1.0	30.8	300.4	11.4	35.8	14.4	0.0	196.8
1-15	445.5	0.4	165.4	0.4	11.8	141.1	4.7	29.0	12.5	0.1	80.2
Ages 60 and over at issue:											
1-5	813.8	1.2	321.7	0.5	30.7	294.4	10.6	14.8	4.4	0.0	135.4
6-15	2,031.8	0.0	721.2	1.9	60.7	737.2	35.0	68.9	13.1	0.0	393.7
1-15	953.0	1.1	367.4	0.7	34.1	345.0	13.3	21.0	5.4	0.0	164.9
All ages at issue:											
1-5	138.6	0.2	37.8	0.0	3.2	37.2	1.2	28.3	6.7	0.1	23.9
6-15	257.6	0.5	86.4	0.1	5.9	74.0	2.4	27.2	14.2	0.1	46.8
1-15	167.7	0.3	49.6	0.1	3.8	46.2	1.5	28.1	8.5	0.1	29.5

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

TABLE 3—Continued

Policy Years	Cause of Death										
	All Causes Combined	Tuberculosis (01, 02) ^a	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory System (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 93-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Female Lives											
Age 0 at issue:											
1-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ages 1-9 at issue:											
1-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-15	12.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0
1-15	4.9	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0
Ages 10-29 at issue:											
1-5	39.4	0.0	1.8	0.0	0.1	3.8	0.4	28.5	3.5	0.0	1.3
6-15	58.7	0.0	19.4	0.0	1.4	4.4	0.0	19.4	6.1	0.0	8.0
1-15	46.2	0.0	7.9	0.0	0.6	4.0	0.3	25.3	4.4	0.0	3.6
Ages 30-39 at issue:											
1-5	48.4	0.0	17.6	0.0	3.6	4.2	0.2	13.5	4.2	0.0	5.1
6-15	107.4	0.0	56.2	0.0	2.2	8.7	1.3	9.3	7.1	0.0	22.7
1-15	62.0	0.0	26.5	0.0	3.2	5.2	0.5	12.6	4.9	0.0	9.1
Ages 40-49 at issue:											
1-5	95.8	0.4	44.9	0.1	5.0	11.5	0.9	14.2	2.2	0.0	16.6
6-15	322.2	0.2	172.5	0.1	8.7	43.3	3.2	11.1	8.8	0.0	74.5
1-15	147.2	0.4	73.8	0.1	5.8	18.7	1.4	13.5	3.7	0.0	29.8
Ages 50-59 at issue:											
1-5	262.8	0.0	133.1	0.1	9.9	51.0	2.4	17.6	1.2	0.0	47.5
6-15	633.5	0.3	301.5	0.3	16.7	126.4	11.8	12.6	4.7	0.2	158.9
1-15	349.0	0.1	172.2	0.1	11.5	68.6	4.6	16.5	2.0	0.0	73.4
Ages 60 and over at issue:											
1-5	595.5	0.9	257.4	0.3	27.8	166.5	11.2	12.7	1.3	0.0	117.6
6-15	1,447.4	0.3	530.0	0.9	52.0	450.8	39.2	18.1	2.7	0.0	353.5
1-15	723.9	0.8	298.5	0.4	31.5	209.3	15.4	13.5	1.5	0.0	153.1
All ages at issue:											
1-5	111.2	0.2	48.4	0.0	5.5	19.1	1.2	15.6	3.1	0.0	18.1
6-15	248.4	0.1	119.9	0.1	6.6	41.5	3.7	12.0	6.9	0.0	57.5
1-15	144.3	0.1	65.7	0.0	5.8	24.5	1.8	14.7	4.0	0.0	27.6

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

As explained in the annual Study of Mortality under Standard Ordinary Insurance issues, comparisons of the death rates of medical, nonmedical, and paramedical experience may be influenced by their different age distributions.

EXPERIENCE DURING THE SIXTEENTH AND SUBSEQUENT POLICY YEARS

Tables 4 and 5 present the 1983–88 experience on standard issues (medical and nonmedical combined) during the sixteenth and subsequent policy years for major causes of death. Death rates are shown in Table 4 for male lives, female lives, and male and female lives combined, together with the corresponding percentage distributions of actual claims in Table 5.

A comparison of the overall death rates in Table 4 to those for the period between 1978 and 1983 anniversaries show reductions in death rates for all causes combined at all age groups except 25–39. For all ages combined, death rates of “cerebrovascular diseases,” “diseases of the heart and circulatory system,” “diabetes mellitus,” “accidents and homicide,” “war deaths,” as well as “all other causes (residual)” decreased from 1978–83; while death rates of “tuberculosis,” “malignant neoplasms,” “pneumonia and influenza,” as well as “suicide,” increased slightly. In the 25–29 age group, death rates for “accidents and homicide,” as well as “suicide,” stayed relatively the same as the 1978–83 study, after nearly doubling the levels of the 1972–77 study.

A comparison by sex shows that death rates from accidents and homicide are generally twice as high for males than for females, while male suicide rates are nearly three times higher than for females. Death rates from “diseases of the heart and circulatory system” are also higher for males than females in all age groups. Generally, at attained ages 25–59, death rates from “malignant neoplasms” and “cerebrovascular diseases” are higher for females than males.

A comparison of the percentage distribution of deaths in Table 5 with the corresponding ultimate experience in the 1978–83 study indicates an increase in the percentage distribution of male and female deaths from “malignant neoplasms”; and a decrease in the proportion of male and female deaths due to the category “all other causes (residual).”

The percentage distribution of deaths indicates that a higher proportion of males than females died of “diseases of the heart and circulatory system,” while a higher proportion of females than males died of “malignant neoplasms” and “cerebrovascular diseases.” Generally, “accidents and homicide” and “suicide” accounted for higher proportions of male than female deaths.

Certain limitations on the reporting of causes of death should be noted. This information is not available in all jurisdictions; it is sometimes provided erroneously; and the proximate cause of death rather than the more significant underlying condition is often reported.

TABLE 4
STANDARD ISSUES DURING SIXTIETH AND SUBSEQUENT POLICY YEARS
DEATH RATES BY CAUSE OF DEATH
BETWEEN 1983 AND 1988 ANNIVERSARIES
(DEATH RATES PER \$100,000)

Attained Ages	Cause of Death										
	All Causes Combined	Tuberculosis (61-02)*	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory System (49-52, 54,55)	Pneumonia and Influenza (56,57)	Accidents and Homicide (88-91, 95-96, 98)	Suicide (97)	War Deaths (99)	All Other Causes (Residual)
Male and Female Lives Combined†											
15-24	75.4	0.1	4.2	0.4	0.7	4.4	0.9	39.7	10.3	0.5	14.2
25-39	119.8	0.4	18.7	0.6	2.2	18.1	2.3	30.6	13.9	0.1	32.9
40-49	224.9	0.5	58.3	0.9	5.3	69.4	2.6	24.2	12.5	0.1	51.1
50-59	621.0	0.8	199.1	2.4	15.0	223.9	7.1	28.3	16.8	0.2	127.4
60-69	1,491.9	0.5	474.0	6.1	50.5	567.9	25.9	37.3	17.5	0.3	312.0
70-79	3,786.0	1.3	954.9	17.7	206.8	1,544.5	101.0	70.1	21.2	0.3	868.1
80 and over....	9,782.7	3.3	1,540.5	52.2	734.3	4,376.9	560.5	147.5	29.6	0.2	2,337.6
All ages	1,168.7	0.7	303.1	5.3	54.6	459.6	32.1	36.9	16.1	0.2	260.1
Male Lives											
15-24	94.9	0.1	5.0	0.7	0.9	5.1	0.7	50.6	14.7	0.3	16.7
25-39	134.5	0.5	17.8	0.5	2.1	21.6	2.4	36.3	15.4	0.2	37.6
40-49	236.8	0.5	57.4	1.0	5.4	77.2	2.5	26.0	13.7	0.1	53.0
50-59	651.2	0.9	201.1	2.4	15.3	243.9	7.2	30.2	17.8	0.2	132.3
60-69	1,562.7	0.5	485.3	5.9	52.6	602.9	27.8	40.7	19.0	0.3	327.6
70-79	4,050.6	1.3	1,002.7	16.2	215.4	1,675.7	111.2	75.1	24.0	0.3	928.7
80 and over....	10,403.0	3.8	1,640.4	53.0	755.0	4,644.7	623.8	161.2	34.5	0.1	2,486.6
All ages	1,242.3	0.8	316.4	5.1	56.1	495.5	34.6	40.1	17.8	0.2	275.8
Female Lives											
15-24	36.8	0.1	2.0	0.1	0.6	3.4	0.9	19.6	2.2	0.0	8.1
25-39	74.9	0.2	22.3	0.5	2.6	7.6	1.6	10.8	8.9	0.0	20.5
40-49	168.4	0.2	73.0	0.5	5.9	21.3	3.4	11.8	4.7	0.0	47.7
50-59	474.9	0.2	217.8	1.6	14.9	85.0	8.5	14.5	7.5	0.4	124.4
60-69	1,122.6	0.5	422.2	3.0	41.6	350.3	19.4	18.0	6.6	0.1	260.9
70-79	2,408.8	1.9	662.5	11.5	165.5	843.1	57.7	50.9	5.6	0.0	610.0
80 and over....	7,437.3	1.3	1,058.5	26.2	661.3	3,364.6	347.6	103.7	8.4	0.4	1,865.4
All ages	787.6	0.4	229.4	2.9	47.0	262.4	21.9	20.1	6.5	0.1	196.8

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

†Including data not subdivided by sex.

TABLE 5
STANDARD ISSUES DURING SIXTEENTH AND SUBSEQUENT POLICY YEARS
CAUSE OF DEATH EXPERIENCE BY AMOUNTS
BETWEEN 1983 AND 1988 ANNIVERSARIES
PERCENTAGE DISTRIBUTION BY AMOUNT OF CLAIMS

Attained Age	Cause of Death										
	All Causes Combined	Tuber-culosis (01, 02)*	Malignant Neo-plasms (18-33)	Diabetes Mel-litus (37)	Cere-bro-vascu-lar Dis-eases (53)	Dis-eases of the Heart and Circu-latory System (49-52, 54, 55)	Pneu-monia and In-flu-enza (56, 57)	Acci-dents and Homi-cide (88-91, 93-96, 98)	Sui-icide (97)	War Deaths (99)	All Other Causes (Resi-dual)
Male and Female Lives Combined†											
15-24.....	100.00%	0.13%	5.64%	0.60%	0.97%	5.78%	1.15%	52.68%	13.65%	0.63%	18.78%
25-39.....	100.00	0.37	15.58	0.46	1.82	15.14	1.92	25.57	11.56	0.12	27.45
40-49.....	100.00	0.20	25.92	0.41	2.35	30.87	1.14	10.78	5.57	0.03	22.72
50-59.....	100.00	0.13	32.06	0.39	2.41	36.05	1.14	4.56	2.70	0.03	20.52
60-69.....	100.00	0.03	31.77	0.41	3.39	38.06	1.74	2.50	1.17	0.02	20.91
70-79.....	100.00	0.03	25.22	0.47	5.46	40.79	2.67	1.85	0.56	0.01	22.93
80 and over ...	100.00	0.03	15.75	0.53	7.51	44.74	5.73	1.51	0.30	0.00	23.90
All ages	100.00%	0.06%	25.93%	0.45%	4.67%	39.33%	2.75%	3.16%	1.38%	0.02%	22.25%
Male Lives											
15-24.....	100.00%	0.13%	5.30%	0.72%	0.90%	5.42%	0.76%	53.38%	15.54%	0.27%	17.60%
25-39.....	100.00	0.40	13.25	0.39	1.58	16.04	1.77	26.99	11.48	0.14	27.95
40-49.....	100.00	0.22	24.25	0.41	2.26	32.62	1.07	10.97	5.79	0.03	22.38
50-59.....	100.00	0.14	30.87	0.37	2.35	37.44	1.11	4.64	2.73	0.02	20.32
60-69.....	100.00	0.03	31.05	0.38	3.37	38.58	1.78	2.61	1.22	0.02	20.97
70-79.....	100.00	0.03	24.75	0.40	5.32	41.37	2.75	1.85	0.59	0.01	22.93
80 and over ...	100.00	0.04	15.77	0.51	7.26	44.65	6.00	1.55	0.33	0.00	23.90
All ages	100.00%	0.06%	25.47%	0.41%	4.52%	39.88%	2.79%	3.23%	1.43%	0.02%	22.20%
Female Lives											
15-24.....	100.00%	0.19%	5.30%	0.22%	1.68%	9.10%	2.43%	53.18%	5.98%	0.00%	21.93%
25-39.....	100.00	0.26	29.73	0.60	3.47	10.17	2.14	14.36	11.89	0.00	27.39
40-49.....	100.00	0.12	43.33	0.29	3.52	12.66	1.99	6.98	2.77	0.00	28.35
50-59.....	100.00	0.04	45.86	0.34	3.14	17.90	1.80	3.06	1.59	0.08	26.19
60-69.....	100.00	0.05	37.61	0.26	3.71	31.21	1.72	1.61	0.58	0.01	23.24
70-79.....	100.00	0.08	27.50	0.48	6.87	35.00	2.40	2.11	0.23	0.00	25.32
80 and over ...	100.00	0.02	14.23	0.35	8.89	45.24	4.67	1.39	0.11	0.01	25.08
All ages	100.00%	0.05%	29.13%	0.36%	5.96%	33.32%	2.79%	2.55%	0.82%	0.01%	24.99%

*Numbers in parentheses refer to committee's 1970 and 1980 codes.

†Including data not subdivided by sex.

The following companies contributed to the Cause of Death Study for policies between 1983 and 1988 anniversaries:

Prudential
Equitable
Mutual of New York
Northwestern Mutual
Mutual Benefit Life
Travelers
John Hancock
Sun Life
Penn Mutual
Aetna
Massachusetts Mutual
Provident Mutual
New England Life
Connecticut Mutual
Phoenix Mutual
Connecticut General
Lincoln National
Continental Assurance
Occidental
State Farm Life