

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
1983 REPORTS**

**III. MORTALITY BY CAUSE OF DEATH UNDER STANDARD  
ORDINARY INSURANCE ISSUES BETWEEN  
1978 AND 1983 ANNIVERSARIES**

The last analysis of death rates by cause of death covered the experience from 1972 to 1977 policy anniversaries for issues in the first fifteen policy years and in the sixteenth and subsequent policy years (*TSA, 1978 Reports*, p. 69). This report describes the experience from 1978 to 1983 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 1978–83 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 issues are shown in Table 2. The results for paramedical issues, shown in Table 3, are limited to experience between 1981 and 1983 anniversaries. The paramedical data covering 1978–81 anniversaries were not available.

A comparison of the overall death rates in Tables 1 and 2 to those for the period between 1972 and 1977 anniversaries shows a general improvement in death rates by cause of death in practically all categories. An exception among medical issues is "malignant neoplasms," which increased. An exception among nonmedical issues is deaths classified as "all other causes and unknown."

A comparison by sex shows that at issue ages 30 and over, death rates from "heart and circulatory diseases" are generally two to three times higher for males than for females, for medical, nonmedical, and paramedical issues. The "accidents and homicide" death rate for males under medical, nonmedical, and paramedical issues are generally about two to three times higher

**TABLE 1**  
**STANDARD MEDICALLY EXAMINED ISSUES**  
**DEATH RATES BY CAUSE OF DEATH**  
**BETWEEN 1978 AND 1983 ANNIVERSARIES**  
**POLICY YEARS 1-15 COMBINED**  
**(Death Rates per \$100,000)**

POLICY YEARS	CAUSE OF DEATH										
	All Causes Combined	Tuberculosis	Malignant Neoplasms (18-33)	Diabetes Mellitus (37)	Cerebrovascular Disease (53)	Diseases of the Heart and Circulatory System (49-52, 54, 55)	Pneumonia and Influenza (56, 57)	Accidents and Homicide (88-91, 93, 96)	Stroke (92)	War Deaths (99)	All Other Causes (Residual)
Male and female lives combined											
Age 0 at issue											
1-5	22.6	0.0	2.4	0.0	0	0.7	0.0	5.1	0.0	0.0	14.2
6-15	25.7	0.0	5.0	0.0	0.0	0.2	1.5	13.5	0.0	0.0	3.4
1-15	24.1	0.0	3.7	0.0	0.1	1.5	0.7	9.1	0.0	0.0	10.6
Age 1-9 at issue											
1-5	14.3	0.0	0.0	0.0	0.0	4.5	0.9	7.0	0.0	0.0	1.9
6-15	73.4	0.0	7.9	0.0	0.0	0.2	0.0	38.9	9.4	0.0	17.1
1-15	44.5	0.0	4.0	0.0	0.0	2.3	0.5	23.3	4.8	0.0	9.6
Age 10-29 at issue											
1-5	62.7	0.0	4.2	0.0	0.6	5.6	0.1	39.0	4.4	0.1	8.8
6-15	94.4	0.1	17.0	0.1	7.4	13.4	0.9	32.4	9.2	0.0	19.1
1-15	80.0	0.0	11.2	0.1	1.5	9.8	0.5	35.4	7.0	0.1	14.4
Age 30-39 at issue											
1-5	82.0	0.0	13.3	0.0	1.2	12.2	0.2	36.4	7.8	0.0	10.8
6-15	202.0	0.0	55.6	0.3	5.3	58.3	1.0	32.4	13.5	0.0	35.7
1-15	131.1	0.0	30.6	0.1	2.9	31.1	0.5	34.7	10.1	0.0	21.0
Age 40-49 at issue											
1-5	166.8	0.0	41.0	0.4	2.6	48.8	0.8	37.7	9.9	0.1	25.6
6-15	469.5	0.0	162.1	1.1	12.1	157.3	3.3	33.4	15.0	0.1	85.1
1-15	293.6	0.0	91.8	0.7	6.6	94.3	1.8	35.8	12.0	0.1	50.6
Age 50 and over at issue											
1-5	395.4	0.1	146.3	0.2	10.4	122.5	2.8	41.8	11.4	0.3	59.7
6-15	1,168.2	0.3	422.2	2.8	40.6	407.6	15.3	48.6	12.0	0.3	218.5
1-15	652.0	0.1	237.9	1.0	20.4	217.2	6.9	41.0	11.6	0.3	112.4
All ages at issue:											
1-5	163.5	0.0	45.4	0.1	3.3	43.0	0.8	37.9	8.6	0.1	24.1
6-15	382.0	0.1	125.9	0.8	11.2	122.8	3.5	34.8	12.8	0.1	70.2
1-15	255.6	0.0	79.3	0.4	6.6	76.6	1.9	36.5	10.4	0.1	43.6

\* 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)	Dis-eases 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	32.0	0.0	2.7	0.0	0.0	1.1	0.0	5.6	0.0	0.0	22.5
6-15	28.0	0.0	7.4	0.0	0.0	0.0	0.0	12.6	0.0	0.0	7.9
1-15	29.9	0.0	5.0	0.0	0.0	0.6	0.0	9.1	0.0	0.0	15.2
Ages 1-9 at issue:											
1-5	15.5	0.0	0.0	0.0	0.0	6.0	1.5	8.0	0.0	0.0	0.0
6-15	93.4	0.0	11.3	0.0	0.0	0.3	0.0	53.5	13.8	0.0	14.4
1-15	57.1	0.0	6.1	0.0	0.0	3.0	0.7	32.3	7.3	0.0	7.7
Ages 10-29 at issue:											
1-5	66.2	0.0	4.2	0.0	0.6	6.1	0.0	42.0	4.2	0.1	9.0
6-15	96.9	0.1	17.4	0.1	2.4	13.9	0.8	33.7	9.6	0.0	18.9
1-15	83.4	0.0	11.6	0.1	1.6	10.5	0.4	37.4	7.2	0.1	14.5
Ages 30-39 at issue:											
1-5	85.7	0.0	13.8	0.0	1.1	13.3	0.2	38.3	8.2	0.0	10.7
6-15	207.3	0.0	55.6	0.3	5.2	61.9	1.0	33.9	13.8	0.0	35.6
1-15	136.3	0.0	31.2	0.1	2.8	33.6	0.5	36.4	10.5	0.0	21.1
Ages 40-49 at issue:											
1-5	171.0	0.0	39.4	0.1	2.4	52.9	0.8	38.7	10.6	0.0	26.0
6-15	478.4	0.0	155.9	1.1	11.7	169.9	3.3	34.4	15.7	0.1	86.3
1-15	299.3	0.0	88.1	0.5	6.3	101.8	1.9	36.8	12.7	0.0	51.2
Ages 50 and over at issue:											
1-5	406.4	0.1	139.4	0.2	9.6	134.0	2.9	44.1	12.8	0.3	63.1
6-15	1,242.0	0.3	436.9	2.9	42.8	451.8	15.4	54.3	13.3	0.4	223.9
1-15	680.4	0.1	237.0	1.1	20.5	238.2	7.0	47.4	12.9	0.3	115.9
All ages at issue:											
1-5	167.2	0.0	43.2	0.1	3.0	46.3	0.9	39.8	9.2	0.1	24.7
6-15	386.4	0.1	122.2	0.8	11.0	129.7	3.3	36.5	13.4	0.1	69.3
1-15	260.6	0.0	76.9	0.4	6.4	81.8	1.9	38.4	11.0	0.1	43.7
Female Lives											
Age 0 at issue:											
1-5	6.6	0.0	2.0	0.0	0.4	0.0	0.0	4.2	0.0	0.0	0.0
6-15	21.0	0.0	0.0	0.0	0.0	0.7	4.8	15.4	0.0	0.0	0.0
1-15	13.0	0.0	1.1	0.0	0.2	0.3	2.1	9.2	0.0	0.0	0.0
Ages 1-9 at issue:											
1-5	12.3	0.0	0.0	0.0	0.0	2.0	0.0	5.4	0.0	0.0	4.9
6-15	30.6	0.0	0.6	0.0	0.0	0.0	0.0	7.4	0.0	0.0	22.6
1-15	20.9	0.0	0.3	0.0	0.0	1.1	0.0	6.4	0.0	0.0	13.2
Ages 10-29 at issue:											
1-5	39.1	0.0	4.2	0.0	0.0	2.6	0.4	18.1	6.3	0.0	7.4
6-15	62.6	0.0	11.7	0.0	1.5	6.0	2.1	15.5	3.7	0.0	22.2
1-15	48.8	0.0	7.3	0.0	0.6	4.0	1.1	17.0	5.3	0.0	13.4
Ages 30-39 at issue:											
1-5	49.1	0.1	8.6	0.0	2.4	2.6	0.2	19.3	4.5	0.1	11.4
6-15	136.9	0.0	55.7	0.5	6.4	13.0	0.9	14.2	10.0	0.0	36.2
1-15	79.1	0.0	24.7	0.2	3.8	6.1	0.4	17.5	6.4	0.0	19.9
Ages 40-49 at issue:											
1-5	132.5	0.0	52.2	2.9	4.1	15.1	0.2	29.5	4.0	0.5	22.0
6-15	300.0	0.0	210.9	0.4	15.3	58.5	3.2	25.6	10.0	0.0	76.1
1-15	217.4	0.0	121.5	1.8	8.9	33.7	1.5	27.8	6.6	0.3	45.2
Ages 50 and over at issue:											
1-5	330.2	0.0	187.5	0.1	15.3	54.6	2.0	28.2	3.1	0.0	39.3
6-15	779.9	0.5	344.5	2.0	29.5	175.4	14.5	18.2	5.4	0.0	190.0
1-15	489.9	0.2	243.2	0.8	20.3	97.5	6.5	24.7	3.9	0.0	92.9
All ages at issue:											
1-5	135.6	0.0	62.3	0.8	5.5	18.2	0.7	23.7	4.2	0.2	20.1
6-15	312.6	0.1	158.6	0.7	13.2	60.2	4.7	15.8	7.8	0.0	78.6
1-15	215.1	0.1	99.3	0.8	8.5	34.3	2.2	21.8	5.5	0.1	42.6

Numbers in parentheses refer to Committee's 1970 and 1980 Codes

TABLE 2  
STANDARD NONMEDICAL ISSUES  
DEATH RATES BY CAUSE OF DEATH  
BETWEEN 1978 AND 1983 ANNIVERSARIES  
POLICY YEARS 1-15 COMBINED  
(Death rates per \$100,000)

POLICY YEARS	CAUSE OF DEATH										
	All Causes Combined	Tuberculosis (01)	Malignant Neoplasms (18-23)	Diabetes Mellitus (13)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory System (49-52, 54-55)	Pneumonia and Infections (56-57)	Accidents and Homicide (88-91)	Suicide (92)	War Deaths (99)	All Other Causes Residual
Male and Female Issues Combined											
Ages 0-4 at issue											
1-5	52.4	0.0	3.0	0.0	0.3	4.5	1.5	11.6	0.0	0.0	31.4
6-15	70.5	0.0	4.8	0.0	0.4	1.9	0.2	9.8	0.2	0.0	7.2
1-15	41.0	0.0	3.7	0.0	0.3	3.4	1.0	10.9	0.2	0.0	21.5
Ages 5-9 at issue											
1-5	21.7	0.0	1.9	0.2	0.3	1.1	0.3	10.9	0.1	0.0	6.8
6-15	42.5	0.0	4.4	0.1	0.6	1.8	0.5	22.3	3.7	0.0	9.6
1-15	30.4	0.0	3.0	0.2	0.5	1.4	0.4	15.7	1.4	0.0	8.0
Ages 10-29 at issue											
1-5	59.6	0.0	4.0	0.1	0.5	3.2	0.3	34.2	4.0	0.0	13.6
6-15	86.6	0.0	12.6	0.2	1.5	10.0	0.8	31.7	8.8	0.1	20.8
1-15	70.5	0.0	7.5	0.1	1.0	5.9	0.5	34.2	6.0	0.0	16.2
Ages 30-39 at issue											
1-5	70.7	0.0	9.8	0.0	3.1	9.4	0.5	35.4	4.2	0.0	18.7
6-15	194.4	0.1	4.8	0.6	5.0	52.8	1.7	56.8	9.7	0.0	54.0
1-15	106.2	0.0	20.0	0.2	2.9	22.0	0.9	25.7	5.8	0.0	28.7
Ages 40-49 at issue											
1-5	142.6	0.0	27.0	0.5	3.2	44.4	1.7	19.2	4.8	0.0	47.9
6-15	463.9	0.0	137.6	1.6	15.7	135.1	4.7	25.7	17.7	0.0	133.4
1-15	222.2	0.0	54.5	0.8	6.3	68.1	2.3	20.7	8.0	0.0	64.5
Ages 50 and over at issue											
1-5	343.1	0.1	89.7	0.3	2.9	97.8	2.3	28.0	5.7	0.0	116.2
6-15	926.8	2.0	426.3	9.1	26.1	276.7	13.5	8.9	6.5	0.0	157.8
1-15	409.5	0.3	128.0	1.3	5.6	118.1	3.6	25.8	5.8	0.0	120.9
All ages at issue											
1-5	63.2	0.0	6.3	0.1	1.1	6.2	0.4	29.4	3.7	0.0	16.9
6-15	104.3	0.0	19.1	0.3	2.2	17.8	1.0	29.2	8.3	0.1	26.5
1-15	78.7	0.0	11.2	0.2	1.5	10.6	0.6	29.3	5.4	0.0	19.9

\* 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) <sup>a</sup>	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	57.2	0.0	2.4	0.0	0.4	4.8	1.2	13.7	0.1	0.1	34.3
6-15	28.6	0.0	5.9	0.0	0.1	1.8	0.4	12.8	0.2	0.0	7.3
1-15	45.0	0.0	3.9	0.0	0.3	3.6	0.8	13.3	0.2	0.1	22.8
Ages 1-9 at issue:											
1-5	25.4	0.0	2.3	0.3	0.5	1.4	0.3	13.0	0.1	0.0	7.6
6-15	52.6	0.0	4.9	0.1	0.7	2.3	0.6	28.3	4.4	0.0	11.4
1-15	37.6	0.0	3.5	0.2	0.6	1.8	0.4	19.8	2.0	0.0	9.3
Ages 10-29 at issue:											
1-5	72.3	0.0	4.1	0.0	0.7	3.6	0.3	43.1	5.2	0.1	15.2
6-15	96.3	0.0	12.2	0.2	1.6	11.7	0.8	37.2	10.1	0.1	22.4
1-15	82.8	0.0	7.6	0.1	1.1	7.2	0.5	40.5	7.3	0.1	18.4
Ages 30-39 at issue:											
1-5	83.1	0.0	9.1	0.1	1.5	12.0	0.6	33.9	5.4	0.0	20.5
6-15	214.5	0.2	40.4	0.6	5.1	66.8	1.8	32.9	10.3	0.2	56.4
1-15	123.6	0.0	18.8	0.2	2.6	29.0	0.9	33.5	6.9	0.1	31.5
Ages 40-49 at issue:											
1-5	162.8	0.0	26.7	0.5	3.6	61.1	2.1	23.9	5.2	0.0	41.7
6-15	540.9	0.0	139.3	2.6	19.6	176.2	4.7	38.2	26.2	0.0	134.1
1-15	244.4	0.0	51.1	0.9	5.5	85.9	2.7	26.9	9.8	0.0	61.7
Ages 50 and over at issue:											
1-5	398.5	0.0	105.1	0.4	3.7	117.8	2.1	36.4	8.2	0.0	124.9
6-15	998.9	2.3	476.0	10.7	26.7	287.8	15.8	4.1	7.3	0.0	168.2
1-15	477.0	0.3	153.6	1.7	6.7	140.0	3.9	32.1	8.1	0.0	130.5
All ages at issue:											
1-5	76.2	0.0	6.3	0.1	0.9	7.8	0.4	37.9	4.8	0.0	18.0
6-15	115.1	0.0	17.7	0.3	2.2	21.2	0.9	35.2	9.7	0.1	27.7
1-15	92.0	0.0	11.0	0.2	1.5	13.2	0.6	36.7	6.8	0.1	21.9
Female Lives											
Age 0 at issue:											
1-5	46.4	0.0	3.6	0.0	0.0	4.1	1.8	9.0	0.2	0.0	27.8
6-15	18.6	0.0	3.3	0.0	0.8	1.9	0.0	5.5	0.1	0.0	7.0
1-15	35.8	0.0	3.5	0.0	0.3	3.2	1.1	7.7	0.1	0.0	19.8
Ages 1-9 at issue:											
1-5	16.9	0.0	3.5	0.1	0.1	0.8	0.4	8.2	0.0	0.0	5.8
6-15	26.0	0.0	3.5	0.0	0.6	1.1	0.2	12.5	1.2	0.0	6.8
1-15	20.4	0.0	2.2	0.1	0.3	0.9	0.3	9.9	0.5	0.0	6.2
Ages 10-29 at issue:											
1-5	32.5	0.0	3.9	0.1	0.7	2.3	0.3	15.2	1.7	0.0	8.4
6-15	52.8	0.0	14.4	0.2	1.3	4.1	0.9	12.5	4.1	0.0	15.3
1-15	39.0	0.0	7.3	0.1	0.9	2.8	0.5	14.4	2.4	0.0	10.6
Ages 30-39 at issue:											
1-5	45.7	0.0	11.0	0.0	3.0	4.5	0.4	9.6	2.1	0.0	15.0
6-15	114.9	0.0	55.6	0.6	4.9	18.5	1.3	10.7	8.0	0.0	45.0
1-15	70.9	0.0	22.4	0.2	3.5	8.1	0.7	9.9	3.6	0.0	22.6
Ages 40-49 at issue:											
1-5	104.5	0.0	27.7	0.5	6.1	12.6	0.9	10.3	4.1	0.0	42.2
6-15	370.7	0.0	135.5	0.4	10.9	69.8	3.6	10.6	7.3	0.0	132.6
1-15	185.0	0.0	60.3	0.5	7.6	29.9	1.7	10.4	5.1	0.0	69.5
Ages 50 and over at issue:											
1-5	196.7	0.3	49.1	0.0	0.8	44.7	2.8	5.7	0.0	0.0	94.2
6-15	516.0	0.0	142.5	0.0	22.6	213.2	0.0	36.5	2.4	0.0	98.6
1-15	217.6	0.3	55.2	0.0	2.3	55.8	2.6	7.8	0.0	0.0	94.3
All ages at issue:											
1-5	37.8	0.0	6.3	0.1	1.3	3.2	0.4	12.8	1.6	0.0	12.0
6-15	73.1	0.0	24.2	0.2	2.1	8.1	1.0	11.7	4.3	0.0	22.4
1-15	48.9	0.0	11.6	0.1	1.6	4.8	0.6	12.5	2.4	0.0	15.3

<sup>a</sup>Numbers in parentheses refer to Committee's 1970 and 1980 Codes.

TABLE 3  
STANDARD PARAMEDICAL ISSUES  
DEATH RATES BY CAUSE OF DEATH  
BETWEEN 1981 AND 1983 ANNIVERSARIES  
POLICY YEARS 1-15 COMBINED  
(Death rates per \$100,000)

Policy Years	Cause of Death										
	All Causes Combined	tuber- ciosis (1-2)	Mani- pulation Nos. (3-15)	Diab- etes Mell. (16-17)	Cere- bro-vascular Dis- eases (18)	Dis- eases of the Heart and Circu- latory System (19-22)	Pneu- monia and Infl- uenza (23-24)	Acci- dents and Home Acci- dents (25-31)	Suici- de (32)	War- related (33)	All Other Causes (RES- 34-60)
Males and Females Combined											
Ages 0-4											
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 5-9											
1-5	26.8	0.0	0.0	0.0	0.0	25.9	0.0	0.5	0.0	0.0	3.0
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	19.8	0.0	0.0	0.0	0.0	19.4	0.0	0.4	0.0	0.0	0.0
Ages 10-29											
1-5	54.8	0.0	0.0	0.0	1.5	2.6	0.4	29.7	4.0	0.0	14.9
6-15	65.5	0.0	7.3	0.0	1.1	3.9	0.4	24.5	6.5	0.0	21.9
1-15	57.4	0.0	8.5	0.0	1.2	2.9	0.4	28.4	4.6	0.0	14.2
Ages 30-39											
1-5	68.2	0.0	8.7	0.0	1.2	11.3	0.2	26.9	3.4	0.0	16.5
6-15	116.1	0.1	25.8	0.4	2.5	19.8	1.2	21.6	8.1	0.0	36.6
1-15	75.1	0.0	11.1	0.1	1.3	12.5	0.4	26.1	4.0	0.0	19.4
Ages 40-49											
1-5	164.7	0.1	44.2	0.1	3.6	40.5	1.2	29.2	6.0	0.1	38.5
6-15	358.1	0.0	118.5	0.4	7.1	101.1	3.5	30.7	20.1	1.1	98.6
1-15	194.2	0.1	54.0	0.2	4.5	46.8	1.5	29.4	6.6	0.4	47.7
Ages 50 and over											
1-5	394.5	0.0	116.8	0.5	12.3	122.8	1.3	30.7	11.4	0.0	96.8
6-15	856.1	0.7	267.3	0.7	23.1	238.3	8.8	44.7	12.7	0.0	259.9
1-15	455.6	0.1	136.7	0.5	13.7	138.1	4.0	32.5	11.5	0.0	118.4
All ages											
1-5	116.1	0.0	25.5	0.1	3.0	26.2	0.8	28.2	4.8	0.1	27.7
6-15	202.5	0.1	51.3	0.3	3.9	47.2	1.9	35.8	8.3	0.2	60.5
1-15	130.2	0.0	30.2	0.1	3.1	29.6	0.9	27.8	5.3	0.1	33.0

Numbers in parentheses refer to Committee's 1970 and 1980 Codes.

Including data not subdivided by sex.

Note: Paramedical experience limited to issues of 1970 and later.

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	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	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 10-29 at issue:											
1-5	57.8	0.0	3.6	0.0	0.3	3.1	0.5	33.2	4.8	0.0	12.2
6-15	66.1	0.0	7.5	0.0	0.9	4.2	0.2	24.6	6.5	0.0	22.1
1-15	59.9	0.0	4.6	0.0	0.4	3.4	0.4	31.0	5.3	0.0	14.7
Ages 30-39 at issue:											
1-5	72.0	0.0	7.8	0.0	1.0	12.0	0.2	20.3	3.5	0.0	18.1
6-15	117.6	0.0	24.4	0.4	1.3	20.8	1.1	22.4	9.2	0.0	38.0
1-15	78.7	0.0	10.3	0.1	1.1	13.2	0.3	28.3	4.7	0.0	21.0
Ages 40-49 at issue:											
1-5	173.1	0.1	45.2	0.2	3.5	46.1	0.7	32.3	6.5	0.0	58.6
6-15	373.6	0.0	104.7	0.5	4.6	116.9	3.4	31.6	10.4	0.0	101.5
1-15	203.2	0.1	54.1	0.2	3.6	56.7	1.1	32.2	7.1	0.0	48.1
Ages 50 and over at issue:											
1-5	454.0	0.0	128.0	0.6	11.5	145.9	3.2	28.3	13.4	0.0	103.1
6-15	977.9	0.0	277.2	0.2	28.5	294.4	9.5	57.3	17.0	0.0	202.7
1-15	503.0	0.1	146.9	0.5	13.7	164.8	4.0	32.0	13.9	0.0	127.1
All ages at issue:											
1-5	121.1	0.0	25.1	0.1	2.3	28.8	0.6	30.5	5.2	0.0	28.4
6-15	202.8	0.1	50.0	0.3	3.4	50.8	1.3	26.8	9.1	0.0	60.6
1-15	134.7	0.0	29.2	0.1	2.5	32.5	0.8	29.9	5.9	0.0	33.8
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	66.3	0.0	0.0	0.0	0.0	65.0	0.0	1.3	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	50.8	0.0	0.0	0.0	0.0	49.8	0.0	1.0	0.0	0.0	0.0
Ages 10-29 at issue:											
1-5	39.4	0.0	11.6	0.0	6.3	9.0	0.0	11.1	0.0	0.0	19.5
6-15	60.6	0.0	6.3	0.0	2.5	1.0	1.8	23.5	6.0	0.0	13.5
1-15	43.1	0.0	19.7	0.0	5.7	6.2	0.3	13.3	1.0	0.0	12.0
Ages 30-39 at issue:											
1-5	48.2	0.0	12.2	0.0	2.1	7.9	0.5	14.3	2.5	0.0	8.7
6-15	107.3	1.1	34.4	0.0	10.0	13.9	1.4	16.9	1.3	0.0	28.1
1-15	55.7	0.1	15.0	0.0	3.1	8.6	0.6	14.7	2.4	0.0	11.2
Ages 40-49 at issue:											
1-5	128.2	0.0	39.9	0.0	9.5	16.4	3.7	15.8	3.6	1.4	37.9
6-15	296.8	0.0	123.2	0.2	3.1	38.8	2.5	27.2	9.1	5.3	87.4
1-15	155.6	0.0	53.5	0.0	8.4	20.1	3.5	17.7	4.5	2.0	45.6
Ages 50 and over at issue:											
1-5	268.9	0.1	81.3	0.3	14.8	49.1	3.4	38.2	4.8	0.0	76.9
6-15	534.7	0.0	241.1	2.1	8.7	90.5	6.7	11.4	1.1	0.0	173.1
1-15	308.6	0.1	105.2	0.5	13.9	55.3	3.9	34.2	4.3	0.0	91.3
All ages at issue:											
1-5	92.5	0.0	27.0	0.0	6.1	13.9	1.5	17.0	2.6	0.3	24.1
6-15	200.8	0.4	78.0	0.3	6.4	27.4	2.4	20.1	4.3	1.4	60.0
1-15	108.4	0.1	34.5	0.1	6.1	15.9	1.7	17.4	2.9	0.5	29.4

Numbers in parentheses refer to Committee's 1970 and 1980 Codes.  
 Note: Paramedical experience limited to issues of 1970 and later.

## COMMITTEE ON MORTALITY—ORDINARY

TABLE 4

STANDARD ISSUES DURING SIXTEENTH AND SUBSEQUENT POLICY YEARS  
DEATH RATES BY CAUSE OF DEATH  
BETWEEN 1978 AND 1983 ANNIVERSARIES  
(Death rates per \$100,000)

AGE GROUP	CAUSE OF DEATH										
	All Causes Combined	Infectious (01-02)	Malignant Neoplasms (15-23)	Diabetes Mellitus (17)	Cerebrovascular Diseases (53)	Diseases of the Heart and Circulatory System (40-52, 54-55)	Pneumonia and Influenza (56-57)	Accidents and Homicide (88-91)	Suicide (97)	War Deaths (99)	All Other Causes Residual
Male and Female Lives Combined											
15-24	88.26	0.00	8.85	0.21	1.16	3.54	0.40	48.79	10.99	0.00	17.37
25-39	110.68	0.04	18.81	0.74	1.72	16.73	1.23	31.92	11.69	0.00	5.72
40-49	233.93	0.2	31.37	0.95	6.00	9.22	2.47	26.08	7.00	0.16	31.41
50-59	689.67	0.35	84.37	3.67	16.81	283.45	7.25	31.24	14.96	0.10	147.82
60-69	1,604.79	0.52	151.95	11.15	56.85	682.95	7.89	38.32	15.88	0.10	355.26
70-79	4,091.57	0.87	902.86	35.46	243.41	1,725.47	105.35	56.04	31.62	0.35	990.64
80 and over	10,144.93	1.31	1,416.19	93.04	984.75	6,821.22	463.90	155.31	24.17	0.27	2,387.77
All ages	1,222.20	0.49	280.11	9.27	65.05	501.97	28.55	37.55	15.33	0.14	283.83
Male Lives											
15-24	118.11	0.00	6.84	0.31	1.59	4.38	0.44	66.80	15.18	0.00	22.56
25-39	128.04	0.05	15.56	0.83	1.72	20.47	1.46	37.52	14.05	0.12	36.26
40-49	266.75	0.26	57.70	1.10	6.63	90.73	2.77	30.84	12.73	0.24	64.05
50-59	764.12	0.43	201.35	4.19	18.99	306.01	8.63	36.84	17.42	0.13	167.13
60-69	1,954.82	0.63	534.76	13.39	68.21	813.59	25.78	46.30	19.68	0.13	432.35
70-79	5,208.75	2.13	1,141.39	42.82	304.58	2,191.54	136.73	71.79	41.51	0.18	1,276.09
80 and over	13,020.60	4.50	1,857.02	114.27	1,216.48	5,856.44	595.31	212.61	32.46	0.40	3,131.12
All ages	1,424.26	0.60	322.98	10.36	72.57	590.46	32.69	42.71	18.61	0.16	331.98
Female Lives											
15-24	48.15	0.00	5.20	0.03	0.41	2.37	0.48	23.71	5.71	0.00	12.24
25-39	77.65	0.03	23.73	0.49	2.46	6.99	0.88	14.46	5.81	0.01	22.78
40-49	219.73	0.02	88.28	1.63	8.43	29.95	2.71	12.80	9.36	0.03	66.51
50-59	581.45	0.12	236.81	3.46	19.79	95.67	5.75	21.26	10.45	0.07	188.07
60-69	1,177.28	0.40	431.48	8.45	54.09	301.46	20.54	30.87	8.44	0.10	321.41
70-79	3,990.63	0.59	657.96	32.19	208.42	1,167.25	61.90	36.03	4.30	2.22	519.78
80 and over	8,896.54	1.24	943.16	106.20	1,059.50	4,112.05	416.92	98.45	7.64	0.18	2,151.21
All ages	934.00	0.20	240.83	8.70	65.75	307.61	23.34	23.98	7.73	0.25	255.63

Numbers in parentheses refer to Committee's 1970 and 1980 Codes  
Including data not subdivided by sex

than that for females. Death rates for "malignant neoplasms" do not show any clear, well-defined pattern by age group between males and females.

Because of its small volume, the nonmedical experience at issue ages 50 and over is subject to relatively large random fluctuations. For reasons ex-



# MORTALITY BY CAUSE OF DEATH

57

TABLE 5  
 STANDARD ISSUES DURING SIXTEENTH AND SUBSEQUENT POLICY YEARS  
 PERCENTAGE DISTRIBUTION BY CAUSE OF DEATH  
 BETWEEN 1978 AND 1983 ANNIVERSARIES  
 (BY AMOUNT OF CLAIMS)

AT-FAINLED AGES	CAUSE OF DEATH										
	All Causes Combined	Tuberculosis (01, 02) <sup>1</sup>	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											
15-24 ...	100.00%	0.00%	5.79%	0.26%	1.34%	3.71%	0.37%	56.56%	12.86%	0.00%	19.10%
25-39 ...	100.00	0.04	12.15	0.65	1.34	15.98	1.14	29.31	10.98	0.10	28.32
40-49 ...	100.00	0.10	21.63	0.41	2.48	34.01	1.04	11.45	4.77	0.09	24.01
50-59 ...	100.00	0.06	26.74	0.55	2.49	40.05	1.13	4.82	2.28	0.02	21.87
60-69 ...	100.00	0.03	27.36	0.69	3.49	41.62	1.32	2.37	1.01	0.01	22.12
70-79 ...	100.00	0.04	21.91	0.82	5.85	42.07	2.62	1.38	0.80	0.03	24.50
80 and over	100.00	0.03	14.26	0.88	9.34	44.98	4.57	1.63	0.25	0.00	24.05
All ages	100.00%	0.04%	22.61%	0.73%	5.10%	41.46%	2.30%	3.14%	1.31%	0.01%	23.31%
Female Lives											
15-24 ...	100.00%	0.00%	10.79%	0.06%	0.85%	4.93%	0.99%	49.25%	7.71%	0.00%	25.42%
25-39 ...	100.00	0.03	30.55	0.63	3.17	9.01	1.11	18.63	7.49	0.02	29.34
40-49 ...	100.00	0.01	40.18	0.74	3.84	13.63	1.24	5.82	4.26	0.01	30.27
50-59 ...	100.00	0.02	40.73	0.59	3.40	16.45	0.99	3.66	1.80	0.01	32.35
60-69 ...	100.00	0.03	36.65	0.72	4.59	25.61	1.75	2.62	0.72	0.01	27.30
70-79 ...	100.00	0.02	22.00	1.08	6.97	39.03	2.07	1.20	0.14	0.07	27.41
80 and over	100.00	0.01	10.60	1.19	11.91	46.22	4.69	1.11	0.09	0.00	24.18
All ages	100.00%	0.02%	25.78%	0.93%	7.04%	32.93%	2.50%	2.57%	0.83%	0.03%	27.37%

<sup>1</sup>Numbers in parentheses refer to Committee's 1970 and 1980 Codes.

plained in the annual Study of Mortality under Standard Ordinary Insurance Issues, nonmedical issues for issue age groups 35-39 and over have a lower average age at issue than corresponding medical issues. Comparisons of the death rates of medical and nonmedical experience therefore may not be meaningful.

### *Experience during the Sixteenth and Subsequent Policy Years*

Tables 4 and 5 present the 1978-83 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. Table 5 presents the

percentage distributions of actual claims separately for male and female lives.

A comparison of the overall death rates in Table 4 to those for the period between 1972 and 1977 anniversaries shows reductions in death rates at all ages for "malignant neoplasms," "cerebrovascular diseases," "diseases of the heart and circulatory system," "pneumonia and influenza," and "diabetes mellitus." In the 25-39 age group, death rates for "accidents and homicide," as well as "suicide," nearly doubled what they were in the 1972-77 study.

A comparison by sex shows that death rates from suicide are generally two to three times higher for males than for females. Death rates from "diseases of the heart and circulatory system" and "accidents and homicide" are also higher for males than females in all age groups. Generally, at attained ages under 60, 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 1972-77 study indicates a decrease in the percentage distribution of male and female deaths due to the diseases of the "heart and circulatory system" and an increase in the proportion of male and female deaths due to the category "all other causes and unknown."

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." At attained ages 59 and below, "accidents and homicides" accounted for a higher proportion of male than female deaths.