

# Leading Components of Upturn in Mortality for Men United States - 1952-67

An analysis of rising mortality among men by cause presented separately for white men and for men of other races.

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### SYMBOLS

Data not available-----	---
Category not applicable-----	...
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# LEADING COMPONENTS OF UPTURN IN MORTALITY FOR MEN

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## INTRODUCTION

Excluding the sharp peaks in the mortality curve reflecting the pandemic of influenza in 1918-19 and subsequent severe epidemics of influenza and pneumonia in a number of other years, the trend of the death rate for the United States was clearly downward during 1900-1950. Then the death rate leveled off and remained almost stationary during 1950-60.

Moriyama<sup>1</sup> began to ask if the stationary level was transitory or whether it marked the beginning of a new uptrend in mortality. An analysis of age-color-sex specific death rates for the period 1948-68 answers the question at least for male persons. For both white men and those of other races, for most age groups beginning with 15-19 years, the course of mortality was indeed upward in the 1960's (tables 1 and 2).

In contrast for white women the rate of change in the death rate for 1954-63 was not positive; that is, the rate did not turn upward for any age group except 85 years and over (table 2). The decline in the death rates for the following age groups, however, did decelerate during this decade, the death rates reaching a low usually about 1958-63: 15-19, 20-24, and each 5-year age group in the span 40-59. Then during 1963-68 the death rate for these age groups turned slightly upward. But for every 5-year age group in the span 60-84 years, the death rate for white women continued downward with few fluctuations through 1963-68 (table 3).

Female persons of races other than white had the most favorable trends in mortality during 1948-68, which, for almost every age group, resulted in a narrowing of the gap between the higher death rates for these persons and those rates for white female persons (table 3). For

these persons of races other than white, the death rates for most age groups continued to decline or at worst tended to level off. This leveling off occurred usually around 1963-68, much more recently than 1953-58, when the death rates for white men leveled off. Except for the age groups 65-69 and 70-74 years the death rates were much lower for 1968 than for 1948 for every 5-year age group of female persons of races other than white and were lower for 1968 than for 1963 for the following age groups: 25-29, 40-44, each 5-year age group in the span 50-64 years, and the groups 75-79 and 80-84 years.

This sex differential for mortality is not limited to the United States. Martin<sup>2</sup> described in 1951 the excess of male over female mortality throughout the 100 years covered up to that date by the returns of the Registrar-General for England and Wales. He reported that the mortality sex ratio (the male age-specific death rates expressed as a percentage of the corresponding female rates) increased for each age group throughout the century. The excess mortality for men increased with advance in age from 25-29 to 55-64 years and then declined. For the oldest group, 85 years and over, the ratio showed the smallest change in any group. He found that this rising mortality excess for men compared with mortality for women resulted from the fact that the death rate declined relatively faster for women than for men.

In both England and Wales and in the United States excess mortality for the male population is smaller in the very young and very old age groups. During 1948-68, for white men and for men of other races the greatest relative excess mortality in the United States occurred for the age group 20-24 years (table 4). The age-sex mortality trend for 1968 is shown in figure 1.

In the 1968 Demographic Yearbook of the United Nations,<sup>3</sup> expectation of life at specified ages for each sex shows that excess mortality for men is almost universal. The average number of years of life expected at birth, by sex, for selected countries among those for which data are shown in table 21 in the 1968 Yearbook are as follows for the latest time periods available:

Country and period	Expectation of life at birth in years
South Africa, 1959-61	
Asiatic population	
Male-----	57.70
Female-----	59.57
Colored population	
Male-----	49.62
Female-----	54.28
White population	
Male-----	64.73
Female-----	71.67
Canada, 1960-62	
Male-----	68.35
Female-----	74.17
Mexico, 1959-61	
Male-----	57.61
Female-----	60.32
China (Taiwan), 1965	
Male-----	65.85
Female-----	70.44
India, 1951-60	
Male-----	41.89
Female-----	40.55
Japan, 1966	
Male-----	68.35
Female-----	73.61
Federal Republic of Germany, 1965-67	
Male-----	67.62
Female-----	73.57
Italy, 1960-62	
Male-----	67.24
Female-----	72.27
England and Wales, 1965-67	
Male-----	68.70
Female-----	74.90
Australia, 1960-62	
Male-----	67.92
Female-----	74.18
Ukrainian S.S.R., 1965-66	
Male-----	68.00
Female-----	75.00

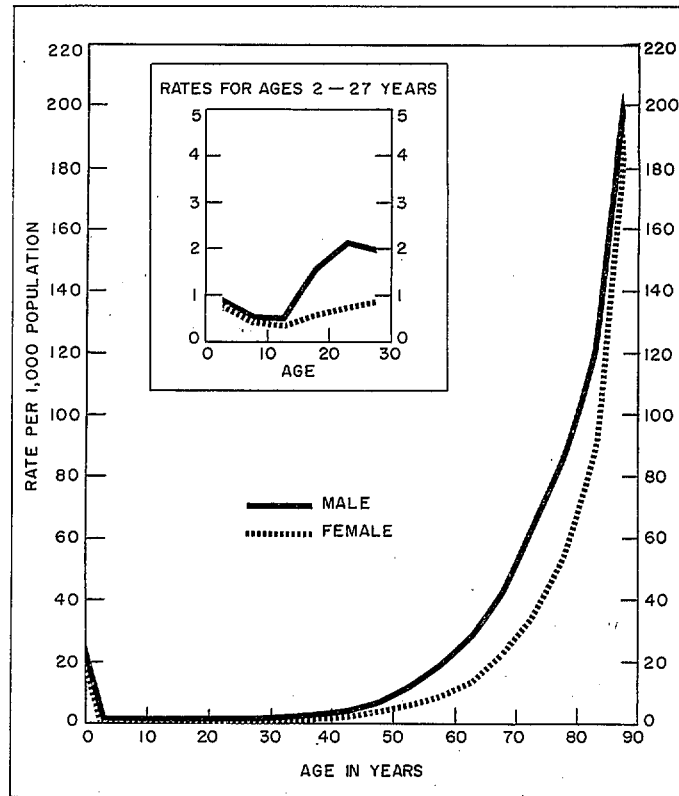


Figure 1. Death rates by age and sex: United States, 1968.

The excess mortality for the resident male population of the United States has contributed to the sharp decline in the sex ratio (male persons to 100 female persons). This ratio dropped from 106 in 1910 to 95 in 1970 (figure 2). Battle deaths occurring in foreign countries during this period (in World War I, World War II, the Korean War, and in Vietnam) also contributed to the lowering

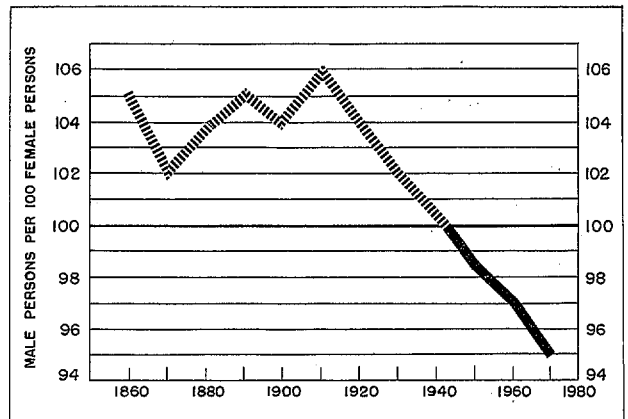


Figure 2. Sex ratio of the resident population of the United States: 1860 to 1970.

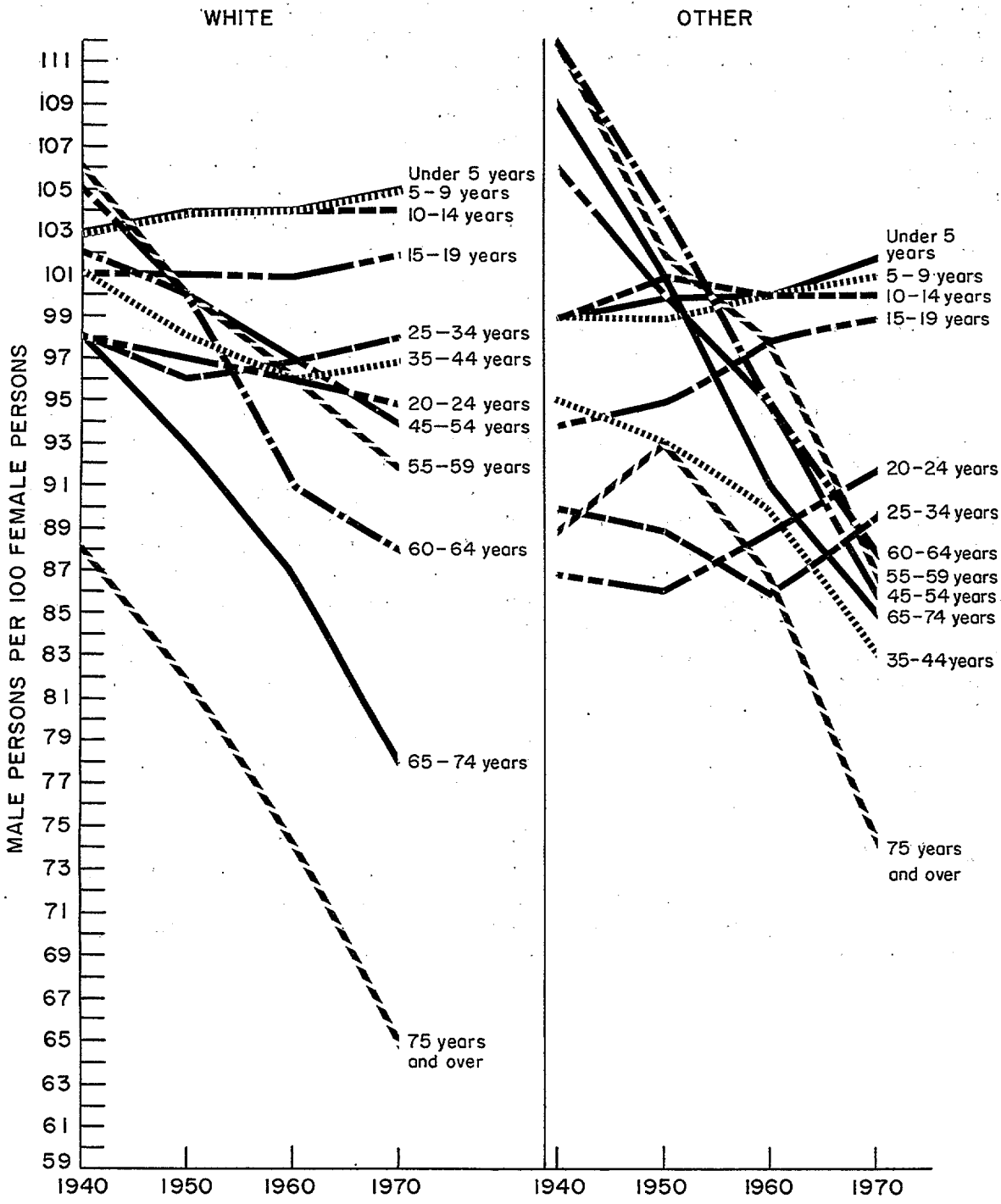


Figure 3. Sex ratio of the resident population of the United States, by color and age: 1940, 1950, 1960, and 1970.



of the sex ratio (figure 3). But deaths occurring abroad are not included in the mortality rates shown in this report. These rates are based on deaths occurring within the country among the resident population. Both deaths and populations exclude the Armed Forces and civilians who reside outside of the country but include Armed Forces stationed within the country.

As is widely recognized much of the excess mortality for men in the United States is attributable to Diseases of heart (International Classification of Diseases Nos. 400-402, 410-443). In 1967 this cause still accounted for 39 percent of all deaths in the United States (721,268 deaths, giving a rate of 364.5 deaths per 100,000 population). The age-adjusted death rate for the male population was 362.6 and the rate for the female population was only 186.8. But finally the long upturn in mortality from this cause appears to be leveling off. For the male population the age-adjusted death rate for this cause declined from 375.5 per 100,000 population for 1960 to 362.6 for 1967. Although heart disease continues to contribute to the upturn in mortality for certain age groups of men, especially at older ages, there are other causes of death that (1) account in full for the upturn in mortality for the remaining age groups and (2) account in part for the upturn in mortality for those age groups for which heart disease mortality is still rising. It is the purpose of this report to identify for each 5-year age group, separately for the white and other male populations, the major causes of the upturn in mortality during 1957-67.

## METHOD OF ANALYSIS

The approach taken to determine which causes among the broad groups of causes in the List of 60 Selected Causes of Death (shown as

appendix I) used with the Seventh Revision of the International Classification of Diseases<sup>4</sup> contributed substantially during 1957-67 to the unfavorable reversal in the mortality trend for men was as follows: The absolute amount of increase between the death rate for 1957 and that for 1967 was computed for each 5-year age group separately for white men and men of other races. (The residual group in the List entitled "All other diseases" and data for the open-ended age group 85 years and over are excluded in the analysis.) Causes selected for consideration are only (1) causes of death for which the rate for any 5-year age group was increased by 15 or more deaths per 100,000 population during 1957-67 and (2) causes for which the increase during 1957-67 for any 5-year age group accounted for at least 10 percent of the total increase in the death rate for that 5-year age group.

The trends by age for these selected causes are taken up in the order of their appearance in the List of 60 Selected Causes. This list was used essentially unaltered for both the Sixth and Seventh Revisions of the International Classification of Diseases.<sup>4,5</sup> (The numbers after the category titles are the category numbers of both Revisions.) The year 1967 is used because it is the most recent year for which final mortality statistics by cause of death are available.

During the period 1952-67, for which most cause-specific mortality statistics are shown in this report, the causes of death were classified according to only two revisions of the International Classification of Diseases (hereinafter denoted by ICD): Sixth Revision, in use for 1949-57, and Seventh Revision, in use for 1958-67. The causes shown are among those for which the introduction of the Seventh Revision did not produce serious breaks in comparability of cause-of-death statistics.

## I. THE UPTURN IN MORTALITY FOR THE WHITE MALE POPULATION

### Pattern of the Age-Specific Death Rates for All Causes

The unfavorable reversal in the trend of mortality for white men was already quite apparent for some age groups in mortality statistics for the decade 1954-63 (table 2). The rates were upward in this decade for white men (as measured by positive percent changes in the death rate over this 10-year period) at ages 45-54, 55-64, 65-74, and 85 years and over.

Death rates by 5-year age groups for 1963 and 1968 show that during the 6-year period 1963-68 mortality rose for white teenage boys 15-19 years and for each 5-year age group of white men in the productive years of life from 20-24 years through 40-44 years (table 1). Some of these increases amounted to more than 10 percent: the death rate for white teenagers 15-19 years of age rose from 121.7 per 100,000 population for 1963 to 146.9 for 1968; that for white men 20-24 years of age, from 167.8 per 100,000 for 1963 to 196.7 for 1968; and that for white men 25-29 years, from 154.4 per 100,000 for 1963 to 167.2 for 1968.

For most older age groups (60-64, 65-69, 70-74, and 75-79 years) the death rates for white men reached their low mark much earlier—in the mid 1950's—and have continued upward since that year. The only segment of the white male population for which the course of mortality was generally favorable in the 1960's were children under 15 years of age. For them the death rate, with few fluctuations, continued downward at least through 1967. But for infants and children at ages 5-9 and 10-14 years the 1968 death rates were somewhat higher than the corresponding rates for 1967.

### Causes of Death Contributing Appreciably to the Upturn in Mortality

*Malignant neoplasm of respiratory system, not specified as secondary (ICD Nos. 160-164).*—In 1967 there were 43,633 deaths among white men from this disease. For more than 94 percent

of these deaths the lung was reported as the site of the neoplasm. This high total for these diseases of the respiratory system resulted from measurable increases in the death rate for this cause during 1960-67 for every 5-year age group in the span 30-34 years through 80-84 years as follows:

Age in years	1960	1967
	Rate per 100,000 population	
30-34-----	2.3	2.4
35-39-----	6.1	7.7
40-44-----	15.0	19.1
45-49-----	34.6	41.1
50-54-----	73.7	84.4
55-59-----	124.0	143.0
60-64-----	180.7	220.5
65-69-----	219.7	296.1
70-74-----	232.3	332.1
75-79-----	199.6	319.8
80-84-----	176.3	257.0

The above figures may suggest that the death rate for these neoplasms increases with advance in age from 30-34 years through 70-74 years and then declines at ages over 74 years. Actually, however, there is no decline in the risk of dying from this cause. As shown in table 5, within each cohort of white men (a group born during the same 5-year period) the death rates for this cause increased steadily with advance in age. An important fact shown in table 5 is that successively younger cohorts of white men are at higher risk of dying from these malignant neoplasms beginning with ages 30-34 years than were their predecessors.

*Malignant neoplasm of other and unspecified sites (ICD Nos. 156B, 165, 190-199).*—There were no great amounts of increase during 1960-67 in the death rates for any other group of malignant neoplasms in the List of 60 Selected Causes of Death except for Malignant neoplasm of other and unspecified sites. The 1960 and 1967 death rates for this group of causes for the 5-year age groups

in the span 45-49 years through 80-84 years were as follows:

Age in years	1960	1967
	Rate per 100,000 population	
45-49 -----	19.0	21.3
50-54 -----	29.3	31.7
55-59 -----	43.7	50.8
60-64 -----	57.6	67.8
65-69 -----	70.6	84.4
70-74 -----	80.8	108.1
75-79 -----	105.7	125.3
80-84 -----	140.8	138.0

*Arteriosclerotic heart disease, including coronary disease (ICD No. 420).*—The 1967 death rate for this cause for the age group 70-74 years (2402.3 deaths per 100,000) was 111.2 deaths per 100,000 higher than the corresponding rate for 1960, but the rate for this cause remained quite stable for most other age groups of white men. For white men under 55 years of age the death rate was somewhat lower for 1967 than for 1960:

Age in years	1960	1967
	Rate per 100,000 population	
20-24 -----	1.1	0.8
25-29 -----	4.3	3.8
30-34 -----	15.8	12.9
35-39 -----	50.1	49.2
40-44 -----	124.2	121.4
45-49 -----	254.9	246.7
50-54 -----	462.6	441.5
55-59 -----	719.0	724.4
60-64 -----	1119.1	1107.9
65-69 -----	1622.0	1620.9
70-74 -----	2291.1	2402.3
75-79 -----	3243.2	3247.7
80-84 -----	4802.5	4623.4

*Other diseases of circulatory system (ICD Nos. 451-468).*—In contrast to the pattern for arteriosclerotic heart disease, the 1967 death rate for this group of circulatory diseases was higher for every 5-year age group in the span 15-84 years than the corresponding rate for 1952 (table 6). This complex of causes includes non-syphilitic aortic aneurysm, arterial embolism and thrombosis, and vascular disease.

No satisfactory explanation has yet been presented as to why the death rate for this group of circulatory diseases almost doubled during 1952-67 for white men at ages 50-54 years, 55-59 years, and 60-64 years and more than tripled for white men at ages 70-74 years and 75-79 years. An examination of the causes of death that are reported together with this residual group of circulatory diseases may be informative. The usual tabulations of mortality data show one cause for each death. This is the underlying cause of death, defined as "the disease or injury which initiated the train of morbid events leading directly to death."<sup>5</sup> The selection of an underlying cause results in the loss of the remaining information reported on the medical certification. Several studies have examined this additional information. The most recent one that is published is based on deaths occurring in 1955.<sup>6</sup> This study includes tabulations of causes of death reported together with more than average frequency. Of the 11,050 deaths of white persons in the study that were attributed to this group of circulatory diseases, 2.0 percent had diabetes mellitus reported on the death certificate as a contributory condition. This relationship between these two causes of death suggests there may possibly be some connection between the ongoing sharp rise in the death rate for this group of circulatory diseases and the increasing prevalence of persons with diabetes in the population.

*Bronchitis (ICD Nos. 500-502).*—Bronchitis was more frequently reported as the underlying

cause of death for white men at ages 45 years and over in 1967 than in 1960:

Age in years	1960	1967
	Rate per 100,000 population	
45-49-----	1.5	1.9
50-54-----	2.9	3.6
55-59-----	4.7	7.9
60-64-----	9.6	14.7
65-69-----	14.8	22.8
70-74-----	21.6	37.3
75-79-----	23.5	46.4
80-84-----	32.9	55.0

A total of 6,264 deaths were attributed to this group of causes for 1967, of which only 15.3 percent were specified as acute. More than 79 percent of the 4,517 deaths specified as chronic were reported to be Bronchitis with emphysema (ICD No. 502.0). Chronic bronchitis is one of those diseases appearing frequently in multiple-cause tabulations that by itself may not be fatal but in combination with another serious disease increases the risk of death. The certifying physician may report this cause in the medical certification under Part II, "Other significant conditions contributing to death, but not related to the terminal disease conditions given in Part I(a)." For these reasons mortality rates should not be used to estimate the incidence of bronchitis in the deceased population nor in the general population.

*Other bronchopulmonic diseases (ICD Nos. 525-527).*—The most important component of this group of causes is Emphysema without mention of bronchitis (ICD No. 527.1). For 1967 over 77 percent of the 21,925 deaths in the white male population attributed to this group of causes were more specifically assigned to this component. A continuing striking feature of emphysema is the predominance of the disease in white men. For 1967 the sex ratio of mortality for the white population from this disease was approximately 6.1 to 1. For 1967 the death rate for this cause for the white male population was about

2.6 times the corresponding rate for the other male population.

The death rate for emphysema without mention of bronchitis increases with advance in age (table 7). For example, for the cohort of white men born in 1908-12, the death rate rose from 2.9 deaths per 100,000 at ages 45-49 years to 35.4 deaths per 100,000 at ages 55-59 years. During 1957-67 the death rate for this cause more than doubled for every 5-year age group of white men in the span 50-54 years to 85 years and over.

For white men at ages 45-64 years the death rate in 1967 for this residual group of bronchopulmonic diseases (34.9 deaths per 100,000) was exceeded only by the rates for heart diseases (667.1 deaths per 100,000), malignant neoplasms (303.3 deaths per 100,000), accidents (84.5 deaths per 100,000), vascular lesions (73.6 deaths per 100,000), and cirrhosis of liver (52.7 deaths per 100,000). The death rates for this group of other bronchopulmonic diseases in 1960 and in 1967 for white men 30 years of age and over were as follows:

Age in years	1960	1967
	Rate per 100,000 population	
30-34-----	0.8	0.5
35-39-----	1.5	1.5
40-44-----	3.2	3.4
45-49-----	7.2	8.1
50-54-----	15.9	18.3
55-59-----	31.0	44.0
60-64-----	59.5	86.8
65-69-----	86.2	142.3
70-74-----	114.3	212.9
75-79-----	125.2	247.6
80-84-----	134.5	248.6

*Cirrhosis of liver (ICD No. 581).*—For 1967 this disease was the fifth leading cause of death for white men at ages 25-44 years. In order of their magnitude, only accidents, heart disease, malignant neoplasms, and suicide had higher death rates. During these young and early middle ages the death rate from this cause was 10.7

deaths per 100,000 population. For the age group 45-64 years the death rate for cirrhosis of liver (52.7 deaths per 100,000) maintained its rank as the fifth leading cause but was almost five times that for the age group 25-44 years. For these older white men the death rates for only the following four causes were higher than those for cirrhosis of liver: diseases of heart, malignant neoplasms, accidents, and vascular lesions affecting central nervous system. The death rates for cirrhosis of liver for 1960 and 1967 by 5-year age groups were as follows:

Age in years	1960	1967
	Rate per 100,000 population	
20-24-----	0.2	0.1
25-29-----	0.9	1.5
30-34-----	3.7	4.6
35-39-----	9.0	13.1
40-44-----	18.1	22.6
45-49-----	30.6	36.3
50-54-----	43.2	50.6
55-59-----	49.3	63.0
60-64-----	49.0	67.6
65-69-----	60.8	66.5
70-74-----	58.3	57.8
75-79-----	47.5	42.7
80-84-----	45.5	38.5

In contrast to the pattern for malignant neoplasms of the respiratory system, the downturn of mortality from cirrhosis of liver at older ages does reflect lower risk of death from this cause with advancing age (table 8). As shown below by the mortality rates for the cohort of white men born during the 5-year period 1888-92, this downturn with advancing age is not an artifact due to the mixture of cohorts with differing mortality experience:

Year of death	Age at death	Death rate per 100,000 population
1967-----	75-79 years	42.7
1962-----	70-74 years	49.7
1957-----	65-69 years	62.2
1952-----	60-64 years	45.8

For white men there is a downturn in mortality from cirrhosis of liver after a high peak for the age group 65-69 years.

*Motor vehicle accidents (ICD Nos. E810-E835).*—Again in 1967 as for the last two decades motor vehicle accidents was the leading cause of death for white male teenagers at ages 15-19 years and for white men at ages 20-24 years. In 1967, as in former years, the mortality curve for motor vehicle accidents for the white male population rose steadily with advance in age to a peak at ages 20-24 years (89.3 deaths per 100,000 population), then dropped to a low for the age group 40-44 years (33.6 deaths per 100,000 population), and then rose again throughout the remainder of life (to 77.1 deaths per 100,000 at ages 80-84 years) (table 9). For these older persons, however, an appreciable part of these deaths were fatalities to pedestrians. For 1967 fatalities to pedestrians constituted 14.0 percent of the total motor vehicle fatality rate for white males. The proportion of these fatalities for white men in which a pedestrian was the victim increased steadily with advance in age from 11.0 percent for the age group 45-49 years to 42.6 percent for the age group 80-84 years. An even greater proportion of accidental fatalities to children under 15 years occurred to pedestrians. At ages 5-9 years, for example, 52.8 percent of the 1,025 motor vehicle fatalities occurred to pedestrians. During the 20-year period 1948-67 the motor vehicle fatality curves for the age groups 15-19 and 20-24 years had high points in 1956 (58.9 deaths per 100,000 at ages 15-19 years and 89.2 deaths per 100,000 at ages 20-24 years) followed by low points in 1961 (50.8 and 73.0 deaths) and still higher points in 1966 (70.4 and 89.7 deaths per 100,000 population). The rates for 1967 were about the same as those for 1966.

During 1960-67 the greatest absolute increase in the motor vehicle fatality rate for the white male population (an increase of 15.8 deaths per 100,000) occurred for white men at ages 20-24 years. The increase in the rate was about the same for white teenagers 15-19 years, for whom the rate rose from 54.0 deaths per 100,000 for 1960 to 69.7 deaths for 1967.

*Suicide (ICD Nos. E963, E970-E979).*—The slight decrease in the total suicide rate for the white male population during 1948-67 (from 18.4

per 100,000 population for 1948 to 16.8 for 1967) results from the offsetting of substantial decreases in the death rate for white men 45 years of age and over by steady increases in the rate for 5-year age groups in the span 20-44 years and for teenagers 15-19 years (table 10).

Suicide continues to afflict most heavily the white male population. For them the total rate for this cause in 1967 was still 2.2, 2.6, and 6.2 times the corresponding rates for, respectively, other male persons, white female persons, and other female persons; however, owing to the accelerated increase in the suicide rate for the other three color-sex groups, the mortality differentials by sex and color are smaller than they were in earlier years. In 1948, for example, the total rate for suicide for white men was 2.7, 3.2, and 12.3 times the corresponding rates for other male persons, white female persons, and other female persons, respectively.

For both age groups 15-19 and 20-24 years of the white male population, suicide continued through 1967 to rank as a leading cause of death, with only motor vehicle and other accidents having higher death rates. Suicide rates for white males 15-24 years declined from 12.6 deaths per 100,000 for 1914 (the first year for

which age-sex-color specific rates for this cause are available for the death-registration States of this country) to a low of 6.2 for 1955; but since that year the trend is upward, reaching 10.8 deaths per 100,000 for 1967.

*Homicide (E964, E980-E985).*—Cohort analysis shows that for white men the risk of being a victim of homicide increases with advance in age, at least until about 70-74 years of age (table 11). Successively younger cohorts of white men are at higher risk of being victims of homicide at almost every age throughout life than their predecessors. The rise in homicide mortality is much more rapid in more recently born cohorts.

Deaths attributed to this cause constitute a much larger percentage of total deaths at ages under 45 years than at older ages. In fact, in 1967 for the age group 15-19 years and 20-24 years the death rate for homicide was higher than that for any other cause except motor vehicle accidents, other accidents, suicide, and malignant neoplasms; for the age group 25-44 years it was higher than that for any other cause except diseases of the heart, motor vehicle accidents, other accidents, malignant neoplasms, suicide, and cirrhosis of liver.

## II. THE UPTURN IN MORTALITY FOR THE MALE POPULATION OF RACES OTHER THAN WHITE

### Pattern of the Age-Specific Death Rates for All Causes

The rate of change in the death rate for 1954-63 reflected a more favorable mortality trend for men of other races than for white men except for the following three age groups: 35-44 years, for which group the death rate for white men declined slightly, while that for men of other races turned upward; 65-74 years, for which the rate of change in the upturn in the death rate was less for white men than for men of other races; and 75-84 years, for which the trend was slightly downward for white men and slightly upward for men of other races (table 2).

Despite these more favorable rates of change in the death rate for the male population of races other than white, for every 5-year age group up to 75-79 years their death rates during both 1954-63 and 1963-68 were still markedly higher than the corresponding death rates for the white male population (table 1). For example, for 1968, for the age group 40-44 years, at which period in life responsibilities to wife and children usually are great and earning and productive capacity are still going upward, the death rate for men of races other than white was 1068.5 per 100,000, while that for white men at these ages was only 420.8 per 100,000.

There is evidence that an artifact may account for the fact that at ages 75 years and over the reported death rates for men of races other than white drop below the corresponding rates for white men. This artifact has been described by Rosenwaik. <sup>7</sup> He points out that data from the U.S. Bureau of the Census show a decline in the proportions of centenarians in the United States between 1910 and 1960. Census data also show a close correlation between the illiteracy rate and the relative number of reported centenarians

with overreporting of extreme age much more frequent for the population of races other than white. As Rosenwaik demonstrates, even where the tendency toward age overstatement among persons of a given age interval identical on census and mortality records, the resulting death rate for the oldest age category would be understated because the excess number of deaths—as distinguished from the "true" number of deaths among the extreme aged—comes from a population experiencing a lower mortality rate. This leads

... to the result that the number of decedents reported for the oldest age category in an individual year is overstated to a relatively smaller extent than is the number of living, a circumstance which produces a mortality rate that is too low.<sup>7</sup>

During 1963-68 the death rate for the male population of races other than white rose steeply for each 5-year age group in the span 15-19 years through 60-64 years, the absolute increases being much greater than the corresponding increases in the death rate for the white male population (table 1).

For children under 15 years of age of races other than white, mortality continued downward during 1949-67, but at a decelerated rate. The 1968 death rates at ages 5-9 and 10-14, however, were higher than the corresponding rates for 1967.

In 1948 the percent excess of death rates for white men over those for white women was higher for each age group under 75 years than the corresponding male mortality excess in the population of races other than white (table 4). Except for infants the excess male mortality for this latter population increased greatly during 1948-68 for every age group under 80 years. In

fact, in 1968 for each of the age groups 10-14, 15-19, and 30-34 years their excess male mortality was greater than the corresponding excess male mortality for the white population. The steep increase during 1958-68 in excess mortality for men of races other than white results from the combination for most age groups of the decline in the death rate for women with the sharp increase in the death rate for men (tables 1 and 3).

### Causes of Death Contributing Appreciably to the Upturn in Mortality

*Malignant neoplasm of digestive organs and peritoneum (ICD Nos. 150-156A, 157-159).*—The death rate for this group of causes was downward during 1952-67 for men of races other than white except for the following five age groups: 15-19, 30-34, 65-69, 70-74, and 75-79 years of age (table 12). By site the principal components of this group of neoplasms, in order of the magnitude of their 1967 death rates for the other than white male population, are as follows: stomach (ICD No. 151), 14.5 deaths per 100,000; small intestine and large intestine except rectum (ICD Nos. 152, 153), 10.0 per 100,000; pancreas (ICD No. 157), 8.3 per 100,000; esophagus (ICD No. 150), 8.1 per 100,000; liver and biliary passages stated to be primary (ICD No. 155), 3.5 per 100,000; and rectum (ICD No. 154), 3.5 per 100,000.

The five age groups for which an increase occurred during 1952-67 in the death rate for malignant neoplasm for the entire subgroup of sites of the digestive organs and peritoneum are those for which the downturn in mortality for malignant neoplasm of stomach and of rectum was not sufficient to offset the upturn in mortality for malignant neoplasm of esophagus, small and large intestines, liver and biliary passages stated to be primary, and pancreas (table 12). During 1952-67 the 5-year age-specific mortality trends were generally upward for malignant neoplasms of this latter group of sites and generally downward for malignant neoplasm of stomach and rectum.

*Malignant neoplasm of respiratory system, not specified as secondary (ICD Nos. 160-164).*—Among men of races other than white there were 4,778 deaths in 1967 attributed to these neo-

plasms. Of this number 92.6 percent were assigned to Malignant neoplasm of bronchus and trachea, and of lung specified as primary, and malignant neoplasm of lung, unspecified as to whether primary or secondary (ICD Nos. 162 and 163).

A striking change in the pattern for this group of neoplasms (ICD Nos. 160-164 since 1962) is the clear reversal of the excess mortality for white men over that for men of other races. In 1961 the age-adjusted death rate for this cause for white men was higher than the corresponding rate for men of other races, but since that year the opposite is true:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	44.5	51.7
1966-----	43.0	50.0
1965-----	41.7	44.3
1964-----	40.2	41.7
1963-----	38.4	41.6
1962-----	37.3	37.3
1961-----	36.0	35.9
1960-----	34.6	35.6

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for malignant neoplasm of respiratory system, not specified as secondary to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

For 1967 for every 5-year age group in the span 25-29 years through 60-64 years the death rate for these neoplasms for men of races other than white was markedly higher than the corresponding rate for white men (table 5). For the age group 40-44 years the death rate for this cause for men of races other than white (39.9 deaths per 100,000) was more than twice the rate for white men (19.1 deaths per 100,000).

This increase in excess mortality for men of races other than white from these neoplasms, particularly of the lung, results from the fact that during both 1950-59 and 1960-67 mortality



from lung cancer rose faster among these men than among white men.

*Malignant neoplasm of genital organs (ICD Nos. 177-179).*—For men of races other than white the mortality rate for malignant neoplasms of this group of sites increased during 1952-67 for the older age groups (65-69, 70-74, and 75-79) but continued to decline for each 5-year age group in the span 35-39 through 60-64 years (table 13). This is in contrast to the pattern for white men, for whom mortality from this cause decreased for all age groups during 1952-67.

Mortality from this cause is negligible until about age 50 years, but after that it rises steeply with advance in age. As shown below for 1967, the death rate per 100,000 population for this cause is markedly higher for men of other races than for white men for each 5-year age group in the span 50-84 years:

Age in years	White men	Other men
50-54-----	4.3	12.6
55-59-----	11.1	36.8
60-64-----	29.8	74.3
65-69-----	64.8	188.2
70-74-----	132.2	311.8
75-79-----	228.9	329.6
80-84-----	348.0	378.4

For men of races other than white the prostate was the site of 96.6 percent of the 2,410 deaths in 1967 assigned to malignant neoplasm of genital organs.

*Malignant neoplasm of urinary organs (ICD Nos. 180, 181).*—For each of the 5-year age groups in the span 45-59 through 65-69 years the death rate for this group of causes is higher for men of races other than white in 1967 than for white men (table 14). Moreover, while the trend of the death rate for these causes during this span of life is downward for white men, it is clearly upward for other men.

Of the 737 deaths among men of races other than white attributed to these causes during 1967, for 39.6 percent the site of the malignant neo-

plasm was the kidney and for the remainder the site was the bladder or other urinary organs.

Cutler *et al*<sup>8</sup> report that early diagnosis is crucial in cancer of the bladder. The 5-year survival rate in patients with localized disease was approximately 70 percent compared with approximately 25 percent for patients with regional disease. These authors also report that the improvement in survival rates has been minimal since 1950.

Malignant neoplasms of the urinary organs are diseases of middle and old age. For example, the death rate for this group of causes for the cohort of men of races other than white born in 1898-1902 increased from 10.6 deaths per 100,000 at ages 50-54 years to 57.1 deaths per 100,000 at ages 65-69 years.

*Malignant neoplasm of other and unspecified sites (156B, 165, 190-199).*—The increases in mortality for this residual group of malignant neoplasms were substantial for men of races other than white as well as for white men only at ages 50 years and over. The 1960 and 1967 death rates for this group of causes for the 5-year age groups in the span 50-54 years through 80-84 years are as follows:

Age in years	1960	1967
	Rate per 100,000 population	
50-54-----	29.2	36.8
55-59-----	43.4	60.6
60-64-----	59.8	75.7
65-69-----	68.8	111.0
70-74-----	84.5	118.9
75-79-----	74.9	107.2
80-84-----	78.7	70.3

*Leukemia and aleukemia (ICD 204).*—For every 5-year age group except 40-44 and 60-64 the death rate for the leukemias was upward during 1952-67 for men of races other than white (table 15). For the two excepted age groups, mortality from this cause remained about the same.

At older ages (60-64 through 80-84 years) the 1967 death rate for these diseases was still markedly higher for white men than for other men (table 15). The upturn in mortality from the leukemias during 1952-67 was steeper for this latter group of men than for white men.

*Diabetes mellitus (ICD No. 260).*—Beginning in 1953 the age-adjusted death rate for diabetes for the male population of races other than white has been higher than the corresponding rate for the white male population:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1949-----	11.7	11.0
1950-----	11.3	11.8
1951-----	11.2	11.8
1952-----	11.5	11.5
1953-----	11.2	11.3
1954-----	10.9	11.3
1955-----	10.9	11.2
1956-----	10.9	11.7
1957-----	10.9	12.5
1958-----	11.1	13.0
1959-----	11.0	14.1
1960-----	11.6	16.1
1961-----	11.4	14.9
1962-----	11.8	16.1
1963-----	11.9	16.6
1964-----	11.8	17.6
1965-----	11.9	18.1
1966-----	12.3	18.3
1967-----	12.4	18.5

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for diabetes mellitus to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

For both white and other men, for almost every 5-year age group in the span 30-34 years through 80-84 years the death rate for diabetes was upward during 1952-67 (table 16); but both the absolute and relative increases were greater for other men than for white men. For some age groups the 1967 death rate for other men was

almost double that for white men: for example, at ages 55-59 years the diabetic death rate for white men was 24.6 per 100,000, while for other men this rate was 44.9 per 100,000.

It is recognized that age at onset of diabetes is an important factor in determining age at which death will occur. Data from the National Health Survey indicate it is difficult to determine onset of diabetes since it is not possible to know how long diabetes was present before the diagnosis was made.<sup>9</sup> Relatively fewer diabetics of races other than white reported diagnosis before age 25 or after 65. This may reflect not lower incidence in the group under 25 years of age, but delayed diagnosis. Evidence of delayed diagnosis for the period July 1964-June 1965 was shown in the National Health Survey by the substantially higher proportion of persons other than white in all age groups through age 54 who reported diagnosis in the past 10 years.

The multiple-cause study based on data year 1955 shows a relatively higher number of associated conditions reported on the death certificate for white persons than for other persons when the underlying cause of death reported on the certificate is diabetes.<sup>6</sup> The following data are from table 6 of the 1955 multiple-cause study:

Age in years	Underlying cause was diabetes		Other conditions reported when diabetes was underlying cause	
	White	Other	White	Other
All ages-	22,732	2,485	41,523	3,979
Under 1----	4	9	6	12
1-14-----	146	17	242	17
15-44-----	1,378	309	2,170	418
45-64-----	6,250	1,186	11,271	1,978
65-84-----	13,655	919	25,459	1,465
85+-----	1,288	41	2,360	81
Not stated-	11	4	15	8

It was found not only when diabetes was the underlying cause of death but also in general for all causes that the major difference between the two color groups is the larger percentage of single-cause deaths among men other than white. This may result in part from the more complete enumeration of other conditions on death certificates for the white population.

*Anemias (ICD Nos. 290-293).*—In 1967 the age-adjusted death rate for anemias for the male population of races other than white was at least two times the corresponding rate for the white male population:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	1.3	3.2
1966-----	1.3	3.1
1965-----	1.3	3.2
1964-----	1.3	3.1
1963-----	1.3	3.0
1962-----	1.3	2.6
1961-----	1.3	2.8
1960-----	1.3	2.7

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for anemias to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

Of the 354 deaths from anemia in the male population of races other than white in 1967, 50.3 percent were attributed to Sickle cell anemia (ICD No. 292.6). In contrast, among the 1,384 deaths from anemia in 1967 in the white male population, only four deaths were attributed to sickle cell anemia. This low frequency of deaths in the white population from this cause is consistent with the fact that sickle cell anemia is a hereditary familial hemolytic disorder virtually limited to the Negro race. It is characterized principally by the capacity of the red cells to assume a sickle shape under appropriate conditions.

The death rate from the anemias increased appreciably during 1952-67 for men of races other than white for about two-thirds of the 5-year age groups shown in table 17. Inasmuch as somewhat more than half of these deaths are attributed to sickle cell anemia, part of the unfavorable trend in mortality from anemias may result from the increasing incidence of the sickle cell trait in the Negro population of the United States.<sup>10</sup>

*Vascular lesions affecting central nervous system (ICD Nos. 330-334).*—The age-adjusted death rate for this group of causes continued through 1967 to be much lower for the white male population than for the male population of other races:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	71.5	124.4
1966-----	73.6	131.5
1965-----	73.8	134.2
1964-----	74.6	131.1
1963-----	77.6	135.7
1962-----	77.4	133.4
1961-----	77.3	127.5
1960-----	80.3	135.2

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for vascular lesions affecting central nervous system to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

These summary figures indicate that the trend is downward for both groups; but age-specific rates for men of races other than white show that the substantial decreases in the death rate during 1952-67 for each 5-year age group in the early and late middle years (from 40-44 years through 60-64 years) were offset in part by increases in the death rate for young adults 25-29, 30-34, and 35-39 years old and for men 65-69 and 70-74 years of age (table 18).

*Arteriosclerotic heart disease, including coronary disease (ICD No. 420).*—The age-adjusted death rate for this cause continued to be higher in 1967 for white men than for men of other races; but while the rate leveled off for white men during 1960-67, for other men the mortality trend was in general upward:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	307.0	247.0
1966-----	312.7	255.0
1965-----	310.9	247.7
1964-----	308.9	242.8
1963-----	313.4	244.4
1962-----	307.5	234.7
1961-----	301.9	220.6
1960-----	305.3	219.5

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for arteriosclerotic heart disease, including coronary disease, to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

During 1958-67 the death rate for this cause was upward for each 5-year age group of men of races other than white except 25-29 and 80-84 years:

Age in years	1958	1967
	Rate per 100,000 population	
20-24---	2.9	3.1
25-29---	9.2	8.9
30-34---	26.9	31.6
35-39---	47.6	65.4
40-44---	118.2	145.8
45-49---	222.4	242.5
50-54---	389.2	401.4
55-59---	579.7	650.4
60-64---	876.2	905.2
65-69---	1157.9	1492.7
70-74---	1459.1	2002.4
75-79---	1746.3	2123.2
80-84---	2493.2	2398.6

*Other diseases of circulatory system (ICD Nos. 451-468).*—The death rate for the residual group of circulatory diseases rose during 1958-67 for both white and other men, but the upturn in mortality was somewhat greater for the latter group of men:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	15.3	18.6
1966-----	14.8	18.4
1965-----	14.5	17.5
1964-----	14.1	16.7
1963-----	13.4	16.7
1962-----	12.8	14.3
1961-----	11.9	14.2
1960-----	11.7	13.4

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for this residual group of circulatory diseases to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

For every 5-year age group of men of other races the death rate for this group of causes was markedly higher for 1967 than 1952 (table 6). For several age groups in the late middle years of life the 1967 death rate for these causes was about double the corresponding rate in 1952. For example, for the age group 60-64 years this rate rose from 28.4 deaths per 100,000 for 1952 to 62.1 deaths for 1967.

For 1967 for men of races other than white this group ranked as the ninth leading cause of death for the age group 45-64 years and as the seventh leading cause of death for the age group 65 years and over.

*Other bronchopulmonic diseases (ICD Nos. 525-527).*—For both the white male population and the male population of races other than white, the age-adjusted death rates for this group of causes increased during 1960-67:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	21.0	15.7
1966-----	20.7	14.9
1965-----	19.4	14.0
1964-----	17.4	12.4
1963-----	17.6	12.9
1962-----	15.2	10.9
1961-----	13.4	10.4
1960-----	13.3	9.9

<sup>1</sup>These age-adjusted death rates were computed by the direct method, that is, by applying the age-specific death rates for this residual group of bronchopulmonic diseases to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

Of the 1,631 deaths in 1967 among men of races other than white attributed to this group of causes, 54.9 percent were assigned to the subtitle Emphysema without mention of bronchitis (ICD No. 527.1). Although this disease still causes death relatively more frequently among white men than among other men at ages 55 years and over, the reverse is true at younger ages (table 7). For every 5-year age group under 55 years the 1967 death rate for white men was substantially lower than that for other men. Moreover, for this latter group of men the rate of increase during 1957-67 was greater than that for white men; for these men of races other than white for almost every 5-year age group beginning with 30-34 years, mortality from emphysema more than doubled.

*Cirrhosis of liver (ICD No. 581).*—In 1960 the age-adjusted death rate for this cause was about the same for white men as for other men. But the steep upturn in mortality for cirrhosis of the liver for the latter group of men during 1960-67 has resulted in a much higher age-

justed death rate for them than for white men:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	17.2	27.2
1966-----	16.8	26.6
1965-----	15.6	23.3
1964-----	15.0	19.6
1963-----	14.7	17.1
1962-----	14.6	16.8
1961-----	14.2	15.9
1960-----	14.4	14.9

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for cirrhosis of the liver to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

In 1967, 41.8 percent of the cirrhosis of the liver deaths among men of races other than white were medically certified as having been associated with alcoholism compared with 35.6 percent for white men. But the very high cirrhosis death rates among men of races other than white during early adulthood (3.0 deaths per 100,000 at ages 20-24, 12.2 deaths at ages 25-29, and 25.0 deaths at ages 30-34 years) suggest that other contributing factors may well be investigated (table 8). At young ages, say under 50 years, the cirrhosis death rate in 1967 was much lower for white men than for other men.

Terris, in his review of national data on mortality from cirrhosis of the liver, supports the finding that in the United States mortality from cirrhosis of the liver increases at the lower socioeconomic levels.<sup>11</sup>

Also the Metropolitan Life Insurance Company reports that an analysis of death rates from cirrhosis of the liver among its policyholders indicates considerable variation in mortality by socioeconomic level.

... Policyholders insured under Standard Ordinary policies had substantially lower

death rates than those insured under Industrial policies. These two categories of Metropolitan policyholders represent broadly different socioeconomic groups. Standard Ordinary policyholders are drawn principally from the urban middle class engaged in nonhazardous work; Industrial policyholders are generally members of urban wage-earning, lower income families, many of whom are engaged in unskilled or hazardous occupations.<sup>12</sup>

Among its findings the Metropolitan Life Insurance Company reports that the

... age-adjusted death rate for all ages combined from cirrhosis of the liver was 85 percent higher among male Industrial policyholders than among Standard Ordinary policyholders; it was 53 percent higher among males in the general population than among the Standard Ordinary policyholders. A similar pattern was observed among women, except that the corresponding deviation was of a smaller magnitude (27 percent and 19 percent, respectively), and in a few instances the death rate from cirrhosis of the liver was lower among females insured under Industrial policies than in the United States female population.<sup>12</sup>

The Metropolitan Life Insurance Company suggests that the generally higher mortality rates from cirrhosis of the liver at the lower socioeconomic levels may in part reflect inadequate recognition of such contributory complications as dietary deficiencies, diseases of the bile duct, chemical toxins, and infections.

*Motor vehicle accidents (ICD Nos. E810-E835).*—The 1967 death rate for this cause was higher for white men than for other men at ages 15-19 and 20-24 years and at 75-79 and 80-84 years. But for each of the 5-year age groups in the span between these years, mortality was lower for white men than for other men (table 9). This higher mortality for other men over the major part of the life span is reflected in the age-adjusted death rates for 1960-67:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	41.1	49.4
1966-----	41.9	50.1
1965-----	39.4	46.4
1964-----	38.1	44.2
1963-----	36.7	42.7
1962-----	34.9	40.3
1961-----	33.4	38.0
1960-----	34.0	39.5

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for motor vehicle accidents to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

A larger part of the increase in the motor vehicle fatality rate for the male population of races other than white reflects increases in fatalities to pedestrians compared with the experience of the white male population (table 19). While the death rate for white male pedestrians decreased substantially during 1952-67 for every 5-year age group beginning with 25-29 years except 30-34 years, the rate for other male pedestrians increased for every 5-year age group 15-19 through 40-44 except the group 30-34 years.

*Other accidents (ICD Nos. E800-E802, E840-E962).*—There was only one age group (70-74 years) of men of races other than white for which the increase in mortality for this group of causes during 1957-67 amounted to as much as 15 or more deaths per 100,000. For most other age groups the mortality trend was somewhat upward at least after 1962 (table 20). Substantial increases in this death rate occurred between 1962-67 for each 5-year age group in the span between 20-24 years and 40-44 years. In 1967 among the accidental fatalities of greatest frequency for the male population of races other than white were deaths caused by fire and explosion of combustible material (10.0 per 100,000), drowning (9.4 per 100,000), and firearms (4.6 per 100,000).

Age-adjusted death rates indicate that while mortality for this group of causes has leveled off for the white male population, for other men the trend is still upward:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	36.7	65.3
1966-----	36.6	66.2
1965-----	36.0	63.0
1964-----	35.3	61.0
1963-----	35.6	60.8
1962-----	35.7	60.2
1961-----	35.2	57.1
1960-----	36.5	61.6

<sup>1</sup>These age-adjusted death rates were computed by the direct method, that is, by applying the age-specific death rates for this group of accidents to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

*Suicide (ICD Nos. E963, E970-E979).*—Both for white men and for men of races other than white the relative stability in the total suicide rate during 1952-67 results from the offsetting of striking increases in the suicide rate for persons under 45 years of age by the leveling off or downturn in this rate at most older ages (table 10). The age-adjusted rates for suicides during 1960-67 continued to be higher for white men than for other men:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	17.1	9.7
1966-----	17.4	9.9
1965-----	17.7	9.7
1964-----	17.4	9.1
1963-----	17.9	9.9
1962-----	17.9	9.0
1961-----	17.1	9.5
1960-----	17.5	8.7

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for suicide to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

But owing to the accelerated increase in the suicide rate for other men, especially at ages under 50 years, this color differential for men is decreasing. For almost every 5-year age group in the span 15-19 through 40-44 years the suicide rate for men of races other than white about doubled during 1952-67 (table 10). For the age group 25-29 years, the suicide rate for other men was higher than that for white men for 1961, 1964, 1966, and 1967:

Year	White men		Other men	
	20-24 years	25-29 years	20-24 years	25-29 years
	Rate per 100,000 population			
1967-----	14.9	16.9	14.4	18.3
1966-----	14.2	16.1	14.1	17.3
1965-----	13.9	16.5	13.1	14.9
1964-----	12.8	15.2	13.5	16.7
1963-----	12.9	16.2	12.5	14.2
1962-----	12.6	14.5	12.7	10.9
1961-----	11.0	13.0	12.8	17.1
1960-----	11.9	13.8	7.8	12.6

*Homicide (ICD Nos. E964, E980-E985).*—Men of races other than white are the victims of homicide relatively more frequently than are white men. In terms of absolute values this color differential increased during 1960-67, as indicated by the following age-adjusted death rates:

Year	White male	Other male
	Age-adjusted death rate per 100,000 population <sup>1</sup>	
1967-----	5.9	62.7
1966-----	4.9	54.8
1965-----	4.8	50.7
1964-----	4.3	47.1
1963-----	4.2	44.8
1962-----	4.1	44.4
1961-----	3.9	41.5
1960-----	3.9	41.9

<sup>1</sup>These age-adjusted rates were computed by the direct method, that is, by applying the age-specific death rates for homicide to the standard population distributed by age. The total population as enumerated in 1940 was selected as the standard.

For each 5-year age group in the span 15-19 through 45-49 years the 1967 death rate for homicide for men of races other than white was more than 10 times the corresponding rate for white men (table 11). An upturn occurred during 1962-67 for mortality from this cause for every 5-year age group in the span 15-19 through 80-84 years, with the largest absolute increase for the age group 25-29 years (from 83.3 deaths per 100,000 for 1962 to 127.9 deaths per 100,000 for 1967).

## SUMMARY

The trend for excess mortality for men, that had been upward throughout the century, appeared to level off during the mid-1950's and then turned upward again during 1957-68. This upturn resulted primarily from an increase in mortality for men while that for women merely leveled off or continued downward, especially at the older ages.

The principal causes of this unfavorable increase in excess mortality for the male population are summarized below by age, separately for the white male population and for the male population of races other than white.

### White Male Teenagers and Adults

*Age groups 15-19 and 20-24 years.*—For white male teenagers 15-19 years of age and for young white men 20-24 years of age, an increase during 1957-67 in the motor vehicle fatality rate accounted for a great part of the upturn in the total death rate for these age groups. White men at ages 20-24 years continued to have a higher death rate for motor vehicle accidents than did any other age-color-sex group. Their rate rose from 73.0 deaths per 100,000 population for 1961, the low year during 1957-67, to 89.3 deaths for 1967. Their high level for motor vehicle fatalities was approached closely by that for white male teenagers 15-19 years of age: for them the motor vehicle rate rose from 50.8 deaths per 100,000 population in 1961 to 69.7 deaths in 1967. Increases in the death rates for both suicide and homicide also accounted for a substantial part of the upturn in mortality for white male teenagers 15-19 years and young men 20-24 years. For the

teenagers the suicide rate went up from 5.5 to 7.5 during 1961-67 and the homicide rate, from 2.7 to 4.3 deaths per 100,000. For white men 20-24 years of age the suicide rate during 1961-67 rose from 11.0 to 14.9 deaths per 100,000 population and the homicide rate, from 5.5 to 8.7 deaths per 100,000 population.

*Age groups 25-29, 30-34, 35-39, and 40-44 years.*—The upturn in mortality for young white men 25-29, 30-34, and 35-39 years and those in the early middle years (40-44 years) resulted primarily from increases in the death rates for motor vehicle accidents; malignant neoplasm of respiratory system, especially of the lung; cirrhosis of the liver; suicide; and homicide. For white men at ages 25-29 years the motor vehicle fatality rate rose from 43.6 deaths per 100,000 for 1961 (a low year) to 54.6 for 1967; the suicide rate, from 10.9 deaths per 100,000 for 1957 to 16.9 for 1967; and the homicide rate, from 6.0 deaths per 100,000 for 1957 to 10.7 deaths for 1967.

*Age groups 45-49, 50-54, 55-59, and 60-64 years.*—For white men in the middle years of life, there were substantial increases in the death rate for malignant neoplasm of the respiratory system, especially of the lung; other bronchopulmonic diseases, especially emphysema; specified diseases of the circulatory system (including nonsyphilitic aortic aneurysm, peripheral vascular disease, and arterial embolism and thrombosis); bronchitis; and cirrhosis of the liver. Among the greatest absolute increases in mortality by cause for any 5-year age group in the span 45-64 years were the following: for the age group 60-64 years, the death rate for malignant neoplasm of the respiratory system increased from 125.3 deaths per 100,000 for 1952 to 220.5 deaths for 1967; that for emphysema without mention of bronchitis, from 28.6 deaths per 100,000 for 1957 (using 1957 as base, inasmuch as data for 1952 are not available) to 70.9 deaths per 100,000 for 1967; and that for cirrhosis of the liver, from 45.8 deaths per 100,000 for 1952 to 67.6 deaths for 1967.

*Age groups 65-69, 70-74, 75-79, and 80-84 years.*—For white men at the older ages the rise in excess mortality compared with the mortality for white women resulted primarily from unusually sharp rises in mortality for diseases of



the respiratory system, including malignant neoplasm of the respiratory system; chronic bronchitis; and other bronchopulmonic diseases, especially emphysema. There were also substantial increases in the death rate for arteriosclerotic heart disease, including coronary disease, for white men at ages 70-74 years and for other diseases of the circulatory system for every 5-year age group in the span 65-69 years through 80-84 years.

#### Other Male Teenagers and Adults

*Age groups 15-19 and 20-24 years.*—The motor vehicle was the agent of a substantial rise in the death rate for teenagers 15-19 years of age and young men 20-24. The death rate rose during 1952-67 for these two age groups for both drivers and occupants and for pedestrians. In 1967 deaths to pedestrians accounted for about 10 percent of the death rate of 82.1 deaths per 100,000 for motor vehicle accidents at ages 20-24 years of age. Suicide also contributed substantially to the increase in mortality: for both age groups 15-19 and 20-24 years the suicide rate almost doubled during 1952-67. Also teenagers 15-19 years of age were the victims of homicide relatively more frequently in 1967 than in 1952—a rate of 34.7 per 100,000 for 1952 and 43.8 per 100,000 for 1967. Men of races other than white at ages 20-24 experienced an even sharper rise in mortality from homicide—a rate of 80.5 deaths per 100,000 for 1952 and 105.8 deaths per 100,000 for 1967.

*Age groups 25-29, 30-34, 35-39, and 40-44 years.*—The upturn in the death rate for malignant neoplasms contributed substantially to the rise in mortality for men of races other than white in the young adult and early middle years. Among the sites of neoplasms for which the mortality trend for these men was clearly upward during 1952-67 were the respiratory system, esophagus, small and large intestines, liver and

biliary passage stated to be primary, and pancreas. Mortality from diabetes mellitus about doubled for the age groups 35-39 and 40-44 years. There were also substantial increases in mortality for these men under 45 years of age from vascular lesions; arteriosclerotic heart disease; other diseases of the circulatory system; other bronchopulmonic diseases, especially emphysema; and cirrhosis of the liver. There were also increases at these ages in violent deaths: motor vehicle accidents; other accidents, especially death by firearms; suicide, for which the death rate almost doubled for each of the 5-year age groups in the span 25-29 through 40-44 years; and homicide, for which the mortality increased more than 30 deaths per 100,000 during 1957-67 for each 5-year age group in the span 20-24 through 40-44 years.

*Age groups 45-49, 50-54, 55-59, and 60-64 years.*—The increase in mortality for men of races other than white in the late middle ages resulted principally from upturns in mortality for malignant neoplasm of respiratory system, especially of the lung; malignant neoplasm of the urinary organs; diabetes mellitus; vascular lesions; arteriosclerotic heart disease; other circulatory diseases; other bronchopulmonic diseases, especially emphysema; cirrhosis of the liver; and homicide.

*Age groups 65-69, 70-74, 75-79, and 80-84 years.*—At the older ages men of races other than white experienced during 1952-67 increases in the death rate for malignant neoplasms of the respiratory system, genital organs, and urinary organs. Also at these older ages there occurred an upturn in mortality during 1952-67 from leukemia; the anemias, particularly sickle cell anemia; diabetes; vascular lesions affecting the central nervous system; arteriosclerotic heart disease; other diseases of the circulatory system; other bronchopulmonic diseases, especially emphysema; motor vehicle accidents; and homicide.

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Table 1. Death rates for all causes, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1948-68

[Rates per 100,000 population in age group]

Age at death	Period of birth of cohort															
	1949-1953	1944-1948	1939-1943	1934-1938	1929-1933	1924-1928	1919-1923	1914-1918	1909-1913	1904-1908	1899-1903	1894-1898	1889-1893	1884-1888	1879-1883	1874-1878
<u>White men</u>																
15-19 years---	146.9	121.7	124.3	137.5	136.8											
20-24 years---		196.7	167.8	172.5	191.5	190.9										
25-29 years---			167.2	154.4	148.4	164.7	180.0									
30-34 years---				182.8	176.8	174.8	190.4	221.0								
35-39 years---					264.6	259.2	255.8	270.0	321.7							
40-44 years---						420.8	409.6	422.5	458.7	504.9						
45-49 years---							693.0	702.1	690.0	747.8	789.7					
50-54 years---								1144.9	1154.2	1175.0	1200.4	1290.8				
55-59 years---									1817.9	1825.8	1765.8	1857.1	1973.0			
60-64 years---										2817.1	2710.5	2731.6	2770.9			
65-69 years---											4099.2	4196.8	4052.1	2866.2	4026.6	
70-74 years---												6288.1	5967.8	5782.2	5812.1	6035.3
75-79 years---													8695.7	8645.2	8678.2	8787.5
80-84 years---														12349.5	13207.0	13402.0
<u>Men of other races</u>																
15-19 years---	214.8	159.0	159.6	204.6	236.4											
20-24 years---		366.3	291.1	293.4	364.2	419.4										
25-29 years---			455.4	355.9	352.0	416.1	468.6									
30-34 years---				594.5	448.4	456.8	504.2	582.6								
35-39 years---					772.9	629.8	563.0	644.9	787.1							
40-44 years---						1068.5	894.5	853.4	979.8	1144.9						
45-49 years---							1449.0	1243.9	1283.1	1386.3	1648.7					
50-54 years---								2002.4	1924.4	1897.4	2252.1	2484.7				
55-59 years---									2875.5	2602.0	2669.2	2966.7	3172.7			
60-64 years---										4018.7	3896.9	3941.5	4257.0	3796.0		
65-69 years---											5986.7	6114.3	5125.8	4683.2	4907.1	
70-74 years---												8595.0	6840.2	6339.0	6326.2	6157.1
75-79 years---													8205.8	7896.4	7529.5	7751.4
80-84 years---														9053.1	9573.0	10402.3

NOTE: At ages under 75 years the first figure in each row, moving from right to left, is the death rate for data year 1948, the second figure for 1953, the third figure for 1958, the fourth figure for 1963, and the last figure for 1968.

Table 2. Change in mortality trend by sex, age, and color: United States, 1954-63 and nonepidemic years

Sex and age	White						Other					
	Period I: 1954-63			Period II: nonepidemic years <sup>1</sup>			Period I: 1954-63			Period II: nonepidemic years <sup>1</sup>		
	Rate of change in percent	95-percent confidence limits <sup>2</sup>		Rate of change in percent	95-percent confidence limits <sup>2</sup>		Rate of change in percent	95-percent confidence limits <sup>2</sup>		Rate of change in percent	95-percent confidence limits <sup>2</sup>	
		Upper	Lower		Upper	Lower		Upper	Lower		Upper	Lower
<b>Male</b>												
1-4 years-----	-1.99	-1.74	-2.25	-1.97	-1.58	-2.36	-2.00	-1.54	-2.45	-2.29	-1.58	-2.99
5-14 years-----	-1.71	-1.47	-1.95	-1.54	-1.17	-1.91	-1.73	-1.19	-2.25	-1.85	-1.01	-2.67
15-24 years-----	-1.38	-1.21	-1.56	-1.61	-1.33	-1.88	-1.87	-1.49	-2.25	-2.52	-1.92	-3.11
25-34 years-----	-0.44	-0.28	-0.61	-0.88	-0.62	-1.14	-0.94	-0.63	-1.24	-1.18	-0.70	-1.65
35-44 years-----	-0.29	-0.17	-0.41	-0.57	-0.39	-0.75	+0.51	+0.75	+0.28	+0.14	-0.51	-0.22
45-54 years-----	+0.01	+0.09	-0.06	-0.15	-0.03	-0.26	-0.70	-0.52	-0.87	-1.38	-1.11	-1.66
55-64 years-----	+0.07	+0.13	-0.02	-0.03	+0.05	-0.12	-0.67	-0.52	-0.82	-1.08	-0.84	-1.31
65-74 years-----	+0.50	+0.54	+0.45	+0.22	+0.30	+0.15	+2.24	+2.40	+2.09	+1.59	+1.82	+1.35
75-84 years-----	-0.02	+0.04	-0.07	-0.15	-0.07	-0.23	+0.33	+0.53	+0.13	-0.19	+0.13	-0.51
85+ years-----	+1.70	+1.78	+1.61	+1.44	+1.57	+1.30	+1.46	+1.81	+1.12	+1.23	+1.77	+0.69
<b>Female</b>												
1-4 years-----	-2.02	-1.73	-2.30	-2.06	-1.62	-2.50	-2.05	-1.56	-2.53	-2.37	-1.61	-3.13
5-14 years-----	-1.47	-1.16	-1.77	-1.55	-1.08	-2.01	-1.38	-0.75	-2.01	-2.25	-1.25	-3.23
15-24 years-----	-0.01	+0.29	-0.28	-1.62	-1.18	-2.06	-0.30	+0.22	-0.81	-3.14	-2.35	-3.92
25-34 years-----	-0.56	-0.33	-0.79	-0.66	-0.30	-1.01	-1.79	-1.68	-1.90	-2.23	-1.69	-2.77
35-44 years-----	-0.59	-0.44	-0.74	-1.28	-1.05	-1.51	-1.32	-1.07	-1.57	-1.92	-1.53	-2.31
45-54 years-----	-0.47	-0.37	-0.58	-0.79	-0.62	-0.95	-2.67	-2.48	-2.87	-3.20	-2.90	-3.50
55-64 years-----	-1.09	-1.03	-1.14	-1.35	-1.23	-1.47	-0.52	-0.34	-0.69	-0.78	-0.51	-1.05
65-74 years-----	-0.97	-0.92	-1.03	-1.16	-1.07	-1.25	+1.18	+1.35	+1.01	+0.59	+0.86	+0.33
75-84 years-----	-0.77	-0.72	-0.82	-0.82	-0.74	-0.90	+0.18	+0.39	-0.04	+0.02	+0.36	-0.33
85+ years-----	+0.81	+0.89	+0.74	+0.43	+0.54	+0.32	+2.45	+2.78	+2.13	+2.56	+3.08	+2.05

<sup>1</sup>The nonepidemic years during 1954-63 were 1954-56, 1959, and 1961.

<sup>2</sup>The probability is 95 percent that the true rate of change in percent will have a value between the upper and lower limits shown.

Table 3. Death rates for all causes, for white women and women of other races, by birth cohort and age at death: United States, 5-year intervals during 1948-68

[Rates per 100,000 population in age group]

Age at death	Period of birth of cohort															
	1949-1953	1944-1948	1939-1943	1934-1938	1929-1933	1924-1928	1919-1923	1914-1918	1909-1913	1904-1908	1899-1903	1894-1898	1889-1893	1884-1888	1879-1883	1874-1878
<u>White women</u>																
15-19 years----	57.5	50.8	50.3	59.3	72.1											
20-24 years----		64.5	63.0	59.9	66.9	93.8										
25-29 years----			70.9	72.4	72.4	82.8	109.8									
30-34 years----				96.3	98.5	98.7	111.8	144.3								
35-39 years----					152.3	153.5	148.6	167.4	214.8							
40-44 years----						240.0	233.1	232.9	265.0	311.3						
45-49 years----							376.0	370.4	368.0	402.3	459.3					
50-54 years----								568.0	553.8	568.6	634.6	713.2				
55-59 years----									840.3	836.8	850.6	960.7	1107.9			
60-64 years----										1268.2	1293.6	1372.0	1484.9	1689.0		
65-69 years----											2021.7	2120.9	2233.6	2411.4	2592.4	
70-74 years----												3355.3	3459.4	3656.7	3989.7	4445.4
75-79 years----													5490.1	5818.8	6247.7	6600.8
80-84 years----														9236.8	10216.5	10608.4
<u>Women of other races</u>																
15-19 years----	81.4	81.0	83.3	132.8	208.8											
20-24 years----		138.5	129.6	143.7	186.2	327.3										
25-29 years----			200.7	208.3	215.2	262.5	383.6									
30-34 years----				303.7	301.4	332.7	366.4	501.2								
35-39 years----					448.8	448.1	455.5	522.3	666.3							
40-44 years----						642.9	654.8	669.6	794.9	982.0						
45-49 years----							882.8	865.1	993.0	1141.5	1395.4					
50-54 years----								1210.7	1365.1	1526.8	1806.4	1959.6				
55-59 years----									1763.1	1889.0	2117.3	2258.2	2428.3			
60-64 years----										2652.7	3061.7	2938.4	3125.8	3177.3		
65-69 years----											4406.3	4023.4	3529.3	3393.9	4106.1	
70-74 years----												5263.9	4656.0	4750.3	4796.4	4896.3
75-79 years----													5468.9	5977.0	5827.7	6636.1
80-84 years----														7229.5	7515.1	8130.8

NOTE: At ages under 75 years the first figure in each row, moving from right to left, is the death rate for data year 1948, the second figure for 1953, the third figure for 1958, the fourth figure for 1963, and the last figure for 1968.

Table 4. Percent excess of death rates for males over those for females, by age and color: United States, 1948, 1960, and 1968

Age	White			Other		
	1968	1960	1948	1968	1960	1948
	Percent excess of death rates					
All ages-----	34.6	37.2	34.5	39.8	32.0	25.3
Under 1 year-----	34.6	34.2	30.6	22.1	27.6	25.7
1-4 years-----	21.7	23.1	22.5	21.7	18.9	10.0
5-9 years-----	42.0	40.2	44.1	41.8	18.5	16.4
10-14 years-----	73.9	67.5	62.9	82.4	78.3	13.2
15-19 years-----	155.5	148.9	89.7	163.9	106.2	13.2
20-24 years-----	205.0	176.3	103.5	164.5	102.4	28.1
25-29 years-----	135.8	112.4	63.9	126.9	63.2	22.2
30-34 years-----	89.8	75.4	53.2	95.8	39.2	16.2
35-39 years-----	73.7	71.8	49.8	72.2	33.7	18.1
40-44 years-----	75.3	75.3	62.2	66.2	32.6	16.6
45-49 years-----	84.3	92.5	71.8	64.1	35.0	18.2
50-54 years-----	101.6	111.2	81.0	65.4	35.0	26.8
55-59 years-----	116.3	115.1	78.1	63.1	28.1	30.7
60-64 years-----	122.1	102.0	69.7	51.5	34.3	19.5
65-69 years-----	102.8	88.0	55.3	35.9	46.9	19.5
70-74 years-----	87.4	64.9	35.8	63.3	36.9	25.8
75-79 years-----	58.4	43.0	25.8	50.0	29.7	29.0
80-84 years-----	33.7	27.1	18.1	25.2	30.0	23.9
85 years and over-----	7.7	11.7	10.3	5.3	18.4	26.4

Table 5. Death rates for Malignant neoplasm of respiratory system, not specified as secondary, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers 160-164 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	0.1	0.1	0.1	0.2												
20-24 years-----		0.3	0.4	0.5	0.6											
25-29 years-----			0.4	0.7	0.8	0.8										
30-34 years-----				2.4	2.5	2.2	1.7									
35-39 years-----					7.7	6.5	5.1	4.6								
40-44 years-----						19.1	16.9	14.6	12.5							
45-49 years-----							41.1	37.6	32.3	28.2						
50-54 years-----								84.4	76.7	67.8	55.2					
55-59 years-----									143.0	130.6	115.9	93.3				
60-64 years-----										220.5	192.6	164.2	125.3			
65-69 years-----											296.1	248.2	196.8	140.0		
70-74 years-----												332.1	246.8	191.0	134.7	
75-79 years-----													319.8	223.4	174.3	127.5
80-84 years-----														257.0	185.6	149.6
<u>Men of other races</u>																
15-19 years-----	0.1	0.1	0.3	0.5												
20-24 years-----		0.1	0.3	0.7	0.4											
25-29 years-----			0.9	1.0	0.5	1.0										
30-34 years-----				4.5	4.8	2.1	2.9									
35-39 years-----					16.3	11.3	5.4	6.6								
40-44 years-----						39.9	28.4	18.5	19.3							
45-49 years-----							73.8	55.7	49.2	37.6						
50-54 years-----								130.0	95.6	78.6	53.4					
55-59 years-----									184.5	128.7	115.4	88.4				
60-64 years-----										238.4	186.2	164.7	97.3			
65-69 years-----											295.1	223.0	137.0	88.6		
70-74 years-----												316.6	192.6	135.6	74.4	
75-79 years-----													233.6	150.9	104.4	73.2
80-84 years-----														164.9	125.4	75.0

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.



Table 6. Death rates for Other diseases of circulatory system, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers 451-468 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1959]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	0.5	0.3	0.5	0.4												
20-24 years-----		0.7	0.6	0.4	0.5											
25-29 years-----			0.9	0.9	0.6	0.8										
30-34 years-----				1.8	1.5	1.2	1.2									
35-39 years-----					2.7	2.6	2.0	2.1								
40-44 years-----						4.7	4.1	4.1	3.3							
45-49 years-----							8.9	7.6	6.2	6.5						
50-54 years-----								17.3	15.4	13.1	9.4					
55-59 years-----									31.3	27.5	24.7	17.0				
60-64 years-----										56.7	48.3	41.9	27.0			
65-69 years-----											93.1	84.8	61.1	31.9		
70-74 years-----												145.0	113.1	73.3	38.4	
75-79 years-----													174.3	134.7	92.2	53.5
80-84 years-----														196.3	153.8	110.3
<u>Men of other races</u>																
15-19 years-----	0.9	0.8	0.6	0.3												
20-24 years-----		2.5	1.4	2.4	0.7											
25-29 years-----			2.5	1.9	2.1	1.7										
30-34 years-----				6.3	4.0	5.0	3.3									
35-39 years-----					11.0	7.7	5.4	4.0								
40-44 years-----						11.4	10.4	12.6	7.0							
45-49 years-----							21.1	16.6	18.3	9.4						
50-54 years-----								30.6	26.1	20.9	15.9					
55-59 years-----									45.6	34.0	34.4	27.9				
60-64 years-----										62.1	56.3	58.9	28.4			
65-69 years-----											106.5	92.2	60.4	19.0		
70-74 years-----												147.3	90.9	49.7	24.8	
75-79 years-----													140.8	80.9	53.8	39.4
80-84 years-----														114.9	84.7	50.0

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 7. Death rates for Emphysema without mention of bronchitis, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1957-67

[Rates per 100,000 population in age group. Deaths are those assigned to category number 527.1 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	0.0	0.0	-													
20-24 years-----		0.0	0.0	0.0												
25-29 years-----			0.1	0.0	0.0											
30-34 years-----				0.2	0.2	0.1										
35-39 years-----					0.7	0.7	0.5									
40-44 years-----						2.2	2.0	1.2								
45-49 years-----							5.7	4.4	2.9							
50-54 years-----								14.6	11.6	6.9						
55-59 years-----									35.4	26.9	15.3					
60-64 years-----										70.9	48.5	28.6				
65-69 years-----											115.8	81.5	40.7			
70-74 years-----												172.6	100.6	41.9		
75-79 years-----													197.9	108.6	48.7	
80-84 years-----														191.1	108.1	49.7
<u>Men of other races</u>																
15-19 years-----	-	-	-													
20-24 years-----		0.4	0.3	0.2												
25-29 years-----			0.4	0.5	0.5											
30-34 years-----				1.2	0.5	0.3										
35-39 years-----					1.5	1.5	1.1									
40-44 years-----						3.6	2.6	1.8								
45-49 years-----							7.7	3.7	3.8							
50-54 years-----								16.0	9.6	5.6						
55-59 years-----									22.0	15.7	10.9					
60-64 years-----										40.2	28.9	19.8				
65-69 years-----											66.1	47.4	22.2			
70-74 years-----												81.7	43.4	19.5		
75-79 years-----													87.2	33.6	19.8	
80-84 years-----														56.8	30.5	25.0

NOTE: The first figure in each row, moving from right to left, is the death rate for data year 1957, the second figure for 1962, and the third figure for 1967. This table shows data for only 3 years because data for 1952 are not available.

Table 8. Death rates for Cirrhosis of liver, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category number 561 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1953]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	0.1	0.2	0.1	0.1												
20-24 years-----		0.1	0.2	0.2	0.3											
25-29 years-----			1.5	1.3	1.0	1.3										
30-34 years-----				4.6	3.6	4.0	3.1									
35-39 years-----					13.1	9.0	9.2	9.1								
40-44 years-----						22.6	18.4	19.3	17.8							
45-49 years-----							36.3	31.9	29.8	27.0						
50-54 years-----								50.6	44.7	42.4	34.7					
55-59 years-----									63.0	51.9	46.9	43.3				
60-64 years-----										67.6	51.4	50.8	45.8			
65-69 years-----											66.5	63.1	62.2	53.2		
70-74 years-----												57.8	49.7	56.1	51.1	
75-79 years-----													42.7	45.1	50.1	51.4
80-84 years-----														38.5	42.5	49.7
<u>Men of other races</u>																
15-19 years-----	0.8	0.8	-	0.2												
20-24 years-----		3.0	1.4	0.5	1.1											
25-29 years-----			12.2	6.1	5.3	2.0										
30-34 years-----				25.0	14.5	9.4	8.1									
35-39 years-----					48.6	30.3	17.2	13.0								
40-44 years-----						63.8	33.0	22.3	14.8							
45-49 years-----							63.1	36.2	32.4	21.5						
50-54 years-----								66.4	41.4	30.5	30.6					
55-59 years-----									65.9	39.6	41.3	28.9				
60-64 years-----										58.1	52.3	44.2	40.5			
65-69 years-----											71.8	43.9	33.0	22.4		
70-74 years-----												41.4	28.6	28.9	35.2	
75-79 years-----													35.2	21.8	39.6	28.2
80-84 years-----														13.5	28.8	27.3

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 9. Death rates for Motor vehicle accidents, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers E810-E835 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1958]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	69.7	52.9	57.5	55.0												
20-24 years-----		89.3	77.0	80.3	76.5											
25-29 years-----			54.6	45.8	47.3	49.9										
30-34 years-----				41.9	34.4	37.6	36.6									
35-39 years-----					35.8	30.9	32.0	33.9								
40-44 years-----						33.6	29.7	30.3	32.9							
45-49 years-----							35.3	29.6	31.8	32.1						
50-54 years-----								37.1	32.5	32.1	35.3					
55-59 years-----									37.3	34.8	34.3	40.5				
60-64 years-----										42.4	37.5	42.3	44.5			
65-69 years-----											45.7	42.0	47.6	56.5		
70-74 years-----												55.8	51.9	55.3	65.9	
75-79 years-----													66.6	63.9	71.8	77.4
80-84 years-----														77.1	73.0	77.9
<u>Men of other races</u>																
15-19 years-----	46.9	33.1	33.3	41.4												
20-24 years-----		82.1	71.8	71.1	71.9											
25-29 years-----			71.9	59.3	70.4	70.3										
30-34 years-----				65.1	48.2	54.2	56.6									
35-39 years-----					53.5	48.1	49.2	56.8								
40-44 years-----						54.2	45.0	47.6	48.8							
45-49 years-----							52.0	42.4	46.8	55.5						
50-54 years-----								57.1	49.6	57.5	62.8					
55-59 years-----									59.4	52.0	55.9	57.1				
60-64 years-----										59.2	49.7	58.5	67.1			
65-69 years-----											77.6	64.8	50.9	49.5		
70-74 years-----												70.4	54.3	51.7	61.6	
75-79 years-----													52.0	43.6	70.3	66.2
80-84 years-----														66.2	47.5	79.5

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 10. Death rates for Suicide, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers E963 and E970-E979 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	7.5	5.8	4.1	4.7												
20-24 years-----		14.9	12.6	9.4	9.2											
25-29 years-----			16.9	14.5	10.9	11.9										
30-34 years-----				17.5	18.4	14.3	13.3									
35-39 years-----					22.2	20.8	16.7	17.7								
40-44 years-----						25.4	24.9	23.6	21.7							
45-49 years-----							26.8	30.2	26.8	26.8						
50-54 years-----								31.8	37.0	34.4	33.2					
55-59 years-----									35.7	41.4	37.4	35.0				
60-64 years-----										37.4	39.4	38.9	42.4			
65-69 years-----											32.2	40.1	41.1	45.2		
70-74 years-----												37.9	42.8	46.7	50.0	
75-79 years-----													40.6	54.1	52.2	50.8
80-84 years-----														49.8	62.7	61.5
<u>Men of other races</u>																
15-19 years-----	3.8	3.7	3.3	1.9												
20-24 years-----		14.4	12.7	8.5	7.4											
25-29 years-----			18.3	10.9	11.5	11.8										
30-34 years-----				17.0	14.7	14.4	9.5									
35-39 years-----					14.0	14.0	10.5	9.8								
40-44 years-----						15.5	11.5	10.6	7.8							
45-49 years-----							11.6	12.0	12.6	8.3						
50-54 years-----								11.5	12.9	10.8	11.6					
55-59 years-----									15.8	10.9	10.9	13.0				
60-64 years-----										10.4	19.4	13.2	16.2			
65-69 years-----											12.7	15.2	12.2	10.5		
70-74 years-----												11.8	18.9	25.5	12.0	
75-79 years-----													14.4	9.1	13.2	8.5
80-84 years-----														9.5	22.0	20.5

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 11. Death rates for Homicide, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers E904 and E980-E985 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	4.3	2.6	2.3	2.4												
20-24 years-----		8.7	5.5	5.7	5.4											
25-29 years-----			10.7	6.6	6.0	6.2										
30-34 years-----				10.1	7.1	5.3	5.1									
35-39 years-----					9.1	6.3	5.0	5.8								
40-44 years-----						8.4	5.6	4.6	5.9							
45-49 years-----							7.0	5.7	4.5	5.5						
50-54 years-----								6.8	5.7	4.1	5.0					
55-59 years-----									6.2	4.9	4.8	4.1				
60-64 years-----										5.1	4.2	3.1	3.8			
65-69 years-----											5.3	3.9	3.7	3.9		
70-74 years-----												4.5	2.7	3.1	3.9	
75-79 years-----													4.0	3.0	2.3	3.7
80-84 years-----														3.6	3.2	2.7
<u>Men of other races</u>																
15-19 years-----	43.8	27.0	26.9	34.7												
20-24 years-----		105.8	76.5	69.0	80.5											
25-29 years-----			127.9	83.3	86.6	107.6										
30-34 years-----				125.0	87.1	86.9	104.5									
35-39 years-----					115.5	79.1	72.1	99.1								
40-44 years-----						99.7	73.2	66.7	80.0							
45-49 years-----							82.3	58.8	63.9	58.6						
50-54 years-----								59.7	53.1	47.9	46.8					
55-59 years-----									53.2	37.1	35.5	36.5				
60-64 years-----										35.5	34.5	26.0	27.5			
65-69 years-----											35.5	27.4	26.1	20.5		
70-74 years-----												27.2	12.6	20.1	16.8	
75-79 years-----													16.8	14.5	14.3	19.7
80-84 years-----														8.1	6.8	15.9

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 12. Death rates for Malignant neoplasm of digestive organs and peritoneum, not specified as secondary, for men of races other than white, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to specified category numbers of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Cause of death and age	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>Malignant neoplasm of digestive organs and peritoneum, not specified as secondary (150-156A, 157-159)</u>																
15-19 years-----	0.7	1.2	0.3	0.5												
20-24 years-----		1.3	1.4	1.7	2.0											
25-29 years-----			2.8	2.2	2.4											
30-34 years-----				7.8	4.3											
35-39 years-----					11.2		5.4									
40-44 years-----							12.0									
45-49 years-----							17.1									
50-54 years-----							33.9									
55-59 years-----																
60-64 years-----																
65-69 years-----																
70-74 years-----																
75-79 years-----																
80-84 years-----																
<u>Of esophagus (150)</u>																
15-19 years-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-24 years-----																
25-29 years-----																
30-34 years-----				0.3	0.2		0.2									
35-39 years-----					2.3		2.6									
40-44 years-----							7.2									
45-49 years-----																
50-54 years-----																
55-59 years-----																
60-64 years-----																
65-69 years-----																
70-74 years-----																
75-79 years-----																
80-84 years-----																
<u>Of stomach (151)</u>																
15-19 years-----	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-24 years-----		0.2														
25-29 years-----			0.2	0.3												
30-34 years-----			1.0	2.3												
35-39 years-----					1.0		1.8		2.1							
40-44 years-----					2.3		4.4		4.1							
45-49 years-----							9.1		9.9							
50-54 years-----									14.7							
55-59 years-----																
60-64 years-----																
65-69 years-----																
70-74 years-----																
75-79 years-----																
80-84 years-----																
<u>Of small and large intestines, except rectum, (152,153)</u>																
15-19 years-----	0.4	0.8	0.1	0.3												
20-24 years-----		0.5	0.3	0.7												
25-29 years-----			0.6	0.9												
30-34 years-----																
35-39 years-----				1.4												
40-44 years-----					1.0		2.3		0.7							
45-49 years-----					2.9		3.8		1.6							
50-54 years-----							5.6		3.7							
55-59 years-----									2.9							
60-64 years-----									4.8							
65-69 years-----									9.0							
70-74 years-----																
75-79 years-----																
80-84 years-----																

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 12. Death rates for Malignant neoplasm of digestive organs and peritoneum, not specified as secondary, for men of races other than white, by birth cohort and age at death: United States, 5-year intervals during 1952-67-- Con.

[Rates per 100,000 population in age group. Deaths are those assigned to specified category numbers of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Cause of death and age	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>Of rectum (154)</u>																
15-19 years-----	-	-	0.1	-												
20-24 years-----		0.2	0.2	0.3	0.4											
25-29 years-----			0.4	0.3	0.9	0.8										
30-34 years-----				1.0	0.7	0.5	0.9									
35-39 years-----					0.5	1.1	0.8	0.9								
40-44 years-----						1.3	2.3	2.6	3.3							
45-49 years-----							3.8	3.9	5.5	6.3						
50-54 years-----								8.7	11.0	9.2	9.6					
55-59 years-----									13.2	12.8	16.6	16.6				
60-64 years-----									14.7	16.8	21.7	27.5	27.5			
65-69 years-----										32.2	24.3	21.7	23.8			
70-74 years-----											26.6	27.4	28.9	33.6		
75-79 years-----												33.6	30.9	39.6	52.1	
80-84 years-----												40.5	40.5	35.6	59.1	
<u>Of biliary passages and liver stated to be primary site (155)</u>																
15-19 years-----	-	-	-	0.2												
20-24 years-----		0.2	0.3	0.2	0.4											
25-29 years-----			0.4	0.2	-	0.2										
30-34 years-----				0.5	0.3	0.8	0.5	1.4								
35-39 years-----					0.8	1.3	1.1	1.6	2.1							
40-44 years-----						2.8	3.4	4.1	3.6	3.4						
45-49 years-----							4.8	10.1	8.1	4.9	3.5					
50-54 years-----									12.9	12.7	8.9	9.0				
55-59 years-----										23.4	14.1	13.2	9.9			
60-64 years-----											24.5	22.6	9.6	11.4		
65-69 years-----												32.5	18.9	16.8	10.4	
70-74 years-----													21.6	16.4	19.8	7.0
75-79 years-----														9.5	20.3	22.7
80-84 years-----																
<u>Of pancreas (157)</u>																
15-19 years-----	-	-	-	-												
20-24 years-----		0.1	0.2	-	0.2											
25-29 years-----			-	0.2	-	0.3										
30-34 years-----				1.7	0.7	0.8	-	1.4								
35-39 years-----					1.6	2.0	2.0	4.8	8.8							
40-44 years-----						6.2	4.2	8.8	11.8	4.5						
45-49 years-----									20.4	8.8	9.4					
50-54 years-----										21.7	14.6	18.0				
55-59 years-----										29.4	25.1	29.3	24.6			
60-64 years-----											47.4	37.2	45.3	35.1		
65-69 years-----												64.9	55.2	52.6	30.0	
70-74 years-----													71.2	53.7	45.6	33.6
75-79 years-----														71.2	63.6	44.0
80-84 years-----															63.5	54.2

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.



Table 13. Death rates for Malignant neoplasm of genital organs, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers 177-179 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	0.5	0.6	0.5	0.5												
20-24 years-----		1.7	1.4	1.4	1.5											
25-29 years-----			1.8	1.9	1.9	1.7										
30-34 years-----				2.0	2.0	1.9	2.0									
35-39 years-----					1.5	1.8	1.6	1.7								
40-44 years-----						1.2	1.1	1.7	1.5							
45-49 years-----							1.7	1.8	1.9	2.1						
50-54 years-----								4.3	4.6	5.0	5.2					
55-59 years-----									11.1	11.4	11.7	14.3				
60-64 years-----										29.8	29.3	33.7	34.0			
65-69 years-----											64.8	68.9	70.9	71.7		
70-74 years-----												132.2	125.7	142.0	145.3	
75-79 years-----													228.9	235.9	246.1	252.4
80-84 years-----														348.0	364.7	409.2
<u>Men of other races</u>																
15-19 years-----	0.2	0.1	0.3	0.2												
20-24 years-----		0.8	0.3	-	0.7											
25-29 years-----			0.9	0.9	0.3	0.7										
30-34 years-----				0.5	0.2	0.2	0.9									
35-39 years-----					0.2	1.3	1.3	1.2								
40-44 years-----						1.1	2.1	3.3	2.7							
45-49 years-----							4.1	4.3	6.9	8.7						
50-54 years-----								12.6	14.0	18.8	20.8					
55-59 years-----									36.8	39.3	37.4	40.5				
60-64 years-----										74.3	93.4	95.7	93.7			
65-69 years-----											188.2	194.3	159.1	104.8		
70-74 years-----												311.8	254.3	252.3	160.8	
75-79 years-----													329.6	282.7	275.8	269.0
80-84 years-----														378.4	342.4	300.0

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 14. Death rates for Malignant neoplasm of urinary organs, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers 180 and 181 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	0.1	0.1	0.2	0.1												
20-24 years-----		0.0	0.1	0.1	0.1											
25-29 years-----			0.1	0.2	0.2	0.2										
30-34 years-----				0.4	0.4	0.4	0.4									
35-39 years-----					1.2	1.0	1.0	1.0								
40-44 years-----						2.5	2.4	2.6	2.8							
45-49 years-----							5.6	5.6	5.6	6.0						
50-54 years-----								11.0	11.3	11.8	12.4					
55-59 years-----									19.9	19.2	20.5	21.3				
60-64 years-----										31.9	30.6	33.7	34.4			
65-69 years-----											49.1	53.5	50.3	49.4		
70-74 years-----												81.6	70.2	65.5	63.1	
75-79 years-----													98.9	90.2	91.2	84.7
80-84 years-----														115.0	105.8	110.1
<u>Men of other races</u>																
15-19 years-----	0.2	0.1	0.3	0.2												
20-24 years-----		0.2	0.5	0.3	0.6											
25-29 years-----			0.1	0.3	0.2	0.8										
30-34 years-----				0.7	0.5	0.8	0.5									
35-39 years-----					0.8	2.1	1.5	1.9								
40-44 years-----						2.4	3.2	4.0	3.7							
45-49 years-----							7.5	9.3	8.6	6.9						
50-54 years-----								13.4	16.4	14.6	10.6					
55-59 years-----									23.9	17.3	17.3	23.3				
60-64 years-----										33.8	26.0	34.5	28.8			
65-69 years-----											57.1	40.0	38.7	24.3		
70-74 years-----												56.2	49.7	32.9	40.0	
75-79 years-----													59.2	35.5	35.2	42.3
80-84 years-----														44.6	42.4	45.5

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 15. Death rates for Leukemia and aleukemia, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category number 204 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<b>White men</b>																
15-19 years-----	3.2	2.9	2.9	3.4												
20-24 years-----		2.1	2.5	2.4	2.6											
25-29 years-----			2.0	2.3	2.7	2.3										
30-34 years-----				2.6	2.1	2.8	2.4									
35-39 years-----					3.1	3.0	3.3	3.0								
40-44 years-----						3.9	4.1	4.0	4.5							
45-49 years-----							5.8	6.0	6.2	5.5						
50-54 years-----								7.6	8.0	8.4	9.0					
55-59 years-----									12.4	12.3	12.4	12.8				
60-64 years-----										19.8	20.0	20.4	18.4			
65-69 years-----											30.6	30.5	31.0	27.7		
70-74 years-----												46.7	44.9	40.1	36.7	
75-79 years-----													63.3	58.6	52.0	41.3
80-84 years-----														79.9	73.5	62.9
<b>Men of other races</b>																
15-19 years-----	2.7	2.2	1.3	1.4												
20-24 years-----		2.5	1.5	3.7	1.3											
25-29 years-----			3.3	2.9	2.6	1.8										
30-34 years-----				2.5	2.0	2.3	2.2									
35-39 years-----					2.3	2.0	4.3	2.1								
40-44 years-----						3.4	2.6	3.1	3.5							
45-49 years-----							5.4	4.8	5.7	4.3						
50-54 years-----								10.7	6.8	8.7	5.8					
55-59 years-----									13.1	9.1	12.6	9.0				
60-64 years-----										16.2	16.8	17.4	16.2			
65-69 years-----											26.9	21.7	21.3	15.2		
70-74 years-----												36.1	31.4	22.1	16.0	
75-79 years-----													40.8	23.6	26.4	11.3
80-84 years-----														27.0	32.2	11.4

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 16. Death rates for Diabetes mellitus, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category number 280 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	0.3	0.4	0.6	0.7												
20-24 years-----		0.7	0.9	1.3	1.4											
25-29 years-----			1.8	2.3	2.3	1.6										
30-34 years-----				3.5	2.9	3.3	2.7									
35-39 years-----					4.0	4.7	4.0	3.2								
40-44 years-----						6.2	6.0	5.4	5.2							
45-49 years-----							8.3	7.9	7.1	7.4						
50-54 years-----								14.1	13.4	12.6	13.3					
55-59 years-----									24.6	24.3	20.6	22.4				
60-64 years-----										42.3	37.6	37.3	39.3			
65-69 years-----											62.5	63.0	60.2	64.2		
70-74 years-----												102.6	94.8	87.3	95.2	
75-79 years-----													137.0	132.3	120.9	139.7
80-84 years-----														183.0	164.3	154.0
<u>Men of other races</u>																
15-19 years-----	0.6	0.7	2.4	1.4												
20-24 years-----		1.9	2.2	1.6	2.6											
25-29 years-----			4.8	2.9	2.1	1.8										
30-34 years-----				4.8	4.7	6.8	5.0									
35-39 years-----					8.2	9.3	7.0	3.6								
40-44 years-----						13.0	10.8	8.1	7.4							
45-49 years-----							20.3	16.8	15.1	10.3						
50-54 years-----								32.6	25.0	20.0	22.3					
55-59 years-----									44.9	42.4	29.3	26.2				
60-64 years-----										65.0	69.1	51.6	51.8			
65-69 years-----											112.7	86.5	72.6	59.5		
70-74 years-----												155.6	107.4	76.5	72.0	
75-79 years-----													128.8	115.5	67.0	88.7
80-84 years-----														109.5	123.7	84.1

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 17. Death rates for Anemias, for men of races other than white, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers 290-293 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
15-19 years-----	2.6	1.2	1.4	0.5												
20-24 years-----		2.7	2.9	1.4	3.0											
25-29 years-----			2.2	2.4	2.2	1.3										
30-34 years-----				3.8	1.0	1.5	1.6									
35-39 years-----					2.5	2.8	1.8	1.7								
40-44 years-----						2.6	1.8	1.6	1.9							
45-49 years-----							1.3	1.5	2.5	3.6						
50-54 years-----								4.3	3.3	2.1	3.8					
55-59 years-----									3.3	1.5	2.0	2.3				
60-64 years-----										4.3	3.3	6.6	5.9			
65-69 years-----											6.5	5.2	5.2	6.2		
70-74 years-----												8.9	6.9	6.0	9.6	
75-79 years-----													14.4	11.8	14.3	15.5
80-84 years-----														18.9	15.3	9.1

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 18. Death rates for Vascular lesions affecting central nervous system, for men of races other than white, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers 330-334 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
15-19 years--	1.7	1.6	1.8	2.2												
20-24 years--		3.0	4.0	5.7	7.1											
25-29 years--			8.5	7.7	10.3	6.8										
30-34 years--				17.6	14.7	17.0	15.9									
35-39 years--					35.1	32.1	37.0	34.2								
40-44 years--						61.6	68.3	70.7	79.0							
45-49 years--							103.6	110.1	126.9	144.3						
50-54 years--								176.9	196.7	216.0	264.1					
55-59 years--									279.5	291.1	360.1	423.6				
60-64 years--										402.0	531.9	574.4	598.2			
65-69 years--											778.8	818.3	762.2	710.0		
70-74 years--												1152.1	1008.0	1060.4	969.6	
75-79 years--													1144.8	1237.3	1242.9	1298.6
80-84 years--														1393.2	1533.9	1700.0

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 19. Death rates for Motor vehicle accidents to pedestrians, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category number E812 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	3.7	3.0	2.8	3.0												
20-24 years-----		3.5	2.5	2.7	2.9											
25-29 years-----			2.3	2.4	2.1	2.9										
30-34 years-----				3.0	2.1	2.2	2.5									
35-39 years-----					3.0	2.2	2.4	3.4								
40-44 years-----						3.4	2.8	3.3	4.3							
45-49 years-----							3.9	3.3	4.5	6.0						
50-54 years-----								5.5	5.6	5.4	8.2					
55-59 years-----									6.4	6.9	7.7	11.7				
60-64 years-----										9.0	8.5	13.1	16.2			
65-69 years-----											11.2	13.2	16.7	25.7		
70-74 years-----												16.3	17.3	23.0	34.1	
75-79 years-----													23.1	25.9	34.6	43.1
80-84 years-----														32.9	37.3	41.0
<u>Men of other races</u>																
15-19 years-----	5.5	4.8	2.6	3.7												
20-24 years-----		8.1	8.8	5.2	7.2											
25-29 years-----			8.3	6.6	6.5	6.1										
30-34 years-----				8.8	7.3	8.1	10.0									
35-39 years-----					12.4	8.2	7.0	9.7								
40-44 years-----						13.8	9.5	8.6	10.7							
45-49 years-----							13.3	12.0	9.7	15.4						
50-54 years-----								13.8	15.1	17.1	21.0					
55-59 years-----									20.5	20.8	21.5	21.9				
60-64 years-----										20.2	21.4	24.0	32.9			
65-69 years-----											31.0	28.3	26.5	28.1		
70-74 years-----												30.8	33.7	34.9	37.6	
75-79 years-----													29.6	25.5	38.5	38.0
80-84 years-----														44.6	33.9	52.3

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

Table 20. Death rates for Other accidents, for white men and men of other races, by birth cohort and age at death: United States, 5-year intervals during 1952-67

[Rates per 100,000 population in age group. Deaths are those assigned to category numbers E800-E802 and E840-E862 of the Sixth and Seventh Revisions of the International Classification of Diseases, 1948 and 1955.]

Age at death	Period of birth of cohort															
	1948-1952	1943-1947	1938-1942	1933-1937	1928-1932	1923-1927	1918-1922	1913-1917	1908-1912	1903-1907	1898-1902	1893-1897	1888-1892	1883-1887	1878-1882	1873-1877
<u>White men</u>																
15-19 years-----	28.1	24.7	30.9	36.6												
20-24 years-----		31.9	29.6	35.4	37.5											
25-29 years-----			30.9	28.5	31.4	34.4										
30-34 years-----				30.7	29.2	29.6	34.7									
35-39 years-----					33.2	29.8	32.7	35.4								
40-44 years-----						35.0	34.0	35.7	40.9							
45-49 years-----							38.9	39.0	40.6	45.7						
50-54 years-----								43.6	46.1	46.0	51.5					
55-59 years-----									52.6	46.9	49.8	57.4				
60-64 years-----										56.3	53.9	56.9	67.3			
65-69 years-----											62.6	63.6	70.4	80.2		
70-74 years-----												83.4	84.6	94.7	105.0	
75-79 years-----													124.8	131.3	149.9	182.1
80-84 years-----														218.4	254.3	298.1
<u>Men of other races</u>																
15-19 years-----	43.5	44.1	50.4	60.2												
20-24 years-----		54.2	49.7	52.8	61.9											
25-29 years-----			63.2	54.0	62.8	62.0										
30-34 years-----				72.4	57.3	60.4	66.1									
35-39 years-----					75.5	66.4	59.8	69.6								
40-44 years-----						80.6	63.5	67.6	80.0							
45-49 years-----							80.6	75.0	79.4	84.1						
50-54 years-----								86.8	81.1	77.7	96.5					
55-59 years-----									101.7	75.4	74.0	94.4				
60-64 years-----										89.0	98.0	91.9	100.0			
65-69 years-----											103.3	106.1	98.3	96.2		
70-74 years-----												123.7	108.0	104.7	112.8	
75-79 years-----													129.6	107.3	126.4	184.5
80-84 years-----														162.2	194.9	186.4

NOTE: At ages under 80 years the first figure in each row, moving from right to left, is the death rate for data year 1952, the second figure for 1957, the third figure for 1962, and the last figure for 1967.

APPENDIX I  
LIST OF 60 SELECTED CAUSES OF DEATH

Category Title	Category Number
Tuberculosis, all forms-----	001-019
Tuberculosis of respiratory system-----	001-008
Tuberculosis, other forms-----	010-019
Syphilis and its sequelae-----	020-029
Dysentery, all forms-----	045-048
Scarlet fever and streptococcal sore throat-	050, 051
Diphtheria-----	055
Whooping cough-----	056
Meningococcal infections-----	057
Acute poliomyelitis-----	080
Measles-----	085
Other infective and parasitic diseases-----	030-044, 049, 052-054, 058-074, 081-084, 086-138
Malignant neoplasms, including neoplasms of	
lymphatic and hematopoietic tissues-----	140-205
Malignant neoplasm of buccal cavity and	
pharynx-----	140-148
Malignant neoplasm of digestive organs	
and peritoneum, not specified as	
secondary-----	150-156A, 157-159
Malignant neoplasm of respiratory system,	
not specified as secondary-----	160-164
Malignant neoplasm of breast-----	170
Malignant neoplasm of genital organs-----	171-179
Malignant neoplasm of urinary organs-----	180, 181
Malignant neoplasm of other and unspec-	
ified sites-----	156B, 165, 190-199
Leukemia and aleukemia-----	204
Lymphosarcoma and other neoplasms of	
lymphatic and hematopoietic tissues-----	200-203, 205
Benign neoplasms and neoplasms of unspec-	
ified nature-----	210-239
Asthma-----	241
Diabetes mellitus-----	260
Anemias-----	290-293
Meningitis, except meningococcal and tuber-	
culous-----	340
Major cardiovascular-renal diseases-----	330-334, 400-468, 592-594
Diseases of cardiovascular system-----	330-334, 400-468
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nervous system-----	330-334
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other myocardial degeneration-----	421, 422
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other renal sclerosis-----	592-594
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of newborn-----	480-493
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Category Title—Con.

Category Number—Con.

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Suicide-----	E963, E970-E979
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## APPENDIX II

### QUALIFICATIONS OF DATA

The rates shown in this report are based on deaths tabulated by place of occurrence; that is, all deaths occurring in the death-registration States from 1900 to 1932 and all deaths occurring in the continental United States thereafter, with Alaska added beginning 1959 and Hawaii, 1960. Deaths among Armed Forces overseas and among U.S. nationals living abroad are excluded for all years.

Deaths are classified into two categories according to information given in the race item on the death certificates. The category "white" includes, in addition to persons reported as white, persons reported to be Mexican or Puerto Rican. The category described as "races other than white" or "other" consists of persons reported as Negro, American Indian, Chinese, and Japanese; other numerically small racial groups; and persons of mixed white and other races.

Rates were computed on the bases of population statistics made available by the U.S. Bureau of the Census. Rates for decennial years are based on the populations enumerated in censuses of those years, which are taken as of April 1. Rates for all other years are based on midyear (July 1) estimates. Sources of the populations used, published by the Bureau of the Census, are as follows:

*Vital Statistics Rates in the United States, 1900-1940.*

Washington, U.S. Government Printing Office, 1943.

*Current Population Reports, Series P-25:*

No. 98. "Estimates of the Population of the United States and of the Components of Change, by Age, Color, and Sex: 1940 to 1950," 1954.

No. 265. "Estimates of the Population of the United States, by Age, Color, and

Sex: July 1, 1950 to 1962," 1963, (Used only for data years 1961 and 1962.)

No. 276. "Estimates of the Population of the United States, by Age, Color, and Sex: July 1, 1963," 1963.

No. 310. "Estimates of the Population of the United States and Components of Change, by Age, Color, and Sex: 1950 to 1960," 1965.

No. 321. "Estimates of the Population of the United States, by Age, Color, and Sex: July 1, 1960, to 1965," 1965. (Used only for data years 1964 and 1965.)

No. 352. "Estimates of the Population of the United States, by Age, Color, and Sex: July 1, 1966," 1966.

No. 385. "Estimates of the Population of the United States, by Age, Color, and Sex: July 1, 1964 to 1967," 1968. (Used only for data year 1967.)

No. 416. "Estimates of the Population of the United States, by Age, Color; and Sex: July 1, 1968," 1969.

The population estimates by color used for 1962 and 1963 do not include New Jersey because some birth, death, and fetal-death records of the State did not contain a race item. The certificates without this item were used for most of 1962 as well as for 1963. Therefore the National Center for Health Statistics estimated a population base by color for these years which excluded New Jersey. The estimates for 1963 are shown in table 6-5, Part A, Volume II, *Vital Statistics of the United States, 1963*. Those for 1962 are shown in the comparable table of the report for that year.



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