LIFE TABLES: 1959-61 VOLUME 1 - NO. 6

# UNITED STATES LIFE TABLES BY CAUSES OF DEATH: 1959-61

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

**Public Health Service** 

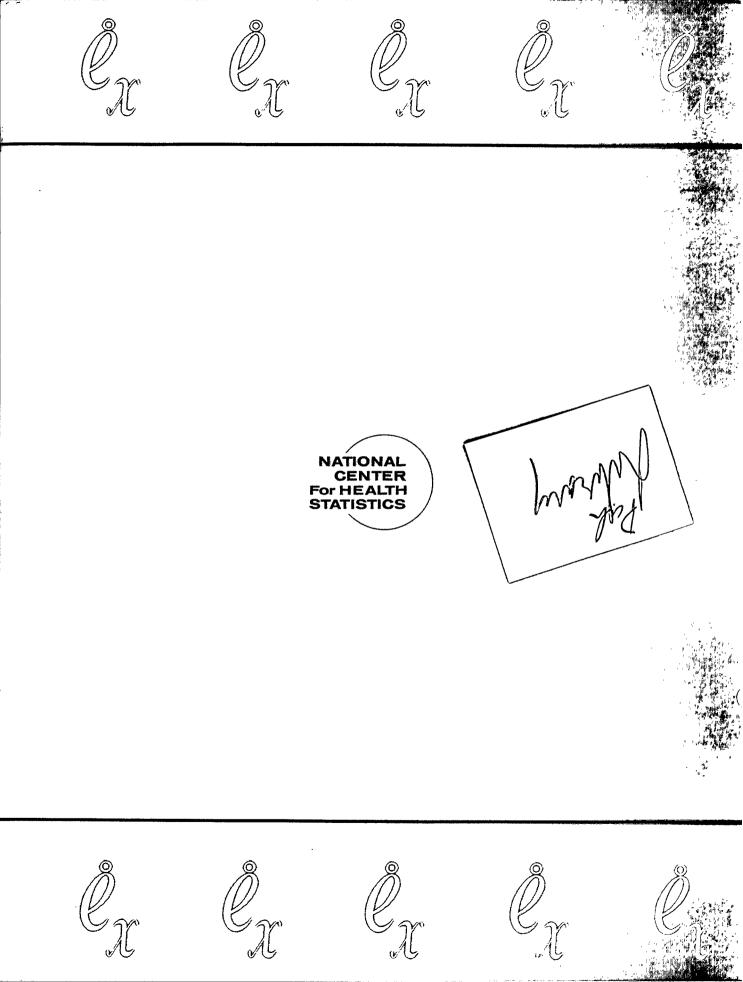














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# UNITED STATES LIFE TABLES BY CAUSES OF DEATH: 1959-61

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#### Introduction

The life tables in this report are based on the 1960 census of population and the deaths of the 3-year period 1959-61. Separate life tables are presented for the total population and for each of the four color-sex combinations: white male, white female, nonwhite male, and nonwhite female. Life tables were also prepared for the total population of each color and of each sex. These can be obtained on request from the Office of the Actuary, Social Security Administration, Washington, D.C.

This is the first time that official life tables by causes of death are being published. Similar calculations were made with respect to the 1939-41 and 1949-51 decennial life table programs, but the results were given only limited distribution. A few of these earlier values are included in this report in the comparisons with the results for earlier periods. However, for some of the life table functions and some of the causes of death this is the first time that values have been calculated.

Each of the tables for the 1959-61 period is based on data for the entire United States, i.e., the 50 States and the District of Columbia. The deaths for the 3-year period were taken as compiled by the Division of Vital Statistics, National Center for Health Statistics, by age, color, sex, and cause of death. The causes were classified according to the Seventh Revision of the International List of Diseases and Causes of Death, 1955 (ICD). These were later combined into the following groups and subgroups.

In the following listing the numbers in parentheses represent the ICD codes for the causes included in each group. The results of computations for those groups of causes shown in italics are presented in this report. However, calculations were also made for the remaining groups, and results may be obtained on request from the Office of the Actuary, Social Security Administration, Washington, D.C.

- 1 Infective and parasitic diseases, total (001-138)
- 2 Tuberculosis, all forms (001-019)
- 3 Syphilis and its sequelae (020-029)
- 4 All other infective and parasitic diseases (030-138)
- 5 Malignant neoplasms, including neoplams of lymphatic and hematopoietic tissues (140-205)
- 6 Malignant neoplams of digestive organs and peritoneum, not specified as secondary (150-156A,157-159)
- 7 Malignant neoplasm of respiratory system, not specified as secondary (160-164)
- 8 Malignant neoplasm of breast (170)
- 9 Malignant neoplasm of genital organs (171-179)
- 10 Malignant neoplasm of urinary organs (180,181)
- 11 Leukemia and aleukemia (204)
- 12 Other malignant neoplasms (140-148,156B,165,190-203,205)
- 13 Diabetes mellitus (260)
- 14 Major cardiovascular-renal diseases (330-334, 400-468, 592-594)
- 15 Vascular lesions affecting central nervous system (330-334)
- 16 Diseases of heart (400-402, 410-443)
- 17 Rheumatic fever and chronic rheumatic heart disease (400-402, 410-416)
- 18 Arteriosclerotic heart disease, including coronary disease (420)
- 19 Hypertensive heart disease (440-443)
- 20 Other forms of diseases of heart (421-434)
- 21 Other hypertensive disease (444-447)
- 22 General arteriosclerosis (450)
- 23 Other diseases of circulatory system (451-468)
- 24 Chronic and unspecified nephritis and other renal sclerosis (592-594)
- 25 Influenza and pneumonia except pneumonia of newborn (480-493)
- 26 Ulcer of stomach and duodenum (540-541)
- 27 Gastritis, duodenitis, enteritis, and colitis, except diarrhea of newborn (543, 571, 572)
- 28 Cirrhosis of liver (581)
- 29 Deliveries and complications of pregnancy, childbirth, and the puerperium (640-689)
- 30 Congenital malformations (750-759)
- 31 Certain diseases of early infancy (760-776)
- 32 Symptoms, senility, and ill-defined conditions (780-795)
- 33 Motor vehicle accidents (E810-E835)
- 34 All other accidents (E800-E802, E840-E962)
- 35 Suicide (E963, E970-E979)
- 36 Homicide (E964, E980-E985)
- 37 All other causes, residual

The values computed include the  $\ell_{x}^{(-i)}$ ;  $L_{x}^{(-i)}$  and e ( -- i·) for an abridged life table eliminating cause  $\underline{i}$ . Also shown are values for which no cause has been eliminated, i.e., abridged life tables in which all causes have been combined. These tables are given for comparison purposes. They correspond exactly to the life tables for the total United States that were previously published in these series by single years of age. In addition, values are presented for from a multiple decrement abridged table, and for the probability of eventually dying from a specified cause, as well as for the gain in expectation of life due to the elimination of a specified cause of death. Each one of these functions and values will be defined and explained in the subsequent sections. The last section of the report describes the special methodology used in the construction of tables.

#### Abridged Life Tables Eliminating Specified Causes of Death

A series of complete life tables for the United States for the different combinations of color and sex have been presented in previous reports (see reference 1, page 14). They provide the usual life table functions by single years of age. The mortality represented by them does not distinguish among the several causes of death and their basis is the total death rate for all causes combined. A similar set of tables, although somewhat condensed, is given here in tables 1 and 2. These abridged life tables contain only the functions and  $e_x$ , and the values are  $_{n}q_{x}$  ,  $\ell_{x}$  ,  $_{n}L_{x}$  , given by 5-year age groups only. Due to the significantly different mortality for ages under 1, the age group 0-5 is divided into the two groups, 0-1 and 1-5. Except for this condensation, the values contained in these abridged life tables are identical to those published previously in the complete life tables. They are presented here principally to permit quick comparison with the abridged life tables eliminating specified causes of death that are contained in tables 3-16. The latter life tables were prepared on the assumption that a specified cause of death was completely eliminated, i.e., under the assumption that there were no deaths from the eliminated cause, while the force of mortality at each age from other causes was that deduced from the mortality experience of 1959-61. Each of these tables when compared with the corresponding life table for all causes combined would provide a measurement of the effects on mortality of full control of the specified disease.

The life tables eliminating specified causes of death could have been prepared on a complete life table basis, i.e., by single years of age. However, they were prepared on an abridged basis by 5-year age groups because in most cases, the life table functions behave smoothly within each age group. It was believed that the limited number of cases for which values by single years of age would be necessary would not justify the amount of time and space involved in their preparation and publication. However, it will be noted in the methodological section of this report that for most ages the single year values can be calculated from the published quinquennial values without the addition of any approximation other than those already used in the preparation of the abridged tables.

#### **Explanation of Columns**

The columns in tables 1 and 2 should be interpreted as having the usual meaning for the standard abridged life table columns, i.e.:

Period of life between two exact ages stated in years (x to x + n).—The age interval shown is the interval between the two exact ages indicated. For instance, "20-25" means the 5-year interval between the 20th birthday and the 25th.

Proportion of persons alive at beginning of age interval dying during the interval  $(_nq_x)$ .—This column shows the proportion of the cohort who are alive at the beginning of an indicated age interval and who will die before reaching the end of that age interval. For example, for the total population in the age interval 20-25, the proportion dying is 0.00619—out of every 100,000 persons alive and exactly 20 years old at the beginning of the period, 619 will die before reaching their 25th birthday. In other words, the  $_nq_x$  values represent the probabilities that persons who are alive at the

beginning of a specific age interval will die before reaching the beginning of the next age interval.

Number living at beginning of age interval (1x). — This column shows the number of persons, starting with a cohort of 100,000 live births, who survive to the exact age marking the beginning of each age interval. Thus, for the total population, out of 100,000 babies born alive, 97,407 will complete the first year of life and enter the second year; 96,998 will begin the sixth year; 96,111 will reach age 20, and 18,542 will live to age 85.

Stationary population  $(L_x)$ .—Suppose that a group of 100,000 individuals, like that assumed in the previous column, is born every year and that the proportions dying in each such group in each age interval throughout the lives of the members are exactly those shown in the  ${}_{\rm n} {\it q}_{\rm x}$  column. If there were no migration and if the births were evenly distributed over the calendar year, the survivors of these births would make a stationary population-stationary because in such a population the number of persons living in any given age group would never change. When an individual left the group, either by death or by growing older and entering the next higher age group, his place would immediately be taken by someone entering from the next lower age group. Thus, a census taken at any time in such a stationary community would always show the same total population and the same numerical distribution of that population among the various age groups. In such a stationary population supported by 100,000 annual births, the ¿ column shows the number of persons who, each year, reach the birthday which marks the beginning of the age interval. The Lx column shows the number of persons in the stationary population in the indicated age interval. For example, the figure given for total population in the age interval 20-25 is 479,097. This means that in a stationary population supported by 100,000 annual births and with proportions dying in each age group always in accordance with the  $_{n}q_{x}$  column, a census taken on any date would show 479,097 persons between exact ages 20 and 25.

Average number of years of life remaining at beginning of age interval  $(e_x)$ .—The average remaining lifetime (also called expectation of life) at any given age is the average number of years remaining to be lived by those surviving to that

age on the basis of a given set of age-specific rates of dying. In order to arrive at this value, it is first necessary to observe that the values of the life table can also be interpreted in terms of a single life table cohort without introducing the concept of the stationary population. From this point of view, each L, represents the total time (in years) lived between two indicated birthdays by all those reaching the earlier birthday among the survivors of a cohort of 100,000 live births. Thus, the figure 479,097 for the age interval 20-25 is the total number of years lived between the 20th and 25th birthdays by the 96,111 who reached the 20th birthday out of 100,000 babies born alive. This value added to the corresponding values for all subsequent intervals represents the total number of years lived after attaining age 20 by the 96,111 reaching that age. This total number of years divided by the number of persons reaching the starting age of 20 gives a quotient of 52.58 years, which is the average remaining lifetime at age 20.

Care must be exercised in drawing conclusions from this figure. Thus, in observing that the average remaining lifetime of white persons is greater than that of nonwhites, one should not conclude that the oldest ages reached by white persons necessarily exceed those attained by the longest-living nonwhites. The difference in the average length of life results from the fact that a greater proportion of nonwhite persons die before reaching old age. For example, the number surviving to age 65 out of 100,000 born alive is far greater among whites than among nonwhites; yet the average length of life remaining at age 65 is nearly the same for both groups.

Interpretations similar to those indicated above are also applicable to the columns of tables 3-16. However, in their case, a specified cause of death is being eliminated, i.e., in the preparation of the table it was assumed that deaths from the specified causes were impossible. In the text of this report, particularly in the section on methodology, we will employ a superscript (-i) to denote life table functions based on the elimination of the

*i* th cause of death. For example,  $\binom{(-i)}{x}$  will denote the number of persons surviving to age x in the life table that eliminates the *i*th cause of death. In the actual tables the superscripts are

not used, because there is no possibility of ambiguity. For example, in table 4 the  $_{\rm n}q_{\rm x}$  value of 0.00827 for white males at age 20-25 represents the probability that a white male of exact age 20 will die before his 25th birthday if it is assumed that it was impossible to die from any of the infective and parasitic diseases. This compares with the corresponding value of .00836 in table 2, where all causes of death are assumed to be operative.

As a further example, let us determine the probability that a white male of exact age 15 will survive to age 45 (i) if all causes of death are operative, and (ii) if deaths from motor vehicle accidents are eliminated. On the first assumption, we take  $\ell_{45} \div \ell_{15}$  for white males in table 2, which gives  $90,533 \div 96,503 = .93814$ . On the second assumption, we take  $\ell_{45} \div \ell_{15}$ for white males in table 15, which gives  $91.871 \div 96.651 =$ .95054. It is possibly more instructive to compare the complementary probabilities, obtained by subtracting these results from 1, that is, the probabilities that a white male of exact age 15 will not survive to age 45. This is .06186 if all causes of death are operating, but is reduced to .04946 if deaths from motor vehicle accidents are eliminated.

The expectation of life of white females, as shown in table 2, is 74.19 years at birth and 28.08 years at age 50. However, table 6 shows that elimination of malignant neoplasm as a cause of death increases these values to 76.62 years at birth and 30.00 years at age 50. The gain in expectation of life due to the elimination of a specific cause (in the example cited 2.43 years at birth and 1.92 years at age 50) is thought to be of sufficient interest so that a separate set of tables (tables 27-31) are devoted to it.

The elimination of a specified cause of death in these tables should not be interpreted to imply the elimination of the corresponding disease or morbid condition. These diseases and conditions, are in effect, assumed to continue as is also done in the case of tables for all the causes combined. It is only the death from the specified cause that is assumed not to occur. Thus, if tuberculosis were the eliminated cause, the table eliminating it would assume that tuberculosis as a disease would continue at the level prevailing in the 1959-61 period.

However, every person who would otherwise die from tuberculosis is, for the purposes of the life table calculations, assumed to return to a "normal (usual) state of health" as of the moment in which he would have died. Any interactions between diseases in accelerating the death of a person are implicitly assumed to continue intact, including those pertaining to the eliminated cause.

It could be argued that if calculations were prepared under the assumption that the specified diseases or conditions themselves were eliminated, the resulting mortality rates would then be lower than those in these tables, since under that assumption the specified disease or condition could not contribute toward earlier deaths from the other causes.

It should be carefully noted that the tables published in this report do not provide any guidance as regards the mortality among persons known to have a given disease or morbid condition, e.g., mortality among persons with malignant neoplasms. Such information could be derived only from special studies of such groups of persons.

#### Life Table Deaths From Specified Causes

An abridged life table for all causes combined usually includes an nd, column, giving the number of deaths between exact ages x and x + n. These are generally referred to as "life table deaths" because they represent the number of deaths that would be recorded between the two exact ages if the mortality of the life table were applicable to the survivors indicated by the life table. The numbers of life table deaths are different from the numbers of deaths observed in the population. In essence, they show the number of deaths that should be expected to occur between the two exact ages from the initial group to 100,000 persons alive at birth that is assumed in the life table. They could be viewed as the expected distribution by age at death of the initial 100,000 persons.

For the purposes of this report, it would be of interest to have not only the distribution by age at death of the initial group, but also the distribution by cause of death. This information is presented in tables 17-21 for the 5 color-sex com-

	Total	White	White	Nonwhite	Nonwhite
Cause of death			female	male	female
00000 01 00000	population	male	remare	шате	Temare
	0.01060	0 01125	0.00630	0.02760	0.01604
1 - Infective and parasitic diseases, total(001-138)	0.01043	0.01135	0.00630	0.02748	
2 - Tuberculosis, all forms(001-019)	.00568	.00679	.00270	.01621	.00793
2 - Tuberculosis, all forms(001-019) 3 - Syphilis and its sequelae(020-029)	.00162	.00170	.00076	.00600	.00320
4 - All other infective and parasitic diseases (030-138)	.00313	。00286	.00284	•00527	.00491
5 - Malignant neoplasms, including neoplasms of					
lymphatic and hematopoietic tissues(140-205)	•15154	15256ء	•15457	.13128	.12375
6 - Malignant neoplasm of digestive organs and				1	1
peritoneum, not specified as					
econdary(150-1564 157-159)	.05434	.05380	.05660	.05111	.04123
secondary(150-156A,157-159) 7 - Malignant neoplasm of respiratory system,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			•	•
not specified as secondary(160-164)	.02145	.03507	.00710	.02717	.00557
8 - Malignant neoplasm of breast(170)	.01295	.00023	.02837	.00025	.01907
6 - Malignant neoplasm of breast-		.01780	.02576	.02215	.03208
9 - Malignant neoplasm of genital organs(171-179)	.02259				.00414
10 - Malignant neoplasm of urinary organs(180,181)	.00759	•00958	•00583	.00549	
10 - Malignant neoplasm of urinary organs(180,181) 11 - Leukemia and aleukemia(204) 12 - Other malignant	.00641	.00733	.00607	.00375	.00314
neoplasms(140-148,156B,165,190-203,205)	.02621	.02875	.02485	.02135	.01854
13 - Diabetes mellitus(260)	01746ء	.01267	.02261	.01258	.02707
13 - Diabetes mellitus(260) 14 - Major cardiovascular-renal		1			
disasses(330_334_400_468_592_594)	.61075	.59370	.64469	.52072	.61152
15 - Vascular lesions affecting central nervous system(330-334) 16 - Diseases of heart(400-402,410-443)			_		l
(330-334)	.13258	.10676	.15886	.12611	.17546
16 Disease of heart(400-402 410-443)	42252	43807	.42368	.33723	.37076
17 - Rheumatic fever and chronic rheumatic heart	• 42232	•45007	• 12000		1
disease(400-402,410-416)	.00921	.00842	.01076	.00624	.00710
disease in the second state of the leading	.00921	•00042	.01070	.00024	.00710
18 - Arteriosclerotic heart disease, including	0100/	25162	20705	.20221	.19591
coronary disease(420)	.31304	.35162			
19 - Hypertensive heart disease(440-443)	.04340	.02872	.05167	.06874	.09981
20 - Other forms of diseases of heart(421-434)	•05688	.04931	.06421	.06004	.06793
21 - Other hypertensive disease(444-447)	.00839	.00668	.00899	.01322	.01462
21 - Other hypertensive disease(444-447) 22 - General arteriosclerosis(450)	02855	.02298	.03668	.01887	.02499
23 - Other diseases of circulatory system(451-468)	.01167	.01301	.01015	.01129	.01093
24 Chronia and unencoified membritis and other		!			1
renal sclerosis(592-594)	.00704	.00620	.00631	.01399	.01477
25 - Influenza and pneumonia, except pneumonia of				1	1
newhorn(480-493)	.03454	.03240	.03391	.04761	.03980
renal sclerosis(592-594)  25 - Influenza and pneumonia, except pneumonia of newborn(480-493)  26 - Ulcer of stomach and duodenum(540-541)	00652	.00904	.00403	.00618	.00262
27 - Gastritis, duodenitis, enteritis, and colitis,		` '		•	
27 distribution of northern	.00365	.00301	.00400	.00448	.00456
except diarrhea of newborn(543,571,572) 28 - Cirrhosis of liver(581)	.00995	01284	.00703	.01032	.00699
28 - Cirrhosis of liver(301)	.00333	•01204	.00703	.01032	•••••
29 - Deliveries and complications of pregnancy,	00001	00000	00005	00000	.00429
childbirth, and the puerperium(640-089)	.00064		.00085	.00000	
childbirth, and the puerperium(640-689)  30 - Congenital malformations(750-759)	.00586	.00637	.00560	.00553	.00461
of a certain diseases of early intancy(700-770)	.01572	.01632	.01192	.02686	.02140
32 - Symptoms, senility, and ill-defined conditions(780-795)	1				
conditions(780-795)	.01120		.00824	.03449	.03625
00 No. 11 1 11 12 (7010 702E)	01667	.02372	.00921	.02495	.00753
34 - A11 other accidents(E800-E802.E840-E962)	.02804	.03053	.02488	.04024	.02336
35 - Suicide(E963, E970-E979)	.00903		.00452	.00600	.00164
36 - Homicide(E964 E980-E985)	.00351		.00114	.02522	.00670
34 - All other accidents(E800-E802, E840-E962) 35 - Suicide(E963, E970-E979) 36 - Homicide(E964, E980-E985) 37 - All other causes, residual	.06457	06955	.05651	07606	.06186
3/ - MIL Other Causes, restudat		1 .00,55			
	<u> </u>	L	·	<del></del>	

binations: total population, white male, white female, nonwhite male, and nonwhite female. In these tables the initial group at age zero was taken as 10,000,000, instead of the usual 100,000. The additional significant digits involved in this change are needed to improve the accuracy in the case of those causes that produce few life table deaths.

To facilitate calculation of some probabilities that may be based on these tables, a column of survivors—"Number living at beginning of age interval"—is also provided. As an example of the computations that are possible, let us assume that we were interested in estimating the probability that a white male, aged 20, will die before reaching his 25th birthday from injuries resulting from

a motor vehicle accident. This can be calculated from table 18 as the ratio of 35,778, the number of life table deaths at ages 20-25 due to motor vehicle accidents, to 9,590,771, the number of persons living at age 20. The probability is .00373, or about 373 deaths per 100,000 persons.

In a similar way, if we wanted the same probability, but for death occurring before the 35th birthday, the numerator in the ratio would be the sum of the life table deaths at ages 20-25, 25-30, and 30-35, or 35,788+21,033+15,637. The denominator in this second example would be the same (9,590,771), since both probabilities relate to a white male aged 20.

It will be observed that the following general formula could be used to calculate the probability that a person aged x will die from the ith cause between ages y and y + s:

$$y-x|sq_x^i = sd_y^i/\ell_x$$
,

where  $\ell_x$  is the number of persons living at age x and  $_sd_y^i$  is the number of life table deaths from the *i*th cause occurring between ages y and y + s.

One special case of the above formula, which is frequently calculated, is the probability that a person aged x will eventually die from the ith cause. This probability is obtained by allowing y = x in the previous formula and at the same time letting s approach infinity. Calculations for this special case have already been made and are shown in tables 22-26 for the 5 color-sex combinations: total population, white male, white female, nonwhite male, and nonwhite female.

It will be observed from table 24 that the probability that a white female aged 20 will die from an infective or parasitic disease is .00577, while the probability that she will die from major cardiovascular-renal diseases is .66308.

A comparison is made in table A of the probabilities at birth of eventually dying from various causes. It can be observed that according to this criterion, major cardiovascular-renal diseases are the principal cause of death, while malignant neoplasm is the second most important cause. Care should be exercised in drawing conclusions from comparison of these probabilities by sex or

color. It is possible for two groups of persons to experience identical death rates for one specific cause and yet have different probabilities of eventually dying from that cause. These probabilities depend to a significant extent on the mortality level from the nonspecified causes. It can be concluded that these probabilities are an acceptable measure of the importance of each cause of death within a single group of persons, but that they provide only a general guide with respect to comparison between groups of persons.

The previous observation applies also to comparisons of the same group of persons at different periods in time. Also, it should be noted in drawing conclusions from comparisons for different periods in time that the definitions of causes of death, as well as their interpretation by individual physicians, may change with the passage of time.

A comparison is made in table B for three different time-periods of the probability at birth of dying from various specified causes. The values shown in the table were calculated at the time of the preparation of the corresponding decennial life tables for the United States, but virtually the same methods were used in the calculation in all three periods.

The increasing importance of the major cardiovascular-renal diseases as a cause of death can be observed from the table. The rapid decrease in importance of tuberculosis can also be observed. However, it can be noted that the relative differentials by color or by sex have been increasing with respect to tuberculosis. In a similar way, we can observe a rapid decrease in the probability of death from delivery, pregnancy and puerperium, but this is accompanied by a widening of the relative differential by color.

#### Gain in Expectation of Life

Another measure of the importance of the various causes of death is the gain in expectation of life that could be attained if a specified cause of death were eliminated. As discussed on page 4, the assumption made in the calculations is that a specified cause of death is eliminated. However, this should not be interpreted to mean that the corresponding disease or condition is eliminated. The condition or disease is assumed to continue

Table B. Probability at birth of eventually dying from specified causes: United States, 1939-41, 1949-51, 1959-61

		White		•	Nonwhite	
Cause of death	1939-41	1949-51	1959-61	1939-41	1949-51	1959-61
			Mal	es		
Tuberculosis, all forms————————————————————————————————————	0.03126 .03411 .10780 .01847 .51.016 (1) .02402 .02836 .04485	.02487 .03877	0.00679 .00456 .15256 .01267 .59370 .03240 .01632 .02372 .03053 .01431	0.07574 .08501 .04716 .00833 .41,031 (1) .031,03 .02362 .04226 .00395		0.01621 .01127 .13128 .01258 .52072 .04761 .02686 .02495 .04024 .00600
•			Fema	les		
Tuberculosis, all forms	0.02117 .02857 .13542 .03693 .53174 (1) .00627 .01808 .00974 .03937 .00524	0.00961 (1) .15452 .02427 .61932 .03041 .00178 (1) .00868 .03485 (1)	0.00270 .00360 .15457 ,02261 .64469 .03391 .00085 .01192 .00921 .02488 .00452	0.06258 .06613 .07573 .02000 .46176 (1) .01499 .02489 .00619 .02194	0.03342 (1) .10757 .01916 .57901 .04403 .00757 (1) .00725 .02452 (1)	0.00793 .00811 .12375 .02707 .61152 .0398 .00429 .02140 .00753 .02336 .00164

<sup>1</sup>Not available.

at the same level that prevailed during the particular period of observation. What is assumed in the calculations is that deaths from the specified cause are not possible and are therefore disregarded.

The gain in expectation of life at age x due to the elimination of the ith cause of death is defined as the number of additional years that a person aged x should expect to live on the average, if the ith cause of death were eliminated. In essence, the gain in expectation of life represents the excess in life expectancy if the ith cause is eliminated over the life expectancy if no cause is eliminated. Specifically, the values of gain in expectation of life shown in tables 27-31 are calculated as the excess of the life expectancy values in tables 3-16 over the corresponding values in tables 1 and 2. For example, according to table 28 a white male aged 50 should expect to add 6.41 years to his life expectancy if diseases of the heart were eliminated as a cause of death. This value is the difference between the life expectancy at age 50 indicated in table 2 for white males, 23.22 years, and the corresponding life expectancy indicated in table 12 for the elimination of diseases of the heart, 29.63 years.

In table C, the gains in expectation of life at birth are shown for all the causes on which calculations were made. It will be observed that the gains are not additive, that is, that the sum of the gains from two or more causes is not equal to the gain from the combination of those causes. For example, the gain in expectation due to the elimination of "malignant neoplasm" is greater than the sum of the gains due to the elimination of each type of malignant neoplasm as shown in the table. The same observation can be made with respect to "major cardiovascular-renal" diseases, as well as with respect to "diseases of heart." These differences are due to the compounding effect of the elimination of causes of death. If two causes were being eliminated jointly, we could, if we wanted

Table C. Gain in expectation of life at birth due to elimination of specified causes of death: United States, 1959-61

	Total	Libito	TTL-5 to	Mounth 4 to	N
Cause of death	Total	White	White	Nonwhite	Nonwhite
	population	male	female	male	female
1 - Infective and parasitic diseases, total(001-138)	.22	.20	.14	.56	.41
2 - Tuberculosis, all forms(001-019) 3 - Syphilis and its sequelae(020-029)	.10	.10	.05	.29	.19
3 - Syphilis and its sequelae(020-029)	.02	.02	.01	.09	.05
4 - All other infective and parasitic diseases(030-138)	.10	.08	.08	.17	17
5 - Malignant neoplasms, including neoplasms of				1	)
lymphatic and hematopoietic tissues(140-205)	2.27	2.12	2,43	1.98	2.18
6 - Malignant neoplasm of digestive organs and peri-		T I			İ
toneum, not specified as secondary(150-156A,157-159)	.66	.63	.68	.70	.59
7 - Malignant neoplasm of respiratory system,					
not specified as secondary(160-164) 8 - Malignant neoplasm of breast(170)	.32	.49	.11	.42	.09
8 - Malignant neoplasm of breast(170)	.20	.00	.47	.00	.34
9 - Malignant neoplasm of genital organs(171-179)	.30	.16	.44		.59
10 - Malignant neoplasm of urinary organs(180,181) 11 - Leukemia and aleukemia(204)	.09	•11	.07	.08	- 06
11 - Leukemia and aleukemia(204)	.13	.14	.12	.08	.07
12 - Other malignant	,,	, ,	/0	0.0	
neopiasms(140-148,1568,165,190-203,205)	•44	•47	.42	.36	.33
neoplasms(140-148,156B,165,190-203,205) 13 - Diabetes mellitus(260) 14 - Major cardiovascular-renal	.22	.15	.27	.18	.42
diseases(330-334,400-468,592-594)	10.00	1000	10 /7	40 //	10.50
15 Vacciler locione offertine control name (1972-394)	10.90	10.85	10.47	10.44	12.53
15 - Vascular lesions affecting central nervous system(330-334) 16 - Diseases of heart(400-402,410-443)	1 00	00	1 (2	7.00	0.01
16 Diagram of booms (400 402 410 442)	1.29	.99	1.43	1.60	2.34
17 - Discases of Real Lands and change where the beautiful force and the beautiful	5.89	6.51	5.04	5,40	5.78
17 - Rheumatic fever and chronic rheumatic heart disease(400-402,410-416)	10	1 72	01	٠,,	
18 - Arteriosclerotic heart disease, including	.18	.16	.21	.13	.17
coronary disease(420)	3.98	4.88	3.13	2.82	2.54
19 - Hypertensive heart disease(440-443)	.43	27	.45		
20 - Other forms of diseases of heart(421-434)	.52	45	.50	.90 .74	1.35
21 - Other hypertensive disease(444-447)	02	.06	.08	.20	.80
22 - General arteriosclerosis(450)	.18	.15	.21	.15	.22
23 - Other diseases of circulatory system(451-468)	15	.15	.12		.19
24 - Chronic and unspecified nephritis and other renal	ا د د ۰	1 .17	•14	,16	.18
501 orogin - (500 50/)	.10	.09	.08	.20	.22
25 - Influenza and pneumonia, except pneumonia of	•==	••/	•00	,20	• 44
25 - Influenza and pneumonia, except pneumonia of newborn(480-493)	.53	.46	.42	1.05	.90
26 - Ulcer of stomach and duodenum(540-541)	.09	111	.05	.10	.04
27 - Gastritis, duodenitis, enteritis, and colitis,		•	•05		*04
except diarrhea of newborn(543, 571, 572)	.09	.07	.07	.18	.17
except diarrhea of newborn(543,571,572) 28 - Cirrhosis of liver(581)	. 19	.22	.15	.22	.18
29 - Deliveries and complications of pregnancy,	•		•	• 22	*10
childbirth, and the puerperium(640-689)	.03	.00	.04	.00	.18
30 - Congenital malformations(750-759)	.36	.37	.36	.30	.27
childbirth, and the puerperium(640-689) 30 - Congenital malformations(750-759) 31 - Certain diseases of early infancy(760-776)	1.12	1.12	.90	1.70	1.45
32 - Symptoms, senility, and ill-defined			• • • • • • • • • • • • • • • • • • • •		2,43
32 - Symptoms, senility, and ill-defined conditions(780-795)	.18	.13	.10	.58	.56
33 - Motor webiala aggidanta /E010 E035)		78	.30	.75	.25
34 - All other accidents(E800-E802.E840-E962)	.62		.35	1.18	.59
35 - Suicide(E963, E970-E979)	.22	.31	.12	.15	.05
36 - Homicide(E964.E980-E985)	13	.09	.04	.80	.24
34 - All other accidents(E800-E802, E840-E962) 35 - Suicide(E963, E970-E979) 36 - Homicide(E964, E980-E985) 37 - All other causes, residual	1.07	1.06	.91	1.50	1.38
·					

to perform separate calculations, compute first the gain with respect to one of the causes and then calculate the additional gain with respect to the second cause. However, in the calculations with respect to the additional gain from the second cause, it would be appropriate to assume that the first cause was already eliminated. This necessary assumption of prior elimination of the first cause increases the numerical value of the additional gain with respect to the second cause. As an extreme example of this effect, we have that,

if we assume all causes of death are eliminated at the same time, people would become immortal and, therefore, the gain in life expectation would tend to infinity. However, it will be observed from the table, that the sum of the gains from the individual causes would yield a relatively low total gain.

It will be noted from table C that future increases in life expectancy at birth will have to come mainly from reduction in the death rates from malignant neoplasms or from some of the

cardiovascular-renal diseases, especially from arteriosclerotic heart. Another important possible source of increase in life expectancy could come from reduction in the death rate for diseases of early infancy.

#### Methodology

The methods used to calculate the values presented in this report are very closely related to those used in the construction of the 1959-61 life tables for all causes combined, and made use of data already available from the national tables, together with additional data on deaths classified by cause of death. All the values published in this report conform to the results of the national tables and embody the adjustments and procedures used in the preparation of those tables. No further adjustment was made in the data in connection with the calculations for the present report. The data on deaths by cause were used as recorded for the 3-year period 1959-61. The adjustments made in the national tables involved a redistribution of the nonwhite population at ages. 55-64, replacement of mortality rates at ages over 94 based on actual relevant data by those of the Union Civil War Veteran experience, and blending of the mortality rates at ages 85-94 based on actual data with those of the Union Civil War Veteran experience in order to secure a smooth transition between the mortality rates obtained from these two distinct sources.

The methodology of the 1959-61 life tables has been described in another report of this series. (See reference 1. Vol. 1-4). Only certain details that directly concern the calculation of life table values by cause of death will be referred to here.

The additional calculations required for the tables contained in this report divide themselves naturally into two parts: (i) subdivision of the life table deaths  $_{n}d_{x}$  into the various components  $_{n}d_{x}^{\dagger}$  pertaining to various causes of death, shown in the multiple-decrement tables of life table deaths (tables 17-21), and (ii) calculation of the life tables eliminating specified causes of death (tables 3-16). These two phases of the calculations will be discussed separately.

#### Number of Life Table Deaths by Causes

The numbers  ${}_{n}d_{x}^{i}$  of life table deaths for different causes were calculated using the approximation,

$$_{n}d_{x}^{i}=_{n}r_{x}^{i}_{n}d_{x},$$

where  $_n r_x^i$  is the proportion of the deaths recorded in the population during the 3-year period 1959-61 in the age inteval x to x+n attributable to the *i*th cause of death,  $_n d_x$  is the number of deaths in the same age interval in the corresponding national life table, and  $_n d_x^i$  is the desired estimate of the number of life table deaths between ages x and x+n due to the *i*th cause.

This formula was applied by fractions of a year for the first year of life (same intervals as those shown in the published national life tables), by single years of age for ages 1 to 5, and by 5-year age intervals for ages 5 to 135. Since the data on observed deaths by cause for ages 100 and over were not subdivided by age, the proportion of deaths due to the *i*th cause for the entire age group 100 years and over was used for every 5-year age interval beyond age 99.

The calculated  ${}_{n}d_{x}^{i}$  values for ages under 1 year were combined into a single value for the age interval 0-1 year. A similar combination of values derived by the above formula was made to obtain the values shown in the tables for the age intervals 1-4 years and 100 years and over.

The probability that an individual aged  $\, x \,$  will eventually die from the  $\, i \,$  th  $\,$  cause was calculated by the formula

$$_{\infty}q_{x}^{i} = \ell_{x}^{i}/\ell_{x}$$
,

where  $\ell_x$  denotes the number of survivors to age x in the life table for all causes of death combined, and  $\ell_x^i$  is the aggregate number of lifetable deaths due to the ith cause at all ages x and over, or, in other words, the sum of the  ${}_n d_x^i$  values for all age intervals between age x and the limiting age of the life table.

Table D. Beers interpolation coefficients for performing interpolation of grouped data by 5-year intervals,  $_5U_{\rm x}$ , to obtain values at unit intervals,  $_5U_{\rm x}$  ("minimized fifth-difference formula")

Unit- interval value required	Coefficient to be applied to the 5-year interval value ${}_5U_{\rm x}$								
	5 <sup>U</sup> x - 10	<sub>5</sub> U <sub>x-5</sub>	<sub>5</sub> <i>U</i> . <sub>x</sub>	<sub>5</sub> U <sub>x+5</sub>	<sub>5</sub> U <sub>*+10</sub>				
U <sub>x</sub> U <sub>x+1</sub> U <sub>x+2</sub> U <sub>x+3</sub> U <sub>x</sub> +4	0117 0020 .0050 .0060 .0027	.0804 .0160 0280 0400 0284	.1570 .2200 .2460 .2200 .1570	0284 0400 0280 .0160 .0804	.0027 .0060 .0050 0020 0017				

 $^{a}$  The Record, American Institute of Actuaries, Vol.  $\overline{34}$  (1945), p. 60.

It may be noted that, since the  $_n d_x^i$  values represent a distribution of the  $_n d_x$  deaths by cause, the  $\ell_x^i$  values represent a distribution of the  $\ell_x$  survivors according to the causes of their (future) deaths.

As will be explained later, the methods used in the calculation of the life tables eliminating certain causes of death require as input  $d_x^i$  values (by single years of age) for ages 1 to 84. Conceivably some users of this report might also desire such single-year values for their own purposes. For ages under 5, such single-year estimates were already available as a result of the computational steps described in the foregoing paragraphs. For ages 5-84, they were developed by means of interpolation coefficients due to H.S. Beers, 2 which were also used for the same purpose in the construction of the life tables for all causes combined. This approximation is wholly consistent with the procedures used in the preparation of the life tables for all causes combined, with minor exceptions at ages 75-84. Because of the "linearity" of the Beers procedure, the sum by cause of the interpolated values  $d_x^i$  for any given age x is equal to the value  $d_x$  for all causes combined, that was obtained in the preparation of the national life tables by performing a corresponding interpolation upon the 5-year totals  $_{5}d_{x}$  for all causes combined.

In order to obtain a smoother junction in the neighborhood of age 5, a special (fictitious) num-

ber of deaths from each cause for the age interval 0-5 was computed as follows:

$$\frac{d_{0}^{1*} = \frac{d_{4}^{1} - .1508 \cdot d_{5}^{1} + .0158 \cdot d_{10}^{1} + .0284 \cdot d_{15}^{1} - .0115 \cdot d_{20}^{1}}{.0819}$$

This formula was derived by using the Beers special coefficients for the first interval, assuming that the previously computed  $d_4^i$  is to be reproduced. The special value  $_5d_0^{i*}$  was used to interpolate by single years of age from 5-9 by means of the Beers special coefficients for the second interval, and again to interpolate from age 10 to 14 by means of the regular Beers coefficients shown in table D of this report.

At ages 75-84, summation by cause of death of the interpolated  $d_x^i$  values obtained by the use of table D, shown above (and used in the calculation of life tables eliminating specific causes of death) will not, in general, exactly reproduce the corresponding  $d_{x}$  values in the national life tables for all causes combined. This is because the values of  $_5d_{85}$  and  $_5d_{90}$  used as input to the interpolation process in the preparation of the national life tables were not the values finally adopted, but were derived by the use of values of  $_{5}q_{90}$  based entirely on actual rele-5 q 85 vant data. Blending of the single-year mortality rates derived in this way with those of the Union Civil War Veteran experience was done after the application of the Beers interpolation process.

For the reasons mentioned, use of the coefficients in table D (shown on page 10) will produce interpolated values  $d_{\mathbf{x}}^{i}$  wholly consistent with

<sup>&</sup>lt;sup>a</sup>Table D of this report and table 4 of report No. 4 of this series are based on a somewhat different arrangement of the computations. The latter table gives coefficients to be applied to values of  $\ell_x$  at 5-year intervals to obtain interpolated values of  $\ell_x$  by single years, and the special adjustment affecting ages 5-14 involved calculation of a special (fictitious)  $\ell_0^*$  value. However, the two sets of procedures are completely equivalent, and the resulting values wholly consistent with one another.

the  $d_{\rm x}$  values of the national life tables for all causes combined only at ages 15-74. At ages 5-14 fairly extensive additional calculations would be necessary (for reasons already explained), while at ages 75-84 there will be small inconsistencies in the values for single years of age. (The 5-year totals are of course consistent.)

### Life Tables Eliminating Specified Causes of Death

The only part of the calculation of life tables eliminating specified causes of death that involves appreciable difficulty is the determination of approximate values of the probability of dying  $_{n}q_{x}^{(-i)}$ , given the values,  $_{n}d_{x}^{i}$ , of life-table deaths due to the *i*th cause. Once these probabilities of dying are available, the calculation of the remaining life-table functions is relatively straightforward.

For the tables in this report, these probabilities (or their complements) were calculated by fractions of a year for the first year of life (same intervals as those shown in the published national life tables), by 1-year age intervals up to age 85, and by 5-year age intervals at ages 85 and over. The formulas used in the respective cases were equivalent to the following:

(1) 
$$t_{\mathbf{q}_{\mathbf{x}}}^{(-i)} = \frac{t_{\mathbf{q}_{\mathbf{x}}} - t_{\mathbf{q}_{\mathbf{x}}}^{i}}{1 - \frac{1}{2} t_{\mathbf{q}_{\mathbf{x}}}^{i}}$$

(2) 
$$_{5}q_{x}^{(-i)} = _{5}q_{x}^{-i} \frac{1 - \frac{1}{2} _{5}q_{x}^{i}}{1 - _{5}q_{x}^{i}}$$
.

Here  $_{n}q_{x}^{i} = _{n}d_{x}/\ell_{x}^{i}$  is the probability, in the life table for all causes of death combined, that an individual aged exactly x will die before age x + n from the *i*th cause of death. Similarly,  $_{n}q_{x}^{-i}$  is the probability that the same individual will die before age x + n from any cause of death except the *i*th cause.

The justification of these two approximate formulas is somewhat technical and will be post-poned until after the remaining steps in the calculations have been described.

In the actual performance of the work on the computer, formulas (1) and (2) were not used in

exactly the form shown. Rather, probabilities of survival were calculated by fractions of a year for the first year of life and by 1-year-of-age intervals up to age 85 using the formula

$$t_{t}p_{x}^{(-i)} = \frac{\ell_{x+t} + \frac{1}{2} t_{x}^{d_{x}^{i}}}{\ell_{x} - \frac{1}{2} t_{x}^{d_{x}^{i}}}.$$

The number of survivors at each age up to 85 in the life table eliminating the *i*th cause of death was then obtained by successive application of the formula

$$\ell_{x}^{(-1)} = p_{x-1}^{(-1)} \ell_{x-1}^{(-1)}$$

starting with radix  $1_o = 100,000$ .

The 5-year probabilities of death  $_{5}q_{x}^{(-1)}$  actually shown in tables 3-16 were then calculated by the formula<sup>b</sup>

$${}_{5}q_{x}^{(-i)} = \frac{{}^{\binom{(-i)}{x}} - {}^{\binom{(-i)}{x+5}}}{{}^{\binom{(-i)}{x}}}.$$

This formula represents the probability that a person aged x will die within 5 years if the *i*th cause of death is eliminated. It should not be confused with the probability (in the life table for all causes combined) that a person aged x will die within 5 years from any cause except the *i*th cause of death, which may be written as

$$_{5}q_{x}^{-i} = \frac{\ell_{x} - \ell_{x+5} - _{5}d_{x}^{i}}{\ell_{x}}.$$

In general, the latter probability should be slightly less than the former, that is,

$$_{n}q_{x}^{(-i)} \geq _{n}q_{x}^{-i}$$
.

 $<sup>^{</sup>m b}$ For the age intervals 0-1 and 1-5 analogous formulae were used.

CIt can be shown mathematically (e.g., expressing both probabilities as integrals involving the force of mortality) that in theory this inequality must always hold. However, it might, in some instances, fail to hold in numerical calculations, because of the approximations introduced.

For ages under 85, number of persons living in the stationary population was estimated from the data on survivors by single years of age by the usual approximation

$$L_{x}^{(-i)} = \frac{1}{2} \left( \ell_{x}^{(-i)} + \ell_{x+1}^{(-i)} \right)$$

Corresponding formulas for shorter age intervals were used for ages under 1 year. The resulting values were later summed over the appropriate age intervals to obtain the values of  $_{n}L_{x}^{(-i)}$  actually shown in tables 3-16.

The number of survivors,  $\ell_{x}^{(-i)}$ , at quinquennial ages from 90 to 135 was obtained by repeated application of the formula

$$\ell_{x}^{(-i)} = \ell_{x-5}^{(-i)} \left(1 - 5q_{x-5}^{(-i)}\right)$$
.

The number of persons living in the stationary population between pairs of consecutive quinquennial ages from 85 to 135 was calculated by the approximate formula

$$_{5}L_{x}^{(-i)} = (5 - _{5}f_{x}) \ell_{x}^{(-i)} + _{5}f_{x} \ell_{x+5}^{(-i)}$$

where the quantities  $_{5}f_{x}$  were obtained from the life table for all causes combined as

$$_{5}f_{x} = \frac{5\ell_{x} - _{5}L_{x}}{\ell_{x} - \ell_{x+5}} .$$

The sole additional assumption made in deriving this approximation is that the average number of years lived by those who die within the age interval concerned is the same in the life table eliminating the ith cause of death as in the life table for all causes combined. In fact,  $5-{}_{5}f_{x}$  is the average number of years referred to.

Finally, the expectation of life at age x in the life table eliminating the ith cause of death was obtained by the formula

$$\hat{e}_{x}^{(-i)} = \frac{T_{x}^{(-i)}}{\ell_{x}^{(-i)}},$$

where  $T_x^{(-i)}$  denotes the sum of the values of  $_n L_x^{(-i)}$  for all age intervals beyond age x to the end of the life table.

The gain in expectation of life due to the elimination of a specified cause of death was taken as the difference between the expectation in the life table eliminating this cause of death and the expectation at the same age in the life table for all causes of death combined. If we denote the gain due to the elimination of the *i*th cause by

$$g_{x}^{(-i)} = g_{x}^{(-i)} - g_{x}^{0}$$

It should be pointed out that the accuracy of the estimated gain in expectation decreases as the gain itself increases. For example, the estimated gain from elimination of tuberculosis or of motor vehicle accidents should be regarded as having a high degree of accuracy. However, the estimated gain from the elimination of malignant neoplasms or of major cardiovascular-renal diseases (especially the latter) should be regarded as less accurate.

This difference in the degree of accuracy is due principally to two factors. In general, the accuracy of the approximations used in the calculations varies with the postulated change in the death rates. The larger the assumed change, the smaller the accuracy of the approximations. In addition, most of the large gains in expectation of life are possible at the present time only at the older ages, and as will be observed from the methodology described in this report and in the report on methodology for the life tables for all causes combined, the accuracy of the death rates and of the approximations used is less for the older ages than for the younger ages.

## DISCUSSION OF THE APPROXIMATE FORMULAS FOR PROBABILITIES OF DYING WHEN A SPECIFIED CAUSE OF DEATH IS ELIMINATED

If it is assumed that throughout a given age interval x to x+n the force of mortality due to the *i*th cause of death bears a constant ratio to the force of mortality from all causes combined, it can be shown<sup>3</sup> that the probability of dying in the life table eliminating the *i*th cause of death is given by

$$q^{(-i)} = 1 - (1-q)^{q^{-i/q}}$$

where we have simplified the notation by omitting the subscripts n and x. While this may be regarded as an exact formula (on the assumption stated), it is not convenient for numerical computations, because logarithms would have to be used to calculate the exponential expression on the right-hand side.

Expanding the expression referred to by the binomial theorem, making certain algebraic simplifications, and neglecting, within the square brackets, terms of the third and higher degree (in q and  $q^{\dagger}$  together) gives the approximate formula

(3) 
$$q^{(-i)} = q^{-i} \left[1 + \frac{1}{2}q^{i} + \frac{1}{6}q^{i}(q + q^{i})\right]$$

This formula conceivably might have been used to calculate the  ${}_{n}q_{x}^{(-i)}$  values. However, certain theoretical discussions of probabilities involved in multiple decrement tables  ${}^{4}$  suggest an approximation of the general form

(4) 
$$q^{(-i)} = q^{-i} \frac{1 + a q^{i}}{1 + b q^{i}},$$

where a and b are constants whose values are to be determined.

If the right-hand side is written as

$$a^{-i} (1 + a a^{i}) (1 + b a^{i})^{-1}$$

and if we expand the last factor by the binomial theorem, and neglect terms of degree higher than the second in the product of this expansion with  $1 + a q^i$ , we obtain

(5) 
$$q^{(-i)} = q^{-i} [1 + (a-b) q^i - b (a-b) (q^i)^2]$$
.

In order to make (3) and (5) agree up to and including terms of the first degree (in both variables q and  $q^i$ ) within the square brackets, we must take

$$a-b=\frac{1}{2} ,$$

which gives

$$a=b+\frac{1}{2}.$$

Substituting these values in (4) and (5) gives

(6) 
$$q^{(-i)} = q^{-i} \frac{1 + (b + \frac{1}{2}) q^{i}}{1 + b q^{i}},$$

and

(7) 
$$q^{(-i)} = q^{-i} \left[ 1 + \frac{1}{2} q^i - \frac{1}{2} b(q^i)^2 \right]$$
.

For different values of b, formula (6) provides a family of approximations to  $q^{(-i)}$  It will be noted that taking  $b = -\frac{1}{2}$  gives (1), while taking b = -1 gives (2).

For  $t \le 1$  (and x < 85),  $-\frac{1}{2} q^{-1} (q^i)^2$  the coefficient of b in (7) is usually a rather small quantity, and therefore the precise value of b is of less importance. The particular formula (1) can be justified by writing it in the form

$$\ell_{x} t_{x}^{(-i)} = t_{x}^{(-i)} + \frac{1}{2} t_{x}^{(-i)} + \frac{1}{2} t_{x}^{(-i)}$$
.

This relation expresses the fact that, if the *i*th cause of death is eliminated, the deaths occurring between ages x and x+t among  $l_x$  survivors to age x will not be limited to the  $t^d x^{-1}$  who would have died from all other causes in the life table for all causes combined, but must take into account also the additional exposure on the  $t^d x^d x^d$  who do not die from the *i*th cause. Assuming they would have died (in the table for all causes) at the average age  $x+\frac{t}{2}$  gives the above relation.

For t=5 (and  $x \ge 85$ ), the coefficient of b in (7) may not be negligible, and it is reasonable to give some consideration to arriving at an advantageous value of b. It is easily seen that the further condition that must be satisfied in order to have exact equality between (3) and (7) is

$$\frac{1}{6} (q + q^{i}) = -\frac{1}{2} b q^{i} .$$

Since  $q^i = r^i q$ , this condition gives

(8) 
$$b = -\frac{1+r^{i}}{3r^{i}}.$$

Now, if the right member of (3) is multiplied out, the third term is

$$\label{eq:qi} \frac{1}{6}\,q^{\,\mathrm{i}}\,q^{\,-\,\mathrm{i}}(q\,+q^{\,\mathrm{i}}) = \frac{1}{6}\,r^{\,\mathrm{i}}\left[1-\,(r^{\,\mathrm{i}})^2\right]q^3 \ .$$

Clearly this is a small quantity if  $r^i$  is close to 0 or close to 1. Thus the precise value of b is of less importance for such values of  $r^i$ .

Let us examine, therefore, the value of  $r^i$  that is farthest away from the nearer of these two values (i.e., 0 and 1). This, of course, is  $r^i = \frac{1}{2}$ . Substituting this value in (8) gives b = -1, and substituting b = -1 in (6) gives formula (2).

#### References

<sup>1</sup>Other published reports of the National Center for Health Statistics' decennial life table program are as follows: Life Tables: 1959-61, PHS Pub. No. 1252, Vol. 1:

"United States Life Tables: 1959-61," No. 1.

"Actuarial Tables Based on the United States Life Tables: 1959-61," No. 2.

"Life Tables for the Geographic Divisions of the United States: 1959-61," No. 3.

"Methodology of the National, Regional, and State Life Tables for the United States: 1959-61," No. 4.

"Life Tables for Metropolitan and Nonmetropolitan Areas of the United States: 1959-61," No. 5.

State Life Tables: 1959-61, Vol. 2, Nos. 1-51.

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<sup>2</sup>See table 4 of report No. 4 of this series.

<sup>3</sup>T.N.E. Greville, "Mortality Tables Analyzed by Cause of Death," *The Record*, American Institute of Actuaries, Vol. 37 (1948), pp. 283-294.

<sup>4</sup>See reference cited in footnote 3, and also C.W. Jordan, Jr., *Life Contingencies*, The Society of Actuaries, Chicago, 1952, pp. 257-260.

TABLE 1. ABRIDGED LIFE TABLE FOR ALL CAUSES OF DEATH COMBINED FOR THE TOTAL POPULATION: UNITED STATES, 1959-61

	Proportion of	Of 100,000 bo	rn alive	Average number of	
Period of life between two exact ages stated in years	persons alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	
x to x+n	nq <sub>x</sub>	e <sub>×</sub>	nL <sub>x</sub>	e <sub>x</sub>	
0-1	0.02593	100,000	97,815	69.89	
1-5	.00420	97,407	388,649	70.75	
5-10	.00241	96,998	484,361	67.04	
10-15	.00221	96,765	483,342	62.19	
15-20	.00455	96,551	481,747	57.33	
20-25	.00619	96,111	479,097	52.58	
25-30	.00641	95,517	476,075	47.89	
30-35	.00801	94,905	472,710	43.18	
35-40	.01147	94,144	468,200	38.51	
40-45	.01812	93,064	461,407	33.92	
45-50	.02870	91,378	450,813	29.50	
50-55	.04557	88,756	434,265	25.29	
55-60	.06663	84,711	410,223	21.37	
60-65	.10017	79,067	376,487	17.71	
65-70	.14462	71,147	330,985	14.39	
70-75	.20848	60,857	273,484	11.38	
75-80	.30297	48,170	204,984	8.71	
80-85	.44776	33,576	129,532	6.39	
85 and over	1.00000	18,542	84,854	4.58	

TABLE 2. ABRIDGED LIFE TABLES FOR ALL CAUSES OF DEATH COMBINED BY COLOR AND SEX: UNITED STATES, 1959-61

1929-01								
	Proportion of persons Of 100,000 b		born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nqx	e <sub>x</sub>	$_{n}L_{x}$	& <sub>x</sub>	n <sup>q</sup> x	t <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
		WHITE	MALE			WHITE I	FEMALE	
0-1	0.02592	100,000	97,765	67.55	0.01964	100,000	98,319	74.19
1-5	.00404	97,408	388,713	68.34	.00334	98,036	391,363	74.68
5-10	.00265	97,015	484,390	64.61	.00188	97,709	488,042	70.02
10-15	.00264	96,758	483,234	59.78	.00153	97,525	487,270	66.05
15-20	.00617	96,503	481,160	54.93	.00247	97,375	486,309	61.15
20-25	.00836	95,908	477,543	50.25	.00299	97,135	484,964	56.29
25-30	.00741	95,106	473,748	45.65	.00357	96,844	483,389	51.45
30-35	.00860	94,401	470,058	40.98	.00489	96,499	481,379	46.63
35-40	.01241	93,589	465,248	36.31	.00729	96,026	478,503	41.84
40-45	.02050	92,427	457,780	31.73	.01152	95,326	474,086	37.13
45-50	.03434	90,533	445,516	27.34	.01811	94,228	467,165	32.53
50-55	.05674	87,424	425,491	23.22	.02761	92,522	456,580	28.08
55-60	.08462	82,463	395,825	19.45	.04032	89,967	441,358	23.81
60-65	.12785	75,485	354,354	16.01	.06487	86,339	418,613	19.69
65-70	.18240	65,834	299,967	12.97	.10195	80,739	384,376	15.88
70-75	.25300	53,825	235,565	10.29	.16366	72,507	334,507	12.38
75-80	.35352	40,207	165,452	7.92	.26327	60,641	264,897	9.28
80-85	.49738	25,993	96,370	5.89	.41701	44,676	176,637	6.67
85 and over	1.00000	13,065	56,669	4.34	1.00000	26,046	121,403	4.66
		NONWHIT	E MALE			NONWHIT	E FEMALE	
0-1	.04699	100,000	96,254	61.48	.03828	100,000	96,981	66.47
1-5	.00768	95,301	379,375	63.50	.00654	96,172	383,124	68.10
5-10	.00355	94,570	471,946	59.98	.00290	95,543	476,939	64.54
10-15	.00382	94,234	470,367	55.19	.00218	95,265	475,840	59.72
15-20	.00815	93,874	467,664	50.39	.00418	95,057	474,393	54.85
20-25	.01378	93,108	462,492	45.78	.00693	94,660	471,766	50.07
25-30	.01694	91,825	455,349	41.38	.00994	94,005	467,832	45.40
30-35	.02148	90,270	446,697	37.05	.01505	93,070	462,058	40.83
35-40	.02929	88,331	435,539	32.81	.02175	91,670	453,664	36.41
40-45	.04278	85,744	419,981	28.72	.03215	89,676	441,515	32.16
45-50	.05892	82,075	398,944	24.89	.04394	86,793	424,979	28.14
50-55	.08918	77,239	369,786	21.28	.06770	82,979	401,610	24.31
55-60	.12341	70,351	330,735	18.11	.09593	77,362	369,002	20.89
60-65	.16665	61,669	283,273	15.29	.13033	69,941	327,309	17.83
65-70	.22335	51,392	228,407	12.84	.15703	60,825	280,586	15.12
70-75	.27182	39,914	171,857	10.81	.20935	51,274	229,664	12.46
75-80	.31209	29,064	122,182	8.93	.25220	40,540	177,141	10.10
80-85	.41882	19,994	78,359	6.87	.34872	30,315	124,755	7.66
85 and over	1.00000	11,620	58,993	5.08	1.00000	19,744	107,486	5.44

TABLE 3. ABRIDGED LIFE TABLES ELIMINATING SPECIFIED CAUSES OF DEATH FOR THE TOTAL POPULATION: UNITED STATES, 1959-61

ONITED BIAILD, 1999-01								
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	ud <sup>x</sup>	ę*	$_{n}L_{x}$	ê <sub>x</sub>	<sub>n</sub> q <sub>x</sub>	e <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
	INFECT	IVE AND PAF	ASITIC DI	SEASES		TUBERCU	LOSIS	
0-1	0.02559	100,000	97,833	70.11	0.02592	100,000	97,815	69.99
1-5	.00390	97,441	388,855	70.95	.00417	97,408	388,659	70.85
5-10	.00228	97,061	484,710	67.22	.00240	97,002	484,380	67.14
10-15	.00214	96,840	483,733	62.37	.00220	96,769	483,364	62.29
15-20	.00447	96,633	482,173	57.49		96,556	481,773	57.42
20-25	.00606	96,201	479,571	52.74	.00615	96,118	479,136	52.67
25-30	.00623	95,618	476,619	48.05	.00632	95,527	476,144	47.98
30-35	.00777	95,022	473,351	43.33	.00787	94,923	472,833	43.27
35-40	.01115	94,284	468,968	38.65	.01126	94,176	468,405	38.60
40-45	.01769	93,233	462,338	34.06	.01783	93,116	461,726	34.00
45-50	.02811	91,584	451,954	29.62	.02832	91,455	451,275	29.57
50-55	.04475	89,009	435,678	25.40	.04505	88,865	434,912	25.36
55-60	.06553	85,026	411,975	21.47	.06598	84,862	411,089	21.43
60-65	.09885	79,454	378,592	17.79	.09940	79,263	377,573	17.76
65-70	.14306	71,600	333,380	14.45	.14371	71,384	332,255	14.43
70-75	.20671	61,357	276,016	11.43	.20745	61,125	274,853	11.41
75-80	.30117	48,674	207,372	8.74	.30190	48,445	206,297	8.72
80-85	.44602	34,015	131,402	6.41	.44676	33,819	130,573	6.40
85 and over	1.00000	18,843	86,489	4.59	1.00000	18,710	85,762	4.58
		MALIGNANT	NEOPLASMS		MALIGNAN'	r neoplasms	S OF DIGEST	IVE ORGANS
0-1	.02586	100,000	97,818	72.16	.02592	100,000	97,815	70.55
1-5	.00378	97,414	388,752	73.07	.00419	97,408	388,654	71.43
5-10	.00202	97,046	484,704	69.34	.00240	97,000	484,371	67.72
10-15	.00190	96,850	483,842	64.48	.00220	96,767	483,353	62.88
15-20	.00417	96,666	482,412	59.60	.00454	96,554	481,763	58.01
20-25	.00573	96,263	479,961	54.84	.00615	96,116	479,125	53.26
25-30	.00569	95,712	477,208	50.14	.00632	95,524	476,131	48.58
30-35	.00681	95,168	474,280	45.41	.00783	94,920	472,826	43.87
35-40	.00934	94,519	470,523	40.70	.01108	94,177	468,443	39.19
40-45	.01431	93,636	465,058	36.06	.01731	93,133	461,914	34.60
45-50	.02212	92,296	456,740	31.55	.02711	91,521	451,842	30.17
50-55	.03485	90,255	443,882	27.20	.04266	89,040	436,254	25.93
55-60	.05117	87,109	425,063	23.09	.06199	85,241	413,719	21.97
60-65	.07848	82,652	397,940	19.19	.09295	79,957	382,117	18.25
65-70	.11682	76,165	359,654	15.60	.13462	72,525	339,200	14.85
70-75	.17534	67,268	308,077	12.31	.19552	62,762	284,134	11.75
75-80	.26597	55,473	241,641	9.38	.28756	50,491	216,968	8.98
80-85	.40981	40,719	161,657	6.84	.43145	35,972	140,517	6.58
85 and over	1.00000	24,032	117,015	4.87	1.00000	20,452	96,139	4.70

TABLE 3. ABRIDGED LIFE TABLES ELIMINATING SPECIFIED CAUSES OF DEATH FOR THE TOTAL POPULATION: UNITED STATES, 1959-61—Con.

	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	ud <sup>X</sup>	<sup>ę</sup> x	$_{n}L_{x}$	ê <sub>x</sub>	n <sup>q</sup> x	ŧ <sub>x</sub>	$_{_{ m I\!I}}L_{_{ m X\!I}}$	ê <sub>x</sub>
,		DISEASES	OF HEART		I	NFLUENZA AI	ND PNEUMON	IIA
0-1	0.02586	100,000	97,819	75.78	0.02367	100,000	97,919	70.42
1-5	.00415	97,414	388,687	76.79	.00361	97,633	389,705	71.12
5-10	.00236	97,010	484,431	73.10	.00227	97,280	485,804	67.37
10-15	.00214	96,781	483,438	68.27	.00211	97,059	484,834	62.52
15-20	.00441	96,574	481,895	63.41	.00443	96,854	483,287	57.65
20-25 25-30 30-35 35-40 40-45	.00592 .00593 .00697 .00913	96,149 95,580 95,014 94,351 93,490	479,344 476,494 473,470 469,712 464,576	58.68 54.01 49.32 44.65 40.04	.00605 .00624 .00779 .01113 .01766	96,425 95,842 95,244 94,502 93,450	480,694 477,735 474,449 470,054 463,420	52.89 48.20 43.49 38.81 34.21
45-50	.01908	92,270	457,221	35.53	.02804	91,800	453,034	29.78
50-55	.02842	90,509	446,457	31.17	.04463	89,225	436,763	25.56
55-60	.03971	87,937	431,409	27.00	.06531	85,243	413,066	21.63
60-65	.05774	84,445	410,650	23.01	.09813	79,675	379,774	17.96
65-70	.08219	79,570	382,240	19.26	.14149	71,857	334,833	14.63
70-75	.11814	73,030	344,520	15.75	.20347	61,689	277,982	11.61
75-80	.17473	64,402	295,092	12.51	.29486	49,137	210,111	8.92
80-85	.26915	53,149	230,657	9.61	.43483	34,649	134,899	6.59
85 and over	1.00000	38,844	280,067	7.21	1.00000	19,582	93,473	4.77
	co	NGENITAL M	ALFORMATIO	ons	м	OTOR VEHIC	LE ACCIDEN	NTS
0-1	.02232	100,000	98,105	70.25	.02585	100,000	97,818	70.44
1-5	.00371	97,768	390,213	70.85	.00381	97,415	388,754	71.31
5-10	.00220	97,405	486,448	67.10	.00199	97,043	484,698	67.58
10-15	.00205	97,191	485,509	62.25	.00185	96,851	483,829	62.70
15-20	.00440	96,991	483,981	57.37	.00288	96,672	482,707	57.82
20-25	.00607	96,564	481,386	52.61	.00405	96,393	481,025	52.98
25-30	.00631	95,979	478,401	47.92	.00503	96,002	478,852	48.18
30-35	.00792	95,373	475,064	43.20	.00695	95,519	476,033	43.41
35-40	.01137	94,618	470,578	38.53	.01051	94,856	471,968	38.70
40-45	.01800	93,542	463,803	33.94	.01716	93,859	465,570	34.08
45-50	.02857	91,858	453,211	29.51	.02768	92,248	455,340	29.63
50-55	.04544	89,234	436,633	25.30	.04451	89,695	439,099	25.39
55-60	.06649	85,179	412,519	21.38	.06552	85,702	415,264	21.45
60-65	.10004	79,515	378,649	17.72	.09899	80,087	381,587	17.77
65-70	.14451	71,561	332,931	14.39	.14336	72,159	335,931	14.44
70-75	.20838	61,219	275,126	11.39	.20711	61,814	278,008	11.42
75-80	.30288	48,462	206,241	8.71	.30154	49,012	208,764	8.73
80-85	.44768	33,784	130,344	6.39	.44652	34,233	132,200	6.40
85 and over	1.00000	18,660	85,404	4.58	1.00000	18,947	86,844	4.58

TABLE 3. ABRIDGED LIFE TABLES ELIMINATING SPECIFIED CAUSES OF DEATH FOR THE TOTAL POPULATION: UNITED STATES, 1959-61—Con.

UNITED STATES, 1959-61—Con.								
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nqx	e <sub>x</sub>	<sub>n</sub> L <sub>x</sub>	ê <sub>x</sub>	nq <sub>x</sub>	ę <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
	M	ALIGNANT NE RESPIRATOR		F	!	DIABE	ETES	
0-1 1-5 5-10 10-15 15-20	0.02592 .00420 .00240 .00221 .00455	100,000 97,408 96,999 96,765 96,552	97,815 388,650 484,364 483,345 481,752	70.21 71.08 67.37 62.53 57.66	0.02592 .00419 .00239 .00219 .00452	100,000 97,408 97,000 96,767 96,556	97,815 388,652 484,370 483,360 481,777	70.11 70.97 67.26 62.41 57.55
20-25 25-30 30-35 35-40 40-45	.00618 .00638 .00793 .01126 .01760	96,113 95,519 94,910 94,157 93,097	479,106 476,092 472,751 468,306 461,675	52.91 48.22 43.52 38.85 34.26	.00613 .00630 .00787 .01129 .01786	96,119 95,530 94,928 94,180 93,117	479,147 476,163 472,857 468,422 461,726	52.79 48.10 43.39 38.72 34.13
45-50 50-55 55-60 60-65 65-70	.02762 .04353 .06340 .09578 .13964	91,459 88,933 85,062 79,669 72,038	451,430 435,549 412,577 380,222 336,063	29.82 25.59 21.64 17.92 14.54	.02829 .04483 .06534 .09797 .14134	91,454 88,866 84,882 79,336 71,563	451,270 434,955 411,304 378,182 333,500	29.70 25.49 21.56 17.88 14.54
70-75 75-80 80-85 85 and over	.20373 .29926 .44507 1.00000	61,978 49,352 34,582 19,191	279,329 210,548 133,710 88,124	11.48 8.76 6.41 4.59	.20401 .29765 .44259 1.00000	61,449 48,913 34,354 19,149	276,845 208,855 133,072 88,280	11.51 8.80 6.44 4.61
	MAJOR C	ARDIOVASCU	LAR-RENAL	DISEASES	∇.	SIONS AFFE NERVOUS SY	CTING STEM	
0-1 1-5 5-10 10-15 15-20	.02581 .00410 .00231 .00205 .00424	100,000 97,419 97,020 96,796 96,598	97,822 388,719 484,493 483,532 482,047	80.79 81.93 78.26 73.43 68.58	.02589 .00416 .00238 .00217 .00449	97,411 97,006 96,775 96,565	97,817 388,672 484,405 483,401 481,830	71.18 72.06 68.36 63.52 58.65
20-25 25-30 30-35 35-40 40-45	.00563 .00553 .00636 .00819 .01142	96,188 95,646 95,118 94,513 93,740	479,604 476,915 474,126 470,723 466,170	63.86 59.20 54.52 49.85 45.24	.00608 .00624 .00771 .01096	96,132 95,547 94,951 94,218 93,186	479,223 476,264 473,005 468,678 462,215	53.90 49.21 44.51 39.83 35.24
45-50 50-55 55-60 60-65 65-70	.01642 .02389 .03249 .04498 .06043	92,669 91,148 88,970 86,080 82,208	459,768 450,569 437,961 421,142 399,074	40.73 36.37 32.20 28.19 24.39	.02698 .04253 .06167 .09142 .12970	91,588 89,117 85,327 80,065 72,745	452,205 436,663 414,189 382,881 341,002	30.81 26.59 22.66 18.97 15.62
70-75 75-80 80-85 85 and over	.07981 .10680 .14946 1.00000	77,240 71,075 63,485 53,996	371,300 337,089 294,090 603,802	20.80 17.38 14.14 11.18	.18289 .26059 .38392 1.00000	63,310 51,732 38,251 23,566	288,439 225,688 154,288 126,714	12.56 9.79 7.35 5.38

TABLE 3. ABRIDGED LIFE TABLES ELIMINATING SPECIFIED CAUSES OF DEATH FOR THE TOTAL POPULATION: UNITED STATES, 1959-61—Con.

	Proportion of persons	Of 100,000	born alive	Average number of	
Period of life between two exact ages stated in years	beginning of age interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	
, x to x+n	nqx	l <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>	
	of persons alive at beginning of age interval dying during interval beginning of age interval interval of age interval				
0-1	.00336 .00189 .00163	97,488 97,161 96,977	389,162 485,304 484,536	70.51 71.33 67.56 62.69 57.78	
20-25 25-30 30-35 35-40 40-45	.00550 .00710 .01049	95,957 95,429 94,752	478,487 475,538 471,450	52.99 48.25 43.51 38.80 34.18	
45-50 50-55 55-60 60-65 65-70	.04416 .06514 .09856	89,634 85,676 80,095	438,878 415,218 381,709	29.73 25.49 21.54 17.86 14.53	
70-75 75-80 80-85 85 and over	.29852 .44045	49,164 34,488	209,769 133,735	11.51 8.83 6.50 4.69	

TABLE 4. ABRIDGED LIFE TABLES ELIMINATING INFECTIVE AND PARASITIC DISEASES AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

		COLOR A	AND SEA: U	NITED STATE	25, 1939-01	L		
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	n <sup>q</sup> x	e <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>	nq <sub>x</sub>	l <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
		WHITE	MALE			WHITE F	EMALE	_
0-1	0.02563	100,000	97,780	67.75	0.01942	100,000	98,331	74.33
1-5	.00378	97,437	388,890	68.53	.00311	98,058	391,507	74.80
5-10	.00252	97,069	484,696	.64.78	.00177	97,754	488,298	71.03
10-15	.00257	96,824	483,580	59.94	.00147	97,581	487,564	66.15
15-20	.00609	96,575	481,537	55.09	.00240	97,437	486,633	61.25
20-25	.00827	95,987	477,957	50.41	.00290	97,203	485,327	56.39
25-30	.00729	95,193	474,209	45.81	.00344	96,921	483,803	51.54
30-35	.00844	94,499	470,582	41.13	.00474	96,587	481,858	46.71
35-40	.01218	93,701	465,858	36.46	.00710	96,129	479,058	41.92
40-45	.02014	92,560	458,515	31.87	.01127	95,446	474,739	37.20
45-50	.03375	90,696	446,445	27.47	.01782	94,370	467,937	32.60
50-55	.05582	87,635	426,711	23.34	.02726	92,689	457,487	28.14
55-60	.08326	82,744	397,446	19.56	.03990	90,162	442,413	23.86
60-65	.12609	75,854	356,422	16.10	.06436	86,565	419,815	19.74
65-70	.18025	66,290	302,411	13.04	.10129	80,994	385,723	15.91
70-75	.25054	54,341	238,182	10.35	.16284	72,790	335,962	12.40
75-80	.35116	40,726	167,865	7.96	.26223	60,937	266,356	9.30
80-85	.49523	26,425	98,150	5.91	.41580	44,957	177,906	6.69
85 and over	1.00000	13,338	58,063	4.35	1.00000	26,264	122,692	4.67
		NONWHITE	MALE		NONWHITE FEMALE			
0-1	.04614	100,000	96,302	62.04	.03756	100,000	97,020	66.88
1-5	.00707	95,386	379,857	64.03	.00598	96,244	383,547	68.48
5-10	.00337	94,712	472,704	60.47	.00272	95,669	477,621	64.88
10-15	.00369	94,393	471,187	55.67	.00207	95,409	476,581	60.05
15-20	.00796	94,044	468,554	50.87	.00401	95,211	475,193	55.17
20-25	.01348	93,296	463,485	46.25	.00649	94,830	472,703	50.38
25-30	.01637	92,038	456,521	41.85	.00930	94,214	469,018	45.70
30-35	.02052	90,530	448,188	37.50	.01417	93,338	463,582	41.10
35-40	.02787	88,672	437,522	33.23	.02066	92,015	455,620	36.65
40-45	.04083	86,201	422,627	29.11	.03100	90,114	443,935	32.37
45-50	.05641	82,681	402,389	25.24	.04280	87,321	427,808	28.32
50-55	.08570	78,017	374,175	21.59	.06619	83,583	404,842	24.47
55-60	.11912	71,331	336,117	18.37	.09420	78,051	372,629	21.02
60-65	.16190	62,834	289,404	15.50	.12848	70,698	331,194	17.93
65-70	.21850	52,661	234,732	13.00	.15522	61,615	284,521	15.20
70-75	.26675	41,155	177,775	10.93	.20733	52,051	233,420	12.53
75-80	.30736	30,177	127,263	9.02	.25002	41,259	180,531	10.15
80-85	.41415	20,901	82,199	6.94	.34659	30,944	127,528	7.69
85 and over	1.00000	12,245	62,764	5.13	1.00000	20,219	110,515	5.47

TABLE 5. ABRIDGED LIFE TABLES ELIMINATING TUBERCULOSIS AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

		τ	JNITED STA	res, 1959-6	51			
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	ud <sup>x</sup>	t <sub>x</sub>	$_{_{ m I\!\!\! I}}L_{_{ m X\!\!\!\! X}}$	ê <sub>x</sub>	<sub>n</sub> q <sub>x</sub>	t <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
	WHITE MALE					WHITE	FEMALE	
0-1 1-5	0.02591 .00402 .00264 .00263 .00616	100,000 97,409 97,017 96,761 96,506	97,765 388,719 484,403 483,248 481,176	67.65 68.44 64.71 59.88 55.03	0.01964 .00332 .00188 .00153 .00246	100,000 98,036 97,711 97,527 97,378	98,319 391,369 488,055 487,284 486,325	74.24 74.72 70.97 66.10 61.19
20-25	.00834	95,911	477,565	50.35	.00297	97,139	484,987	56.34
25-30	.00737	95,111	473,784	45.75	.00353	96,850	483,427	51.50
30-35	.00853	94,410	470,120	41.08	.00482	96,508	481,445	46.67
35-40	.01227	93,605	465,359	36.41	.00718	96,043	478,612	41.88
40-45	.02026	92,457	457,976	31.83	.01137	95,354	474,257	37.17
45-50	.03393	90,583	445,852	27.43	.01795	94,270	467,410	32.56
50-55	.05608	87,510	426,049	23.30	.02743	92,578	456,901	28.11
55-60	.08372	82,603	396,677	19.52	.04013	90,039	441,753	23.83
60-65	.12672	75,687	355,518	16.07	.06465	86,425	419,074	19.71
65-70	.18103	66,096	301,397	13.02	.10166	80,838	384,906	15.89
70-75	.25146	54,131	237,126	10.33	.16327	72,620	335,098	12.39
75-80	.35200	40,519	166,911	7.94	.26276	60,764	265,515	9.29
80-85	.49602	26,256	97,458	5.90	.41642	44,797	177,194	6.68
85 and over	1.00000	13,233	57,525	4.35	1.00000	26,143	121,974	4.67
		NONWHIT	E MALE		NONWHITE FEMALE			
0-1	.04695	100,000	96,256	61.78	.03825	100,000	96,982	66.65
1-5	.00760	95,305	379,409	63.81	.00647	96,175	383,153	68.29
5-10	.00353	94,581	472,005	60.29	.00288	95,553	476,994	64.73
10-15	.00381	94,247	470,434	55.49	.00216	95,277	475,905	59.91
15-20	.00810	93,888	467,743	50.69	.00410	95,072	474,479	55.03
20-25	.01365	93,127	462,609	46.08	.00666	94,682	471,932	50.25
25-30	.01654	91,856	455,582	41.69	.00953	94,052	468,158	45.57
30-35	.02073	90,337	447,185	37.34	.01442	93,156	462,621	40.98
35-40	.02821	88,464	436,424	33.08	.02096	91,812	454,549	36.54
40-45	.04138	85,968	421,375	28.96	.03138	89,888	442,738	32.27
45-50	.05724	82,411	400,914	25.10	.04332	87,067	426,459	28.23
50-55	.08702	77,694	372,377	21.46	.06700	83,295	403,284	24.39
55-60	.12085	70,933	333,934	18.26	.09518	77,714	370,828	20.95
60-65	.16396	62,361	286,893	15.41	.12947	70,317	329,224	17.88
65-70	.22072	52,136	232,081	12.93	.15614	61,213	282,517	15.16
70-75	.26879	40,629	175,271	10.89	.20843	51,655	231,497	12.49
75-80	.30909	29,708	125,141	8.99	.25118	40,888	178,778	10.12
80-85	.41575	20,526	80,626	6.91	.34763	30,618	126,092	7.68
85 and over	1.00000	11,992	61,254	5.11	1.00000	19,974	108,992	5.46

TABLE 6. ABRIDGED LIFE TABLES ELIMINATING MALIGNANT NEOPLASMS AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

						•		
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nqx	ę <sub>x</sub> .	$_{n}L_{x}$	ê <sub>x</sub>	nqx	e <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
		WHITE	MALE		WHITE FEMALE			
0-1 1-5	0.02584 .00354 .00218 .00227 .00570	100,000 97,416 97,070 96,859 96,639	97,769 388,829 484,792 483,823 481,946	69.67 70.51 66.76 61.90 57.03	0.01957 .00293 .00154 .00125 .00217	100,000 98,043 97,755 97,604 97,483	98,323 391,462 488,366 487,736 486,916	76.62 77.15 73.37 68.48 63.57
20-25 25-30 30-35 35-40 40-45	.00779 .00665 .00755 .01077 .01754	96,088 95,340 94,706 93,991 92,978	478,574 475,088 471,814 467,600 461,132	52.35 47.74 43.04 38.35 33.74	.00264 .00292 .00364 .00488 .00729	97,271 97,014 96,731 96,379 95,909	485,724 484,380 482,812 480,789 477,911	58.70 53.85 49.00 44.17 39.37
45-50 50-55 55-60 60-65	.02875 .04639 .06815 .10306 .14954	91,348 88,721 84,606 78,840 70,715	450,678 433,939 409,417 374,882 328,101	29.29 25.08 21.17 17.52 14.24	.01107 .01725 .02670 .04676 .07909	95,210 94,155 92,531 90,060 85,848	473,592 466,975 456,973 440,617 413,570	34.64 30.00 25.48 21.10 17.01
70-75 75-80 80-85 85 and over	.21353 .30983 .45328 1.00000	60,140 47,298 32,644 17,847	269,463 200,378 125,424 83,320	11.28 8.65 6.39 4.67	.13617 .23147 .38356 1.00000	79,059 68,294 52,485 32,354	370,259 304,097 212,591 159,368	7.09
		NONWHIT	E MALE		NONWHITE FEMALE			
0-1 1-5 5-10 10-15 15-20	.04693 .00739 .00329 .00358 .00772	100,000 95,307 94,603 94,291 93,954	96,258 379,451 472,176 470,704 468,160	63.46 65.57 62.05 57.25 52.44	.03822 .00628 .00267 .00195 .00390	100,000 96,178 95,573 95,319 95,133	96,984 383,195 477,150 476,160 474,832	68.65 70.37 66.80 61.98 57.09
20-25 25-30 30-35 35-40 40-45	.01327 .01627 .02032 .02707 .03810	93,229 91,992 90,495 88,656 86,257	463,207 456,319 448,051 437,578 423,418	47.83 43.44 39.11 34.87 30.77	.00650 .00908 .01316 .01811 .02577	94,762 94,146 93,291 92,064 90,396	472,364 468,713 463,547 456,372 446,406	52.30 47.63 43.04 38.58 34.24
45-50 50-55 55-60 60-65 65-70	.05095 .07494 .10244 .13846 .18872	82,970 78,743 72,842 65,380 56,327	404,809 379,634 346,179 304,952 255,441	26.88 23.19 19.85 16.82 14.11	.03428 .05382 .07817 .10958 .13547	88,067 85,048 80,470 74,180 66,051	433,231 414,477 387,377 351,089 308,388	
70-75 75-80 80-85 85 and over	.23431 .27477 .38102 1.00000	45,697 34,990 25,376 15,707	201,426 150,738 102,224 85,183	11.81 9.66 7.39 5.42	.18529 .22791 .32327 1.00000	57,103 46,522 35,919 24,308	259,400 206,351 150,361 138,318	13.21 10.64 8.04 5.69

TABLE 7. ABRIDGED LIFE TABLES ELIMINATING MALIGNANT NEOPLASMS OF DIGESTIVE ORGANS AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

					STATES, 19			
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nqx	e <sub>x</sub>	$_{n}L_{x}$	8 <sub>x</sub>	<sub>n</sub> q <sub>x</sub>	l <sub>x</sub>	$_{n}L_{x}$	8 <sub>x</sub>
		WHITE	MALE		WHITE FEMALE			
0-1	0.02591	100,000	97,765	68.17	0.01963	100,000	98,319	74.87
1-5	.00403	97,409	388,718	68.98	.00333	98,037	391,368	75.37
5-10	.00264	97,017	484,400	65.26	.00188	97,711	488,052	71.62
10-15	.00263	96,760	483,246	60.42	.00153	97,527	487,281	66.75
15-20	.00615	96,506	481,177	55.58	.00246	97,378	486,323	61.85
20-25	.00833	95,912	477,572	50.90	.00296	97,138	484,988	56.99
25-30	.00733	95,113	473,805	46.31	.00350	96,850	483,435	52.15
30-35	.00843	94,417	470,173	41.63	.00473	96,511	481,476	47.33
35-40	.01205	93,621	465,481	36.96	.00693	96,054	478,718	42.54
40-45	.01973	92,492	458,259	32.38	.01082	95,388	474,542	37.82
45-50	.03271	90,667	446,508	27.98	.01678	94,356	468,083	33.20
50-55	.05361	87,702	427,480	23.83	.02526	92,773	458,327	28.73
55-60	.07950	83,000	399,405	20.03	.03662	90,429	444,407	24.40
60-65	.11961	76,402	360,184	16.54	.05901	87,117	423,600	20.23
65-70	.17078	67,263	308,445	13.43	.09370	81,977	391,918	16.33
70-75	.23801	55,776	246,292	10.66	.15252	74,296	344,831	12.74
75-80	.33618	42,500	176,941	8.20	.24926	62,964	277,370	9.56
80-85	.47989	28,213	106,124	6.08	.40138	47,270	189,026	6.86
85 and over	1.00000	14,674	65,478	4.46	1.00000	28,297	135,421	4.79
		NONWHIT	E MALE	NONWHITE FEMALE				
0-1 1-5	.04698 .00767 .00354 .00381 .00811	100,000 95,302 94,571 94,236 93,876	96,255 379,378 471,952 470,376 467,685	62.18 64.24 60.72 55.93 51.14	.03827 .00654 .00290 .00218 .00416	100,000 96,173 95,545 95,267 95,060	96,981 383,129 476,947 475,848 474,408	67.05 68.71 65.16 60.34 55.47
20-25	.01370	93,115	462,542	46.53	.00687	94,665	471,798	50.69
25-30	.01676	91,839	455,456	42.14	.00983	94,014	467,901	46.02
30-35	.02112	90,300	446,919	37.82	.01479	93,090	462,208	41.45
35-40	.02854	88,393	435,990	33.58	.02122	91,713	453,985	37.03
40-45	.04112	85,870	420,923	29.48	.03096	89,767	442,209	32.78
45-50	.05586	82,339	400,802	25.64	.04192	86,988	426,340	28.74
50-55	.08373	77,740	373,186	22.00	.06421	83,341	404,044	24.88
55-60	.11528	71,231	336,282	18.77	.09061	77,990	373,009	21.41
60-65	.15530	63,020	291,274	15.88	.12349	70,924	333,133	18.28
65-70	.20948	53,232	238,524	13.33	.14901	62,165	288,049	15.50
70-75	.25677	42,081	182,925	11.19	.20007	52,902	238,239	12.77
75-80	.29756	31,276	132,760	9.21	.24155	42,318	186,122	10.33
80-85	.40425	21,970	87,040	7.06	.33758	32,096	133,088	7.82
85 and over	1.00000	13,088	68,110	5.20	1.00000	21,261	117,987	5.55

TABLE 8. ABRIDGED LIFE TABLES ELIMINATING MALIGNANT NEOPLASM OF RESPIRATORY SYSTEM AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

			DOR THE BI	EX: ONLIED	<u> </u>			
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nq <sub>x</sub>	l <sub>×</sub>	$_{_{ m n}}L_{_{ m x}}$	8 <sub>x</sub>	nq <sub>x</sub>	e <sub>x</sub>	$_{n}L_{x}$ .	ê <sub>x</sub>
		WHITE	MALE		WHITE FEMALE			
0-1	0.02592	100,000	97,765	68.04	0.01964	100,000	98,319	74.30
1-5	.00404	97,408	388,714	68.85	.00333	98,036	391,364	74.79
5-10	.00265	97,015	484,392	65.12	.00188	97,709	488,045	71.03
10-15	.00263	96,759	483,237	60.29	.00153	97,525	487,273	66.16
15-20	.00616	96,504	481,165	55.44	.00247	97,376	486,313	61.26
20-25	.00835	95,909	477,554	50.76	.00299	97,136	484,970	56.40
25-30	.00738	95,109	473,769	46.17	.00355	96,846	483,401	51.56
30-35	.00848	94,407	470,113	41.49	.00486	96,502	481,404	46.74
35-40	.01211	93,606	465,395	36.83	.00718	96,033	478,560	41.95
40-45	.01975	92,473	458,155	32.25	.01129	95,344	474,221	37.24
45-50	.03265	90,646	446,411	27.84	.01771	94,268	467,449	32.63
50-55	.05330	87,687	427,461	23.69	.02705	92,598	457.082	28.17
55-60	.07894	83,013	1 399.587	19.87	.03957	90,093	442,144	23.88
60-65	.11981	76,459	360,463	16.35	.06396	86,528	419,722	19.76
65-70	.17322	67,299	308,267	13.22	.10085	80,994	385,815	15.92
70-75	.24439	55,641	244,852	10.45	.16238	72,826	336,218	12.41
75-80	.34708	42,043	173,823	8.01	.26193	61,000	266,690	9.31
80-85	.49300	27,451	102,170	5.93	.41571	45,022	178,181	6.69
85 and over	1.00000	13,917	60,712	1 4.36	1.00000	26,306	122,848	4.67
		NONWHIT	E MALE		NONWHITE FEMALE			
0-1	.04698	100,000	96,255	61.90	.03828	100,000	96,981	66.56
1-5	.00768	95,302	379,376	63.94	.00654	96,172	383,125	68.20
5-10	.00355	94,570	471,948	60.42	.00290	95,543	476,941	64.64
10-15	.00382	94,235	470,370	55.63	.00218	95,266	475,842	59.82
15-20	.00815	93,875	467,668	50.83	.00417	95,058	474,398	54.95
20-25	.01377	93,110	462,500	46.23	.00692	94,662	471,774	50.16
25-30	.01689	91,827	455,369	41.83	.00992	94,006	467.844	45.49
30-35	.02130	90,276	446,763	37.51	.01498	93,074	462,089	40.92
35-40	.02875	88,354	435,752	33.27	.02164	91,679	453,732	36.51
40-45	.04141	85,814	420,591	29.18	.03187	89,695	441,666	32.26
45-50	.05657	82,260	400,286	25.32	.04344	86,837	425,295	28.23
50-55	.08506	77,606	372,302	21.68	.06695	83,065	402,175	24.39
55-60	.11751	71,005	334,847	18.46	.09504	77,504	369,853	20.95
60-65	.15951	62,661	288,989	15.57	.12936	70,138	328,407	17.88
65-70	.21613	52,666	235,108	13.04	.15604	61,065	281,849	15.16
70-75	.26581	41,283	178,466	10.94	.20825	51,536	230,989	12.49
75-80	.30737	30,310 20,993	127,835	9.01	.25118	40,803	178,409	10.12
80-85	.41472	20,993	82,538	6.92	.34772	30,554	125,825	7.67
85 and over	1.00000	12,287	62,743	5.11	1.00000	19,930	108,669	5.45
	i		<u> </u>	L	l		l	<u> </u>

TABLE 9. ABRIDGED LIFE TABLES ELIMINATING DIABETES AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	, nqx	e <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>	<sub>n</sub> q <sub>x</sub>	t <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
		WHITE MALE						
0-1	0.02591	100,000	97,765	67.70	0.01964	100,000	98,319	74.46
1-5	.00403	97,409	388,716	68.50	.00333	98,036	391,366	74.95
5-10	.00264	97,016	484,398	64.77	.00187	97,710	488,053	71.19
10-15	.00262	96,760	483,248	59.94	.00150	97,528	487,292	66.32
15-20	.00615	96,506	481,181	55.09	.00244	97,381	486,346	61.42
20-25 25-30 30-35 40-45	.00831 .00730 .00844 .01220 .02025	95,913 95,116 94,421 93,625 92,482	477,581 473,824 470,198 465,473 458,105	50.41 45.81 41.13 36.46 31.87	.00295 .00348 .00479 .00717 .01135	97,144 96,858 96,521 96,059 95,370	485,020 483,478 481,516 478,691 474,339	56.56 51.72 46.89 42.11 37.39
45-50	.03396	90,609	445,972	27.48	.01784	94,288	467,517	32.79
50-55	.05611	87,532	426,148	23.35	.02703	92,606	457,115	28.34
55-60	.08357	82,621	396,790	19.58	.03915	90,102	442,256	24.05
60-65	.12621	75,717	355,741	16.12	.06250	86,574	420,224	19.92
65-70	.17991	66,160	301,866	13.08	.09812	81,163	387,141	16.07
70-75	.24963	54,257	237,929	10.38	.15822	73,199	338,701	12.53
75-80	.34920	40,713	168,020	7.99	.25702	61,617	270,201	9.39
80-85	.49311	26,496	98,588	5.93	.41106	45,780	181,819	6.74
85 and over	1.00000	13,431	58,656	4.37	1.00000	26,962	126,657	4.70
	,	NONWHIT	E MALE		NONWHITE FEMALE			
0-1	.04698	100,000	96,255	61.66	.03827	100,000	96,981	66.88
1-5	.00767	95,302	379,379	63.69	.00653	96,173	383,128	68.54
5-10	.00353	94,571	471,957	60.17	.00290	95,544	476,948	64.98
10-15	.00381	94,237	470,386	55.38	.00215	95,267	475,856	60.16
15-20	.00811	93,879	467,696	50.58	.00409	95,063	474,438	55.28
20-25	.01370	93,117	462,552	45.97	.00685	94,673	471,846	50.50
25-30	:01676	91,841	455,470	41.57	.00976	94,024	467,970	45.83
30-35	.02130	90,302	446,894	37.24	.01484	93,106	462,282	41.26
35-40	.02894	88,379	435,846	32.99	.02135	91,725	454,018	36.84
40-45	.04229	85,821	420,459	28.90	.03140	89,766	442,115	32.58
45-50	.05816	82,191	399,654	25.06	.04262	86,948	425,994	28.55
50-55	.08791	77,411	370,844	21.44	.06508	83,242	403,384	24.71
55-60	.12158	70,606	332,249	18.26	.09179	77,824	371,984	21.25
60-65	.16406	62,022	285,300	15.43	.12486	70,680	331,755	18.13
65-70	.22022	51,847	230,853	12.95	.15141	61,855	286,249	15.35
70-75	.26810	40,429	174,487	10.90	.20324	52,490	235,960	12.64
75-80	.30859	29,590	124,686	8.99	.24594	41,822	183,466	10.22
80-85	.41533	20,459	80,396	6.91	.34322	31,536	130,280	7.74
85 and over	1.00000	11,962	61,049	5.10	1.00000	20,712	113,721	5.49

TABLE 10. ABRIDGED LIFE TABLES ELIMINATING MAJOR CARDIOVASCULAR-RENAL DISEASES AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

	D	EATH BI CO	LOK AND SI	M. UNITED	DIALED, 17			
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	of persons		Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nqx	ę*	$_{n}L_{x}$ .	ê <sub>x</sub>	ud <sup>x</sup>	ę <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
		WHITE	MALE			WHITE :	FEMALE	
0-1	0.02580	100,000	97,772	78.40	0.01955	100,000	98,324	84.66
1-5	.00395	97,420	388,779	79.47	.00326	98,045	391,414	85.35
5-10	.00256	97,035	484,514	75.78	.00180	97,725	488,140	81.62
10-15	.00250	96,787	483,408	70.97	.00140	97,548	487,418	76.77
15-20	.00586	96,545	481,438	66.14	.00223	97,412	486,546	71.87
20-25	.00784	95,980	478,019	61.51	.00257	97,195	485,361	67.02
25-30	.00658	95,227	474,534	56.98	.00297	96,945	484,030	62.19
30-35	.00689	94,600	471,406	52.34	.00397	96,657	482,377	57.37
35-40	.00842	93,949	467,853	47.68	.00577	96,273	480,063	52.59
40-45	.01182	93,158	463,195	43.07	.00858	95,718	476,668	47.88
45-50	.01753	92,057	456,517	38.55	.01278	94,896	471,623	43.27
50-55	.02690	90,443	446,486	34.19	.01782	93,683	464,421	38.79
55-60	.03853	88,010	432,025	30.06	.02316	92,014	454,974	34.45
60-65	.05563	84,619	411,887	26.16	.03185	89,883	442,586	30.20
65-70	.07660	79,911	384,800	22.55	.04344	87,020	426,067	26.11
70-75	.10073	73,790	350,903	19.20	.06008	83,240	404,266	22.18
75-80	.13356	66,358	310,256	16.07	.08571	78,238	375,282	18.43
80-85	.18250	57,495	261,643	13.15	.12704	71,533	335,449	14.91
85 and over	1.00000	47,002	494,282	10.52	1.00000	62,445	731,203	11.71
		NONWHIT	E MALE		NONWHITE FEMALE			
0-1	.04675	100,000	96,268	71.93	.03808	100,000	96,992	79.00
1-5	.00743	95,325	379,525	74.44	.00636	96,192	383,243	81.11
5-10	.00337	94,616	472,218	70.99	.00273	95,580	477,166	77.62
10-15	.00353	94,297	470,742	66.22	.00186	95,319	476,175	72.83
15-20	.00756	93,964	468,239	61.45	.00356	95,141	474,941	67.96
20-25	.01270	93,254	463,443	56.89	.00572	94,802	472,734	63.20
25-30	.01483	92,069	456,988	52.59	.00782	94,260	469,552	58.54
30-35	.01697	90,704	449,763	48.35	.01090	93,523	465,187	53.98
35-40	.02074	89,165	441,356	44.14	.01448	92,503	459,308	49.55
40-45	.02632	87,316	431,014	40.02	.01881	91,164	451,667	45.24
45-50	.03295	85,018	418,387	36.03	.02314	89,449	442,284	41.06
50-55	.04603	82,217	402,012	32.17	.03197	87,379	430,211	36.97
55-60	.05944	78,432	380,857	28.59	.04116	84,586	414,492	33.10
60-65	.07564	73,770	355,308	25.24	.05028	81,104	395,472	29.41
65-70	.09690	68,191	324,740	22.09	.05549	77,026	374,613	25.84
70-75	.11282	61,583	290,554	19.19	.06919	72,752	351,431	22.21
75-80	.12519	54,636	256,245	16.31	.08038	67,718	325,358	18.67
80-85	.16404	47,796	219,242	13.28	.10561	62,275	294,425	15.07
85 and over	1.00000	39,955	415,644	10.40	1.00000	55,698	644,344	11.57

TABLE 11. ABRIDGED LIFE TABLES ELIMINATING VASCULAR LESIONS AFFECTING CENTRAL NERVOUS SYSTEM AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

	ZI ONOBE	OF DEATH B	1 COLOR AP	ND SEX: UNI	TED STATES	, 1939-01		
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	ud <sup>x</sup>	e <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>	n <sup>q</sup> x	l <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>
		WHITE	MALE		WHITE FEMALE			
0-1	0.02588	100,000	97,767	68.54	0.01961	100,000	98,320	75.62
1-5	.00400	97,412	388,736	69.36	.00331	98,039	391,380	76.13
5-10	.00262	97,022	484,434	65.63	.00186	97,714	488,076	72.38
10-15	.00260	96,768	483,294	60.80	.00150	97,533	487,316	67.51
15-20	.00610	96,517	481,245	55.95	.00242	97,386	486,375	62.61
20-25	.00826	95,928	477,669	51.28	.00291	97,151	485,065	57.75
25-30	.00728	95,136	473,928	46.68	.00344	96,869	483,541	52.91
30-35	.00837	94,443	470,321	42.01	.00468	96,535	481,611	48.09
35-40	.01202	93,653	465,651	37.34	.00694	96,084	478,864	43.30
40-45	.01980	92,527	458,423	32.76	.01085	95,417	474,679	38.59
45-50	.03300	90,696	446,591	28.37	.01691	94,381	468,181	33.98
50-55	.05413	87,703	427,379	24.24	.02550	92,785	458,338	29.52
55-60	.08016	82,956	399,046	20.48	.03694	90,419	444,274	25.22
60-65	.11957	76,306	359,685	17.03	.05834	87,079	423,498	21.09
65-70	.16745	67,182	308,512	13.99	.08986	81,999	392,656	17.23
70-75	.22698	55,932	248,383	11.29	.14066	74,630	348,315	13.67
75-80	.31140	43,237	182,654	8.86	.22135	64,133	286,752	10.47
80-85	.43610	29,773	115,593	6.74	.35083	49,937	206,313	7.71
85 and over	1.00000	16,789	84,958	5.06	1.00000	32,418	178,674	5.51
		NONWHIT	E MALE		NONWHITE FEMALE			
0-1	.04691	100,000	96,258	63.08	.03823	100,000	96,983	68.81
1-5	.00762	95,309	379,420	65.18	.00649	96,177	383,154	70.54
5-10	.00350	94,583	472,022	61.67	.00287	95,553	476,999	66.99
10-15	.00377	94,252	470,466	56.88	.00213	95,279	475,919	62.18
15-20	.00805	93,896	467,796	52.08	.00406	95,076	474,509	57.30
20-25	.01358	93,140	462,695	47.48	.00668	94,690	471,965	52.52
25-30	.01658	91,876	455,674	43.10	.00950	94,057	468,184	47.86
30-35	.02071	90,353	447,263	38.78	.01404	93,164	462,733	43.29
35-40	.02780	88,481	436,570	34.55	.01990	91,856	454,966	38.87
40-45	.03953	86,022	421,984	30.46	.02859	90,028	443,984	34.61
45-50	.05353	82,621	402,634	26.61	.03804	87,454	429,416	30.55
50-55	.08017	78,198	376,038	22.96	.05801	84,127	409,077	26.65
55-60	.10911	71,929	340,634	19.74	.08049	79,247	380,907	23.13
60-65	.14555	64,081	297,688	16.84	.10725	72,868	345,150	19.93
65-70	.19369	54,754	247,489	14.27	.12691	65,054	304,994	17.02
70-75	.23378	44,149	194,538	12.09	.16967	56,798	260,190	14.12
75-80	.26753	33,828	146,274	10.03	.20472	47,161	211,919	11.49
80-85	.36375	24,778	100,899	7.79	.28679	37,506	160,493	8.80
85 and over	1.00000	15,765	92,073	5.84	1.00000	26,750	169,598	6.34

TABLE 12. ABRIDGED LIFE TABLES ELIMINATING DISEASES OF HEART AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	$_{\mathrm{n}}q_{_{\mathrm{X}}}$	ę×	$_{n}L_{x}$	ê <sub>x</sub>	udx .	f <sub>x</sub>	$_{\sf n}L_{\sf x}$	ê <sub>x</sub>
		WHITE	MALE			WHITE I	FEMALE	
0-1 1-5 5-10 10-15 15-20	0.02585 .00400 .00261 .00258 .00602	100,000 97,415 97,025 96,772 96,523	97,769 388,746 484,451 483,316 481,291	74.06 75.02 71.31 66.49 61.66	0.01959 .00330 .00185 .00147 .00238	100,000 98,041 97,717 97,536 97,392	98,322 391,389 488,090 487,339 486,414	79.24 79.82 76.08 71.21 66.31
20-25 25-30 30-35 40-45	.00810 .00693 .00738 .00917 .01309	95,942 95,164 94,504 93,807 92,947	477,770 474,139 470,818 466,985 461,879	57.01 52.46 47.81 43.14 38.52	.00279 .00327 .00438 .00636 .00962	97,161 96,890 96,573 96,150 95,538	485,140 483,684 481,864 479,317 475,546	61.47 56.63 51.81 47.02 42.31
45-50 50-55 55-60 60-65 65-70	.01978 .03109 .04561 .06876 .10003	91,731 89,916 87,121 83,147 77,430	454,434 443,020 426,249 402,214 368,629	34.00 29.63 25.49 21.58 17.98	.01452 .02075 .02777 .04075	94,619 93,245 91,310 88,774 85,156	469,867 461,607 450,534 435,328 413,765	37.69 33.21 28.86 24.61 20.54
70-75 75-80 80-85 85 and over	.14211 .20558 .30550 1.00000	69,685 59,782 47,492 32,983	324,581 269,182 201,551 228,532	14.69 11.70 9.06 6.93	.09253 .14947 .24571 1.00000	80,056 72,649 61,790 46,608	382,912 337,757 272,134 342,624	16.68 13.11 9.95 7.35
		NONWHIT	E MALE		NONWHITE FEMALE			
0-1 1-5 5-10 10-15 15-20	.04686 .00752 .00344 .00365	100,000 95,314 94,597 94,271 93,927	96,262 379,462 472,106 470,589 468,003	66.88 69.16 65.67 60.89 56.11	.03815 .00643 .00280 .00200 .00386	100,000 96,185 95,566 95,299 95,108	96,988 383,200 477,082 476,046 474,712	72.24 74.10 70.57 65.76 60.89
20-25 25-30 30-35 35-40 40-45	.01321 .01573 .01870 .02388 .03225	93,194 91,963 90,516 88,823 86,702	463,036 456,271 448,473 439,039 426,778	51.53 47.18 42.89 38.66 34.54	.00632 .00884 .01291 .01779 .02458	94,741 94,142 93,309 92,105 90,467	472,297 468,747 463,698 456,636 446,994	56.11 51.45 46.89 42.47 38.19
45-50 50-55 55-60 60-65 65-70	.04143 .05976 .08004 .10637 .14200	83,906 80,430 75,623 69,570 62,170	411,242 390,668 363,494 329,937 289,196	30.61 26.82 23.36 20.16 17.26	.03175 .04557 .06204 .08171 .09645	88,243 85,442 81,548 76,489 70,239	434,542 417,946 395,588 367,149 334,597	34.09 30.12 26.43 23.01 19.83
70-75 75-80 80-85 85 and over	.17334 .19852 .26990 1.00000	53,342 44,096 35,342 25,803	243,522 198,639 152,714 188,873	14.69 12.25 9.67 7.32	.12637 .15240 .21015 1.00000	63,464 55,444 46,995 37,119	297,628 256,499 210,184 293,804	16.67 13.72 10.72 7.92

TABLE 13. ABRIDGED LIFE TABLES ELIMINATING INFLUENZA AND PNEUMONIA AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

			AND SEX: (	JNITED STAT	ES, 1959-6	1		
	Proportion of persons alive at	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nq <sub>x</sub>	ę*	$_{n}L_{x}$	ê <sub>x</sub>	nq <sub>x</sub> .	t <sub>x</sub>	$_{_{ m fl}}L_{_{ m X}}$	ê <sub>x</sub>
		WHITE	MALE	-		WHITE 1	FEMALE	
0-1 1-5 5-10 10-15 15-20	0.02408 .00358 .00252 .00254 .00604	100,000 97,592 97,243 96,998 96,751	97,850 389,568 485,564 484,452 482,425	68.01 68.69 64.93 60.08 55.23	0.01823 .00291 .00177 .00144 .00238	100,000 98,177 97,891 97,718 97,577	98,384 392,040 488,985 488,258 487,338	74.61 75.00 71.21 66.33 61.42
20-25 25-30 30-35 35-40 40-45	.00822 .00729 .00842 .01212 .02007	96,166 95,376 94,681 93,883 92,745	478,865 475,123 471,492 466,774 459,446	50.55 45.95 41.27 36.60 32.01	.00289 .00345 .00476 .00710 .01126	97,345 97,063 96,729 96,269 95,586	486,037 484,513 482,561 479,755 475,433	56.56 51.72 46.89 42.10 37.38
45-50 50-55 55-60 60-65 65-70	.03367 .05566 .08312 .12536 .17851	90,883 87,824 82,935 76,042 66,509	447,384 427,663 398,388 357,423 303,678	27.61 23.48 19.71 16.26 13.21	.01773 .02715 .03962 .06374 .10006	94,509 92,834 90,313 86,735 81,207	468,646 458,224 443,208 420,762 386,962	32.78 28.32 24.04 19.92 16.10
70-75 75-80 80-85 85 and over	.24687 .34398 .48287 1.00000	54,636 41,148 26,994 13,960	239,957 170,350 101,199 63,462	10.52 8.14 6.10 4.55	.16018 .25667 .40542 1.00000	73,081 61,375 45,622 27,126	337,750 269,089 181,779 131,543	12.59 9.49 6.87 4.85
		NONWHIT	E MALE			NONWHITE	FEMALE	
0-1	.04093 .00617 .00330 .00367 .00791	100,000 95,907 95,316 95,001 94,653	96,536 382,196 475,739 474,232 471,598	62.53 64.20 60.58 55.78 50.97	.03304 .00527 .00267 .00203 .00395	100,000 96,696 96,186 95,929 95,734	97,224 385,563 480,212 479,191 477,823	67.36 68.66 65.02 60.18 55.30
20-25 25-30 30-35 35-40	.01347 .01641 .02063 .02789 .04089	93,904 92,638 91,119 89,238 86,750	466,510 459,497 451,073 440,309 425,306	46.36 41.95 37.61 33.35 29.23	.00667 .00953 .01441 .02079 .03108	95,356 94,720 93,818 92,466 90,543	475,292 471,484 465,907 457,817 446,028	50.51 45.83 41.25 36.81 32.54
45-50 50-55 55-60 60-65	.05649 .08585 .11908 .16107 .21590	83,202 78,502 71,762 63,217 53,034	404,909 376,468 338,141 291,267 236,716	25.36 21.73 18.52 15.67 13.19	.04279 .06603 .09367 .12706 .15294	87,729 83,975 78,430 71,083 62,051	429,808 406,767 374,525 333,233 286,877	28.50 24.65 21.21 18.13 15.40
70-75 75-80 80-85 85 and over	.26202 .30063 .40356 1.00000	41,584 30,688 21,463 12,801	180,133 129,958 85,032 67,739	11.13 9.21 7.12 5.29	.20354 .24474 .33841 1.00000	52,561 41,863 31,617 20,918	236,208 183,737 130,971 117,812	12.72 10.33 7.87 5.63

TABLE 14. ABRIDGED LIFE TABLES ELIMINATING CONGENITAL MALFORMATIONS AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

		AND	SEX: UNITE	D STATES,	TADA-0T			
٠.	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	n <sup>q</sup> x	ę*	$_{_{ m R}}L_{_{ m X}}$	ê <sub>x</sub>	n <sup>q</sup> x	<sup>ℓ</sup> x	$_{_{ m I\!I}}L_{_{ m X\!I}}$	ê <sub>x</sub>
		WHITE	MALE			WHITE I	FEMALE	
0-1	0.02192 .00357 .00242 .00247 .00600 .00822 .00731 .00850 .01230 .02036 .03420 .05660 .08449 .12771 .18228	100,000 97,808 97,459 97,222 96,982 96,401 95,608 94,909 94,103 92,945 91,053 87,939 82,961 75,952 66,252	98,090 390,427 486,664 485,594 483,591 480,033 476,276 472,614 467,828 460,378 448,108 428,029 398,247 356,577 301,896	67.92 68.44 64.68 59.83 54.97 50.29 45.68 41.00 36.33 31.75 27.35 23.23 19.46 16.01 12.98	0.01620 .00286 .00169 .00138 .00233 .00288 .00348 .00481 .00720 .01142 .01800 .02748 .04019 .06473 .10186	100,000 98,380 98,099 97,933 97,797 97,569 97,288 96,949 96,483 95,789 94,695 92,990 90,434 86,800 81,181	98,595 392,857 490,041 489,345 488,450 487,160 485,626 483,649 480,801 476,408 469,504 458,922 443,682 420,876 386,503	74.55 74.78 70.99 66.10 61.19 56.33 51.48 46.65 41.87 37.15 32.55 28.10 23.81 19.70 15.88
75-80 80-85 85 and over	.35342 .49730 1.00000	40,476 26,171 13,156	166,568 97,035 57,077	7.92 5.89 4.34	.26319 .41693 1.00000	60,985 44,935 26,200 NONWHITE	266,415 177,671 122,133 FEMALE	9.28 6.67 4.66
0-1 1-5 5-10 10-15 15-20	.04374 .00712 .00334 .00365 .00801	100,000 95,626 94,946 94,628 94,283	96,507 380,808 473,874 472,375 469,735	61.78 63.60 60.04 55.23 50.43	.03554 .00600 .00271 .00207 .00406	100,000 96,446 95,867 95,608 95,409	97,187 384,350 478,611 477,576 476,177	66.74 68.19 64.59 59.76 54.88
20-25 25-30 30-35 35-40 40-45	.01367 .01683 .02137 .02916 .04263	93,527 92,249 90,697 88,758 86,170	464,600 457,478 448,833 437,674 422,102	45.81 41.41 37.08 32.83 28.73	.00683 .00987 .01495 .02167 .03206	95,022 94,373 93,442 92,045 90,050	473,593 469,685 463,926 455,540 443,378	50.09 45.42 40.85 36.43 32.17
45-50 50-55 55-60 60-65 65-70	.05878 .08906 .12327 .16654 .22323	82,497 77,648 70,732 62,013 51,686	401,021 371,764 332,552 284,873 229,729	24.90 21.29 18.11 15.30 12.84	.04382 .06758 .09581 .13030 .15697	87,163 83,344 77,712 70,266 61,110	426,820 403,403 370,698 328,839 281,911	28.15 24.32 20.89 17.83 15.12
70-75 75-80 80-85 85 and over	.27170 .31198 .41871 1.00000	40,148 29,240 20,117 11,694	172,878 122,927 78,850 59,385	10.81 8.93 6.87 5.08	.20927 .25213 .34862 1.00000	51,518 40,737 30,466 19,845	230,767 178,011 125,383 108,037	12.47 10.10 7.66 5.44

TABLE 15. ABRIDGED LIFE TABLES ELIMINATING MOTOR VEHICLE ACCIDENTS AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

			DIMI: ONEI	D SIRIES,				
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nqx	l <sub>x</sub>	$_{n}L_{x}$	ê <sub>x</sub>	n <sup>q</sup> x	t <sub>x</sub>	$_{\sf n}L_{\sf x}$	₽ <sub>x</sub>
		WHITE	MALE			WHITE	FEMALE	
0-1	0.02584	100,000	97,769	68.33	0.01956	100,000	98,323	1 74.49
1-5	.00361	97,416	388,827	69.14	.00301	1 98.044	391,461	74.98
5-10	.00213	97,065	484.775	65.38	.00159	97.749	l 488.321	71.20
10-15	.00213	97,065 96,858	484,775 483,807	60.52	.00131	97.593	487.650	66.31
15-20	.00352	96,651	482,460	55.64	.00165	97,749 97,593 97,465	487,650 486,943	61.39
20-25	.00464	96 311	480,464	50.83	.00231	97,304	485,982	56.49
25-30	.00521	96,311 95,864	478,105	46.05	.00308	97,304 97,079	484,685	51.61
30-35	.00695	95,365	475,265	41.28	.00446	96,780	484,685 482,890	46.76
35-40	.01099	94,702	471.122	36.55	.00685	96,349	1 480.213	41.96
40-45	.01911	95,365 94,702 93,661	471,122 464,216	31.93	.01106	96,349 95,688	475,993	37.23
45-50	.03290	91 . 871	452,436	27.50	.01759	94,630	469,277	32.62
50-55	.05530	91,871 88,849	452,436 432,751	23.34	.02702	92,965 90,454	458,907	28.16
55-60	.08314	83,935	403,210	19.55	.03964	90.454	443,899	23.86
60-65	.12627	76,957	361 581	16.08	.06412	86,868	421,338	19.74
65-70	.18069	83,935 76,957 67,240	361,581 306,676	13.03	.10114	81,298	387,206	15.91
70-75	.25108	55,090	241.384	10.34	.16277	73,076	337,297	12,40
75-80	.35145	55,090 41,258	241,384 170,018	7.95	.26237	61.181	337,297 267,409	9,30
80-85	49552	26,758	99,364	5.91	.41629	45,129	178,529	6.68
85 and over	1.00000	13,499	58,705	4.35	1.00000	45,129 26,342	122,887	4.67
		NONWHITE	MALE			NONWHITE	FEMALE	
0-1	.04693	100,000	96,258	62.23	.03822	100,000	96,984	66.71
1-5	.00718	95,307	379,485	64.29	.00620	96,178	383.212	68.36
5-10	.00290	94,623	472,377	60.74	.00252	95.582	477,231 476,254	64.77
10-15	.00334	94,349	471,031	55.91	.00200	95,582 95,340	476 254	59.93
15-20	.00637	94,033	468,812	51.09	.00362	95,150	474,974	55.05
20-25	.01051	93,434	464,854	46.40	.00630	94,805	472,634	50.24
25-30	.01411	92,452	459,143	41.87	.00934	0/ 207	468,984	45.54
30-35	.01925	91,148	451,564	37.43	.01452	93, 327	463,460	40.94
35-40	.02710	89,393	441,271	33.11	.02123	91,972	455,278	36.51
40-45	.04069	86,971	426,450	28.96	.03156	94,207 93,327 91,972 90,019	443,339	32.24
45-50	.05669	83,432	406,009	25.08	.04339	87,178	426,986	28,21
50-55	.08698	78,702	377 236	21.43	.06705	83,306	403,762	24.37
55-60	.12130	71,857	377,236 338,208	18.22	.09532	83,396 77,804	371,235	20.93
60-65	.16461	63,141	290,371	15.37	12971	70,388	329,515	17.86
65-70	.22136	52,747	234,715	12.90	.15641	61,258	282,683	15.14
70-75	.27016	41,071	177 020	10 05	20972	51,676	231 556	12.48
75-80		29,975	177,030	10.85	.20872	40,890	231,556	10.11
80-85	.31041	20,373	126,151	6.89	34807	30,597	178,728 125,972	7.67
85 and over	1.00000	20,671 12,048	81,115	5.09	1.00000	19,947	108,655	5.45
OD STITE OVEL	1.00000	12,040	01,3/3	1 3.09	1.00000	1,,,,,,,,	100,000	1
•	-!	I	L	<del></del>	1	<del>'</del>	<del></del>	

TABLE 16. ABRIDGED LIFE TABLES ELIMINATING ALL ACCIDENTS EXCEPT MOTOR VEHICLE ACCIDENTS AS A CAUSE OF DEATH BY COLOR AND SEX: UNITED STATES, 1959-61

				,,,,,	,		., ,	
	Proportion of persons	Of 100,000	born alive	Average number of	Proportion of persons	Of 100,000	born alive	Average number of
Period of life between two exact ages stated in years	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval	alive at beginning of age interval dying during interval	Number living at beginning of age interval	Stationary population in the age interval	years of life remaining at beginning of age interval
x to x+n	nq x	e <sub>x</sub>	$_{n}L_{x}$	8 <sub>x</sub>	<sup>u</sup> d <sup>x</sup>	e <sub>×</sub>	$_{_{ m I\!I}}L_{_{ m X\!I}}$	ê <sub>x</sub>
		WHITE	MALE			WHITE	FEMALE	
0-1	0.02518	100,000	97,804	68.31	0.01907	100,000	98,350	74.54
1-5	.00322	97,482	389,192	69.08	.00277	98,093	391,722	74.99
5-10	.00205	97,168	485,300	65.29	.00160	97,821	488,679	71.20
10-15	.00179	96,969	484,476	60.42	.00133	97,664	488,016	66.31
15-20	.00481	96,796	482,932	55.53	.00227	97,534	487,150	61.39
20-25	.00675	96,330	480,037	50.78	.00278	97,313	485,904	56.52
25-30	.00597	95,680	476,963	46.11	.00334	97,042	484,432	51.67
30-35	.00718	95,109	473,925	41.37	.00465	96,718	482,531	46.84
35-40	.01093	94,426	469,758	36.65	.00700	96,268	479,776	42.05
40-45	.01884	93,394	462,950	32.03	.01116	95,594	:475,502	37.32
45-50	.03247	91,634	451,361	27.59	.01766	94,528	468,755	32.71
50-55	.05465	88,659	431,968	23.42	.02708	92,858	458,366	28.25
55-60	.08244	83,814	431,968 402,777	19.62	.03973	90,344	443,341	23.97
60-65	.12558	76,904	361,467	16.15	.06409	86,755	420,790	19.85
65-70	.17981	67,247	306,859	13.09	.10076	81,195	386,772	16.02
70-75	.24997	55,155	241,817	10.40	.16130	73,014	337,248	12.52
75-80	.34897	41,368	170,727	8.02	25889	61,237	268,145	9.42
80-85	.49104	26,932	100,338	5.98	.40874	45,383	180,419	6.81
85 and over	1.00000	13,707	60,763	4.43	1.00000	26,833	128,540	4.79
		NONWHIT	E MALE			NONWHITE	FEMALE	
	04.500				00676	1 100 000	1 07 064	
0-1	•04523	100,000	96,352		.03676	100,000	97,064	67.06 68.61
5-10	.00593	95,477 94,911	380,465 473,908	64.62	.00490	96,324 95,851	384,075 478,724	64.94
10-15	.00228	94,677	472,912	56.14	.00180	95,657	477,894	60.07
15-20	.00595	94,461	471,090	51.26	.00385	95,485	476,600	55.17
20-25	.01134	93,899	466,988	46.55	.00644	95,117	474,157	50.37
25-30	.01442	92,834	460,938	42.05	.00940	94,505	470,446	45.68
30-35	.01884	91,496	453,358	37.63	.01431	93,617	464,937	41.09
35-40	.02625	89,771	443,316	33.30	.02091	92,277	456,861	36.65
40-45	.03943	87,415	428,906	29.13	.03126	90,348	445,025	32.37
45-50	.05556	83,969	408,859	25,22	.04304	87,524	428,753	28.33
50-55	.08554	79,303	380,401	21.55	.06665	83,756	405,587	24.49
55-60	.11982	72,519	341,606	18.32	.09466	78,173	373,119	21.05
60-65	.16316	63,830	293,794		.12872	70,774	331,494	17.98
65-70	.22014	53,416	237,862	12.97	.15506	61,663	284,757	
70-75	.26810	41,657	179,780	10.92	.20646	52,102	233,753	12.59
75-80	.30788	30,489	128,518	9.03	.24817	41,345	181.095	10.22
80-85	.41329	21,102	83.031	6.95	.34338	31,084	128,354	7.76
85 and over	1.00000		63,731	5.15	1.00000	20,410	113,000	5.54
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TABLE 17. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR TOTAL POPULATION: UNITED STATES, 1959-61

	Of 10,000,000 born alive number dying during age interval from specified cause									
Period of life between two exact ages stated in years	Number living at beginning of age interval	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes			
0-1	10,000,000	3,424	86	682	55	14	34			
1-5	9,740,735	2,881	255	4,136	106	23	91			
5-10	9,699,826	1,230	74	3,731	47	12	124			
10-15	9,676,489	680	52	3,035	52	25	226			
15-20	9,655,104	825	143	3,705	149	55	296			
20-25	9,611,148	1,217	412	4,465	360	94	531			
25-30	9,551,659	1,738	826	6,857	803	267	1,028			
30-35	9,490,466	2,319	1,364	11,428	1,732	795	1,348			
35-40	9,414,408	3,029	2,007	20,163	3,656	2,016	1,717			
40-45	9,306,417	4,034	2,687	35,671	7,528	4,870	2,372			
45-50	9,137,828	5,401	3,478	60,752	14,714	9,973	3,733			
50-55	8,875,596	7,478	4,750	96,851	26,398	18,551	6,711			
55-60	8,471,107	9,591	5,693	134,476	40,513	28,283	11,272			
60-65	7,906,700	11,069	6,460	178,845	60,003	36,555	18,284			
65-70	7,114,672	12,064	6,996	210,992	76,615	38,363	25,234			
70-75	6,085,740	12,162	7,082	223,310	88,321	32,764	30,625			
75-80	4,816,969	10,485	6,229	210,372	88,817	21,783	30,874			
80-85	3,357,580	8,005	4,628	169,697	74,263	12,581	23,873			
85-90	1,854,202	4,565	2,586	97,631	42,569	5,686	11,944			
90-95	707,984	1,748	876	32,593	14,231	1,610	3,777			
95-100	152,391	289	106	5,531	2,220	179	476			
100 and over	18,344	46	9	506	203	28	62			
						<u> </u>	L			

TABLE 17. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR TOTAL POPULATION: UNITED STATES, 1959-61—Con.

		number dy	Of 1	0,000,000 h	oorn alive val from spec	cified cause	3
Period of life between two exact ages stated in years	Major cardio- vascular renal diseases	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital mal- formations	Motor vehicle accidents	All accidents except motor vehicle accidents
0-1	1,208	377	667	22,572	36,430	752	8,082
1-5	989	350	505	5,715	4,744	3,777	8,219
5-10	940	287	448	1,337	2,003	4,076	5,053
10-15	1,543	367	721	956	1,504	3,483	5,657
15-20	3,046	645	1,421	1,189	1,464	16,125	8,158
20-25	5,363	1,081	2,638	1 262	` 1 102	20,608	0 200
25-30	8,440	1,561	4,611	1,363	1,192	13,173	9,299
30-35	15,772	2,865	9,929	2,123	907		8,681
35-40	31,050	4,827	22,131	,	951	10,168 9,079	8,737
40-45	62,676	9,072	,	3,196		·	9,284
+0=+0==================================	02,070	9,072	47,433	4,312	1,124	9,007	10,440
45-50	113,113	15,919	88,707	6,064	1,155	9,450	11,603
50-55	194,744	27,627	154,411	8,547	1,228	9,645	12,888
55-60	293,896	43,317	232,642	11,510	1,164	9,736	13,051
60-65	446,423	72,503	345,64 <u>2</u>	16,993	1,102	9,849	13,486
65-70	617,772	113,619	463,805	23,990	841	9,720	14,984
70-75	816,313	172,002	586,234	34,120	698	9,447	18,690
75-80	1,000,870	237,456	682,525	46,466	526	8,370	25,553
80-85	1,089,184	275,079	707,617	57,868	360	5,757	32,764
85-90	861,627	218,538	541,677	52,884	236	2,586	32,243
90-95	426,526	101,864	262,261	31,511	33	737	18,301
95-100	102,566	23,423	61,304	9,495	22	95	4,696
100 and over	13,420	3,010	7,896	1,610	-	6	562

TABLE 18. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR WHITE MALES: UNITED STATES, 1959-61

		- 1	Of 10,0	000,000 bo	rn alive	ified cause	
	nu	mber dying	during ag	ge interva	l from spec	ified cause	
Period of life between two exact ages stated in years	Number living at beginning of age interval	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes
0-1	10,000,000	2,928	59	723	45	10	25
1-5	9,740,831	2,529	160	4,832	122	20	82
5-10	9,701,491	1,199	45	4,548	57	21	100
10-15	9,675,807	618	36	3,522	56	21	146
15-20	9,650,295	714	74	4,557	151	85	184
20-25	9,590,771	873	164	5,518	349	140	524
25-30	9,510,576	1,174	421	7,333	829	341	1,047
30-35	9,440,060	1,552	687	9,942	1,636	1,141	1,543
35-40	9,358,859	2,150	1,324	15,388	3,357	2,816	1,908
40-45	9,242,738	3,394	2,249	27,634	7,171	6,974	2,317
45-50	9,053,254	5,421	3,787	51,293	14,980	15,513	3,519
50-55	8,742,387	8,348	5,958	92,672	28,156	30,897	5,736
55-60	8,246,310	11,730	7,780	140,748	44,049	48,834	9,075
60-65	7,548,471	14,243	9,190	197,779	66,283	64,814	13,243
65-70	6,583,375	15,725	10,057	235,224	84,138	66,851	18,151
70-75	5,382,535	. 15,445	9,647	241,044	92,858	54,043	21,018
75-80	4,020,739	12,015	7,743	214,255	86,636	32,939	21,741
80-85	2,599,327	8,104	5,136	159,413	64,849	16,732	16,084
85-90	1,306,474	3,850	2,385	80,747	31,563	6,556	7,609
90-95	460,007	1,286	828	24,257	9,199	1,703	2,309
95-100	95,642	195	105	3,813	1,413	195	263
100 and over	11,513	26	17	327	115	8	26

TABLE 18. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR WHITE MALES: UNITED STATES, 1959-61—Con.

					<del></del>		
		number dy	Of 1 ing during	.0,000,000 b age interv	oorn alive val from spec	ified cause	•
Period of life between two exact ages stated in years	Major cardio- vascular renal diseases	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital mal- formations	Motor vehicle accidents	All accidents except motor vehicle accidents
0-1	1,191	389	635	18,397	40,292	769	7,354
1-5	867	338	393	4,525	4,587	4,231	8,017
5-10	858	303	385	1,216	2,162	4,997	5,840
10-15	1,359	388	589	896	1,603	4,883	8,213
15-20	2,973	656	1,434	1,214	1,654	25,589	13,160
20-25	5,058	983	2,474	1,346	1,360	35,778	15,536
25-30	7,918	1,294	4,593	1,231	983	21,033	13,803
30-35	16,240	2,192	11,585	1,682	979	15,637	13,465
35-40	37,418	3,662	30,435	2,665	1,045	13,340	13,895
40-45	80,702	6,574	68,967	4,021	1,306	13,020	15,484
45-50	153,473	12,341	133,055	6,168	1,255	13,242	17,177
50-55	264,441	23,475	227,864	9,715	1,300	13,015	18,897
55-60	387,606	38,321	329,316	12,998	1,189	12,860	18,856
60-65	560,994	66,514	462,511	20,072	1,139	12,865	18,436
65-70	725,099	107,562	572,395	28,260	931	12,513	18,952
70-75	864,935	158,915	646,128	38,001	774	12,013	18,878
75-80	952,265	204,204	671,312	47,355	492	10,486	22,721
80-85	910,746	214,359	606,571	52,734	295	7,061	23,197
85-90	618,663	148,245	395,986	41,546	240	3,037	20,081
90-95	272,883	61,365	170,895	22,008	33	<sup>-</sup> 740	10,216
95-100	63,017	13,936	37,965	6,738	22	75	2,730
100 and over	8,254	1,567	5,216	1,169	<u>-</u>		380

TABLE 19. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR WHITE FEMALES: UNITED STATES, 1959-61

•	nu	Of 10,000,000 born alive number dying during age interval from specified cause								
Period of life between two exact ages stated in years	Number living at beginning of age interval	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes			
0-1	10,000,000	2,252	38	687	68	17	39			
1-5	9,803,596	2,264	176	3,943	99	30	98			
5-10	9,770,886	1,095	59	3,351	47	8	156			
10-15	9,752,475	597	24	2,755	38	27	305			
15-20	9,737,548	682	81	2,933	103	25	323			
20-25	9,713,481	898	221	3,461	291	56	482			
25-30	9,684,392	1,193	386	6,298	633	183	833			
30-35	9,649,852	1,452	717	12,154	1,539	373	1,042			
35-40	9,602,624	1,787	1,050	23,188	3,412	1,017	1,098			
40-45	9,532,640	2,341	1,462	40,423	6,673	2,234	1,650			
45-50	9,422,833	2,824	1,568	66,711	12,691	3,802	2,626			
50-55	9,252,150	3,343	1,758	96,700	22,012	5,322	5,429			
55-60	8,996,667	3,877	1,683	124,210	33,874	6,848	10,669			
60-65	8,633,944	4,510	1,957	160,268	52,141	8,124	21,076			
65-70	8,073,892	5,679	2,508	192,858	70,126	9,451	32,565			
70-75	7,250,739	6,501	3,107	215,525	88,057	10,167	43,119			
75-80	6,064,091	7,401	3,672	222,248	98,935	9,586	44,495			
80-85	4,467,574	7,152	3,473	194,327	91,991	7,767	35,554			
85-90	2,604,566	4,767	2,277	122,489	59,118	4,433	18,239			
90-95	1,021,945	1,963	713	43,001	20,676	1,306	5,558			
95-100	220,338	321	55	7,486	3,196	146	606			
100 and over	26,524	69	8	646	279	26	87			

TABLE 19. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR WHITE FEMALES: UNITED STATES, 1959-61—Con.

						-	
		number dy	Of 1 ing during	0,000,000 b age interv	orn alive al from spec	ified cause	2
Period of life between two exact ages stated in years	Major cardio- vascular renal diseases	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital mal- formations	Motor vehicle accidents	All accidents except motor vehicle accidents
0-1	862	268	466	14,134	34,596	792	5,688
1-5	726	289	344	4,171	4,710	3,219	5,540
5-10	794	243	328	1,145	1,879	2,833	2,787
10-15	1,318	300	567	859	1,449	2,124	1,929
15-20	2,357	525	924	876	1,340	7,959	1,975
20-25	4,105	871	1,960	1,008	1,079	6,648	2,064
25-30	5,771	1,207	2,904	1,170	853	4,751	2,173
30-35	8,905	2,085	4,940	1,326	836	4,213	2,393
35-40	14,642	3,334	8,935	1,832	860	4,188	2,771
40-45	28,101	6,393	18,175	2,490	965	4,376	3,485
45-50	50,562	11,393	34,071	3,648	1,052	4,989	4,289
50-55	91,426	19,805	64,154	4,362	1,212	5,612	5,042
55-60	156,042	30,952	114,363	6,433	1,177	6,191	5,399
60-65	289,479	58,023	212,438	10,037	1,212	. 6,695	6,972
65-70	482,708	102,184	350,122	16,075	· 813	6,946	10,164
70-75	774,146	179,588	541,585	27,494	643	7,088	18,619
75-80	126,497	288,153	750,113	46,329	592	6,467	30,766
80-85	388,616	369,251	886,875	67,103	444	4,334	47,882
85-90	219,894	320,541	758,412	69,633	228	1,877	50,978
90-95	628,155	154,025	383,003	43,585	37	629	29,606
95-100	151,606	34,656	90,559	12,988	· 18	119	7,375
100 and over	20,183	4,532	11,580	2,358	-	-	899

	nu	mber dying	Of 10,0 during ag	00,000 bo e interva	rn alive l from spec	ified cause	
Period of life between two exact ages stated in years	Number living at beginning of age interval	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes
	-						
0-1	10,000,000	8,599	331	572	30	29	50
1-5	9,530,128	5,771	782	2,753	74	10	96
5-10	9,456,962	1,693	169	2,383	36	-	157
10-15	9,423,430	1,235	132	2,352	117	29	161
15-20	9,387,390	1,842	470	4,134	411	58	431
20-25	9,310,848	2,808	1,256	4,780	763	98	763
25-30	9,182,502	5,196	3,679	6,190	1,640	447	1,640
30-35	9,026,985	8,712	6,837	10,588	3,276	1,661	1,614
35-40	8,833,098	12,729	9,673	19,898	6,755	4,871	3,147
40-45	8,574,350	17,031	12,240	40,861	14,473	11,939	4,289
45-50	8,207,548	21,265	14,277	67,088	25,890	19,857	6,485
50-55	7,723,927	28,133	17,490	114,266	43,946	33,221	10,230
55-60	7,035,138	32,227	19,277	155,717	60,792	44,210	13,769
60-65	6,166,929	32,106	18,206	187,597	76,218	48,205	17,504
65-70	5,139,219	28,339	15,404	198,313	80,449	42,231	18,275
70-75	3,991,383	23,788	14,231	172,120	70,127	28,360	17,428
75-80	2,906,441	16,720	10,612	128,676	50,945	16,760	12,374
80-85	1,999,360	12,346	8,117	97,518	38,355	10,975	9,317
85-90	1,161,994	9,193	6,153	63,832	23,501	5,189	4,522
90-95	517,441	4,504	2,589	27,363	11,373	3,153	2,702
95-100	123,992	472	188	5,099	1,605	377	849
100 and over	14,926	80	-	694	320	53	

TABLE 20. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR NONWHITE MALES: UNITED STATES, 1959-61—Con.

		number dy	Of 1	0,000,000 b age interv	orn alive al from spec	ified cause	
Period of life between two exact ages stated in years	Major cardio- vascular renal diseases	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital mal- formations	Motor vehicle accidents	All accidents except motor vehicle accidents
0-1	2,367	783	1,303	60,962	33,147	622	17,721
1-5	2,369	577	1,462	14,420	5,350	4,706	16,740
5-10	1,620	399	979	2,346	1,911	6,157	10,197
10-15	2,764	499	1,646	1,485	1,632	4,543	14,557
15-20	5,604	979	3,233	2,253	1,352	16,754	20,771
20-25	10,151	1,946	5,395	2,907	1,084	30,651	22,889
25-30	19,442	3,306	11,113	4,897	1,019	26,180	23,321
30-35	41,046	7,003	25,283	7,691	973	20,345	24,025
35-40	76,307	13,395	48,390	12,591	1,171	19,645	27,297
40-45	142,978	28,369	91,706	16,505	1,304	18,336	29,323
45-50	216,674	45,446	146,544	20,536	1,231	18,927	28,454
	341,066	1	234,198	26,895	962	17,793	29,426
55-60	463,958	72,492	318,114	32,461		15,908	
		106,497	-	·	1,084	13,807	27,041
65-70	583,810	140,736	393,463 452,101	37,574 43,280	679	11,669	23,675
03-70	684,311	169,881	432,101	43,200	0/9	11,009	18,800
70-75	674,801	173,770	433,550	45,616	550	7,837	17,428
75-80	582,139	152,054	370,131	39,981	391	5,952	14,762
80-85	·558,244	139,018	350,345	39,727	285	4,515	14,519
85-90	440,748	110,835	272,159	30,915	296	2,965	11,046
90-95	272,622	71,956	161,704	23,760	_	1,914	7,995
95-100	73,749	18,130	43,626	8,215	94	188	2,077
100 and over	10,386	2,990	5,874	1,041	-	53	347

TABLE 21. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR NONWHITE FEMALES: UNITED STATES, 1959-61

	nu	mber dying		000,000 boge interva	rn alive 1 from spec	ified cause	
Period of life between two exact ages stated in years	Number living at beginning of age interval	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes
0-1	10,000,000	7,269	246	533	71	10	40
1-5	9,617,232	5,439	712	2,510	85	21	108
5-10	9,554,297	1,760	244	2,286	-		48
10-15	9,526,547	1,101	267	2,247	59	44	327
15-20	9,505,738	1,594	738	2,643	194	58	777
20-25	9,466,043	4,162	2,551	4,073	537	44	693
25-30	9,400,466	6,047	3,913	8,115	1,022	177	1,667
30-35	9,307,020	8,170	5,832	17,687	2,421	589	1,916
35-40	9,166,991	10,163	7,360	33,679	4,964	1,027	3,723
40-45	8,967,591	10,460	6,981	57,926	10,841	2,573	6,838
45-50	8,679,294	10,098	5,501	85,312	17,861	4,421	11,656
50-55	8,297,925	12,951	5,955	118,414	29,892	6,446	22,405
55-60	7,736,180	14,049	6,053	143,268	43,168	7,231	33,547
60-65	6,994,065	13,917	6,467	154,140	51,199	7,314	41,007
65-70	6,082,495	11,992	5,892	141,463	52,966	6,547	37,252
70-75	5,127,369	11,686	5,334	137,268	53,349	6,351	35,269
75-80	4,053,951	10,310	4,818	112,951	49,895	4,818	29,481
80-85	3,031,534	8,096	4,125	94,739	41,959	3,814	20,940
85-90	1,974,372	5,796	3,667	71,100	30,522	2,602	13,723
90-95	967,489	4,079	1,869	37,059	17,339	1,359	7,139
95-100	243,808	1,263	758	9,351	3,664	126	1,895
100 and over	29,349	30	-	754	241	90	211

TABLE 21. NUMBER OF LIFE TABLE DEATHS FROM SPECIFIED CAUSES FOR NONWHITE FEMALES: UNITED STATES, 1959-61—Con.

		number dy		.0,000,000 b g age interv	oorn alive val from spec	ified cause	:			
Period of life between two exact ages stated in years	Major cardio- vascular renal diseases	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital mal- formations	Motor vehicle accidents	All accidents except motor vehicle accidents			
0-1	1,988	482	1,281	52,574	27,793	574	15,265			
1-5	1,779	540	1,090	12,316	5,251	3,324	15,798			
5-10	1,625	342	1,014	2,212	1,858	3,630	8,410			
10-15	3,066	520	1,711	1,473	1,071	1,741	3,631			
15-20	5,831	1,069	2,993	2,138	1,108	5,268	3,149			
20-25	11,481	2,350	5,774	2,461	962	5,931	4,677			
25-30	19,987	4,157	10,360	3,890	689	5,647	5,069			
30-35	38,744	9,454	20,046	5,938	863	4,948	6,885			
35-40	67,122	17,117	36,610	8,922	770	4,792	7,831			
40-45	120,713	32,382	68,720	9,745	810	5,385	8,125			
45-50	182,557	52,152	107,494	10,199	. 1,105	4,873	7,963			
50-55	301,239	82,797	187,855	14,281	1,040	5,608	8,962			
55-60	432,512	124,471	270,607	18,318	923	4,938	10,322			
60-65	574,370	170,834	354,909	24,482	237	4,706	12,088			
65-70	635,429	196,152	387,722	27,017	379	4,100	13,026			
70-75	745,321	223,643	455,796	33,406	465·	3,641	16,639			
75-80	727,292	216,524	440,510	34,869	362	2,279	18,859			
80-85	777,925	222,875	472,842	38,378	389	2,491	19,928			
85-90	753,594	210,580	458,899	42,116	_	1,064	23,187			
90-95	538,383	140,758	320,955	39,439	_	339	17,679			
95-100	154,304	40,692	88,589	11,626	_	_	5,434			
100 and over	19,958	4,680	11,806	2,234	-	_	634			

TABLE 22. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR TOTAL POPULATION: UNITED STATES, 1959-61

	Р	robabilit even	y for pe	rsons at th ying from t	e indicated e he specified	xact age o cause	f
Exact age in years	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases
0-1	0.01043	0.00568	0.15154	0.05434	0.02145	0.01746	0.61075
1-5	.01036	.00582	.15551	.05578	.02202	.01793	.62688
5-10	.01010	.00582	.15574	.05600	.02211	.01799	.62942
10-15	.01000	.00583	.15573	.05613	.02217	.01802	.63084
15-20	.00995	.00584	.15576	.05625	.02221	.01804	.63208
20-25	00007	00505	15600	05660	00001	01.000	60466
25-30	.00991	.00585	.15608	.05649	.02231	.01809	.63466
	.00984	.00584	.15659	.05681	.02244	.01815	.63805
30-35	.00972	.00579	.15688	.05709	.02255	.01816	.64127
35-40	.00956	.00569	.15693	.05737	.02265	.01816	.64478
40-45	.00934	.00554	.15658	.05764	.02270	.01819	.64892
45-50	.00907	.00535	.15557	.05788	.02258	.01826	.65404
50-55	.00873	.00512	.15332	.05793	.02213	.01838	.66061
55-60	.00827	.00480	.14921	.05758	.02099	.01847	.66917
60-65	.00764	.00442	.14285	.05657	.01891	.01836	.67977
65-70	.00694	.00401	.13362	.05443	.01588	.01783	.69269
70-75	.00613	00354	.12154	05104	01 22 6	01670	70000
75-80	.00522	.00354		.05104	.01226	.01670	.70830
80-85	.00322		.10719	.04615	.00869	.01474	.72539
		.00244	.09113	.03976	.00598	.01195	.74260
85 and over	.00359	.00193	.07349	.03194	.00405	.00877	.75728

TABLE 22. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR TOTAL POPULATION: UNITED STATES, 1959-61—Con.

	Probability for persons at the indicated exact age of eventually dying from the specified cause									
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents				
0-1	0.13258	0.42252	0.03454	0.00586	0.01657	0.02804				
1-5	.13607	.43370	.03314	.00228	.01693	.02796				
5-10	.13661	.43548	.03269	.00180	.01661	.02723				
10-15	.13691	.43648	.03264	.00159	.01623	.02677				
15-20	.13717	.43737	.03261	.00144	.01590	.02625				
20-25	.13773	.43923	.03263	.00130	.01430	.02552				
25-30	.13848	.44169	.03269	.00118	.01223	.02470				
30-35	.13921	.44405	.03274	.00109	.01092	.02395				
35-40	.14003	.44658	.03278	.00100	.00993	.02321				
40-45	.14113	•44938	.03281	.00091	.00907	.02249				
45-50	.14274	.45248	.03295	.00081	.00825	.02176				
50-55	.14517	.45586	.03324	.00070	.00743	.02109				
55-60	.14884	.45940	.03381	.00059	.00665	.02058				
60-65	.15398	.46277	.03477	.00048	.00589	.02040				
65-70	.16093	.46570	.03626	.00038	.00516	.02077				
70-75	.16947	.46823	.03844	.00031	.00444	.02182				
75-80	.17841	.46986	.04149	.00024	.00364	.02369				
80-85	.18523	.47080	.04568	.00019	.00274	.02638				
85 and over	.18705	.47090	.05151	.00016	.00185	.03,010				

TABLE 23. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR WHITE MALES: UNITED STATES, 1959-61

	P	robabilit even	y for per tually dy	rsons at the ying from th	e indicated ex ne specified o	kact age of cause	
Exact age in years	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases
0-1	0.01135	0.00679	0.15256	0.05380	0.03507	0.01267	0.59370
1-5	.01135	.00696	.15654	.05523	.03600	.01300	.60937
5-10	.01114	.00697	.15668	.05544	.03614	.01304	.61175
10-15	.01105	.00699	.15663	.05558	.03624	.01307	.61329
15-20	.01101	.00700	.15667	.05572	.03633	.01309	.61477
20-25	.01100	.00704	.15717	.05605	.03655	.01315	.61827
25-30	.01101	.00708	.15792	.05649	.03684	.01321	.62296
30-35	.01096	.00709	.15832	.05682	.03708	.01319	.62677
35-40	.01089	.00707	.15863	•05714	.03728	.01314	.63047
40-45	.01080	.00702	.15896	.05750	•03744	.01310	.63434
45-50	.01065	.00692	.15923	.05791	.03746	.01312	.63871
50-55	.01041	.00673	.15903	.05825	.03701	.01318	.64386
55-60	.01002	.00641	.15736	.05834	.03549	.01328	.65053
60-65	.00939	.00598	.15326	.05790	.03230	.01331	.65932
65-70	.00860	.00546	.14568	.05632	.02719	.01325	.67076
70-75	.00760	.00481	.13448	.05325	.02084	.01283	.68569
75-80	.00634	.00403	.12008	.04819	.01446	.01195	.70281
80-85	.00518	.00326	.10332	.04122	•00969	.01012	.72079
85 and over	.00410	.00255	.08354	.03237	.00648	.00781	.73696

TABLE 23. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR WHITE MALES: UNITED STATES, 1959-61—Con.

1	1 ITODADILILLY TOT PETSONS AL LINE INDICALED EXACT AGE OF										
		eventi	ally dying	from the spe	cified caus	se					
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents					
the of the		-									
0-1	0.10676	0.43807	0.03240	0.00637	0.02372	0.03053					
1-5	.10956	.44966	.03137	.00240	.02427	.03059					
5-10	.10997	.45144	.03103	.00193	.02393	.02988					
10-15	.11023	.45260	.03099	.00172	.02348	.02936					
15-20	.11048	.45374	.03098	.00155	.02304	.02859					
20-25	.11110	.45641	.03104	.00139	.02051	.02739					
25-30	.11193	.45999	.03116	.00126	.01692	.02599					
30-35	.11263	.46294	.03126	.00117	.01482	.02472					
35-40	.11337	.46572	.03136	.00107	.01328	.02350					
40-45	.11440	.46828	.03146	.00097	.01200	.02229					
45-50	.11607	.47046	.03168	•00085	.01082	.02105					
50-55	.11879	.47197	.03210	.00073	.00968	.01983					
55-60	.12308	.47273	.03285	.00062	.00869	.01873					
60-65	.12939	.47281	.03416	.00052	.00779	.01796					
65-70	.13825	.47187	.03612	.00042	.00698	.01780					
70-75	.14911	.47080	.03893	.00035	.00621	.01825					
75-80	.16009	.46955	.04267	.00027	.00532	01973					
80-85	.16907	.46806	.04778	.00023	.00420	.02178					
85 and over	.17231	.46695	.05470	.00023	.00295	.02557					

TABLE 24. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR WHITE FEMALES: UNITED STATES, 1959-61

Probability for persons at the indicated exact age of eventually dying from the specified cause Exact age in years Malignant neoplasm Malignant Major Malig-Infective neoplasm cardionant and Tuberōf Diabetes vascularof parasitic neoculosis digestive respiratory renal plasms diseases diseases organs system 0-1-----0.00630 0.00270 0.15457 0.05660 0.02261 0.00710 0.64469 .00619 1-5-----.00275 .15759 .05773 .00724 .02305 .65752 5-10-----.00598 .00274 .15772 .05791 .00726 .02312 .65965 10-15-----.00588 .00274 .15767 .05802 .00727 .02315 .66081 15-20-----.00583 .00274 .15763 .05810 .00728 .02315 .66169 .00274 20-25-----.00577 .15772 .05823 .00729 .02318 .66308 .00570 .15784 25-30-----.00273 .05838 .00731 .02320 .66465 30-35-----.00560 .00270 .15775 .05852 .00732 .02319 .66643 .00547 35-40-----.00263 .02320 .15726 .05865 .00731 .66878 40-45-----.00532 .00254 .15598 .05872 .00726 .02325 .67216 45-50-----.00514 .00242 .15351 .05870 .00711 .02335 .67701 50-55-----.00493 .00229 .14913 .05841 .00683 .02350 .68403 55-60-----.00470 .00216 .14262 .05762 .00643 .02356 .69329 60-65-----.13422 .00444 .00206 .05612 .00591 .02332 .70435 65-70-----.00419 .12368 .00531 .00196 .05355 .02232 .71735 70-75-----.00389 .00184 .11112 .04996 .00461 .02036 .73222 75-80-----.00357 .00168 .09733 .00384 .74784 .04522 .01724 80-85-----.00320 .00146 .08236 .03923 .00306 .01344 .76293 85 and over----.00273 .00117 .06666 .03197 .00227 .00940 .77550

TABLE 24. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR WHITE FEMALES: UNITED STATES, 1959-61—Con.

	Probability for persons at the indicated exact age of eventually dying from the specified cause									
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents				
0-1	0.15886	. 0.42368	0.03391	0.00560	0.00921	0.02488				
1-5	.16202	.43212	.03314	.00218	.00931	.02480				
5-10	.16253	.43353	.03283	.00171	.00901	.02431				
10-15	.16281	.43432	.03277	.00152	.00874	.02407				
15-20	.16303	.43493	.03273	.00137	.00853	.02391				
20-25	.16338	.43591	.03273	.00124	.00774	.02377				
25-30	.16378	.43702	.03272	.00113	.00707	.02363				
30-35	.16424	.43828	.03272	.00105	.00660	.02349				
35-40	.16483	.43992	.03274	.00096	.00620	.02335				
40-45	.16569	.44221	.03279	.00088	.00580	.02323				
45-50	.16695	.44544	.03290	.00079	.00541	.02314				
50-55	.16879	.44997	.03312	.00069	.00497	.02310				
55-60	.17139	.45562	.03357	.00057	.00449	.02319				
60-65	.17500	.46151	.03424	.00046	.00396	.02354				
65-70	.17995	.46722	.03537	.00034	.00340	.02431				
70-75	.18629	.47197	.03717	.00027	.00283	.02567				
75-80	.19313	.47502	.03991	.00022	.00221	.02762				
80-85	<b>.</b> 19765	.47687	.04380	.00016	.00156	.03061				
85 and over	.19725	.47745	.04936	.00011	.00101	.03412				

TABLE 25. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR NONWHITE MALES: UNITED STATES, 1959-61

	F	robabilit ever	y for pe itually d	rsons at th ying from t	e indicated e he specified	xact age o cause	f
Exact age in years	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases
0-1	0.02748	0.01621	0 13128	0.05111	0.02717	0.01258	0.52072
1-5	.02793	.01698	.13769	.05363	.02851	.01320	.54614
5-10	.02754	.01703	.13847	.05403	.02873	.01329	.55012
10-15	.02746	.01707	.13871	.05422	.02883	.01332	.55190
15-20	.02740	.01712	.13899	.05442	.02894	.01335	.55373
13-20	.02743	.01712	.13033	.05442	,020)1	.02333	
20-25	.02746	.01721	.13969	.05482	.02917	.01342	.55768
25-30	.02754	.01731	.14112	.05550	.02957	.01352	.56437
30-35	.02743	.01720	.14286	.05628	.03003	.01357	.57193
35-40	.02705	.01681	.14480	.05714	.03050	.01369	.57984
40-45	.02638	.01619	.14685	.05808	.03085	.01373	.58844
45-50	.02549	.01542	.14844	.05891	.03078	.01382	.59732
50-55	.02433	.01454	.14904	.05925	.03013	.01385	.60667
55-60	.02271	.01347	.14739	.05880	.02836	.01375	.61758
60-65	.02068	.01224	.14289	.05772	.02518	.01345	.62929
65-70	.01857	.01115	.13497	.05384	.02084	.01274	.64154
70-75	.01681	.01050	.12409	.04916	.01625	.01182	.65458
75-80	.01490	.00952	.11120	.04339	.01256	.01024	.66676
80-85	.01330	.00853	.09729	.03759	.00988	.00870	.67809
85 and over	.01226	.00769	.08347	.03167	.00755	.00695	.68633

TABLE 25. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR NONWHITE MALES: UNITED STATES, 1959-61—Con.

	Probability for persons at the indicated exact age of eventually dying from the specified cause								
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents			
0-1	0.12611	0.33723	0.04761	0.00553	0.02495	0.04024			
1-5	.13224	.35372	.04356	.00232	.02611	.04037			
5-10	.13320	.35631	.04237	.00178	.02582	.03891			
10-15	.13364	.35747	.04227	.00158	.02526	.03796			
15-20	.13410	.35867	.04228	.00141	.02487	.03656			
20-25	.13509	.36127	.04238	.00128	.02327	.03463			
25-30	.13677	.36573	.04266	.00118	.02026	.03262			
30-35	.13876	.37080	.04285	.00108	01771	.03060			
35-40	.14101	.37608	.04292	.00100	.01579	.02855			
40-45	.14371	.38178	.04275	.00089	.01398	.02623			
45-50	.14667	.38767	.04264	.00077	.01237	.02383			
50-55	.14997	.39297	.04266	.00066	.01069	.02164			
55-60	.15435	.39815	.04301	.00059	.00921	.01957			
60-65	.15881	.40262	.04380	.00050	.00793	.01794			
65-70	.16318	.40658	.04525	.00045	.00683	.01692			
70-75	.16755	.41023	.04742	.00041	.00587	.01708			
75-80	.17031	.41420	.04942	.00037	.00536	.01746			
80-85	.17152	.41699	.05185	.00034	.00482	.01800			
85 and over	.17549	.41598	.05502	.00034	.00441	.01847			

	Pı	obabilit even	y for per tually dy	rsons at the	indicated ex ne specified o	act age of	
Exact age in years	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases
	0.01604	0.00702	0 12275	0.04122	0.00557	0.02707	0.61152
0-1	0.01604	******	0.12375	0.04123	0.00557		.63566
1-5	.01593	.00822	.12862	.04286	.00579	.02814	
5-10	.01546	.00820	.12921	.04313	.00582	.02831	.63966
10-15	.01532	.00820	.12934	.04326	.00584	.02839	.64135
15-20	.01524	.00819	.12939	.04335	.00585	.02842	.64243
20-25	.01514	.00814	.12965	.04351	.00587	.02846	.64451
25-30	.01480	.00793	.13012	.04375	.00590	.02858	.64778
30-35	.01430	.00759	.13056	.04408	.00594	.02869	.65214
35-40	.01362	.00707	.13062	.04449	.00597	.02892	.65787
40-45	.01279	.00640	.12977	.04493	.00599	.02915	.66502
45-50	.01201	.00581	.12741	.04517	.00589	.02933	.67320
50-55	.01135	.00542	.12298	.04510	.00563	.02927	.68214
55-60	.01050	.00504	.11661	.04451	.00520	.02850	.69273
60-65	.00960	.00471	.10850	.04306	.00472	.02673	.70439
65-70	.00876	.00435	.09941	.04109	.00423	.02399	.71553
70-75	.00805	.00401	.09034	.03842	.00374	.02119	.72489
75-80	.00730	.00376	.08040	.03543	.00316	.01810	.73298
80-85	.00636	.00344	.07026	.03092	.00264	.01448	.74027
•		.00344					.74264
85 and over	.00566	.00319	.05990	.02622	.00212	.01163	./4204

TABLE 26. PROBABILITY OF EVENTUALLY DYING FROM SPECIFIED CAUSES FOR NONWHITE FEMALES: UNITED STATES, 1959-61—Con.

						· · · · · · · · · · · · · · · · · · ·
	P	robability eventı	for persons ually dying	s at the indi from the spe	cated exact	t age of se
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents
0-1	0.17546	0.37076	0.03980	0.00461	0.00753	0.02336
1-5	.18239	.38538	.03592	.00190	.00777	.02270
5-10	.18354	.38781	•03487	.00136	.00747	.02120
10-15	.18403	.38883	.03474	.00117	.00711	.02037
15-20	.18438	.38950	.03466	.00106	.00695	.02004
20-25	.18504	.39082	.03458	.00095	.00642	.01979
25-30	.18608	.39293	.03456	.00085	.00583	.01943
30-35	.18751	.39576	.03449	.00079	.00528	.01908
35-40	.18934	.39962	.03437	.00071	.00482	.01862
40-45	.19164	.40442	.03414	.00064	.00440	.01816
45-50	.19427	•40994	.03415	.00056	.00392	.01783
50-55	.19692	.41583	.03449	•00046	.00352	.01769
55-60	.20051	.42174	.03515	.00036	.00305	.01781
60-65	.20399	.42780	.03626	.00026	.00266	.01823
65-70	.20648	.43356	.03766	.00026	.00229	.01897
70-75	.20669	.43870	.03941	.00024	.00191	.01996
75-80	.20625	.44243	.04161	.00019	.00152	.02115
80-85	.20438	.44634	.04413	.00013	.00129	.02206
85 and over	.20093	•44584	.04833	.00000	.00071	.02377

TABLE 27. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR TOTAL POPULATION: UNITED STATES, 1959-61

,	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause										
Exact age in years	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases				
0-1	.22	.10	2.27	.66	.32	.22	10.90				
1-5	.20	.10	2.33	.68	.33	.22	11.18				
5-10	.18	.10	2.31	.68	.33	.22	11.22				
10-15	.17	.10	2.29	.68	.33	.22	11.24				
15-20	.17	.10	2.27	.68	.33	.22	11.25				
20-25	.17	.10	2.26	.69	.34	.22	11,28				
25-30	.16	.10	2.25	.69	.34	.22	11.32				
30-35	.15	.09	2.23	.69	.34	.21	11.34				
35-40	.14	.09	2.20	.69	.34	.21	11.34				
40-45	.13	.08	2.14	.68	.33	.21	11.32				
45-50	.12	.07	2.05	.67	.32	.20	11.23				
50-55	.11	.06	1.91	.64	.30.	.20	11.08				
55-60	.09	.05	1.71	.60	.26	.19	10.82				
60-65	.08	.04	1.48	.54	.21	.17	10.48				
65-70	.06	.03	1.21	.46	.15	.15	10.00				
70-75	.04	.03	.93	.37	.10	.12	9.41				
75-80	.03	.02	.67	.28	.06	.09	8.67				
80-85	.02	.01	.46	.19	.03	.06	7.76				
85 and over	.01	.01	,29	.12	.02	.03	6.61				

TABLE 27. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR TOTAL POPULATION: UNITED STATES, 1959-61—Con.

	Gain in years in expectation of life at the indicated exa due to elimination of the specified cause							
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents		
0-1	1.29	5.89	.53	.36	.55	.62		
1-5	1.32	6.04	.38	.10	.56	.58		
5-10	1.32	6.06	.34	.07	.54	.52		
10-15	1.32	6.08	.33	.05	.51	.49		
15-20	1.32	6.08	.32	.04	.49	.46		
20-25	1.32	6.10	.32	.03	.40	.41		
25-30	1.33	6.13	.31	.03	.29	.37		
30-35	1.33	6.14	.31	.02	.23	.33		
35-40	1.33	6.14	.30	.02	.19	.29		
40-45	1.32	6.11	.29	.02	.16	. 26		
45-50	1.31	6.03	.28	.01	.13	.23		
50-55	1.30	5.88	.27	.01	.10	.20		
55-60	1.28	5.63	.26	.01	.08	.17		
60-65	1.26	5.30	.25	.01	.06	.15		
65-70	1.23	4.87	. 24	.00	.05	.14		
70-75	1.17	4.37	.23	.00	.03	.13		
75-80	1.09	3.81	. 22	00	.02	.12		
80-85	.96	3.22	.21	.00	.01	.12		
85 and over	.80	2.63	.20	.00	.01	.11		

TABLE 28. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR WHITE MALES: UNITED STATES, 1959-61

	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause								
Exact age in years	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases		
0-1	.20	.10	2.12	.63	.49	.15	10.85		
1-5	.19	.10	2.17	.64	.50	.16	11.13		
5-10	.17	.10	2,15	•64	.51	.16	11.17		
10-15	.17	.10	2.12	.65	.51	.16	11.19		
15-20	.16	.10	2.11	.65	.51	.16	11.21		
20-25	.16	.10	2.09	.65	.51	.16	11.26		
25-30	.16	.10	2.08	.65	.52	.16	11.32		
30-35	.15	.10	2.06	.65	.52	.15	11.36		
35-40	.15	.10	2.04	.65	.52	.15	11.37		
40-45	.14	•09	2.00	.65	.51	.14	11.33		
45-50	.13	.09	1.95	.64	.50	.14	11.21		
50-55	.12	.08	1.86	.62	.47	.13	10.97		
55-60	.11	.07	1.72	.58	.42	.12	10.61		
60-65	.09	.06	1.52	.53	.34	.12	10.15		
65-70	.07	.05	1.26	.46	.25	.10	9.58		
70-75	.05	.03	.99	.37	.16	.09	8.91		
75-80	.04	.02	.73	.28	.09	.07	8.15		
80-85	•02	.02	.51	.19	.05	.05	7.26		
85 and over	.02	.01	.33	.12	.02	.03	6.18		

TABLE 28. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR WHITE MALES: UNITED STATES, 1959-61—Con.

	Gain i	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause								
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents				
0-1	.99	6.51	.46	.37	.78					
1-5	1.02	6.68	.34	.10	.80	.73				
5-10	1.02	6.70	.31	.07	.77	.68				
10-15	1.02	6.71	.31	.05	.74	.64				
15-20	1.02	6.73	.30	.04	.71	.60				
20-25	1.02	6.76	.30	.04	.58	.53				
25-30	1.03	6.80	.29	.03	.40	.45				
30-35	1.03	6.83	.29	.02	.30	.39				
35-40	1.03	6.83	.29	.02	. 24	.34				
40-45	1.03	6.79	.28	.02	.19	.29				
45-50	1.03	6.65	.27	.01	.16	.25				
50-55	1.03	6.41	.26	.01	.12	.21				
55-60	1.03	6.04	. 25	.01	.10	.17				
60-65	1.03	5.58	.25	.01	.08	.14				
65-70	1.02	5.01	. 24	.00	.06	.12				
70-75	1.00	4.40	.23	.00	.04	.11				
75-80	.94	3.78	.22	.00	.03	.10				
80-85	.85	3.17	.21	.00	.02	.09				
85 and over	.72	2.59	.21	.00	.01	.10				

TABLE 29. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR WHITE FEMALES: UNITED STATES, 1959-61

	Gain in	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause								
Exact age in years	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases			
0-1	.14	.05	2.43	.68	11	27	10.47			
1-5					.11	.27				
	.13	.05	2.48	.70	.11	.27	10.67			
5-10	.11	.05	2.45	.70	.11	.27	10.70			
10-15	.10	.05	2.43	.70	.11	.27	10.72			
15-20	.10	.05	2.42	.70	.11	.27	10.72			
20-25	.10	.05	2.41	.70	.11	.27	10.73			
25-30	.09	.05	2.39	.70	.11	.27	10.74			
30-35	.09	.04	2.37	.70	.11	.27	10.74			
35-40	.08	.04	2.32	.70	.11	.26	10.74			
40-45	•07	.04	2.24	.69	.11	.26	10.74			
45-50	.07	.03	2.11	.67	.10	.26	10.73			
50-55	.06	.03	1.91	.64	.09	.25	10.71			
55-60	.05	.02	1.67	.59	.08	.24	10.64			
60-65	.04	.02	1.41	.53	.06	.23	10.51			
65-70	.03	.02	1.13	.45	.05	.20	10.24			
70-75	.03	.01	.86	.36	.03	.16	9.80			
75-80	.02	.01	.62	.27	.02	.11	9.15			
80-85	.02	.01	.42	.19	.02	.07	8.24			
85 and over	.01	.00	.26	.12	.01	•04	7.05			

TABLE 29. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR WHITE FEMALES: UNITED STATES, 1959-61--Con.

	Gain i	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause								
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents				
0-1	1.43	5.04	.42	.36	.30	.35				
1-5	1.46	5.14	.32	.10	.30	.32				
5-10	1.46	5.16	.29	•07	.28	.28				
10-15	1.46	5.16	.28	.05	.26	.26				
15-20	1.46	5.17	.28	.04	.24	.24				
20-25	1.46	5.17	.27	.04	.20	.23				
25-30	1.46	5.18	.27	.03	.16	.22				
30-35	1.46	5.18	.26	.03	.14	.21				
35-40	1.46	5.18	.26	.02	.12	.20				
40-45	1.45	5.18	.25	.02	.10	.19				
45-50	1.45	5.16	.25	.01	.09	.18				
50-55	1.43	5.13	.24	.01	.07	.17				
55-60	1.41	5.05	.23	.01	.06	.16				
60-65	1.39	4.91	.23	.01	.04	.15				
65-70	1.35	4.66	.22	.00	.03	.15				
70-75	1.29	4.30	.21	.00	.02	.15				
75-80	1.19	3.83	.21	.00	.01	.14				
80-85	1.04	3.28	.20	.00	.01	.14				
85 and over	.85	2.69	.19	.00	.00	.13				

TABLE 30. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR NONWHITE MALES: UNITED STATES, 1959-61

	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause								
Exact age in years	Infective and parasitic diseases		Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases		
0-1	.56	.29	1.98	.70	.42	.18	10.44		
1-5	.53	.31	2.07	•74	•44	.19	10.94		
5-10	•49	.30	2.07	.74	•44	.19	11.01		
10-15	•48	.30	2.06	.74	•44	.19	11.03		
15-20	.48	.30	2.05	.75	•44	.19	11.06		
20-25	.47	.30	2.05	.75	.45	.19	11.11		
25-30	.46	.30	2.05	.76	.45	.19	11.21		
30-35	.45	•29	2.06	.76	.46	.19	11.29		
35-40	.43	.27	2.06	.77	.46	.18	11,33		
40-45	.39	.24	2.05	.76	.46	.18	11.30		
45-50	.35	.21	2.00	.75	.44	.17	11.14		
50-55	.31	.18	1.91	.72	.40	.16	10.89		
55-60	.26	.15	1.75	.66	•35	.15	10,49		
60-65	.21	.12	1.53	.59	.28	.13	9.94		
65-70	.16	.10	1.28	.49	.20	.11	9.25		
70-75	.13	.08	1.00	.38	.13	.09	8,38		
75-80	.09	.06	.73	.28	.08	.06	7.38		
80-85	.07	.04	•52	.19	.05	.04	6.41		
85 and over	.05	.03	•35	.13	.03	.03	5.33		

TABLE 30. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR NONWHITE MALES: UNITED STATES, 1959-61—Con.

	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause								
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents			
0-1	1.60	5.40	1.05	.30	.75	1.18			
1-5	1.68	5.66	.69	.09	.79	1.11			
5-10	1.68	5.69	.60	.06	.76	1.01			
10-15	1.69	5.70	.59	.05	.72	.95			
15-20	1.69	5.72	.58	.04	.70	.87			
20-25	1.70	5 <b>.</b> 74	•58	.03	.62	.77			
25-30	1.71	5.80	.57	.03	•48	.67			
30-35	1.73	5.84	.56	.02	.38	.58			
35-40	1.74	5.85	.54	.02	.30	.50			
40-45	1.74	5.82	.51	.02	. 24	.41			
45-50	1.72	5.72	.48	.01	.19	•33			
50-55	1.68	5.54	. 45	.01	.15	.27			
55-60	1.63	5.25	.41	.01	.11	.21			
60-65	1.55	4.87	.38	. •00	.Ó8	.17			
65-70	1.43	4.42	.35	.00	.06	.13			
70-75	1.28	3.88	.32	.00	.04	.12			
75-80	1.10	3.32	.28	.00	.03	.10			
80-85	.92	2.80	.25	.00	.02	.09			
85 and over	.76	2.24	.21	.00	.02	.07			

TABLE 31. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR NON-WHITE FEMALES: UNITED STATES, 1959-61

	Gain i	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause								
Exact age in years	Infective and parasitic diseases	Tuber- culosis	Malig- nant neo- plasms	Malignant neoplasm of digestive organs	Malignant neoplasm of respiratory system	Diabetes	Major cardio- vascular- renal diseases			
0-1	.41	.19	2.18	•59	.09	.42	12.53			
1-5	.38	.19	2.26	.61	.10	.43	13.01			
5-10	.34	.19	2.26	.61	.10	.44	13.08			
10-15	.33	.19	2.25	.62	.10	.44	13.11			
15-20	.32	.19	2.24	.62	.10	.44	13.11			
20-25	.32	.18	2.24	.62	.10	.43	13.13			
25-30	.30	.17	2.23	.62	.10	.43	13.15			
30-35	.27	.15	2.21	.62	.10	.43	13.16			
35-40	.24	.13	2.17	.62	.10	.43	13.14			
40-45	.21	.11	2.08	.62	.09	.42	13.08			
45-50	.18	.09	1.94	.60	.09	.41	12.92			
50-55	.15	.07	1.74	.57	.08	.39	12.66			
55-60	.13	.06	1.50	.52	.07	.36	12.22			
60-65	.10	.05	1.23	.45	.05	.30	11.59			
65-70	08	.04	<b>.</b> 97	.38	.04	.23	10.72			
70-75	.06	.03	.75	, .30	.03	.18	9.74			
75-80	.05	.02	.54	.23	.02	.12	8.57			
80-85	.03	.02	.38	.16	.01	.08	7.41			
85 and over	.02	.01	.25	.11	.01	.05	6.12			

TABLE 31. GAIN IN EXPECTATION OF LIFE DUE TO ELIMINATION OF SPECIFIED CAUSES OF DEATH FOR NON-WHITE FEMALES: UNITED STATES, 1959-61—Con.

	Gain in years in expectation of life at the indicated exact age due to elimination of the specified cause								
Exact age in years	Vascular lesions affecting central nervous system	Diseases of heart	Influenza and pneumonia	Congenital malfor- mations	Motor vehicle accidents	All accidents except motor vehicle accidents			
0-1	2.34	5.78	.90	.27	.25	.59			
1-5	2.43	6.00	.56	.09	.25	.51			
5-10	2.45	6.03	.47	.05	.23	.40			
10-15	2.45	6.04	.46	.04	.21	.34			
15-20	2.45	6.04	•45	.03	.20	.32			
20-25	2.46	6.05	•44	.03	.17	.31			
.25-30	2.46	6.06	.43	.02	.14	.28			
30-35	2.47	6.06	.42	.02	.12	.26			
35-40	2.46	6.06	.40	.02	.10	.24			
40-45	2.45	6.03	.38	.01	.08	.21			
45-50	2.41	5.94	.35	.01	.07	.19			
50-55	2.34	5.80	.34	.01	<b>.</b> 05	.18			
55-60	2.25	5.54	.32	.00	.04	.16			
60-65	2.10	5.18	.30	.00	.03	.15			
65-70	1.90	4.71	.28	.00	.02	.14			
70-75	1.66	4.21	.26	•00	.02	.13			
75-80	1.39	3.62	.23	.00	.01	.12			
80-85	1.14	3.06	.21	.00	.01	.10			
85 and over	.90	2.47	.19	.00	.00	.09			

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