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United States Life Tables, 2022

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Abstract

Objectives—This report presents complete period life tables for the United States by Hispanic origin and race and sex, based on age-specific death rates in 2022.

Methods—Data used to prepare the 2022 life tables are 2022 final mortality statistics; July 1, 2022, population estimates based on the Blended Base population estimates produced by the U.S. Census Bureau; and 2022 Medicare data for people ages 66–99. The methodology used to estimate the life tables for the Hispanic population remains unchanged from that developed for the publication of life tables by Hispanic origin for data year 2006. The same methodology is used to estimate the life tables for the American Indian and Alaska Native non-Hispanic and Asian non-Hispanic populations. The methodology used to estimate the 2022 life tables for all other groups was first implemented with data year 2008.

Results—In 2022, the overall expectation of life at birth was 77.5 years, increasing 1.1 years from 76.4 in 2021. Between 2021 and 2022, life expectancy at birth increased by 1.3 year for males (from 73.5 to 74.8) and by 0.9 year for females (79.3 to 80.2). Between 2021 and 2022, life expectancy increased 2.2 years for the Hispanic (77.8 to 80.0) and the American Indian and Alaska Native non-Hispanic (65.6 to 67.8) populations. Life expectancy increased by 1.6 years for the Black non-Hispanic population (71.2 to 72.8), by 0.9 year for the Asian non-Hispanic population (83.5 to 84.4), and by 0.8 year for the White non-Hispanic population (76.7 to 77.5).

Keywords: life expectancy • survival • death rates • Hispanic origin • race • National Vital Statistics System

Introduction

Life tables are of two types: the cohort (or generation) life table and the period (or current) life table. The cohort life table presents the mortality experience of a particular birth cohort—all people born in the year 1900, for example—from the moment of birth through consecutive ages in successive calendar years. Based on age-specific death rates observed through consecutive calendar years, the cohort life table reflects the mortality experience of an actual cohort from birth until no lives remain in the group. To prepare just a single complete cohort life table requires data over many years. It is usually not feasible to construct cohort life tables entirely based on observed data for real cohorts due to data unavailability or incompleteness (1). For example, a life table representation of the mortality experience of a cohort of people born in 1970 would require the use of data projection techniques to estimate deaths into the future (2,3).

The period life table presents what would happen to a hypothetical cohort if it experienced throughout its entire life the mortality conditions of a particular period in time. For example, a period life table for 2022 assumes a hypothetical cohort that is subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2022. Consequently, the period life table may be characterized as rendering a snapshot of current mortality experience and shows the long-range implications of a set of age-specific death rates that prevailed in a given year. In this report, the term life table refers only to the period life table and not to the cohort life table.

Life tables can be classified in two ways according to the length of the age interval in which data are presented. A complete life table contains data for every single year of age. An abridged life table typically contains data by 5- or 10-year age intervals. A complete life table can easily be combined into 5- or 10-year age groups (Technical Notes for instructions). Other than the decennial life tables, U.S. life tables based on data before 1997 are abridged life tables constructed by reference to a standard table (4).

Complete period life tables by Hispanic origin and race based on the 1997 Office of Management and Budget revised standards for the reporting of race and ethnicity are presented in this report (5). Race categories differ from the bridged-race categories shown in previous reports for years 2000–2017. Comparisons between data years 2000–2017 and 2018–2022 should be interpreted considering these differences. Life expectancy estimates for bridged-race categories are included in this report for years 2006–2020 to document the effect of the

change in race standards and to show trends. Data year 2020 was the last year for which estimates for bridged-race categories were presented in this report. Hispanic origin is consistent with previous reports because the classification of Hispanic origin did not change between standards (5,6). In the remainder of this report, race refers to single race based on the 1997 standard (see Technical Notes and "Comparability of Race-specific Mortality Data Based on 1977 Versus 1997 Reporting Standards" for more information on differences between single- and bridged-race groups (7).

Data and Methods

The data used to prepare the U.S. life tables for 2022 are final numbers of deaths for the year 2022; July 1, 2022, population estimates; and age-specific death and population counts for Medicare beneficiaries ages 66–99 for the year 2022 from the Centers for Medicare & Medicaid Services. Population estimates are based on the Blended Base produced by the U.S. Census Bureau instead of the April 1, 2020, decennial population count. The Blended Base consists of the blend of 2020 postcensal population estimates, based on the April 1, 2010, census; 2020 Demographic Analysis Estimates; and 2020 census data from the internal Census Edited File (https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2022/methods-statement-v2022.pdf). Data from the Medicare program were used to supplement vital statistics and census data for ages 66 and older for the total, Black non-Hispanic, and White non-Hispanic populations. Because reliable Medicare data were not available for the Hispanic, American Indian and Alaska Native non-Hispanic, and Asian non-Hispanic populations, statistical modeling was used to produce reliable old-age mortality estimates for these groups. The U.S. life tables by Hispanic origin and race are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates using classification ratios (or correction factors) generated from studies that evaluate Hispanic-origin and race misclassification on death certificates in the United States (8–10) (see Technical Notes for a detailed description of the data sets and methodology used to estimate the life tables and life table partitioning by cause of death).

Expectation of life

The most frequently used life table statistic is life expectancy (e_x), which is the average number of years of life remaining for people who have reached a given age (x). Life expectancy and other life table values for each age in 2022 are shown for the total population and by Hispanic origin and race and sex in Tables 1–18. Life expectancy is summarized by age, Hispanic origin and race, and sex in Table A.

Life expectancy at birth (e_0) for 2022 for the total population was 77.5 years. This represents the average number of years that the members of the hypothetical life table cohort can expect to live at the time of birth (Table A).

Survivors to specified ages

Another way of assessing the longevity of the period life table cohort is to determine the proportion that survives to specified ages. The l_x column of the life table provides the data for computing this proportion. Table B summarizes the number of survivors by age, Hispanic origin and race, and sex. To illustrate, 54,964 people out of the original 2022 hypothetical life table cohort of 100,000 (55.0%) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2022 age-specific mortality, is 55.0%. Probabilities of survival can be calculated at any age by dividing the number of survivors at the terminal age by the number at the beginning age. For example, to calculate the probability of surviving from age 20 to age 85, one would divide the number of survivors at age 85 (39,649) by the number of survivors at age 20 (98,887), which results in a 40.1% probability of survival.

Explanation of the columns of the life table

Column 1. Age (between x and $x+1$)—Shows the age interval between the two exact ages indicated. For instance, "20–21" means the 1-year interval between the 20th and 21st birthdays.

Column 2. Probability of dying (q_x)—Shows the probability of dying between ages x and $x+1$. For example, for males in the age interval 20–21 years, the probability of dying is 0.001192 (Table 2). This column forms the basis of the life table; all subsequent columns are calculated from it.

Column 3. Number surviving (l_x)—Shows the number of people from the original hypothetical cohort of 100,000 live births who survive to the beginning of each age interval. The l_x values are computed from the q_x values, which are successively applied to the remainder of the original 100,000 people still alive at the beginning of each age interval. Consequently, out of 100,000 female babies born alive, 99,488 will complete the first year of life and enter the second; 99,331 will reach age 10; 99,091 will reach age 20; and 46,871 will live to age 85 (Table 3).

Column 4. Number dying (d_x)—Shows the number dying in each successive age interval out of the original 100,000 live births. For example, out of 100,000 males born alive, 607 will die in the first year of life; 118 between ages 20 and 21; and 753 after reaching age 100 (Table 2). Each figure in column 4 is the difference between two successive figures in column 3.

Column 5. Person-years lived (L_x)—Shows the number of person-years lived by the hypothetical life table cohort within an age interval x to $x+1$. Each figure in column 5 represents the total time (in years) lived between two indicated birthdays by all those reaching the earlier birthday. Consequently, the figure 98,634 for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,693 males (column 3) who reached their 20th birthday out of 100,000 males born alive (Table 2).

Column 6. Total number of person-years lived (T_x)—Shows the total number of person-years that would be lived after the beginning of the age interval x to $x+1$ by the hypothetical life table cohort. For example, 5,497,469 is the total number of years lived after reaching age 20 by the 98,693 males who reached that age (Table 2).

Table A. Expectation of life, by age, Hispanic origin and race, and sex: United States, 2022

Age	All origins			Hispanic			Non-Hispanic											
							American Indian and Alaska Native			Asian			Black			White		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	77.5	74.8	80.2	80.0	77.0	82.8	67.8	64.5	71.3	84.4	82.3	86.3	72.8	69.1	76.5	77.5	75.1	80.1
1	76.9	74.3	79.6	79.4	76.4	82.2	67.4	64.2	70.8	83.7	81.6	85.6	72.6	68.9	76.3	76.9	74.4	79.4
5	73.0	70.4	75.7	75.4	72.5	78.3	63.6	60.4	67.0	79.8	77.7	81.6	68.8	65.1	72.4	72.9	70.5	75.5
10	68.0	65.4	70.7	70.5	67.5	73.3	58.7	55.5	62.1	74.8	72.7	76.6	63.8	60.1	67.5	68.0	65.6	70.5
15	63.1	60.5	65.8	65.5	62.6	68.4	53.8	50.6	57.2	69.8	67.8	71.7	58.9	55.2	62.6	63.0	60.6	65.6
20	58.3	55.7	60.9	60.7	57.8	63.5	49.2	46.1	52.6	64.9	62.9	66.7	54.3	50.7	57.7	58.2	55.8	60.7
25	53.5	51.1	56.0	56.0	53.2	58.6	44.8	41.8	48.0	60.1	58.0	61.8	49.8	46.4	53.0	53.4	51.1	55.8
30	48.9	46.6	51.3	51.3	48.7	53.8	40.7	38.0	43.6	55.2	53.2	56.9	45.3	42.2	48.3	48.8	46.6	51.0
35	44.3	42.1	46.5	46.7	44.2	49.0	36.9	34.3	39.6	50.4	48.4	52.0	40.9	38.0	43.7	44.2	42.1	46.3
40	39.8	37.7	41.9	42.1	39.8	44.2	33.4	31.0	35.8	45.6	43.7	47.1	36.6	33.8	39.3	39.7	37.7	41.7
45	35.3	33.4	37.3	37.6	35.4	39.5	29.8	27.8	31.9	40.8	38.9	42.2	32.5	29.8	34.9	35.2	33.3	37.1
50	30.9	29.1	32.8	33.1	31.0	34.9	26.7	24.9	28.4	36.1	34.3	37.4	28.4	25.9	30.6	30.8	29.1	32.6
55	26.7	25.0	28.4	28.7	26.8	30.3	23.5	21.9	25.0	31.4	29.8	32.7	24.4	22.1	26.4	26.6	25.0	28.2
60	22.7	21.1	24.2	24.5	22.7	25.9	20.6	19.3	21.8	26.9	25.4	28.0	20.8	18.6	22.6	22.6	21.1	24.0
65	18.9	17.5	20.2	20.5	19.0	21.7	17.8	16.8	18.7	22.5	21.2	23.4	17.4	15.5	19.0	18.8	17.5	20.0
70	15.3	14.2	16.3	16.7	15.4	17.7	14.9	14.2	15.5	18.4	17.2	19.1	14.4	12.8	15.6	15.2	14.1	16.2
75	12.0	11.0	12.8	13.2	12.1	13.9	12.4	11.9	12.6	14.5	13.6	15.0	11.5	10.2	12.4	11.8	10.9	12.6
80	8.9	8.1	9.5	10.0	9.1	10.4	9.9	9.6	10.0	10.8	10.1	11.1	8.9	7.8	9.5	8.8	8.0	9.4
85	6.4	5.8	6.8	7.2	6.5	7.4	7.9	7.7	7.8	7.7	7.2	7.8	6.6	5.8	7.0	6.3	5.7	6.7
90	4.4	3.9	4.6	5.0	4.4	5.0	6.2	6.1	6.0	5.1	4.8	5.1	4.8	4.2	5.0	4.3	3.8	4.5
95	3.0	2.7	3.1	3.4	3.0	3.3	4.8	4.9	4.6	3.4	3.2	3.2	3.4	3.1	3.5	2.9	2.6	3.0
100	2.1	1.9	2.2	2.4	2.2	2.3	3.9	4.0	3.6	2.3	2.2	2.1	2.5	2.3	2.5	2.0	1.8	2.1

NOTE: Life tables by Hispanic origin and race are based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Column 7. Expectation of life (e_x)—The expectation of life at any given age is the average number of years remaining to be lived by those surviving to that age, based on a given set of age-specific rates of dying. It is calculated by dividing the total person-years that would be lived beyond age x by the number of people who survived to that age interval (T_x/l_x). Consequently, the average remaining lifetime for males who reach age 20 is 55.7 years (5,497,469 divided by 98,693) (Table 2).

Results

Life expectancy in the United States

Tables 1–18 show complete life tables for 2022 by Hispanic origin and race and sex. Table A summarizes life expectancy by age, Hispanic origin and race, and sex. Life expectancy at birth for 2022 represents the average number of years that a group of infants would live if they were to experience throughout life the age-specific death rates prevailing in 2022. In 2022, life expectancy at birth was 77.5 years, increasing by 1.1 years from 76.4 in 2021 (Table 19).

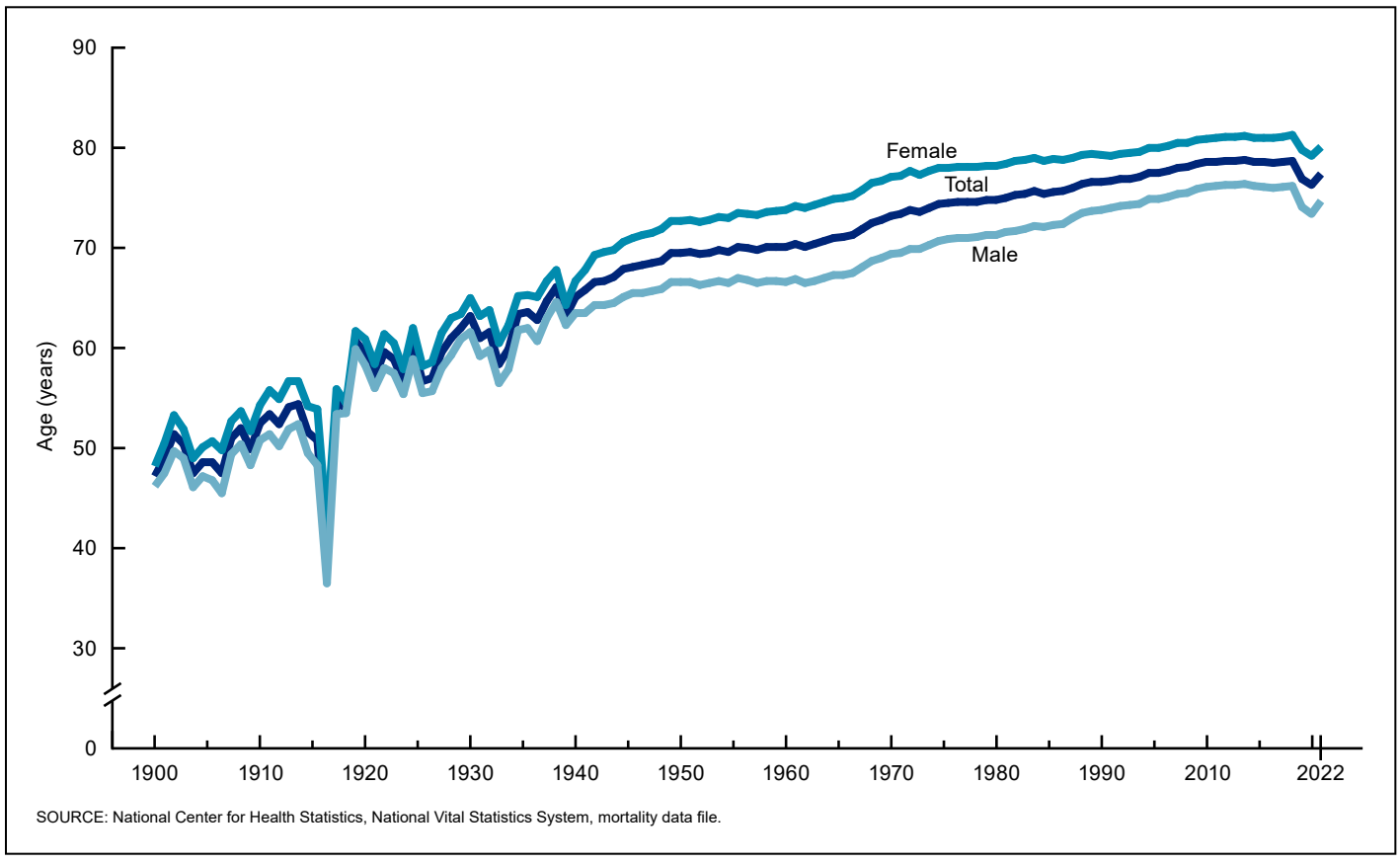
The difference in life expectancy between the sexes was 5.4 years in 2022, decreasing 0.4 year from 2021. From 1900 to 1975, the difference in life expectancy between the sexes increased from 2.0 years to 7.8 years (Figure 1, Table 19). The increasing gap during these years is attributed to increases in male mortality due to ischemic heart disease and lung cancer, both of which increased largely as the result of men's early and widespread adoption of cigarette smoking (11,12). Between 1979 and 2010, the difference in life expectancy between the sexes narrowed from 7.8 years to 4.8 years, increased to 5.8 in 2021, and then declined to 5.4 in 2022 (Figure 1, Table 19).

The 2022 life table may be used to compare life expectancy at any age from birth onward. Based on mortality experienced in 2022, a person age 65 could expect to live an average of 18.9 more years for a total of 83.9 years; a person age 85 could expect to live an additional 6.4 years for a total of 91.4 years; and a person age 100 could expect to live an additional 2.1 years, on average (Table A).

Life expectancy by Hispanic origin and race

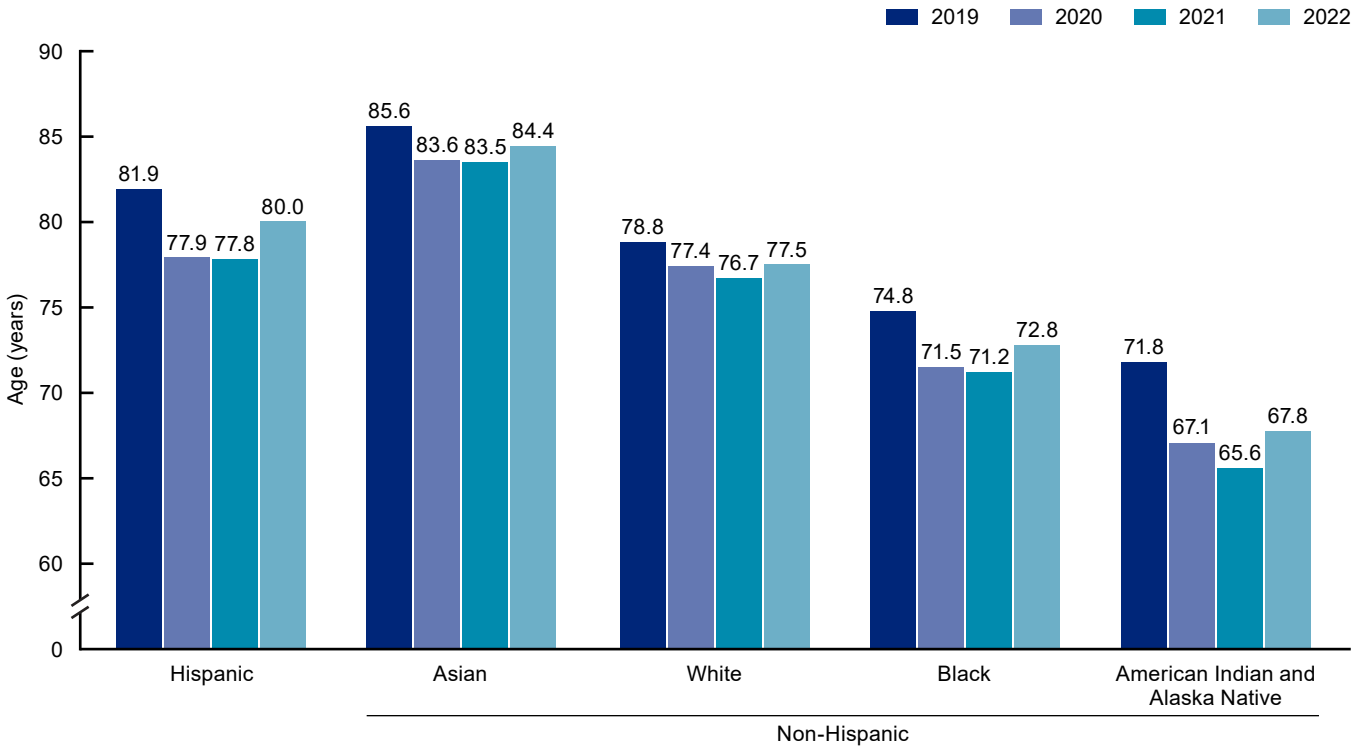
In 2022, the Hispanic population had a life expectancy of 80.0 years. Among the non-Hispanic population, the Asian population had the highest life expectancy at birth (84.4 years), followed by the White (77.5), Black (72.8), and American Indian and Alaska Native (67.8) populations (Table A, Figure 2). From 2021 to 2022, life expectancy at birth increased for all Hispanic-origin and race populations (Figure 2). Life expectancy increased by 2.2 years for the Hispanic population (77.8 to 80.0). Within the non-Hispanic population, life expectancy increased by 2.2 years for the American Indian and Alaska Native population (65.6 to 67.8), 1.6 years for the Black population (71.2 to 72.8), 0.9 year for the Asian population (83.5 to 84.4), and 0.8 year for the White population (76.7 to 77.5).

Figure 1. Life expectancy at birth, by sex: United States, 1900–2022



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 2. Life expectancy at birth, by Hispanic origin and race: United States, 2019–2022



NOTE: People of Hispanic origin may be of any race.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Between 2021 and 2022, life expectancy increased by 2.4 years (74.6 to 77.0) for Hispanic males and by 1.7 years (81.1 to 82.8) for Hispanic females (Figure 3). Within the non-Hispanic population, American Indian and Alaska Native males experienced the greatest increase in life expectancy, 2.3 years (62.2 to 64.5), followed by American Indian and Alaska Native females with an increase of 2.1 years (69.2 to 71.3), Black males and females with an increase of 1.5 years each (67.6 to 69.1 and 75.0 to 76.5, respectively), Asian males with an increase of 1.1 years (81.2 to 82.3), White males with an increase of 1.1 years (74.0 to 75.1), Asian females with an increase of 0.7 year (85.6 to 86.3), and White females with an increase of 0.6 (79.5 to 80.1) (Figure 3).

Effect on life expectancy of changes in cause-specific mortality

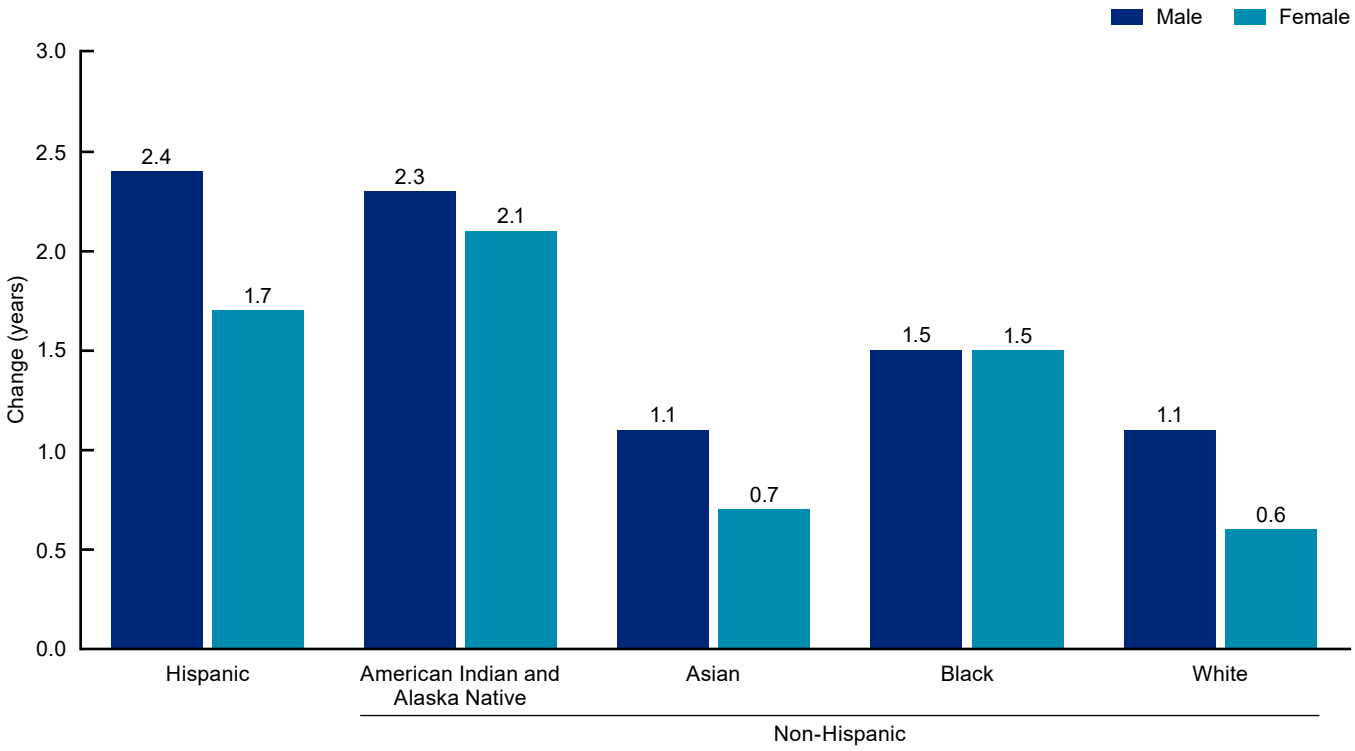
Changes in mortality by age and cause of death can have a major effect on life expectancy (Figures 4–6). Declines in cause-specific mortality contribute to increases in life expectancy, while increases in cause-specific mortality contribute to decreases in life expectancy. The increase of 1.1 years in life expectancy between 2021 and 2022 was primarily due to decreases in mortality due to COVID-19 (84.9% of the positive contribution), heart disease (3.4%), Cancer (2.1%), unintentional injuries (1.9%), and homicide (1.4%). The increase in life expectancy would have been even greater were it not for the offsetting effects of increases in mortality due to influenza and pneumonia (29.0%), perinatal conditions (22.6%), kidney disease (13.8%), nutritional deficiencies (12.9%), and congenital malformations (7.0%) (See Technical Notes for a description of the life table partitioning method) (13).

The Hispanic and American Indian and Alaska Native non-Hispanic populations experienced the largest increases (2.2 years each) in life expectancy between 2021 and 2022. For the Hispanic population, the increase was primarily due to decreases in mortality due to COVID-19 (92.7%), heart disease (3.1%), diabetes (0.9%), cancer (0.6%), and medical complications (0.4%). The increase in life expectancy would have been greater were it not for the offsetting effects of increases in mortality due to unintentional injuries (41.9%), influenza and pneumonia (15.0%), congenital malformations (9.6%), perinatal conditions (5.8%), and nutritional deficiencies (3.2%).

For the American Indian and Alaska Native non-Hispanic population, the increase in life expectancy was primarily due to decreases in mortality due to COVID-19 (70.4%), chronic liver disease (10.4%), cancer (1.7%), suicide (1.6%), and diabetes (1.6%). The increase in life expectancy would have been greater if not for the offsetting effects of increases in mortality due to unintentional injuries (34.4%), homicide (20.0%), perinatal conditions (15.9%), influenza and pneumonia (6.4%), and congenital malformations (4.5%).

The second greatest increase in life expectancy was experienced by the Black non-Hispanic population (1.6 years). The increase was due primarily to decreases in mortality due to COVID-19 (72.1%), heart disease (6.9%), homicide (5.6%), diabetes (2.6%), and chronic liver disease (1.3%). The increase

Figure 3. Change in life expectancy at birth, by Hispanic origin and race and sex: United States, 2021–2022



NOTE: Life tables by Hispanic origin and race are based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

in life expectancy was offset by increases in mortality due to perinatal conditions (49.3%), kidney disease (15.8%), congenital malformations (9.2%), nutritional deficiencies (4.6%), and legal intervention (4.5%).

The third largest increase in life expectancy was experienced by the Asian non-Hispanic population (0.9 year). The decline was primarily due to decreases in mortality due to COVID-19 (81.0%), stroke (4.1%), cancer (3.8%), hypertension (1.5%), and diabetes (1.4%). The increase in life expectancy would have been greater were it not for the offsetting effects of increases in mortality due to kidney disease (17.1%), heart disease (15.4%), congenital malformations (9.4%), unintentional injuries (8.3%), and nutritional deficiencies (6.2%).

The White non-Hispanic population experienced an increase in life expectancy of 0.8 year. The decline was primarily due to decreases in mortality due to COVID-19 (82.0%), unintentional injuries (6.1%), heart disease (3.0%), cancer (2.3%), and chronic liver disease (1.3%). The increase in life expectancy was offset by increases in mortality due to influenza and pneumonia (32.2%), perinatal conditions (21.9%), nutritional deficiencies (13.7%), kidney disease (11.4%), and chronic lower respiratory diseases (11.2%).

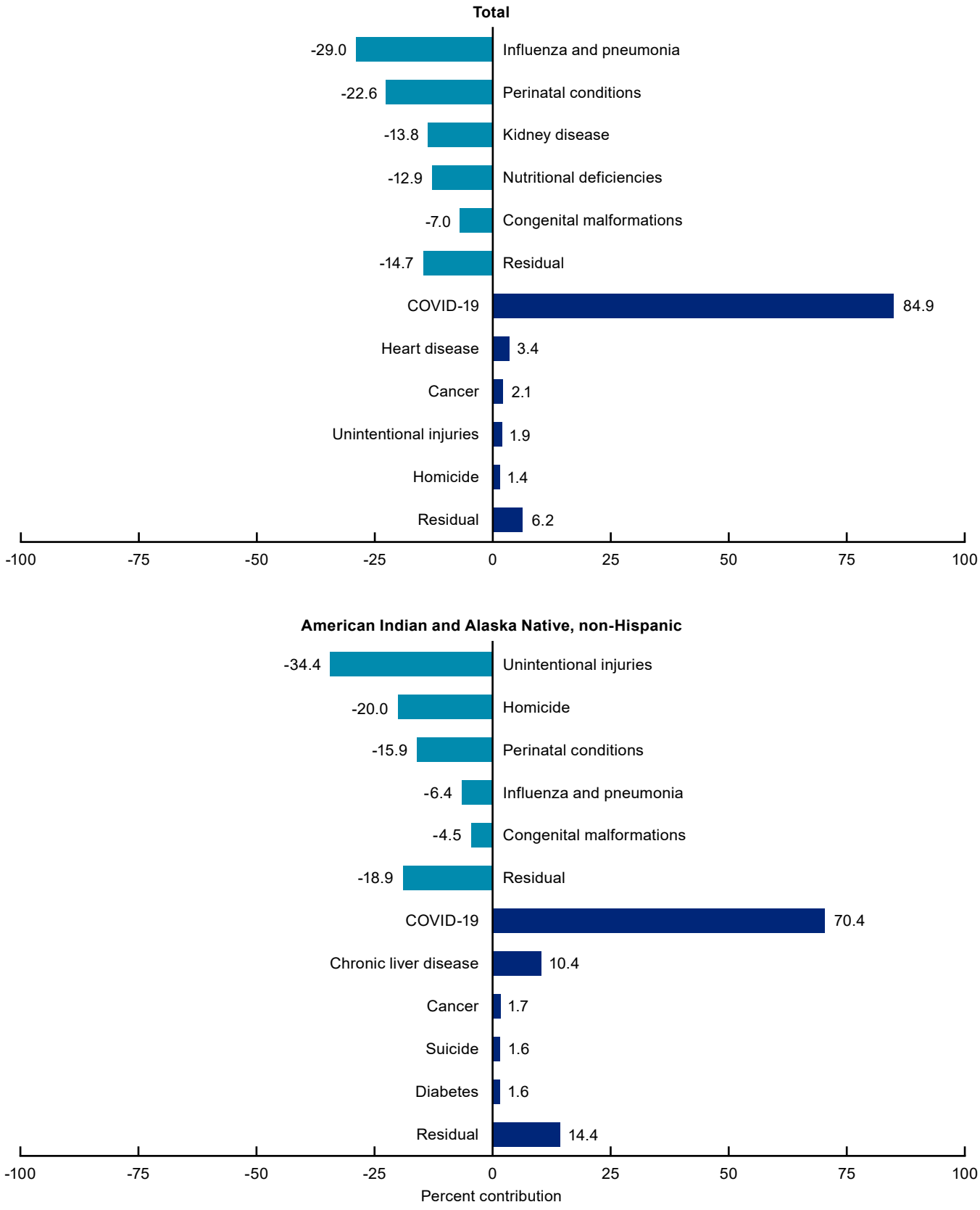
Survivorship in the United States

Table B summarizes the number of survivors out of 100,000 people born alive (l_x) by age, Hispanic origin and race, and sex for 2022. In 2022, 99.4% of all infants born in the United States survived the first year of life; 98.9% survived to age 20; 81.7% survived to age 65; 39.6% survived to age 85; and 1.5% survived to age 100.

Survivorship by Hispanic origin and race

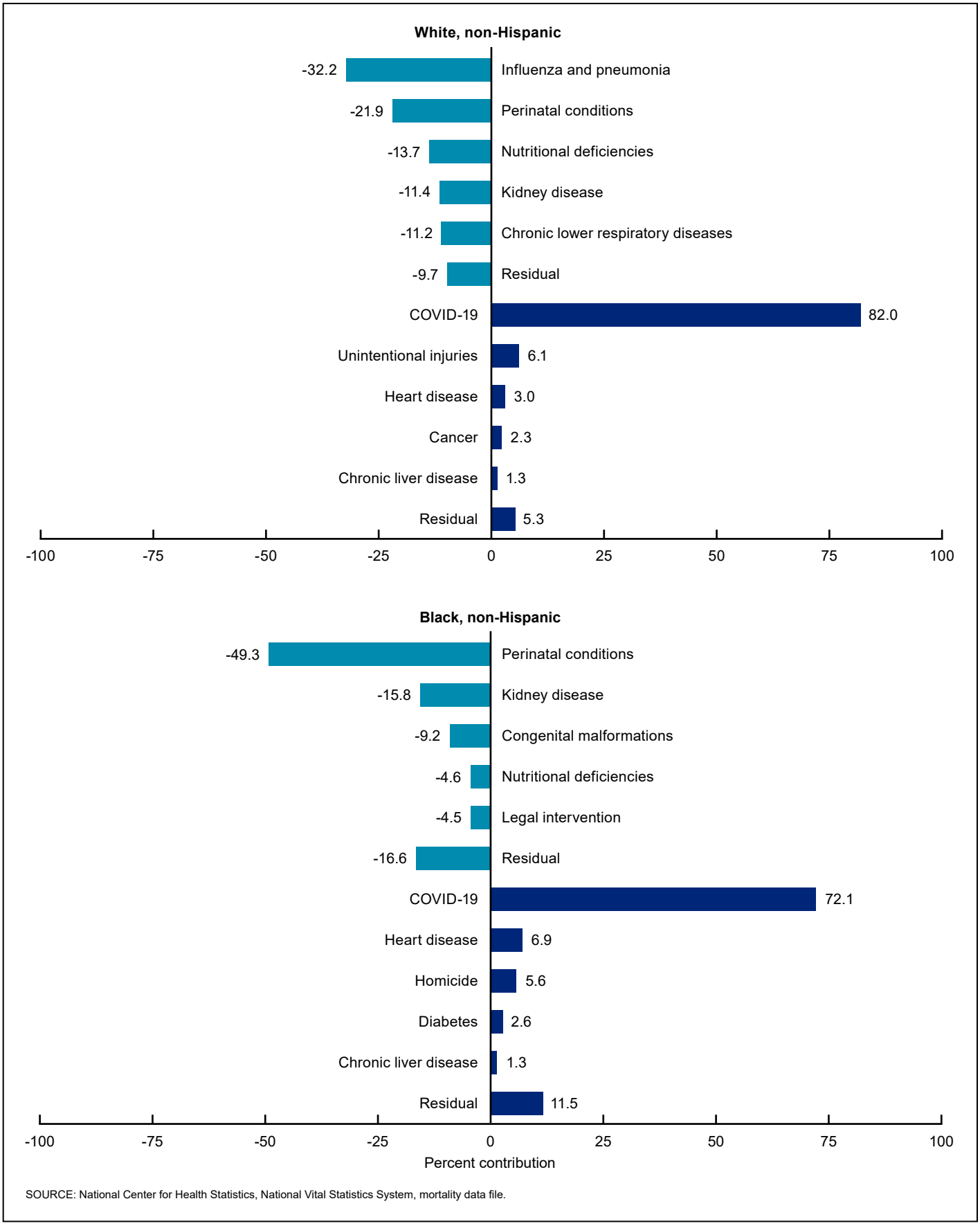
In 2022, 99.5% of Hispanic infants survived the first year of life. Among the non-Hispanic population, 99.6% of Asian, 99.5% of White, 99.1% of American Indian and Alaska Native, and 98.9% of Black infants survived the first year of life (Figure 7, Table B). The probability of survival by selected ages varied across the Hispanic-origin and race groups. In 2022, 99.0% of the Hispanic population survived to age 20, 85.1% to age 65, and 47.5% to age 85. Among the non-Hispanic population, the Asian population had the highest survival probability at age 20 (99.4%), followed by the White (99.1%), the Black (97.8%), and the American Indian and Alaska Native (97.7%) populations. By age 65, the Asian population had the highest survival probability at 92.0%, followed by the White (81.8%), Black (72.8%), and American Indian and Alaska Native (59.1%) populations. The survival advantage experienced by the

Figure 4. Percent contribution to the changes in life expectancy from 2021 to 2022, by cause of death and Hispanic origin and race: Total and American Indian and Alaska Native, non-Hispanic populations



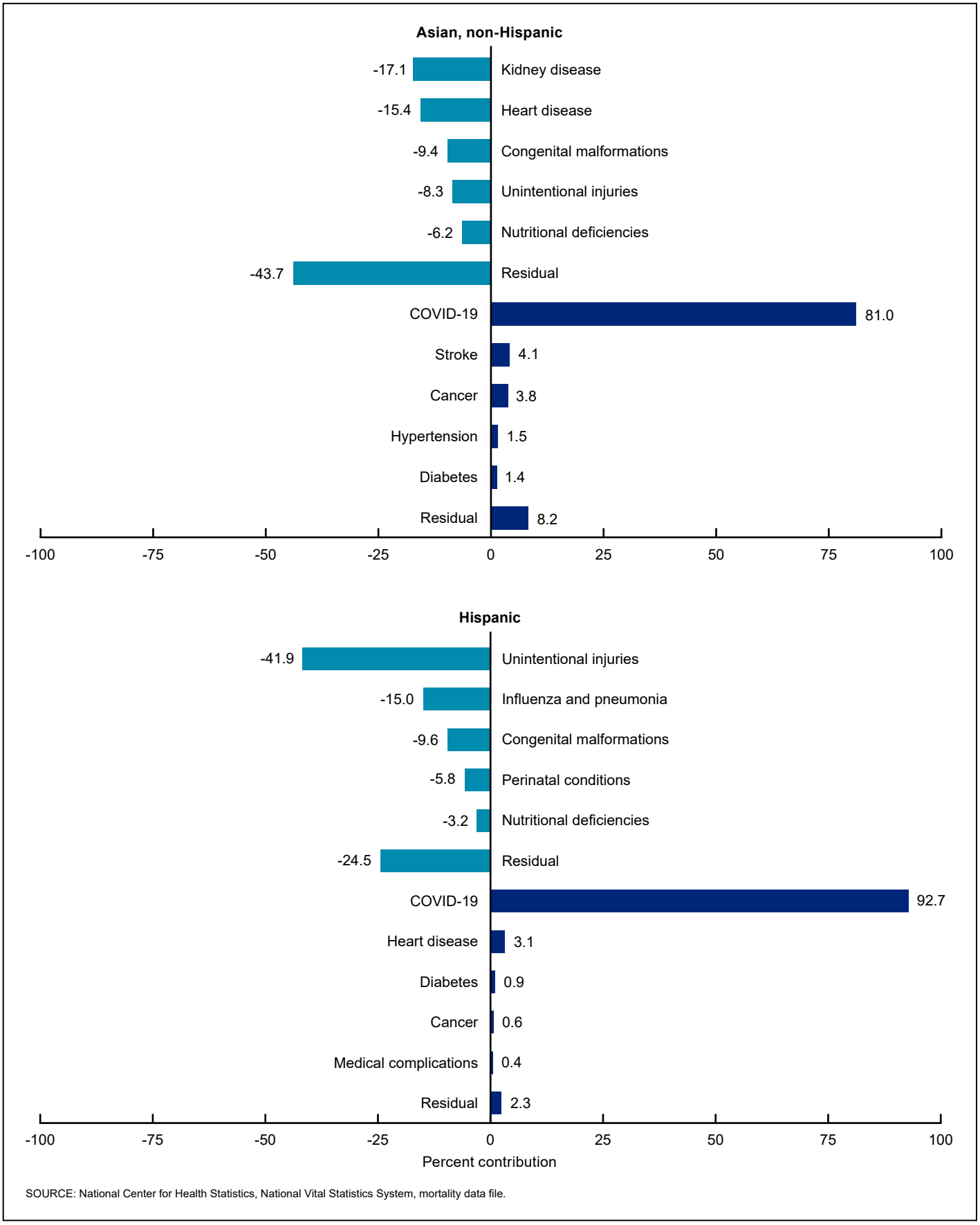
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 5. Percent contribution to the changes in life expectancy from 2021 to 2022, by cause of death and Hispanic origin and race: White, non-Hispanic and Black, non-Hispanic populations



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 6. Percent contribution to the changes in life expectancy from 2021 to 2022, by cause of death and Hispanic origin and race: Asian, non-Hispanic and Hispanic populations



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

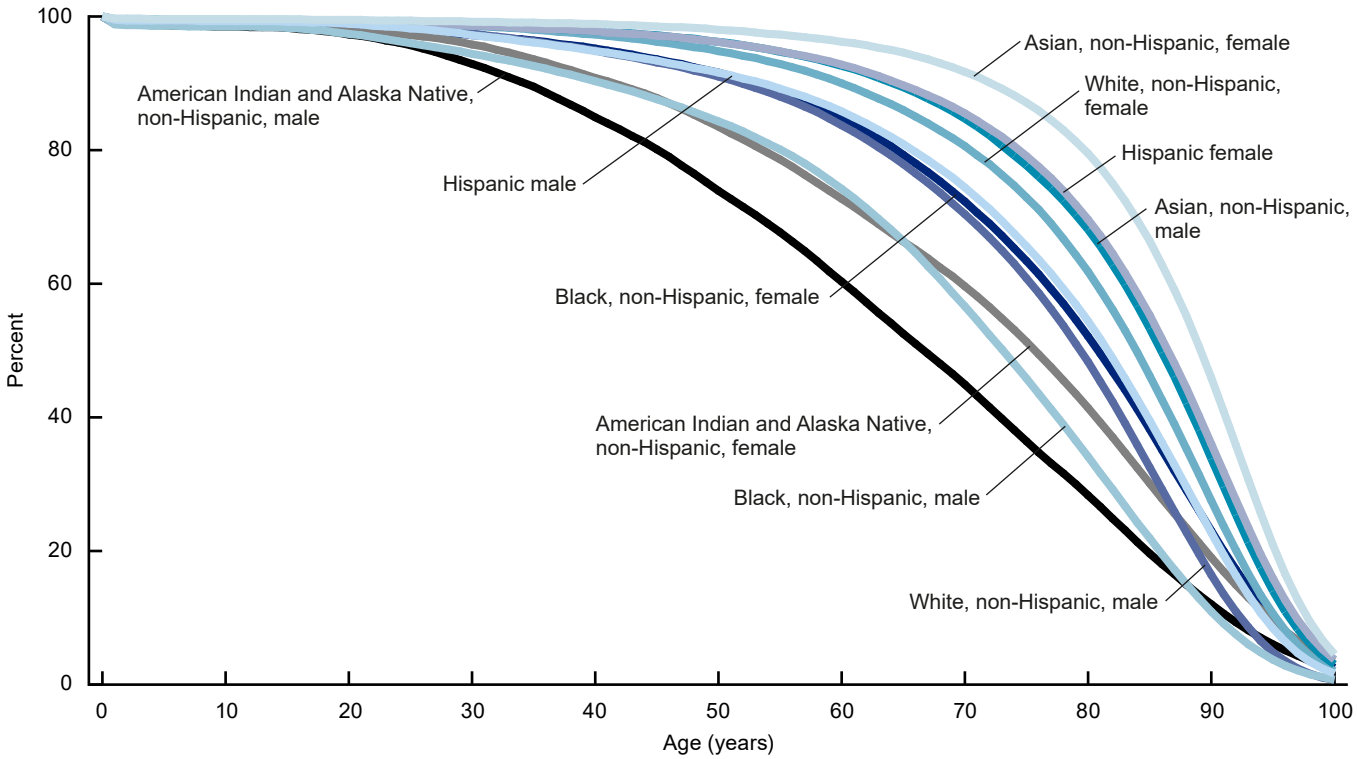
Table B. Number of survivors out of 100,000 born alive, by age, Hispanic origin and race, and sex: United States, 2022

Age	All origins			Hispanic			Non-Hispanic											
							American Indian and Alaska Native			Asian			Black			White		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,440	99,393	99,488	99,508	99,467	99,551	99,096	98,947	99,251	99,649	99,612	99,687	98,912	98,821	99,006	99,549	99,512	99,588
5	99,328	99,270	99,389	99,421	99,378	99,468	98,827	98,678	98,983	99,592	99,549	99,639	98,700	98,604	98,825	99,448	99,389	99,511
10	99,265	99,201	99,331	99,368	99,320	99,420	98,674	98,499	98,857	99,556	99,512	99,602	98,578	98,482	98,717	99,392	99,322	99,465
15	99,178	99,101	99,258	99,293	99,239	99,354	98,457	98,265	98,660	99,508	99,455	99,565	98,431	98,323	98,602	99,311	99,222	99,405
20	98,887	98,693	99,091	99,029	98,870	99,202	97,654	97,322	97,984	99,351	99,279	99,485	97,835	97,411	98,332	99,070	98,903	99,247
25	98,399	97,996	98,822	98,578	98,228	98,954	96,428	95,658	97,212	99,108	99,009	99,361	96,907	96,028	97,874	98,656	98,330	99,001
30	97,708	97,031	98,421	97,923	97,249	98,645	94,357	92,919	95,849	98,862	98,677	99,237	95,774	94,436	97,223	98,015	97,462	98,602
35	96,809	95,807	97,863	97,137	96,107	98,252	91,457	89,452	93,572	98,553	98,268	99,070	94,416	92,587	96,368	97,128	96,277	98,028
40	95,717	94,381	97,125	96,241	94,839	97,771	87,787	84,919	90,825	98,218	97,797	98,863	92,702	90,333	95,189	96,018	94,854	97,250
45	94,360	92,667	96,143	95,163	93,368	97,128	83,829	80,101	87,802	97,748	97,187	98,521	90,557	87,614	93,600	94,636	93,134	96,230
50	92,617	90,520	94,824	93,771	91,569	96,192	78,537	73,936	83,475	97,028	96,203	98,034	87,904	84,316	91,566	92,853	90,991	94,834
55	90,201	87,591	92,952	91,883	89,234	94,802	72,919	67,700	78,568	95,930	94,729	97,271	84,437	80,082	88,851	90,381	88,031	92,890
60	86,653	83,328	90,155	89,129	85,781	92,810	66,251	60,312	72,715	94,389	92,611	96,229	79,524	74,204	84,894	86,775	83,748	90,006
65	81,682	77,435	86,142	85,128	80,887	89,751	59,128	52,528	66,345	92,016	89,399	94,572	72,833	66,378	79,335	81,786	77,877	85,951
70	75,186	69,860	80,746	79,765	74,385	85,494	51,922	44,892	59,631	88,306	84,682	91,723	64,425	56,575	72,272	75,315	70,377	80,550
75	66,643	60,337	73,198	72,233	65,600	79,132	43,421	36,365	51,264	82,591	77,681	87,088	54,612	45,772	63,380	66,724	60,820	72,948
80	54,964	48,007	62,188	61,931	54,375	69,598	34,482	28,325	41,372	74,055	68,079	79,481	43,138	34,072	52,115	54,834	48,251	61,756
85	39,649	32,642	46,871	47,528	39,499	55,249	24,579	19,648	30,092	60,264	53,333	66,358	30,078	21,864	38,177	39,239	32,517	46,237
90	22,402	16,673	28,210	29,844	22,683	36,035	15,380	11,999	18,992	40,536	33,846	45,890	17,035	10,936	22,977	21,905	16,417	27,546
95	8,130	5,123	11,099	12,846	8,389	15,864	7,834	6,004	9,498	18,398	14,030	20,924	6,824	3,716	9,811	7,718	4,848	10,569
100	1,513	753	2,242	3,084	1,613	3,674	3,064	2,351	3,477	4,316	2,951	4,540	1,662	746	2,481	1,357	654	2,032

NOTE: Life tables by Hispanic origin and race are based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 7. Percentage surviving, by Hispanic origin and race, age, and sex: United States, 2022



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Asian population increased with age so that by age 85, 60.3% had survived, compared with 39.2% of the White, 30.1% of the Black, and 24.6% of the American Indian and Alaska Native populations.

Summary

After 2 years of decline, U.S. life expectancy at birth increased in 2022. Increases in life expectancy between 2021 and 2022 occurred across all racial, ethnic, and sex groups. However, the increases were not enough to make up for the losses in life expectancy between 2019 and 2021 that resulted mainly from the COVID-19 pandemic. Life expectancy at birth in 2022 was 1.3 years lower for the total population, 1.5 years lower for males, and 1.2 years lower for females than in 2019.

The American Indian and Alaska Native non-Hispanic population had one of the largest increases in life expectancy between 2021 and 2022 (2.2 years), but life expectancy remained 4.0 years lower than in 2019. Similarly, the Hispanic population experienced a life expectancy increase of 2.2 years between 2021 and 2022, but its life expectancy remained 1.9 years lower than in 2019. The Black non-Hispanic population gained 1.6 years in life expectancy between 2021 and 2022 but remained 2.0 years lower than in 2019. The Asian non-Hispanic and White non-Hispanic populations gained 0.9 and 0.8 years in life expectancy between 2021 and 2022, respectively, but life expectancy remained 1.2 and 1.3 years below what each had attained in 2019, respectively.

The increase in life expectancy at birth for the total population and all Hispanic-origin and race groups shown in this report was due mostly to declines in mortality due to COVID-19.

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List of Detailed Tables

Table 1. Life table for the total population: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table01.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.005605	100,000	560	99,513	7,745,695	77.5
1–2	0.000444	99,440	44	99,417	7,646,182	76.9
2–3	0.000284	99,395	28	99,381	7,546,764	75.9
3–4	0.000222	99,367	22	99,356	7,447,383	74.9
4–5	0.000168	99,345	17	99,337	7,348,027	74.0
5–6	0.000155	99,328	15	99,321	7,248,690	73.0
6–7	0.000139	99,313	14	99,306	7,149,369	72.0
7–8	0.000128	99,299	13	99,293	7,050,063	71.0
8–9	0.000116	99,287	12	99,281	6,950,770	70.0
9–10	0.000105	99,275	10	99,270	6,851,489	69.0
10–11	0.000101	99,265	10	99,260	6,752,219	68.0
11–12	0.000112	99,255	11	99,249	6,652,959	67.0
12–13	0.000147	99,244	15	99,236	6,553,710	66.0
13–14	0.000213	99,229	21	99,218	6,454,474	65.0
14–15	0.000302	99,208	30	99,193	6,355,256	64.1
15–16	0.000402	99,178	40	99,158	6,256,063	63.1
16–17	0.000501	99,138	50	99,113	6,156,905	62.1
17–18	0.000596	99,088	59	99,059	6,057,792	61.1
18–19	0.000680	99,029	67	98,995	5,958,733	60.2
19–20	0.000756	98,962	75	98,924	5,859,738	59.2
20–21	0.000832	98,887	82	98,846	5,760,814	58.3
21–22	0.000911	98,805	90	98,760	5,661,968	57.3
22–23	0.000989	98,715	98	98,666	5,563,208	56.4
23–24	0.001067	98,617	105	98,564	5,464,542	55.4
24–25	0.001148	98,512	113	98,455	5,365,978	54.5
25–26	0.001231	98,399	121	98,338	5,267,523	53.5
26–27	0.001316	98,277	129	98,213	5,169,185	52.6
27–28	0.001406	98,148	138	98,079	5,070,972	51.7
28–29	0.001499	98,010	147	97,937	4,972,893	50.7
29–30	0.001591	97,863	156	97,785	4,874,956	49.8
30–31	0.001682	97,708	164	97,625	4,777,171	48.9
31–32	0.001769	97,543	173	97,457	4,679,546	48.0
32–33	0.001851	97,371	180	97,281	4,582,089	47.1
33–34	0.001927	97,190	187	97,097	4,484,808	46.1
34–35	0.002002	97,003	194	96,906	4,387,711	45.2
35–36	0.002080	96,809	201	96,708	4,290,805	44.3
36–37	0.002164	96,608	209	96,503	4,194,097	43.4
37–38	0.002257	96,399	218	96,290	4,097,594	42.5
38–39	0.002359	96,181	227	96,067	4,001,304	41.6
39–40	0.002469	95,954	237	95,836	3,905,237	40.7
40–41	0.002593	95,717	248	95,593	3,809,401	39.8
41–42	0.002725	95,469	260	95,339	3,713,808	38.9
42–43	0.002854	95,209	272	95,073	3,618,469	38.0
43–44	0.002980	94,937	283	94,796	3,523,396	37.1
44–45	0.003113	94,654	295	94,507	3,428,601	36.2
45–46	0.003271	94,360	309	94,205	3,334,094	35.3
46–47	0.003466	94,051	326	93,888	3,239,889	34.4
47–48	0.003695	93,725	346	93,552	3,146,001	33.6
48–49	0.003950	93,379	369	93,194	3,052,449	32.7
49–50	0.004226	93,010	393	92,813	2,959,255	31.8
50–51	0.004515	92,617	418	92,408	2,866,442	30.9
51–52	0.004833	92,199	446	91,976	2,774,034	30.1
52–53	0.005204	91,753	477	91,514	2,682,058	29.2
53–54	0.005647	91,276	515	91,018	2,590,544	28.4
54–55	0.006162	90,760	559	90,480	2,499,526	27.5
55–56	0.006709	90,201	605	89,898	2,409,046	26.7
56–57	0.007285	89,596	653	89,269	2,319,148	25.9
57–58	0.007930	88,943	705	88,590	2,229,878	25.1
58–59	0.008641	88,238	762	87,856	2,141,288	24.3
59–60	0.009392	87,475	822	87,064	2,053,432	23.5

See footnotes at end of table.

Table 1. Life table for the total population: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table01.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.010173	86,653	882	86,213	1,966,367	22.7
61–62	0.010960	85,772	940	85,302	1,880,155	21.9
62–63	0.011741	84,832	996	84,334	1,794,853	21.2
63–64	0.012524	83,836	1,050	83,311	1,710,519	20.4
64–65	0.013340	82,786	1,104	82,234	1,627,208	19.7
65–66	0.014218	81,682	1,161	81,101	1,544,974	18.9
66–67	0.015280	80,520	1,230	79,905	1,463,873	18.2
67–68	0.016329	79,290	1,295	78,642	1,383,968	17.5
68–69	0.017524	77,995	1,367	77,312	1,305,326	16.7
69–70	0.018824	76,628	1,442	75,907	1,228,014	16.0
70–71	0.020179	75,186	1,517	74,427	1,152,107	15.3
71–72	0.021711	73,669	1,599	72,869	1,077,680	14.6
72–73	0.023521	72,069	1,695	71,222	1,004,811	13.9
73–74	0.025618	70,374	1,803	69,473	933,589	13.3
74–75	0.028122	68,571	1,928	67,607	864,117	12.6
75–76	0.030467	66,643	2,030	65,628	796,510	12.0
76–77	0.034339	64,613	2,219	63,503	730,882	11.3
77–78	0.037380	62,394	2,332	61,228	667,379	10.7
78–79	0.041500	60,062	2,493	58,815	606,151	10.1
79–80	0.045247	57,569	2,605	56,267	547,336	9.5
80–81	0.050833	54,964	2,794	53,567	491,069	8.9
81–82	0.056254	52,170	2,935	50,703	437,502	8.4
82–83	0.062471	49,235	3,076	47,697	386,799	7.9
83–84	0.069526	46,160	3,209	44,555	339,102	7.3
84–85	0.076869	42,950	3,302	41,300	294,547	6.9
85–86	0.086054	39,649	3,412	37,943	253,247	6.4
86–87	0.094545	36,237	3,426	34,524	215,304	5.9
87–88	0.106195	32,811	3,484	31,069	180,781	5.5
88–89	0.118983	29,327	3,489	27,582	149,712	5.1
89–90	0.132946	25,837	3,435	24,120	122,130	4.7
90–91	0.148104	22,402	3,318	20,743	98,010	4.4
91–92	0.164457	19,084	3,139	17,515	77,267	4.0
92–93	0.181983	15,946	2,902	14,495	59,752	3.7
93–94	0.200630	13,044	2,617	11,735	45,257	3.5
94–95	0.220320	10,427	2,297	9,278	33,522	3.2
95–96	0.240942	8,130	1,959	7,150	24,243	3.0
96–97	0.262361	6,171	1,619	5,361	17,093	2.8
97–98	0.284411	4,552	1,295	3,905	11,732	2.6
98–99	0.306908	3,257	1,000	2,757	7,827	2.4
99–100	0.329650	2,258	744	1,885	5,070	2.2
100 and older	1.000000	1,513	1,513	3,184	3,184	2.1

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 2. Life table for males: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table02.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.006067	100,000	607	99,475	7,480,833	74.8
1–2	0.000489	99,393	49	99,369	7,381,358	74.3
2–3	0.000323	99,345	32	99,329	7,281,989	73.3
3–4	0.000238	99,313	24	99,301	7,182,660	72.3
4–5	0.000188	99,289	19	99,280	7,083,359	71.3
5–6	0.000170	99,270	17	99,262	6,984,080	70.4
6–7	0.000155	99,253	15	99,246	6,884,818	69.4
7–8	0.000142	99,238	14	99,231	6,785,572	68.4
8–9	0.000125	99,224	12	99,218	6,686,341	67.4
9–10	0.000106	99,212	10	99,206	6,587,123	66.4
10–11	0.000094	99,201	9	99,196	6,487,917	65.4
11–12	0.000105	99,192	10	99,187	6,388,720	64.4
12–13	0.000156	99,181	15	99,174	6,289,534	63.4
13–14	0.000257	99,166	25	99,153	6,190,360	62.4
14–15	0.000393	99,140	39	99,121	6,091,207	61.4
15–16	0.000546	99,101	54	99,074	5,992,086	60.5
16–17	0.000697	99,047	69	99,013	5,893,012	59.5
17–18	0.000840	98,978	83	98,937	5,793,999	58.5
18–19	0.000966	98,895	96	98,847	5,695,062	57.6
19–20	0.001079	98,800	107	98,746	5,596,215	56.6
20–21	0.001192	98,693	118	98,634	5,497,469	55.7
21–22	0.001308	98,575	129	98,511	5,398,834	54.8
22–23	0.001420	98,446	140	98,376	5,300,324	53.8
23–24	0.001528	98,307	150	98,231	5,201,947	52.9
24–25	0.001637	98,156	161	98,076	5,103,716	52.0
25–26	0.001746	97,996	171	97,910	5,005,640	51.1
26–27	0.001857	97,825	182	97,734	4,907,730	50.2
27–28	0.001974	97,643	193	97,547	4,809,996	49.3
28–29	0.002095	97,450	204	97,348	4,712,449	48.4
29–30	0.002215	97,246	215	97,138	4,615,101	47.5
30–31	0.002333	97,031	226	96,917	4,517,963	46.6
31–32	0.002446	96,804	237	96,686	4,421,046	45.7
32–33	0.002546	96,567	246	96,444	4,324,360	44.8
33–34	0.002632	96,322	254	96,195	4,227,916	43.9
34–35	0.002713	96,068	261	95,938	4,131,721	43.0
35–36	0.002794	95,807	268	95,674	4,035,783	42.1
36–37	0.002883	95,540	275	95,402	3,940,110	41.2
37–38	0.002983	95,264	284	95,122	3,844,708	40.4
38–39	0.003096	94,980	294	94,833	3,749,585	39.5
39–40	0.003220	94,686	305	94,534	3,654,752	38.6
40–41	0.003362	94,381	317	94,223	3,560,219	37.7
41–42	0.003513	94,064	330	93,899	3,465,996	36.8
42–43	0.003661	93,733	343	93,562	3,372,098	36.0
43–44	0.003805	93,390	355	93,213	3,278,536	35.1
44–45	0.003957	93,035	368	92,851	3,185,323	34.2
45–46	0.004140	92,667	384	92,475	3,092,472	33.4
46–47	0.004368	92,283	403	92,082	2,999,998	32.5
47–48	0.004640	91,880	426	91,667	2,907,916	31.6
48–49	0.004948	91,454	453	91,227	2,816,249	30.8
49–50	0.005283	91,001	481	90,761	2,725,022	29.9
50–51	0.005632	90,520	510	90,265	2,634,261	29.1
51–52	0.006016	90,010	542	89,740	2,543,996	28.3
52–53	0.006468	89,469	579	89,180	2,454,256	27.4
53–54	0.007014	88,890	624	88,579	2,365,076	26.6
54–55	0.007654	88,267	676	87,929	2,276,498	25.8
55–56	0.008337	87,591	730	87,226	2,188,569	25.0
56–57	0.009055	86,861	787	86,468	2,101,343	24.2
57–58	0.009857	86,074	848	85,650	2,014,875	23.4
58–59	0.010736	85,226	915	84,768	1,929,225	22.6
59–60	0.011661	84,311	983	83,819	1,844,456	21.9

See footnotes at end of table.

Table 2. Life table for males: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table02.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.012616	83,328	1,051	82,802	1,760,637	21.1
61–62	0.013579	82,277	1,117	81,718	1,677,835	20.4
62–63	0.014542	81,159	1,180	80,569	1,596,117	19.7
63–64	0.015518	79,979	1,241	79,359	1,515,548	18.9
64–65	0.016545	78,738	1,303	78,087	1,436,189	18.2
65–66	0.017652	77,435	1,367	76,752	1,358,103	17.5
66–67	0.018999	76,068	1,445	75,346	1,281,351	16.8
67–68	0.020295	74,623	1,515	73,866	1,206,005	16.2
68–69	0.021722	73,109	1,588	72,315	1,132,139	15.5
69–70	0.023220	71,521	1,661	70,690	1,059,825	14.8
70–71	0.024718	69,860	1,727	68,996	989,135	14.2
71–72	0.026526	68,133	1,807	67,229	920,138	13.5
72–73	0.028548	66,326	1,893	65,379	852,909	12.9
73–74	0.030913	64,432	1,992	63,436	787,530	12.2
74–75	0.033685	62,440	2,103	61,389	724,093	11.6
75–76	0.036360	60,337	2,194	59,240	662,705	11.0
76–77	0.040718	58,143	2,367	56,960	603,464	10.4
77–78	0.044120	55,776	2,461	54,545	546,505	9.8
78–79	0.048910	53,315	2,608	52,011	491,959	9.2
79–80	0.053257	50,707	2,701	49,357	439,948	8.7
80–81	0.059834	48,007	2,872	46,571	390,591	8.1
81–82	0.066213	45,134	2,988	43,640	344,020	7.6
82–83	0.073590	42,146	3,102	40,595	300,380	7.1
83–84	0.081531	39,044	3,183	37,453	259,785	6.7
84–85	0.089758	35,861	3,219	34,252	222,333	6.2
85–86	0.100216	32,642	3,271	31,007	188,081	5.8
86–87	0.110609	29,371	3,249	27,747	157,074	5.3
87–88	0.123952	26,122	3,238	24,503	129,328	5.0
88–89	0.138504	22,884	3,170	21,300	104,824	4.6
89–90	0.154279	19,715	3,042	18,194	83,525	4.2
90–91	0.171267	16,673	2,856	15,245	65,331	3.9
91–92	0.189435	13,818	2,618	12,509	50,086	3.6
92–93	0.208718	11,200	2,338	10,031	37,577	3.4
93–94	0.229022	8,862	2,030	7,848	27,545	3.1
94–95	0.250222	6,833	1,710	5,978	19,698	2.9
95–96	0.272164	5,123	1,394	4,426	13,720	2.7
96–97	0.294668	3,729	1,099	3,179	9,294	2.5
97–98	0.317536	2,630	835	2,212	6,115	2.3
98–99	0.340553	1,795	611	1,489	3,902	2.2
99–100	0.363502	1,184	430	968	2,413	2.0
100 and older	1.000000	753	753	1,445	1,445	1.9

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 3. Life table for females: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table03.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.005121	100,000	512	99,552	8,020,082	80.2
1–2	0.000397	99,488	39	99,468	7,920,530	79.6
2–3	0.000243	99,448	24	99,436	7,821,062	78.6
3–4	0.000205	99,424	20	99,414	7,721,625	77.7
4–5	0.000147	99,404	15	99,397	7,622,211	76.7
5–6	0.000138	99,389	14	99,382	7,522,815	75.7
6–7	0.000123	99,376	12	99,369	7,423,432	74.7
7–8	0.000113	99,363	11	99,358	7,324,063	73.7
8–9	0.000107	99,352	11	99,347	7,224,705	72.7
9–10	0.000105	99,341	10	99,336	7,125,358	71.7
10–11	0.000108	99,331	11	99,326	7,026,022	70.7
11–12	0.000118	99,320	12	99,314	6,926,696	69.7
12–13	0.000138	99,309	14	99,302	6,827,382	68.7
13–14	0.000168	99,295	17	99,287	6,728,080	67.8
14–15	0.000207	99,278	21	99,268	6,628,794	66.8
15–16	0.000251	99,258	25	99,245	6,529,526	65.8
16–17	0.000296	99,233	29	99,218	6,430,280	64.8
17–18	0.000340	99,203	34	99,187	6,331,062	63.8
18–19	0.000380	99,170	38	99,151	6,231,876	62.8
19–20	0.000417	99,132	41	99,111	6,132,725	61.9
20–21	0.000456	99,091	45	99,068	6,033,613	60.9
21–22	0.000497	99,046	49	99,021	5,934,545	59.9
22–23	0.000540	98,996	53	98,970	5,835,524	58.9
23–24	0.000586	98,943	58	98,914	5,736,555	58.0
24–25	0.000636	98,885	63	98,853	5,637,641	57.0
25–26	0.000690	98,822	68	98,788	5,538,787	56.0
26–27	0.000748	98,754	74	98,717	5,439,999	55.1
27–28	0.000810	98,680	80	98,640	5,341,283	54.1
28–29	0.000875	98,600	86	98,557	5,242,643	53.2
29–30	0.000940	98,514	93	98,467	5,144,086	52.2
30–31	0.001005	98,421	99	98,372	5,045,618	51.3
31–32	0.001070	98,322	105	98,270	4,947,247	50.3
32–33	0.001135	98,217	111	98,161	4,848,977	49.4
33–34	0.001200	98,106	118	98,047	4,750,816	48.4
34–35	0.001269	97,988	124	97,926	4,652,769	47.5
35–36	0.001343	97,863	131	97,798	4,554,843	46.5
36–37	0.001422	97,732	139	97,663	4,457,046	45.6
37–38	0.001508	97,593	147	97,520	4,359,383	44.7
38–39	0.001600	97,446	156	97,368	4,261,864	43.7
39–40	0.001696	97,290	165	97,208	4,164,495	42.8
40–41	0.001804	97,125	175	97,037	4,067,288	41.9
41–42	0.001918	96,950	186	96,857	3,970,251	41.0
42–43	0.002030	96,764	196	96,666	3,873,394	40.0
43–44	0.002140	96,567	207	96,464	3,776,728	39.1
44–45	0.002256	96,361	217	96,252	3,680,264	38.2
45–46	0.002393	96,143	230	96,028	3,584,012	37.3
46–47	0.002557	95,913	245	95,791	3,487,984	36.4
47–48	0.002743	95,668	262	95,537	3,392,193	35.5
48–49	0.002946	95,406	281	95,265	3,296,656	34.6
49–50	0.003160	95,125	301	94,974	3,201,391	33.7
50–51	0.003386	94,824	321	94,663	3,106,417	32.8
51–52	0.003637	94,503	344	94,331	3,011,754	31.9
52–53	0.003927	94,159	370	93,974	2,917,423	31.0
53–54	0.004272	93,789	401	93,589	2,823,449	30.1
54–55	0.004670	93,389	436	93,171	2,729,860	29.2
55–56	0.005092	92,952	473	92,716	2,636,689	28.4
56–57	0.005539	92,479	512	92,223	2,543,973	27.5
57–58	0.006041	91,967	556	91,689	2,451,750	26.7
58–59	0.006598	91,411	603	91,110	2,360,061	25.8
59–60	0.007190	90,808	653	90,482	2,268,952	25.0

See footnotes at end of table.

Table 3. Life table for females: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table03.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.007812	90,155	704	89,803	2,178,470	24.2
61–62	0.008442	89,451	755	89,073	2,088,667	23.3
62–63	0.009065	88,696	804	88,294	1,999,593	22.5
63–64	0.009684	87,892	851	87,466	1,911,299	21.7
64–65	0.010329	87,041	899	86,591	1,823,833	21.0
65–66	0.011024	86,142	950	85,667	1,737,242	20.2
66–67	0.011865	85,192	1,011	84,687	1,651,576	19.4
67–68	0.012725	84,181	1,071	83,646	1,566,889	18.6
68–69	0.013748	83,110	1,143	82,539	1,483,244	17.8
69–70	0.014905	81,967	1,222	81,356	1,400,705	17.1
70–71	0.016151	80,746	1,304	80,094	1,319,348	16.3
71–72	0.017479	79,441	1,389	78,747	1,239,255	15.6
72–73	0.019143	78,053	1,494	77,306	1,160,508	14.9
73–74	0.021045	76,559	1,611	75,753	1,083,202	14.1
74–75	0.023346	74,948	1,750	74,073	1,007,449	13.4
75–76	0.025436	73,198	1,862	72,267	933,376	12.8
76–77	0.028950	71,336	2,065	70,303	861,109	12.1
77–78	0.031754	69,271	2,200	68,171	790,806	11.4
78–79	0.035412	67,071	2,375	65,884	722,635	10.8
79–80	0.038774	64,696	2,508	63,442	656,751	10.2
80–81	0.043718	62,188	2,719	60,828	593,309	9.5
81–82	0.048564	59,469	2,888	58,025	532,481	9.0
82–83	0.054104	56,581	3,061	55,050	474,456	8.4
83–84	0.060689	53,520	3,248	51,896	419,406	7.8
84–85	0.067642	50,272	3,400	48,571	367,511	7.3
85–86	0.076212	46,871	3,572	45,085	318,939	6.8
86–87	0.083733	43,299	3,626	41,486	273,854	6.3
87–88	0.094759	39,673	3,759	37,794	232,368	5.9
88–89	0.106971	35,914	3,842	33,993	194,574	5.4
89–90	0.120425	32,072	3,862	30,141	160,581	5.0
90–91	0.135163	28,210	3,813	26,303	130,440	4.6
91–92	0.151206	24,397	3,689	22,552	104,137	4.3
92–93	0.168548	20,708	3,490	18,963	81,584	3.9
93–94	0.187157	17,218	3,222	15,606	62,622	3.6
94–95	0.206968	13,995	2,897	12,547	47,015	3.4
95–96	0.227878	11,099	2,529	9,834	34,468	3.1
96–97	0.249754	8,570	2,140	7,499	24,634	2.9
97–98	0.272425	6,429	1,751	5,554	17,134	2.7
98–99	0.295695	4,678	1,383	3,986	11,581	2.5
99–100	0.319343	3,295	1,052	2,769	7,595	2.3
100 and older	1.000000	2,242	2,242	4,826	4,826	2.2

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 4. Life table for the Hispanic population: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table04.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004919	100,000	492	99,564	7,997,046	80.0
1–2	0.000350	99,508	35	99,491	7,897,483	79.4
2–3	0.000230	99,473	23	99,462	7,797,992	78.4
3–4	0.000165	99,450	16	99,442	7,698,530	77.4
4–5	0.000130	99,434	13	99,428	7,599,088	76.4
5–6	0.000125	99,421	12	99,415	7,499,660	75.4
6–7	0.000115	99,409	11	99,403	7,400,245	74.4
7–8	0.000108	99,397	11	99,392	7,300,843	73.5
8–9	0.000099	99,386	10	99,382	7,201,451	72.5
9–10	0.000090	99,377	9	99,372	7,102,069	71.5
10–11	0.000085	99,368	8	99,363	7,002,697	70.5
11–12	0.000093	99,359	9	99,355	6,903,334	69.5
12–13	0.000125	99,350	12	99,344	6,803,979	68.5
13–14	0.000185	99,338	18	99,328	6,704,635	67.5
14–15	0.000267	99,319	27	99,306	6,605,307	66.5
15–16	0.000360	99,293	36	99,275	6,506,001	65.5
16–17	0.000452	99,257	45	99,235	6,406,726	64.5
17–18	0.000540	99,212	54	99,185	6,307,491	63.6
18–19	0.000618	99,159	61	99,128	6,208,306	62.6
19–20	0.000688	99,097	68	99,063	6,109,178	61.6
20–21	0.000757	99,029	75	98,992	6,010,115	60.7
21–22	0.000831	98,954	82	98,913	5,911,123	59.7
22–23	0.000908	98,872	90	98,827	5,812,210	58.8
23–24	0.000990	98,782	98	98,733	5,713,383	57.8
24–25	0.001078	98,684	106	98,631	5,614,650	56.9
25–26	0.001171	98,578	115	98,520	5,516,018	56.0
26–27	0.001263	98,463	124	98,400	5,417,498	55.0
27–28	0.001347	98,338	132	98,272	5,319,098	54.1
28–29	0.001415	98,206	139	98,136	5,220,826	53.2
29–30	0.001468	98,067	144	97,995	5,122,689	52.2
30–31	0.001518	97,923	149	97,849	5,024,694	51.3
31–32	0.001568	97,774	153	97,698	4,926,846	50.4
32–33	0.001614	97,621	158	97,542	4,829,148	49.5
33–34	0.001657	97,463	162	97,383	4,731,606	48.5
34–35	0.001700	97,302	165	97,219	4,634,223	47.6
35–36	0.001743	97,136	169	97,052	4,537,004	46.7
36–37	0.001789	96,967	173	96,880	4,439,952	45.8
37–38	0.001842	96,794	178	96,705	4,343,072	44.9
38–39	0.001906	96,615	184	96,523	4,246,367	44.0
39–40	0.001979	96,431	191	96,336	4,149,844	43.0
40–41	0.002058	96,240	198	96,141	4,053,508	42.1
41–42	0.002142	96,042	206	95,939	3,957,367	41.2
42–43	0.002236	95,837	214	95,729	3,861,427	40.3
43–44	0.002344	95,622	224	95,510	3,765,698	39.4
44–45	0.002467	95,398	235	95,280	3,670,188	38.5
45–46	0.002606	95,163	248	95,039	3,574,907	37.6
46–47	0.002761	94,915	262	94,784	3,479,868	36.7
47–48	0.002930	94,653	277	94,514	3,385,084	35.8
48–49	0.003110	94,375	293	94,229	3,290,570	34.9
49–50	0.003303	94,082	311	93,927	3,196,342	34.0
50–51	0.003510	93,771	329	93,607	3,102,415	33.1
51–52	0.003742	93,442	350	93,267	3,008,809	32.2
52–53	0.004012	93,092	374	92,906	2,915,542	31.3
53–54	0.004334	92,719	402	92,518	2,822,636	30.4
54–55	0.004704	92,317	434	92,100	2,730,118	29.6
55–56	0.005105	91,883	469	91,648	2,638,018	28.7
56–57	0.005533	91,414	506	91,161	2,546,370	27.9
57–58	0.006013	90,908	547	90,635	2,455,209	27.0
58–59	0.006550	90,361	592	90,065	2,364,575	26.2
59–60	0.007140	89,769	641	89,449	2,274,510	25.3

See footnotes at end of table.

Table 4. Life table for the Hispanic population: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table04.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.007794	89,128	695	88,781	2,185,061	24.5
61–62	0.008485	88,434	750	88,059	2,096,280	23.7
62–63	0.009168	87,683	804	87,281	2,008,221	22.9
63–64	0.009815	86,880	853	86,453	1,920,940	22.1
64–65	0.010452	86,027	899	85,577	1,834,486	21.3
65–66	0.011118	85,128	946	84,654	1,748,909	20.5
66–67	0.011876	84,181	1,000	83,681	1,664,255	19.8
67–68	0.012763	83,181	1,062	82,651	1,580,573	19.0
68–69	0.013825	82,120	1,135	81,552	1,497,923	18.2
69–70	0.015057	80,984	1,219	80,375	1,416,370	17.5
70–71	0.016444	79,765	1,312	79,109	1,335,996	16.7
71–72	0.017950	78,453	1,408	77,749	1,256,886	16.0
72–73	0.019556	77,045	1,507	76,292	1,179,137	15.3
73–74	0.021233	75,539	1,604	74,737	1,102,845	14.6
74–75	0.023017	73,935	1,702	73,084	1,028,109	13.9
75–76	0.024971	72,233	1,804	71,331	955,025	13.2
76–77	0.027258	70,429	1,920	69,469	883,694	12.5
77–78	0.029858	68,509	2,046	67,487	814,225	11.9
78–79	0.033067	66,464	2,198	65,365	746,738	11.2
79–80	0.036344	64,266	2,336	63,098	681,373	10.6
80–81	0.040959	61,930	2,537	60,662	618,275	10.0
81–82	0.045791	59,394	2,720	58,034	557,613	9.4
82–83	0.051061	56,674	2,894	55,227	499,579	8.8
83–84	0.056825	53,780	3,056	52,252	444,352	8.3
84–85	0.063009	50,724	3,196	49,126	392,099	7.7
85–86	0.070699	47,528	3,360	45,848	342,973	7.2
86–87	0.077225	44,168	3,411	42,462	297,125	6.7
87–88	0.087209	40,757	3,554	38,980	254,663	6.2
88–89	0.098247	37,203	3,655	35,375	215,683	5.8
89–90	0.110389	33,548	3,703	31,696	180,308	5.4
90–91	0.123671	29,844	3,691	27,999	148,612	5.0
91–92	0.138113	26,153	3,612	24,347	120,613	4.6
92–93	0.153712	22,541	3,465	20,809	96,266	4.3
93–94	0.170442	19,076	3,251	17,451	75,457	4.0
94–95	0.188248	15,825	2,979	14,336	58,006	3.7
95–96	0.207046	12,846	2,660	11,516	43,671	3.4
96–97	0.226722	10,186	2,309	9,032	32,155	3.2
97–98	0.247134	7,877	1,947	6,904	23,123	2.9
98–99	0.268113	5,930	1,590	5,135	16,219	2.7
99–100	0.289470	4,340	1,256	3,712	11,084	2.6
100 and older	1.000000	3,084	3,084	7,372	7,372	2.4

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 5. Life table for Hispanic males: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table05.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.005334	100,000	533	99,530	7,702,415	77.0
1–2	0.000362	99,467	36	99,449	7,602,885	76.4
2–3	0.000230	99,431	23	99,419	7,503,437	75.5
3–4	0.000174	99,408	17	99,399	7,404,017	74.5
4–5	0.000133	99,390	13	99,384	7,304,618	73.5
5–6	0.000134	99,377	13	99,371	7,205,235	72.5
6–7	0.000129	99,364	13	99,357	7,105,864	71.5
7–8	0.000122	99,351	12	99,345	7,006,507	70.5
8–9	0.000108	99,339	11	99,334	6,907,162	69.5
9–10	0.000087	99,328	9	99,324	6,807,828	68.5
10–11	0.000072	99,320	7	99,316	6,708,504	67.5
11–12	0.000077	99,312	8	99,309	6,609,188	66.5
12–13	0.000120	99,305	12	99,299	6,509,880	65.6
13–14	0.000212	99,293	21	99,282	6,410,581	64.6
14–15	0.000340	99,272	34	99,255	6,311,298	63.6
15–16	0.000486	99,238	48	99,214	6,212,043	62.6
16–17	0.000629	99,190	62	99,159	6,112,829	61.6
17–18	0.000762	99,127	76	99,090	6,013,671	60.7
18–19	0.000874	99,052	87	99,009	5,914,581	59.7
19–20	0.000971	98,965	96	98,917	5,815,573	58.8
20–21	0.001065	98,869	105	98,817	5,716,655	57.8
21–22	0.001168	98,764	115	98,706	5,617,839	56.9
22–23	0.001283	98,649	127	98,585	5,519,132	55.9
23–24	0.001420	98,522	140	98,452	5,420,547	55.0
24–25	0.001573	98,382	155	98,305	5,322,095	54.1
25–26	0.001738	98,227	171	98,142	5,223,790	53.2
26–27	0.001898	98,057	186	97,964	5,125,648	52.3
27–28	0.002035	97,871	199	97,771	5,027,685	51.4
28–29	0.002133	97,671	208	97,567	4,929,914	50.5
29–30	0.002197	97,463	214	97,356	4,832,347	49.6
30–31	0.002251	97,249	219	97,139	4,734,991	48.7
31–32	0.002307	97,030	224	96,918	4,637,851	47.8
32–33	0.002360	96,806	228	96,692	4,540,933	46.9
33–34	0.002413	96,578	233	96,461	4,444,241	46.0
34–35	0.002470	96,345	238	96,226	4,347,780	45.1
35–36	0.002524	96,107	243	95,985	4,251,555	44.2
36–37	0.002578	95,864	247	95,740	4,155,569	43.3
37–38	0.002642	95,617	253	95,491	4,059,829	42.5
38–39	0.002719	95,364	259	95,235	3,964,338	41.6
39–40	0.002806	95,105	267	94,972	3,869,104	40.7
40–41	0.002901	94,838	275	94,701	3,774,132	39.8
41–42	0.003002	94,563	284	94,421	3,679,432	38.9
42–43	0.003110	94,279	293	94,133	3,585,010	38.0
43–44	0.003228	93,986	303	93,834	3,490,878	37.1
44–45	0.003360	93,683	315	93,525	3,397,044	36.3
45–46	0.003514	93,368	328	93,204	3,303,519	35.4
46–47	0.003688	93,040	343	92,868	3,210,315	34.5
47–48	0.003875	92,696	359	92,517	3,117,447	33.6
48–49	0.004068	92,337	376	92,149	3,024,930	32.8
49–50	0.004273	91,962	393	91,765	2,932,781	31.9
50–51	0.004486	91,569	411	91,363	2,841,016	31.0
51–52	0.004735	91,158	432	90,942	2,749,652	30.2
52–53	0.005058	90,726	459	90,497	2,658,710	29.3
53–54	0.005484	90,267	495	90,020	2,568,214	28.5
54–55	0.006003	89,772	539	89,503	2,478,194	27.6
55–56	0.006578	89,233	587	88,940	2,388,691	26.8
56–57	0.007182	88,646	637	88,328	2,299,751	25.9
57–58	0.007827	88,010	689	87,665	2,211,423	25.1
58–59	0.008504	87,321	743	86,950	2,123,758	24.3
59–60	0.009216	86,578	798	86,179	2,036,808	23.5

See footnotes at end of table.

Table 5. Life table for Hispanic males: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table05.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.009996	85,780	857	85,352	1,950,629	22.7
61–62	0.010834	84,923	920	84,463	1,865,277	22.0
62–63	0.011680	84,003	981	83,512	1,780,814	21.2
63–64	0.012515	83,022	1,039	82,502	1,697,302	20.4
64–65	0.013366	81,983	1,096	81,435	1,614,800	19.7
65–66	0.014269	80,887	1,154	80,310	1,533,365	19.0
66–67	0.015281	79,733	1,218	79,124	1,453,056	18.2
67–68	0.016441	78,514	1,291	77,869	1,373,932	17.5
68–69	0.017789	77,223	1,374	76,537	1,296,063	16.8
69–70	0.019313	75,850	1,465	75,117	1,219,527	16.1
70–71	0.021017	74,385	1,563	73,603	1,144,409	15.4
71–72	0.022859	72,822	1,665	71,989	1,070,806	14.7
72–73	0.024777	71,157	1,763	70,275	998,817	14.0
73–74	0.026718	69,394	1,854	68,467	928,541	13.4
74–75	0.028723	67,540	1,940	66,570	860,074	12.7
75–76	0.030890	65,600	2,026	64,587	793,505	12.1
76–77	0.033382	63,574	2,122	62,512	728,918	11.5
77–78	0.036246	61,451	2,227	60,338	666,405	10.8
78–79	0.039889	59,224	2,362	58,043	606,068	10.2
79–80	0.043737	56,862	2,487	55,618	548,025	9.6
80–81	0.049273	54,375	2,679	53,035	492,407	9.1
81–82	0.055161	51,695	2,852	50,270	439,372	8.5
82–83	0.061559	48,844	3,007	47,341	389,102	8.0
83–84	0.068164	45,837	3,124	44,275	341,762	7.5
84–85	0.075238	42,713	3,214	41,106	297,487	7.0
85–86	0.084101	39,499	3,322	37,838	256,381	6.5
86–87	0.091397	36,177	3,306	34,524	218,543	6.0
87–88	0.103049	32,871	3,387	31,177	184,019	5.6
88–89	0.115856	29,483	3,416	27,775	152,842	5.2
89–90	0.129850	26,068	3,385	24,375	125,067	4.8
90–91	0.145041	22,683	3,290	21,038	100,691	4.4
91–92	0.161416	19,393	3,130	17,828	79,654	4.1
92–93	0.178932	16,262	2,910	14,807	61,826	3.8
93–94	0.197517	13,353	2,637	12,034	47,019	3.5
94–95	0.217065	10,715	2,326	9,552	34,985	3.3
95–96	0.237439	8,389	1,992	7,393	25,433	3.0
96–97	0.258474	6,397	1,654	5,571	18,039	2.8
97–98	0.279978	4,744	1,328	4,080	12,469	2.6
98–99	0.301742	3,416	1,031	2,900	8,389	2.5
99–100	0.323545	2,385	772	1,999	5,489	2.3
100 and older	1.000000	1,613	1,613	3,489	3,489	2.2

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 6. Life table for Hispanic females: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table06.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004689	100,000	469	99,581	8,283,690	82.8
1–2	0.000332	99,531	33	99,515	8,184,109	82.2
2–3	0.000226	99,498	22	99,487	8,084,595	81.3
3–4	0.000152	99,476	15	99,468	7,985,108	80.3
4–5	0.000124	99,460	12	99,454	7,885,640	79.3
5–6	0.000112	99,448	11	99,442	7,786,186	78.3
6–7	0.000098	99,437	10	99,432	7,686,743	77.3
7–8	0.000090	99,427	9	99,423	7,587,311	76.3
8–9	0.000087	99,418	9	99,414	7,487,889	75.3
9–10	0.000089	99,409	9	99,405	7,388,475	74.3
10–11	0.000095	99,401	9	99,396	7,289,070	73.3
11–12	0.000107	99,391	11	99,386	7,189,674	72.3
12–13	0.000126	99,381	13	99,374	7,090,288	71.3
13–14	0.000154	99,368	15	99,360	6,990,913	70.4
14–15	0.000188	99,353	19	99,343	6,891,553	69.4
15–16	0.000226	99,334	22	99,323	6,792,210	68.4
16–17	0.000265	99,312	26	99,298	6,692,887	67.4
17–18	0.000306	99,285	30	99,270	6,593,588	66.4
18–19	0.000346	99,255	34	99,238	6,494,318	65.4
19–20	0.000387	99,221	38	99,201	6,395,080	64.5
20–21	0.000429	99,182	43	99,161	6,295,879	63.5
21–22	0.000471	99,140	47	99,116	6,196,718	62.5
22–23	0.000506	99,093	50	99,068	6,097,602	61.5
23–24	0.000532	99,043	53	99,016	5,998,534	60.6
24–25	0.000553	98,990	55	98,963	5,899,517	59.6
25–26	0.000571	98,935	57	98,907	5,800,554	58.6
26–27	0.000593	98,879	59	98,850	5,701,647	57.7
27–28	0.000619	98,820	61	98,790	5,602,798	56.7
28–29	0.000651	98,759	64	98,727	5,504,008	55.7
29–30	0.000688	98,695	68	98,661	5,405,281	54.8
30–31	0.000727	98,627	72	98,591	5,306,620	53.8
31–32	0.000766	98,555	75	98,517	5,208,029	52.8
32–33	0.000801	98,480	79	98,440	5,109,511	51.9
33–34	0.000831	98,401	82	98,360	5,011,071	50.9
34–35	0.000859	98,319	84	98,277	4,912,711	50.0
35–36	0.000890	98,235	87	98,191	4,814,434	49.0
36–37	0.000927	98,147	91	98,102	4,716,243	48.1
37–38	0.000971	98,056	95	98,009	4,618,142	47.1
38–39	0.001024	97,961	100	97,911	4,520,133	46.1
39–40	0.001085	97,861	106	97,808	4,422,222	45.2
40–41	0.001151	97,755	113	97,698	4,324,415	44.2
41–42	0.001223	97,642	119	97,582	4,226,716	43.3
42–43	0.001306	97,523	127	97,459	4,129,134	42.3
43–44	0.001402	97,395	137	97,327	4,031,675	41.4
44–45	0.001513	97,259	147	97,185	3,934,348	40.5
45–46	0.001634	97,112	159	97,032	3,837,163	39.5
46–47	0.001767	96,953	171	96,867	3,740,131	38.6
47–48	0.001916	96,782	185	96,689	3,643,264	37.6
48–49	0.002084	96,596	201	96,495	3,546,575	36.7
49–50	0.002267	96,395	219	96,286	3,450,079	35.8
50–51	0.002470	96,176	238	96,058	3,353,794	34.9
51–52	0.002686	95,939	258	95,810	3,257,736	34.0
52–53	0.002905	95,681	278	95,542	3,161,926	33.0
53–54	0.003122	95,403	298	95,254	3,066,384	32.1
54–55	0.003346	95,105	318	94,946	2,971,130	31.2
55–56	0.003576	94,787	339	94,618	2,876,184	30.3
56–57	0.003835	94,448	362	94,267	2,781,566	29.5
57–58	0.004158	94,086	391	93,890	2,687,299	28.6
58–59	0.004566	93,695	428	93,481	2,593,409	27.7
59–60	0.005047	93,267	471	93,031	2,499,928	26.8

See footnotes at end of table.

Table 6. Life table for Hispanic females: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table06.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.005591	92,796	519	92,537	2,406,897	25.9
61–62	0.006156	92,277	568	91,993	2,314,360	25.1
62–63	0.006707	91,709	615	91,402	2,222,367	24.2
63–64	0.007215	91,094	657	90,766	2,130,965	23.4
64–65	0.007703	90,437	697	90,089	2,040,200	22.6
65–66	0.008217	89,740	737	89,372	1,950,111	21.7
66–67	0.008813	89,003	784	88,611	1,860,740	20.9
67–68	0.009521	88,218	840	87,798	1,772,129	20.1
68–69	0.010381	87,379	907	86,925	1,684,330	19.3
69–70	0.011396	86,471	985	85,979	1,597,405	18.5
70–71	0.012546	85,486	1,072	84,950	1,511,427	17.7
71–72	0.013812	84,413	1,166	83,831	1,426,477	16.9
72–73	0.015207	83,248	1,266	82,615	1,342,646	16.1
73–74	0.016730	81,982	1,372	81,296	1,260,032	15.4
74–75	0.018407	80,610	1,484	79,868	1,178,736	14.6
75–76	0.020270	79,126	1,604	78,324	1,098,868	13.9
76–77	0.022471	77,522	1,742	76,651	1,020,544	13.2
77–78	0.024960	75,780	1,891	74,835	943,892	12.5
78–79	0.027967	73,889	2,066	72,856	869,057	11.8
79–80	0.030971	71,822	2,224	70,710	796,202	11.1
80–81	0.035165	69,598	2,447	68,374	725,492	10.4
81–82	0.039576	67,151	2,658	65,822	657,117	9.8
82–83	0.044424	64,493	2,865	63,061	591,295	9.2
83–84	0.050042	61,628	3,084	60,086	528,235	8.6
84–85	0.056146	58,544	3,287	56,901	468,149	8.0
85–86	0.063721	55,257	3,521	53,497	411,248	7.4
86–87	0.070014	51,736	3,622	49,925	357,751	6.9
87–88	0.080042	48,114	3,851	46,188	307,826	6.4
88–89	0.091273	44,263	4,040	42,243	261,638	5.9
89–90	0.103783	40,223	4,174	38,136	219,395	5.5
90–91	0.117635	36,048	4,241	33,928	181,260	5.0
91–92	0.132874	31,808	4,226	29,695	147,332	4.6
92–93	0.149517	27,581	4,124	25,519	117,637	4.3
93–94	0.167554	23,457	3,930	21,492	92,118	3.9
94–95	0.186934	19,527	3,650	17,702	70,626	3.6
95–96	0.207572	15,877	3,296	14,229	52,924	3.3
96–97	0.229338	12,581	2,885	11,139	38,695	3.1
97–98	0.252063	9,696	2,444	8,474	27,556	2.8
98–99	0.275542	7,252	1,998	6,253	19,082	2.6
99–100	0.299539	5,254	1,574	4,467	12,830	2.4
100 and older	1.000000	3,680	3,680	8,363	8,363	2.3

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 7. Life table for the American Indian and Alaska Native, non-Hispanic population: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table07.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.009041	100,000	904	99,213	6,778,288	67.8
1–2	0.001205	99,096	119	99,036	6,679,075	67.4
2–3	0.000762	98,976	75	98,939	6,580,039	66.5
3–4	0.000445	98,901	44	98,879	6,481,100	65.5
4–5	0.000312	98,857	31	98,842	6,382,221	64.6
5–6	0.000353	98,826	35	98,809	6,283,380	63.6
6–7	0.000335	98,791	33	98,775	6,184,571	62.6
7–8	0.000318	98,758	31	98,743	6,085,796	61.6
8–9	0.000290	98,727	29	98,712	5,987,053	60.6
9–10	0.000253	98,698	25	98,686	5,888,341	59.7
10–11	0.000229	98,673	23	98,662	5,789,655	58.7
11–12	0.000248	98,651	24	98,638	5,690,993	57.7
12–13	0.000348	98,626	34	98,609	5,592,355	56.7
13–14	0.000549	98,592	54	98,565	5,493,746	55.7
14–15	0.000823	98,538	81	98,497	5,395,181	54.8
15–16	0.001143	98,457	113	98,400	5,296,684	53.8
16–17	0.001455	98,344	143	98,272	5,198,284	52.9
17–18	0.001713	98,201	168	98,117	5,100,011	51.9
18–19	0.001882	98,033	184	97,940	5,001,895	51.0
19–20	0.001993	97,848	195	97,751	4,903,954	50.1
20–21	0.002093	97,653	204	97,551	4,806,203	49.2
21–22	0.002236	97,449	218	97,340	4,708,652	48.3
22–23	0.002440	97,231	237	97,112	4,611,313	47.4
23–24	0.002735	96,994	265	96,861	4,514,200	46.5
24–25	0.003109	96,728	301	96,578	4,417,339	45.7
25–26	0.003512	96,428	339	96,258	4,320,761	44.8
26–27	0.003919	96,089	377	95,901	4,224,503	44.0
27–28	0.004340	95,713	415	95,505	4,128,602	43.1
28–29	0.004751	95,297	453	95,071	4,033,097	42.3
29–30	0.005136	94,844	487	94,601	3,938,027	41.5
30–31	0.005500	94,357	519	94,098	3,843,426	40.7
31–32	0.005853	93,838	549	93,564	3,749,328	40.0
32–33	0.006205	93,289	579	93,000	3,655,765	39.2
33–34	0.006580	92,710	610	92,405	3,562,765	38.4
34–35	0.006985	92,100	643	91,778	3,470,360	37.7
35–36	0.007459	91,457	682	91,116	3,378,582	36.9
36–37	0.007942	90,775	721	90,414	3,287,466	36.2
37–38	0.008317	90,054	749	89,679	3,197,052	35.5
38–39	0.008505	89,305	760	88,925	3,107,373	34.8
39–40	0.008561	88,545	758	88,166	3,018,448	34.1
40–41	0.008536	87,787	749	87,412	2,930,281	33.4
41–42	0.008594	87,038	748	86,664	2,842,869	32.7
42–43	0.008881	86,290	766	85,907	2,756,205	31.9
43–44	0.009507	85,523	813	85,117	2,670,299	31.2
44–45	0.010404	84,710	881	84,270	2,585,182	30.5
45–46	0.011475	83,829	962	83,348	2,500,912	29.8
46–47	0.012497	82,867	1,036	82,349	2,417,564	29.2
47–48	0.013291	81,831	1,088	81,288	2,335,215	28.5
48–49	0.013697	80,744	1,106	80,191	2,253,927	27.9
49–50	0.013826	79,638	1,101	79,087	2,173,736	27.3
50–51	0.013851	78,537	1,088	77,993	2,094,649	26.7
51–52	0.014012	77,449	1,085	76,906	2,016,656	26.0
52–53	0.014422	76,364	1,101	75,813	1,939,749	25.4
53–54	0.015186	75,263	1,143	74,691	1,863,936	24.8
54–55	0.016199	74,120	1,201	73,519	1,789,245	24.1
55–56	0.017250	72,919	1,258	72,290	1,715,726	23.5
56–57	0.018203	71,661	1,304	71,009	1,643,436	22.9
57–58	0.019092	70,357	1,343	69,685	1,572,427	22.3
58–59	0.019875	69,013	1,372	68,328	1,502,742	21.8
59–60	0.020566	67,642	1,391	66,946	1,434,414	21.2

See footnotes at end of table.

Table 7. Life table for the American Indian and Alaska Native, non-Hispanic population: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table07.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.021283	66,251	1,410	65,546	1,367,468	20.6
61–62	0.022005	64,841	1,427	64,127	1,301,922	20.1
62–63	0.022610	63,414	1,434	62,697	1,237,795	19.5
63–64	0.023078	61,980	1,430	61,265	1,175,098	19.0
64–65	0.023483	60,550	1,422	59,839	1,113,833	18.4
65–66	0.023814	59,128	1,408	58,424	1,053,995	17.8
66–67	0.024261	57,720	1,400	57,020	995,571	17.2
67–68	0.025113	56,319	1,414	55,612	938,551	16.7
68–69	0.026566	54,905	1,459	54,176	882,939	16.1
69–70	0.028524	53,446	1,525	52,684	828,764	15.5
70–71	0.030864	51,922	1,603	51,121	776,079	14.9
71–72	0.033277	50,319	1,674	49,482	724,959	14.4
72–73	0.035502	48,645	1,727	47,781	675,477	13.9
73–74	0.037272	46,918	1,749	46,043	627,695	13.4
74–75	0.038704	45,169	1,748	44,295	581,652	12.9
75–76	0.040099	43,421	1,741	42,550	537,357	12.4
76–77	0.041876	41,680	1,745	40,807	494,807	11.9
77–78	0.044221	39,934	1,766	39,051	453,999	11.4
78–79	0.047462	38,168	1,812	37,263	414,948	10.9
79–80	0.051584	36,357	1,875	35,419	377,685	10.4
80–81	0.056368	34,481	1,944	33,510	342,266	9.9
81–82	0.061087	32,538	1,988	31,544	308,757	9.5
82–83	0.065733	30,550	2,008	29,546	277,213	9.1
83–84	0.070068	28,542	2,000	27,542	247,666	8.7
84–85	0.073985	26,542	1,964	25,560	220,124	8.3
85–86	0.078184	24,578	1,922	23,618	194,564	7.9
86–87	0.082462	22,657	1,868	21,723	170,946	7.5
87–88	0.088757	20,788	1,845	19,866	149,224	7.2
88–89	0.095425	18,943	1,808	18,040	129,358	6.8
89–90	0.102466	17,136	1,756	16,258	111,318	6.5
90–91	0.109880	15,380	1,690	14,535	95,060	6.2
91–92	0.117659	13,690	1,611	12,885	80,525	5.9
92–93	0.125791	12,079	1,519	11,319	67,641	5.6
93–94	0.134259	10,560	1,418	9,851	56,321	5.3
94–95	0.143038	9,142	1,308	8,488	46,471	5.1
95–96	0.152098	7,834	1,192	7,239	37,982	4.8
96–97	0.161402	6,643	1,072	6,107	30,744	4.6
97–98	0.170906	5,571	952	5,095	24,637	4.4
98–99	0.180559	4,619	834	4,202	19,543	4.2
99–100	0.190306	3,785	720	3,425	15,341	4.1
100 and older	1.000000	3,064	3,064	11,917	11,917	3.9

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 8. Life table for American Indian and Alaska Native, non-Hispanic males: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table08.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.010529	100,000	1,053	99,113	6,451,363	64.5
1–2	0.000901	98,947	89	98,903	6,352,250	64.2
2–3	0.000937	98,858	93	98,812	6,253,347	63.3
3–4	0.000570	98,765	56	98,737	6,154,536	62.3
4–5	0.000313	98,709	31	98,694	6,055,798	61.4
5–6	0.000435	98,678	43	98,657	5,957,105	60.4
6–7	0.000403	98,635	40	98,615	5,858,448	59.4
7–8	0.000371	98,595	37	98,577	5,759,833	58.4
8–9	0.000327	98,559	32	98,543	5,661,256	57.4
9–10	0.000278	98,527	27	98,513	5,562,713	56.5
10–11	0.000244	98,499	24	98,487	5,464,200	55.5
11–12	0.000262	98,475	26	98,462	5,365,713	54.5
12–13	0.000372	98,449	37	98,431	5,267,251	53.5
13–14	0.000596	98,413	59	98,383	5,168,820	52.5
14–15	0.000907	98,354	89	98,309	5,070,437	51.6
15–16	0.001267	98,265	125	98,203	4,972,127	50.6
16–17	0.001631	98,140	160	98,060	4,873,925	49.7
17–18	0.001970	97,980	193	97,884	4,775,865	48.7
18–19	0.002257	97,787	221	97,677	4,677,981	47.8
19–20	0.002508	97,566	245	97,444	4,580,304	46.9
20–21	0.002750	97,322	268	97,188	4,482,860	46.1
21–22	0.003025	97,054	294	96,907	4,385,672	45.2
22–23	0.003361	96,761	325	96,598	4,288,765	44.3
23–24	0.003789	96,435	365	96,253	4,192,167	43.5
24–25	0.004292	96,070	412	95,864	4,095,914	42.6
25–26	0.004843	95,658	463	95,426	4,000,050	41.8
26–27	0.005389	95,194	513	94,938	3,904,624	41.0
27–28	0.005883	94,681	557	94,403	3,809,686	40.2
28–29	0.006272	94,124	590	93,829	3,715,283	39.5
29–30	0.006577	93,534	615	93,226	3,621,454	38.7
30–31	0.006829	92,919	634	92,602	3,528,228	38.0
31–32	0.007101	92,284	655	91,957	3,435,626	37.2
32–33	0.007452	91,629	683	91,288	3,343,669	36.5
33–34	0.007941	90,946	722	90,585	3,252,382	35.8
34–35	0.008554	90,224	772	89,838	3,161,797	35.0
35–36	0.009292	89,452	831	89,037	3,071,959	34.3
36–37	0.010027	88,621	889	88,177	2,982,922	33.7
37–38	0.010601	87,732	930	87,267	2,894,745	33.0
38–39	0.010880	86,802	944	86,330	2,807,478	32.3
39–40	0.010938	85,858	939	85,388	2,721,148	31.7
40–41	0.010882	84,919	924	84,457	2,635,760	31.0
41–42	0.010936	83,995	919	83,535	2,551,303	30.4
42–43	0.011255	83,076	935	82,609	2,467,767	29.7
43–44	0.011978	82,141	984	81,649	2,385,159	29.0
44–45	0.013020	81,157	1,057	80,629	2,303,510	28.4
45–46	0.014273	80,101	1,143	79,529	2,222,881	27.8
46–47	0.015455	78,957	1,220	78,347	2,143,352	27.1
47–48	0.016329	77,737	1,269	77,102	2,065,005	26.6
48–49	0.016690	76,468	1,276	75,830	1,987,902	26.0
49–50	0.016694	75,191	1,255	74,564	1,912,073	25.4
50–51	0.016557	73,936	1,224	73,324	1,837,509	24.9
51–52	0.016606	72,712	1,207	72,108	1,764,185	24.3
52–53	0.017015	71,505	1,217	70,896	1,692,077	23.7
53–54	0.017936	70,288	1,261	69,658	1,621,180	23.1
54–55	0.019224	69,027	1,327	68,364	1,551,523	22.5
55–56	0.020588	67,700	1,394	67,003	1,483,159	21.9
56–57	0.021825	66,306	1,447	65,583	1,416,156	21.4
57–58	0.022980	64,859	1,490	64,114	1,350,573	20.8
58–59	0.023980	63,369	1,520	62,609	1,286,459	20.3
59–60	0.024849	61,849	1,537	61,081	1,223,850	19.8

See footnotes at end of table.

Table 8. Life table for American Indian and Alaska Native, non-Hispanic males: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table08.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.025749	60,312	1,553	59,536	1,162,769	19.3
61–62	0.026661	58,759	1,567	57,976	1,103,233	18.8
62–63	0.027419	57,193	1,568	56,409	1,045,257	18.3
63–64	0.027995	55,625	1,557	54,846	988,848	17.8
64–65	0.028476	54,067	1,540	53,298	934,002	17.3
65–66	0.028843	52,528	1,515	51,770	880,705	16.8
66–67	0.029330	51,013	1,496	50,265	828,935	16.2
67–68	0.030290	49,516	1,500	48,767	778,670	15.7
68–69	0.031963	48,017	1,535	47,249	729,904	15.2
69–70	0.034213	46,482	1,590	45,687	682,654	14.7
70–71	0.036913	44,892	1,657	44,063	636,967	14.2
71–72	0.039633	43,235	1,714	42,378	592,904	13.7
72–73	0.041944	41,521	1,742	40,650	550,527	13.3
73–74	0.043449	39,780	1,728	38,915	509,876	12.8
74–75	0.044306	38,051	1,686	37,208	470,961	12.4
75–76	0.044843	36,365	1,631	35,550	433,753	11.9
76–77	0.045717	34,735	1,588	33,941	398,203	11.5
77–78	0.047407	33,147	1,571	32,361	364,262	11.0
78–79	0.050569	31,575	1,597	30,777	331,902	10.5
79–80	0.055171	29,978	1,654	29,151	301,125	10.0
80–81	0.060961	28,324	1,727	27,461	271,973	9.6
81–82	0.066387	26,598	1,766	25,715	244,512	9.2
82–83	0.071277	24,832	1,770	23,947	218,797	8.8
83–84	0.075230	23,062	1,735	22,195	194,850	8.4
84–85	0.078712	21,327	1,679	20,488	172,655	8.1
85–86	0.082938	19,648	1,630	18,834	152,168	7.7
86–87	0.086982	18,019	1,567	17,235	133,334	7.4
87–88	0.093196	16,452	1,533	15,685	116,099	7.1
88–89	0.099735	14,918	1,488	14,174	100,414	6.7
89–90	0.106595	13,430	1,432	12,715	86,239	6.4
90–91	0.113768	11,999	1,365	11,316	73,525	6.1
91–92	0.121239	10,634	1,289	9,989	62,209	5.9
92–93	0.128990	9,345	1,205	8,742	52,219	5.6
93–94	0.136996	8,139	1,115	7,582	43,478	5.3
94–95	0.145225	7,024	1,020	6,514	35,896	5.1
95–96	0.153642	6,004	922	5,543	29,382	4.9
96–97	0.162204	5,082	824	4,669	23,839	4.7
97–98	0.170863	4,257	727	3,894	19,169	4.5
98–99	0.179565	3,530	634	3,213	15,276	4.3
99–100	0.188256	2,896	545	2,623	12,063	4.2
100 and older	1.000000	2,351	2,351	9,439	9,439	4.0

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 9. Life table for American Indian and Alaska Native, non-Hispanic females: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table09.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.007499	100,000	750	99,317	7,129,308	71.3
1–2	0.001489	99,250	148	99,176	7,029,991	70.8
2–3	0.000582	99,102	58	99,073	6,930,815	69.9
3–4	0.000318	99,045	32	99,029	6,831,741	69.0
4–5	0.000307	99,013	30	98,998	6,732,713	68.0
5–6	0.000268	98,983	27	98,969	6,633,715	67.0
6–7	0.000266	98,956	26	98,943	6,534,745	66.0
7–8	0.000265	98,930	26	98,917	6,435,802	65.1
8–9	0.000251	98,903	25	98,891	6,336,886	64.1
9–10	0.000225	98,879	22	98,868	6,237,995	63.1
10–11	0.000205	98,856	20	98,846	6,139,127	62.1
11–12	0.000224	98,836	22	98,825	6,040,281	61.1
12–13	0.000316	98,814	31	98,798	5,941,456	60.1
13–14	0.000501	98,783	50	98,758	5,842,657	59.1
14–15	0.000748	98,733	74	98,696	5,743,899	58.2
15–16	0.001040	98,659	103	98,608	5,645,203	57.2
16–17	0.001311	98,557	129	98,492	5,546,595	56.3
17–18	0.001489	98,428	147	98,354	5,448,103	55.4
18–19	0.001534	98,281	151	98,206	5,349,748	54.4
19–20	0.001493	98,130	146	98,057	5,251,543	53.5
20–21	0.001437	97,984	141	97,913	5,153,485	52.6
21–22	0.001433	97,843	140	97,773	5,055,572	51.7
22–23	0.001495	97,703	146	97,630	4,957,799	50.7
23–24	0.001651	97,557	161	97,476	4,860,169	49.8
24–25	0.001890	97,396	184	97,304	4,762,693	48.9
25–26	0.002141	97,212	208	97,108	4,665,389	48.0
26–27	0.002404	97,003	233	96,887	4,568,282	47.1
27–28	0.002748	96,770	266	96,637	4,471,395	46.2
28–29	0.003172	96,504	306	96,351	4,374,758	45.3
29–30	0.003630	96,198	349	96,024	4,278,406	44.5
30–31	0.004098	95,849	393	95,653	4,182,383	43.6
31–32	0.004525	95,456	432	95,240	4,086,730	42.8
32–33	0.004877	95,024	463	94,793	3,991,490	42.0
33–34	0.005141	94,561	486	94,318	3,896,697	41.2
34–35	0.005347	94,075	503	93,823	3,802,380	40.4
35–36	0.005574	93,572	522	93,311	3,708,557	39.6
36–37	0.005823	93,050	542	92,779	3,615,246	38.9
37–38	0.006015	92,508	556	92,230	3,522,466	38.1
38–39	0.006121	91,952	563	91,670	3,430,236	37.3
39–40	0.006175	91,389	564	91,107	3,338,566	36.5
40–41	0.006179	90,825	561	90,544	3,247,459	35.8
41–42	0.006241	90,263	563	89,982	3,156,915	35.0
42–43	0.006496	89,700	583	89,409	3,066,933	34.2
43–44	0.007032	89,117	627	88,804	2,977,525	33.4
44–45	0.007791	88,491	689	88,146	2,888,721	32.6
45–46	0.008692	87,801	763	87,420	2,800,575	31.9
46–47	0.009566	87,038	833	86,622	2,713,155	31.2
47–48	0.010289	86,206	887	85,762	2,626,533	30.5
48–49	0.010739	85,319	916	84,861	2,540,771	29.8
49–50	0.010990	84,402	928	83,939	2,455,910	29.1
50–51	0.011172	83,475	933	83,009	2,371,972	28.4
51–52	0.011443	82,542	945	82,070	2,288,963	27.7
52–53	0.011861	81,598	968	81,114	2,206,893	27.0
53–54	0.012489	80,630	1,007	80,126	2,125,779	26.4
54–55	0.013258	79,623	1,056	79,095	2,045,653	25.7
55–56	0.014037	78,567	1,103	78,016	1,966,558	25.0
56–57	0.014748	77,464	1,142	76,893	1,888,542	24.4
57–58	0.015419	76,322	1,177	75,734	1,811,649	23.7
58–59	0.016027	75,145	1,204	74,543	1,735,915	23.1
59–60	0.016582	73,941	1,226	73,328	1,661,372	22.5

See footnotes at end of table.

Table 9. Life table for American Indian and Alaska Native, non-Hispanic females: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table09.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.017158	72,715	1,248	72,091	1,588,045	21.8
61–62	0.017737	71,467	1,268	70,833	1,515,954	21.2
62–63	0.018239	70,199	1,280	69,559	1,445,120	20.6
63–64	0.018657	68,919	1,286	68,276	1,375,561	20.0
64–65	0.019049	67,633	1,288	66,989	1,307,285	19.3
65–66	0.019411	66,345	1,288	65,701	1,240,296	18.7
66–67	0.019885	65,057	1,294	64,410	1,174,595	18.1
67–68	0.020681	63,763	1,319	63,104	1,110,184	17.4
68–69	0.021949	62,445	1,371	61,759	1,047,080	16.8
69–70	0.023630	61,074	1,443	60,353	985,321	16.1
70–71	0.025616	59,631	1,527	58,867	924,968	15.5
71–72	0.027723	58,104	1,611	57,298	866,101	14.9
72–73	0.029852	56,493	1,686	55,650	808,803	14.3
73–74	0.031867	54,806	1,747	53,933	753,153	13.7
74–75	0.033843	53,060	1,796	52,162	699,220	13.2
75–76	0.036034	51,264	1,847	50,340	647,058	12.6
76–77	0.038635	49,417	1,909	48,462	596,718	12.1
77–78	0.041581	47,508	1,975	46,520	548,256	11.5
78–79	0.044910	45,532	2,045	44,510	501,736	11.0
79–80	0.048637	43,487	2,115	42,430	457,226	10.5
80–81	0.052625	41,372	2,177	40,284	414,796	10.0
81–82	0.056866	39,195	2,229	38,081	374,513	9.6
82–83	0.061484	36,966	2,273	35,830	336,432	9.1
83–84	0.066373	34,693	2,303	33,542	300,602	8.7
84–85	0.070962	32,391	2,299	31,241	267,060	8.2
85–86	0.075592	30,092	2,275	28,955	235,819	7.8
86–87	0.080113	27,817	2,229	26,703	206,864	7.4
87–88	0.087030	25,589	2,227	24,475	180,161	7.0
88–89	0.094422	23,362	2,206	22,259	155,686	6.7
89–90	0.102300	21,156	2,164	20,074	133,427	6.3
90–91	0.110666	18,992	2,102	17,941	113,353	6.0
91–92	0.119517	16,890	2,019	15,881	95,412	5.6
92–93	0.128844	14,871	1,916	13,913	79,531	5.3
93–94	0.138631	12,955	1,796	12,057	65,618	5.1
94–95	0.148850	11,159	1,661	10,329	53,561	4.8
95–96	0.159467	9,498	1,515	8,741	43,232	4.6
96–97	0.170437	7,984	1,361	7,303	34,491	4.3
97–98	0.181705	6,623	1,203	6,021	27,188	4.1
98–99	0.193207	5,419	1,047	4,896	21,167	3.9
99–100	0.204871	4,372	896	3,924	16,271	3.7
100 and older	1.000000	3,477	3,477	12,346	12,346	3.6

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 10. Life table for the Asian, non-Hispanic population: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table10.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.003516	100,000	352	99,687	8,442,863	84.4
1–2	0.000223	99,648	22	99,637	8,343,176	83.7
2–3	0.000123	99,626	12	99,620	8,243,538	82.7
3–4	0.000118	99,614	12	99,608	8,143,918	81.8
4–5	0.000101	99,602	10	99,597	8,044,310	80.8
5–6	0.000084	99,592	8	99,588	7,944,713	79.8
6–7	0.000079	99,584	8	99,580	7,845,125	78.8
7–8	0.000074	99,576	7	99,572	7,745,545	77.8
8–9	0.000068	99,569	7	99,565	7,645,973	76.8
9–10	0.000061	99,562	6	99,559	7,546,408	75.8
10–11	0.000057	99,556	6	99,553	7,446,849	74.8
11–12	0.000061	99,550	6	99,547	7,347,296	73.8
12–13	0.000079	99,544	8	99,540	7,247,749	72.8
13–14	0.000116	99,536	12	99,530	7,148,210	71.8
14–15	0.000165	99,524	16	99,516	7,048,679	70.8
15–16	0.000219	99,508	22	99,497	6,949,163	69.8
16–17	0.000270	99,486	27	99,473	6,849,666	68.9
17–18	0.000320	99,459	32	99,443	6,750,193	67.9
18–19	0.000366	99,428	36	99,409	6,650,750	66.9
19–20	0.000407	99,391	40	99,371	6,551,340	65.9
20–21	0.000448	99,351	45	99,328	6,451,969	64.9
21–22	0.000486	99,306	48	99,282	6,352,641	64.0
22–23	0.000507	99,258	50	99,233	6,253,359	63.0
23–24	0.000510	99,208	51	99,182	6,154,126	62.0
24–25	0.000500	99,157	50	99,132	6,054,944	61.1
25–26	0.000485	99,107	48	99,083	5,955,811	60.1
26–27	0.000475	99,059	47	99,036	5,856,728	59.1
27–28	0.000480	99,012	48	98,989	5,757,692	58.2
28–29	0.000505	98,965	50	98,940	5,658,703	57.2
29–30	0.000542	98,915	54	98,888	5,559,764	56.2
30–31	0.000583	98,861	58	98,833	5,460,875	55.2
31–32	0.000616	98,804	61	98,773	5,362,043	54.3
32–33	0.000639	98,743	63	98,711	5,263,270	53.3
33–34	0.000646	98,680	64	98,648	5,164,558	52.3
34–35	0.000644	98,616	63	98,584	5,065,910	51.4
35–36	0.000641	98,553	63	98,521	4,967,326	50.4
36–37	0.000647	98,489	64	98,458	4,868,805	49.4
37–38	0.000665	98,426	65	98,393	4,770,348	48.5
38–39	0.000700	98,360	69	98,326	4,671,955	47.5
39–40	0.000750	98,291	74	98,255	4,573,629	46.5
40–41	0.000809	98,218	79	98,178	4,475,374	45.6
41–42	0.000875	98,138	86	98,095	4,377,196	44.6
42–43	0.000950	98,052	93	98,006	4,279,101	43.6
43–44	0.001034	97,959	101	97,909	4,181,095	42.7
44–45	0.001126	97,858	110	97,803	4,083,186	41.7
45–46	0.001225	97,748	120	97,688	3,985,383	40.8
46–47	0.001334	97,628	130	97,563	3,887,696	39.8
47–48	0.001460	97,498	142	97,427	3,790,133	38.9
48–49	0.001604	97,355	156	97,277	3,692,706	37.9
49–50	0.001762	97,199	171	97,114	3,595,429	37.0
50–51	0.001938	97,028	188	96,934	3,498,315	36.1
51–52	0.002118	96,840	205	96,737	3,401,381	35.1
52–53	0.002287	96,635	221	96,524	3,304,644	34.2
53–54	0.002439	96,414	235	96,296	3,208,119	33.3
54–55	0.002587	96,179	249	96,054	3,111,823	32.4
55–56	0.002749	95,930	264	95,798	3,015,769	31.4
56–57	0.002946	95,666	282	95,525	2,919,971	30.5
57–58	0.003186	95,384	304	95,232	2,824,445	29.6
58–59	0.003476	95,080	331	94,915	2,729,213	28.7
59–60	0.003811	94,750	361	94,569	2,634,298	27.8

See footnotes at end of table.

Table 10. Life table for the Asian, non-Hispanic population: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table10.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.004174	94,389	394	94,192	2,539,729	26.9
61–62	0.004569	93,995	429	93,780	2,445,537	26.0
62–63	0.005017	93,565	469	93,331	2,351,757	25.1
63–64	0.005529	93,096	515	92,839	2,258,426	24.3
64–65	0.006102	92,581	565	92,299	2,165,588	23.4
65–66	0.006708	92,016	617	91,708	2,073,289	22.5
66–67	0.007355	91,399	672	91,063	1,981,581	21.7
67–68	0.008091	90,727	734	90,360	1,890,518	20.8
68–69	0.008941	89,993	805	89,590	1,800,158	20.0
69–70	0.009897	89,188	883	88,747	1,710,568	19.2
70–71	0.010973	88,305	969	87,821	1,621,821	18.4
71–72	0.012115	87,336	1,058	86,807	1,534,000	17.6
72–73	0.013270	86,278	1,145	85,706	1,447,193	16.8
73–74	0.014426	85,133	1,228	84,519	1,361,487	16.0
74–75	0.015662	83,905	1,314	83,248	1,276,967	15.2
75–76	0.017052	82,591	1,408	81,887	1,193,719	14.5
76–77	0.018867	81,183	1,532	80,417	1,111,832	13.7
77–78	0.021112	79,651	1,682	78,810	1,031,415	12.9
78–79	0.023971	77,970	1,869	77,035	952,605	12.2
79–80	0.026876	76,101	2,045	75,078	875,570	11.5
80–81	0.030890	74,055	2,288	72,911	800,492	10.8
81–82	0.035061	71,768	2,516	70,510	727,580	10.1
82–83	0.039811	69,251	2,757	67,873	657,071	9.5
83–84	0.045104	66,495	2,999	64,995	589,198	8.9
84–85	0.050886	63,495	3,231	61,880	524,203	8.3
85–86	0.058212	60,264	3,508	58,510	462,323	7.7
86–87	0.064540	56,756	3,663	54,925	403,813	7.1
87–88	0.074397	53,093	3,950	51,118	348,888	6.6
88–89	0.085521	49,143	4,203	47,042	297,770	6.1
89–90	0.098003	44,940	4,404	42,738	250,728	5.6
90–91	0.111921	40,536	4,537	38,268	207,990	5.1
91–92	0.127330	35,999	4,584	33,707	169,722	4.7
92–93	0.144262	31,415	4,532	29,149	136,015	4.3
93–94	0.162711	26,883	4,374	24,696	106,865	4.0
94–95	0.182633	22,509	4,111	20,454	82,169	3.7
95–96	0.203939	18,398	3,752	16,522	61,715	3.4
96–97	0.226495	14,646	3,317	12,988	45,193	3.1
97–98	0.250120	11,329	2,834	9,912	32,205	2.8
98–99	0.274592	8,495	2,333	7,329	22,293	2.6
99–100	0.299657	6,163	1,847	5,239	14,964	2.4
100 and older	1.000000	4,316	4,316	9,725	9,725	2.3

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 11. Life table for Asian, non-Hispanic males: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table11.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.003880	100,000	388	99,662	8,231,789	82.3
1–2	0.000288	99,612	29	99,598	8,132,127	81.6
2–3	0.000119	99,583	12	99,577	8,032,529	80.7
3–4	0.000105	99,571	10	99,566	7,932,952	79.7
4–5	0.000128	99,561	13	99,555	7,833,385	78.7
5–6	0.000082	99,548	8	99,544	7,733,831	77.7
6–7	0.000076	99,540	8	99,536	7,634,287	76.7
7–8	0.000072	99,533	7	99,529	7,534,750	75.7
8–9	0.000068	99,526	7	99,522	7,435,221	74.7
9–10	0.000066	99,519	7	99,515	7,335,699	73.7
10–11	0.000068	99,512	7	99,509	7,236,184	72.7
11–12	0.000077	99,505	8	99,502	7,136,675	71.7
12–13	0.000100	99,498	10	99,493	7,037,173	70.7
13–14	0.000140	99,488	14	99,481	6,937,681	69.7
14–15	0.000192	99,474	19	99,464	6,838,200	68.7
15–16	0.000249	99,455	25	99,442	6,738,736	67.8
16–17	0.000307	99,430	30	99,415	6,639,293	66.8
17–18	0.000360	99,399	36	99,382	6,539,879	65.8
18–19	0.000406	99,364	40	99,343	6,440,497	64.8
19–20	0.000444	99,323	44	99,301	6,341,154	63.8
20–21	0.000482	99,279	48	99,255	6,241,853	62.9
21–22	0.000520	99,231	52	99,206	6,142,597	61.9
22–23	0.000552	99,180	55	99,152	6,043,392	60.9
23–24	0.000577	99,125	57	99,096	5,944,239	60.0
24–25	0.000599	99,068	59	99,038	5,845,143	59.0
25–26	0.000618	99,008	61	98,978	5,746,105	58.0
26–27	0.000638	98,947	63	98,916	5,647,127	57.1
27–28	0.000664	98,884	66	98,851	5,548,211	56.1
28–29	0.000698	98,818	69	98,784	5,449,360	55.1
29–30	0.000735	98,749	73	98,713	5,350,576	54.2
30–31	0.000773	98,677	76	98,639	5,251,863	53.2
31–32	0.000807	98,601	80	98,561	5,153,224	52.3
32–33	0.000836	98,521	82	98,480	5,054,663	51.3
33–34	0.000858	98,439	84	98,396	4,956,183	50.3
34–35	0.000877	98,354	86	98,311	4,857,787	49.4
35–36	0.000900	98,268	88	98,224	4,759,476	48.4
36–37	0.000929	98,180	91	98,134	4,661,252	47.5
37–38	0.000959	98,088	94	98,041	4,563,118	46.5
38–39	0.000992	97,994	97	97,946	4,465,077	45.6
39–40	0.001029	97,897	101	97,847	4,367,131	44.6
40–41	0.001072	97,796	105	97,744	4,269,285	43.7
41–42	0.001129	97,691	110	97,636	4,171,541	42.7
42–43	0.001216	97,581	119	97,522	4,073,904	41.7
43–44	0.001339	97,463	130	97,397	3,976,382	40.8
44–45	0.001492	97,332	145	97,259	3,878,985	39.9
45–46	0.001661	97,187	161	97,106	3,781,726	38.9
46–47	0.001839	97,025	178	96,936	3,684,620	38.0
47–48	0.002027	96,847	196	96,749	3,587,683	37.0
48–49	0.002219	96,651	214	96,543	3,490,935	36.1
49–50	0.002417	96,436	233	96,320	3,394,391	35.2
50–51	0.002631	96,203	253	96,076	3,298,072	34.3
51–52	0.002858	95,950	274	95,813	3,201,995	33.4
52–53	0.003083	95,676	295	95,528	3,106,183	32.5
53–54	0.003306	95,381	315	95,223	3,010,654	31.6
54–55	0.003542	95,065	337	94,897	2,915,431	30.7
55–56	0.003799	94,729	360	94,549	2,820,534	29.8
56–57	0.004096	94,369	386	94,176	2,725,986	28.9
57–58	0.004450	93,982	418	93,773	2,631,810	28.0
58–59	0.004870	93,564	456	93,336	2,538,037	27.1
59–60	0.005345	93,108	498	92,860	2,444,701	26.3

See footnotes at end of table.

Table 11. Life table for Asian, non-Hispanic males: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table11.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.005860	92,611	543	92,339	2,351,841	25.4
61–62	0.006410	92,068	590	91,773	2,259,502	24.5
62–63	0.006996	91,478	640	91,158	2,167,729	23.7
63–64	0.007620	90,838	692	90,492	2,076,571	22.9
64–65	0.008291	90,146	747	89,772	1,986,079	22.0
65–66	0.008983	89,398	803	88,997	1,896,307	21.2
66–67	0.009732	88,595	862	88,164	1,807,310	20.4
67–68	0.010614	87,733	931	87,268	1,719,146	19.6
68–69	0.011677	86,802	1,014	86,295	1,631,878	18.8
69–70	0.012904	85,788	1,107	85,235	1,545,583	18.0
70–71	0.014305	84,681	1,211	84,076	1,460,348	17.2
71–72	0.015776	83,470	1,317	82,812	1,376,273	16.5
72–73	0.017195	82,153	1,413	81,447	1,293,461	15.7
73–74	0.018494	80,740	1,493	79,994	1,212,015	15.0
74–75	0.019764	79,247	1,566	78,464	1,132,021	14.3
75–76	0.021090	77,681	1,638	76,862	1,053,557	13.6
76–77	0.022902	76,043	1,742	75,172	976,695	12.8
77–78	0.025340	74,301	1,883	73,360	901,523	12.1
78–79	0.028672	72,418	2,076	71,380	828,163	11.4
79–80	0.032171	70,342	2,263	69,211	756,783	10.8
80–81	0.036902	68,079	2,512	66,823	687,572	10.1
81–82	0.041666	65,567	2,732	64,201	620,749	9.5
82–83	0.047201	62,835	2,966	61,352	556,549	8.9
83–84	0.053004	59,869	3,173	58,282	495,197	8.3
84–85	0.059312	56,696	3,363	55,014	436,914	7.7
85–86	0.067339	53,333	3,591	51,537	381,900	7.2
86–87	0.074044	49,742	3,683	47,900	330,363	6.6
87–88	0.084918	46,058	3,911	44,103	282,463	6.1
88–89	0.097087	42,147	4,092	40,101	238,360	5.7
89–90	0.110618	38,055	4,210	35,951	198,259	5.2
90–91	0.125560	33,846	4,250	31,721	162,308	4.8
91–92	0.141931	29,596	4,201	27,496	130,587	4.4
92–93	0.159719	25,395	4,056	23,367	103,091	4.1
93–94	0.178872	21,339	3,817	19,431	79,724	3.7
94–95	0.199297	17,522	3,492	15,776	60,293	3.4
95–96	0.220856	14,030	3,099	12,481	44,517	3.2
96–97	0.243370	10,932	2,660	9,601	32,036	2.9
97–98	0.266622	8,271	2,205	7,168	22,435	2.7
98–99	0.290365	6,066	1,761	5,185	15,266	2.5
99–100	0.314332	4,305	1,353	3,628	10,081	2.3
100 and older	1.000000	2,951	2,951	6,453	6,453	2.2

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 12. Life table for Asian, non-Hispanic females: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table12.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.003131	100,000	313	99,714	8,628,205	86.3
1–2	0.000153	99,687	15	99,679	8,528,491	85.6
2–3	0.000127	99,672	13	99,665	8,428,812	84.6
3–4	0.000131	99,659	13	99,652	8,329,147	83.6
4–5	0.000073	99,646	7	99,642	8,229,494	82.6
5–6	0.000085	99,639	9	99,634	8,129,852	81.6
6–7	0.000078	99,630	8	99,626	8,030,217	80.6
7–8	0.000073	99,622	7	99,619	7,930,591	79.6
8–9	0.000068	99,615	7	99,612	7,830,972	78.6
9–10	0.000064	99,608	6	99,605	7,731,361	77.6
10–11	0.000062	99,602	6	99,599	7,631,755	76.6
11–12	0.000063	99,596	6	99,593	7,532,157	75.6
12–13	0.000069	99,590	7	99,586	7,432,564	74.6
13–14	0.000082	99,583	8	99,579	7,332,978	73.6
14–15	0.000100	99,574	10	99,570	7,233,399	72.6
15–16	0.000119	99,565	12	99,559	7,133,830	71.7
16–17	0.000138	99,553	14	99,546	7,034,271	70.7
17–18	0.000159	99,539	16	99,531	6,934,725	69.7
18–19	0.000181	99,523	18	99,514	6,835,194	68.7
19–20	0.000203	99,505	20	99,495	6,735,680	67.7
20–21	0.000227	99,485	23	99,474	6,636,185	66.7
21–22	0.000248	99,462	25	99,450	6,536,711	65.7
22–23	0.000259	99,438	26	99,425	6,437,261	64.7
23–24	0.000259	99,412	26	99,399	6,337,836	63.8
24–25	0.000252	99,386	25	99,374	6,238,437	62.8
25–26	0.000242	99,361	24	99,349	6,139,063	61.8
26–27	0.000237	99,337	24	99,325	6,039,714	60.8
27–28	0.000240	99,314	24	99,302	5,940,389	59.8
28–29	0.000256	99,290	25	99,277	5,841,088	58.8
29–30	0.000278	99,264	28	99,250	5,741,811	57.8
30–31	0.000303	99,237	30	99,222	5,642,560	56.9
31–32	0.000325	99,207	32	99,190	5,543,339	55.9
32–33	0.000342	99,174	34	99,157	5,444,148	54.9
33–34	0.000352	99,140	35	99,123	5,344,991	53.9
34–35	0.000358	99,106	36	99,088	5,245,868	52.9
35–36	0.000364	99,070	36	99,052	5,146,780	52.0
36–37	0.000376	99,034	37	99,015	5,047,728	51.0
37–38	0.000401	98,997	40	98,977	4,948,712	50.0
38–39	0.000445	98,957	44	98,935	4,849,735	49.0
39–40	0.000503	98,913	50	98,888	4,750,800	48.0
40–41	0.000572	98,863	57	98,835	4,651,912	47.1
41–42	0.000641	98,807	63	98,775	4,553,077	46.1
42–43	0.000705	98,743	70	98,709	4,454,302	45.1
43–44	0.000756	98,674	75	98,637	4,355,593	44.1
44–45	0.000799	98,599	79	98,560	4,256,957	43.2
45–46	0.000840	98,521	83	98,479	4,158,397	42.2
46–47	0.000892	98,438	88	98,394	4,059,918	41.2
47–48	0.000964	98,350	95	98,303	3,961,524	40.3
48–49	0.001065	98,255	105	98,203	3,863,221	39.3
49–50	0.001187	98,151	116	98,092	3,765,018	38.4
50–51	0.001325	98,034	130	97,969	3,666,926	37.4
51–52	0.001463	97,904	143	97,832	3,568,957	36.5
52–53	0.001583	97,761	155	97,684	3,471,124	35.5
53–54	0.001676	97,606	164	97,524	3,373,441	34.6
54–55	0.001756	97,443	171	97,357	3,275,917	33.6
55–56	0.001846	97,271	180	97,182	3,178,560	32.7
56–57	0.001966	97,092	191	96,996	3,081,378	31.7
57–58	0.002116	96,901	205	96,798	2,984,382	30.8
58–59	0.002305	96,696	223	96,584	2,887,583	29.9
59–60	0.002530	96,473	244	96,351	2,790,999	28.9

See footnotes at end of table.

Table 12. Life table for Asian, non-Hispanic females: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table12.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.002774	96,229	267	96,096	2,694,648	28.0
61–62	0.003050	95,962	293	95,816	2,598,552	27.1
62–63	0.003391	95,669	324	95,507	2,502,736	26.2
63–64	0.003814	95,345	364	95,163	2,407,229	25.2
64–65	0.004308	94,981	409	94,777	2,312,066	24.3
65–66	0.004841	94,572	458	94,343	2,217,289	23.4
66–67	0.005406	94,114	509	93,860	2,122,946	22.6
67–68	0.006030	93,606	564	93,323	2,029,086	21.7
68–69	0.006724	93,041	626	92,728	1,935,763	20.8
69–70	0.007490	92,415	692	92,069	1,843,035	19.9
70–71	0.008341	91,723	765	91,341	1,750,965	19.1
71–72	0.009258	90,958	842	90,537	1,659,624	18.2
72–73	0.010230	90,116	922	89,655	1,569,087	17.4
73–74	0.011280	89,194	1,006	88,691	1,479,432	16.6
74–75	0.012478	88,188	1,100	87,638	1,390,741	15.8
75–76	0.013898	87,088	1,210	86,482	1,303,103	15.0
76–77	0.015694	85,877	1,348	85,203	1,216,621	14.2
77–78	0.017792	84,529	1,504	83,778	1,131,418	13.4
78–79	0.020320	83,026	1,687	82,182	1,047,640	12.6
79–80	0.022837	81,338	1,858	80,410	965,458	11.9
80–81	0.026439	79,481	2,101	78,430	885,048	11.1
81–82	0.030369	77,380	2,350	76,205	806,618	10.4
82–83	0.034745	75,030	2,607	73,726	730,414	9.7
83–84	0.039916	72,423	2,891	70,977	656,687	9.1
84–85	0.045648	69,532	3,174	67,945	585,710	8.4
85–86	0.052909	66,358	3,511	64,602	517,765	7.8
86–87	0.059053	62,847	3,711	60,991	453,163	7.2
87–88	0.069040	59,136	4,083	57,094	392,172	6.6
88–89	0.080475	55,053	4,430	52,838	335,078	6.1
89–90	0.093490	50,622	4,733	48,256	282,240	5.6
90–91	0.108202	45,890	4,965	43,407	233,984	5.1
91–92	0.124703	40,924	5,103	38,373	190,577	4.7
92–93	0.143057	35,821	5,124	33,259	152,204	4.2
93–94	0.163280	30,697	5,012	28,190	118,945	3.9
94–95	0.185339	25,684	4,760	23,304	90,755	3.5
95–96	0.209139	20,924	4,376	18,736	67,450	3.2
96–97	0.234520	16,548	3,881	14,608	48,714	2.9
97–98	0.261258	12,667	3,309	11,012	34,107	2.7
98–99	0.289070	9,358	2,705	8,005	23,094	2.5
99–100	0.317622	6,653	2,113	5,596	15,089	2.3
100 and older	1.000000	4,540	4,540	9,493	9,493	2.1

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 13. Life table for the Black, non-Hispanic population: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table13.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.010876	100,000	1,088	99,081	7,280,445	72.8
1–2	0.000842	98,912	83	98,871	7,181,364	72.6
2–3	0.000529	98,829	52	98,803	7,082,493	71.7
3–4	0.000432	98,777	43	98,756	6,983,690	70.7
4–5	0.000346	98,734	34	98,717	6,884,935	69.7
5–6	0.000306	98,700	30	98,685	6,786,218	68.8
6–7	0.000279	98,670	27	98,656	6,687,533	67.8
7–8	0.000252	98,642	25	98,630	6,588,877	66.8
8–9	0.000218	98,617	22	98,607	6,490,247	65.8
9–10	0.000180	98,596	18	98,587	6,391,640	64.8
10–11	0.000152	98,578	15	98,571	6,293,053	63.8
11–12	0.000158	98,563	16	98,555	6,194,482	62.8
12–13	0.000227	98,548	22	98,536	6,095,927	61.9
13–14	0.000374	98,525	37	98,507	5,997,390	60.9
14–15	0.000580	98,488	57	98,460	5,898,883	59.9
15–16	0.000814	98,431	80	98,391	5,800,424	58.9
16–17	0.001041	98,351	102	98,300	5,702,032	58.0
17–18	0.001249	98,249	123	98,187	5,603,732	57.0
18–19	0.001417	98,126	139	98,057	5,505,545	56.1
19–20	0.001551	97,987	152	97,911	5,407,488	55.2
20–21	0.001679	97,835	164	97,753	5,309,577	54.3
21–22	0.001809	97,671	177	97,583	5,211,824	53.4
22–23	0.001920	97,494	187	97,401	5,114,242	52.5
23–24	0.002014	97,307	196	97,209	5,016,841	51.6
24–25	0.002097	97,111	204	97,009	4,919,632	50.7
25–26	0.002175	96,907	211	96,802	4,822,623	49.8
26–27	0.002256	96,697	218	96,588	4,725,821	48.9
27–28	0.002344	96,479	226	96,366	4,629,233	48.0
28–29	0.002439	96,252	235	96,135	4,532,868	47.1
29–30	0.002538	96,018	244	95,896	4,436,733	46.2
30–31	0.002635	95,774	252	95,648	4,340,837	45.3
31–32	0.002731	95,522	261	95,391	4,245,189	44.4
32–33	0.002835	95,261	270	95,126	4,149,798	43.6
33–34	0.002957	94,991	281	94,850	4,054,672	42.7
34–35	0.003103	94,710	294	94,563	3,959,822	41.8
35–36	0.003271	94,416	309	94,262	3,865,259	40.9
36–37	0.003455	94,107	325	93,945	3,770,997	40.1
37–38	0.003655	93,782	343	93,611	3,677,053	39.2
38–39	0.003855	93,439	360	93,259	3,583,442	38.4
39–40	0.004048	93,079	377	92,891	3,490,183	37.5
40–41	0.004254	92,702	394	92,505	3,397,293	36.6
41–42	0.004473	92,308	413	92,101	3,304,788	35.8
42–43	0.004679	91,895	430	91,680	3,212,686	35.0
43–44	0.004874	91,465	446	91,242	3,121,006	34.1
44–45	0.005076	91,019	462	90,788	3,029,764	33.3
45–46	0.005310	90,557	481	90,317	2,938,976	32.5
46–47	0.005589	90,076	503	89,825	2,848,659	31.6
47–48	0.005903	89,573	529	89,309	2,758,834	30.8
48–49	0.006242	89,044	556	88,766	2,669,526	30.0
49–50	0.006601	88,488	584	88,196	2,580,760	29.2
50–51	0.006972	87,904	613	87,598	2,492,563	28.4
51–52	0.007388	87,291	645	86,969	2,404,965	27.6
52–53	0.007898	86,647	684	86,304	2,317,996	26.8
53–54	0.008536	85,962	734	85,595	2,231,692	26.0
54–55	0.009289	85,228	792	84,833	2,146,097	25.2
55–56	0.010082	84,437	851	84,011	2,061,264	24.4
56–57	0.010904	83,585	911	83,130	1,977,253	23.7
57–58	0.011822	82,674	977	82,185	1,894,123	22.9
58–59	0.012842	81,697	1,049	81,172	1,811,938	22.2
59–60	0.013935	80,647	1,124	80,086	1,730,766	21.5

See footnotes at end of table.

Table 13. Life table for the Black, non-Hispanic population: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table13.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.015063	79,524	1,198	78,925	1,650,680	20.8
61–62	0.016202	78,326	1,269	77,691	1,571,755	20.1
62–63	0.017370	77,057	1,338	76,388	1,494,064	19.4
63–64	0.018590	75,718	1,408	75,014	1,417,677	18.7
64–65	0.019887	74,311	1,478	73,572	1,342,662	18.1
65–66	0.021294	72,833	1,551	72,057	1,269,090	17.4
66–67	0.022804	71,282	1,625	70,469	1,197,033	16.8
67–68	0.024193	69,656	1,685	68,814	1,126,564	16.2
68–69	0.025682	67,971	1,746	67,098	1,057,750	15.6
69–70	0.027183	66,226	1,800	65,326	990,651	15.0
70–71	0.028742	64,425	1,852	63,500	925,326	14.4
71–72	0.030423	62,574	1,904	61,622	861,826	13.8
72–73	0.032408	60,670	1,966	59,687	800,204	13.2
73–74	0.034337	58,704	2,016	57,696	740,517	12.6
74–75	0.036623	56,688	2,076	55,650	682,821	12.0
75–76	0.039007	54,612	2,130	53,547	627,171	11.5
76–77	0.042729	52,482	2,242	51,361	573,624	10.9
77–78	0.045252	50,239	2,273	49,103	522,264	10.4
78–79	0.049866	47,966	2,392	46,770	473,161	9.9
79–80	0.053444	45,574	2,436	44,356	426,391	9.4
80–81	0.058708	43,138	2,533	41,872	382,035	8.9
81–82	0.062834	40,606	2,551	39,330	340,163	8.4
82–83	0.068233	38,054	2,597	36,756	300,833	7.9
83–84	0.076190	35,458	2,702	34,107	264,077	7.4
84–85	0.081752	32,756	2,678	31,417	229,970	7.0
85–86	0.089549	30,078	2,693	28,732	198,553	6.6
86–87	0.096613	27,385	2,646	26,062	169,821	6.2
87–88	0.106248	24,739	2,628	23,425	143,759	5.8
88–89	0.116646	22,111	2,579	20,821	120,334	5.4
89–90	0.127830	19,532	2,497	18,283	99,513	5.1
90–91	0.139814	17,035	2,382	15,844	81,230	4.8
91–92	0.152604	14,653	2,236	13,535	65,386	4.5
92–93	0.166194	12,417	2,064	11,385	51,851	4.2
93–94	0.180569	10,353	1,869	9,419	40,466	3.9
94–95	0.195701	8,484	1,660	7,654	31,047	3.7
95–96	0.211550	6,824	1,444	6,102	23,394	3.4
96–97	0.228061	5,380	1,227	4,767	17,292	3.2
97–98	0.245166	4,153	1,018	3,644	12,525	3.0
98–99	0.262785	3,135	824	2,723	8,881	2.8
99–100	0.280827	2,311	649	1,987	6,158	2.7
100 and older	1.000000	1,662	1,662	4,172	4,172	2.5

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 14. Life table for Black, non-Hispanic males: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table14.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.011786	100,000	1,179	99,001	6,909,898	69.1
1–2	0.000840	98,821	83	98,780	6,810,898	68.9
2–3	0.000558	98,738	55	98,711	6,712,118	68.0
3–4	0.000434	98,683	43	98,662	6,613,407	67.0
4–5	0.000367	98,640	36	98,622	6,514,745	66.0
5–6	0.000312	98,604	31	98,589	6,416,123	65.1
6–7	0.000294	98,573	29	98,559	6,317,534	64.1
7–8	0.000267	98,544	26	98,531	6,218,975	63.1
8–9	0.000216	98,518	21	98,507	6,120,444	62.1
9–10	0.000146	98,497	14	98,490	6,021,936	61.1
10–11	0.000087	98,482	9	98,478	5,923,447	60.1
11–12	0.000086	98,474	8	98,470	5,824,969	59.2
12–13	0.000195	98,466	19	98,456	5,726,499	58.2
13–14	0.000447	98,446	44	98,424	5,628,043	57.2
14–15	0.000804	98,402	79	98,363	5,529,619	56.2
15–16	0.001206	98,323	119	98,264	5,431,256	55.2
16–17	0.001591	98,205	156	98,126	5,332,992	54.3
17–18	0.001933	98,048	189	97,954	5,234,865	53.4
18–19	0.002193	97,859	215	97,752	5,136,912	52.5
19–20	0.002384	97,644	233	97,528	5,039,160	51.6
20–21	0.002563	97,412	250	97,287	4,941,632	50.7
21–22	0.002745	97,162	267	97,028	4,844,346	49.9
22–23	0.002891	96,895	280	96,755	4,747,317	49.0
23–24	0.003000	96,615	290	96,470	4,650,562	48.1
24–25	0.003086	96,325	297	96,177	4,554,092	47.3
25–26	0.003156	96,028	303	95,876	4,457,916	46.4
26–27	0.003229	95,725	309	95,570	4,362,039	45.6
27–28	0.003318	95,416	317	95,257	4,266,469	44.7
28–29	0.003430	95,099	326	94,936	4,171,211	43.9
29–30	0.003555	94,773	337	94,604	4,076,275	43.0
30–31	0.003680	94,436	347	94,262	3,981,671	42.2
31–32	0.003799	94,088	357	93,910	3,887,409	41.3
32–33	0.003928	93,731	368	93,547	3,793,499	40.5
33–34	0.004076	93,363	381	93,173	3,699,952	39.6
34–35	0.004252	92,982	395	92,785	3,606,780	38.8
35–36	0.004457	92,587	413	92,381	3,513,995	38.0
36–37	0.004683	92,174	432	91,959	3,421,614	37.1
37–38	0.004922	91,743	452	91,517	3,329,656	36.3
38–39	0.005154	91,291	471	91,056	3,238,139	35.5
39–40	0.005372	90,821	488	90,577	3,147,083	34.7
40–41	0.005605	90,333	506	90,080	3,056,506	33.8
41–42	0.005856	89,826	526	89,563	2,966,427	33.0
42–43	0.006096	89,300	544	89,028	2,876,863	32.2
43–44	0.006331	88,756	562	88,475	2,787,835	31.4
44–45	0.006580	88,194	580	87,904	2,699,360	30.6
45–46	0.006870	87,614	602	87,313	2,611,456	29.8
46–47	0.007217	87,012	628	86,698	2,524,144	29.0
47–48	0.007610	86,384	657	86,055	2,437,446	28.2
48–49	0.008037	85,726	689	85,382	2,351,391	27.4
49–50	0.008489	85,038	722	84,677	2,266,009	26.6
50–51	0.008951	84,316	755	83,938	2,181,332	25.9
51–52	0.009468	83,561	791	83,165	2,097,394	25.1
52–53	0.010101	82,770	836	82,352	2,014,228	24.3
53–54	0.010895	81,934	893	81,487	1,931,877	23.6
54–55	0.011837	81,041	959	80,561	1,850,389	22.8
55–56	0.012837	80,082	1,028	79,568	1,769,828	22.1
56–57	0.013874	79,054	1,097	78,505	1,690,260	21.4
57–58	0.015022	77,957	1,171	77,371	1,611,755	20.7
58–59	0.016283	76,786	1,250	76,161	1,534,384	20.0
59–60	0.017627	75,536	1,331	74,870	1,458,223	19.3

See footnotes at end of table.

Table 14. Life table for Black, non-Hispanic males: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table14.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.018999	74,204	1,410	73,499	1,383,353	18.6
61–62	0.020398	72,794	1,485	72,052	1,309,854	18.0
62–63	0.021893	71,309	1,561	70,529	1,237,802	17.4
63–64	0.023545	69,748	1,642	68,927	1,167,273	16.7
64–65	0.025376	68,106	1,728	67,242	1,098,346	16.1
65–66	0.027417	66,378	1,820	65,468	1,031,104	15.5
66–67	0.029572	64,558	1,909	63,603	965,637	15.0
67–68	0.031531	62,649	1,975	61,661	902,033	14.4
68–69	0.033463	60,673	2,030	59,658	840,372	13.9
69–70	0.035269	58,643	2,068	57,609	780,714	13.3
70–71	0.037024	56,575	2,095	55,527	723,105	12.8
71–72	0.039127	54,480	2,132	53,414	667,578	12.3
72–73	0.041530	52,349	2,174	51,262	614,163	11.7
73–74	0.043646	50,175	2,190	49,080	562,902	11.2
74–75	0.046104	47,985	2,212	46,879	513,822	10.7
75–76	0.049245	45,772	2,254	44,645	466,944	10.2
76–77	0.053682	43,518	2,336	42,350	422,298	9.7
77–78	0.056302	41,182	2,319	40,023	379,948	9.2
78–79	0.061981	38,863	2,409	37,659	339,925	8.7
79–80	0.065356	36,455	2,383	35,263	302,266	8.3
80–81	0.072060	34,072	2,455	32,845	267,003	7.8
81–82	0.077655	31,617	2,455	30,389	234,158	7.4
82–83	0.083464	29,162	2,434	27,945	203,769	7.0
83–84	0.092868	26,728	2,482	25,487	175,824	6.6
84–85	0.098244	24,246	2,382	23,055	150,338	6.2
85–86	0.107718	21,864	2,355	20,686	127,283	5.8
86–87	0.117756	19,509	2,297	18,360	106,597	5.5
87–88	0.128514	17,211	2,212	16,105	88,237	5.1
88–89	0.140005	14,999	2,100	13,949	72,132	4.8
89–90	0.152232	12,899	1,964	11,918	58,182	4.5
90–91	0.165192	10,936	1,806	10,032	46,265	4.2
91–92	0.178872	9,129	1,633	8,313	36,232	4.0
92–93	0.193248	7,496	1,449	6,772	27,920	3.7
93–94	0.208287	6,048	1,260	5,418	21,148	3.5
94–95	0.223942	4,788	1,072	4,252	15,730	3.3
95–96	0.240157	3,716	892	3,270	11,478	3.1
96–97	0.256865	2,823	725	2,461	8,209	2.9
97–98	0.273989	2,098	575	1,811	5,748	2.7
98–99	0.291442	1,523	444	1,301	3,937	2.6
99–100	0.309132	1,079	334	913	2,636	2.4
100 and older	1.000000	746	746	1,723	1,723	2.3

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 15. Life table for Black, non-Hispanic females: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table15.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.009935	100,000	993	99,164	7,652,252	76.5
1–2	0.000742	99,007	73	98,970	7,553,088	76.3
2–3	0.000433	98,933	43	98,912	7,454,118	75.3
3–4	0.000377	98,890	37	98,872	7,355,207	74.4
4–5	0.000281	98,853	28	98,839	7,256,335	73.4
5–6	0.000265	98,825	26	98,812	7,157,496	72.4
6–7	0.000234	98,799	23	98,787	7,058,684	71.4
7–8	0.000211	98,776	21	98,765	6,959,897	70.5
8–9	0.000194	98,755	19	98,745	6,861,131	69.5
9–10	0.000183	98,736	18	98,727	6,762,386	68.5
10–11	0.000180	98,718	18	98,709	6,663,659	67.5
11–12	0.000190	98,700	19	98,690	6,564,950	66.5
12–13	0.000216	98,681	21	98,670	6,466,260	65.5
13–14	0.000261	98,660	26	98,647	6,367,590	64.5
14–15	0.000323	98,634	32	98,618	6,268,943	63.6
15–16	0.000394	98,602	39	98,583	6,170,325	62.6
16–17	0.000470	98,563	46	98,540	6,071,742	61.6
17–18	0.000549	98,517	54	98,490	5,973,202	60.6
18–19	0.000627	98,463	62	98,432	5,874,712	59.7
19–20	0.000703	98,401	69	98,367	5,776,280	58.7
20–21	0.000780	98,332	77	98,294	5,677,913	57.7
21–22	0.000858	98,255	84	98,213	5,579,619	56.8
22–23	0.000934	98,171	92	98,125	5,481,406	55.8
23–24	0.001009	98,079	99	98,030	5,383,281	54.9
24–25	0.001085	97,980	106	97,927	5,285,251	53.9
25–26	0.001165	97,874	114	97,817	5,187,324	53.0
26–27	0.001250	97,760	122	97,699	5,089,506	52.1
27–28	0.001336	97,638	130	97,573	4,991,807	51.1
28–29	0.001420	97,507	138	97,438	4,894,235	50.2
29–30	0.001500	97,369	146	97,296	4,796,796	49.3
30–31	0.001579	97,223	153	97,146	4,699,500	48.3
31–32	0.001660	97,069	161	96,989	4,602,354	47.4
32–33	0.001749	96,908	169	96,824	4,505,365	46.5
33–34	0.001854	96,739	179	96,649	4,408,542	45.6
34–35	0.001980	96,560	191	96,464	4,311,893	44.7
35–36	0.002123	96,368	205	96,266	4,215,429	43.7
36–37	0.002280	96,164	219	96,054	4,119,162	42.8
37–38	0.002454	95,945	235	95,827	4,023,108	41.9
38–39	0.002632	95,709	252	95,583	3,927,281	41.0
39–40	0.002809	95,457	268	95,323	3,831,698	40.1
40–41	0.002997	95,189	285	95,046	3,736,375	39.3
41–42	0.003191	94,904	303	94,752	3,641,328	38.4
42–43	0.003371	94,601	319	94,442	3,546,576	37.5
43–44	0.003537	94,282	334	94,115	3,452,135	36.6
44–45	0.003704	93,949	348	93,775	3,358,019	35.7
45–46	0.003896	93,601	365	93,418	3,264,245	34.9
46–47	0.004122	93,236	384	93,044	3,170,826	34.0
47–48	0.004369	92,852	406	92,649	3,077,783	33.1
48–49	0.004630	92,446	428	92,232	2,985,134	32.3
49–50	0.004904	92,018	451	91,792	2,892,902	31.4
50–51	0.005188	91,567	475	91,329	2,801,110	30.6
51–52	0.005510	91,092	502	90,841	2,709,781	29.7
52–53	0.005909	90,590	535	90,322	2,618,940	28.9
53–54	0.006408	90,054	577	89,766	2,528,618	28.1
54–55	0.006998	89,477	626	89,164	2,438,852	27.3
55–56	0.007615	88,851	677	88,513	2,349,688	26.4
56–57	0.008255	88,175	728	87,811	2,261,175	25.6
57–58	0.008981	87,447	785	87,054	2,173,365	24.9
58–59	0.009801	86,661	849	86,237	2,086,311	24.1
59–60	0.010687	85,812	917	85,353	2,000,074	23.3

See footnotes at end of table.

Table 15. Life table for Black, non-Hispanic females: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table15.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.011617	84,895	986	84,402	1,914,721	22.6
61–62	0.012550	83,909	1,053	83,382	1,830,320	21.8
62–63	0.013467	82,855	1,116	82,298	1,746,938	21.1
63–64	0.014364	81,740	1,174	81,153	1,664,640	20.4
64–65	0.015276	80,566	1,231	79,950	1,583,487	19.7
65–66	0.016237	79,335	1,288	78,691	1,503,537	19.0
66–67	0.017306	78,047	1,351	77,371	1,424,846	18.3
67–68	0.018329	76,696	1,406	75,993	1,347,475	17.6
68–69	0.019567	75,290	1,473	74,554	1,271,482	16.9
69–70	0.020932	73,817	1,545	73,044	1,196,928	16.2
70–71	0.022447	72,272	1,622	71,461	1,123,884	15.6
71–72	0.023936	70,650	1,691	69,804	1,052,423	14.9
72–73	0.025719	68,958	1,774	68,072	982,619	14.2
73–74	0.027618	67,185	1,855	66,257	914,548	13.6
74–75	0.029844	65,329	1,950	64,355	848,291	13.0
75–76	0.031758	63,380	2,013	62,373	783,936	12.4
76–77	0.035080	61,367	2,153	60,291	721,563	11.8
77–78	0.037685	59,214	2,232	58,098	661,272	11.2
78–79	0.041686	56,983	2,375	55,795	603,174	10.6
79–80	0.045630	54,607	2,492	53,361	547,379	10.0
80–81	0.050139	52,116	2,613	50,809	494,017	9.5
81–82	0.053654	49,503	2,656	48,175	443,208	9.0
82–83	0.059056	46,847	2,767	45,463	395,034	8.4
83–84	0.066329	44,080	2,924	42,618	349,570	7.9
84–85	0.072383	41,156	2,979	39,667	306,952	7.5
85–86	0.080416	38,177	3,070	36,642	267,286	7.0
86–87	0.087253	35,107	3,063	33,576	230,643	6.6
87–88	0.094257	32,044	3,020	30,534	197,068	6.1
88–89	0.104605	29,024	3,036	27,506	166,534	5.7
89–90	0.115859	25,988	3,011	24,482	139,028	5.3
90–91	0.128047	22,977	2,942	21,506	114,546	5.0
91–92	0.141190	20,035	2,829	18,620	93,041	4.6
92–93	0.155292	17,206	2,672	15,870	74,421	4.3
93–94	0.170346	14,534	2,476	13,296	58,551	4.0
94–95	0.186328	12,058	2,247	10,935	45,255	3.8
95–96	0.203196	9,811	1,994	8,815	34,320	3.5
96–97	0.220888	7,818	1,727	6,954	25,505	3.3
97–98	0.239325	6,091	1,458	5,362	18,551	3.0
98–99	0.258409	4,633	1,197	4,035	13,189	2.8
99–100	0.278025	3,436	955	2,958	9,154	2.7
100 and older	1.000000	2481	2481	6196	6196	2.5

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 16. Life table for the White, non-Hispanic population: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table16.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.004508	100,000	451	99,606	7,752,213	77.5
1–2	0.000402	99,549	40	99,529	7,652,607	76.9
2–3	0.000261	99,509	26	99,496	7,553,078	75.9
3–4	0.000199	99,483	20	99,473	7,453,581	74.9
4–5	0.000150	99,463	15	99,456	7,354,108	73.9
5–6	0.000137	99,449	14	99,442	7,254,652	72.9
6–7	0.000122	99,435	12	99,429	7,155,210	72.0
7–8	0.000111	99,423	11	99,417	7,055,782	71.0
8–9	0.000103	99,412	10	99,407	6,956,364	70.0
9–10	0.000098	99,401	10	99,397	6,856,958	69.0
10–11	0.000099	99,392	10	99,387	6,757,561	68.0
11–12	0.000111	99,382	11	99,376	6,658,174	67.0
12–13	0.000142	99,371	14	99,364	6,558,798	66.0
13–14	0.000195	99,357	19	99,347	6,459,434	65.0
14–15	0.000263	99,337	26	99,324	6,360,087	64.0
15–16	0.000339	99,311	34	99,294	6,260,763	63.0
16–17	0.000417	99,278	41	99,257	6,161,468	62.1
17–18	0.000491	99,236	49	99,212	6,062,212	61.1
18–19	0.000560	99,187	56	99,160	5,963,000	60.1
19–20	0.000623	99,132	62	99,101	5,863,840	59.2
20–21	0.000688	99,070	68	99,036	5,764,739	58.2
21–22	0.000758	99,002	75	98,964	5,665,703	57.2
22–23	0.000832	98,927	82	98,886	5,566,738	56.3
23–24	0.000912	98,845	90	98,800	5,467,853	55.3
24–25	0.001001	98,755	99	98,705	5,369,053	54.4
25–26	0.001095	98,656	108	98,602	5,270,348	53.4
26–27	0.001193	98,548	118	98,489	5,171,746	52.5
27–28	0.001299	98,430	128	98,366	5,073,257	51.5
28–29	0.001408	98,302	138	98,233	4,974,891	50.6
29–30	0.001516	98,164	149	98,089	4,876,658	49.7
30–31	0.001623	98,015	159	97,935	4,778,569	48.8
31–32	0.001726	97,856	169	97,771	4,680,633	47.8
32–33	0.001823	97,687	178	97,598	4,582,862	46.9
33–34	0.001913	97,509	187	97,416	4,485,264	46.0
34–35	0.002002	97,322	195	97,225	4,387,848	45.1
35–36	0.002094	97,128	203	97,026	4,290,623	44.2
36–37	0.002191	96,924	212	96,818	4,193,597	43.3
37–38	0.002292	96,712	222	96,601	4,096,779	42.4
38–39	0.002397	96,490	231	96,375	4,000,178	41.5
39–40	0.002506	96,259	241	96,138	3,903,804	40.6
40–41	0.002632	96,018	253	95,891	3,807,665	39.7
41–42	0.002767	95,765	265	95,633	3,711,774	38.8
42–43	0.002897	95,500	277	95,362	3,616,141	37.9
43–44	0.003022	95,223	288	95,080	3,520,779	37.0
44–45	0.003156	94,936	300	94,786	3,425,700	36.1
45–46	0.003319	94,636	314	94,479	3,330,914	35.2
46–47	0.003528	94,322	333	94,156	3,236,435	34.3
47–48	0.003773	93,989	355	93,812	3,142,280	33.4
48–49	0.004041	93,635	378	93,445	3,048,468	32.6
49–50	0.004325	93,256	403	93,054	2,955,022	31.7
50–51	0.004617	92,853	429	92,638	2,861,968	30.8
51–52	0.004938	92,424	456	92,196	2,769,330	30.0
52–53	0.005312	91,968	488	91,724	2,677,134	29.1
53–54	0.005760	91,479	527	91,216	2,585,410	28.3
54–55	0.006282	90,952	571	90,667	2,494,194	27.4
55–56	0.006831	90,381	617	90,072	2,403,528	26.6
56–57	0.007406	89,764	665	89,431	2,313,455	25.8
57–58	0.008050	89,099	717	88,740	2,224,024	25.0
58–59	0.008758	88,382	774	87,994	2,135,284	24.2
59–60	0.009498	87,607	832	87,191	2,047,289	23.4

See footnotes at end of table.

Table 16. Life table for the White, non-Hispanic population: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table16.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.010260	86,775	890	86,330	1,960,098	22.6
61–62	0.011022	85,885	947	85,412	1,873,768	21.8
62–63	0.011769	84,938	1,000	84,439	1,788,356	21.1
63–64	0.012514	83,939	1,050	83,414	1,703,918	20.3
64–65	0.013296	82,888	1,102	82,337	1,620,504	19.6
65–66	0.014142	81,786	1,157	81,208	1,538,167	18.8
66–67	0.015184	80,630	1,224	80,017	1,456,959	18.1
67–68	0.016234	79,405	1,289	78,761	1,376,941	17.3
68–69	0.017430	78,116	1,362	77,436	1,298,181	16.6
69–70	0.018754	76,755	1,439	76,035	1,220,745	15.9
70–71	0.020126	75,315	1,516	74,557	1,144,710	15.2
71–72	0.021681	73,799	1,600	72,999	1,070,153	14.5
72–73	0.023567	72,199	1,702	71,349	997,153	13.8
73–74	0.025801	70,498	1,819	69,588	925,805	13.1
74–75	0.028468	68,679	1,955	67,701	856,216	12.5
75–76	0.030882	66,724	2,061	65,694	788,515	11.8
76–77	0.034984	64,663	2,262	63,532	722,821	11.2
77–78	0.038130	62,401	2,379	61,211	659,289	10.6
78–79	0.042303	60,022	2,539	58,752	598,077	10.0
79–80	0.046074	57,483	2,648	56,158	539,325	9.4
80–81	0.051893	54,834	2,845	53,411	483,167	8.8
81–82	0.057582	51,989	2,994	50,492	429,755	8.3
82–83	0.064081	48,995	3,140	47,425	379,263	7.7
83–84	0.071164	45,855	3,263	44,224	331,838	7.2
84–85	0.078735	42,592	3,354	40,915	287,614	6.8
85–86	0.088109	39,239	3,457	37,510	246,699	6.3
86–87	0.096032	35,781	3,436	34,063	209,189	5.8
87–88	0.108092	32,345	3,496	30,597	175,125	5.4
88–89	0.121345	28,849	3,501	27,099	144,528	5.0
89–90	0.135828	25,348	3,443	23,627	117,430	4.6
90–91	0.151559	21,905	3,320	20,245	93,803	4.3
91–92	0.168534	18,585	3,132	17,019	73,558	4.0
92–93	0.186720	15,453	2,885	14,010	56,539	3.7
93–94	0.206058	12,568	2,590	11,273	42,528	3.4
94–95	0.226452	9,978	2,260	8,848	31,255	3.1
95–96	0.247780	7,718	1,912	6,762	22,407	2.9
96–97	0.269885	5,806	1,567	5,023	15,645	2.7
97–98	0.292584	4,239	1,240	3,619	10,623	2.5
98–99	0.315674	2,999	947	2,525	7,004	2.3
99–100	0.338935	2,052	696	1,704	4,478	2.2
100 and older	1.000000	1,357	1,357	2,774	2,774	2.0

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 17. Life table for White, non-Hispanic males: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table17.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004875	100,000	488	99,577	7,506,131	75.1
1–2	0.000494	99,512	49	99,488	7,406,554	74.4
2–3	0.000343	99,463	34	99,446	7,307,066	73.5
3–4	0.000224	99,429	22	99,418	7,207,620	72.5
4–5	0.000184	99,407	18	99,398	7,108,202	71.5
5–6	0.000164	99,389	16	99,381	7,008,804	70.5
6–7	0.000143	99,372	14	99,365	6,909,423	69.5
7–8	0.000129	99,358	13	99,352	6,810,058	68.5
8–9	0.000119	99,345	12	99,340	6,710,706	67.5
9–10	0.000113	99,334	11	99,328	6,611,367	66.6
10–11	0.000116	99,322	11	99,317	6,512,039	65.6
11–12	0.000134	99,311	13	99,304	6,412,722	64.6
12–13	0.000177	99,298	18	99,289	6,313,418	63.6
13–14	0.000247	99,280	25	99,268	6,214,129	62.6
14–15	0.000337	99,256	33	99,239	6,114,861	61.6
15–16	0.000438	99,222	43	99,200	6,015,622	60.6
16–17	0.000541	99,179	54	99,152	5,916,422	59.7
17–18	0.000645	99,125	64	99,093	5,817,270	58.7
18–19	0.000746	99,061	74	99,024	5,718,177	57.7
19–20	0.000845	98,987	84	98,945	5,619,153	56.8
20–21	0.000946	98,903	94	98,857	5,520,208	55.8
21–22	0.001051	98,810	104	98,758	5,421,352	54.9
22–23	0.001157	98,706	114	98,649	5,322,594	53.9
23–24	0.001267	98,592	125	98,529	5,223,945	53.0
24–25	0.001383	98,467	136	98,399	5,125,416	52.1
25–26	0.001502	98,330	148	98,257	5,027,018	51.1
26–27	0.001628	98,183	160	98,103	4,928,761	50.2
27–28	0.001764	98,023	173	97,936	4,830,658	49.3
28–29	0.001909	97,850	187	97,757	4,732,722	48.4
29–30	0.002054	97,663	201	97,563	4,634,965	47.5
30–31	0.002199	97,463	214	97,355	4,537,402	46.6
31–32	0.002337	97,248	227	97,135	4,440,047	45.7
32–33	0.002459	97,021	239	96,902	4,342,912	44.8
33–34	0.002564	96,782	248	96,658	4,246,011	43.9
34–35	0.002660	96,534	257	96,406	4,149,352	43.0
35–36	0.002755	96,277	265	96,145	4,052,946	42.1
36–37	0.002857	96,012	274	95,875	3,956,802	41.2
37–38	0.002966	95,738	284	95,596	3,860,927	40.3
38–39	0.003085	95,454	294	95,307	3,765,331	39.4
39–40	0.003212	95,159	306	95,007	3,670,024	38.6
40–41	0.003360	94,854	319	94,694	3,575,018	37.7
41–42	0.003517	94,535	333	94,369	3,480,323	36.8
42–43	0.003663	94,202	345	94,030	3,385,955	35.9
43–44	0.003794	93,857	356	93,679	3,291,925	35.1
44–45	0.003930	93,501	367	93,318	3,198,245	34.2
45–46	0.004096	93,134	382	92,943	3,104,928	33.3
46–47	0.004320	92,752	401	92,552	3,011,985	32.5
47–48	0.004600	92,352	425	92,139	2,919,433	31.6
48–49	0.004927	91,927	453	91,700	2,827,293	30.8
49–50	0.005284	91,474	483	91,232	2,735,593	29.9
50–51	0.005653	90,991	514	90,733	2,644,361	29.1
51–52	0.006051	90,476	547	90,203	2,553,627	28.2
52–53	0.006509	89,929	585	89,636	2,463,425	27.4
53–54	0.007054	89,343	630	89,028	2,373,788	26.6
54–55	0.007687	88,713	682	88,372	2,284,760	25.8
55–56	0.008355	88,031	735	87,664	2,196,388	25.0
56–57	0.009057	87,296	791	86,900	2,108,724	24.2
57–58	0.009849	86,505	852	86,079	2,021,824	23.4
58–59	0.010723	85,653	918	85,194	1,935,745	22.6
59–60	0.011637	84,735	986	84,242	1,850,551	21.8

See footnotes at end of table.

Table 17. Life table for White, non-Hispanic males: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table17.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.012573	83,749	1,053	83,222	1,766,309	21.1
61–62	0.013503	82,696	1,117	82,137	1,683,087	20.4
62–63	0.014421	81,579	1,176	80,991	1,600,950	19.6
63–64	0.015344	80,403	1,234	79,786	1,519,959	18.9
64–65	0.016314	79,169	1,292	78,523	1,440,173	18.2
65–66	0.017363	77,877	1,352	77,201	1,361,650	17.5
66–67	0.018669	76,525	1,429	75,811	1,284,449	16.8
67–68	0.019949	75,096	1,498	74,347	1,208,638	16.1
68–69	0.021367	73,598	1,573	72,812	1,134,291	15.4
69–70	0.022887	72,026	1,648	71,202	1,061,479	14.7
70–71	0.024406	70,377	1,718	69,518	990,277	14.1
71–72	0.026261	68,660	1,803	67,758	920,759	13.4
72–73	0.028341	66,857	1,895	65,909	853,001	12.8
73–74	0.030901	64,962	2,007	63,958	787,091	12.1
74–75	0.033906	62,954	2,135	61,887	723,133	11.5
75–76	0.036600	60,820	2,226	59,707	661,246	10.9
76–77	0.041183	58,594	2,413	57,387	601,539	10.3
77–78	0.044732	56,181	2,513	54,924	544,152	9.7
78–79	0.049570	53,668	2,660	52,338	489,228	9.1
79–80	0.054043	51,007	2,757	49,629	436,890	8.6
80–81	0.060898	48,251	2,938	46,782	387,261	8.0
81–82	0.067558	45,312	3,061	43,782	340,480	7.5
82–83	0.075351	42,251	3,184	40,659	296,698	7.0
83–84	0.083380	39,068	3,257	37,439	256,038	6.6
84–85	0.091957	35,810	3,293	34,164	218,599	6.1
85–86	0.102670	32,517	3,339	30,848	184,436	5.7
86–87	0.111462	29,179	3,252	27,552	153,588	5.3
87–88	0.125449	25,926	3,252	24,300	126,036	4.9
88–89	0.140746	22,674	3,191	21,078	101,736	4.5
89–90	0.157367	19,483	3,066	17,950	80,657	4.1
90–91	0.175295	16,417	2,878	14,978	62,708	3.8
91–92	0.194486	13,539	2,633	12,222	47,730	3.5
92–93	0.214860	10,906	2,343	9,734	35,508	3.3
93–94	0.236300	8,563	2,023	7,551	25,774	3.0
94–95	0.258654	6,539	1,691	5,694	18,223	2.8
95–96	0.281738	4,848	1,366	4,165	12,529	2.6
96–97	0.305341	3,482	1,063	2,950	8,364	2.4
97–98	0.329231	2,419	796	2,021	5,414	2.2
98–99	0.353162	1,622	573	1,336	3,393	2.1
99–100	0.376890	1,049	396	852	2,057	2.0
100 and older	1.000000	654	654	1,206	1,206	1.8

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 18. Life table for White, non-Hispanic females: United States, 2022

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table18.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004123	100,000	412	99,637	8,010,102	80.1
1–2	0.000305	99,588	30	99,573	7,910,465	79.4
2–3	0.000180	99,557	18	99,548	7,810,892	78.5
3–4	0.000169	99,539	17	99,531	7,711,344	77.5
4–5	0.000114	99,523	11	99,517	7,611,813	76.5
5–6	0.000108	99,511	11	99,506	7,512,296	75.5
6–7	0.000098	99,500	10	99,496	7,412,790	74.5
7–8	0.000091	99,491	9	99,486	7,313,295	73.5
8–9	0.000085	99,482	8	99,477	7,213,808	72.5
9–10	0.000081	99,473	8	99,469	7,114,331	71.5
10–11	0.000081	99,465	8	99,461	7,014,862	70.5
11–12	0.000088	99,457	9	99,453	6,915,401	69.5
12–13	0.000107	99,448	11	99,443	6,815,948	68.5
13–14	0.000141	99,438	14	99,431	6,716,505	67.5
14–15	0.000184	99,424	18	99,414	6,617,075	66.6
15–16	0.000234	99,405	23	99,394	6,517,660	65.6
16–17	0.000284	99,382	28	99,368	6,418,267	64.6
17–18	0.000327	99,354	32	99,338	6,318,899	63.6
18–19	0.000361	99,321	36	99,303	6,219,561	62.6
19–20	0.000388	99,285	39	99,266	6,120,258	61.6
20–21	0.000415	99,247	41	99,226	6,020,992	60.7
21–22	0.000448	99,206	44	99,184	5,921,765	59.7
22–23	0.000488	99,161	48	99,137	5,822,582	58.7
23–24	0.000537	99,113	53	99,086	5,723,445	57.7
24–25	0.000597	99,060	59	99,030	5,624,358	56.8
25–26	0.000663	99,001	66	98,968	5,525,328	55.8
26–27	0.000732	98,935	72	98,899	5,426,360	54.8
27–28	0.000805	98,863	80	98,823	5,327,462	53.9
28–29	0.000879	98,783	87	98,740	5,228,639	52.9
29–30	0.000950	98,696	94	98,649	5,129,899	52.0
30–31	0.001021	98,602	101	98,552	5,031,250	51.0
31–32	0.001093	98,502	108	98,448	4,932,698	50.1
32–33	0.001165	98,394	115	98,337	4,834,250	49.1
33–34	0.001241	98,279	122	98,218	4,735,914	48.2
34–35	0.001321	98,157	130	98,093	4,637,695	47.2
35–36	0.001409	98,028	138	97,959	4,539,603	46.3
36–37	0.001500	97,890	147	97,816	4,441,644	45.4
37–38	0.001592	97,743	156	97,665	4,343,828	44.4
38–39	0.001682	97,587	164	97,505	4,246,162	43.5
39–40	0.001773	97,423	173	97,337	4,148,657	42.6
40–41	0.001875	97,250	182	97,159	4,051,320	41.7
41–42	0.001987	97,068	193	96,972	3,954,161	40.7
42–43	0.002101	96,875	204	96,773	3,857,190	39.8
43–44	0.002220	96,672	215	96,564	3,760,416	38.9
44–45	0.002352	96,457	227	96,343	3,663,852	38.0
45–46	0.002514	96,230	242	96,109	3,567,509	37.1
46–47	0.002708	95,988	260	95,858	3,471,400	36.2
47–48	0.002917	95,728	279	95,588	3,375,542	35.3
48–49	0.003124	95,449	298	95,300	3,279,953	34.4
49–50	0.003330	95,151	317	94,992	3,184,653	33.5
50–51	0.003541	94,834	336	94,666	3,089,661	32.6
51–52	0.003782	94,498	357	94,319	2,994,995	31.7
52–53	0.004070	94,141	383	93,949	2,900,676	30.8
53–54	0.004425	93,757	415	93,550	2,806,727	29.9
54–55	0.004843	93,342	452	93,116	2,713,177	29.1
55–56	0.005283	92,890	491	92,645	2,620,061	28.2
56–57	0.005741	92,400	530	92,135	2,527,416	27.4
57–58	0.006248	91,869	574	91,582	2,435,281	26.5
58–59	0.006800	91,295	621	90,985	2,343,699	25.7
59–60	0.007376	90,674	669	90,340	2,252,714	24.8

See footnotes at end of table.

Table 18. Life table for White, non-Hispanic females: United States, 2022—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-02/Table18.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
60–61	0.007976	90,006	718	89,647	2,162,374	24.0
61–62	0.008581	89,288	766	88,905	2,072,727	23.2
62–63	0.009175	88,521	812	88,115	1,983,823	22.4
63–64	0.009765	87,709	856	87,281	1,895,707	21.6
64–65	0.010386	86,853	902	86,402	1,808,426	20.8
65–66	0.011061	85,951	951	85,476	1,722,024	20.0
66–67	0.011893	85,000	1,011	84,495	1,636,549	19.3
67–68	0.012761	83,989	1,072	83,453	1,552,054	18.5
68–69	0.013788	82,918	1,143	82,346	1,468,601	17.7
69–70	0.014967	81,774	1,224	81,162	1,386,255	17.0
70–71	0.016224	80,550	1,307	79,897	1,305,093	16.2
71–72	0.017555	79,243	1,391	78,548	1,225,196	15.5
72–73	0.019316	77,852	1,504	77,100	1,146,648	14.7
73–74	0.021316	76,349	1,627	75,535	1,069,548	14.0
74–75	0.023727	74,721	1,773	73,835	994,013	13.3
75–76	0.025916	72,948	1,891	72,003	920,178	12.6
76–77	0.029643	71,058	2,106	70,004	848,175	11.9
77–78	0.032498	68,951	2,241	67,831	778,171	11.3
78–79	0.036203	66,710	2,415	65,503	710,340	10.6
79–80	0.039495	64,295	2,539	63,026	644,837	10.0
80–81	0.044631	61,756	2,756	60,378	581,811	9.4
81–82	0.049732	59,000	2,934	57,533	521,433	8.8
82–83	0.055457	56,066	3,109	54,511	463,901	8.3
83–84	0.062038	52,956	3,285	51,314	409,390	7.7
84–85	0.069131	49,671	3,434	47,954	358,076	7.2
85–86	0.077860	46,237	3,600	44,437	310,122	6.7
86–87	0.085052	42,637	3,626	40,824	265,685	6.2
87–88	0.096421	39,011	3,761	37,130	224,861	5.8
88–89	0.109025	35,249	3,843	33,328	187,730	5.3
89–90	0.122922	31,406	3,861	29,476	154,403	4.9
90–91	0.138151	27,546	3,805	25,643	124,927	4.5
91–92	0.154730	23,740	3,673	21,904	99,283	4.2
92–93	0.172649	20,067	3,465	18,335	77,380	3.9
93–94	0.191865	16,602	3,185	15,010	59,045	3.6
94–95	0.212301	13,417	2,848	11,993	44,035	3.3
95–96	0.233841	10,569	2,471	9,333	32,043	3.0
96–97	0.256334	8,097	2,076	7,059	22,710	2.8
97–98	0.279593	6,022	1,684	5,180	15,650	2.6
98–99	0.303402	4,338	1,316	3,680	10,471	2.4
99–100	0.327523	3,022	990	2,527	6,791	2.2
100 and older	1.000000	2,032	2,032	4,264	4,264	2.1

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 19. Estimated life expectancy at birth, in years, by Hispanic origin and race and sex: Death-registration states, 1900–1928, and United States, 1929–2022

[For selected years, life table values shown are estimates; see Technical Notes in this report. Beginning in 1970, excludes death of nonresidents of the United States; see Technical Notes]

							Non-Hispanic											
	All races and origins			Hispanic[1]			American Indian and Alaska Native[1]			Asian[1]			Black[1,2]			White[1]		
Area and year	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States[3]									Single race[4]									
2022[5]	77.5	74.8	80.2	80.0	77.0	82.8	67.8	64.5	71.3	84.4	82.3	86.3	72.8	69.1	76.5	77.5	75.1	80.1
2021[5]	76.4	73.5	79.3	77.8	74.6	81.1	65.6	62.2	69.2	83.5	81.2	85.6	71.2	67.6	75.0	76.7	74.0	79.5
2020[5]	77.0	74.2	79.9	77.9	74.6	81.3	67.1	63.8	70.7	83.6	81.1	85.9	71.5	67.8	75.4	77.4	74.8	80.1
2019[5]	78.8	76.3	81.4	81.9	79.1	84.4	71.8	68.6	75.0	85.6	83.5	87.4	74.8	71.3	78.1	78.8	76.3	81.3
2018[5]	78.7	76.2	81.2	81.8	79.1	84.3	---	---	---	---	---	---	74.7	71.3	78.0	78.6	76.2	81.1
									Bridged race[4]									
2020[5]	…	…	…	…	…	…	---	---	---	---	---	---	71.9	68.1	75.6	77.5	74.9	80.2
2019[5]	…	…	…	…	…	…	---	---	---	---	---	---	75.0	71.6	78.2	78.8	76.4	81.3
2018[5]	…	…	…	…	…	…	---	---	---	---	---	---	74.9	71.5	78.1	78.7	76.2	81.1
2017[5]	78.6	76.1	81.1	81.8	79.1	84.3	---	---	---	---	---	---	74.9	71.5	78.1	78.5	76.1	81.0
2016[5]	78.7	76.2	81.1	81.8	79.1	84.3	---	---	---	---	---	---	74.9	71.6	78.0	78.6	76.2	81.0
2015[5]	78.7	76.3	81.1	81.9	79.3	84.3	---	---	---	---	---	---	75.1	71.9	78.1	78.7	76.3	81.0
2014[5]	78.9	76.5	81.3	82.1	79.4	84.5	---	---	---	---	---	---	75.3	72.2	78.2	78.8	76.5	81.2
2013[5]	78.8	76.4	81.2	81.9	79.2	84.2	---	---	---	---	---	---	75.1	71.9	78.1	78.8	76.5	81.2
2012[5]	78.8	76.4	81.2	81.9	79.3	84.3	---	---	---	---	---	---	75.1	71.9	78.1	78.9	76.5	81.2
2011[5]	78.7	76.3	81.1	81.8	79.2	84.2	---	---	---	---	---	---	75.0	71.8	77.8	78.7	76.4	81.1
2010[5]	78.7	76.2	81.0	81.7	78.8	84.3	---	---	---	---	---	---	74.7	71.5	77.7	78.8	76.4	81.1
2009[5,6]	78.5	76.0	80.9	81.1	78.4	83.5	---	---	---	---	---	---	74.4	71.0	77.4	78.7	76.3	81.0
2008[5,6]	78.2	75.6	80.6	80.8	78.0	83.3	---	---	---	---	---	---	73.9	70.5	77.0	78.4	76.0	80.7
2007[5,6]	78.1	75.5	80.6	80.7	77.8	83.2	---	---	---	---	---	---	73.5	69.9	76.7	78.4	75.9	80.8
2006[5,6]	77.8	75.2	80.3	80.3	77.5	82.9	---	---	---	---	---	---	73.1	69.5	76.4	78.2	75.7	80.6
2005[5,6]	77.6	75.0	80.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2004[5,6]	77.6	75.0	80.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2003[5,6]	77.2	74.5	79.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2002[5,6]	77.0	74.4	79.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2001[5,6]	77.0	74.3	79.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2000	76.8	74.1	79.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1999	76.7	73.9	79.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1998	76.7	73.8	79.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1997	76.5	73.6	79.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1996	76.1	73.1	79.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1995	75.8	72.5	78.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1994	75.7	72.4	79.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1993	75.5	72.2	78.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1992	75.8	72.3	79.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1991	75.5	72.0	78.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1990	75.4	71.8	78.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1989	75.1	71.7	78.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1988	74.9	71.4	78.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1987	74.9	71.4	78.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1986	74.7	71.2	78.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1985	74.7	71.1	78.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1984	74.7	71.1	78.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1983	74.6	71.0	78.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1982	74.5	70.8	78.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1981	74.1	70.4	77.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1980	73.7	70.0	77.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1979	73.9	70.0	77.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1978	73.5	69.6	77.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1977	73.3	69.5	77.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1976	72.9	69.1	76.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1975	72.6	68.8	76.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1974	72.0	68.2	75.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1973	71.4	67.6	75.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1972[7]	71.2	67.4	75.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnotes at end of table.

Table 19. Estimated life expectancy at birth, in years, by Hispanic origin and race and sex: Death-registration states, 1900–1928, and United States, 1929–2022—Con.

[For selected years, life table values shown are estimates; see Technical Notes in this report. Beginning in 1970, excludes death of nonresidents of the United States; see Technical Notes]

Area and year	All races and origins			Hispanic[1]			Non-Hispanic											
							American Indian and Alaska Native[1]			Asian[1]			Black[1,2]			White[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States[3]—Con.									Bridged race[4]—Con.									
1971	71.1	67.4	75.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1970	70.8	67.1	74.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1969	70.5	66.8	74.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1968	70.2	66.6	74.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1967	70.5	67.0	74.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1966	70.2	66.7	73.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1965	70.2	66.8	73.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1964	70.2	66.8	73.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1963[8]	69.9	66.6	73.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1962[8]	70.1	66.9	73.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1961	70.2	67.1	73.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1960	69.7	66.6	73.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1959	69.9	66.8	73.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1958	69.6	66.6	72.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1957	69.5	66.4	72.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1956	69.7	66.7	72.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1955	69.6	66.7	72.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1954	69.6	66.7	72.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1953	68.8	66.0	72.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1952	68.6	65.8	71.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1951	68.4	65.6	71.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1950	68.2	65.6	71.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1949	68.0	65.2	70.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1948	67.2	64.6	69.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1947	66.8	64.4	69.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1946	66.7	64.4	69.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1945	65.9	63.6	67.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1944	65.2	63.6	66.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1943	63.3	62.4	64.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1942	66.2	64.7	67.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1941	64.8	63.1	66.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1940	62.9	60.8	65.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1939	63.7	62.1	65.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1938	63.5	61.9	65.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1937	60.0	58.0	62.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1936	58.5	56.6	60.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1935	61.7	59.9	63.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1934	61.1	59.3	63.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1933	63.3	61.7	65.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1932	62.1	61.0	63.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1931	61.1	59.4	63.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1930	59.7	58.1	61.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1929	57.1	55.8	58.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnotes at end of table.

Table 19. Estimated life expectancy at birth, in years, by Hispanic origin and race and sex: Death-registration states, 1900–1928, and United States, 1929–2022—Con.

[For selected years, life table values shown are estimates; see Technical Notes in this report. Beginning in 1970, excludes death of nonresidents of the United States; see Technical Notes]

Area and year	All races and origins			Hispanic[1]			Non-Hispanic											
							American Indian and Alaska Native[1]			Asian[1]			Black[1,2]			White[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Death-registration states							Bridged race[4]—Con.											
1928	56.8	55.6	58.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1927	60.4	59.0	62.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1926	56.7	55.5	58.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1925	59.0	57.6	60.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1924	59.7	58.1	61.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1923	57.2	56.1	58.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1922	59.6	58.4	61.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1921	60.8	60.0	61.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1920	54.1	53.6	54.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1919	54.7	53.5	56.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1918	39.1	36.6	42.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1917	50.9	48.4	54.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1916	51.7	49.6	54.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1915	54.5	52.5	56.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1914	54.2	52.0	56.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1913	52.5	50.3	55.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1912	53.5	51.5	55.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1911	52.6	50.9	54.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1910	50.0	48.4	51.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1909	52.1	50.5	53.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1908	51.1	49.5	52.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1907	47.6	45.6	49.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1906	48.7	46.9	50.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1905	48.7	47.3	50.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1904	47.6	46.2	49.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1903	50.5	49.1	52.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1902	51.5	49.8	53.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1901	49.1	47.6	50.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1900	47.3	46.3	48.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

--- Data not available.
… Category not applicable.
[1]Life tables are based on death rates that have been adjusted for race and Hispanic-origin misclassification on death certificates; see Technical Notes.
[2]Before 1970, data for the Black population are not available. Data shown for 1900–1969 are for the non-White population. See Technical Notes.
[3]Includes Alaska in 1959 and Hawaii in 1960.
[4]Life expectancies by single-race categories are not completely comparable with life expectancies by bridged-race categories and should be interpreted accounting for the change from bridged- to single-race categories.
[5]Life expectancies for 2001–2022 were calculated using a revised methodology described in Technical Notes.
[6]Life expectancies for 2001–2009 have been re-estimated using new intercensal population estimates and may differ from data previously published; see Technical Notes.
[7]Deaths based on a 50% sample.
[8]Figures by race exclude data for residents of New Jersey; see Technical Notes.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Technical Notes

The U.S. life table program

The National Center for Health Statistics prepares complete period life tables for the U.S. population annually. Annual final life tables are based on a complete count of all reported deaths and postcensal population estimates. Beginning with the first decennial census (1900) through the 2010 census, decennial life tables were produced for every decade. These were complete period life tables based on decennial census data and final deaths for a 3-year period around the census year. Between 1900 and 1945, the decennial series was the only set of official life tables produced. This series also included state-level complete life tables for the decennial periods 1939–1941 to 1999–2001. The decennial life tables series was discontinued due to the development of new methodologies that improved estimation of mortality at the older ages in the annual life tables series and the addition of an annual series of complete state-level life tables (14). The annual complete state-level life tables series started with data year 2018 (15).

Available since 1945, the annual life tables are based on deaths occurring during the calendar year and on midyear postcensal population estimates provided by the U.S. Census Bureau. From 1945 to 1996, the annual life tables were abridged life tables, closed at age 85 and older, and were constructed by reference to a standard table (4). Beginning with 1997 mortality data, the annual abridged life tables were replaced with complete life tables expanded to ages 100 and older based on a methodology similar to that of the 1989–1991 decennial life tables. The methodology was revised for data years 2000–2007 using a methodology similar to that of the 1999–2001 decennial life tables (16). Beginning with data year 2008, the life table methodology was revised with a new smoothing technique applied to death rates in the oldest ages (17).

The methodology used to estimate the 2008–2022 life tables is different from that used to estimate the 2000–2007 life tables with respect to the technique used to estimate the probabilities of death for ages older than 65. The methodology used to produce the life tables for 2008–2022 does not model the probabilities of death beginning at age 66, as was done for data years 2000–2007, but rather at ages above 85 or so (the exact ages at which smoothing techniques are used depends on the specific racial and ethnic population). Research into the methodology developed and used for the 1999–2001 decennial life tables and applied to the annual life tables has revealed that it is not necessary to model (or smooth) the probabilities of death beginning at age 66. The observed blended vital statistics and Medicare data for ages 66–85 are robust enough and do not require additional smoothing (16). A full description of the methodology used to estimate the 2022 life tables is provided below. See "United States Life Tables, 2005" (16) for a detailed description of the methodology used for data years 2000–2007.

Beginning with 2006 mortality data, life tables by Hispanic origin and race, including Hispanic (irrespective of race), Black non-Hispanic, and White non-Hispanic, were added to the annual life table program. Before this time, concerns over data limitations such as racial and ethnic misclassification on U.S. death certificates and lack of Medicare data for older populations other than the White and Black populations (regardless of Hispanic origin) prevented the estimation of life tables for the Hispanic-origin population. Research that identified and quantified these data limitations resulted in reliable methodological strategies to address these data problems (8–10,17). Beginning with 2019 mortality data, the annual life table program was expanded to include the American Indian and Alaska Native non-Hispanic and Asian non-Hispanic populations.

Revised intercensal life table values

Life table values for 1960–1969, 1970–1979, and 1980–1989 were constructed using the U.S. decennial life tables for 1959–1961, 1969–1971, and 1979–1981, respectively, as the standard tables. The life table values for years before 1989 appearing in this report are based on revised intercensal estimates of the populations for those years. As a result, the life table values for these years may differ from the life table values for those years published in Vital Statistics of the United States for 1989 and earlier years (https://www.cdc.gov/nchs/products/vsus.htm).

Life table values for 1991–1999 presented in this report are based on postcensal population estimates enumerated in the 1990 decennial census. Life table values for 2001–2009 presented in this report are based on revised intercensal population estimates based on the 2010 decennial census and the revised methodology used to estimate the 2008–2022 life tables. As a result, the values may differ from those previously published in annual final mortality and life table reports. The revised intercensal life tables for 2001–2009 can be accessed by links provided under each of the annual life table reports in: https://www.cdc.gov/nchs/products/life_tables.htm.

Geographic coverage

The geographic areas covered in life tables before 1929–1931 were limited to death-registration areas. Life tables for 1900–1902 and 1909–1911 were constructed using mortality data from the 1900 death-registration states (10 states and the District of Columbia), and tables for 1919–1921 used mortality data from the 1920 death-registration states (34 states and the District of Columbia). The tables for 1929–1931 through 1958 cover the coterminous United States. Decennial life table values for the 3-year period 1959–1961 were calculated from data that include both Alaska and Hawaii for each year. Data for each year shown in Table 19 include Alaska beginning in 1959 and Hawaii beginning in 1960. However, the inclusion of these two states does not materially affect life table values.

New Jersey data, 1962–1964

The life tables for 1962 and 1963 for the six population groups involving race (White and Black, regardless of Hispanic origin) do not include data from New Jersey, which omitted the item on race from its certificates of live birth, death, and fetal death in use at the beginning of 1962. The item was restored

during the latter part of 1962. However, the certificate revision without this item was used for most of 1962, as well as for 1963. For computing vital rates, populations by age, race, and sex (excluding New Jersey) were estimated to obtain comparable denominators. About 7% of the New Jersey death records for 1964 did not contain the race designation. When the records were being electronically processed for this state, the "race not stated" deaths were allocated proportionally to either White or Black (regardless of Hispanic origin).

Nonresidents

Beginning in 1970, the deaths of nonresidents of the United States have been excluded from the life table statistics.

Data for calculating life table functions

The data used to prepare the U.S. life tables include final death counts from the National Vital Statistics System, population estimates from the U.S. Census Bureau, and death and population counts for Medicare beneficiaries ages 66–99 from the Centers for Medicare & Medicaid Services.

Vital statistics data

Death counts used for computing the life tables presented in this report are final numbers of deaths for 2022 collected from death certificates filed in state vital statistics offices and reported to the National Center for Health Statistics as part of the National Vital Statistics System. Hispanic origin and race are reported separately on the death certificate.

Beginning with the 2018 data year, all 50 states and the District of Columbia reported deaths based on the 2003 revision of the U.S. Standard Certificate of Death for the entire year (18). The revision is based on the 1997 Office of Management and Budget standards (5). The 1997 standards allow people to report more than one race and increased the race choices from four to five by separating the Asian and Pacific Islander groups. The Hispanic category did not change, remaining consistent with previous reports.

The Hispanic-origin and race groups in this report follow the 1997 standards and differ from the race categories used in previous reports. The new categories are Hispanic, American Indian and Alaska Native non-Hispanic single race, Asian non-Hispanic single race, Black non-Hispanic single race, and White non-Hispanic single race. From 2003 through 2017, some deaths were reported using the 1989 certificate revision that allowed the reporting of only one race (6). During those years, multiple-race data were bridged to single-race categories. Use of the bridged-race process was discontinued in 2018 when all states collected data on race according to 1997 Office of Management and Budget guidelines for the full data year. The Hispanic-origin category was not affected by the revised standards.

Census population data

The population data used to estimate the life tables shown in this report are postcensal population estimates based on the Blended Base created by the U.S. Census Bureau to produce post-2020 census population estimates. The Blended Base consists of the blend of Vintage 2020 postcensal population estimates, based on the April 1, 2010, decennial census; 2020 Demographic Analysis Estimates; and 2020 Census Edited File (CEF) (https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2022/methods-statement-v2022.pdf).

To produce death rates for 2000–2017, the reported population data for multiple-race people had to be bridged back to single-race categories. Additionally, the 2010 census counts were modified for consistency with the 1977 Office of Management and Budget race categories, that is, to report the data for Asian and Native Hawaiian or Other Pacific Islander people as a combined category (Asian or Pacific Islander) and to reflect age as of the census reference date (6). The procedures used to produce the bridged-race populations are described elsewhere (19).

Medicare data

Medicare data are considered more accurate than vital statistics and census data at the oldest ages because Medicare enrollees must have proof of age to enroll (20,21). However, the reliability of Medicare data beyond age 100 declines because of the small percentage of people who enrolled in the early years of the Medicare program and for whom it was not possible to verify exact age (21,20). Further, the Medicare race and ethnicity classification system makes it impossible to correctly identify the Hispanic (irrespective of race), American Indian and Alaska Native, Asian, or Native Hawaiian and Other Pacific Islander populations (regardless of Hispanic origin) (21). It is, however, possible to use Medicare data to estimate old-age mortality for both the White and Black race groups, regardless of Hispanic origin, as has been done traditionally, and to estimate old-age mortality for the non-Hispanic segments of these populations (14). As a result, data from the Medicare program are used to supplement vital statistics and census data for ages 66–99 for the total population and the Black non-Hispanic and White non-Hispanic populations presented here (14).

To estimate death rates for the Medicare total, Black non-Hispanic, and White non-Hispanic populations in 2022, age-specific numbers of deaths and population counts by sex and race for the population ages 66–99 from the 2022 Medicare file were used. Centers for Medicare and Medicaid Services creates this data file for the Social Security Administration, which shares the data with the National Center for Health Statistics under a special agreement. The 2022 file contains 2022 midyear Medicare population counts (June 30, 2022) and calendar-year Medicare death counts (January 1 through December 31, 2022). Age for both deaths and midyear population counts is calculated as age at last birthday.

Preliminary adjustment of the data

Adjustments for unknown age

An adjustment is made to account for the small proportion of deaths each year for which age is not reported on the death certificate. The number of deaths in each age category is adjusted proportionally to account for those with not-stated ages. The following factor (F) is used to make the adjustment. F is calculated for the total and for each sex group within a racial and ethnic population for which life tables are constructed:

$$F = \frac{D}{D^a} \quad [1]$$

where D is the total number of deaths and D^a is the total number of deaths for which age is stated. F is then applied by multiplying it by the number of deaths in each age group. Table I shows values for F by sex used to adjust mortality data for the total, Hispanic, American Indian and Alaska Native non-Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations in 2022.

Adjustment for misclassification of Hispanic origin and race on death certificates

Two data sources were used to adjust for Hispanic-origin and race misclassification on death certificates. For the Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations, the National Longitudinal Mortality Study (NLMS) was used to produce classification ratios (or correction factors) to adjust observed sex and age-specific death rates for misclassification on death certificates (8). The NLMS consists of a series of Current Population Surveys (CPS) (1979–2011) linked to vital statistics mortality data through the National Death Index (NDI) (8). For the American Indian and Alaska Native non-Hispanic population, an extract of the 2010 CEF–Census Unedited File (CUF) Match File containing records for people classified by race as American Indian and Alaska Native alone or in combination with another race in the 2010 decennial census was linked to NDI to identify decedents for the period April 1, 2010, to December 31, 2011. The resulting 34,366 CEF–CUF Match American Indian and Alaska Native Extract—Mortality Linked Data decedent records were used to estimate classification ratios to correct for race and Hispanic-origin misclassification on death certificates for the American Indian and Alaska Native non-Hispanic population (10).

The classification ratios consist of a comparison of self-reported Hispanic origin and race on Current Population Surveys or the decennial census, with Hispanic origin and race reported on the death certificates of the samples of decedents in the National Longitudinal Mortality Study who died during 1999–2011 and decedents in the Census Edited File–Census Unedited File Match American Indian and Alaska Native Extract who died between April 1, 2010, and December 31, 2011 (8,10). Linked records are used to estimate sex-age-specific ratios of survey or census Hispanic-origin and race counts to death certificate counts (8,10).

The survey or census death certificate ratio, or "classification ratio," is the ratio of the count (weighted in the case of Current Population Surveys) of self-reported race and ethnicity on the survey or census to the count (weighted in the case of Current Population Surveys) of the same racial or ethnic category on the death certificates of the sample of the National Longitudinal Mortality Study (Census Edited File–Census Unedited File Match American Indian and Alaska Native Extract) decedents described previously. It can be interpreted as the net difference in assignment of a specific Hispanic-origin and race category between the two classification systems and can be used as a correction factor for Hispanic-origin and race misclassification (8,10). It is assumed that the race and ethnicity reported by a survey or census respondent is more reliable than proxy reporting of race and ethnicity by a funeral director who has little personal knowledge of the decedent. Also, the 1997 Office of Management and Budget standards mandate that self-identification should be the standard used for the collection and recording of race and ethnicity information (5).

Classification ratios discussed previously are used to adjust the age-specific number of deaths for ages 1–95 and older for the total Hispanic, American Indian and Alaska Native non-Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations, and by sex for each group, as follows:

$$_nD_x = {}_nD_x^F \bullet {}_nCR_x \quad [2]$$

where ${}_nD_x^F$ is the age-specific number of deaths adjusted for unknown age as described previously, ${}_nCR_x$ are the sex- and age-specific classification ratios used to correct for the misclassification of Hispanic origin and race on death certificates,

Table I. Values for F used to adjust for not-stated age based on 2022 mortality data

Hispanic origin and race and sex	Total deaths	Total deaths for which age was not stated	F
Total	3,279,857	103	1.00003140
Male	1,719,250	87	1.00005061
Female	1,560,607	16	1.00001025
Hispanic	275,684	10	1.00003627
Male	155,240	9	1.00005798
Female	120,444	1	1.00000830
Non-Hispanic:			
American Indian and Alaska Native	23,613	0	1.00000000
Male	12,721	0	1.00000000
Female	10,892	0	1.00000000
Asian	89,591	0	1.00000000
Male	46,137	0	1.00000000
Female	43,454	0	1.00000000
Black	411,934	5	1.00001214
Male	219,538	5	1.00002278
Female	192,396	0	1.00000000
White	2,448,093	39	1.00001593
Male	1,267,526	31	1.00002446
Female	1,180,567	8	1.00000678

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

and ${}_nD_x$ are the final age-specific counts of death adjusted for age and Hispanic-origin and race misclassification. Table II shows values of the sex- and age-specific classification ratios, ${}_nCR_x$, by Hispanic origin and race.

Because classification ratios for infant deaths are unreliable due to small sample sizes or counts, corrections for racial and ethnic misclassification of infant deaths are addressed by using infant death counts and live birth counts from the 2021 and 2022 linked birth/infant death data files rather than the traditional birth and death data files (22,23). In the linked file, each infant death record is linked to its corresponding birth record so that the race and ethnicity of the mother reported on the birth record can be ascribed to the infant death record. As a result, race- and ethnicity-specific infant mortality rates estimated with the linked file do not have racial and ethnic discrepancies between the numerator and denominator of the rate. A ratio of infant mortality rates based on the traditional birth and death data files to infant mortality rates based on the linked birth/infant death data file shows that using the traditional files overestimates the infant mortality rate by 4.0% for both Hispanic and Black non-Hispanic infants; and underestimates the infant mortality rate by 19.0% for Asian non-Hispanic, 10.0% for American Indian and Alaska Native non-Hispanic, and 3.0% for White non-Hispanic infants (see ratios for age 0 in Table II). Because the probability of death at age 0 used to calculate the life table uses live births in the denominator (procedure described in "Calculation of q_x at age 0"), it is preferable to use the linked birth/infant death data file.

Interpolation of P_x and D_x

Anomalies—both random and those associated with reporting age at death—can be problematic when using vital statistics and census data by single years of age to estimate the probability of death (1,3). Graduation techniques are often used to eliminate these anomalies and to derive a smooth curve by age. Beers' ordinary minimized fifth difference formula is used to obtain smoothed values of population counts (P_x) and death counts (D_x) from 5-year age groupings of ${}_nP_x$ from age 0 to 99 and ${}_nD_x$ from age 5 to 99, and where ${}_nD_x$ has first been adjusted for not-reported age and Hispanic-origin and race misclassification on the death certificate (see reference 24 for details on the application of Beers' method).

Calculation of the probability of dying (q_x)

The first step in calculating a complete period life table is the estimation of the age-specific probability of dying, q_x, which is derived from the age-specific death rate, m_x (3,16). In the life table cohort,

$$m_x = \frac{d_x}{L_x}$$

where d_x is the number of deaths occurring between ages x and $x+1$, and L_x is the number of person-years lived by the life table cohort between ages x and $x+1$. The conversion of the age-specific death rate, m_x, to the age-specific probability of death, q_x, is as follows:

$$q_x = \frac{m_x}{1+(1-a_x)m_x} \quad [3]$$

Table II. Classification ratios, by Hispanic origin and race, age, and sex

				Non-Hispanic											
	Hispanic[1]			American Indian and Alaska Native[1]			Asian[1,2]			Black[1]			White[1]		
Age (years)	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
All ages	1.0329	1.0362	1.0294	1.3354	1.3488	1.3197	1.0331	1.0480	1.0117	1.0047	1.0041	1.0053	0.9995	0.9993	0.9997
0[3]	1.0389	1.0321	1.0493	0.9007	0.8703	0.9467	0.8120	0.8165	0.8077	1.0404	1.0525	1.0261	0.9712	0.9693	0.9734
1–14	0.9905	0.9659	*1.0299	1.1243	1.1546	1.0833	*0.8655	*0.8426	*1.0000	1.0266	0.9379	*1.1751	0.9918	1.0755	0.8770
15–24	0.9668	0.9325	1.0604	1.1462	1.1201	1.2190	1.2285	*1.4276	*0.9721	1.0248	1.0215	1.0343	0.9976	1.0019	0.9869
25–34	1.0354	1.0401	1.0232	1.1375	1.1557	1.1033	1.1527	1.0967	*1.2648	0.9855	0.9770	1.0008	1.0021	1.0034	0.9994
35–44	1.0434	1.0645	1.0066	1.1799	1.1815	1.1772	1.0338	1.0459	1.0125	1.0062	1.0073	1.0048	0.9980	0.9997	0.9951
45–54	1.0584	1.0372	1.0953	1.3915	1.3913	1.3916	1.0699	1.1123	1.0113	1.0002	1.0019	0.9982	0.9969	0.9965	0.9976
55–64	1.0571	1.0517	1.0659	1.4281	1.4547	1.3917	1.0274	1.0694	0.9784	1.0003	0.9965	1.0046	0.9994	0.9992	0.9997
65–74	1.0295	1.0485	1.0072	1.3654	1.4244	1.2980	1.0845	1.0841	1.0850	1.0062	1.0055	1.0070	0.9967	0.9967	0.9966
75–84	1.0192	1.0188	1.0196	1.3099	1.3367	1.2852	1.0305	1.0328	1.0281	1.0057	1.0057	1.0058	1.0004	1.0003	1.0004
85–94	1.0208	1.0313	1.0137	1.3845	1.3807	1.3870	0.9962	0.9983	0.9944	1.0110	1.0155	1.0086	1.0008	1.0007	1.0009
95 and over	1.0732	1.0509	1.0842	1.3951	1.3043	1.4240	0.9755	1.0238	0.9405	0.9980	0.9872	0.9954	1.0005	0.9995	1.0008

* Ratio does not meet National Center for Health Statistics standards of reliability because either the unweighted number of Current Population Survey deaths, the unweighted number of death certificate deaths, or both are based on fewer than 20 deaths.
[1]Classification ratios for the Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations are based on the National Longitudinal Mortality Study data (see https://www.cdc.gov/nchs/data/series/sr_02/sr02_172.pdf). Classification ratios for the American Indian and Alaska Native non-Hispanic population are based on the census American Indian and Alaska Native-Extract Mortality Linked Data (see https://www.cdc.gov/nchs/data/nvsr/nvsr70/NVSR70-12.pdf).
[2]Classification ratios for the Asian non-Hispanic population were estimated based on data for the Asian non-Hispanic and Pacific Islander non-Hispanic populations combined due to data availability. However, the ratios reflect misclassification predominantly among the Asian non-Hispanic population because it makes up more than 95% of the Asian non-Hispanic and Pacific Islander non-Hispanic populations combined.
[3]Ratios for age 0 are estimated as the ratio of infant mortality rates based on the traditional death and birth files to the infant mortality rates based on the 2022 linked birth/infant death data file. They are only shown for illustrative purposes; see report text for details.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

where a_x is the fraction of the number of person-years lived in the age interval by members of the life table cohort who died in the interval. When the age interval is 1 year, except at infancy, $a_x = 1/2$; in other words, deaths occur on average midway through the age interval. As a result,

$$q_x = \frac{m_x}{1+\frac{1}{2}m_x} \quad [4]$$

Because the complete period life table is based on the age-specific death rates of a current population observed for a specific calendar year, the life table death rate is equivalent to the observed death rates of the current population:

$$m_x = \frac{d_x}{L_x} = M_x = \frac{D_x}{P_x}$$

where D_x is the Beers' smoothed number of deaths adjusted for not-stated age and Hispanic-origin and race misclassification on the death certificate (for the Hispanic and American Indian and Alaska Native, Asian, Black, and White non-Hispanic race groups), and P_x is the Beers' smoothed population at risk of dying between ages x and $x + 1$. Then,

$$q_x = \frac{M_x}{1+\frac{1}{2}M_x} = \frac{D_x}{P_x+\frac{1}{2}D_x} \quad [5]$$

This procedure is used to estimate vital statistics age-specific probabilities of death for ages 1–99.

Calculation of q_x at age 0

The higher mortality observed in infancy is associated with a high concentration of deaths occurring at the beginning of the age interval rather than in the middle. As a result, it is best to assign deaths to the appropriate birth cohorts whenever possible. Consequently, the probability of death at birth, q_0, is calculated using a birth cohort method that uses a separation factor (f) defined as the proportion of infant deaths in year t occurring to infants born in the previous year ($t - 1$). The value f is estimated by categorizing infant deaths by date of birth. The probability of death is then calculated as:

$$q_0 = \frac{D_0(1-f)}{B^t} + \frac{D_0(f)}{B^{t-1}} \quad [6]$$

where D_0 is the number of infant deaths adjusted for not-stated age in 2022, B^t is the number of live births in 2022, and B^{t-1} is the number of live births in 2021. Table III shows separation factors and numbers of births for 2021 and 2022.

Probabilities of dying at the oldest ages for the total, Black non-Hispanic, and White non-Hispanic populations

Medicare data are used to supplement vital statistics data for the estimation of q_x at the oldest ages. These data are more accurate because proof of age is required for enrollment in the Medicare program. Medicare data are used here to estimate the probability of dying for ages 66 and older for the total, Black non-Hispanic, and White non-Hispanic populations.

The method described in this section consists of the following steps. First, vital statistics and Medicare death rates are blended in the age range 66–99. Second, a logistic model is used to smooth the blended death rates in the age range 85–99 and predict death rates for ages 100–120. Third, final resulting death rates, M_x, are converted to q_x.

For ages 66–94, vital statistics death rates, M_x^V, and Medicare death rates, M_x^M, are blended with a weighting process that gives gradually declining weight to vital statistics data and gradually increasing weight to Medicare data. For ages 95–99, M_x^M is used exclusively. Blended M_x is obtained as follows:

$$M_x = \frac{1}{30}[(95-x)M_x^V + (x-65)M_x^M] \quad [7]$$

when $x = 66,...,94$

$$\text{and } M_x = M_x^M$$

when $x = 95,...,99$. M_x^M is estimated as follows:

$$M_x^M = \frac{D_x^M}{P_x^M}$$

where D_x^M is the age-specific Medicare death count, and P_x^M is the age-specific Medicare midyear population count.

A logistic model proposed by Kannisto is then used to smooth M_x in the age range 85–99 and predict M_x in the age range 100–120 (25). The start of the modeled age range varies by race- and ethnicity-specific population because it is a function of the age at which the rate of change in the age-specific death rates peaks. Currently, the rate of change in the age-specific death rate rises steadily up to about ages 80–85 and then begins to decline. As a result, it is difficult to model a large age span, such as 65–100, with one simple model without over smoothing and consequently altering the underlying mortality pattern observed in the population of interest (26). Further, the observed data for the age range 65–85 or so is reliable and robust, as indicated by the very close similarity between vital statistics and Medicare death rates, so it is unnecessary to model (smooth) the entire age span (65–100).

The Kannisto model is a simple form of a logistic model in which the logit of u_x (or the natural log of the odds of u_x) is a linear function of age, x (25). It is expressed as:

$$\ln[\frac{u_x}{1-u_x}] = \ln(\alpha) + \beta x \quad [8]$$

where u_x, the force of mortality (or the instantaneous death rate), is defined as:

$$u_x = \frac{\alpha e^{\beta x}}{1+\alpha e^{\beta x}}$$

Because u_x is not directly observed but is closely approximated by m_x, and $m_x = M_x$, then the logit of M_x is modeled instead. A maximum-likelihood generalized linear-model

Table III. Births in 2021 and 2022, deaths in 2022 of infants born in 2021 and 2022, and separation factors, by Hispanic origin and race and sex: United States

Births, deaths, and separation factors	Total			Hispanic			Non-Hispanic											
							American Indian and Alaska Native			Asian			Black			White		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Births																		
2021	3,664,292	1,873,416	1,790,876	885,916	450,807	435,109	26,124	13,343	12,781	213,813	110,083	103,730	517,889	262,679	255,210	1,887,656	968,370	919,286
2022	3,667,758	1,874,446	1,793,312	937,421	477,401	460,020	25,721	13,063	12,658	218,994	112,726	106,268	511,439	259,987	251,452	1,840,739	942,920	897,819
Deaths in 2022																		
Infants born in 2021	2,692	1,524	1,157	518	298	218	30	22	8	85	56	29	864	466	398	1,057	609	445
Infants born in 2022	17,861	9,847	8,025	4,063	2,231	1,834	203	116	87	683	380	303	4,709	2,603	2,106	7,268	4,004	3,267
Separation factor, *f*	0.131	0.134	0.126	0.113	0.118	0.106	0.129	0.158	0.089	0.111	0.129	0.086	0.155	0.152	0.159	0.127	0.132	0.120

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

estimation procedure is used to fit the following model in the age range 85–99:

$$\ln\left[\frac{M_x}{1-M_x}\right] = \ln(\alpha) + \beta x \quad [9]$$

Then, the estimated parameters are used to predict $\bar{M}_x$ as follows:

$$\bar{M}_x = \frac{e^a e^{bx}}{1+e^a e^{bx}} \text{ or, equivalently, } \bar{M}_x = \frac{e^{a+bx}}{1+e^{a+bx}} \quad [10]$$

where a and b are the predicted values of parameters $\ln(\alpha)$ and β, respectively, given by fitting model [9]. Estimated parameters and the starting age for the modeled age span by population in 2022 are presented in Table IV.

Finally, the predicted probability of death, $\bar{q}_x$, for ages 85–120 is estimated by converting $\bar{M}_x$ as:

$$\bar{q}_x = \frac{\bar{M}_x}{1+\frac{1}{2}\bar{M}_x} \quad [11]$$

The probability of death is extrapolated to age 120 to estimate the life table population until no survivors remain. This information is then used to estimate L_x for ages 100–120, which is used to close the table with the age category 100 and older, combined (discussed in the following section).

Probabilities of dying at the oldest ages for the Hispanic, American Indian and Alaska Native non-Hispanic, and Asian non-Hispanic populations

As previously noted, Medicare data are unreliable for the Hispanic (regardless of race) and American Indian and Alaska Native and Asian (regardless of Hispanic origin) populations due to inconsistencies in the Medicare race and ethnicity classification system. As a result, other methods had to be used to estimate mortality at the oldest ages for these populations. Beyond age 80, mortality estimates based strictly on vital statistics for these three populations are too low, despite correction for ethnicity and race misclassification on the death certificate.

A consistent finding across diverse studies has been that Hispanic mortality in the adult and advanced ages varies between approximately 80% and 89% relative to that of the White non-Hispanic population (17,27,28). The Brass relational logit model takes advantage of the relationship between Hispanic and White non-Hispanic mortality previously identified and has been widely and successfully used to predict the mortality of one population relative to another at the older ages (29,30). Using the age-specific mortality pattern of the White non-Hispanic population as the standard, the Brass relational logit model is used to predict Hispanic mortality in the older ages. The standard is fit to Hispanic data in the age interval 45–80, and the predicted parameters are used to estimate the probabilities of death for ages 76–100. This method allows the relationship between the two populations in the younger ages to be extended to the older ages (17,29,30).

Although similar information is not available for the American Indian and Alaska Native non-Hispanic and Asian non-Hispanic populations, with a slight modification, the Brass relational logit model was successfully used to produce reliable complete period life tables for the American Indian and Alaska Native non-Hispanic population in Indian Health Service Contract Health Service Delivery Area counties (31). The choice of the White non-Hispanic population as the standard population is based on several factors. First, it is the most widely used comparison population in the study of racial and ethnic disparities given its social and economic privilege. Second, it is the largest population in the United States and has the most reliable mortality data. Third, the relationship between the age-specific mortality patterns of the American Indian and Alaska Native non-Hispanic and Asian non-Hispanic populations and the White non-Hispanic population remains constant throughout the age span 45–80 (45–84 for the non-Hispanic AIAN population). The assumption that this pattern continues to the oldest ages is reasonable because the final results are consistent with expected age-specific mortality patterns at the oldest ages (Figures I and II).

The Brass relational logit model expresses the age-specific mortality pattern of a population of interest as a function of the age-specific mortality pattern of a standard population and is expressed as:

$$\bar{Y}_x = \alpha + \beta Y_x^s \quad [12]$$

where $\bar{Y}_x$ is the predicted logit of the probability of death, q_x, in the population of interest, that is,

$$\text{logit}\,[q_x] = \ln\left[\frac{q_x}{1-q_x}\right]$$

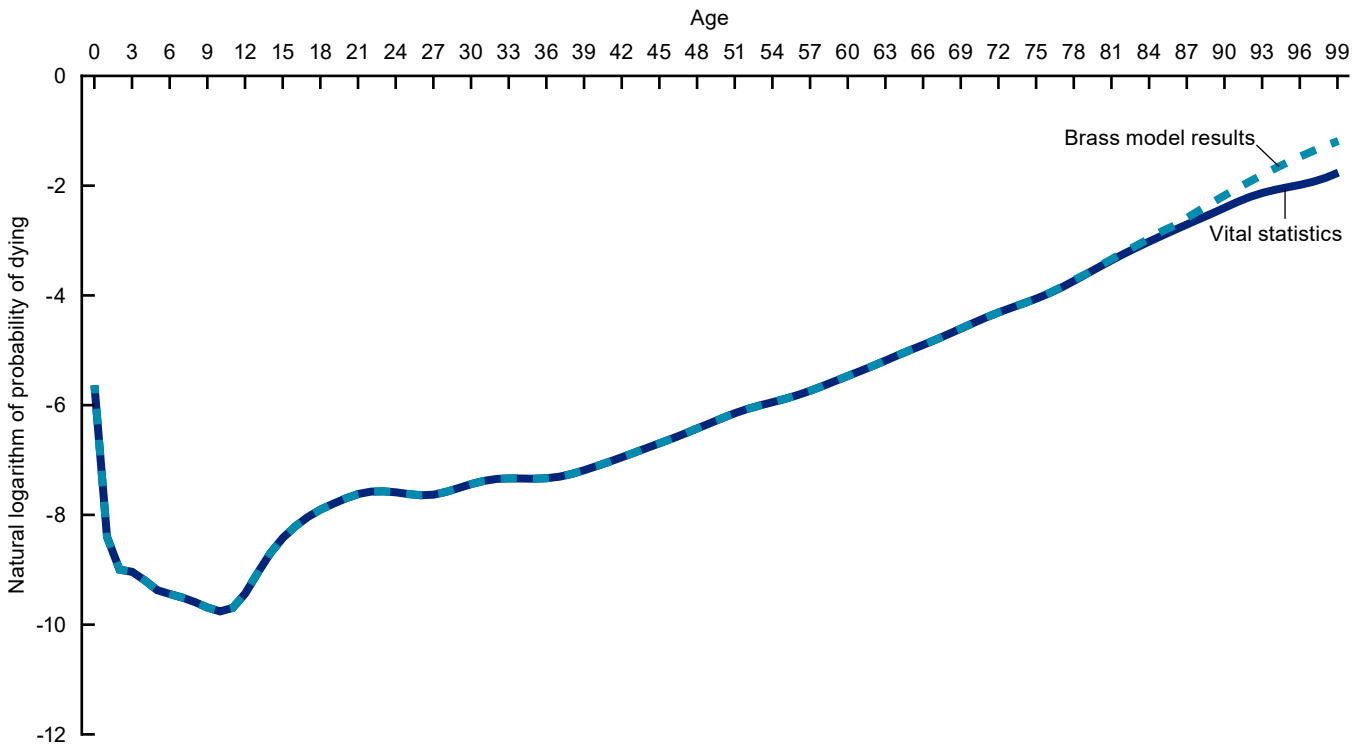
Y_x^S is the logit of the probability of death in the standard population, q_x^S, that is,

Table IV. Estimated parameters α and β used for predicting m_x and starting age of modeled age span: U.S. Life Tables, 2022

Parameter	Total			Black, non-Hispanic			White, non-Hispanic		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Starting age	86	86	86	86	85	87	86	86	86
$\ln(\alpha)$ (standard error)	-13.9691 (0.084)	-13.90409 (0.229)	-14.62704 (0.057)	-11.82131 (0.197)	-11.16574 (0.189)	-12.85871 (0.317)	-14.19896 (0.065)	-14.37192 (0.134)	-14.81577 (0.065)
β (standard error)	0.1367831 (0.001)	0.1381831 (0.003)	0.1428039 (0.001)	0.1121027 (0.002)	0.1072203 (0.002)	0.1224070 (0.003)	0.1396678 (0.001)	0.1437302 (0.001)	0.1452064 (0.001)

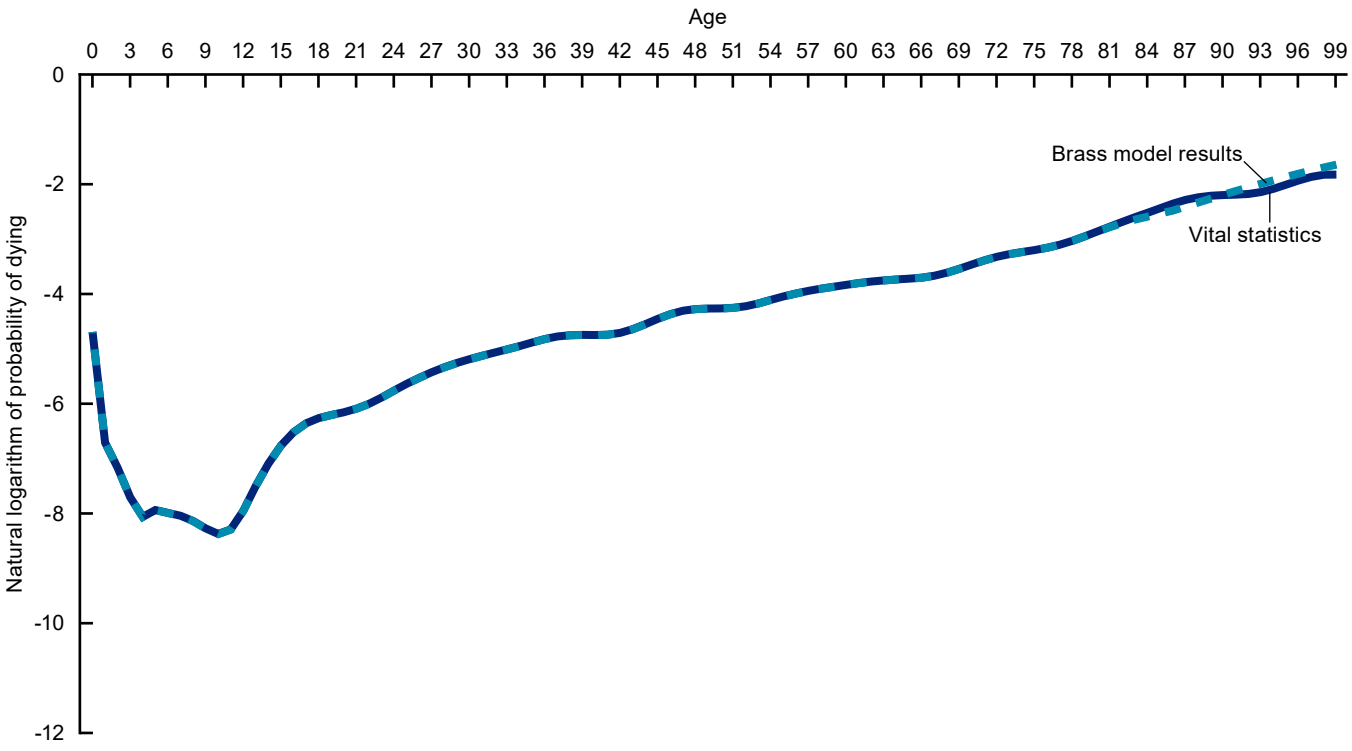
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure I. Age pattern of mortality for the Asian, non-Hispanic population: United States, 2022



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure II. Age pattern of mortality for the American Indian and Alaska Native, non-Hispanic population: United States, 2022



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

$$\text{logit}\,[q_x^S] = \ln\left[\frac{q_x^S}{1-q_x^S}\right]$$

α is the predicted parameter that measures the level of mortality of the population of interest relative to the standard population, and β is the predicted parameter that measures the slope of the mortality function of the population of interest relative to the standard population (3,14,30). Table V shows values of predicted α and β and their standard errors.

A maximum-likelihood generalized linear-model estimation procedure was used to fit equation [12] in the age range 45–80 (45–84 for the American Indian and Alaska Native non-Hispanic population). The resulting predicted parameters α and β were then used to estimate the predicted probability of death for ages 76–120 (80–120 for the American Indian and Alaska Native non-Hispanic population). The value q_x was predicted to age 120 to estimate the life table population until no survivors remain, as was done for the other population groups. This information was then used to estimate L_x for ages 100–120, which was used to close the table with the age category 100 and older, combined (discussed in the next section).

Predicted $\bar{q}_x$ is estimated by transforming its logit, $\bar{Y}_x$, back as follows:

$$\bar{q}_x = \frac{\exp[\bar{Y}_x]}{1+\exp[\bar{Y}_x]} = \frac{\exp[\alpha+\beta Y_x^s]}{1+\exp[\alpha+\beta Y_x^s]} \qquad [13]$$

To ensure a smooth transition from vital $q_x{}^V$ and predicted $\bar{q}_x$, the two were blended from ages 76 to 80 (80 to 84 for the American Indian and Alaska Native non-Hispanic population) with a graduating process as follows:

$$q_x = \frac{1}{6}[(81-x)q_x^v + (x-75)\bar{q}_x] \qquad [14]$$

when x = 76,...,80,

$$q_x = \frac{1}{6}[(85-x)q_x^v + (x-79)\bar{q}_x]$$

when x = 80,...,84.

Finally, to close the table at age 100 and older (combined), ${}_\infty q_{100}$ is set equal to 1.0 because all survivors to this age will die at some point in the open-ended age interval. Once q_x is obtained for each single year of age, the other life table functions are easily calculated.

Calculation of remaining life table functions for all groups

Survivor function (l_x)

The life table radix, l_0, is set at 100,000. For ages greater than 0, the number of survivors remaining at exact age x is calculated as:

$$l_x = l_{x-1}(1-q_{x-1}) \qquad [15]$$

Decrement function (d_x)

The number of deaths occurring between ages x and $x+1$ is calculated from the survivor function:

$$d_x = l_x - l_{x+1} = l_x q_x \qquad [16]$$

Note that

$${}_\infty d_{100} = {}_\infty l_{100} \text{ because } {}_\infty q_{100} = 1.0.$$

Person-years lived (L_x)

Person-years lived for ages 1–99 is calculated assuming that the survivor function declines linearly between ages x and $x+1$. This gives the formula:

$$L_x = \frac{1}{2}(l_x + l_{x+1}) = l_x - \frac{1}{2}d_x \qquad [17]$$

For x = 0, the separation factor f is used to calculate L_0:

$$L_0 = fl_0 + (1-f)l_1 \qquad [18]$$

Finally, ${}_\infty L_{100}$ is estimated as the sum of the extrapolated L_x values for ages 100–120.

Person-years lived at and above age x (T_x)

T_x is calculated by summing L_x values at and above age x:

$$T_x = \sum_{x=0}^{\infty} L_x \qquad [19]$$

Life expectancy at age x (e_x)

Life expectancy at exact age x is calculated as:

$$e_x = \frac{T_x}{l_x} \qquad [20]$$

Causes of death contributing to changes in life expectancy

To measure changes in mortality, a discrete method, developed by Arriaga (12,32–33), was used to estimate the contribution of mortality change by causes of death based on changes in life expectancy, which is described as a procedure that "estimates the number of years added to or removed from life expectation because of the decrease or increase (respectively) of the central mortality rates of life tables" (32). With this method one can partition the change in life expectancy over time or between two separate groups of populations. In this report, Arriaga's technique is used to partition by cause of death changes in life expectancy at birth in the United States from 2021 to 2022.

The method partitions changes into component additive parts and identifies the causes of death having the greatest influence, positive or negative, on changes in life expectancy based on rankable causes of death (12,32–33). This method is used by NCHS annually to analyze changes in life expectancy (13).

Table V. Estimated Brass relational logit model parameters α and β for the Hispanic, American Indian and Alaska Native non-Hispanic populations: U.S. life tables, 2022

Parameter	Hispanic			Non-Hispanic					
				American Indian and Alaska Native			Asian		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
α (standard error)	-0.2262513	-0.2392170	0.0941733	-1.0400280	-1.1770480	-0.8849626	-0.0744674	-0.2218523	0.1056525
	(0.031)	(0.044)	(0.025)	(0.053)	(0.048)	(0.054)	(0.036)	(0.037)	(0.047)
β (standard error)	1.0054810	0.9911289	1.0489100	0.6107325	0.5655426	0.6549281	1.1593000	1.1100360	1.2098410
	(0.007)	(0.011)	(0.006)	(0.013)	(0.012)	(0.013)	(0.010)	(0.009)	(0.013)

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Abridging the complete life table

An abridged or collapsed version of the complete life table can be calculated in which life table functions are shown for 5-year rather than single-year age intervals. It is often desirable to summarize the life table and save space when publishing life table data by single years of age. The abridgement of the complete life table is simplified by an important property of three of the six life table functions. The l_x, T_x, and e_x functions describe exact age x, that is, the beginning of the age interval x to $x + n$ (where n denotes the length of the age interval; for 5-year age intervals, $n = 5$). Life expectancy at age 20 (e_{20}), for example, has the same value regardless of whether the age interval is 20–21 or 20–25. Consequently, the values l_x, T_x, and e_x can be extracted at 5-year intervals from the complete life table and placed into the abridged life table (compare l_x, T_x, and e_x in Table VI with the same functions in Table 1). It is also illustrative to compare values for e_x and l_x in Tables A and B with their corresponding values presented in Tables 1–18.

The q_x, d_x, and L_x functions, in contrast, describe the age interval x to $x + n$. In fact, for abridged life tables, the notation for these functions is different (${}_nq_x$, ${}_nd_x$, and ${}_nL_x$, respectively). As a result, ${}_5q_{20}$ is the probability of dying between ages 20 and 25 and will be somewhat larger than q_{20}, the probability of dying between ages 20 and 21. Considering this, ${}_nq_x$, ${}_nd_x$, and ${}_nL_x$ must be recalculated in the abridged life table. It is simplest to begin with ${}_nd_x$. The calculations are made for all but the final age interval as:

$$ {}_nd_x = l_x - l_{x+n} $$

$$ {}_nq_x = \frac{{}_nd_x}{l_x} $$

$$ {}_nL_x = T_x - T_{x+n} $$

Note that for the open-ended interval, ages 100 and older, ${}_\infty d_{100} = l_{100}$, ${}_\infty q_{100} = 1.0$, and ${}_\infty L_{100} = T_{100}$. Table VI shows each of the life table functions for the 2022 U.S. total population abridged from Table 1.

Table VI. Life table for the total population: United States, 2022

Age (years)	Probability of dying between ages x and $x+n$	Number surviving to age x	Number dying between ages x and $x+n$	Person-years lived between ages x and $x+n$	Total number of person-years lived above age x	Expectation of life at age x
	${}_nq_x$	l_x	${}_nd_x$	${}_nL_x$	T_x	e_x
0–1	0.005605	100,000	560	99,513	7,745,695	77.5
1–5	0.001117	99,440	111	397,492	7,646,182	76.9
5–10	0.000643	99,328	64	496,471	7,248,690	73.0
10–15	0.000875	99,265	87	496,157	6,752,219	68.0
15–20	0.002933	99,178	291	495,249	6,256,063	63.1
20–25	0.004939	98,887	488	493,291	5,760,814	58.3
25–30	0.007023	98,399	691	490,352	5,267,523	53.5
30–35	0.009197	97,708	899	486,366	4,777,171	48.9
35–40	0.011278	96,809	1,092	481,404	4,290,805	44.3
40–45	0.014183	95,717	1,358	475,307	3,809,401	39.8
45–50	0.018470	94,360	1,743	467,652	3,334,094	35.3
50–55	0.026085	92,617	2,416	457,396	2,866,442	30.9
55–60	0.039327	90,201	3,547	442,678	2,409,046	26.7
60–65	0.057377	86,653	4,972	421,393	1,966,367	22.7
65–70	0.079524	81,682	6,496	392,867	1,544,974	18.9
70–75	0.113624	75,186	8,543	355,598	1,152,107	15.3
75–80	0.175244	66,643	11,679	305,440	796,510	12.0
80–85	0.278643	54,964	15,315	237,822	491,069	8.9
85–90	0.434984	39,649	17,247	155,237	253,247	6.4
90–95	0.637104	22,402	14,273	73,767	98,010	4.4
95–100	0.813845	8,130	6,616	21,059	24,243	3.0
100 and older	1.000000	1,513	1,513	3,184	3,184	2.1

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

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Contents

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