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United States Life Tables, 2023

by Elizabeth Arias, Ph.D., Jiaquan Xu, M.D., and Kenneth Kochanek, M.A.

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 2023.

Methods—Data used to prepare the 2023 life tables are 2023 final mortality statistics; July 1, 2023, population estimates based on the blended base population estimates produced by the U.S. Census Bureau; and 2023 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 2023 life tables for all other groups was first implemented with data year 2008.

Results—In 2023, the overall expectation of life at birth was 78.4 years, increasing 0.9 year from 77.5 years in 2022. Between 2022 and 2023, life expectancy at birth increased by 1.0 year for males (from 74.8 to 75.8) and by 0.9 year for females (80.2 to 81.1). Between 2022 and 2023, life expectancy increased by 2.3 years for the American Indian and Alaska Native non-Hispanic population (67.8 to 70.1), by 1.3 years for the Hispanic population (80.0 to 81.3), by 1.2 years for the Black non-Hispanic population (72.8 to 74.0), by 0.9 year or the White non-Hispanic population (77.5 to 78.4), and by 0.8 year for the Asian non-Hispanic population (84.4 to 85.2).

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. Constructing cohort life tables entirely based on observed data for real cohorts is usually not feasible, 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 2023 assumes a hypothetical cohort that is subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2023. Consequently, the period life table may be characterized as offering a "snapshot" of current mortality experience, showing 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 (see 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 2018–2023 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 2023 are final numbers of deaths for the year 2023; July 1, 2023, population estimates; and age-specific death and population counts for Medicare beneficiaries ages 66–99 for the year 2023 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 (see https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2023/methods-statement-v2023.pdf). Data from the Medicare program were used to supplement vital statistics and census data for ages 66 and over 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 attained a given age (x). Life expectancy and other life table values for each age in 2023 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 2023 for the total population was 78.4 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 by determining 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, 57,812 people out of the original 2023 hypothetical life table cohort of 100,000 (or 57.8%) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2023 age-specific mortality, is 57.8%. 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, divide the number of survivors at age 85 (42,699) by the number of survivors at age 20 (98,901), which results in a 43.2% 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 0.001175 (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, 99,487 will complete the first year of life and enter the second; 99,336 will reach age 10; 99,108 will reach age 20; and 49,655 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, 602 will die in the first year of life; 116 between ages 20 and 21; and 1,069 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 98,647 for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,705 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, the figure 5,598,276 is the total number of years lived after reaching age 20 by the 98,705 males who reached that age (Table 2).

Table A. Expectation of life, by age, Hispanic origin and race, and sex: United States, 2023

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	78.4	75.8	81.1	81.3	78.5	84.0	70.1	66.7	73.5	85.2	83.2	87.1	74.0	70.3	77.6	78.4	76.0	80.9
1	77.9	75.3	80.5	80.7	77.9	83.4	69.7	66.4	73.1	84.5	82.5	86.3	73.8	70.1	77.4	77.8	75.4	80.3
5	73.9	71.4	76.6	76.8	74.0	79.4	65.9	62.6	69.3	80.6	78.5	82.4	69.9	66.3	73.6	73.9	71.5	76.3
10	69.0	66.4	71.6	71.8	69.0	74.5	60.9	57.6	64.3	75.6	73.6	77.4	65.0	61.3	68.6	68.9	66.5	71.4
15	64.0	61.5	66.7	66.9	64.1	69.5	56.0	52.8	59.4	70.6	68.6	72.4	60.1	56.4	63.7	63.9	61.6	66.4
20	59.2	56.7	61.8	62.0	59.3	64.6	51.4	48.2	54.8	65.7	63.7	67.5	55.5	51.9	58.9	59.1	56.8	61.5
25	54.5	52.1	56.9	57.3	54.7	59.7	47.0	43.8	50.3	60.9	58.9	62.6	51.0	47.6	54.1	54.3	52.1	56.6
30	49.8	47.5	52.1	52.6	50.2	54.9	42.8	39.8	45.9	56.0	54.1	57.6	46.5	43.3	49.5	49.6	47.5	51.8
35	45.2	43.1	47.4	48.0	45.7	50.1	39.0	36.2	41.8	51.2	49.3	52.7	42.1	39.0	44.8	45.0	43.0	47.1
40	40.7	38.6	42.7	43.4	41.2	45.3	35.3	32.8	37.8	46.3	44.5	47.8	37.7	34.9	40.3	40.4	38.5	42.4
45	36.2	34.3	38.0	38.9	36.8	40.6	31.7	29.3	34.0	41.6	39.8	43.0	33.5	30.8	35.9	36.0	34.2	37.8
50	31.8	30.0	33.5	34.3	32.4	35.9	28.3	26.2	30.2	36.8	35.1	38.1	29.4	26.9	31.6	31.5	29.8	33.2
55	27.5	25.8	29.0	29.9	28.1	31.3	25.0	23.2	26.7	32.2	30.6	33.4	25.4	23.1	27.4	27.3	25.7	28.8
60	23.4	21.9	24.8	25.6	24.0	26.9	21.9	20.4	23.2	27.6	26.2	28.7	21.6	19.5	23.4	23.2	21.8	24.5
65	19.5	18.2	20.7	21.6	20.2	22.6	18.9	17.8	19.9	23.2	21.9	24.1	18.2	16.4	19.7	19.3	18.1	20.5
70	15.9	14.7	16.8	17.7	16.5	18.5	16.0	15.3	16.5	19.0	17.8	19.8	15.1	13.5	16.2	15.7	14.6	16.6
75	12.4	11.5	13.2	14.0	13.0	14.6	13.2	12.9	13.4	15.0	14.0	15.6	12.1	10.8	12.9	12.2	11.3	12.9
80	9.3	8.5	9.9	10.7	9.8	11.0	10.6	10.5	10.5	11.2	10.5	11.7	9.3	8.4	9.9	9.1	8.4	9.7
85	6.7	6.1	7.0	7.8	7.1	7.9	8.4	8.5	8.2	8.0	7.4	8.3	7.0	6.3	7.4	6.5	5.9	6.9
90	4.6	4.1	4.8	5.4	4.9	5.4	6.6	6.7	6.2	5.4	5.0	5.5	5.1	4.5	5.3	4.4	4.0	4.7
95	3.1	2.8	3.3	3.7	3.4	3.6	5.2	5.4	4.7	3.6	3.3	3.6	3.7	3.3	3.8	3.0	2.7	3.1
100	2.2	2.0	2.3	2.6	2.4	2.5	4.1	4.5	3.6	2.4	2.2	2.3	2.7	2.4	2.8	2.1	1.9	2.2

NOTES: Life tables by Hispanic origin and race are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates; see Technical Notes in this report. Hispanic people may be of any race.

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 56.7 years (5,598,276 divided by 98,705) (Table 2).

Results

Life expectancy in the United States

Tables 1–18 show complete life tables for 2023 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 2023 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 2023. For 2023, life expectancy at birth was 78.4 years, increasing by 0.9 year from 77.5 in 2022 (Table 19).

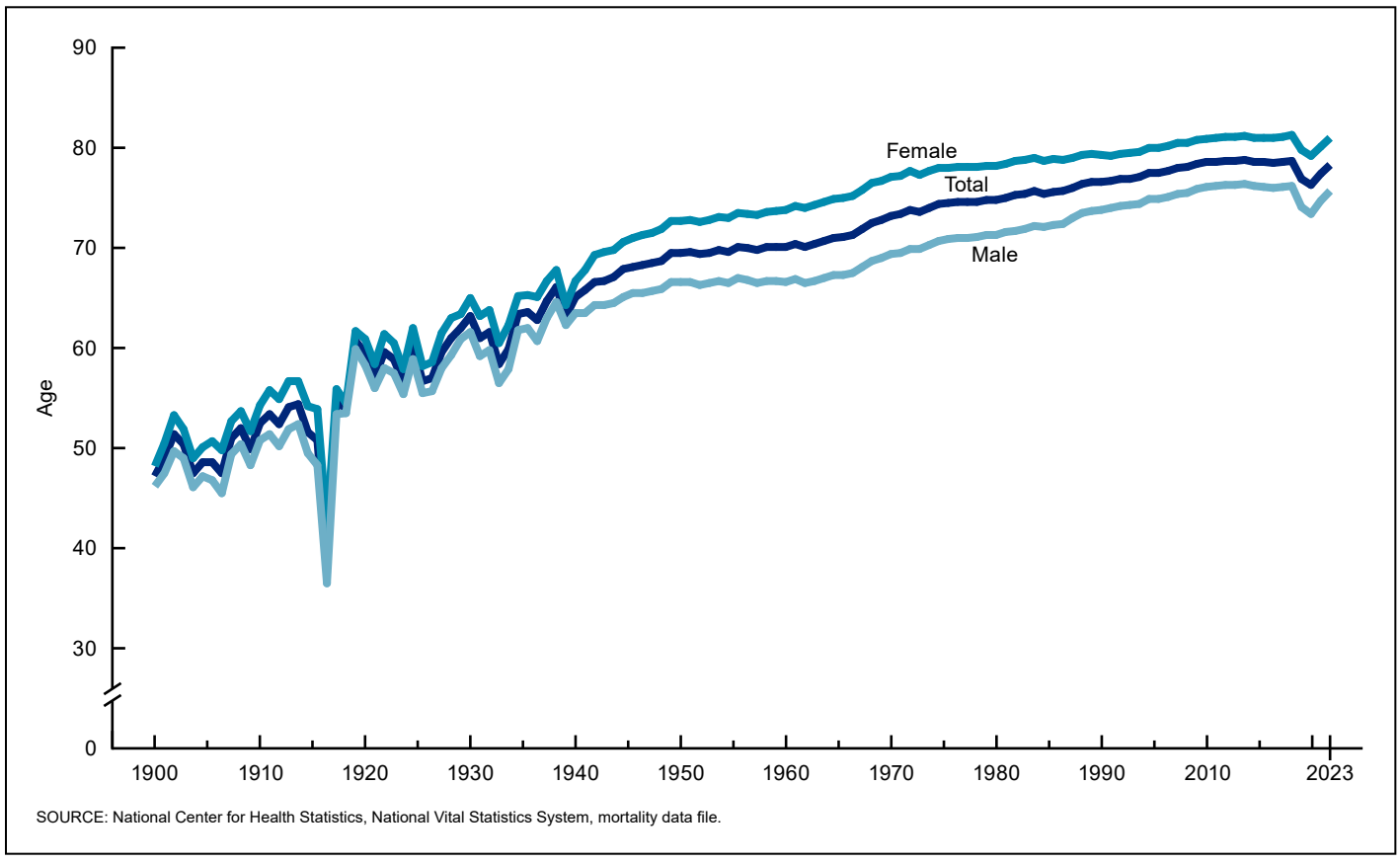
The difference in life expectancy between the sexes was 5.3 years in 2023, decreasing 0.1 year from 2022. From 1900 to 1975, the difference in life expectancy between the sexes increased from 2.0 years to 7.8 years (Figure 1, Table 19). The increasing gap during these years is attributed to increases 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 5.3 in 2023 (Figure 1, Table 19).

The 2023 life table may be used to compare life expectancy at any age from birth onward. Based on mortality experienced in 2023, a person age 65 could expect to live an average of 19.5 more years for a total of 84.5 years; a person age 85 could expect to live an additional 6.7 years for a total of 91.7 years; and a person age 100 could expect to live an additional 2.2 years, on average (Table A).

Life expectancy by Hispanic origin and race

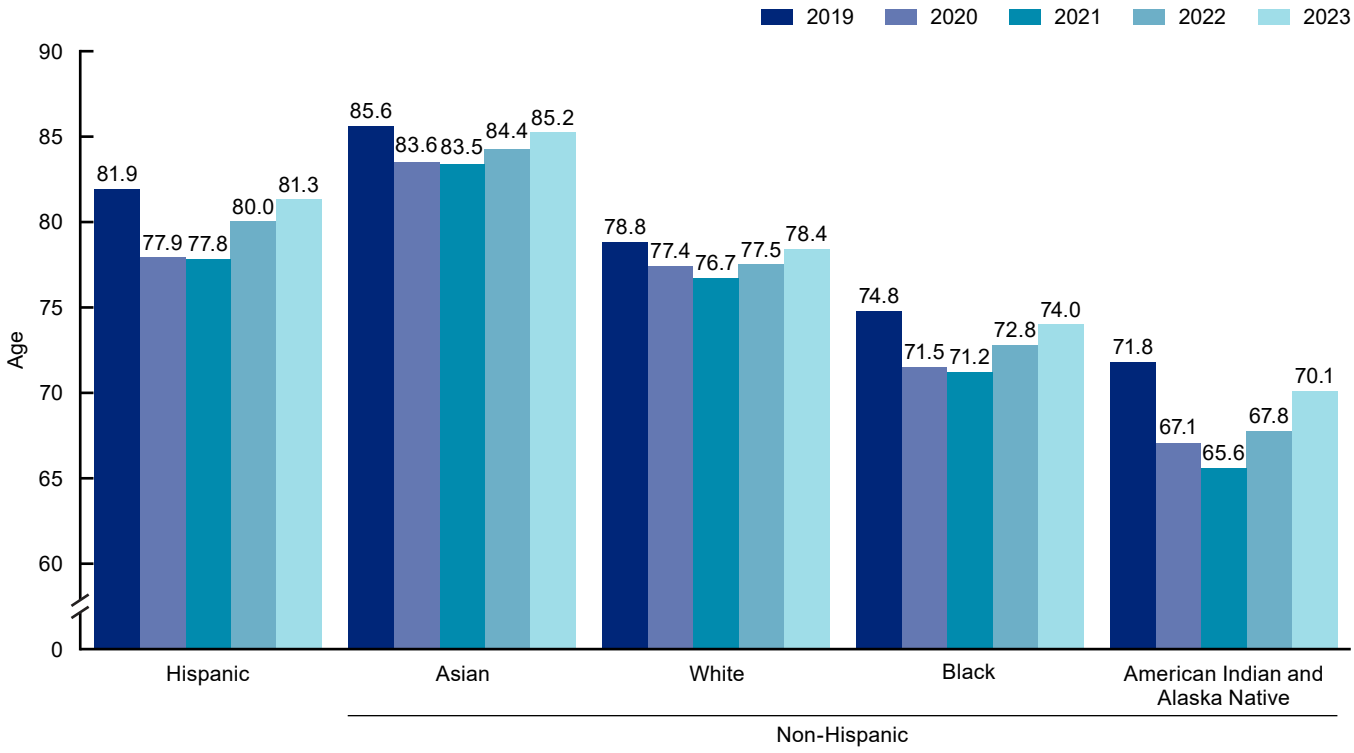
In 2023, the Hispanic population had a life expectancy of 81.3 years. Within the non-Hispanic population, the Asian population had the highest life expectancy at birth (85.2 years), followed by the White (78.4), Black (74.0), and American Indian and Alaska Native (70.1) populations (Table A, Figure 2). From 2022 to 2023, life expectancy at birth increased for all Hispanic-origin and race populations (Figure 2). Life expectancy increased by 1.3 years for the Hispanic population (80.0 to 81.3) (Table 19). Within the non-Hispanic population, life expectancy increased by 2.3 years for the American Indian and Alaska Native population (67.8 to 70.1), 1.2 years for the Black population (72.8 to 74.0), 0.9 year for the White population (77.5 to 78.4), and 0.8 year for the Asian population (84.4 to 85.2).

Figure 1. Life expectancy at birth, by sex: United States, 1900–2023



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, 2019–2023



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

From 2022 to 2023, life expectancy increased by 1.5 years for Hispanic males (77.0 to 78.5) and by 1.2 years for Hispanic females (82.8 to 84.0) (Figure 3). Within the non-Hispanic population, American Indian and Alaska Native males and females experienced the greatest increase in life expectancy, 2.2 years each (64.5 to 66.7, and 71.3 to 73.5, respectively). Black males and Black females experienced increases of 1.2 years (69.1 to 70.3) and 1.1 years (76.5 to 77.6), respectively. Asian males and White males both experienced an increase of 0.9 year (82.3 to 83.2 and 75.1 to 76.0, respectively). Asian females and White females each experienced an increase of 0.8 year (86.3 to 87.1 and 80.1 to 80.9, respectively) (Figure 3).

Effect on life expectancy of changes in cause-specific mortality

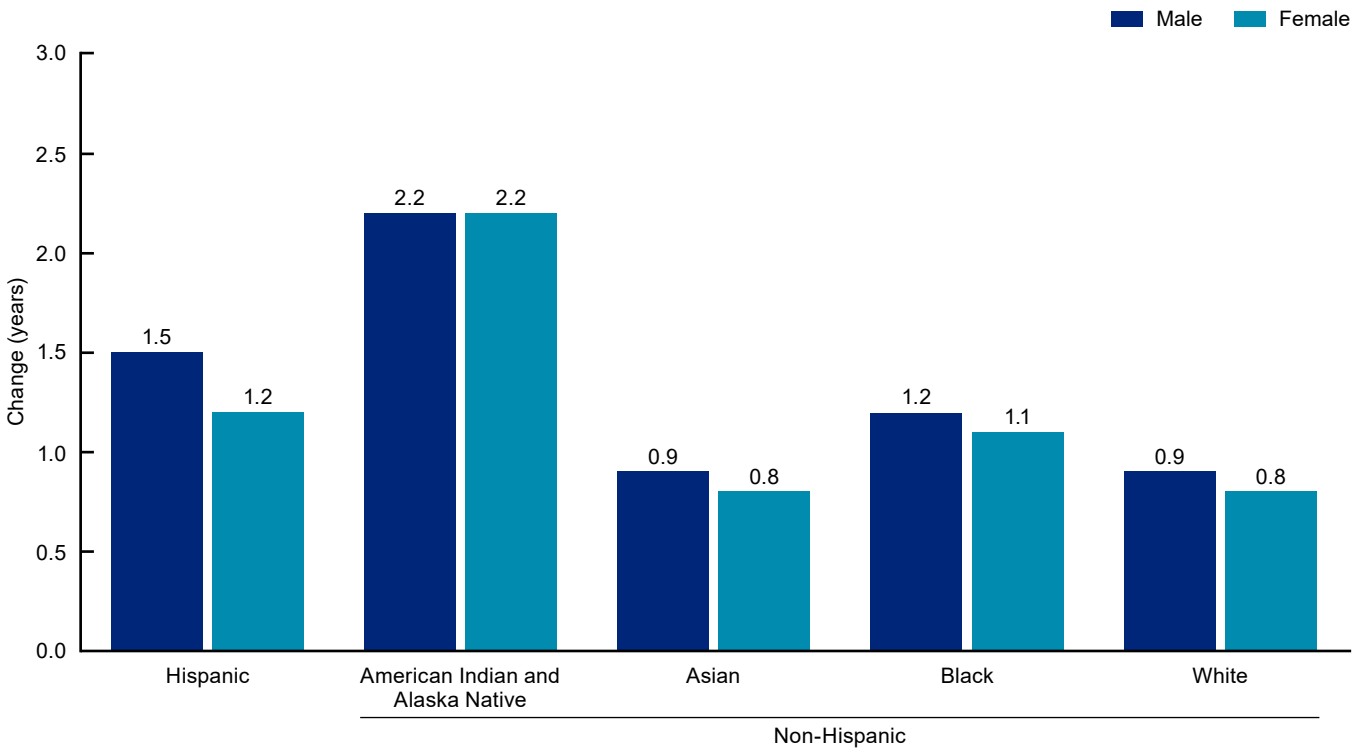
Changes in mortality by age and cause of death can have a major effect on life expectancy (Figures 4–6). Declines in cause-specific mortality contribute to increases in life expectancy, while increases in cause-specific mortality contribute to decreases in life expectancy. The increase of 0.9 year in life expectancy between 2022 and 2023 was primarily due to decreases in mortality due to COVID-19 (51.9% of the positive contribution), heart disease (13.1%), unintentional injuries (5.9%), cancer (3.5%), and diabetes (3.3%). The increase in life expectancy would have been even greater were it not for the offsetting effects of increases in mortality due to nutritional deficiencies (78.3%), Parkinson disease (12.6%), whooping cough (3.9%), meningococcal infection (3.0%), and malaria (1.1%) (see Technical Notes for a description of the life table partitioning method) (13).

The American Indian and Alaska Native non-Hispanic population experienced the largest increase in life expectancy between 2022 and 2023 (2.3 years) (Table 19). The increase was primarily due to decreases in mortality due to COVID-19 (41.9%), chronic liver disease and cirrhosis (12.4%), heart disease (5.7%), diabetes (5.6%), and unintentional injuries (5.4%) (Figure 4). The increase in life expectancy would have been greater were it not for the offsetting effects of increases in mortality due to aortic aneurysm (39.6%), Infections of kidney (13.9%), Enterocolitis due to *Clostridium difficile* (9.9%), pneumonitis (9.5%), and meningitis (1.8%).

The second greatest increase in life expectancy was experienced by the Hispanic population (1.3 years), primarily because of decreases in mortality due to COVID-19 (56.9%), heart disease (12.0%), cancer (4.7%), diabetes (3.6%), and Alzheimer disease (3.1%) (Figure 6). The increase in life expectancy would have been greater were it not for the offsetting effects of increases in mortality due to perinatal conditions (58.1%), suicide (17.8%), nutritional deficiencies (7.0%), Diseases of appendix (5.5%), and pneumonitis (5.4%).

The third greatest increase in life expectancy was experienced by the Black non-Hispanic population (1.2 years). The increase was due primarily to decreases in mortality due to COVID-19 (48.3%), heart disease (14.1%), homicide (7.2%), diabetes (5.0%), and cancer (4.4%) (Figure 5). The increase

Figure 3. Change in life expectancy at birth, by Hispanic origin and race and sex: United States, 2022–2023



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

in life expectancy was offset by increases in mortality due to suicide (33.8%), congenital malformations (22.5%), nutritional deficiencies (20.2%), aortic aneurysm (16.0%), and hernia (2.2%).

The fourth largest increase in life expectancy was experienced by the White non-Hispanic population (0.9 year). The increase was primarily due to decreases in mortality due to COVID-19 (50.0%), heart disease (12.7%), unintentional injuries (10.7%), diabetes (3.0%), and cancer (2.9%) (Figure 5). The increase in life expectancy would have been greater were it not for the offsetting effects of increases in mortality due to nutritional deficiencies (66.8%), Parkinson disease (18.1%), meningococcal infection (5.3%), whooping cough (4.0%), and tuberculosis (1.6%).

The Asian non-Hispanic population experienced the smallest increase in life expectancy (0.8 year). The increase was primarily because of decreases in mortality due to COVID-19 (50.9%), heart disease (18.3%), cancer (8.9%), stroke (6.4%), and Alzheimer disease (2.3%). The increase in life expectancy was offset by increases in mortality due to congenital malformations (24.9%), influenza and pneumonia (17.9%), septicemia (16.1%), nutritional deficiencies (14.6%), and homicide (6.0%).

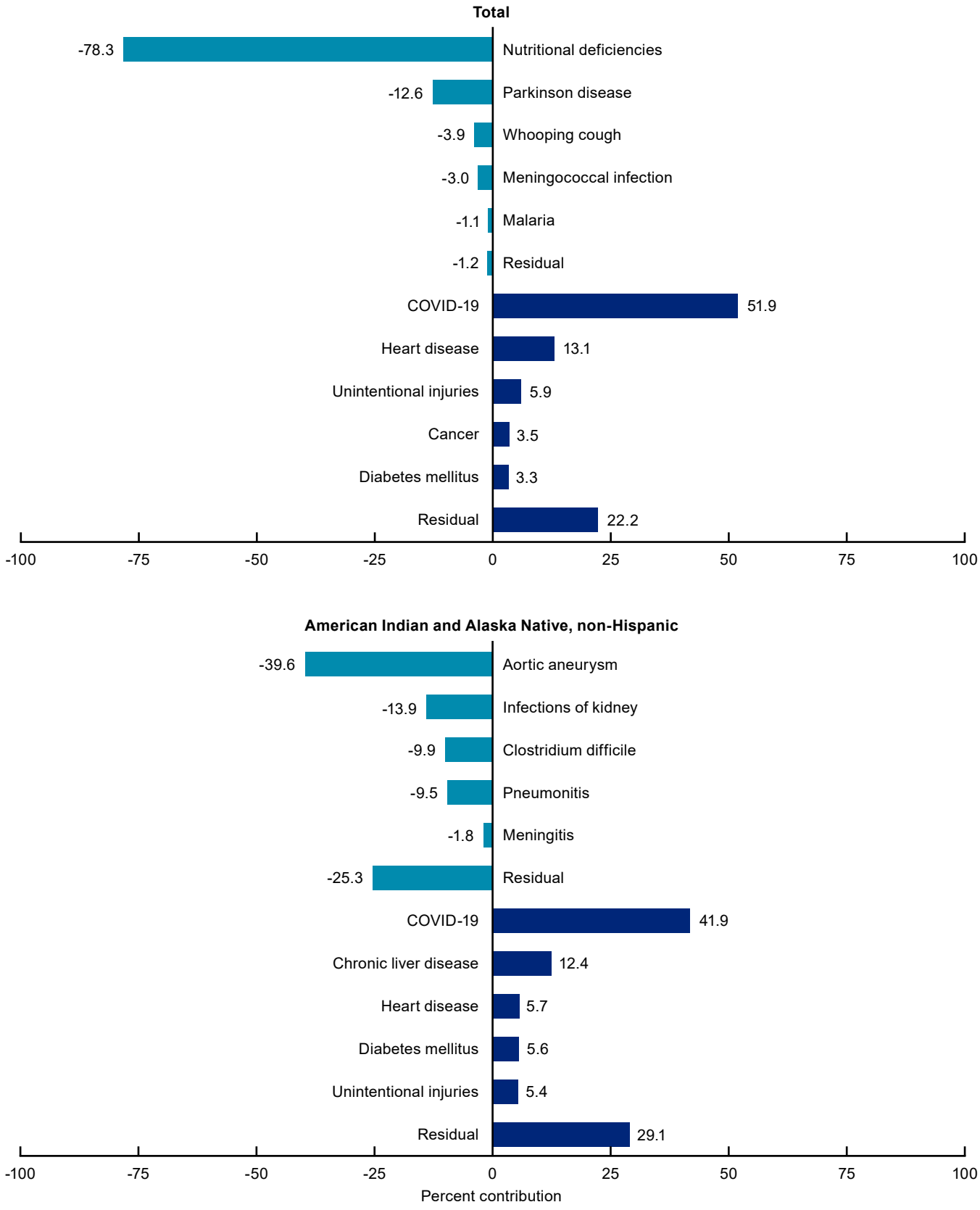
Survivorship in the United States

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 2023. In 2023, 99.4% of all infants born in the United States survived the first year of life; 98.9% survived to age 20; 83.1% survived to age 65; 42.7% survived to age 85; and 2.0% survived to age 100.

Survivorship by Hispanic origin and race

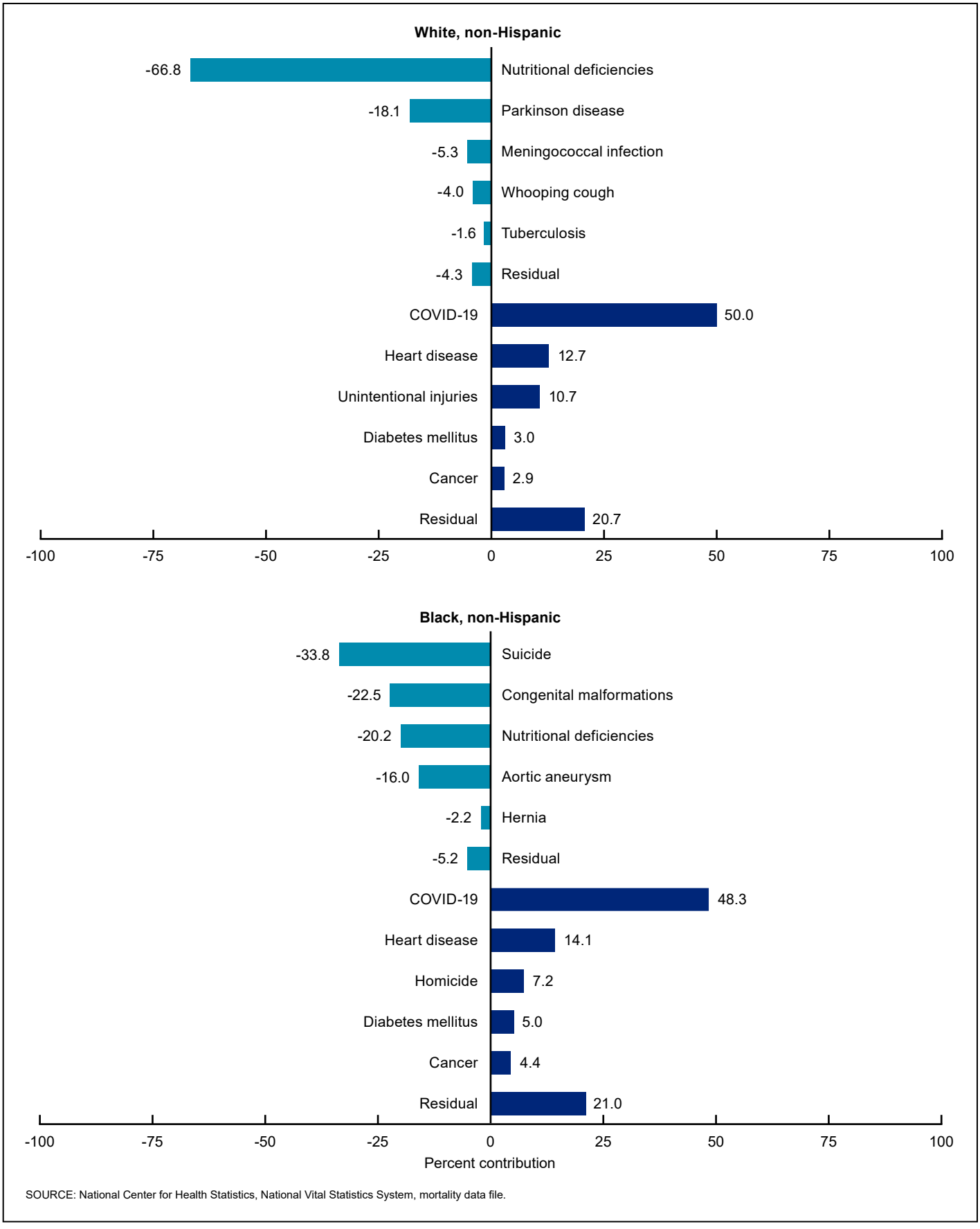
In 2023, 99.5% of Hispanic infants survived the first year of life. Among the non-Hispanic population, 99.7% of Asian, 99.6% of White, 99.1% of American Indian and Alaska Native, and 98.9% of Black infants survived the first year of life (Figure 7, Table B). The probability of survival by select ages varied across the Hispanic-origin and race groups. In 2023, 99.0% of the Hispanic population survived to age 20, 86.4% to age 65, and 52.0% to age 85. Among the non-Hispanic population, the Asian population had the highest survival probability at age 20 (99.3%), followed by the White population (99.1%), the Black population (97.9%), and the American Indian and Alaska Native population (97.9%). By age 65, the Asian population had the highest survival probability at 92.6%, followed by the White (83.2%), Black (74.7%), and American Indian and Alaska Native (63.3%) populations. The survival advantage experienced by the Asian population increased with age so that by age 85, 63.1% had survived, compared with 42.1% of the White, 33.4% of the Black, and 29.2% of the American Indian and Alaska Native populations.

Figure 4. Percent contribution to the changes in life expectancy from 2022 to 2023, by cause of death and Hispanic origin and race: Total and American Indian and Alaska Native, non-Hispanic populations



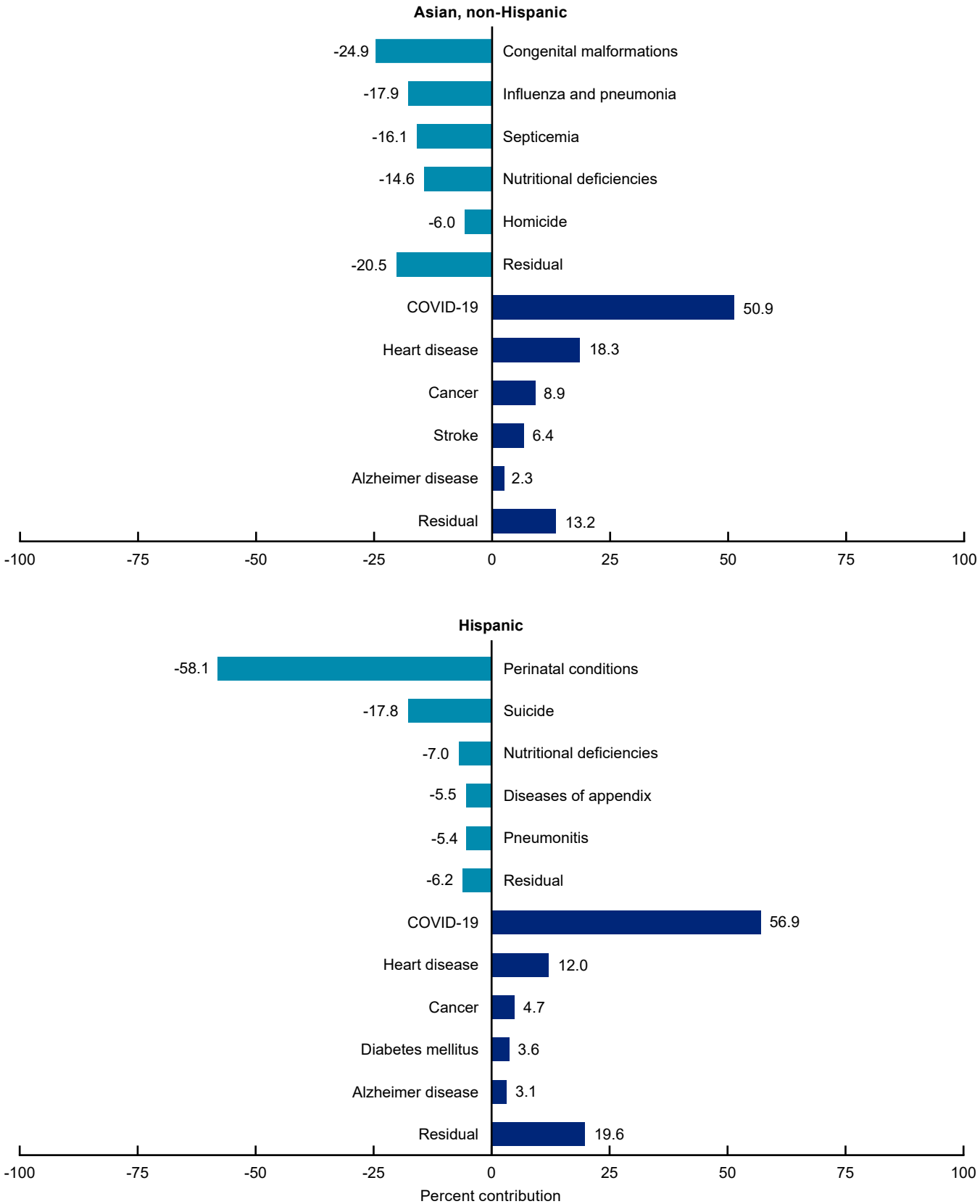
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 5. Percent contribution to the changes in life expectancy from 2022 to 2023, 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 2022 to 2023, by cause of death and Hispanic origin and race: Asian, non-Hispanic and Hispanic populations



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

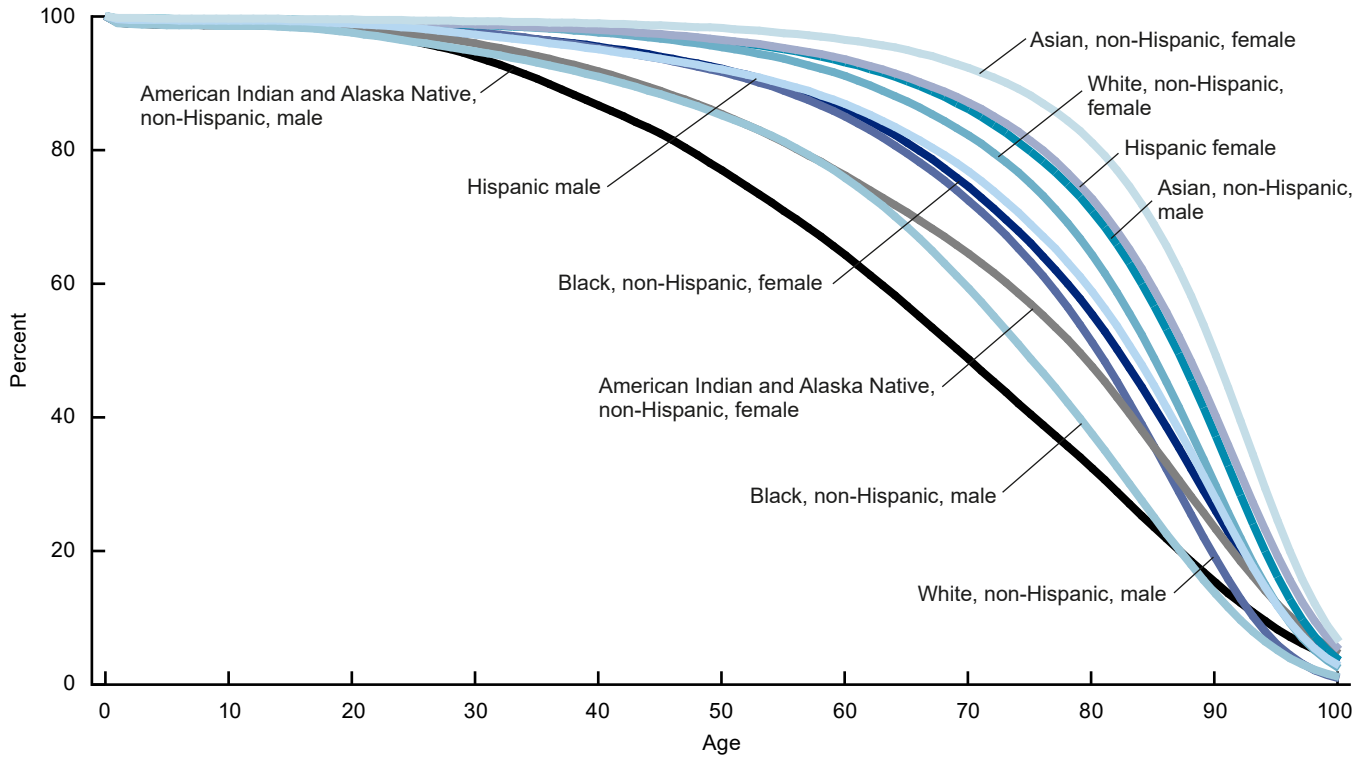
Table B. Number of survivors out of 100,000 born alive, by age, Hispanic origin and race, and sex: United States, 2023

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	99,441	99,398	99,487	99,497	99,459	99,536	99,088	98,977	99,210	99,657	99,623	99,693	98,913	98,850	98,978	99,554	99,513	99,597
5	99,332	99,275	99,392	99,406	99,354	99,463	98,839	98,696	98,997	99,591	99,551	99,634	98,706	98,641	98,798	99,470	99,397	99,539
10	99,271	99,208	99,336	99,356	99,299	99,419	98,742	98,616	98,883	99,550	99,510	99,593	98,587	98,519	98,698	99,415	99,333	99,495
15	99,188	99,110	99,269	99,285	99,220	99,356	98,556	98,387	98,742	99,498	99,453	99,546	98,433	98,340	98,590	99,342	99,240	99,442
20	98,901	98,705	99,108	99,017	98,846	99,200	97,886	97,620	98,156	99,343	99,292	99,455	97,853	97,464	98,315	99,109	98,921	99,299
25	98,428	98,024	98,851	98,563	98,185	98,970	96,715	96,211	97,210	99,090	98,991	99,346	96,956	96,141	97,855	98,713	98,368	99,070
30	97,810	97,145	98,505	97,946	97,242	98,695	94,892	93,929	95,867	98,838	98,648	99,220	95,940	94,710	97,265	98,156	97,593	98,742
35	96,989	96,020	97,999	97,206	96,155	98,332	92,247	90,563	93,986	98,570	98,283	99,083	94,680	92,996	96,468	97,358	96,524	98,226
40	95,981	94,685	97,333	96,366	94,967	97,876	89,079	86,564	91,694	98,252	97,842	98,880	93,100	90,888	95,407	96,338	95,191	97,534
45	94,708	93,061	96,427	95,361	93,587	97,283	85,481	82,351	88,750	97,786	97,198	98,574	91,068	88,280	93,928	95,045	93,565	96,591
50	93,113	91,067	95,245	94,106	91,966	96,434	81,002	76,885	85,327	97,143	96,300	98,153	88,589	85,148	92,066	93,409	91,563	95,344
55	90,901	88,365	93,545	92,424	89,850	95,226	75,798	70,836	81,058	96,142	94,988	97,430	85,379	81,159	89,606	91,128	88,824	93,552
60	87,684	84,464	91,038	89,987	86,784	93,471	69,963	64,209	76,089	94,702	93,045	96,420	80,897	75,746	86,037	87,833	84,868	90,956
65	83,102	79,011	87,354	86,439	82,433	90,766	63,341	56,587	70,564	92,560	90,197	94,880	74,723	68,390	81,029	83,194	79,406	87,183
70	76,999	71,877	82,295	81,701	76,659	87,034	56,224	48,569	64,425	89,172	85,961	92,213	66,815	59,188	74,367	77,066	72,290	82,078
75	68,957	62,860	75,228	74,971	68,837	81,314	48,308	40,410	56,887	84,070	79,712	88,058	57,437	48,742	65,967	68,936	63,207	74,913
80	57,812	51,062	64,735	65,597	58,690	72,570	39,563	32,338	47,491	76,147	70,719	81,048	46,475	37,429	55,311	57,515	51,126	64,156
85	42,699	35,847	49,655	52,031	44,658	59,039	29,228	23,470	35,539	63,115	56,634	68,817	33,379	25,005	41,478	42,089	35,562	48,797
90	24,974	19,252	30,673	34,438	27,677	40,107	19,113	15,169	23,189	43,688	37,054	49,236	19,810	13,486	25,861	24,180	18,762	29,671
95	9,645	6,432	12,715	16,325	11,725	19,165	10,323	8,230	12,034	20,998	16,112	24,460	8,615	5,074	11,865	8,946	5,948	11,840
100	1,989	1,069	2,826	4,619	2,804	5,166	4,358	3,598	4,576	5,474	3,615	6,398	2,395	1,142	3,467	1,701	888	2,447

NOTES: Life tables by Hispanic origin and race are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates; see Technical Notes in this report. Hispanic people may be of any race.

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, 2023



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

Summary

U.S. life expectancy at birth increased for the second year in a row following 2 years of decline between 2019 and 2021 that resulted mainly from the COVID-19 pandemic. Increases in life expectancy between 2022 and 2023 occurred across all racial, ethnic, and sex groups. However, the increases in life expectancy in 2022 and 2023 combined were not enough to make up for the losses in life expectancy between 2019 and 2021. Life expectancy at birth in 2023 was 0.4 year lower for the total population, 0.5 year lower for males, and 0.3 year lower for females than in 2019.

The American Indian and Alaska Native non-Hispanic population experienced the largest increases in life expectancy between 2022 and 2023 (2.3 years), but life expectancy remained 1.7 years lower than it was in 2019. Similarly, the Hispanic population experienced a life expectancy increase of 1.3 years between 2022 and 2023, but its life expectancy remained 0.6 year lower than it was in 2019. The Black non-Hispanic population gained 1.2 years in life expectancy between 2022 and 2023 but remained 0.8 year below what had been attained in 2019. The White non-Hispanic and Asian non-Hispanic populations gained 0.9 year and 0.8 year in life expectancy between 2022 and 2023, respectively, but life expectancy remained 0.4 year below what each had attained in 2019.

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List of Detailed Tables

Table 1. Life table for the total population: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.005588	100,000	559	99,515	7,842,141	78.4
1–2	0.000439	99,441	44	99,419	7,742,626	77.9
2–3	0.000283	99,398	28	99,384	7,643,207	76.9
3–4	0.000213	99,369	21	99,359	7,543,824	75.9
4–5	0.000161	99,348	16	99,340	7,444,465	74.9
5–6	0.000149	99,332	15	99,325	7,345,124	73.9
6–7	0.000136	99,317	13	99,311	7,245,799	73.0
7–8	0.000125	99,304	12	99,298	7,146,489	72.0
8–9	0.000113	99,292	11	99,286	7,047,191	71.0
9–10	0.000100	99,280	10	99,275	6,947,905	70.0
10–11	0.000092	99,271	9	99,266	6,848,629	69.0
11–12	0.000101	99,261	10	99,256	6,749,364	68.0
12–13	0.000137	99,251	14	99,245	6,650,107	67.0
13–14	0.000206	99,238	20	99,228	6,550,863	66.0
14–15	0.000299	99,217	30	99,203	6,451,635	65.0
15–16	0.000400	99,188	40	99,168	6,352,432	64.0
16–17	0.000497	99,148	49	99,123	6,253,265	63.1
17–18	0.000587	99,099	58	99,070	6,154,141	62.1
18–19	0.000666	99,041	66	99,008	6,055,072	61.1
19–20	0.000739	98,975	73	98,938	5,956,064	60.2
20–21	0.000817	98,901	81	98,861	5,857,126	59.2
21–22	0.000899	98,821	89	98,776	5,758,265	58.3
22–23	0.000971	98,732	96	98,684	5,659,489	57.3
23–24	0.001031	98,636	102	98,585	5,560,805	56.4
24–25	0.001081	98,534	106	98,481	5,462,220	55.4
25–26	0.001126	98,428	111	98,372	5,363,739	54.5
26–27	0.001177	98,317	116	98,259	5,265,367	53.6
27–28	0.001243	98,201	122	98,140	5,167,108	52.6
28–29	0.001327	98,079	130	98,014	5,068,967	51.7
29–30	0.001422	97,949	139	97,879	4,970,953	50.8
30–31	0.001520	97,810	149	97,735	4,873,074	49.8
31–32	0.001611	97,661	157	97,582	4,775,339	48.9
32–33	0.001693	97,504	165	97,421	4,677,756	48.0
33–34	0.001765	97,339	172	97,253	4,580,335	47.1
34–35	0.001834	97,167	178	97,078	4,483,082	46.1
35–36	0.001904	96,989	185	96,896	4,386,005	45.2
36–37	0.001983	96,804	192	96,708	4,289,109	44.3
37–38	0.002074	96,612	200	96,512	4,192,401	43.4
38–39	0.002179	96,412	210	96,307	4,095,889	42.5
39–40	0.002295	96,202	221	96,091	3,999,582	41.6
40–41	0.002424	95,981	233	95,864	3,903,491	40.7
41–42	0.002557	95,748	245	95,626	3,807,627	39.8
42–43	0.002678	95,503	256	95,375	3,712,001	38.9
43–44	0.002784	95,247	265	95,115	3,616,626	38.0
44–45	0.002888	94,982	274	94,845	3,521,511	37.1
45–46	0.003008	94,708	285	94,566	3,426,666	36.2
46–47	0.003163	94,423	299	94,274	3,332,100	35.3
47–48	0.003356	94,124	316	93,966	3,237,826	34.4
48–49	0.003586	93,809	336	93,640	3,143,860	33.5
49–50	0.003843	93,472	359	93,293	3,050,220	32.6
50–51	0.004120	93,113	384	92,921	2,956,927	31.8
51–52	0.004420	92,729	410	92,524	2,864,006	30.9
52–53	0.004752	92,319	439	92,100	2,771,481	30.0
53–54	0.005130	91,881	471	91,645	2,679,381	29.2
54–55	0.005562	91,409	508	91,155	2,587,736	28.3
55–56	0.006022	90,901	547	90,627	2,496,581	27.5
56–57	0.006524	90,354	589	90,059	2,405,954	26.6
57–58	0.007106	89,764	638	89,445	2,315,895	25.8
58–59	0.007769	89,126	692	88,780	2,226,450	25.0
59–60	0.008476	88,434	750	88,059	2,137,670	24.2

See footnotes at end of table.

Table 1. Life table for the total population: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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
60–61	0.009202	87,684	807	87,281	2,049,611	23.4
61–62	0.009926	86,877	862	86,446	1,962,330	22.6
62–63	0.010656	86,015	917	85,557	1,875,884	21.8
63–64	0.011405	85,098	971	84,613	1,790,327	21.0
64–65	0.012197	84,128	1,026	83,615	1,705,714	20.3
65–66	0.013054	83,102	1,085	82,559	1,622,099	19.5
66–67	0.014088	82,017	1,155	81,439	1,539,540	18.8
67–68	0.015075	80,861	1,219	80,252	1,458,101	18.0
68–69	0.016150	79,642	1,286	78,999	1,377,849	17.3
69–70	0.017324	78,356	1,357	77,678	1,298,849	16.6
70–71	0.018460	76,999	1,421	76,288	1,221,172	15.9
71–72	0.019921	75,577	1,506	74,825	1,144,884	15.1
72–73	0.021541	74,072	1,596	73,274	1,070,059	14.4
73–74	0.023476	72,476	1,701	71,626	996,785	13.8
74–75	0.025685	70,775	1,818	69,866	925,160	13.1
75–76	0.028219	68,957	1,946	67,984	855,294	12.4
76–77	0.030546	67,011	2,047	65,988	787,310	11.7
77–78	0.034523	64,964	2,243	63,843	721,322	11.1
78–79	0.037655	62,721	2,362	61,540	657,479	10.5
79–80	0.042211	60,360	2,548	59,086	595,939	9.9
80–81	0.046538	57,812	2,690	56,466	536,853	9.3
81–82	0.052311	55,121	2,883	53,680	480,387	8.7
82–83	0.058338	52,238	3,047	50,714	426,707	8.2
83–84	0.064645	49,190	3,180	47,600	375,993	7.6
84–85	0.071961	46,010	3,311	44,355	328,393	7.1
85–86	0.079677	42,699	3,402	40,998	284,038	6.7
86–87	0.089580	39,297	3,520	37,537	243,040	6.2
87–88	0.100503	35,777	3,596	33,979	205,502	5.7
88–89	0.112498	32,181	3,620	30,371	171,523	5.3
89–90	0.125607	28,561	3,587	26,767	141,152	4.9
90–91	0.139858	24,974	3,493	23,227	114,385	4.6
91–92	0.155262	21,481	3,335	19,813	91,158	4.2
92–93	0.171809	18,146	3,118	16,587	71,344	3.9
93–94	0.189467	15,028	2,847	13,604	54,757	3.6
94–95	0.208176	12,181	2,536	10,913	41,153	3.4
95–96	0.227850	9,645	2,198	8,546	30,240	3.1
96–97	0.248376	7,447	1,850	6,523	21,694	2.9
97–98	0.269615	5,598	1,509	4,843	15,172	2.7
98–99	0.291405	4,088	1,191	3,493	10,328	2.5
99–100	0.313565	2,897	908	2,443	6,836	2.4
100 and older	1.000000	1,989	1,989	4,393	4,393	2.2

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

Table 2. Life table for males: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.006023	100,000	602	99,477	7,581,780	75.8
1–2	0.000481	99,398	48	99,374	7,482,304	75.3
2–3	0.000332	99,350	33	99,333	7,382,930	74.3
3–4	0.000237	99,317	24	99,305	7,283,597	73.3
4–5	0.000179	99,293	18	99,284	7,184,291	72.4
5–6	0.000165	99,275	16	99,267	7,085,007	71.4
6–7	0.000151	99,259	15	99,252	6,985,740	70.4
7–8	0.000139	99,244	14	99,237	6,886,488	69.4
8–9	0.000122	99,230	12	99,224	6,787,251	68.4
9–10	0.000101	99,218	10	99,213	6,688,027	67.4
10–11	0.000087	99,208	9	99,204	6,588,814	66.4
11–12	0.000097	99,200	10	99,195	6,489,610	65.4
12–13	0.000150	99,190	15	99,182	6,390,415	64.4
13–14	0.000256	99,175	25	99,162	6,291,233	63.4
14–15	0.000397	99,150	39	99,130	6,192,070	62.5
15–16	0.000551	99,110	55	99,083	6,092,940	61.5
16–17	0.000698	99,056	69	99,021	5,993,857	60.5
17–18	0.000833	98,987	82	98,945	5,894,836	59.6
18–19	0.000953	98,904	94	98,857	5,795,891	58.6
19–20	0.001061	98,810	105	98,757	5,697,034	57.7
20–21	0.001175	98,705	116	98,647	5,598,276	56.7
21–22	0.001295	98,589	128	98,525	5,499,629	55.8
22–23	0.001401	98,461	138	98,392	5,401,104	54.9
23–24	0.001487	98,323	146	98,250	5,302,712	53.9
24–25	0.001560	98,177	153	98,101	5,204,461	53.0
25–26	0.001625	98,024	159	97,944	5,106,361	52.1
26–27	0.001697	97,865	166	97,782	5,008,416	51.2
27–28	0.001783	97,699	174	97,612	4,910,634	50.3
28–29	0.001890	97,525	184	97,432	4,813,023	49.4
29–30	0.002008	97,340	195	97,242	4,715,590	48.4
30–31	0.002127	97,145	207	97,041	4,618,348	47.5
31–32	0.002237	96,938	217	96,830	4,521,307	46.6
32–33	0.002336	96,721	226	96,608	4,424,477	45.7
33–34	0.002423	96,495	234	96,378	4,327,869	44.9
34–35	0.002505	96,262	241	96,141	4,231,490	44.0
35–36	0.002588	96,020	248	95,896	4,135,349	43.1
36–37	0.002680	95,772	257	95,644	4,039,453	42.2
37–38	0.002784	95,515	266	95,382	3,943,809	41.3
38–39	0.002903	95,249	277	95,111	3,848,427	40.4
39–40	0.003032	94,973	288	94,829	3,753,316	39.5
40–41	0.003176	94,685	301	94,535	3,658,487	38.6
41–42	0.003326	94,384	314	94,227	3,563,952	37.8
42–43	0.003464	94,070	326	93,907	3,469,725	36.9
43–44	0.003588	93,744	336	93,576	3,375,818	36.0
44–45	0.003714	93,408	347	93,235	3,282,242	35.1
45–46	0.003862	93,061	359	92,881	3,189,007	34.3
46–47	0.004052	92,702	376	92,514	3,096,126	33.4
47–48	0.004284	92,326	396	92,128	3,003,612	32.5
48–49	0.004557	91,931	419	91,721	2,911,483	31.7
49–50	0.004859	91,512	445	91,289	2,819,762	30.8
50–51	0.005182	91,067	472	90,831	2,728,473	30.0
51–52	0.005535	90,595	501	90,344	2,637,642	29.1
52–53	0.005938	90,094	535	89,826	2,547,297	28.3
53–54	0.006411	89,559	574	89,272	2,457,471	27.4
54–55	0.006960	88,985	619	88,675	2,368,200	26.6
55–56	0.007549	88,365	667	88,032	2,279,525	25.8
56–57	0.008183	87,698	718	87,339	2,191,493	25.0
57–58	0.008909	86,981	775	86,593	2,104,154	24.2
58–59	0.009721	86,206	838	85,787	2,017,561	23.4
59–60	0.010581	85,368	903	84,916	1,931,774	22.6

See footnotes at end of table.

Table 2. Life table for males: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.011457	84,464	968	83,980	1,846,858	21.9
61–62	0.012333	83,497	1,030	82,982	1,762,877	21.1
62–63	0.013223	82,467	1,090	81,922	1,679,896	20.4
63–64	0.014147	81,376	1,151	80,801	1,597,974	19.6
64–65	0.015132	80,225	1,214	79,618	1,517,173	18.9
65–66	0.016196	79,011	1,280	78,371	1,437,555	18.2
66–67	0.017494	77,732	1,360	77,052	1,359,184	17.5
67–68	0.018695	76,372	1,428	75,658	1,282,132	16.8
68–69	0.019985	74,944	1,498	74,195	1,206,474	16.1
69–70	0.021360	73,446	1,569	72,662	1,132,279	15.4
70–71	0.022642	71,877	1,627	71,064	1,059,617	14.7
71–72	0.024317	70,250	1,708	69,396	988,554	14.1
72–73	0.026170	68,542	1,794	67,645	919,158	13.4
73–74	0.028328	66,748	1,891	65,802	851,513	12.8
74–75	0.030787	64,857	1,997	63,859	785,711	12.1
75–76	0.033522	62,860	2,107	61,807	721,852	11.5
76–77	0.036028	60,753	2,189	59,659	660,045	10.9
77–78	0.040607	58,564	2,378	57,375	600,387	10.3
78–79	0.044020	56,186	2,473	54,950	543,012	9.7
79–80	0.049348	53,713	2,651	52,388	488,062	9.1
80–81	0.054164	51,062	2,766	49,679	435,674	8.5
81–82	0.061040	48,297	2,948	46,822	385,995	8.0
82–83	0.068034	45,348	3,085	43,806	339,173	7.5
83–84	0.075182	42,263	3,177	40,675	295,367	7.0
84–85	0.082862	39,086	3,239	37,466	254,692	6.5
85–86	0.092160	35,847	3,304	34,195	217,226	6.1
86–87	0.103004	32,543	3,352	30,867	183,030	5.6
87–88	0.115464	29,191	3,371	27,506	152,163	5.2
88–89	0.129086	25,821	3,333	24,154	124,657	4.8
89–90	0.143895	22,488	3,236	20,870	100,503	4.5
90–91	0.159898	19,252	3,078	17,713	79,633	4.1
91–92	0.177078	16,173	2,864	14,742	61,920	3.8
92–93	0.195392	13,310	2,601	12,009	47,179	3.5
93–94	0.214769	10,709	2,300	9,559	35,170	3.3
94–95	0.235109	8,409	1,977	7,420	25,611	3.0
95–96	0.256283	6,432	1,648	5,608	18,190	2.8
96–97	0.278136	4,784	1,330	4,118	12,582	2.6
97–98	0.300487	3,453	1,038	2,934	8,464	2.5
98–99	0.323140	2,415	781	2,025	5,530	2.3
99–100	0.345888	1,635	566	1,352	3,505	2.1
100 and older	1.000000	1,069	1,069	2,152	2,152	2.0

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

Table 3. Life table for females: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.005132	100,000	513	99,555	8,107,991	81.1
1–2	0.000394	99,487	39	99,467	8,008,436	80.5
2–3	0.000232	99,448	23	99,436	7,908,969	79.5
3–4	0.000187	99,424	19	99,415	7,809,533	78.5
4–5	0.000142	99,406	14	99,399	7,710,118	77.6
5–6	0.000133	99,392	13	99,385	7,610,719	76.6
6–7	0.000119	99,379	12	99,373	7,511,334	75.6
7–8	0.000110	99,367	11	99,361	7,411,961	74.6
8–9	0.000103	99,356	10	99,351	7,312,600	73.6
9–10	0.000098	99,346	10	99,341	7,213,249	72.6
10–11	0.000098	99,336	10	99,331	7,113,908	71.6
11–12	0.000104	99,326	10	99,321	7,014,578	70.6
12–13	0.000123	99,316	12	99,310	6,915,257	69.6
13–14	0.000155	99,304	15	99,296	6,815,947	68.6
14–15	0.000196	99,288	19	99,278	6,716,651	67.6
15–16	0.000241	99,269	24	99,257	6,617,373	66.7
16–17	0.000286	99,245	28	99,231	6,518,116	65.7
17–18	0.000328	99,216	33	99,200	6,418,885	64.7
18–19	0.000366	99,184	36	99,166	6,319,685	63.7
19–20	0.000402	99,147	40	99,127	6,220,520	62.7
20–21	0.000443	99,108	44	99,086	6,121,392	61.8
21–22	0.000486	99,064	48	99,040	6,022,307	60.8
22–23	0.000524	99,016	52	98,990	5,923,267	59.8
23–24	0.000555	98,964	55	98,936	5,824,277	58.9
24–25	0.000583	98,909	58	98,880	5,725,341	57.9
25–26	0.000609	98,851	60	98,821	5,626,461	56.9
26–27	0.000640	98,791	63	98,759	5,527,640	56.0
27–28	0.000685	98,728	68	98,694	5,428,881	55.0
28–29	0.000748	98,660	74	98,623	5,330,187	54.0
29–30	0.000821	98,586	81	98,546	5,231,564	53.1
30–31	0.000898	98,505	88	98,461	5,133,019	52.1
31–32	0.000971	98,417	96	98,369	5,034,558	51.2
32–33	0.001037	98,321	102	98,270	4,936,189	50.2
33–34	0.001094	98,219	108	98,165	4,837,919	49.3
34–35	0.001149	98,112	113	98,055	4,739,753	48.3
35–36	0.001206	97,999	118	97,940	4,641,698	47.4
36–37	0.001270	97,881	124	97,819	4,543,758	46.4
37–38	0.001348	97,756	132	97,691	4,445,940	45.5
38–39	0.001441	97,625	141	97,554	4,348,249	44.5
39–40	0.001544	97,484	151	97,409	4,250,695	43.6
40–41	0.001660	97,333	162	97,253	4,153,286	42.7
41–42	0.001778	97,172	173	97,085	4,056,034	41.7
42–43	0.001883	96,999	183	96,908	3,958,948	40.8
43–44	0.001973	96,816	191	96,721	3,862,040	39.9
44–45	0.002057	96,625	199	96,526	3,765,320	39.0
45–46	0.002153	96,427	208	96,323	3,668,794	38.0
46–47	0.002277	96,219	219	96,109	3,572,471	37.1
47–48	0.002433	96,000	234	95,883	3,476,362	36.2
48–49	0.002621	95,766	251	95,641	3,380,479	35.3
49–50	0.002832	95,515	271	95,380	3,284,838	34.4
50–51	0.003062	95,245	292	95,099	3,189,458	33.5
51–52	0.003309	94,953	314	94,796	3,094,359	32.6
52–53	0.003572	94,639	338	94,470	2,999,563	31.7
53–54	0.003858	94,301	364	94,119	2,905,093	30.8
54–55	0.004179	93,937	393	93,741	2,810,974	29.9
55–56	0.004519	93,545	423	93,333	2,717,233	29.0
56–57	0.004897	93,122	456	92,894	2,623,900	28.2
57–58	0.005348	92,666	496	92,418	2,531,006	27.3
58–59	0.005873	92,170	541	91,900	2,438,588	26.5
59–60	0.006443	91,629	590	91,334	2,346,689	25.6

See footnotes at end of table.

Table 3. Life table for females: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.007034	91,038	640	90,718	2,255,355	24.8
61–62	0.007625	90,398	689	90,054	2,164,637	23.9
62–63	0.008216	89,709	737	89,340	2,074,583	23.1
63–64	0.008816	88,972	784	88,580	1,985,243	22.3
64–65	0.009448	88,187	833	87,771	1,896,663	21.5
65–66	0.010135	87,354	885	86,912	1,808,892	20.7
66–67	0.010961	86,469	948	85,995	1,721,981	19.9
67–68	0.011782	85,521	1,008	85,017	1,635,986	19.1
68–69	0.012696	84,514	1,073	83,977	1,550,968	18.4
69–70	0.013728	83,441	1,145	82,868	1,466,991	17.6
70–71	0.014755	82,295	1,214	81,688	1,384,124	16.8
71–72	0.016066	81,081	1,303	80,429	1,302,436	16.1
72–73	0.017524	79,778	1,398	79,079	1,222,006	15.3
73–74	0.019299	78,380	1,513	77,624	1,142,927	14.6
74–75	0.021326	76,867	1,639	76,048	1,065,303	13.9
75–76	0.023712	75,228	1,784	74,336	989,255	13.2
76–77	0.025914	73,444	1,903	72,493	914,919	12.5
77–78	0.029447	71,541	2,107	70,488	842,426	11.8
78–79	0.032420	69,434	2,251	68,309	771,939	11.1
79–80	0.036450	67,183	2,449	65,959	703,630	10.5
80–81	0.040493	64,735	2,621	63,424	637,671	9.9
81–82	0.045557	62,113	2,830	60,698	574,247	9.2
82–83	0.051025	59,284	3,025	57,771	513,548	8.7
83–84	0.056904	56,259	3,201	54,658	455,777	8.1
84–85	0.064118	53,057	3,402	51,356	401,119	7.6
85–86	0.070931	49,655	3,522	47,894	349,763	7.0
86–87	0.080253	46,133	3,702	44,282	301,868	6.5
87–88	0.090614	42,431	3,845	40,508	257,586	6.1
88–89	0.102080	38,586	3,939	36,617	217,078	5.6
89–90	0.114707	34,647	3,974	32,660	180,461	5.2
90–91	0.128541	30,673	3,943	28,702	147,801	4.8
91–92	0.143609	26,730	3,839	24,811	119,100	4.5
92–93	0.159919	22,892	3,661	21,061	94,289	4.1
93–94	0.177452	19,231	3,413	17,524	73,228	3.8
94–95	0.196164	15,818	3,103	14,267	55,703	3.5
95–96	0.215977	12,715	2,746	11,342	41,436	3.3
96–97	0.236785	9,969	2,361	8,789	30,094	3.0
97–98	0.258448	7,609	1,966	6,625	21,306	2.8
98–99	0.280798	5,642	1,584	4,850	14,680	2.6
99–100	0.303644	4,058	1,232	3,442	9,830	2.4
100 and older	1.000000	2,826	2,826	6,389	6,389	2.3

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

Table 4. Life table for the Hispanic population: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.005030	100,000	503	99,557	8,128,213	81.3
1–2	0.000371	99,497	37	99,479	8,028,656	80.7
2–3	0.000230	99,460	23	99,449	7,929,178	79.7
3–4	0.000174	99,437	17	99,429	7,829,729	78.7
4–5	0.000136	99,420	14	99,413	7,730,301	77.8
5–6	0.000121	99,406	12	99,400	7,630,888	76.8
6–7	0.000111	99,394	11	99,389	7,531,487	75.8
7–8	0.000103	99,383	10	99,378	7,432,098	74.8
8–9	0.000092	99,373	9	99,368	7,332,720	73.8
9–10	0.000080	99,364	8	99,360	7,233,352	72.8
10–11	0.000072	99,356	7	99,352	7,133,992	71.8
11–12	0.000079	99,349	8	99,345	7,034,640	70.8
12–13	0.000114	99,341	11	99,335	6,935,295	69.8
13–14	0.000182	99,330	18	99,321	6,835,960	68.8
14–15	0.000272	99,312	27	99,298	6,736,639	67.8
15–16	0.000371	99,285	37	99,266	6,637,341	66.9
16–17	0.000464	99,248	46	99,225	6,538,075	65.9
17–18	0.000550	99,202	55	99,174	6,438,850	64.9
18–19	0.000625	99,147	62	99,116	6,339,676	63.9
19–20	0.000694	99,085	69	99,051	6,240,559	63.0
20–21	0.000766	99,017	76	98,979	6,141,508	62.0
21–22	0.000844	98,941	84	98,899	6,042,530	61.1
22–23	0.000922	98,857	91	98,812	5,943,631	60.1
23–24	0.000995	98,766	98	98,717	5,844,819	59.2
24–25	0.001063	98,668	105	98,615	5,746,102	58.2
25–26	0.001130	98,563	111	98,507	5,647,487	57.3
26–27	0.001196	98,452	118	98,393	5,548,980	56.4
27–28	0.001260	98,334	124	98,272	5,450,587	55.4
28–29	0.001319	98,210	130	98,145	5,352,315	54.5
29–30	0.001373	98,080	135	98,013	5,254,170	53.6
30–31	0.001425	97,946	140	97,876	5,156,157	52.6
31–32	0.001474	97,806	144	97,734	5,058,281	51.7
32–33	0.001518	97,662	148	97,588	4,960,547	50.8
33–34	0.001558	97,514	152	97,438	4,862,959	49.9
34–35	0.001596	97,362	155	97,284	4,765,521	48.9
35–36	0.001634	97,206	159	97,127	4,668,237	48.0
36–37	0.001675	97,048	163	96,966	4,571,110	47.1
37–38	0.001725	96,885	167	96,801	4,474,144	46.2
38–39	0.001786	96,718	173	96,632	4,377,342	45.3
39–40	0.001855	96,545	179	96,456	4,280,711	44.3
40–41	0.001930	96,366	186	96,273	4,184,255	43.4
41–42	0.002008	96,180	193	96,083	4,087,982	42.5
42–43	0.002089	95,987	200	95,887	3,991,899	41.6
43–44	0.002174	95,786	208	95,682	3,896,012	40.7
44–45	0.002268	95,578	217	95,470	3,800,330	39.8
45–46	0.002374	95,361	226	95,248	3,704,860	38.9
46–47	0.002495	95,135	237	95,016	3,609,612	37.9
47–48	0.002632	94,898	250	94,773	3,514,595	37.0
48–49	0.002783	94,648	263	94,516	3,419,823	36.1
49–50	0.002949	94,384	278	94,245	3,325,306	35.2
50–51	0.003129	94,106	294	93,959	3,231,061	34.3
51–52	0.003329	93,812	312	93,656	3,137,102	33.4
52–53	0.003562	93,499	333	93,333	3,043,447	32.6
53–54	0.003836	93,166	357	92,988	2,950,114	31.7
54–55	0.004151	92,809	385	92,616	2,857,126	30.8
55–56	0.004492	92,424	415	92,216	2,764,510	29.9
56–57	0.004858	92,009	447	91,785	2,672,294	29.0
57–58	0.005276	91,562	483	91,320	2,580,509	28.2
58–59	0.005751	91,078	524	90,817	2,489,189	27.3
59–60	0.006274	90,555	568	90,271	2,398,372	26.5

See footnotes at end of table.

Table 4. Life table for the Hispanic population: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table04.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	0.006852	89,987	617	89,678	2,308,102	25.6
61–62	0.007455	89,370	666	89,037	2,218,423	24.8
62–63	0.008041	88,704	713	88,347	2,129,387	24.0
63–64	0.008588	87,990	756	87,613	2,041,039	23.2
64–65	0.009120	87,235	796	86,837	1,953,427	22.4
65–66	0.009676	86,439	836	86,021	1,866,590	21.6
66–67	0.010311	85,603	883	85,161	1,780,569	20.8
67–68	0.011061	84,720	937	84,252	1,695,407	20.0
68–69	0.011970	83,783	1,003	83,282	1,611,156	19.2
69–70	0.013034	82,780	1,079	82,241	1,527,874	18.5
70–71	0.014246	81,701	1,164	81,119	1,445,634	17.7
71–72	0.015573	80,537	1,254	79,910	1,364,514	16.9
72–73	0.016986	79,283	1,347	78,610	1,284,604	16.2
73–74	0.018442	77,936	1,437	77,218	1,205,995	15.5
74–75	0.019968	76,499	1,528	75,735	1,128,777	14.8
75–76	0.021608	74,971	1,620	74,161	1,053,042	14.0
76–77	0.023450	73,351	1,720	72,491	978,880	13.3
77–78	0.025948	71,631	1,859	70,702	906,389	12.7
78–79	0.028633	69,773	1,998	68,774	835,687	12.0
79–80	0.032129	67,775	2,178	66,686	766,913	11.3
80–81	0.035595	65,597	2,335	64,430	700,227	10.7
81–82	0.040131	63,262	2,539	61,993	635,797	10.1
82–83	0.044921	60,724	2,728	59,360	573,804	9.4
83–84	0.049930	57,996	2,896	56,548	514,444	8.9
84–85	0.055698	55,100	3,069	53,566	457,896	8.3
85–86	0.061374	52,031	3,193	50,435	404,330	7.8
86–87	0.069340	48,838	3,386	47,145	353,896	7.2
87–88	0.078189	45,451	3,554	43,675	306,751	6.7
88–89	0.087977	41,898	3,686	40,055	263,077	6.3
89–90	0.098756	38,212	3,774	36,325	223,022	5.8
90–91	0.110566	34,438	3,808	32,534	186,697	5.4
91–92	0.123437	30,630	3,781	28,740	154,163	5.0
92–93	0.137378	26,849	3,689	25,005	125,424	4.7
93–94	0.152384	23,161	3,529	21,396	100,418	4.3
94–95	0.168422	19,632	3,306	17,978	79,022	4.0
95–96	0.185437	16,325	3,027	14,811	61,044	3.7
96–97	0.203346	13,298	2,704	11,946	46,232	3.5
97–98	0.222042	10,594	2,352	9,418	34,287	3.2
98–99	0.241389	8,242	1,989	7,247	24,869	3.0
99–100	0.261232	6,252	1,633	5,435	17,622	2.8
100 and older	1.000000	4,619	4,619	12,187	12,187	2.6

NOTES: 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. Hispanic people may be of any race.

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

Table 5. Life table for Hispanic males: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.005406	100,000	541	99,522	7,845,251	78.5
1–2	0.000430	99,459	43	99,438	7,745,729	77.9
2–3	0.000279	99,417	28	99,403	7,646,291	76.9
3–4	0.000195	99,389	19	99,379	7,546,888	75.9
4–5	0.000161	99,370	16	99,362	7,447,509	74.9
5–6	0.000139	99,354	14	99,347	7,348,147	74.0
6–7	0.000127	99,340	13	99,334	7,248,800	73.0
7–8	0.000115	99,327	11	99,321	7,149,467	72.0
8–9	0.000097	99,316	10	99,311	7,050,145	71.0
9–10	0.000074	99,306	7	99,302	6,950,835	70.0
10–11	0.000057	99,299	6	99,296	6,851,532	69.0
11–12	0.000062	99,293	6	99,290	6,752,236	68.0
12–13	0.000111	99,287	11	99,281	6,652,946	67.0
13–14	0.000212	99,276	21	99,265	6,553,665	66.0
14–15	0.000348	99,255	35	99,238	6,454,399	65.0
15–16	0.000498	99,220	49	99,196	6,355,162	64.1
16–17	0.000640	99,171	63	99,139	6,255,966	63.1
17–18	0.000770	99,107	76	99,069	6,156,827	62.1
18–19	0.000883	99,031	87	98,987	6,057,758	61.2
19–20	0.000987	98,944	98	98,895	5,958,770	60.2
20–21	0.001095	98,846	108	98,792	5,859,876	59.3
21–22	0.001214	98,738	120	98,678	5,761,084	58.3
22–23	0.001338	98,618	132	98,552	5,662,406	57.4
23–24	0.001465	98,486	144	98,414	5,563,854	56.5
24–25	0.001592	98,342	157	98,263	5,465,440	55.6
25–26	0.001720	98,185	169	98,101	5,367,176	54.7
26–27	0.001844	98,016	181	97,926	5,269,076	53.8
27–28	0.001952	97,836	191	97,740	5,171,150	52.9
28–29	0.002034	97,645	199	97,545	5,073,410	52.0
29–30	0.002096	97,446	204	97,344	4,975,865	51.1
30–31	0.002150	97,242	209	97,137	4,878,521	50.2
31–32	0.002202	97,033	214	96,926	4,781,384	49.3
32–33	0.002248	96,819	218	96,710	4,684,458	48.4
33–34	0.002291	96,601	221	96,491	4,587,748	47.5
34–35	0.002332	96,380	225	96,268	4,491,257	46.6
35–36	0.002370	96,155	228	96,041	4,394,990	45.7
36–37	0.002411	95,927	231	95,812	4,298,949	44.8
37–38	0.002466	95,696	236	95,578	4,203,137	43.9
38–39	0.002542	95,460	243	95,339	4,107,559	43.0
39–40	0.002632	95,217	251	95,092	4,012,220	42.1
40–41	0.002733	94,967	260	94,837	3,917,128	41.2
41–42	0.002834	94,707	268	94,573	3,822,291	40.4
42–43	0.002930	94,439	277	94,300	3,727,718	39.5
43–44	0.003016	94,162	284	94,020	3,633,418	38.6
44–45	0.003102	93,878	291	93,733	3,539,397	37.7
45–46	0.003199	93,587	299	93,437	3,445,665	36.8
46–47	0.003318	93,288	310	93,133	3,352,228	35.9
47–48	0.003462	92,978	322	92,817	3,259,095	35.1
48–49	0.003633	92,656	337	92,488	3,166,278	34.2
49–50	0.003832	92,320	354	92,143	3,073,790	33.3
50–51	0.004046	91,966	372	91,780	2,981,647	32.4
51–52	0.004287	91,594	393	91,397	2,889,868	31.6
52–53	0.004580	91,201	418	90,992	2,798,470	30.7
53–54	0.004942	90,783	449	90,559	2,707,478	29.8
54–55	0.005369	90,335	485	90,092	2,616,919	29.0
55–56	0.005835	89,850	524	89,587	2,526,827	28.1
56–57	0.006330	89,325	565	89,043	2,437,240	27.3
57–58	0.006872	88,760	610	88,455	2,348,197	26.5
58–59	0.007460	88,150	658	87,821	2,259,742	25.6
59–60	0.008092	87,492	708	87,138	2,171,921	24.8

See footnotes at end of table.

Table 5. Life table for Hispanic males: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.008782	86,784	762	86,403	2,084,783	24.0
61–62	0.009511	86,022	818	85,613	1,998,380	23.2
62–63	0.010241	85,204	873	84,768	1,912,767	22.4
63–64	0.010956	84,331	924	83,869	1,827,999	21.7
64–65	0.011678	83,407	974	82,920	1,744,130	20.9
65–66	0.012445	82,433	1,026	81,920	1,661,209	20.2
66–67	0.013304	81,408	1,083	80,866	1,579,289	19.4
67–68	0.014278	80,325	1,147	79,751	1,498,423	18.7
68–69	0.015400	79,178	1,219	78,568	1,418,672	17.9
69–70	0.016665	77,958	1,299	77,309	1,340,104	17.2
70–71	0.018100	76,659	1,388	75,965	1,262,795	16.5
71–72	0.019670	75,272	1,481	74,531	1,186,830	15.8
72–73	0.021293	73,791	1,571	73,005	1,112,298	15.1
73–74	0.022893	72,220	1,653	71,393	1,039,293	14.4
74–75	0.024501	70,566	1,729	69,702	967,900	13.7
75–76	0.026160	68,837	1,801	67,937	898,198	13.0
76–77	0.028050	67,037	1,880	66,096	830,261	12.4
77–78	0.030806	65,156	2,007	64,153	764,165	11.7
78–79	0.033878	63,149	2,139	62,079	700,012	11.1
79–80	0.038018	61,010	2,319	59,850	637,933	10.5
80–81	0.041987	58,690	2,464	57,458	578,083	9.8
81–82	0.047365	56,226	2,663	54,894	520,625	9.3
82–83	0.053001	53,563	2,839	52,143	465,730	8.7
83–84	0.058557	50,724	2,970	49,239	413,587	8.2
84–85	0.064829	47,754	3,096	46,206	364,348	7.6
85–86	0.071909	44,658	3,211	43,052	318,142	7.1
86–87	0.079707	41,447	3,304	39,795	275,090	6.6
87–88	0.089831	38,143	3,426	36,430	235,295	6.2
88–89	0.100988	34,717	3,506	32,964	198,866	5.7
89–90	0.113216	31,211	3,534	29,444	165,902	5.3
90–91	0.126540	27,677	3,502	25,926	136,458	4.9
91–92	0.140968	24,175	3,408	22,471	110,532	4.6
92–93	0.156482	20,767	3,250	19,142	88,061	4.2
93–94	0.173041	17,517	3,031	16,002	68,919	3.9
94–95	0.190576	14,486	2,761	13,106	52,918	3.7
95–96	0.208989	11,725	2,450	10,500	39,812	3.4
96–97	0.228153	9,275	2,116	8,217	29,312	3.2
97–98	0.247915	7,159	1,775	6,271	21,095	2.9
98–99	0.268101	5,384	1,443	4,662	14,823	2.8
99–100	0.288519	3,941	1,137	3,372	10,161	2.6
100 and older	1.000000	2,804	2,804	6,789	6,789	2.4

NOTES: 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. Hispanic people may be of any race.

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

Table 6. Life table for Hispanic females: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.004639	100,000	464	99,594	8,396,844	84.0
1–2	0.000302	99,536	30	99,521	8,297,251	83.4
2–3	0.000174	99,506	17	99,497	8,197,730	82.4
3–4	0.000148	99,489	15	99,481	8,098,233	81.4
4–5	0.000106	99,474	11	99,469	7,998,751	80.4
5–6	0.000101	99,463	10	99,458	7,899,283	79.4
6–7	0.000093	99,453	9	99,449	7,799,824	78.4
7–8	0.000089	99,444	9	99,440	7,700,375	77.4
8–9	0.000085	99,435	8	99,431	7,600,936	76.4
9–10	0.000083	99,427	8	99,423	7,501,505	75.4
10–11	0.000085	99,419	8	99,414	7,402,082	74.5
11–12	0.000093	99,410	9	99,406	7,302,668	73.5
12–13	0.000113	99,401	11	99,395	7,203,262	72.5
13–14	0.000147	99,390	15	99,382	7,103,867	71.5
14–15	0.000190	99,375	19	99,366	7,004,485	70.5
15–16	0.000236	99,356	23	99,344	6,905,119	69.5
16–17	0.000280	99,333	28	99,319	6,805,775	68.5
17–18	0.000319	99,305	32	99,289	6,706,456	67.5
18–19	0.000352	99,273	35	99,256	6,607,167	66.6
19–20	0.000381	99,238	38	99,219	6,507,911	65.6
20–21	0.000413	99,200	41	99,180	6,408,692	64.6
21–22	0.000446	99,160	44	99,137	6,309,512	63.6
22–23	0.000474	99,115	47	99,092	6,210,374	62.7
23–24	0.000492	99,068	49	99,044	6,111,282	61.7
24–25	0.000505	99,020	50	98,995	6,012,238	60.7
25–26	0.000514	98,970	51	98,944	5,913,244	59.7
26–27	0.000526	98,919	52	98,893	5,814,300	58.8
27–28	0.000546	98,867	54	98,840	5,715,407	57.8
28–29	0.000578	98,813	57	98,784	5,616,567	56.8
29–30	0.000618	98,756	61	98,725	5,517,783	55.9
30–31	0.000661	98,695	65	98,662	5,419,058	54.9
31–32	0.000702	98,629	69	98,595	5,320,396	53.9
32–33	0.000740	98,560	73	98,524	5,221,802	53.0
33–34	0.000774	98,487	76	98,449	5,123,278	52.0
34–35	0.000806	98,411	79	98,371	5,024,829	51.1
35–36	0.000841	98,332	83	98,290	4,926,458	50.1
36–37	0.000882	98,249	87	98,206	4,828,167	49.1
37–38	0.000926	98,162	91	98,117	4,729,962	48.2
38–39	0.000973	98,072	95	98,024	4,631,845	47.2
39–40	0.001022	97,976	100	97,926	4,533,821	46.3
40–41	0.001073	97,876	105	97,823	4,435,895	45.3
41–42	0.001130	97,771	111	97,716	4,338,071	44.4
42–43	0.001199	97,660	117	97,602	4,240,356	43.4
43–44	0.001284	97,543	125	97,481	4,142,754	42.5
44–45	0.001385	97,418	135	97,351	4,045,273	41.5
45–46	0.001498	97,283	146	97,210	3,947,923	40.6
46–47	0.001619	97,137	157	97,059	3,850,712	39.6
47–48	0.001747	96,980	169	96,895	3,753,654	38.7
48–49	0.001879	96,811	182	96,720	3,656,758	37.8
49–50	0.002016	96,629	195	96,531	3,560,039	36.8
50–51	0.002166	96,434	209	96,329	3,463,507	35.9
51–52	0.002330	96,225	224	96,113	3,367,178	35.0
52–53	0.002505	96,001	240	95,880	3,271,065	34.1
53–54	0.002691	95,760	258	95,631	3,175,185	33.2
54–55	0.002896	95,503	277	95,364	3,079,553	32.2
55–56	0.003110	95,226	296	95,078	2,984,189	31.3
56–57	0.003350	94,930	318	94,771	2,889,111	30.4
57–58	0.003647	94,612	345	94,439	2,794,340	29.5
58–59	0.004017	94,267	379	94,077	2,699,901	28.6
59–60	0.004446	93,888	417	93,679	2,605,824	27.8

See footnotes at end of table.

Table 6. Life table for Hispanic females: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.004927	93,471	461	93,240	2,512,145	26.9
61–62	0.005424	93,010	504	92,758	2,418,904	26.0
62–63	0.005895	92,506	545	92,233	2,326,147	25.1
63–64	0.006316	91,960	581	91,670	2,233,914	24.3
64–65	0.006711	91,379	613	91,073	2,142,244	23.4
65–66	0.007123	90,766	647	90,443	2,051,171	22.6
66–67	0.007609	90,120	686	89,777	1,960,728	21.8
67–68	0.008210	89,434	734	89,067	1,870,952	20.9
68–69	0.008973	88,700	796	88,302	1,781,885	20.1
69–70	0.009895	87,904	870	87,469	1,693,583	19.3
70–71	0.010950	87,034	953	86,557	1,606,114	18.5
71–72	0.012112	86,081	1,043	85,560	1,519,557	17.7
72–73	0.013392	85,038	1,139	84,469	1,433,997	16.9
73–74	0.014777	83,900	1,240	83,280	1,349,528	16.1
74–75	0.016287	82,660	1,346	81,987	1,266,249	15.3
75–76	0.017961	81,314	1,461	80,583	1,184,262	14.6
76–77	0.019810	79,853	1,582	79,062	1,103,679	13.8
77–78	0.022176	78,271	1,736	77,403	1,024,617	13.1
78–79	0.024663	76,535	1,888	75,592	947,213	12.4
79–80	0.027832	74,648	2,078	73,609	871,622	11.7
80–81	0.031135	72,570	2,259	71,440	798,013	11.0
81–82	0.035361	70,311	2,486	69,068	726,572	10.3
82–83	0.039863	67,824	2,704	66,473	657,505	9.7
83–84	0.044895	65,121	2,924	63,659	591,032	9.1
84–85	0.050770	62,197	3,158	60,618	527,373	8.5
85–86	0.056207	59,039	3,318	57,380	466,755	7.9
86–87	0.064229	55,721	3,579	53,932	409,375	7.3
87–88	0.073245	52,142	3,819	50,233	355,443	6.8
88–89	0.083335	48,323	4,027	46,309	305,211	6.3
89–90	0.094572	44,296	4,189	42,201	258,901	5.8
90–91	0.107021	40,107	4,292	37,961	216,700	5.4
91–92	0.120730	35,815	4,324	33,653	178,739	5.0
92–93	0.135731	31,491	4,274	29,354	145,086	4.6
93–94	0.152027	27,216	4,138	25,148	115,733	4.3
94–95	0.169597	23,079	3,914	21,122	90,585	3.9
95–96	0.188385	19,165	3,610	17,360	69,463	3.6
96–97	0.208298	15,554	3,240	13,934	52,104	3.3
97–98	0.229209	12,314	2,823	10,903	38,170	3.1
98–99	0.250956	9,492	2,382	8,301	27,266	2.9
99–100	0.273346	7,110	1,943	6,138	18,966	2.7
100 and older	1.000000	5,166	5,166	12,828	12,828	2.5

NOTES: 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. Hispanic people may be of any race.

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, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table07.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	0.009124	100,000	912	99,252	7,005,082	70.1
1–2	0.001154	99,088	114	99,030	6,905,830	69.7
2–3	0.000528	98,973	52	98,947	6,806,799	68.8
3–4	0.000462	98,921	46	98,898	6,707,852	67.8
4–5	0.000362	98,875	36	98,857	6,608,954	66.8
5–6	0.000248	98,839	25	98,827	6,510,097	65.9
6–7	0.000212	98,815	21	98,804	6,411,269	64.9
7–8	0.000191	98,794	19	98,785	6,312,465	63.9
8–9	0.000175	98,775	17	98,766	6,213,681	62.9
9–10	0.000165	98,758	16	98,750	6,114,914	61.9
10–11	0.000171	98,742	17	98,733	6,016,164	60.9
11–12	0.000214	98,725	21	98,714	5,917,431	59.9
12–13	0.000315	98,703	31	98,688	5,818,717	59.0
13–14	0.000482	98,672	48	98,649	5,720,030	58.0
14–15	0.000696	98,625	69	98,591	5,621,381	57.0
15–16	0.000935	98,556	92	98,510	5,522,790	56.0
16–17	0.001170	98,464	115	98,406	5,424,280	55.1
17–18	0.001387	98,349	136	98,281	5,325,874	54.2
18–19	0.001575	98,213	155	98,135	5,227,593	53.2
19–20	0.001750	98,058	172	97,972	5,129,458	52.3
20–21	0.001941	97,886	190	97,791	5,031,486	51.4
21–22	0.002160	97,696	211	97,591	4,933,695	50.5
22–23	0.002393	97,485	233	97,369	4,836,104	49.6
23–24	0.002636	97,252	256	97,124	4,738,735	48.7
24–25	0.002894	96,996	281	96,855	4,641,611	47.9
25–26	0.003141	96,715	304	96,563	4,544,756	47.0
26–27	0.003407	96,411	328	96,247	4,448,193	46.1
27–28	0.003738	96,083	359	95,903	4,351,946	45.3
28–29	0.004138	95,723	396	95,525	4,256,043	44.5
29–30	0.004565	95,327	435	95,110	4,160,518	43.6
30–31	0.004988	94,892	473	94,656	4,065,408	42.8
31–32	0.005366	94,419	507	94,165	3,970,753	42.1
32–33	0.005687	93,912	534	93,645	3,876,587	41.3
33–34	0.005953	93,378	556	93,100	3,782,942	40.5
34–35	0.006192	92,822	575	92,535	3,689,842	39.8
35–36	0.006449	92,247	595	91,950	3,597,307	39.0
36–37	0.006732	91,652	617	91,344	3,505,357	38.2
37–38	0.006998	91,035	637	90,717	3,414,013	37.5
38–39	0.007226	90,398	653	90,072	3,323,296	36.8
39–40	0.007424	89,745	666	89,412	3,233,225	36.0
40–41	0.007606	89,079	678	88,740	3,143,813	35.3
41–42	0.007820	88,401	691	88,056	3,055,072	34.6
42–43	0.008108	87,710	711	87,355	2,967,017	33.8
43–44	0.008509	86,999	740	86,629	2,879,662	33.1
44–45	0.009014	86,259	777	85,870	2,793,033	32.4
45–46	0.009584	85,481	819	85,072	2,707,163	31.7
46–47	0.010171	84,662	861	84,231	2,622,092	31.0
47–48	0.010752	83,801	901	83,350	2,537,861	30.3
48–49	0.011278	82,900	935	82,432	2,454,510	29.6
49–50	0.011749	81,965	963	81,483	2,372,078	28.9
50–51	0.012217	81,002	990	80,507	2,290,595	28.3
51–52	0.012706	80,012	1,017	79,504	2,210,088	27.6
52–53	0.013188	78,996	1,042	78,475	2,130,584	27.0
53–54	0.013672	77,954	1,066	77,421	2,052,109	26.3
54–55	0.014173	76,888	1,090	76,343	1,974,688	25.7
55–56	0.014652	75,798	1,111	75,243	1,898,345	25.0
56–57	0.015155	74,688	1,132	74,122	1,823,102	24.4
57–58	0.015773	73,556	1,160	72,976	1,748,980	23.8
58–59	0.016528	72,396	1,197	71,797	1,676,004	23.2
59–60	0.017359	71,199	1,236	70,581	1,604,207	22.5

See footnotes at end of table.

Table 7. Life table for the American Indian and Alaska Native, non-Hispanic population: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table07.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	0.018205	69,963	1,274	69,326	1,533,626	21.9
61–62	0.019004	68,689	1,305	68,037	1,464,300	21.3
62–63	0.019742	67,384	1,330	66,719	1,396,263	20.7
63–64	0.020420	66,054	1,349	65,379	1,329,544	20.1
64–65	0.021085	64,705	1,364	64,023	1,264,165	19.5
65–66	0.021773	63,341	1,379	62,651	1,200,142	18.9
66–67	0.022533	61,962	1,396	61,263	1,137,491	18.4
67–68	0.023408	60,565	1,418	59,856	1,076,227	17.8
68–69	0.024437	59,148	1,445	58,425	1,016,371	17.2
69–70	0.025613	57,702	1,478	56,963	957,946	16.6
70–71	0.026956	56,224	1,516	55,467	900,983	16.0
71–72	0.028417	54,709	1,555	53,931	845,516	15.5
72–73	0.029908	53,154	1,590	52,359	791,585	14.9
73–74	0.031359	51,564	1,617	50,756	739,225	14.3
74–75	0.032817	49,947	1,639	49,128	688,469	13.8
75–76	0.034324	48,308	1,658	47,479	639,342	13.2
76–77	0.036094	46,650	1,684	45,808	591,862	12.7
77–78	0.038392	44,966	1,726	44,103	546,054	12.1
78–79	0.041491	43,240	1,794	42,343	501,951	11.6
79–80	0.045421	41,446	1,882	40,505	459,608	11.1
80–81	0.050100	39,563	1,982	38,572	419,104	10.6
81–82	0.054829	37,581	2,061	36,551	380,531	10.1
82–83	0.059223	35,521	2,104	34,469	343,980	9.7
83–84	0.062985	33,417	2,105	32,365	309,511	9.3
84–85	0.066574	31,312	2,085	30,270	277,147	8.9
85–86	0.069756	29,228	2,039	28,208	246,877	8.4
86–87	0.075225	27,189	2,045	26,166	218,668	8.0
87–88	0.081043	25,144	2,038	24,125	192,502	7.7
88–89	0.087217	23,106	2,015	22,098	168,377	7.3
89–90	0.093752	21,091	1,977	20,102	146,279	6.9
90–91	0.100649	19,113	1,924	18,152	126,177	6.6
91–92	0.107905	17,190	1,855	16,262	108,025	6.3
92–93	0.115512	15,335	1,771	14,449	91,763	6.0
93–94	0.123457	13,563	1,675	12,726	77,314	5.7
94–95	0.131721	11,889	1,566	11,106	64,588	5.4
95–96	0.140281	10,323	1,448	9,599	53,482	5.2
96–97	0.149105	8,875	1,323	8,213	43,883	4.9
97–98	0.158155	7,552	1,194	6,954	35,670	4.7
98–99	0.167387	6,357	1,064	5,825	28,715	4.5
99–100	0.176753	5,293	936	4,825	22,890	4.3
100 and older	1.000000	4,358	4,358	18,065	18,065	4.1

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 8. Life table for American Indian and Alaska Native, non-Hispanic males: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.010226	100,000	1,023	99,186	6,672,162	66.7
1–2	0.001579	98,977	156	98,899	6,572,976	66.4
2–3	0.000443	98,821	44	98,799	6,474,077	65.5
3–4	0.000423	98,777	42	98,756	6,375,278	64.5
4–5	0.000405	98,736	40	98,716	6,276,521	63.6
5–6	0.000195	98,696	19	98,686	6,177,805	62.6
6–7	0.000157	98,676	16	98,669	6,079,119	61.6
7–8	0.000144	98,661	14	98,654	5,980,451	60.6
8–9	0.000147	98,647	15	98,639	5,881,797	59.6
9–10	0.000166	98,632	16	98,624	5,783,158	58.6
10–11	0.000208	98,616	21	98,605	5,684,534	57.6
11–12	0.000286	98,595	28	98,581	5,585,928	56.7
12–13	0.000414	98,567	41	98,547	5,487,347	55.7
13–14	0.000597	98,526	59	98,497	5,388,801	54.7
14–15	0.000821	98,467	81	98,427	5,290,304	53.7
15–16	0.001072	98,387	105	98,334	5,191,877	52.8
16–17	0.001328	98,281	130	98,216	5,093,543	51.8
17–18	0.001575	98,151	155	98,073	4,995,327	50.9
18–19	0.001806	97,996	177	97,908	4,897,254	50.0
19–20	0.002035	97,819	199	97,720	4,799,346	49.1
20–21	0.002290	97,620	224	97,508	4,701,627	48.2
21–22	0.002578	97,396	251	97,271	4,604,119	47.3
22–23	0.002885	97,145	280	97,005	4,506,848	46.4
23–24	0.003211	96,865	311	96,710	4,409,842	45.5
24–25	0.003556	96,554	343	96,382	4,313,133	44.7
25–26	0.003892	96,211	374	96,024	4,216,750	43.8
26–27	0.004254	95,836	408	95,632	4,120,727	43.0
27–28	0.004706	95,429	449	95,204	4,025,094	42.2
28–29	0.005253	94,979	499	94,730	3,929,890	41.4
29–30	0.005833	94,481	551	94,205	3,835,160	40.6
30–31	0.006399	93,929	601	93,629	3,740,955	39.8
31–32	0.006901	93,328	644	93,006	3,647,326	39.1
32–33	0.007331	92,684	680	92,345	3,554,320	38.3
33–34	0.007698	92,005	708	91,651	3,461,975	37.6
34–35	0.008032	91,297	733	90,930	3,370,325	36.9
35–36	0.008410	90,563	762	90,182	3,279,395	36.2
36–37	0.008809	89,802	791	89,406	3,189,212	35.5
37–38	0.009120	89,011	812	88,605	3,099,806	34.8
38–39	0.009281	88,199	819	87,789	3,011,201	34.1
39–40	0.009337	87,380	816	86,972	2,923,412	33.5
40–41	0.009327	86,564	807	86,161	2,836,440	32.8
41–42	0.009388	85,757	805	85,354	2,750,279	32.1
42–43	0.009652	84,952	820	84,542	2,664,925	31.4
43–44	0.010225	84,132	860	83,702	2,580,383	30.7
44–45	0.011054	83,272	921	82,811	2,496,681	30.0
45–46	0.012031	82,351	991	81,856	2,413,870	29.3
46–47	0.012992	81,360	1,057	80,832	2,332,014	28.7
47–48	0.013844	80,303	1,112	79,747	2,251,183	28.0
48–49	0.014459	79,192	1,145	78,619	2,171,435	27.4
49–50	0.014882	78,047	1,162	77,466	2,092,816	26.8
50–51	0.015280	76,885	1,175	76,298	2,015,350	26.2
51–52	0.015743	75,710	1,192	75,114	1,939,053	25.6
52–53	0.016216	74,518	1,208	73,914	1,863,938	25.0
53–54	0.016729	73,310	1,226	72,697	1,790,024	24.4
54–55	0.017300	72,083	1,247	71,460	1,717,328	23.8
55–56	0.017837	70,836	1,264	70,205	1,645,868	23.2
56–57	0.018415	69,573	1,281	68,932	1,575,663	22.6
57–58	0.019215	68,292	1,312	67,636	1,506,731	22.1
58–59	0.020286	66,979	1,359	66,300	1,439,095	21.5
59–60	0.021519	65,621	1,412	64,915	1,372,795	20.9

See footnotes at end of table.

Table 8. Life table for American Indian and Alaska Native, non-Hispanic males: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table08.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	0.022782	64,209	1,463	63,477	1,307,880	20.4
61–62	0.023960	62,746	1,503	61,994	1,244,403	19.8
62–63	0.025042	61,242	1,534	60,476	1,182,409	19.3
63–64	0.026021	59,709	1,554	58,932	1,121,934	18.8
64–65	0.026958	58,155	1,568	57,371	1,063,002	18.3
65–66	0.027936	56,587	1,581	55,797	1,005,630	17.8
66–67	0.028984	55,007	1,594	54,209	949,833	17.3
67–68	0.030067	53,412	1,606	52,609	895,624	16.8
68–69	0.031176	51,806	1,615	50,999	843,015	16.3
69–70	0.032313	50,191	1,622	49,380	792,016	15.8
70–71	0.033554	48,569	1,630	47,754	742,636	15.3
71–72	0.034886	46,940	1,638	46,121	694,881	14.8
72–73	0.036188	45,302	1,639	44,482	648,761	14.3
73–74	0.037392	43,663	1,633	42,846	604,278	13.8
74–75	0.038547	42,030	1,620	41,220	561,432	13.4
75–76	0.039653	40,410	1,602	39,609	520,212	12.9
76–77	0.040943	38,808	1,589	38,013	480,603	12.4
77–78	0.042769	37,219	1,592	36,423	442,590	11.9
78–79	0.045473	35,627	1,620	34,817	406,167	11.4
79–80	0.049085	34,007	1,669	33,172	371,351	10.9
80–81	0.053625	32,338	1,734	31,471	338,178	10.5
81–82	0.058275	30,603	1,783	29,712	306,708	10.0
82–83	0.062620	28,820	1,805	27,918	276,996	9.6
83–84	0.066226	27,015	1,789	26,121	249,079	9.2
84–85	0.069613	25,226	1,756	24,348	222,958	8.8
85–86	0.073230	23,470	1,719	22,611	198,610	8.5
86–87	0.077639	21,751	1,689	20,907	175,999	8.1
87–88	0.083119	20,063	1,668	19,229	155,092	7.7
88–89	0.088891	18,395	1,635	17,578	135,863	7.4
89–90	0.094954	16,760	1,591	15,964	118,285	7.1
90–91	0.101303	15,169	1,537	14,400	102,321	6.7
91–92	0.107928	13,632	1,471	12,896	87,921	6.4
92–93	0.114815	12,161	1,396	11,463	75,025	6.2
93–94	0.121948	10,764	1,313	10,108	63,562	5.9
94–95	0.129301	9,452	1,222	8,841	53,454	5.7
95–96	0.136847	8,230	1,126	7,667	44,613	5.4
96–97	0.144550	7,103	1,027	6,590	36,947	5.2
97–98	0.152371	6,077	926	5,614	30,357	5.0
98–99	0.160267	5,151	825	4,738	24,743	4.8
99–100	0.168189	4,325	727	3,961	20,005	4.6
100 and older	1.000000	3,598	3,598	16,044	16,044	4.5

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 9. Life table for American Indian and Alaska Native, non-Hispanic females: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table09.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	0.007900	100,000	790	99,330	7,352,711	73.5
1–2	0.000727	99,210	72	99,174	7,253,381	73.1
2–3	0.000607	99,138	60	99,108	7,154,207	72.2
3–4	0.000497	99,078	49	99,053	7,055,099	71.2
4–5	0.000317	99,029	31	99,013	6,956,046	70.2
5–6	0.000297	98,997	29	98,983	6,857,033	69.3
6–7	0.000265	98,968	26	98,955	6,758,050	68.3
7–8	0.000236	98,942	23	98,930	6,659,096	67.3
8–9	0.000200	98,918	20	98,908	6,560,166	66.3
9–10	0.000159	98,898	16	98,891	6,461,257	65.3
10–11	0.000129	98,883	13	98,876	6,362,367	64.3
11–12	0.000135	98,870	13	98,863	6,263,491	63.4
12–13	0.000210	98,857	21	98,846	6,164,627	62.4
13–14	0.000368	98,836	36	98,818	6,065,781	61.4
14–15	0.000579	98,799	57	98,771	5,966,964	60.4
15–16	0.000814	98,742	80	98,702	5,868,193	59.4
16–17	0.001036	98,662	102	98,611	5,769,491	58.5
17–18	0.001227	98,560	121	98,499	5,670,880	57.5
18–19	0.001377	98,439	136	98,371	5,572,381	56.6
19–20	0.001500	98,303	147	98,229	5,474,010	55.7
20–21	0.001631	98,156	160	98,076	5,375,781	54.8
21–22	0.001782	97,996	175	97,908	5,277,705	53.9
22–23	0.001935	97,821	189	97,726	5,179,797	53.0
23–24	0.002086	97,632	204	97,530	5,082,071	52.1
24–25	0.002239	97,428	218	97,319	4,984,541	51.2
25–26	0.002381	97,210	231	97,094	4,887,222	50.3
26–27	0.002536	96,978	246	96,855	4,790,128	49.4
27–28	0.002734	96,732	265	96,600	4,693,273	48.5
28–29	0.002983	96,468	288	96,324	4,596,672	47.6
29–30	0.003255	96,180	313	96,024	4,500,348	46.8
30–31	0.003532	95,867	339	95,698	4,404,325	45.9
31–32	0.003784	95,528	361	95,348	4,308,627	45.1
32–33	0.003994	95,167	380	94,977	4,213,279	44.3
33–34	0.004162	94,787	394	94,590	4,118,302	43.4
34–35	0.004310	94,392	407	94,189	4,023,712	42.6
35–36	0.004456	93,986	419	93,776	3,929,523	41.8
36–37	0.004631	93,567	433	93,350	3,835,747	41.0
37–38	0.004863	93,133	453	92,907	3,742,397	40.2
38–39	0.005164	92,681	479	92,441	3,649,490	39.4
39–40	0.005508	92,202	508	91,948	3,557,049	38.6
40–41	0.005887	91,694	540	91,424	3,465,101	37.8
41–42	0.006258	91,154	570	90,869	3,373,677	37.0
42–43	0.006573	90,584	595	90,286	3,282,808	36.2
43–44	0.006808	89,988	613	89,682	3,192,522	35.5
44–45	0.006998	89,376	625	89,063	3,102,839	34.7
45–46	0.007177	88,750	637	88,432	3,013,776	34.0
46–47	0.007409	88,113	653	87,787	2,925,345	33.2
47–48	0.007732	87,460	676	87,122	2,837,558	32.4
48–49	0.008172	86,784	709	86,430	2,750,435	31.7
49–50	0.008688	86,075	748	85,701	2,664,006	30.9
50–51	0.009222	85,327	787	84,934	2,578,305	30.2
51–52	0.009736	84,540	823	84,129	2,493,371	29.5
52–53	0.010234	83,717	857	83,289	2,409,242	28.8
53–54	0.010708	82,861	887	82,417	2,325,953	28.1
54–55	0.011169	81,973	916	81,515	2,243,536	27.4
55–56	0.011625	81,058	942	80,587	2,162,021	26.7
56–57	0.012089	80,115	969	79,631	2,081,434	26.0
57–58	0.012565	79,147	994	78,650	2,001,803	25.3
58–59	0.013049	78,152	1,020	77,642	1,923,153	24.6
59–60	0.013530	77,133	1,044	76,611	1,845,511	23.9

See footnotes at end of table.

Table 9. Life table for American Indian and Alaska Native, non-Hispanic females: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table09.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	0.014012	76,089	1,066	75,556	1,768,900	23.2
61–62	0.014486	75,023	1,087	74,479	1,693,344	22.6
62–63	0.014953	73,936	1,106	73,383	1,618,865	21.9
63–64	0.015426	72,830	1,123	72,269	1,545,482	21.2
64–65	0.015934	71,707	1,143	71,136	1,473,213	20.5
65–66	0.016471	70,564	1,162	69,983	1,402,077	19.9
66–67	0.017077	69,402	1,185	68,810	1,332,094	19.2
67–68	0.017838	68,217	1,217	67,609	1,263,285	18.5
68–69	0.018812	67,000	1,260	66,370	1,195,676	17.8
69–70	0.019991	65,740	1,314	65,083	1,129,306	17.2
70–71	0.021369	64,425	1,377	63,737	1,064,224	16.5
71–72	0.022893	63,049	1,443	62,327	1,000,486	15.9
72–73	0.024517	61,605	1,510	60,850	938,159	15.2
73–74	0.026183	60,095	1,573	59,308	877,309	14.6
74–75	0.027934	58,522	1,635	57,704	818,001	14.0
75–76	0.029827	56,887	1,697	56,038	760,297	13.4
76–77	0.032043	55,190	1,768	54,306	704,258	12.8
77–78	0.034770	53,422	1,857	52,493	649,953	12.2
78–79	0.038211	51,564	1,970	50,579	597,460	11.6
79–80	0.042392	49,594	2,102	48,543	546,881	11.0
80–81	0.047188	47,491	2,241	46,371	498,338	10.5
81–82	0.052041	45,250	2,355	44,073	451,967	10.0
82–83	0.056619	42,896	2,429	41,681	407,894	9.5
83–84	0.060789	40,467	2,460	39,237	366,213	9.0
84–85	0.064933	38,007	2,468	36,773	326,976	8.6
85–86	0.068371	35,539	2,430	34,324	290,203	8.2
86–87	0.074602	33,109	2,470	31,874	255,879	7.7
87–88	0.081306	30,639	2,491	29,394	224,005	7.3
88–89	0.088499	28,148	2,491	26,903	194,611	6.9
89–90	0.096195	25,657	2,468	24,423	167,709	6.5
90–91	0.104402	23,189	2,421	21,978	143,286	6.2
91–92	0.113121	20,768	2,349	19,593	121,307	5.8
92–93	0.122349	18,419	2,253	17,292	101,714	5.5
93–94	0.132073	16,165	2,135	15,098	84,422	5.2
94–95	0.142274	14,030	1,996	13,032	69,325	4.9
95–96	0.152921	12,034	1,840	11,114	56,292	4.7
96–97	0.163975	10,194	1,672	9,358	45,179	4.4
97–98	0.175385	8,522	1,495	7,775	35,821	4.2
98–99	0.187092	7,028	1,315	6,370	28,046	4.0
99–100	0.199026	5,713	1,137	5,144	21,675	3.8
100 and older	1.000000	4,576	4,576	16,531	16,531	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, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.003434	100,000	343	99,691	8,521,152	85.2
1–2	0.000326	99,657	33	99,640	8,421,462	84.5
2–3	0.000072	99,624	7	99,620	8,321,822	83.5
3–4	0.000137	99,617	14	99,610	8,222,201	82.5
4–5	0.000119	99,603	12	99,597	8,122,591	81.5
5–6	0.000091	99,591	9	99,587	8,022,994	80.6
6–7	0.000087	99,582	9	99,578	7,923,407	79.6
7–8	0.000084	99,574	8	99,569	7,823,829	78.6
8–9	0.000080	99,565	8	99,561	7,724,260	77.6
9–10	0.000074	99,557	7	99,554	7,624,698	76.6
10–11	0.000071	99,550	7	99,546	7,525,145	75.6
11–12	0.000074	99,543	7	99,539	7,425,598	74.6
12–13	0.000090	99,536	9	99,531	7,326,059	73.6
13–14	0.000123	99,527	12	99,520	7,226,528	72.6
14–15	0.000168	99,514	17	99,506	7,127,007	71.6
15–16	0.000216	99,498	21	99,487	7,027,501	70.6
16–17	0.000263	99,476	26	99,463	6,928,015	69.6
17–18	0.000311	99,450	31	99,434	6,828,552	68.7
18–19	0.000360	99,419	36	99,401	6,729,117	67.7
19–20	0.000407	99,383	40	99,363	6,629,716	66.7
20–21	0.000456	99,343	45	99,320	6,530,353	65.7
21–22	0.000500	99,297	50	99,273	6,431,033	64.8
22–23	0.000527	99,248	52	99,222	6,331,761	63.8
23–24	0.000534	99,195	53	99,169	6,232,539	62.8
24–25	0.000527	99,143	52	99,116	6,133,370	61.9
25–26	0.000516	99,090	51	99,065	6,034,254	60.9
26–27	0.000508	99,039	50	99,014	5,935,189	59.9
27–28	0.000504	98,989	50	98,964	5,836,175	59.0
28–29	0.000507	98,939	50	98,914	5,737,211	58.0
29–30	0.000514	98,889	51	98,863	5,638,297	57.0
30–31	0.000523	98,838	52	98,812	5,539,434	56.0
31–32	0.000532	98,786	53	98,760	5,440,621	55.1
32–33	0.000542	98,734	54	98,707	5,341,861	54.1
33–34	0.000553	98,680	55	98,653	5,243,154	53.1
34–35	0.000566	98,626	56	98,598	5,144,501	52.2
35–36	0.000580	98,570	57	98,541	5,045,904	51.2
36–37	0.000600	98,513	59	98,483	4,947,362	50.2
37–38	0.000632	98,454	62	98,422	4,848,879	49.3
38–39	0.000680	98,391	67	98,358	4,750,457	48.3
39–40	0.000741	98,324	73	98,288	4,652,099	47.3
40–41	0.000813	98,252	80	98,212	4,553,811	46.3
41–42	0.000889	98,172	87	98,128	4,455,599	45.4
42–43	0.000959	98,084	94	98,037	4,357,472	44.4
43–44	0.001017	97,990	100	97,940	4,259,434	43.5
44–45	0.001069	97,891	105	97,838	4,161,494	42.5
45–46	0.001122	97,786	110	97,731	4,063,655	41.6
46–47	0.001190	97,676	116	97,618	3,965,924	40.6
47–48	0.001287	97,560	126	97,497	3,868,306	39.7
48–49	0.001419	97,434	138	97,365	3,770,809	38.7
49–50	0.001575	97,296	153	97,220	3,673,444	37.8
50–51	0.001745	97,143	170	97,058	3,576,224	36.8
51–52	0.001915	96,973	186	96,881	3,479,166	35.9
52–53	0.002076	96,788	201	96,687	3,382,285	34.9
53–54	0.002227	96,587	215	96,479	3,285,598	34.0
54–55	0.002380	96,372	229	96,257	3,189,119	33.1
55–56	0.002555	96,142	246	96,020	3,092,862	32.2
56–57	0.002762	95,897	265	95,764	2,996,842	31.3
57–58	0.002994	95,632	286	95,489	2,901,078	30.3
58–59	0.003245	95,346	309	95,191	2,805,589	29.4
59–60	0.003515	95,036	334	94,869	2,710,398	28.5

See footnotes at end of table.

Table 10. Life table for the Asian, non-Hispanic population: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.003793	94,702	359	94,522	2,615,529	27.6
61–62	0.004104	94,343	387	94,149	2,521,007	26.7
62–63	0.004482	93,956	421	93,745	2,426,858	25.8
63–64	0.004949	93,535	463	93,303	2,333,113	24.9
64–65	0.005498	93,072	512	92,816	2,239,809	24.1
65–66	0.006096	92,560	564	92,278	2,146,994	23.2
66–67	0.006722	91,996	618	91,687	2,054,716	22.3
67–68	0.007387	91,377	675	91,040	1,963,029	21.5
68–69	0.008094	90,702	734	90,335	1,871,989	20.6
69–70	0.008851	89,968	796	89,570	1,781,654	19.8
70–71	0.009684	89,172	864	88,740	1,692,084	19.0
71–72	0.010599	88,308	936	87,840	1,603,344	18.2
72–73	0.011599	87,372	1,013	86,866	1,515,504	17.3
73–74	0.012710	86,359	1,098	85,810	1,428,638	16.5
74–75	0.013974	85,261	1,191	84,666	1,342,828	15.7
75–76	0.015413	84,070	1,296	83,422	1,258,163	15.0
76–77	0.017059	82,774	1,412	82,068	1,174,741	14.2
77–78	0.019264	81,362	1,567	80,578	1,092,673	13.4
78–79	0.021599	79,795	1,724	78,933	1,012,095	12.7
79–80	0.024643	78,071	1,924	77,109	933,162	12.0
80–81	0.027731	76,147	2,112	75,091	856,053	11.2
81–82	0.031917	74,035	2,363	72,854	780,961	10.5
82–83	0.036417	71,673	2,610	70,367	708,107	9.9
83–84	0.041211	69,062	2,846	67,639	637,740	9.2
84–85	0.046836	66,216	3,101	64,666	570,100	8.6
85–86	0.052469	63,115	3,312	61,459	505,435	8.0
86–87	0.060526	59,803	3,620	57,994	443,976	7.4
87–88	0.069661	56,184	3,914	54,227	385,982	6.9
88–89	0.079969	52,270	4,180	50,180	331,755	6.3
89–90	0.091540	48,090	4,402	45,889	281,576	5.9
90–91	0.104453	43,688	4,563	41,406	235,687	5.4
91–92	0.118771	39,124	4,647	36,801	194,281	5.0
92–93	0.134534	34,478	4,638	32,158	157,480	4.6
93–94	0.151754	29,839	4,528	27,575	125,321	4.2
94–95	0.170409	25,311	4,313	23,154	97,746	3.9
95–96	0.190438	20,998	3,999	18,998	74,592	3.6
96–97	0.211737	16,999	3,599	15,199	55,594	3.3
97–98	0.234160	13,400	3,138	11,831	40,394	3.0
98–99	0.257520	10,262	2,643	8,941	28,564	2.8
99–100	0.281595	7,619	2,146	6,547	19,623	2.6
100 and older	1.000000	5,474	5,474	13,076	13,076	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 11. Life table for Asian, non-Hispanic males: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.003771	100,000	377	99,656	8,316,517	83.2
1–2	0.000328	99,623	33	99,607	8,216,860	82.5
2–3	0.000103	99,590	10	99,585	8,117,254	81.5
3–4	0.000142	99,580	14	99,573	8,017,669	80.5
4–5	0.000145	99,566	14	99,559	7,918,096	79.5
5–6	0.000096	99,551	10	99,547	7,818,537	78.5
6–7	0.000087	99,542	9	99,537	7,718,991	77.5
7–8	0.000081	99,533	8	99,529	7,619,453	76.6
8–9	0.000077	99,525	8	99,521	7,519,924	75.6
9–10	0.000075	99,517	7	99,514	7,420,403	74.6
10–11	0.000077	99,510	8	99,506	7,320,889	73.6
11–12	0.000086	99,502	9	99,498	7,221,383	72.6
12–13	0.000104	99,494	10	99,489	7,121,885	71.6
13–14	0.000135	99,483	13	99,477	7,022,396	70.6
14–15	0.000175	99,470	17	99,461	6,922,919	69.6
15–16	0.000218	99,453	22	99,442	6,823,458	68.6
16–17	0.000263	99,431	26	99,418	6,724,016	67.6
17–18	0.000317	99,405	31	99,389	6,624,598	66.6
18–19	0.000379	99,373	38	99,355	6,525,209	65.7
19–20	0.000445	99,336	44	99,314	6,425,855	64.7
20–21	0.000513	99,292	51	99,266	6,326,541	63.7
21–22	0.000576	99,241	57	99,212	6,227,275	62.7
22–23	0.000624	99,183	62	99,152	6,128,063	61.8
23–24	0.000651	99,122	65	99,089	6,028,911	60.8
24–25	0.000665	99,057	66	99,024	5,929,822	59.9
25–26	0.000675	98,991	67	98,958	5,830,798	58.9
26–27	0.000686	98,924	68	98,890	5,731,840	57.9
27–28	0.000695	98,856	69	98,822	5,632,949	57.0
28–29	0.000702	98,788	69	98,753	5,534,127	56.0
29–30	0.000709	98,718	70	98,683	5,435,374	55.1
30–31	0.000716	98,648	71	98,613	5,336,691	54.1
31–32	0.000726	98,578	72	98,542	5,238,078	53.1
32–33	0.000738	98,506	73	98,470	5,139,536	52.2
33–34	0.000756	98,434	74	98,396	5,041,066	51.2
34–35	0.000779	98,359	77	98,321	4,942,669	50.3
35–36	0.000804	98,283	79	98,243	4,844,349	49.3
36–37	0.000835	98,204	82	98,163	4,746,105	48.3
37–38	0.000881	98,122	86	98,078	4,647,943	47.4
38–39	0.000947	98,035	93	97,989	4,549,864	46.4
39–40	0.001029	97,942	101	97,892	4,451,876	45.5
40–41	0.001125	97,842	110	97,787	4,353,984	44.5
41–42	0.001227	97,732	120	97,672	4,256,197	43.5
42–43	0.001325	97,612	129	97,547	4,158,526	42.6
43–44	0.001415	97,482	138	97,413	4,060,979	41.7
44–45	0.001501	97,344	146	97,271	3,963,565	40.7
45–46	0.001593	97,198	155	97,121	3,866,294	39.8
46–47	0.001703	97,043	165	96,961	3,769,173	38.8
47–48	0.001834	96,878	178	96,789	3,672,212	37.9
48–49	0.001988	96,701	192	96,604	3,575,423	37.0
49–50	0.002159	96,508	208	96,404	3,478,818	36.0
50–51	0.002340	96,300	225	96,187	3,382,414	35.1
51–52	0.002527	96,075	243	95,953	3,286,227	34.2
52–53	0.002722	95,832	261	95,701	3,190,274	33.3
53–54	0.002934	95,571	280	95,431	3,094,572	32.4
54–55	0.003174	95,291	302	95,139	2,999,142	31.5
55–56	0.003450	94,988	328	94,824	2,904,002	30.6
56–57	0.003761	94,660	356	94,482	2,809,178	29.7
57–58	0.004105	94,304	387	94,111	2,714,696	28.8
58–59	0.004466	93,917	419	93,708	2,620,585	27.9
59–60	0.004840	93,498	453	93,272	2,526,877	27.0

See footnotes at end of table.

Table 11. Life table for Asian, non-Hispanic males: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table11.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	0.005228	93,045	486	92,802	2,433,606	26.2
61–62	0.005652	92,559	523	92,297	2,340,804	25.3
62–63	0.006129	92,036	564	91,754	2,248,506	24.4
63–64	0.006680	91,472	611	91,166	2,156,753	23.6
64–65	0.007305	90,861	664	90,529	2,065,587	22.7
65–66	0.007975	90,197	719	89,837	1,975,058	21.9
66–67	0.008686	89,478	777	89,089	1,885,221	21.1
67–68	0.009477	88,700	841	88,280	1,796,132	20.2
68–69	0.010368	87,860	911	87,404	1,707,852	19.4
69–70	0.011362	86,949	988	86,455	1,620,447	18.6
70–71	0.012479	85,961	1,073	85,425	1,533,992	17.8
71–72	0.013687	84,888	1,162	84,307	1,448,568	17.1
72–73	0.014941	83,726	1,251	83,101	1,364,261	16.3
73–74	0.016220	82,475	1,338	81,806	1,281,160	15.5
74–75	0.017573	81,138	1,426	80,425	1,199,353	14.8
75–76	0.019035	79,712	1,517	78,953	1,118,928	14.0
76–77	0.020729	78,194	1,621	77,384	1,039,975	13.3
77–78	0.023170	76,574	1,774	75,686	962,591	12.6
78–79	0.025851	74,799	1,934	73,833	886,905	11.9
79–80	0.029458	72,866	2,146	71,792	813,072	11.2
80–81	0.032966	70,719	2,331	69,554	741,280	10.5
81–82	0.037903	68,388	2,592	67,092	671,726	9.8
82–83	0.043184	65,796	2,841	64,375	604,634	9.2
83–84	0.048481	62,954	3,052	61,428	540,259	8.6
84–85	0.054560	59,902	3,268	58,268	478,831	8.0
85–86	0.061539	56,634	3,485	54,892	420,562	7.4
86–87	0.069355	53,149	3,686	51,306	365,671	6.9
87–88	0.079688	49,463	3,942	47,492	314,365	6.4
88–89	0.091290	45,521	4,156	43,443	266,873	5.9
89–90	0.104240	41,366	4,312	39,210	223,430	5.4
90–91	0.118595	37,054	4,394	34,856	184,220	5.0
91–92	0.134393	32,659	4,389	30,465	149,364	4.6
92–93	0.151638	28,270	4,287	26,127	118,899	4.2
93–94	0.170299	23,983	4,084	21,941	92,772	3.9
94–95	0.190304	19,899	3,787	18,006	70,831	3.6
95–96	0.211538	16,112	3,408	14,408	52,826	3.3
96–97	0.233841	12,704	2,971	11,218	38,418	3.0
97–98	0.257013	9,733	2,502	8,482	27,199	2.8
98–99	0.280819	7,232	2,031	6,216	18,717	2.6
99–100	0.304999	5,201	1,586	4,408	12,501	2.4
100 and older	1.000000	3,615	3,615	8,093	8,093	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, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.003074	100,000	307	99,728	8,705,092	87.1
1–2	0.000325	99,693	32	99,676	8,605,364	86.3
2–3	0.000040	99,660	4	99,658	8,505,688	85.3
3–4	0.000132	99,656	13	99,650	8,406,030	84.4
4–5	0.000091	99,643	9	99,639	8,306,380	83.4
5–6	0.000083	99,634	8	99,630	8,206,742	82.4
6–7	0.000084	99,626	8	99,622	8,107,112	81.4
7–8	0.000084	99,617	8	99,613	8,007,490	80.4
8–9	0.000083	99,609	8	99,605	7,907,877	79.4
9–10	0.000081	99,601	8	99,597	7,808,272	78.4
10–11	0.000079	99,593	8	99,589	7,708,675	77.4
11–12	0.000080	99,585	8	99,581	7,609,087	76.4
12–13	0.000087	99,577	9	99,573	7,509,506	75.4
13–14	0.000103	99,568	10	99,563	7,409,933	74.4
14–15	0.000124	99,558	12	99,552	7,310,370	73.4
15–16	0.000148	99,546	15	99,538	7,210,818	72.4
16–17	0.000171	99,531	17	99,522	7,111,280	71.4
17–18	0.000188	99,514	19	99,504	7,011,758	70.5
18–19	0.000198	99,495	20	99,485	6,912,253	69.5
19–20	0.000203	99,475	20	99,465	6,812,768	68.5
20–21	0.000206	99,455	21	99,445	6,713,303	67.5
21–22	0.000211	99,435	21	99,424	6,613,858	66.5
22–23	0.000217	99,414	22	99,403	6,514,433	65.5
23–24	0.000225	99,392	22	99,381	6,415,030	64.5
24–25	0.000234	99,370	23	99,358	6,315,649	63.6
25–26	0.000245	99,346	24	99,334	6,216,291	62.6
26–27	0.000255	99,322	25	99,310	6,116,957	61.6
27–28	0.000260	99,297	26	99,284	6,017,647	60.6
28–29	0.000260	99,271	26	99,258	5,918,364	59.6
29–30	0.000257	99,245	26	99,232	5,819,105	58.6
30–31	0.000255	99,220	25	99,207	5,719,873	57.6
31–32	0.000256	99,194	25	99,182	5,620,666	56.7
32–33	0.000265	99,169	26	99,156	5,521,484	55.7
33–34	0.000285	99,143	28	99,129	5,422,328	54.7
34–35	0.000312	99,114	31	99,099	5,323,200	53.7
35–36	0.000343	99,083	34	99,066	5,224,101	52.7
36–37	0.000375	99,049	37	99,031	5,125,034	51.7
37–38	0.000410	99,012	41	98,992	5,026,003	50.8
38–39	0.000447	98,972	44	98,950	4,927,011	49.8
39–40	0.000486	98,928	48	98,904	4,828,062	48.8
40–41	0.000533	98,880	53	98,853	4,729,158	47.8
41–42	0.000583	98,827	58	98,798	4,630,305	46.9
42–43	0.000626	98,769	62	98,738	4,531,507	45.9
43–44	0.000660	98,707	65	98,675	4,432,769	44.9
44–45	0.000688	98,642	68	98,608	4,334,094	43.9
45–46	0.000713	98,574	70	98,539	4,235,485	43.0
46–47	0.000750	98,504	74	98,467	4,136,946	42.0
47–48	0.000819	98,430	81	98,390	4,038,479	41.0
48–49	0.000929	98,350	91	98,304	3,940,089	40.1
49–50	0.001068	98,258	105	98,206	3,841,785	39.1
50–51	0.001224	98,153	120	98,093	3,743,579	38.1
51–52	0.001374	98,033	135	97,966	3,645,486	37.2
52–53	0.001504	97,899	147	97,825	3,547,520	36.2
53–54	0.001605	97,751	157	97,673	3,449,695	35.3
54–55	0.001691	97,594	165	97,512	3,352,022	34.3
55–56	0.001789	97,430	174	97,342	3,254,510	33.4
56–57	0.001916	97,255	186	97,162	3,157,168	32.5
57–58	0.002061	97,069	200	96,969	3,060,006	31.5
58–59	0.002226	96,869	216	96,761	2,963,037	30.6
59–60	0.002411	96,653	233	96,537	2,866,276	29.7

See footnotes at end of table.

Table 12. Life table for Asian, non-Hispanic females: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table12.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	0.002602	96,420	251	96,295	2,769,739	28.7
61–62	0.002824	96,169	272	96,034	2,673,444	27.8
62–63	0.003122	95,898	299	95,748	2,577,411	26.9
63–64	0.003522	95,598	337	95,430	2,481,663	26.0
64–65	0.004008	95,262	382	95,071	2,386,233	25.0
65–66	0.004548	94,880	432	94,664	2,291,162	24.1
66–67	0.005106	94,448	482	94,207	2,196,498	23.3
67–68	0.005678	93,966	533	93,699	2,102,290	22.4
68–69	0.006250	93,433	584	93,141	2,008,591	21.5
69–70	0.006842	92,849	635	92,531	1,915,450	20.6
70–71	0.007479	92,213	690	91,869	1,822,919	19.8
71–72	0.008195	91,524	750	91,149	1,731,051	18.9
72–73	0.009020	90,774	819	90,364	1,639,902	18.1
73–74	0.010009	89,955	900	89,505	1,549,538	17.2
74–75	0.011195	89,055	997	88,556	1,460,033	16.4
75–76	0.012598	88,058	1,109	87,503	1,371,477	15.6
76–77	0.014190	86,948	1,234	86,331	1,283,974	14.8
77–78	0.016209	85,714	1,389	85,020	1,197,643	14.0
78–79	0.018294	84,325	1,543	83,554	1,112,623	13.2
79–80	0.020954	82,783	1,735	81,915	1,029,069	12.4
80–81	0.023803	81,048	1,929	80,083	947,154	11.7
81–82	0.027553	79,119	2,180	78,029	867,070	11.0
82–83	0.031601	76,939	2,431	75,723	789,042	10.3
83–84	0.036205	74,507	2,698	73,159	713,319	9.6
84–85	0.041679	71,810	2,993	70,313	640,160	8.9
85–86	0.046828	68,817	3,223	67,206	569,847	8.3
86–87	0.054562	65,594	3,579	63,805	502,641	7.7
87–88	0.063426	62,015	3,933	60,049	438,836	7.1
88–89	0.073538	58,082	4,271	55,946	378,787	6.5
89–90	0.085012	53,811	4,575	51,524	322,841	6.0
90–91	0.097955	49,236	4,823	46,825	271,317	5.5
91–92	0.112455	44,413	4,994	41,916	224,493	5.1
92–93	0.128581	39,419	5,068	36,885	182,577	4.6
93–94	0.146368	34,350	5,028	31,836	145,692	4.2
94–95	0.165814	29,323	4,862	26,891	113,856	3.9
95–96	0.186869	24,460	4,571	22,175	86,964	3.6
96–97	0.209433	19,890	4,166	17,807	64,789	3.3
97–98	0.233350	15,724	3,669	13,889	46,982	3.0
98–99	0.258414	12,055	3,115	10,497	33,093	2.7
99–100	0.284370	8,940	2,542	7,669	22,596	2.5
100 and older	1.000000	6,398	6,398	14,927	14,927	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 13. Life table for the Black, non-Hispanic population: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.010872	100,000	1,087	99,070	7,398,556	74.0
1–2	0.000818	98,913	81	98,872	7,299,485	73.8
2–3	0.000529	98,832	52	98,806	7,200,613	72.9
3–4	0.000406	98,780	40	98,760	7,101,807	71.9
4–5	0.000338	98,739	33	98,723	7,003,048	70.9
5–6	0.000291	98,706	29	98,692	6,904,325	69.9
6–7	0.000267	98,677	26	98,664	6,805,633	69.0
7–8	0.000246	98,651	24	98,639	6,706,969	68.0
8–9	0.000218	98,627	21	98,616	6,608,330	67.0
9–10	0.000185	98,605	18	98,596	6,509,714	66.0
10–11	0.000161	98,587	16	98,579	6,411,118	65.0
11–12	0.000171	98,571	17	98,563	6,312,538	64.0
12–13	0.000243	98,555	24	98,543	6,213,975	63.1
13–14	0.000393	98,531	39	98,511	6,115,433	62.1
14–15	0.000595	98,492	59	98,462	6,016,922	61.1
15–16	0.000816	98,433	80	98,393	5,918,459	60.1
16–17	0.001023	98,353	101	98,302	5,820,066	59.2
17–18	0.001209	98,252	119	98,193	5,721,764	58.2
18–19	0.001364	98,133	134	98,066	5,623,571	57.3
19–20	0.001495	97,999	146	97,926	5,525,505	56.4
20–21	0.001632	97,853	160	97,773	5,427,579	55.5
21–22	0.001773	97,693	173	97,607	5,329,805	54.6
22–23	0.001879	97,520	183	97,428	5,232,199	53.7
23–24	0.001941	97,337	189	97,242	5,134,770	52.8
24–25	0.001972	97,148	192	97,052	5,037,528	51.9
25–26	0.001986	96,956	193	96,860	4,940,476	51.0
26–27	0.002013	96,764	195	96,666	4,843,616	50.1
27–28	0.002070	96,569	200	96,469	4,746,950	49.2
28–29	0.002168	96,369	209	96,265	4,650,481	48.3
29–30	0.002292	96,160	220	96,050	4,554,216	47.4
30–31	0.002417	95,940	232	95,824	4,458,166	46.5
31–32	0.002531	95,708	242	95,587	4,362,343	45.6
32–33	0.002639	95,466	252	95,340	4,266,756	44.7
33–34	0.002748	95,214	262	95,083	4,171,416	43.8
34–35	0.002867	94,952	272	94,816	4,076,333	42.9
35–36	0.003001	94,680	284	94,538	3,981,518	42.1
36–37	0.003156	94,396	298	94,247	3,886,980	41.2
37–38	0.003339	94,098	314	93,941	3,792,733	40.3
38–39	0.003543	93,784	332	93,617	3,698,793	39.4
39–40	0.003756	93,451	351	93,276	3,605,175	38.6
40–41	0.003985	93,100	371	92,915	3,511,900	37.7
41–42	0.004219	92,729	391	92,534	3,418,985	36.9
42–43	0.004428	92,338	409	92,134	3,326,451	36.0
43–44	0.004608	91,929	424	91,717	3,234,318	35.2
44–45	0.004779	91,505	437	91,287	3,142,601	34.3
45–46	0.004971	91,068	453	90,842	3,051,314	33.5
46–47	0.005205	90,616	472	90,380	2,960,472	32.7
47–48	0.005475	90,144	494	89,897	2,870,092	31.8
48–49	0.005776	89,650	518	89,391	2,780,195	31.0
49–50	0.006103	89,133	544	88,861	2,690,804	30.2
50–51	0.006445	88,589	571	88,303	2,601,943	29.4
51–52	0.006824	88,018	601	87,717	2,513,640	28.6
52–53	0.007268	87,417	635	87,099	2,425,923	27.8
53–54	0.007803	86,782	677	86,443	2,338,823	27.0
54–55	0.008430	86,104	726	85,742	2,252,380	26.2
55–56	0.009094	85,379	776	84,990	2,166,639	25.4
56–57	0.009802	84,602	829	84,188	2,081,648	24.6
57–58	0.010619	83,773	890	83,328	1,997,461	23.8
58–59	0.011552	82,883	957	82,405	1,914,133	23.1
59–60	0.012560	81,926	1,029	81,411	1,831,728	22.4

See footnotes at end of table.

Table 13. Life table for the Black, non-Hispanic population: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table13.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	0.013587	80,897	1,099	80,347	1,750,317	21.6
61–62	0.014616	79,798	1,166	79,215	1,669,969	20.9
62–63	0.015683	78,631	1,233	78,015	1,590,755	20.2
63–64	0.016820	77,398	1,302	76,747	1,512,740	19.5
64–65	0.018042	76,096	1,373	75,410	1,435,993	18.9
65–66	0.019359	74,723	1,447	74,000	1,360,583	18.2
66–67	0.020774	73,277	1,522	72,516	1,286,583	17.6
67–68	0.022132	71,755	1,588	70,961	1,214,067	16.9
68–69	0.023509	70,166	1,650	69,342	1,143,107	16.3
69–70	0.024845	68,517	1,702	67,666	1,073,765	15.7
70–71	0.026397	66,815	1,764	65,933	1,006,099	15.1
71–72	0.028040	65,051	1,824	64,139	940,167	14.5
72–73	0.029737	63,227	1,880	62,287	876,028	13.9
73–74	0.031501	61,347	1,933	60,380	813,741	13.3
74–75	0.033285	59,414	1,978	58,425	753,361	12.7
75–76	0.035780	57,437	2,055	56,409	694,935	12.1
76–77	0.037469	55,381	2,075	54,344	638,527	11.5
77–78	0.041253	53,306	2,199	52,207	584,183	11.0
78–79	0.043886	51,107	2,243	49,986	531,976	10.4
79–80	0.048895	48,864	2,389	47,670	481,990	9.9
80–81	0.053113	46,475	2,468	45,241	434,320	9.3
81–82	0.058808	44,007	2,588	42,713	389,079	8.8
82–83	0.063828	41,419	2,644	40,097	346,367	8.4
83–84	0.068780	38,775	2,667	37,442	306,270	7.9
84–85	0.075594	36,108	2,730	34,743	268,828	7.4
85–86	0.082129	33,379	2,741	32,008	234,085	7.0
86–87	0.089447	30,637	2,740	29,267	202,077	6.6
87–88	0.098161	27,897	2,738	26,528	172,810	6.2
88–89	0.107565	25,158	2,706	23,805	146,282	5.8
89–90	0.117684	22,452	2,642	21,131	122,477	5.5
90–91	0.128536	19,810	2,546	18,537	101,346	5.1
91–92	0.140133	17,264	2,419	16,054	82,809	4.8
92–93	0.152480	14,844	2,263	13,713	66,755	4.5
93–94	0.165573	12,581	2,083	11,539	53,042	4.2
94–95	0.179397	10,498	1,883	9,556	41,503	4.0
95–96	0.193930	8,615	1,671	7,779	31,946	3.7
96–97	0.209134	6,944	1,452	6,218	24,167	3.5
97–98	0.224963	5,492	1,235	4,874	17,949	3.3
98–99	0.241358	4,256	1,027	3,743	13,075	3.1
99–100	0.258249	3,229	834	2,812	9,332	2.9
100 and older	1.000000	2,395	2,395	6,520	6,520	2.7

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, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.011499	100,000	1,150	99,016	7,030,259	70.3
1–2	0.000819	98,850	81	98,810	6,931,244	70.1
2–3	0.000554	98,769	55	98,742	6,832,434	69.2
3–4	0.000395	98,714	39	98,695	6,733,692	68.2
4–5	0.000345	98,675	34	98,658	6,634,997	67.2
5–6	0.000294	98,641	29	98,627	6,536,339	66.3
6–7	0.000283	98,612	28	98,598	6,437,712	65.3
7–8	0.000267	98,584	26	98,571	6,339,114	64.3
8–9	0.000228	98,558	23	98,547	6,240,542	63.3
9–10	0.000171	98,536	17	98,527	6,141,996	62.3
10–11	0.000122	98,519	12	98,513	6,043,468	61.3
11–12	0.000129	98,507	13	98,500	5,944,956	60.4
12–13	0.000243	98,494	24	98,482	5,846,455	59.4
13–14	0.000492	98,470	48	98,446	5,747,973	58.4
14–15	0.000833	98,422	82	98,381	5,649,527	57.4
15–16	0.001204	98,340	118	98,280	5,551,147	56.4
16–17	0.001546	98,221	152	98,145	5,452,866	55.5
17–18	0.001845	98,069	181	97,979	5,354,721	54.6
18–19	0.002079	97,888	204	97,787	5,256,742	53.7
19–20	0.002265	97,685	221	97,574	5,158,955	52.8
20–21	0.002457	97,464	239	97,344	5,061,381	51.9
21–22	0.002652	97,224	258	97,095	4,964,037	51.1
22–23	0.002794	96,966	271	96,831	4,866,942	50.2
23–24	0.002864	96,696	277	96,557	4,770,111	49.3
24–25	0.002884	96,419	278	96,280	4,673,553	48.5
25–26	0.002877	96,141	277	96,002	4,577,274	47.6
26–27	0.002886	95,864	277	95,726	4,481,272	46.7
27–28	0.002939	95,587	281	95,447	4,385,546	45.9
28–29	0.003054	95,306	291	95,161	4,290,099	45.0
29–30	0.003209	95,015	305	94,863	4,194,939	44.2
30–31	0.003365	94,710	319	94,551	4,100,076	43.3
31–32	0.003504	94,392	331	94,226	4,005,525	42.4
32–33	0.003641	94,061	342	93,890	3,911,299	41.6
33–34	0.003782	93,718	354	93,541	3,817,409	40.7
34–35	0.003940	93,364	368	93,180	3,723,868	39.9
35–36	0.004122	92,996	383	92,804	3,630,688	39.0
36–37	0.004330	92,613	401	92,412	3,537,884	38.2
37–38	0.004563	92,212	421	92,001	3,445,472	37.4
38–39	0.004807	91,791	441	91,570	3,353,471	36.5
39–40	0.005049	91,350	461	91,119	3,261,901	35.7
40–41	0.005309	90,888	483	90,647	3,170,782	34.9
41–42	0.005580	90,406	504	90,154	3,080,134	34.1
42–43	0.005827	89,901	524	89,639	2,989,981	33.3
43–44	0.006048	89,378	541	89,107	2,900,341	32.5
44–45	0.006266	88,837	557	88,559	2,811,234	31.6
45–46	0.006511	88,280	575	87,993	2,722,675	30.8
46–47	0.006808	87,706	597	87,407	2,634,682	30.0
47–48	0.007156	87,109	623	86,797	2,547,275	29.2
48–49	0.007547	86,485	653	86,159	2,460,478	28.4
49–50	0.007971	85,832	684	85,490	2,374,320	27.7
50–51	0.008416	85,148	717	84,790	2,288,829	26.9
51–52	0.008901	84,432	751	84,056	2,204,039	26.1
52–53	0.009455	83,680	791	83,285	2,119,983	25.3
53–54	0.010108	82,889	838	82,470	2,036,699	24.6
54–55	0.010868	82,051	892	81,605	1,954,229	23.8
55–56	0.011667	81,159	947	80,686	1,872,623	23.1
56–57	0.012527	80,213	1,005	79,710	1,791,937	22.3
57–58	0.013548	79,208	1,073	78,671	1,712,227	21.6
58–59	0.014747	78,135	1,152	77,559	1,633,556	20.9
59–60	0.016064	76,982	1,237	76,364	1,555,997	20.2

See footnotes at end of table.

Table 14. Life table for Black, non-Hispanic males: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.017409	75,746	1,319	75,086	1,479,633	19.5
61–62	0.018749	74,427	1,395	73,729	1,404,547	18.9
62–63	0.020138	73,032	1,471	72,296	1,330,817	18.2
63–64	0.021613	71,561	1,547	70,788	1,258,521	17.6
64–65	0.023201	70,014	1,624	69,202	1,187,733	17.0
65–66	0.024928	68,390	1,705	67,537	1,118,531	16.4
66–67	0.026784	66,685	1,786	65,792	1,050,994	15.8
67–68	0.028526	64,899	1,851	63,973	985,202	15.2
68–69	0.030246	63,048	1,907	62,094	921,228	14.6
69–70	0.031945	61,141	1,953	60,164	859,134	14.1
70–71	0.033969	59,188	2,011	58,182	798,970	13.5
71–72	0.036058	57,177	2,062	56,146	740,788	13.0
72–73	0.038024	55,115	2,096	54,068	684,642	12.4
73–74	0.040261	53,020	2,135	51,952	630,574	11.9
74–75	0.042111	50,885	2,143	49,814	578,622	11.4
75–76	0.044905	48,742	2,189	47,648	528,808	10.8
76–77	0.046683	46,553	2,173	45,467	481,160	10.3
77–78	0.051523	44,380	2,287	43,237	435,693	9.8
78–79	0.053982	42,094	2,272	40,957	392,457	9.3
79–80	0.060084	39,821	2,393	38,625	351,499	8.8
80–81	0.064778	37,429	2,425	36,216	312,874	8.4
81–82	0.071872	35,004	2,516	33,746	276,658	7.9
82–83	0.077726	32,488	2,525	31,226	242,911	7.5
83–84	0.082836	29,963	2,482	28,722	211,686	7.1
84–85	0.090092	27,481	2,476	26,243	182,964	6.7
85–86	0.099883	25,005	2,498	23,756	156,720	6.3
86–87	0.104154	22,508	2,344	21,336	132,964	5.9
87–88	0.114280	20,163	2,304	19,011	111,628	5.5
88–89	0.125172	17,859	2,235	16,741	92,617	5.2
89–90	0.136844	15,624	2,138	14,555	75,876	4.9
90–91	0.149305	13,486	2,013	12,479	61,321	4.5
91–92	0.162552	11,472	1,865	10,540	48,842	4.3
92–93	0.176574	9,607	1,696	8,759	38,302	4.0
93–94	0.191346	7,911	1,514	7,154	29,543	3.7
94–95	0.206832	6,397	1,323	5,736	22,389	3.5
95–96	0.222984	5,074	1,131	4,508	16,654	3.3
96–97	0.239739	3,943	945	3,470	12,145	3.1
97–98	0.257024	2,997	770	2,612	8,675	2.9
98–99	0.274754	2,227	612	1,921	6,063	2.7
99–100	0.292831	1,615	473	1,379	4,142	2.6
100 and older	1.000000	1,142	1,142	2,763	2,763	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 15. Life table for Black, non-Hispanic females: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.010224	100,000	1,022	99,128	7,762,525	77.6
1–2	0.000719	98,978	71	98,942	7,663,397	77.4
2–3	0.000437	98,907	43	98,885	7,564,455	76.5
3–4	0.000370	98,863	37	98,845	7,465,570	75.5
4–5	0.000290	98,827	29	98,812	7,366,725	74.5
5–6	0.000254	98,798	25	98,786	7,267,913	73.6
6–7	0.000222	98,773	22	98,762	7,169,127	72.6
7–8	0.000198	98,751	20	98,741	7,070,365	71.6
8–9	0.000179	98,731	18	98,723	6,971,624	70.6
9–10	0.000165	98,714	16	98,706	6,872,902	69.6
10–11	0.000158	98,698	16	98,690	6,774,196	68.6
11–12	0.000166	98,682	16	98,674	6,675,506	67.6
12–13	0.000196	98,665	19	98,656	6,576,833	66.7
13–14	0.000249	98,646	25	98,634	6,478,177	65.7
14–15	0.000321	98,622	32	98,606	6,379,543	64.7
15–16	0.000401	98,590	39	98,570	6,280,937	63.7
16–17	0.000480	98,550	47	98,527	6,182,367	62.7
17–18	0.000559	98,503	55	98,476	6,083,840	61.8
18–19	0.000637	98,448	63	98,417	5,985,365	60.8
19–20	0.000713	98,385	70	98,350	5,886,948	59.8
20–21	0.000796	98,315	78	98,276	5,788,598	58.9
21–22	0.000882	98,237	87	98,194	5,690,322	57.9
22–23	0.000955	98,150	94	98,103	5,592,128	57.0
23–24	0.001008	98,057	99	98,007	5,494,025	56.0
24–25	0.001049	97,958	103	97,906	5,396,018	55.1
25–26	0.001084	97,855	106	97,802	5,298,111	54.1
26–27	0.001128	97,749	110	97,694	5,200,310	53.2
27–28	0.001190	97,639	116	97,580	5,102,616	52.3
28–29	0.001273	97,522	124	97,460	5,005,035	51.3
29–30	0.001369	97,398	133	97,332	4,907,575	50.4
30–31	0.001467	97,265	143	97,193	4,810,244	49.5
31–32	0.001558	97,122	151	97,046	4,713,050	48.5
32–33	0.001644	96,971	159	96,891	4,616,004	47.6
33–34	0.001728	96,811	167	96,728	4,519,113	46.7
34–35	0.001819	96,644	176	96,556	4,422,385	45.8
35–36	0.001919	96,468	185	96,376	4,325,829	44.8
36–37	0.002037	96,283	196	96,185	4,229,453	43.9
37–38	0.002184	96,087	210	95,982	4,133,268	43.0
38–39	0.002361	95,877	226	95,764	4,037,286	42.1
39–40	0.002552	95,651	244	95,529	3,941,522	41.2
40–41	0.002759	95,407	263	95,275	3,845,993	40.3
41–42	0.002965	95,143	282	95,002	3,750,718	39.4
42–43	0.003146	94,861	298	94,712	3,655,716	38.5
43–44	0.003296	94,563	312	94,407	3,561,004	37.7
44–45	0.003433	94,251	324	94,089	3,466,597	36.8
45–46	0.003586	93,928	337	93,759	3,372,507	35.9
46–47	0.003772	93,591	353	93,414	3,278,748	35.0
47–48	0.003980	93,238	371	93,052	3,185,334	34.2
48–49	0.004204	92,867	390	92,672	3,092,281	33.3
49–50	0.004443	92,476	411	92,271	2,999,610	32.4
50–51	0.004692	92,066	432	91,849	2,907,339	31.6
51–52	0.004974	91,633	456	91,406	2,815,489	30.7
52–53	0.005319	91,178	485	90,935	2,724,084	29.9
53–54	0.005751	90,693	522	90,432	2,633,149	29.0
54–55	0.006263	90,171	565	89,889	2,542,717	28.2
55–56	0.006812	89,606	610	89,301	2,452,828	27.4
56–57	0.007392	88,996	658	88,667	2,363,527	26.6
57–58	0.008038	88,338	710	87,983	2,274,860	25.8
58–59	0.008747	87,628	766	87,245	2,186,877	25.0
59–60	0.009498	86,862	825	86,449	2,099,632	24.2

See footnotes at end of table.

Table 15. Life table for Black, non-Hispanic females: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.010261	86,037	883	85,595	2,013,183	23.4
61–62	0.011038	85,154	940	84,684	1,927,588	22.6
62–63	0.011856	84,214	998	83,715	1,842,904	21.9
63–64	0.012743	83,215	1,060	82,685	1,759,189	21.1
64–65	0.013707	82,155	1,126	81,592	1,676,504	20.4
65–66	0.014745	81,029	1,195	80,432	1,594,912	19.7
66–67	0.015860	79,834	1,266	79,201	1,514,480	19.0
67–68	0.016980	78,568	1,334	77,901	1,435,279	18.3
68–69	0.018165	77,234	1,403	76,532	1,357,378	17.6
69–70	0.019310	75,831	1,464	75,099	1,280,846	16.9
70–71	0.020605	74,367	1,532	73,601	1,205,747	16.2
71–72	0.022029	72,834	1,604	72,032	1,132,146	15.5
72–73	0.023653	71,230	1,685	70,388	1,060,114	14.9
73–74	0.025156	69,545	1,749	68,670	989,727	14.2
74–75	0.026976	67,796	1,829	66,881	921,056	13.6
75–76	0.029299	65,967	1,933	65,000	854,175	12.9
76–77	0.031015	64,034	1,986	63,041	789,175	12.3
77–78	0.034176	62,048	2,121	60,988	726,134	11.7
78–79	0.037091	59,927	2,223	58,816	665,146	11.1
79–80	0.041485	57,705	2,394	56,508	606,330	10.5
80–81	0.045606	55,311	2,522	54,050	549,822	9.9
81–82	0.050631	52,788	2,673	51,452	495,773	9.4
82–83	0.055472	50,116	2,780	48,726	444,321	8.9
83–84	0.060556	47,336	2,866	45,902	395,595	8.4
84–85	0.067266	44,469	2,991	42,973	349,693	7.9
85–86	0.072300	41,478	2,999	39,978	306,719	7.4
86–87	0.081103	38,479	3,121	36,919	266,741	6.9
87–88	0.089546	35,358	3,166	33,775	229,822	6.5
88–89	0.098720	32,192	3,178	30,603	196,047	6.1
89–90	0.108657	29,014	3,153	27,438	165,444	5.7
90–91	0.119384	25,861	3,087	24,318	138,007	5.3
91–92	0.130921	22,774	2,982	21,283	113,689	5.0
92–93	0.143282	19,792	2,836	18,374	92,406	4.7
93–94	0.156468	16,957	2,653	15,630	74,031	4.4
94–95	0.170473	14,303	2,438	13,084	58,401	4.1
95–96	0.185277	11,865	2,198	10,766	45,317	3.8
96–97	0.200845	9,667	1,942	8,696	34,551	3.6
97–98	0.217132	7,725	1,677	6,886	25,855	3.3
98–99	0.234075	6,048	1,416	5,340	18,969	3.1
99–100	0.251601	4,632	1,165	4,049	13,629	2.9
100 and older	1.000000	3467	3467	9579	9579	2.8

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 16. Life table for the White, non-Hispanic population: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table16.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	0.004464	100,000	446	99,612	7,844,599	78.4
1–2	0.000307	99,554	31	99,538	7,744,987	77.8
2–3	0.000230	99,523	23	99,512	7,645,449	76.8
3–4	0.000173	99,500	17	99,492	7,545,937	75.8
4–5	0.000128	99,483	13	99,477	7,446,446	74.9
5–6	0.000130	99,470	13	99,464	7,346,969	73.9
6–7	0.000119	99,457	12	99,451	7,247,506	72.9
7–8	0.000110	99,445	11	99,440	7,148,054	71.9
8–9	0.000101	99,434	10	99,429	7,048,614	70.9
9–10	0.000091	99,424	9	99,420	6,949,185	69.9
10–11	0.000087	99,415	9	99,411	6,849,765	68.9
11–12	0.000095	99,407	9	99,402	6,750,354	67.9
12–13	0.000124	99,397	12	99,391	6,650,952	66.9
13–14	0.000178	99,385	18	99,376	6,551,561	65.9
14–15	0.000250	99,367	25	99,355	6,452,185	64.9
15–16	0.000328	99,342	33	99,326	6,352,830	63.9
16–17	0.000404	99,310	40	99,290	6,253,504	63.0
17–18	0.000476	99,270	47	99,246	6,154,215	62.0
18–19	0.000541	99,222	54	99,196	6,054,969	61.0
19–20	0.000602	99,169	60	99,139	5,955,773	60.1
20–21	0.000669	99,109	66	99,076	5,856,634	59.1
21–22	0.000740	99,043	73	99,006	5,757,558	58.1
22–23	0.000806	98,969	80	98,930	5,658,552	57.2
23–24	0.000865	98,890	86	98,847	5,559,623	56.2
24–25	0.000920	98,804	91	98,759	5,460,776	55.3
25–26	0.000974	98,713	96	98,665	5,362,017	54.3
26–27	0.001035	98,617	102	98,566	5,263,352	53.4
27–28	0.001113	98,515	110	98,460	5,164,786	52.4
28–29	0.001212	98,405	119	98,346	5,066,326	51.5
29–30	0.001322	98,286	130	98,221	4,967,980	50.5
30–31	0.001435	98,156	141	98,086	4,869,759	49.6
31–32	0.001541	98,015	151	97,940	4,771,673	48.7
32–33	0.001639	97,864	160	97,784	4,673,733	47.8
33–34	0.001728	97,704	169	97,619	4,575,949	46.8
34–35	0.001813	97,535	177	97,446	4,478,330	45.9
35–36	0.001900	97,358	185	97,266	4,380,884	45.0
36–37	0.001994	97,173	194	97,076	4,283,618	44.1
37–38	0.002096	96,979	203	96,878	4,186,542	43.2
38–39	0.002206	96,776	213	96,669	4,089,664	42.3
39–40	0.002322	96,563	224	96,451	3,992,995	41.4
40–41	0.002453	96,338	236	96,220	3,896,544	40.4
41–42	0.002589	96,102	249	95,978	3,800,324	39.5
42–43	0.002712	95,853	260	95,723	3,704,346	38.6
43–44	0.002819	95,593	269	95,459	3,608,623	37.7
44–45	0.002925	95,324	279	95,184	3,513,164	36.9
45–46	0.003052	95,045	290	94,900	3,417,980	36.0
46–47	0.003220	94,755	305	94,602	3,323,080	35.1
47–48	0.003430	94,450	324	94,288	3,228,478	34.2
48–49	0.003678	94,126	346	93,953	3,134,190	33.3
49–50	0.003949	93,780	370	93,595	3,040,237	32.4
50–51	0.004239	93,409	396	93,211	2,946,642	31.5
51–52	0.004551	93,013	423	92,802	2,853,431	30.7
52–53	0.004892	92,590	453	92,364	2,760,629	29.8
53–54	0.005276	92,137	486	91,894	2,668,266	29.0
54–55	0.005713	91,651	524	91,389	2,576,371	28.1
55–56	0.006174	91,128	563	90,846	2,484,982	27.3
56–57	0.006677	90,565	605	90,263	2,394,136	26.4
57–58	0.007265	89,960	654	89,633	2,303,873	25.6
58–59	0.007933	89,307	708	88,952	2,214,240	24.8
59–60	0.008641	88,598	766	88,215	2,125,287	24.0

See footnotes at end of table.

Table 16. Life table for the White, non-Hispanic population: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.009357	87,833	822	87,422	2,037,072	23.2
61–62	0.010065	87,011	876	86,573	1,949,650	22.4
62–63	0.010772	86,135	928	85,671	1,863,077	21.6
63–64	0.011497	85,207	980	84,717	1,777,406	20.9
64–65	0.012268	84,228	1,033	83,711	1,692,689	20.1
65–66	0.013107	83,194	1,090	82,649	1,608,978	19.3
66–67	0.014133	82,104	1,160	81,524	1,526,329	18.6
67–68	0.015111	80,943	1,223	80,332	1,444,805	17.8
68–69	0.016187	79,720	1,290	79,075	1,364,473	17.1
69–70	0.017385	78,430	1,364	77,748	1,285,398	16.4
70–71	0.018520	77,066	1,427	76,353	1,207,650	15.7
71–72	0.020024	75,639	1,515	74,882	1,131,297	15.0
72–73	0.021708	74,125	1,609	73,320	1,056,415	14.3
73–74	0.023809	72,515	1,727	71,652	983,095	13.6
74–75	0.026179	70,789	1,853	69,862	911,443	12.9
75–76	0.028867	68,936	1,990	67,941	841,581	12.2
76–77	0.031314	66,946	2,096	65,898	773,640	11.6
77–78	0.035519	64,849	2,303	63,698	707,742	10.9
78–79	0.038726	62,546	2,422	61,335	644,044	10.3
79–80	0.043387	60,124	2,609	58,820	582,709	9.7
80–81	0.047731	57,515	2,745	56,143	523,890	9.1
81–82	0.053724	54,770	2,942	53,299	467,747	8.5
82–83	0.060069	51,828	3,113	50,271	414,448	8.0
83–84	0.066685	48,714	3,249	47,090	364,177	7.5
84–85	0.074278	45,466	3,377	43,777	317,087	7.0
85–86	0.081722	42,089	3,440	40,369	273,310	6.5
86–87	0.092126	38,649	3,561	36,869	232,941	6.0
87–88	0.103621	35,089	3,636	33,271	196,072	5.6
88–89	0.116259	31,453	3,657	29,624	162,801	5.2
89–90	0.130083	27,796	3,616	25,988	133,177	4.8
90–91	0.145116	24,180	3,509	22,426	107,189	4.4
91–92	0.161365	20,671	3,336	19,003	84,763	4.1
92–93	0.178810	17,336	3,100	15,786	65,759	3.8
93–94	0.197403	14,236	2,810	12,831	49,974	3.5
94–95	0.217070	11,426	2,480	10,186	37,143	3.3
95–96	0.237703	8,946	2,126	7,882	26,957	3.0
96–97	0.259168	6,819	1,767	5,935	19,075	2.8
97–98	0.281299	5,052	1,421	4,341	13,139	2.6
98–99	0.303911	3,631	1,103	3,079	8,798	2.4
99–100	0.326799	2,527	826	2,114	5,719	2.3
100 and older	1.000000	1,701	1,701	3,605	3,605	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 17. Life table for White, non-Hispanic males: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.004874	100,000	487	99,578	7,602,198	76.0
1–2	0.000430	99,513	43	99,491	7,502,620	75.4
2–3	0.000340	99,470	34	99,453	7,403,129	74.4
3–4	0.000237	99,436	24	99,424	7,303,676	73.5
4–5	0.000158	99,412	16	99,405	7,204,252	72.5
5–6	0.000159	99,397	16	99,389	7,104,847	71.5
6–7	0.000141	99,381	14	99,374	7,005,458	70.5
7–8	0.000127	99,367	13	99,361	6,906,084	69.5
8–9	0.000115	99,354	11	99,349	6,806,724	68.5
9–10	0.000103	99,343	10	99,338	6,707,375	67.5
10–11	0.000099	99,333	10	99,328	6,608,037	66.5
11–12	0.000112	99,323	11	99,317	6,508,709	65.5
12–13	0.000155	99,312	15	99,304	6,409,392	64.5
13–14	0.000232	99,296	23	99,285	6,310,088	63.5
14–15	0.000333	99,273	33	99,257	6,210,803	62.6
15–16	0.000442	99,240	44	99,218	6,111,546	61.6
16–17	0.000549	99,196	54	99,169	6,012,328	60.6
17–18	0.000650	99,142	64	99,110	5,913,159	59.6
18–19	0.000745	99,077	74	99,041	5,814,049	58.7
19–20	0.000835	99,004	83	98,962	5,715,009	57.7
20–21	0.000932	98,921	92	98,875	5,616,047	56.8
21–22	0.001034	98,829	102	98,778	5,517,172	55.8
22–23	0.001129	98,727	111	98,671	5,418,394	54.9
23–24	0.001214	98,615	120	98,555	5,319,723	53.9
24–25	0.001295	98,495	128	98,432	5,221,168	53.0
25–26	0.001372	98,368	135	98,300	5,122,736	52.1
26–27	0.001458	98,233	143	98,161	5,024,436	51.1
27–28	0.001562	98,090	153	98,013	4,926,274	50.2
28–29	0.001686	97,936	165	97,854	4,828,261	49.3
29–30	0.001822	97,771	178	97,682	4,730,407	48.4
30–31	0.001959	97,593	191	97,498	4,632,725	47.5
31–32	0.002088	97,402	203	97,300	4,535,227	46.6
32–33	0.002208	97,199	215	97,091	4,437,927	45.7
33–34	0.002320	96,984	225	96,872	4,340,836	44.8
34–35	0.002428	96,759	235	96,642	4,243,964	43.9
35–36	0.002538	96,524	245	96,402	4,147,322	43.0
36–37	0.002654	96,279	256	96,151	4,050,921	42.1
37–38	0.002775	96,024	266	95,890	3,954,769	41.2
38–39	0.002899	95,757	278	95,618	3,858,879	40.3
39–40	0.003025	95,480	289	95,335	3,763,260	39.4
40–41	0.003168	95,191	302	95,040	3,667,925	38.5
41–42	0.003316	94,889	315	94,732	3,572,885	37.7
42–43	0.003451	94,575	326	94,411	3,478,154	36.8
43–44	0.003570	94,248	336	94,080	3,383,742	35.9
44–45	0.003690	93,912	347	93,738	3,289,662	35.0
45–46	0.003837	93,565	359	93,386	3,195,924	34.2
46–47	0.004032	93,206	376	93,018	3,102,538	33.3
47–48	0.004277	92,830	397	92,632	3,009,520	32.4
48–49	0.004564	92,433	422	92,222	2,916,888	31.6
49–50	0.004878	92,012	449	91,787	2,824,665	30.7
50–51	0.005212	91,563	477	91,324	2,732,878	29.8
51–52	0.005576	91,086	508	90,832	2,641,554	29.0
52–53	0.005988	90,578	542	90,307	2,550,723	28.2
53–54	0.006470	90,035	583	89,744	2,460,416	27.3
54–55	0.007030	89,453	629	89,138	2,370,672	26.5
55–56	0.007627	88,824	677	88,485	2,281,534	25.7
56–57	0.008268	88,146	729	87,782	2,193,049	24.9
57–58	0.008998	87,418	787	87,024	2,105,267	24.1
58–59	0.009805	86,631	849	86,206	2,018,242	23.3
59–60	0.010646	85,782	913	85,325	1,932,036	22.5

See footnotes at end of table.

Table 17. Life table for White, non-Hispanic males: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/Table17.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	0.011489	84,868	975	84,381	1,846,711	21.8
61–62	0.012326	83,893	1,034	83,376	1,762,330	21.0
62–63	0.013176	82,859	1,092	82,313	1,678,954	20.3
63–64	0.014067	81,768	1,150	81,193	1,596,640	19.5
64–65	0.015025	80,617	1,211	80,012	1,515,448	18.8
65–66	0.016066	79,406	1,276	78,768	1,435,436	18.1
66–67	0.017353	78,130	1,356	77,453	1,356,668	17.4
67–68	0.018538	76,775	1,423	76,063	1,279,215	16.7
68–69	0.019826	75,351	1,494	74,604	1,203,152	16.0
69–70	0.021223	73,857	1,568	73,074	1,128,548	15.3
70–71	0.022494	72,290	1,626	71,477	1,055,474	14.6
71–72	0.024204	70,664	1,710	69,809	983,997	13.9
72–73	0.026142	68,953	1,803	68,052	914,188	13.3
73–74	0.028487	67,151	1,913	66,194	846,136	12.6
74–75	0.031132	65,238	2,031	64,222	779,942	12.0
75–76	0.034057	63,207	2,153	62,131	715,719	11.3
76–77	0.036693	61,054	2,240	59,934	653,589	10.7
77–78	0.041451	58,814	2,438	57,595	593,654	10.1
78–79	0.044992	56,376	2,537	55,108	536,059	9.5
79–80	0.050395	53,840	2,713	52,483	480,951	8.9
80–81	0.055206	51,126	2,823	49,715	428,468	8.4
81–82	0.062319	48,304	3,010	46,799	378,753	7.8
82–83	0.069783	45,294	3,161	43,713	331,954	7.3
83–84	0.077130	42,133	3,250	40,508	288,241	6.8
84–85	0.085410	38,883	3,321	37,223	247,733	6.4
85–86	0.094734	35,562	3,369	33,878	210,510	5.9
86–87	0.104972	32,193	3,379	30,504	176,632	5.5
87–88	0.118212	28,814	3,406	27,111	146,129	5.1
88–89	0.132729	25,408	3,372	23,722	119,018	4.7
89–90	0.148545	22,035	3,273	20,399	95,297	4.3
90–91	0.165660	18,762	3,108	17,208	74,898	4.0
91–92	0.184048	15,654	2,881	14,213	57,690	3.7
92–93	0.203646	12,773	2,601	11,472	43,476	3.4
93–94	0.224362	10,172	2,282	9,031	32,004	3.1
94–95	0.246065	7,890	1,941	6,919	22,973	2.9
95–96	0.268592	5,948	1,598	5,149	16,054	2.7
96–97	0.291751	4,351	1,269	3,716	10,905	2.5
97–98	0.315326	3,081	972	2,595	7,189	2.3
98–99	0.339082	2,110	715	1,752	4,593	2.2
99–100	0.362780	1,394	506	1,141	2,841	2.0
100 and older	1.000000	888	888	1,700	1,700	1.9

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 18. Life table for White, non-Hispanic females: United States, 2023

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.004033	100,000	403	99,648	8,094,750	80.9
1–2	0.000213	99,597	21	99,586	7,995,102	80.3
2–3	0.000145	99,575	14	99,568	7,895,516	79.3
3–4	0.000118	99,561	12	99,555	7,795,948	78.3
4–5	0.000099	99,549	10	99,544	7,696,393	77.3
5–6	0.000100	99,539	10	99,534	7,596,848	76.3
6–7	0.000095	99,529	9	99,525	7,497,314	75.3
7–8	0.000090	99,520	9	99,515	7,397,789	74.3
8–9	0.000085	99,511	8	99,507	7,298,274	73.3
9–10	0.000078	99,502	8	99,499	7,198,767	72.3
10–11	0.000074	99,495	7	99,491	7,099,269	71.4
11–12	0.000078	99,487	8	99,483	6,999,778	70.4
12–13	0.000093	99,480	9	99,475	6,900,294	69.4
13–14	0.000123	99,470	12	99,464	6,800,819	68.4
14–15	0.000164	99,458	16	99,450	6,701,355	67.4
15–16	0.000208	99,442	21	99,431	6,601,905	66.4
16–17	0.000251	99,421	25	99,409	6,502,474	65.4
17–18	0.000291	99,396	29	99,382	6,403,065	64.4
18–19	0.000325	99,367	32	99,351	6,303,684	63.4
19–20	0.000356	99,335	35	99,317	6,204,333	62.5
20–21	0.000391	99,299	39	99,280	6,105,016	61.5
21–22	0.000430	99,261	43	99,239	6,005,736	60.5
22–23	0.000466	99,218	46	99,195	5,906,496	59.5
23–24	0.000497	99,172	49	99,147	5,807,302	58.6
24–25	0.000527	99,122	52	99,096	5,708,155	57.6
25–26	0.000556	99,070	55	99,043	5,609,058	56.6
26–27	0.000592	99,015	59	98,986	5,510,016	55.6
27–28	0.000645	98,956	64	98,924	5,411,030	54.7
28–29	0.000719	98,892	71	98,857	5,312,106	53.7
29–30	0.000805	98,821	80	98,782	5,213,249	52.8
30–31	0.000895	98,742	88	98,698	5,114,467	51.8
31–32	0.000980	98,653	97	98,605	5,015,770	50.8
32–33	0.001056	98,557	104	98,505	4,917,164	49.9
33–34	0.001122	98,453	111	98,397	4,818,660	48.9
34–35	0.001184	98,342	116	98,284	4,720,262	48.0
35–36	0.001247	98,226	123	98,165	4,621,978	47.1
36–37	0.001318	98,103	129	98,039	4,523,814	46.1
37–38	0.001400	97,974	137	97,905	4,425,775	45.2
38–39	0.001496	97,837	146	97,764	4,327,870	44.2
39–40	0.001601	97,690	156	97,612	4,230,106	43.3
40–41	0.001720	97,534	168	97,450	4,132,494	42.4
41–42	0.001843	97,366	179	97,276	4,035,044	41.4
42–43	0.001953	97,187	190	97,092	3,937,767	40.5
43–44	0.002048	96,997	199	96,898	3,840,675	39.6
44–45	0.002140	96,798	207	96,695	3,743,778	38.7
45–46	0.002248	96,591	217	96,483	3,647,083	37.8
46–47	0.002390	96,374	230	96,259	3,550,600	36.8
47–48	0.002566	96,144	247	96,020	3,454,341	35.9
48–49	0.002773	95,897	266	95,764	3,358,321	35.0
49–50	0.002998	95,631	287	95,488	3,262,557	34.1
50–51	0.003242	95,344	309	95,190	3,167,069	33.2
51–52	0.003501	95,035	333	94,869	3,071,879	32.3
52–53	0.003770	94,703	357	94,524	2,977,010	31.4
53–54	0.004057	94,346	383	94,154	2,882,486	30.6
54–55	0.004375	93,963	411	93,757	2,788,332	29.7
55–56	0.004708	93,552	440	93,331	2,694,575	28.8
56–57	0.005081	93,111	473	92,875	2,601,243	27.9
57–58	0.005536	92,638	513	92,382	2,508,368	27.1
58–59	0.006076	92,125	560	91,845	2,415,987	26.2
59–60	0.006661	91,566	610	91,261	2,324,141	25.4

See footnotes at end of table.

Table 18. Life table for White, non-Hispanic females: United States, 2023—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/74-06/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	0.007263	90,956	661	90,625	2,232,881	24.5
61–62	0.007854	90,295	709	89,940	2,142,255	23.7
62–63	0.008434	89,586	756	89,208	2,052,315	22.9
63–64	0.009013	88,830	801	88,430	1,963,107	22.1
64–65	0.009619	88,030	847	87,606	1,874,677	21.3
65–66	0.010283	87,183	897	86,735	1,787,071	20.5
66–67	0.011097	86,286	957	85,808	1,700,336	19.7
67–68	0.011907	85,329	1,016	84,821	1,614,528	18.9
68–69	0.012819	84,313	1,081	83,772	1,529,708	18.1
69–70	0.013872	83,232	1,155	82,655	1,445,935	17.4
70–71	0.014901	82,078	1,223	81,466	1,363,280	16.6
71–72	0.016259	80,854	1,315	80,197	1,281,814	15.9
72–73	0.017764	79,540	1,413	78,833	1,201,617	15.1
73–74	0.019694	78,127	1,539	77,358	1,122,784	14.4
74–75	0.021872	76,588	1,675	75,751	1,045,426	13.6
75–76	0.024388	74,913	1,827	74,000	969,675	12.9
76–77	0.026689	73,086	1,951	72,111	895,676	12.3
77–78	0.030465	71,136	2,167	70,052	823,565	11.6
78–79	0.033447	68,968	2,307	67,815	753,513	10.9
79–80	0.037594	66,662	2,506	65,409	685,698	10.3
80–81	0.041660	64,156	2,673	62,819	620,290	9.7
81–82	0.046916	61,483	2,885	60,040	557,470	9.1
82–83	0.052568	58,598	3,080	57,058	497,430	8.5
83–84	0.058838	55,518	3,267	53,885	440,372	7.9
84–85	0.066102	52,251	3,454	50,524	386,487	7.4
85–86	0.072772	48,797	3,551	47,022	335,963	6.9
86–87	0.082533	45,246	3,734	43,379	288,941	6.4
87–88	0.093396	41,512	3,877	39,573	245,562	5.9
88–89	0.105432	37,635	3,968	35,651	205,989	5.5
89–90	0.118698	33,667	3,996	31,669	170,338	5.1
90–91	0.133236	29,671	3,953	27,694	138,669	4.7
91–92	0.149071	25,718	3,834	23,801	110,975	4.3
92–93	0.166201	21,884	3,637	20,065	87,174	4.0
93–94	0.184597	18,247	3,368	16,563	67,109	3.7
94–95	0.204199	14,878	3,038	13,359	50,546	3.4
95–96	0.224912	11,840	2,663	10,509	37,187	3.1
96–97	0.246605	9,177	2,263	8,046	26,678	2.9
97–98	0.269116	6,914	1,861	5,984	18,633	2.7
98–99	0.292252	5,053	1,477	4,315	12,649	2.5
99–100	0.315797	3,577	1,129	3,012	8,334	2.3
100 and older	1.000000	2,447	2,447	5,322	5,322	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 19. Estimated life expectancy at birth, in years, by Hispanic origin and race and sex: Death-registration states, 1900–1928, and United States, 1929–2023

[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]									
2023[5]	78.4	75.8	81.1	81.3	78.5	84.0	70.1	66.7	73.5	85.2	83.2	87.1	74.0	70.3	77.6	78.4	76.0	80.9
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	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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, 1929–2023—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.											
1972[7]	71.2	67.4	75.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
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, 1929–2023—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 2001–2023 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 2008–2023 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 2008–2023 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 2023 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 (regardless 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 2008–2023 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 2023 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/2020-2023/methods-statement-v2023.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 in order 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 (20,21). 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, irrespective of Hispanic origin, as has been done traditionally, and to estimate old-age mortality for the non-Hispanic segments of these two 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 in this report (14).

To estimate death rates for the Medicare total, Black non-Hispanic, and White non-Hispanic populations in 2023, age-specific numbers of deaths and population counts by sex and race for the population ages 66–99 from the 2023 Medicare file were used. The data file is created by CMS for the Social Security Administration, which shares the data with National Center for Health Statistics under a special agreement. The 2023 file contains 2023 midyear Medicare population counts (June 30, 2023) and calendar-year Medicare death counts (January 1 through December 31, 2023). 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 2023.

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, 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.

Table I. Values for F used to adjust for not-stated age based on 2023 mortality data

Hispanic origin and race and sex	Total deaths	Total deaths for which age was not stated	F
Total	3,090,964	80	1.00002588
Male	1,617,085	55	1.00003401
Female	1,473,879	25	1.00001696
Hispanic	258,896	3	1.00001159
Male	145,835	2	1.00001371
Female	113,061	1	1.00000884
Non-Hispanic:			
American Indian and Alaska Native	21,274	–	1.00000000
Male	11,600	1	1.00008621
Female	9,674	–	1.00000000
Asian	85,769	–	1.00000000
Male	43,922	–	1.00000000
Female	41,847	1	1.00002390
Black	385,399	5	1.00001297
Male	205,891	3	1.00001457
Female	179,508	2	1.00001114
White	2,308,328	39	1.00001690
Male	1,191,617	13	1.00001091
Female	1,116,711	9	1.00000806

– Quantity zero.

NOTE: Hispanic people may be of any race.

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

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 2022 and 2023 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 5.6% for Hispanic, and 2.9% for Black non-Hispanic infants; and underestimates the infant mortality rate by 21.2% for Asian non-Hispanic, 9.3% for American Indian and Alaska Native non-Hispanic, and 4.1% 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:

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

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,

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]	1.0563	1.0956	1.0203	0.9069	0.9075	0.9243	0.7883	0.8401	0.7423	1.0292	1.0729	0.9859	0.9595	1.0128	0.9080
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 2023 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.

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

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 2023, B^t is the number of live births in 2023, and B^{t-1} is the number of live births in 2022. Table III shows separation factors and numbers of births for 2022 and 2023.

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

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

Table III. Births in 2022 and 2023, deaths in 2023 of infants born in 2022 and 2023, and separation factors, by Hispanic origin and race and sex: United States

							Non-Hispanic											
	Total			Hispanic			American Indian and Alaska Native			Asian			Black			White		
Births, deaths, and separation factors	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																		
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
2023	3,596,017	1,839,794	1,756,223	945,200	482,254	462,946	24,571	12,505	12,066	215,738	111,542	104,196	491,494	249,931	241,563	1,787,051	916,170	870,881
Deaths in 2023																		
Infants born in 2022	2,659	1,455	1,202	565	299	266	41	26	15	73	37	37	779	416	365	1,049	601	448
Infants born in 2023	17,486	9,652	7,836	4,185	2,305	1,880	185	103	81	669	384	284	4,595	2,474	2,119	6,959	3,881	3,078
Separation factor, *f*	0.132	0.131	0.133	0.119	0.115	0.124	0.180	0.204	0.152	0.099	0.088	0.114	0.145	0.144	0.147	0.131	0.134	0.127

NOTE: People of Hispanic origin may be of any race.

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

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(α) and β, respectively, given by fitting model [9]. Estimated parameters and the starting age for the modeled age span by population in 2023 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,

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

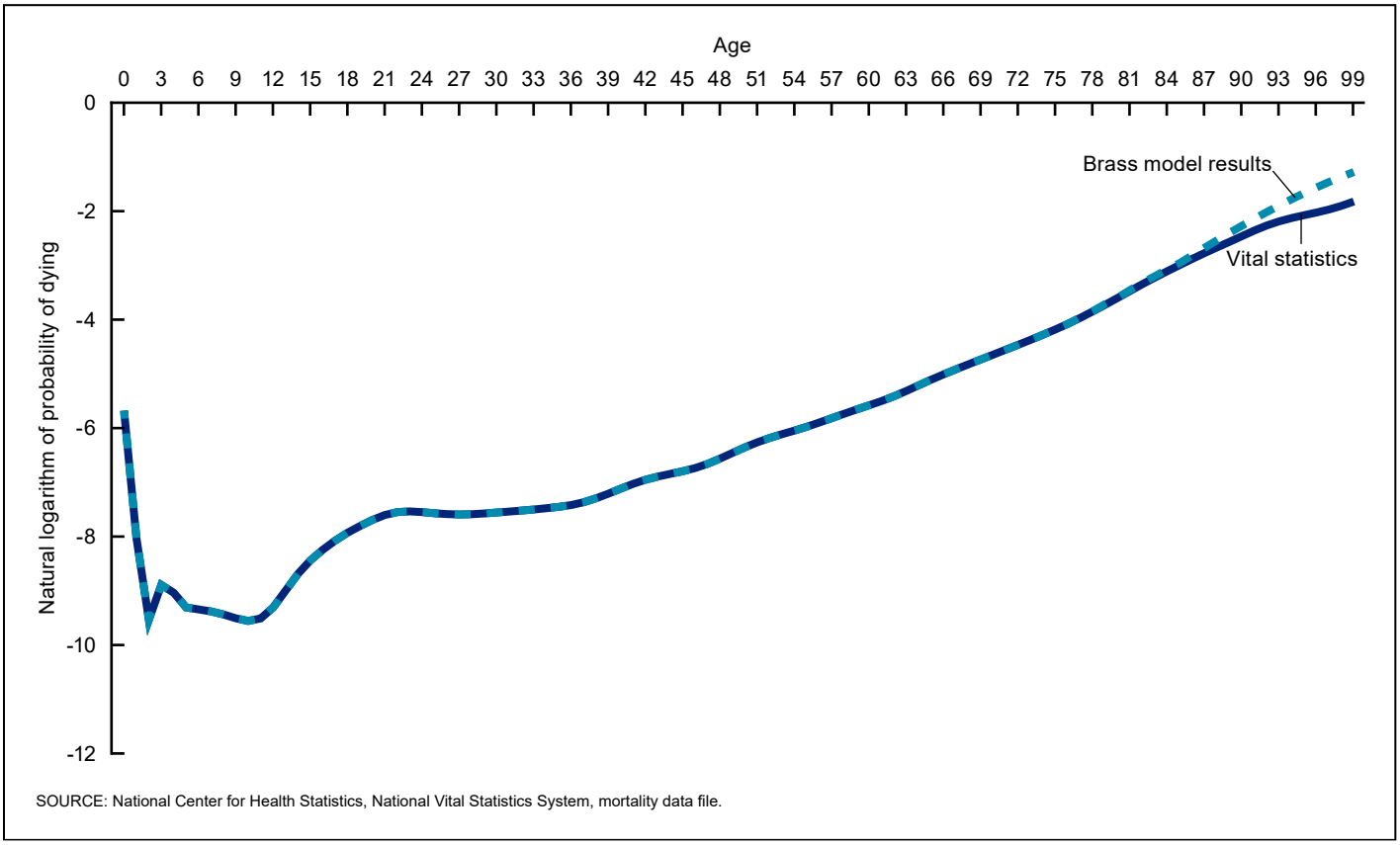
α is the predicted parameter that measures the level of mortality of the population of interest relative to the standard population,

Table IV. Estimated parameters α and β used for predicting m_x and starting age of modeled age span: U.S. Life Tables, 2023

Parameter	Total			Black, non-Hispanic			White, non-Hispanic		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Starting age	85	86	85	86	86	86	85	86	85
ln(α) (standard error)	-13.8063 (0.071)	-13.84779 (0.297)	-14.36963 (0.030)	-11.57264 (0.237)	-11.63354 (0.498)	-12.14837 (0.229)	-14.08533 (0.066)	-14.35036 (0.265)	-14.61157 (0.041)
β (standard error)	0.1341625 (0.001)	0.1365423 (0.003)	0.1392481 (0.000)	0.1081698 (0.003)	0.1109480 (0.006)	0.1135587 (0.003)	0.1377844 (0.001)	0.1426468 (0.003)	0.1424322 (0.000)

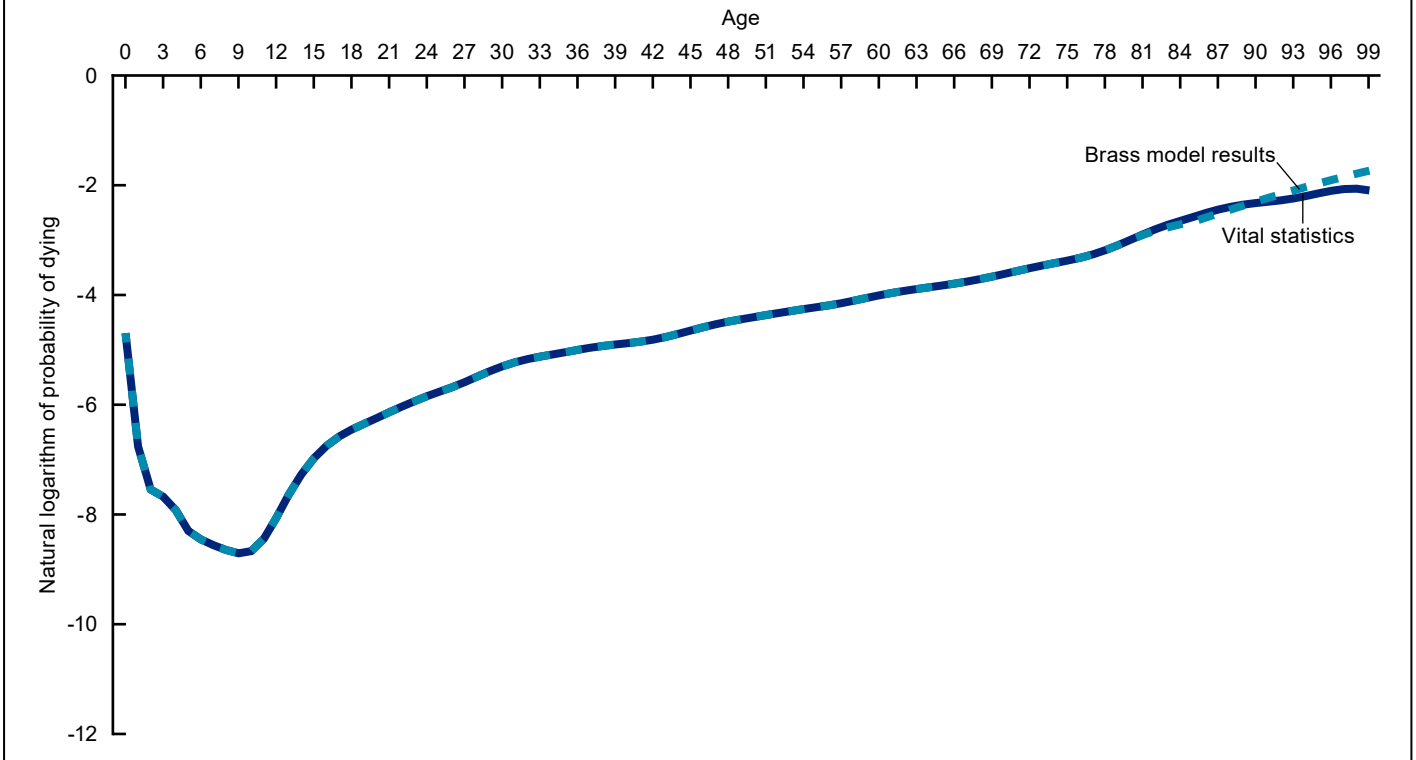
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure I. Age pattern of mortality for the Asian, non-Hispanic population: United States, 2023



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, 2023



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

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:

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

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:

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

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:

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

Decrement function (d_x)

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

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

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:

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

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

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

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:

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

Life expectancy at age x (e_x)

Life expectancy at exact age x is calculated as:

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

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 2022 to 2023.

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).

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 $x+n$

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, 2023

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)	-0.3205457 (0.021)	-0.3521423 (0.027)	-0.1733808 (0.021)	-1.0903770 (0.057)	-1.2860400 (0.034)	-0.8601727 (0.071)	-0.1028543 (0.027)	-0.1914050 (0.025)	-0.0106462 (0.038)
β (standard error)	0.9949207 (0.005)	0.9771507 (0.006)	1.0403240 (0.005)	0.6200744 (0.013)	0.5547067 (0.008)	0.6883710 (0.016)	1.1536070 (0.007)	1.1222820 (0.006)	1.1798890 (0.010)

NOTE: Hispanic people may be of any race.

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

(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 2023 U.S. total population abridged from Table 1.

Table VI. Life table for the total population: United States, 2023

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	0.005588	100,000	559	99,515	7,842,141	78.4
1–5	0.001095	99,441	109	397,502	7,742,626	77.9
5–10	0.000622	99,332	62	496,495	7,345,124	73.9
10–15	0.000835	99,271	83	496,197	6,848,629	69.0
15–20	0.002886	99,188	286	495,306	6,352,432	64.0
20–25	0.004789	98,901	474	493,388	5,857,126	59.2
25–30	0.006280	98,428	618	490,665	5,363,739	54.5
30–35	0.008395	97,810	821	487,069	4,873,074	49.8
35–40	0.010391	96,989	1,008	482,514	4,386,005	45.2
40–45	0.013260	95,981	1,273	476,826	3,903,491	40.7
45–50	0.016842	94,708	1,595	469,739	3,426,666	36.2
50–55	0.023756	93,113	2,212	460,346	2,956,927	31.8
55–60	0.035388	90,901	3,217	446,970	2,496,581	27.5
60–65	0.052261	87,684	4,582	427,512	2,049,611	23.4
65–70	0.073440	83,102	6,103	400,927	1,622,099	19.5
70–75	0.104441	76,999	8,042	365,878	1,221,172	15.9
75–80	0.161626	68,957	11,145	318,440	855,294	12.4
80–85	0.261404	57,812	15,112	252,816	536,853	9.3
85–90	0.415132	42,699	17,726	169,653	284,038	6.7
90–95	0.613791	24,974	15,329	84,145	114,385	4.6
95–100	0.793818	9,645	7,656	25,847	30,240	3.1
100 and older	1.000000	1,989	1,989	4,393	4,393	2.2

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

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Disease Control and Prevention
National Center for Health Statistics
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