COURT EXHIBIT 30

National Vital Statistics Reports Life Table

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United States Life Tables, 2023

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Abstract

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

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.