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Gender-Specific Racial/Ethnic Differences in Adult Mortality: New Evidence from the National Longitudinal Mortality Survey

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Abstract

This paper investigates racial/ethnic differences in U.S. mortality, using data from the 2013 release of the National Longitudinal Mortality Survey. We estimate period life tables at survey baseline (1983) and follow selected birth cohorts (1923-24, 1927-28, 1931-32) from working age into retirement. Period life tables reveal sizeable black-white gaps in remaining lifespans for women, and smaller and potentially vanishing gaps (at older ages) for men. Life expectancy at age 65 is 19.1 years for black (non-Hispanic) women compared to 21.9 years for white (non-Hispanic) women. For black (non-Hispanic) men, e65 is 15.7 years compared to 15.6 years for white men. The presence of large and gender-specific racial/ethnic mortality gaps is confirmed by cohort analysis, but there is no evidence of a mortality "cross-over" during retirement age. We discuss the findings in the context of previous estimates and the debate about raising the earliest eligibility age for Social Security retirement benefits.

Keywords: Mortality Differentials, Race/Ethnicity, National Longitudinal Mortality Survey, Retirement

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I. Introduction

The United States experienced an unprecedented decline in mortality rates in the twentieth century (Cutler et al. 2006). This remarkable decline increased average life expectancy at birth by almost 30 years (White & Preston 1996). At the end of the 1990s more than three quarters of the U.S. population were expected to survive to age 65 (Anderson 1999).

However, the gains in survivorship and their concentration over the lifecourse have been uneven across gender and racial/ethnic lines. Mortality has declined more rapidly for women than men for most of the 20th century, and the stark gender differences are expected to continue (Crimmins et al. 1996, Horiuchi 1999, Elo 2001). Racial/ethnic gaps in life expectancy at birth are at least as pronounced as the gender-gaps (Kitagawa & Hauser 1973, Hayward & Heron 1999, Elo 2001, Arias et al. 2010). Some studies suggest that racial/ethnic gaps may become more narrow at older ages (Zelnik 1969, Bayo 1972, Ladika and Wolf 1998), but the evidence of a "black-white cross-over" in mortality rates at older ages has been questioned on the ground of data quality concerns (Elo & Preston 1994, Preston & Elo 2006).

Understanding gender-specific racial/ethnic gaps in mortality is important, as they speak to fundamental differences in individuals' lives. Non-Hispanic black men may be significantly less likely to reach traditional retirement ages than any other gender-race/ethnic group. The presence of gender-gaps suggests that many women will outlive their partners by a substantial margin. The implications for economic wellbeing and retirement planning are profound and the practical significance is heightened by the fact that longevity and socio-economic status are positively correlated (Geruso 2012).

This paper presents new evidence on the gender-specificity of the racial/ethnic gaps in mortality, using data from the 2013 release of the National Longitudinal Mortality Survey

(NLMS). We obtain estimates of the gender-specific gaps in adult life expectancy (e25, e45, e62, and e65) and study the gender-race/ethnicity patterns of the transition from working age to retirement age using life tables for three birth cohorts (1923-24, 1927-28, and 1931-32).

The NLMS data are well-suited for this analysis, as the sample is unusually large, deaths are linked from official records, and race/ethnicity information is available. Few studies have analyzed mortality differentials with NLMS data (Geruso 2012, Rogot et al. 1992, Sorlie et al. 1995, Elo & Preston 1996, Johnson et al. 1999). Previous studies have given short shrift to cohort analysis. The present study is the first to estimate gender-specific racial/ethnic gaps in adult mortality using the NLMS cohort data. Moreover, our estimates are based on the latest data release (February 2013), which carefully updated and revised all measures.

II. Background

Literature

Almost all studies in demography show that, like many other industrialized rich countries, the U.S. experienced an unprecedented decline in mortality rates in the twentieth century (Cutler et al. 2006). This remarkable decline in turn increased the life expectancy at birth by almost 30 years from 1900 to 1997 (White & Preston 1996). At the end of the 1990s more than three quarters of the U.S. population were expected to survive to age 65 (Anderson 1999).

However, not all groups benefitted equally from the decline in mortality. The overall mortality decline favored women (Elo 2001). Hence sex differentials in mortality increased in the U.S.. Horiuchi (1999) finds that while the female-male gap in life expectancy was around three years in the 1900s, it had increased to about eight years by the late 1990s.

Racial/ethnic differences in mortality are even more pronounced. Elo (2001) analyzes data from the National Center on Health Statistics Report of 1998 and concludes: "African Americans and individuals from low socioeconomic backgrounds face greater odds against reaching old age than individuals from other racial/ethnic groups and higher socioeconomic back-grounds" (p.97). Similarly, Hayward and Heron (1999) show that, across all racial/ethnic groups, non-Hispanic blacks have the lowest life expectancy at birth. Compared to whites, Hispanics have lower life expectancy although the gap is not as wide as the gap between blacks and white (Hayward & Heron 1999:85). Asian American men have the highest life expectancy, 59 years at age 20, and black men have the lowest, 48 years at age 20 (p.84).

Differences in socio-economic status are often cited as the main driver of racial/ethnic mortality gaps in the U.S.. As a result, educational attainment—used as a proxy for SES—has been the focus of a growing body of research. Most recently, Hummer and Hernandez (2013), for instance, examine the educational differences in adult mortality and life expectancy. While avoiding causal language on the relationship between education and mortality, the authors show that adults with higher levels of education have lower age-specific mortality rates than those with less education, across every age, gender and racial/ethnic population group (Hummer & Hernandez 2013: 3). This is consistent with earlier studies. For example, Jemal et al. (2008) find that women age 24-65 who did not complete high school have mortality rates that are four times higher than women who have sixteen or more years of education.

There is evidence that the relationships vary by gender and race/ethnicity. Among men, mortality rates are more than four times higher between these two groups (Hummer & Hernandez 2013: 3). Citing evidence on differences in mortality by education, sex and race from Hummer and Lariscy (2011), Hummer and Hernandez (p. 3) write: "Educational differences in mortality are wider among U.S. white adults than among either black or Hispanic adults." They also report that compared to whites with low levels of education, whites with higher education have far lower mortality rates and longer life expectancies (Hummer & Hernandez 2013: 5).

Marital status, which has also been used to proxy for SES, has been linked to mortality as well: Longer life expectancy is observed for individuals who are married compared to other marital status groups (Kitagawa & Hauser, Lin et al. 2003, Elo & Preston 1996, Sorlie et al. 1995). Together, the differences in education attainment and the likelihood to be married can explain much of the gap in life expectancy between white (non-Hispanics) and black (non-Hispanics) (Geruso 2012).

While most studies suggest that whites have greater life expectancy at birth than other races/ethnicities in the U.S., some studies report a black-white cross-over in mortality rates at older ages, which clearly challenges the convention of simplistic patterns. Early work by Bayo (1972) and Zelnik (1969), for instance, suggests that recorded death rates for African-Americans were lower than whites at oldest ages. Ladika and Wolf (1998) too find that among older males (70+ years), the life expectancies for blacks exceed those for whites. Similarly, in their study on Piedmont residents in North Carolina Crimins et al. (1996) find that at ages 75 and 85, blacks can be expected to live longer than whites.

Evidence of a cross-over in black-white mortality rates at older ages has fueled speculation that blacks' may experience strong selection effects ("survival of the fittest") (Manton & Stallord 1981). However, some of the earlier findings have been questioned. Elo and Preston argue in three different papers (Elo & Preston 1994; Preston & Elo 2006, Preston et al. 1999) that the observed lower mortality rates of blacks may be an artifact of poor data. Concerns regarding data quality have plagued this literature going back to Zelnik (1969) and Coale and Kisker (1990).

Present Study

The previous literature contends that a) higher educational attainment has an impact on longer life expectancies and lower mortality rates and b) whites have an advantage over blacks and Hispanics. In this paper, we analyze the National Longitudinal Mortality Study (NLMS) Public Use Microdata Sample (PUMS) File Release 4 from February 28, 2013. We provide new estimates of the gender-specificity of the racial/ethnic patterns in adult mortality, using evidence from period and (partial) cohort life tables.

The NLMS PUMS provides longitudinal data for the period 1983-1994. Combining data from Current Population Surveys (CPS) and a subset of the 1980 Census, the NLMS PUMS follows these individuals for 11 years and matches the deceased cases with information from death certificates, which are provided by the National Center for Health Statistics. Due to data limitations we are only able to create partial life tables by race, gender and educational attainment level and compare our results with previous literature. Unlike previous literature, this paper focuses on the educational, racial and gender differences in older adult mortality, especially during retirement years. Findings indicate that NLMS PUMS offers similar mortality patterns. However different from Hayward and Heron (1999), we find that Hispanics have similar mortality rates to whites.

While the follow-up period for NLMS PUMS is relatively short, it spans an interesting recent period of rising inequality (Elo et al. 2006). We do not look at income or wealth measures in this paper, but we use education, which is one of the three elements of typical SES measurement—income and occupation are the other two (Christenson & Johnson 1995). Following Elo et al. (2006), using education instead of SES provides a more robust comparison since educational attainment is usually set at an earlier age in human life (around age 25) and is unlikely to change, although more people tend to get more education later in life. Elo et al. (2006) also highlight that, unlike occupation, educational attainment "can be used equally well to classify men and women, economically active and inactive individuals, and working-aged people and the elderly" (p.181).

This paper also contributes to the existing literature on mortality differences at older ages by offering evidence on the transition to retirement ages from (partial) cohort life tables, conditional attaining peak-working ages, in addition to period life tables. In the cohort perspective, we are subject to age-limitations given by the 10-year follow-up period in the NLMS File 11. We can create partial cohort life tables, where we follow a birth cohort for ten years. Since our focus is on racial/ethnic gaps in the transition from peak working to retirement age, we focus on three birth cohorts: those born in 1923-24, 1927-28, and 1931-32. We follow the three cohorts from ages 60-70, 56-66, and 52-62, respectively.

The remainder of the paper is organized as follows: In the next section, we describe our data and methods. Then we show the results from our period and cohort analyses. Finally, we provide some discussion and conclusion.

III. Data and Methods

Data Set

The NLMS PUMS is a collection of three large national longitudinal mortality data sets, each representative of the non-institutionalized population in the U.S. for a particular period.[1] The NLMS PUMS is public-use and protects respondents' identity. These data contain basic demographic variables selected from a larger list of variables available in the original NLMS. The availability of information on individuals' characteristics including race/ethnicity and educational attainment is a key advantage of the NLMS data over other sources for mortality data by gender such as the Human Mortality Database.

There are three different files in the NLMS PUMS. The first one, which also has the largest number of observations (individuals), follows the respondents for 11 years. The other two files follow individuals only for six years. In order to have the largest sample size and longest period of follow-up, we are using the first file, which is also called File 11 in the NLMS PUMS documentation. NLMS PUMS contains approximately 2.7 million observations and the sample in File 11 used here has approximately 1.2 million individuals.

As a quick robustness check on the NLMS PUMS data, we compared age-specific death rates for males, females and the total population from the Human Mortality Database with the NLMS PUMS numbers for the birth cohort 1923-24. The results indicate that the NLMS PUMS file might not be as representative as researchers thought. Appendix Figure 1 shows the graphs

[1] Exclusion of the institutionalized population in the NLMS will yield estimates of mortality that are systematically lower than in the population overall. We expect it to affect male mortality more than female mortality, and to play a greater role when looking at African American men than white men. During the 1970s and 80s the incarceration rate more than doubled from 96 people per 100,000 to 227 per 100,000 (Blumstein 1988). By the end of 2004 the rate had reached 737 per 100,000 (Patterson 2010). According to 2000 census estimates even though African-Americans account for less than 15% of the U.S. population, they make up almost 50% of the incarcerated population (Beck and Karberg 2001). Massey and Denton (1993) show that prisoners are much more likely to have a socio-economically disadvantaged background, which increases their chances of having higher mortality rates. Harlow (2003) estimates that "in 1997, 44% of prisoners in state correctional facilities did not have a high school education prior to admission, compared with 18% of their non-prison counterparts".

for HMD and NLMS PUMS side by side. We see that our analysis based on the NLMS PUMS data overall underestimate the age-specific death rates for the given cohort, especially for males and the whole 1923-24 cohort. This finding supports our claim that the NLMS PUMS introduces a bias by not including the institutionalized population, which has more males than females. Not surprisingly the most closely aligned graphs between the HMD and NLMS PUMS data are for females.

Measures

The NLMS PUMS contains 37 variables. The ones used in this paper are: age, sex, race, Hispanic origin, highest grade completed, death indicator and length of follow-up.

Age in File 11 is age at last birthday reported based on the interview report. Sex represents the respondent's stated gender, male or female. People whose gender could not be determined in the Current Population Surveys are not included in File 11. The race variable has five categories: White, Black, American Indian or Eskimo, Asian or Pacific Islander and Other nonwhite. The Hispanic origin variable divides the answers into three groups: Mexicans, Other Hispanics and Non-Hispanics. Information on educational attainment is provided in a variable on highest grade completed.[2]

The death indicator variable tells whether or not the respondent has died in the follow-up period. The length of follow-up the number of days respondents lived during the follow-up period. "Persons who were alive at the end of the 11 year follow-up period are given a value of 4018," which is the maximum follow-up period considered (NLMS PUMS documentation 2013). This allows researcher to calculate the exact age at death.

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[2] The CPS changed the way it measured education. Prior to 1992, the CPS used the "years of schooling approach," asking respondents about their highest grade level attended. In 1992 they started asking about degrees earned instead. The NLMS PUMS translated the latter information into years of school for comparability. This is illustrated in Appendix Table1 show the detailed categorization of the highest grade completed variable in NLMS. Appendix Table 2 shows our categorization used in the analyses.

The goal of this paper is to examine racial/ethnic gaps in adult mortality by gender. In our cohort analysis, we construct our sample to include individuals from birth cohorts that overlap with age 62 during the follow-up period. Specifically, for the first birth cohort we limit our sample to those who were 60 years old in 1983, at the beginning of the NLMS PUMS follow-up period. This corresponds to the 1923-24 birth cohort. For the second birth cohort we limit our sample to those who were 56 years in 1983. This corresponds to the 1927-28 birth cohort. We proceed in a similar fashion for the 1931-32 birth cohort.

For all three cohorts, by selecting cases based on the length of the follow-up period, we obtain the exact number of those who were still alive in 1984, 1985, or 1986 and do the same calculation until the end of the follow-up period. Then we select cases based on race, gender and educational attainment to perform (partial) cohort life table calculations. (See Appendix Tables 4a-4d for the partial life tables of the 1923-24 cohort by gender and race/ethnicity).

We recode some of the variables to get appropriate information for the life tables. We create dummy variables for non-Hispanic whites and non-Hispanic blacks using the race variable and information on Hispanic origin. We also recode the variable on highest grade completed. (See Appendix Tables 1 and 2 for the new categories.) Basic sample descriptives of the birth cohort data are provided in Table 1.

Methods

We apply standard period and cohort life table techniques (without smoothing). Standard errors and 95% confidence intervals are calculated but not shown here for expositional ease. Given the large sample sizes in the NLMS, they are consistently small. They are available from the authors upon request. We begin by estimating Period Life Tables for the year 1983, using deaths that occurred within the first 12 months of the beginning of the survey period. Period Life Tables capture mortality conditions of many different birth cohorts at the same moment in time. To analyze racial/ethnic mortality gaps over actual life courses, we then estimate (partial) cohort life tables, following respondents born in 1923-24, 1927-28, and 1931-32 into retirement age.

For the numerator of the nmx (number of people who die in the age interval from x to x+n), we first compute a new variable called "age at death." Age at death is the summation of the initial age and the length of follow-up divided by 365. Since the unit for the length of follow-up is days we divide the value for the "follow" variable by 365 to compute its equivalent value in years. Then by adding this value to the age at the time of the interview we get the age at death.

To illustrate with an example, assume that a person stated to be 55 years old in 1983 and this person did not die during the follow-up period. Then the age at death value for this person would be 55+(4018/365) which equals 66.08 years. If this person had died at the 3065th days of the follow-up period then s/he would have 63.39 years for the age at death value. So unlike the age variable, which represents age at last birthday, age at death is continuous. This allows us to have a more accurate number of people who died at exact ages (e.g. 56.7 or 63.8). Although it provides a better estimate of the number who died in that age interval, because the exact age in 1983 is not known, it unwillingly skews the nmx's to some degree.

IV. Main Results

We begin with a discussion of the period life table results. Table 2 provides a summary of our estimated life expectancies at ages 25, 45, 62, and 65 for key demographic groups by gender: Non-Hispanic blacks ("NHB"), non-Hispanic whites ("NHW"), married, less than a high school education, completed high school, more than a high school education. The complete NLMS File 11 (1983) life tables by gender and race/ethnicity are shown in Appendix Tables 3a-d. Figures 1 and 2 show the corresponding gender-specific survival curves by race-ethnicity and education.

As shown in Table 2, there are sizeable racial/ethnic gaps in average remaining life spans for women at all ages. We estimate that life expectancy at age 25 is 52.3 years for black (non-Hispanic) women compared to 58.1 years for white (non-Hispanic) women. At age 65 (62), that figure is 19.1 (21.2) years for black women and 21.9 (24.2) years for white women. Notice that while the gap declines in absolute terms when comparing e65 to e25, it actually widens from 111% to 115% when measured using a more meaningful metric of relative years, e^{white}/e^{black} (in %).

For men, the estimated black-white gaps are much smaller than for women and vanish at retirement age. At age 25, life expectancy is 46.4 years for black (non-Hispanic) men and 49.8 years for white (non-Hispanic) men. At age 65 (62), the corresponding values are 15.7 (17.0) years and 15.6 (17.5) years for white men. The (slight) reversal of the black-white mortality gap for men reflects a "cross-over" in age-specific mortality at age 63 as shown in Appendix Tables 3a and b. Looking at Figure 1, the cross-over occurs when the (vertical) gap between the survival curves for black and white men starts to narrow.

Looking across gender lines, the racial/ethnic patterns just described imply that the gender gaps in remaining life span are smaller among blacks than whites and they narrow more among blacks in age (but only in absolute terms). Table 2 shows that the gender-specific black-white gaps are similar in size to male-female life expectancy gaps, but they are larger than the gaps across educational groups (for a given sex).

As discussed above, our cohort analysis follows three birth cohorts for 10 years each, conditional on survival to age 52, 56, 60: 1923-24 (age 60-70), 1927-28 (56-66), and 1931-32 (52-62). Figures 3a-c show the survivorship curves by sex and race/ethnicity for the three cohorts. For the 1923-24 birth cohort, the (partial) cohort life table estimates by race/ethnicity are shown in Appendix Tables 4a-d.

Looking at the survival curves in Figures 3a-c, for all three birth cohorts we observe a similar pattern of widening black-white survival differentials (indicated in the figures by widening vertical differences between pairs of survival curves at higher age). This implies that there is no evidence from our cohort analysis to suggest a "cross-over" in mortality at these ages. Comparing black and white men, the divergence of the survival curves is particularly marked, with the generations of blacks dying at noticeably higher rates than their white counterparts.

Across birth cohorts, keeping in mind that the age ranges do not overlap perfectly, there is no evidence that the racial/ethnic mortality gaps during the transition to retirement age are narrowing. In fact, the black-white divergence of the survival curves appears to be most pronounced in the most recent cohort considered (1931-32). It appears that white men have enjoyed greater improvements in survival across these generations than have black men.

The cohort survival curves confirm that white females experienced the lowest mortality risk of all four groups. In the 1923-24 and 1927-28 cohorts, black females are a clear second behind white females. However, our results indicate that this pattern may be breaking down. Looking at the 1931-32 birth cohorts, black women in that generation are trailing white men in cumulative survival between age 52 and 58, and the curves are very close to each other and essentially move in parallel after that.

Age 62 is of particular significance as it the earliest eligibility age for Social Security retirement benefits. In light of that and the fact that Social Security provides incentives to delay benefit take-up until at least age 65, the normal retirement age for the cohorts investigated here, we did some additional analysis of survival to ages 62 and 65. The results are shown in Table 3; they are based on the (partial) cohort life table estimates.

The conditional survival probabilities to ages 62 and 65 help illustrate the magnitudes of the mortality gaps across gender and racial/ethnic lines discussed above. Among men born in 1923-24 who live to age 60, white men are 2.2 percentage points more likely to live to age 62 than black men. For the 1931-32 cohort this gap is 2.3 points. Among women the corresponding figures are 1 point and 0.5 points, consistent with greater racial/ethnic cohort mortality differentials among men than women.

Looking across identical age ranges, we see evidence of declining mortality across cohorts: Among black women born in 1923-24, 97.2% of those who reached aged 60 survived to age 62, 93.0% survived to age 65. 94.3% of black men who reached age 60 survived to age 62, 91.4% survived to age 65. This compares to conditional survival probabilities to age 62 of 97.8% for black women and 95.2% for black men born in 1931-32.

Lastly, survivorship curves by educational attainment show that the gap is wider for the 1923-24 cohort. As expected those with highest level of educational attainment, college degree in our analysis, have the highest change of surviving (not shown). It is not surprising that the gap between different educational attainment levels is smaller for the 1927-28 cohort as we are examining a younger cohort, whose chances of surviving is higher simply because death occurs more at older ages. Although the no-education group seems to catch up with the most highly educated group at older ages for both cohorts, this result should not be taken too seriously for reasons we will discuss later.

V. Discussion

This paper provides new evidence on racial/ethnic differences in U.S. mortality. Using data from the 2013 release of the NLMS, we estimate period life tables and follow selected birth cohorts (1923-24, 1927-28, 1931-32) from working age into retirement. We find sizeable black-white gaps in remaining lifespans for women, and smaller and potentially vanishing gaps (at older ages) for men. The presence of large and gender-specific racial/ethnic mortality gaps is confirmed by our cohort analysis and there is no indication that they may be narrowing.

The analysis contributes to a better understanding of the magnitude of the differences in survivorship across gender and racial/ethnic lines and their persistence over the lifecourse and across cohorts. Our findings are largely consistent with previous evidence of stark gender and racial/ethnic gaps in mortality (Crimmins et al. 1996, Horiuchi 1999, Elo 2001, Kitagawa & Hauser 1973, Hayward & Heron 1999, Elo 2001, Arias et al. 2010). Analysis of cohort mortality provides no evidence of a narrowing of these gaps.

Some studies suggest that racial/ethnic gaps may become more narrow at older ages (Zelnik 1969, Bayo 1972, Ladika and Wolf 1998), but previous evidence of a "black-white cross-over" in mortality rates at older ages has been questioned on the basis of data quality concerns (Elo & Preston 1994, Preston & Elo 2006). Our analysis of individuals' vital transitions from working age to retirement age did not provide any support for a mortality "cross-over" during retirement age. However, further cohort analysis is needed to put our findings into perspective. It would be desirable to examine additional cohorts, including older cohorts to perhaps relate better to earlier studies including Preston and Elo (1994), whose focus is on the overstatement of age in the oldest age groups, which extends past the retirement-age-related cut-offs considered here.

VI. Conclusion

Population aging and rising old-age dependency ratios are now evident in many countries. This trend is expected to accelerate dramatically in the coming decades, especially in developed and transition countries (e.g., Bloom and Canning 2008). Estimates for the U.S. suggest that there are currently 2.8 workers for each Social Security beneficiary. By 2033 there will be 2.1 workers for each beneficiary. Longer average life spans for each successive cohort due to declining mortality profiles are contributing to this aging phenomenon (Cutler et al. 2006).

The amount of resources societies will have to make available for future generations of retirees will crucially depend on the distribution of remaining life spans at retirement age. For example, estimates for the United States suggest that every year in life expectancy increases the outlays of the Social Security program by approximately 1 billion dollars. Without adjustments, the Trustees of Social Security expect that over a 75-year period, the program would require additional revenue equivalent to $8.6 trillion in present value dollars to pay all scheduled benefits (SSA-T 2012).

Looking at life expectancy overall, however, provides an incomplete picture of how individuals with above-average mortality and their families are affected. Most notably black men face a substantially greater risk of not even reaching their pensionable age, resulting in lost personal utility and financial instability for their families. The impact will be exacerbated given that individuals who live longer tend to be healthier and have higher lifetime earnings (e.g., De

Nardi et al. 2009).[3] For these reasons, the variation mortality across racial/ethnic and gender lines should be of great importance to researchers and policymakers alike.

In December 2010, President Obama's National Commission on Fiscal Responsibility and Reform (NCFRR, 2010) proposed steps to address the long-run solvency problems of Social Security. The commission recommended that retirement benefits be reduced by indexing the retirement ages to gains in life expectancy. Specifically, the NCFRR suggested that the earliest age of retirement benefit eligibility should be increased by one month every two years.. According to their calculations, the earliest retirement age would increase to 63 by 2046 and 64 by 2070, while the full retirement age would reach 68 and 69 in those years. Raising the early retirement age in that fashion would be highly regressive and likely hit African American families the hardest.

[3] Using data on individuals' pension wealth (Primary Insurance Amount, PIA) and longevity from the Health and Retirement Survey (HRS), a survey of a recent cohort of American retirees, we observe a correlation coefficient of 0.14 between PIA and remaining lifespan. While this is a modest level of correlation, it does suggest that longevity gains disproportionately benefit those who are better off.

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Table 1. Total Sample Sizes and Frequency Distribution by Birth Cohorts

Ns	**1923-24**	**%**	**1927-28**	**%**	**1931-32**	**%**
Race						
Non-Hispanic White	10,323	83.4%	10,658	82.6%	10,482	81.6%
Non-Hispanic Black	1,013	8.2%	1,027	8.0%	1060	8.3%
Other/Unknown/Missing	1,039	8.4%	1,219	9.4%	1,303	10.1%
Hispanic Origin						
Non-Hispanic	11,602	93.8%	11,994	92.9%	11,887	92.5%
Hispanic	549	4.4%	669	5.2%	714	5.6%
Unknown/missing	224	1.8%	241	1.9%	244	1.9%
Gender						
Non-Hispanic Female	6,065		6,163		6,074	
Non-Hispanic White	5,498	90.7%	5,548	90.0%	5,450	89.7%
Non-Hispanic Black	567	9.3%	615	10.0%	624	10.3%
Non-Hispanic Male	5,271		5,522		5,468	
Non-Hispanic White	4,825	91.5%	5,110	92.5%	5,032	92.0%
Non-Hispanic Black	446	8.5%	412	7.5%	436	8.0%
Mortality						
Non-Hispanic White Deceased	1,861	87.7%	1,395	87.1%	965	87.1%
Non-Hispanic Black Deceased	262	12.3%	207	12.9%	143	12.9%
Deceased Total	2,123		1,602		1,108	
Total	12,375		12,904		12,845	

Notes: The Ns represent the sample size as they appear in the NLMS file. For life tables we apply different restrictions (e.g. limiting sample size to cases which provide valid answer for educational attainment).

Table 2. Life Expectancy for Key Demographics (Period Life Tables, 1983)

Demographic	**Average Years of Life Remaining**			
	e25	**e45**	**e62**	**e65**
All	53.57	34.77	20.84	18.81
Non-Hispanic Black ("NHB") Female	**52.25**	**34.00**	**21.19**	**19.12**
Non-Hispanic Black Male	46.37	28.32	17.03	15.67
Non-Hispanic White ("NHW") Female	**58.06**	**38.99**	**24.17**	**21.91**
Non-Hispanic White Male	49.79	31.08	17.46	15.56
Married	53.41	34.26	19.96	17.82
Female	**60.97**	**41.80**	**27.10**	**24.80**
Male	50.78	31.73	17.98	16.03
Less Than High School	51.19	33.13	20.09	18.23
Female	**55.63**	**37.08**	**23.29**	**21.24**
Male	47.13	29.53	16.97	15.22
High School	54.35	35.65	21.51	19.44
Female	**57.76**	**38.82**	**23.95**	**21.61**
Male	50.03	31.57	18.20	16.38
More Than High School	55.74	36.58	21.97	19.74
Female	**58.75**	**39.49**	**24.67**	**22.21**
Male	52.14	33.04	18.66	16.51

Notes: Females in bold font. Life Expectancy at ages 25 (e25), 45 (e45), 62 (e62), and 65 (e65) are calculated from Period Life Tables (1983) estimated from NLMS File 11 data.

Table 3. Conditional Survival at Retirement Age (Cohort Life Tables, partial)

Demographic	**Probability of Living to …** (conditional on attaining age 60)	
	Age 62	**Age 65**
1923-24 Birth Cohort		
NHB Female	**0.972**	**0.930**
NHB Male	0.943	0.848
NHW Female	**0.982**	**0.950**
NHW Male	0.965	0.914
1927-28 Birth Cohort		
NHB Female	**0.973**	**0.919**
NHB Male	0.956	0.891
NHW Female	**0.983**	**0.953**
NHW Male	0.969	0.911
1931-32 Birth Cohort		
NHB Female	**0.978**	N/A
NHB Male	0.952	N/A
NHW Female	**0.983**	N/A
NHW Male	0.975	N/A

Notes: Females in bold font. Survival probabilities are calculated from Cohort Life Tables (partial) estimated from NLMS File 11 data.

Figure 1. Survival Curves by Race/Ethnicity and Sex

(Period Life Tables, 1983, NLMS File 11)

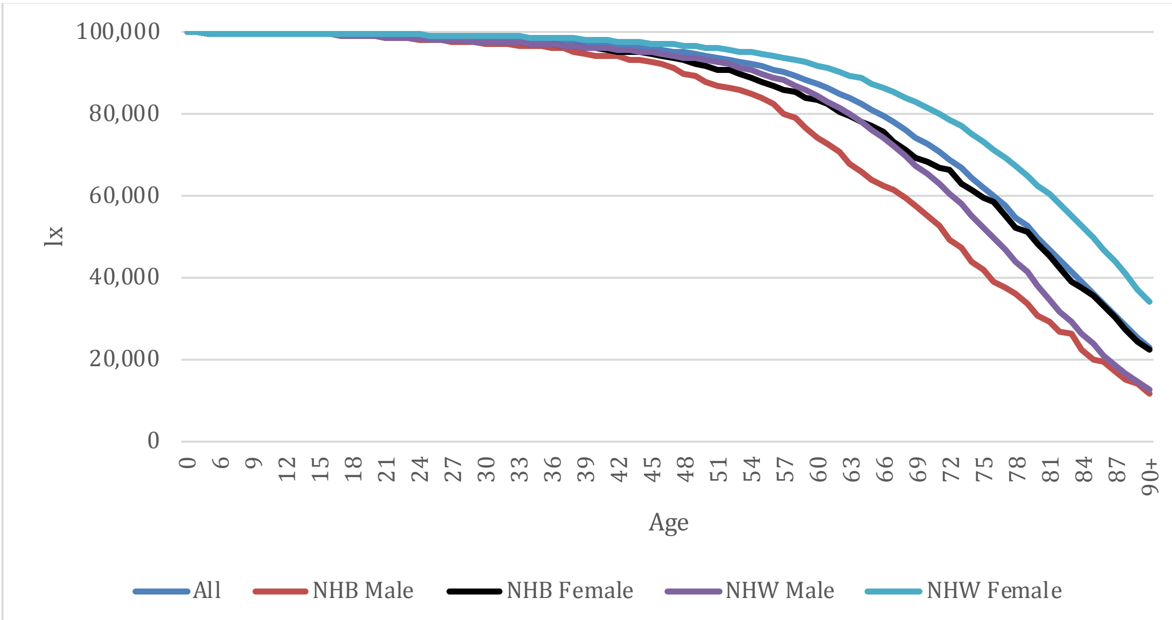


Figure 2. Survival Curves by Education and Sex

(Period Life Tables, 1983, NLMS File 11)

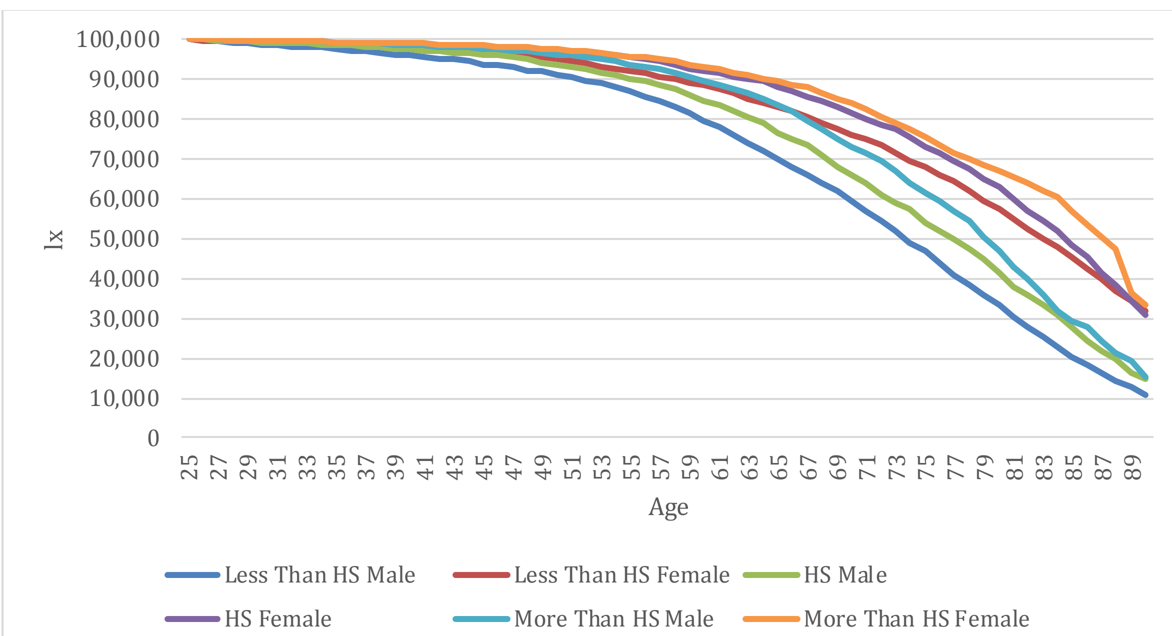


Figure 3a. Survival Curves by Race/Ethnicity and Sex, Birth Cohort 1931-32

(Partial Cohort Life Tables, Conditional on Survival to Age 52, NLMS File 11)

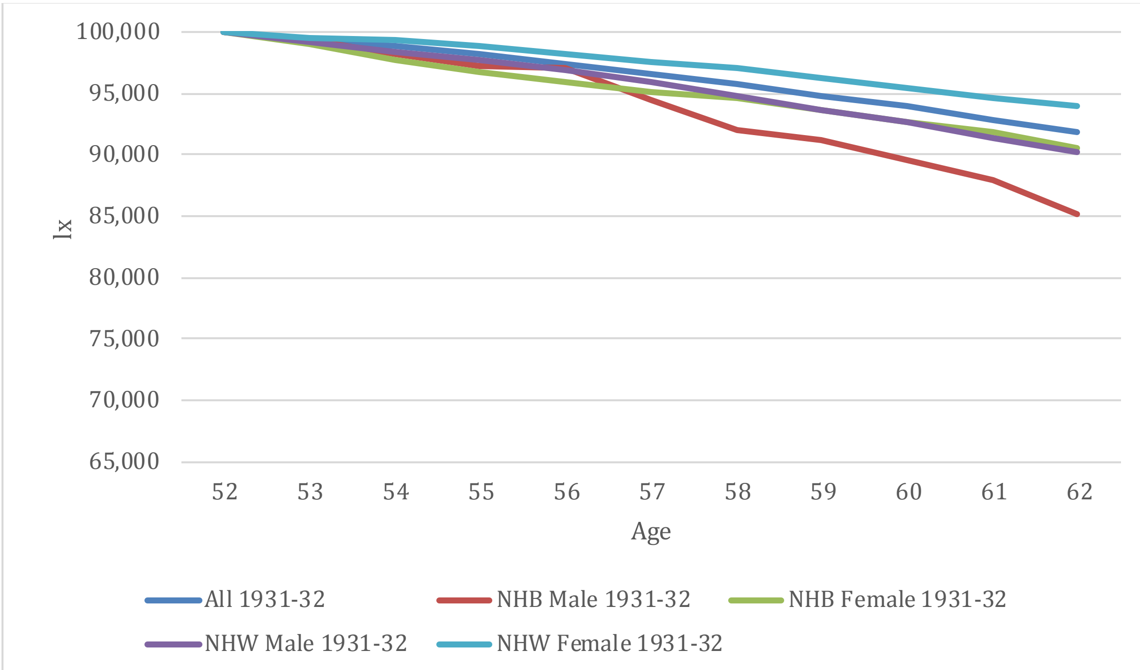


Figure 3b. Survival Curves by Race/Ethnicity and Sex, Birth Cohort 1927-28

(Partial Cohort Life Tables, Conditional on Survival to Age 56, NLMS File 11)

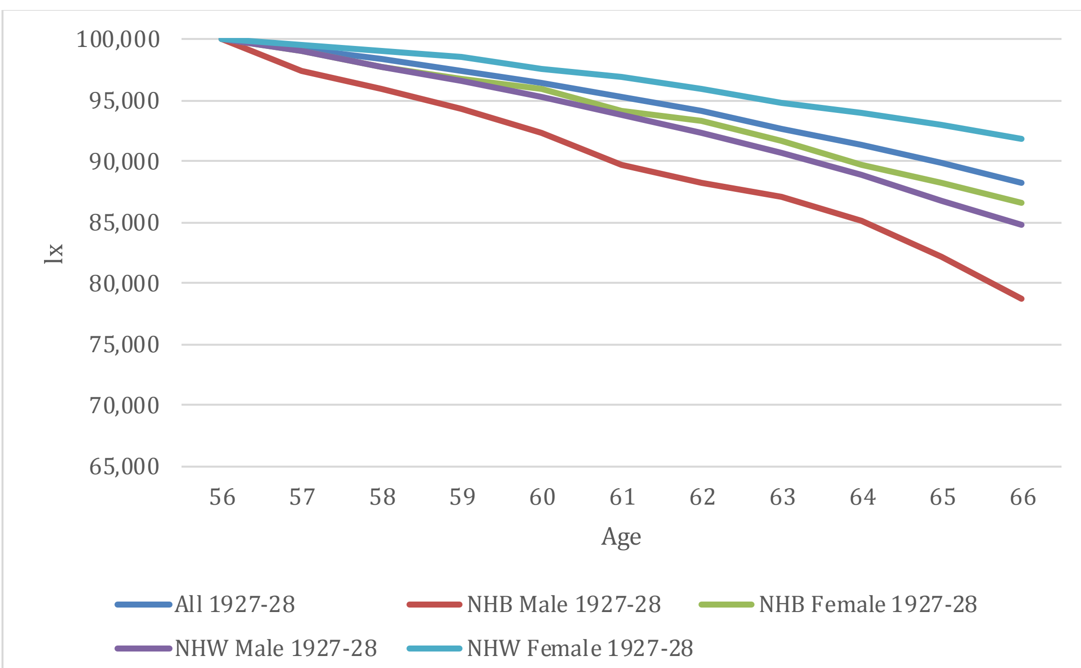
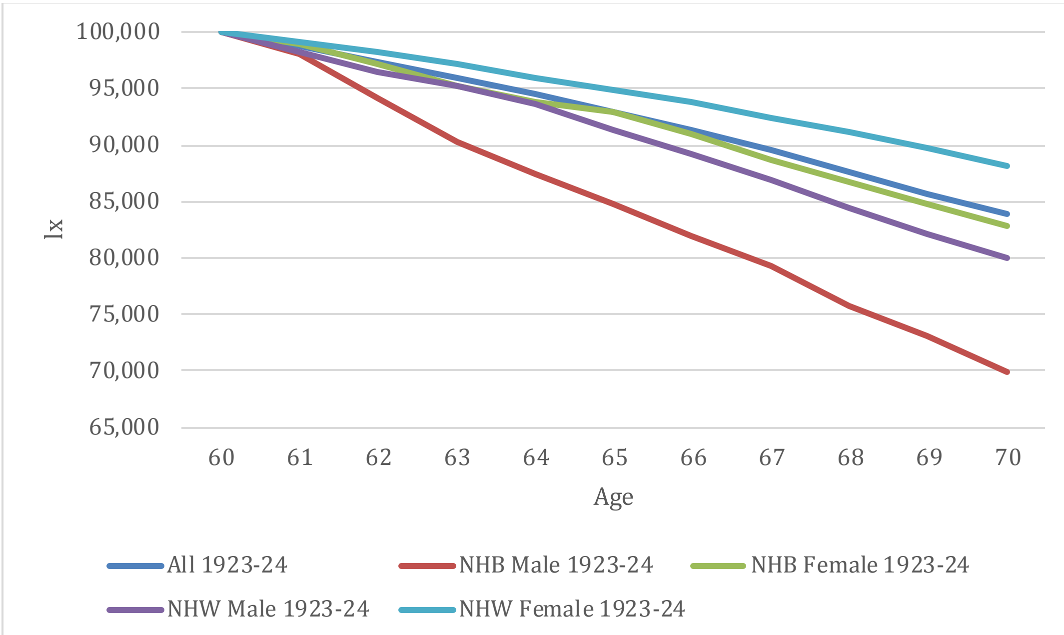


Figure 3c. Survival by Race/Ethnicity and Sex, Birth Cohort 1923-24

(Partial Cohort Life Tables, Conditional on Survival to Age 60, NLMS File 11)



Appendix Table 1: Education Variable Original Categories

Highest Grade Completed Variable	
Value	**Categories**
1	None, LT E1
2	Completed E1, E2, E3, E4
3	Completed E5, E6
4	Completed E7, E8
5	Completed H1
6	Completed H2
7	Completed H3
8	Completed H4
9	Completed C1
10	Completed C2
11	Completed C3
12	Completed C4
13	Completed C5
14	Completed C6

Appendix Table 2: Recoded Education Variable Categories

Value in the paper	**Value in NLMS**
1= Less than high school	0,1,2,3,4,5,6,7
2= High school	8
3= More than high school	9,10,11,12,13,14

Appendix Table 3a: Period Life Table for Black (non-Hispanic) Males (1983, NLMS File 11)

Age	n	nDx	nPYx	nax	nMx	nqx	lx	ndx	nLx	Tx	ex	Age
0	1	1	840	0.048	0.001190	0.001189	100,000	119	99,887	7,033,292	**70.3329**	**0**
1-4	4	0	3,495	1.648	0.000000	0.000000	99,881	0	399,524	6,933,405	69.4166	**1-4**
5	1	0	809	0.500	0.000000	0.000000	99,881	0	99,881	6,533,881	65.4166	**5**
6	1	0	802	0.500	0.000000	0.000000	99,881	0	99,881	6,434,000	64.4166	**6**
7	1	0	885	0.500	0.000000	0.000000	99,881	0	99,881	6,334,119	63.4166	**7**
8	1	0	909	0.500	0.000000	0.000000	99,881	0	99,881	6,234,237	62.4166	**8**
9	1	2	897	0.500	0.002230	0.002227	99,881	222	99,770	6,134,356	61.4166	**9**
10	1	0	895	0.500	0.000000	0.000000	99,659	0	99,659	6,034,587	60.5526	**10**
11	1	1	950	0.500	0.001053	0.001052	99,659	105	99,606	5,934,928	59.5526	**11**
12	1	0	897	0.500	0.000000	0.000000	99,554	0	99,554	5,835,322	58.6148	**12**
13	1	0	943	0.500	0.000000	0.000000	99,554	0	99,554	5,735,768	57.6148	**13**
14	1	0	1,068	0.500	0.000000	0.000000	99,554	0	99,554	5,636,214	56.6148	**14**
15	1	1	1,307	0.500	0.000765	0.000765	99,554	76	99,516	5,536,660	55.6148	**15**
16	1	2	1,303	0.500	0.001535	0.001534	99,478	153	99,401	5,437,145	54.6569	**16**
17	1	0	1,275	0.500	0.000000	0.000000	99,325	0	99,325	5,337,743	53.7401	**17**
18	1	2	1,198	0.500	0.001669	0.001668	99,325	166	99,242	5,238,418	52.7401	**18**
19	1	0	1,075	0.500	0.000000	0.000000	99,159	0	99,159	5,139,176	51.8274	**19**
20	1	3	959	0.500	0.003128	0.003123	99,159	310	99,005	5,040,017	50.8274	**20**
21	1	3	883	0.500	0.003398	0.003392	98,850	335	98,682	4,941,012	49.9851	**21**
22	1	0	878	0.500	0.000000	0.000000	98,514	0	98,514	4,842,330	49.1535	**22**
23	1	2	927	0.500	0.002157	0.002155	98,514	212	98,408	4,743,816	48.1535	**23**
24	1	2	860	0.500	0.002326	0.002323	98,302	228	98,188	4,645,407	47.2564	**24**
25	1	1	928	0.500	0.001078	0.001077	98,074	106	98,021	4,547,219	46.3653	**25**
26	1	1	865	0.500	0.001156	0.001155	97,968	113	97,912	4,449,198	45.4148	**26**
27	1	2	821	0.500	0.002436	0.002433	97,855	238	97,736	4,351,287	44.4667	**27**
28	1	0	793	0.500	0.000000	0.000000	97,617	0	97,617	4,253,551	43.5739	**28**
29	1	2	840	0.500	0.002381	0.002378	97,617	232	97,501	4,155,934	42.5739	**29**
30	1	1	848	0.500	0.001179	0.001179	97,385	115	97,327	4,058,433	41.6742	**30**
31	1	0	795	0.500	0.000000	0.000000	97,270	0	97,270	3,961,106	40.7228	**31**
32	1	4	765	0.500	0.005229	0.005215	97,270	507	97,016	3,863,836	39.7228	**32**
33	1	0	750	0.500	0.000000	0.000000	96,763	0	96,763	3,766,820	38.9285	**33**
34	1	1	667	0.500	0.001499	0.001498	96,763	145	96,690	3,670,057	37.9285	**34**
35	1	3	652	0.500	0.004601	0.004591	96,618	444	96,396	3,573,367	36.9846	**35**
36	1	1	626	0.500	0.001597	0.001596	96,174	154	96,097	3,476,971	36.1529	**36**
37	1	5	624	0.500	0.008013	0.007981	96,021	766	95,637	3,380,874	35.2099	**37**
38	1	3	619	0.500	0.004847	0.004835	95,254	461	95,024	3,285,236	34.4891	**38**
39	1	3	611	0.500	0.004910	0.004898	94,794	464	94,562	3,190,212	33.6542	**39**
40	1	1	555	0.500	0.001802	0.001800	94,329	170	94,245	3,095,651	32.8174	**40**
41	1	1	577	0.500	0.001733	0.001732	94,160	163	94,078	3,001,406	31.8757	**41**
42	1	4	544	0.500	0.007353	0.007326	93,997	689	93,652	2,907,328	30.9301	**42**
43	1	1	552	0.500	0.001812	0.001810	93,308	169	93,224	2,813,676	30.1547	**43**
44	1	2	524	0.500	0.003817	0.003810	93,139	355	92,962	2,720,452	29.2085	**44**
45	1	2	533	0.500	0.003752	0.003745	92,784	348	92,611	2,627,490	28.3183	**45**
46	1	5	416	0.500	0.012019	0.011947	92,437	1,104	91,885	2,534,880	27.4228	**46**
47	1	7	473	0.500	0.014799	0.014690	91,332	1,342	90,662	2,442,995	26.7484	**47**
48	1	4	485	0.500	0.008247	0.008214	89,991	739	89,621	2,352,334	26.1397	**48**
49	1	7	461	0.500	0.015184	0.015070	89,252	1,345	88,579	2,262,713	25.3521	**49**
50	1	5	497	0.500	0.010060	0.010010	87,907	880	87,467	2,174,133	24.7323	**50**
51	1	3	476	0.500	0.006303	0.006283	87,027	547	86,753	2,086,667	23.9773	**51**
52	1	3	436	0.500	0.006881	0.006857	86,480	593	86,183	1,999,914	23.1258	**52**
53	1	6	430	0.500	0.013953	0.013857	85,887	1,190	85,292	1,913,730	22.2820	**53**
54	1	4	428	0.500	0.009346	0.009302	84,697	788	84,303	1,828,439	21.5881	**54**
55	1	8	434	0.500	0.018433	0.018265	83,909	1,533	83,143	1,744,136	20.7861	**55**
56	1	11	412	0.500	0.026699	0.026347	82,376	2,170	81,291	1,660,993	20.1635	**56**
57	1	7	452	0.500	0.015487	0.015368	80,206	1,233	79,590	1,579,702	19.6956	**57**
58	1	14	433	0.500	0.032333	0.031818	78,973	2,513	77,717	1,500,113	18.9952	**58**
59	1	12	431	0.500	0.027842	0.027460	76,460	2,100	75,411	1,422,396	18.6030	**59**
60	1	9	446	0.500	0.020179	0.019978	74,361	1,486	73,618	1,346,985	18.1142	**60**
61	1	13	406	0.500	0.032020	0.031515	72,875	2,297	71,727	1,273,367	17.4732	**61**
62	1	14	346	0.500	0.040462	0.039660	70,579	2,799	69,179	1,201,640	17.0255	**62**
63	1	11	351	0.500	0.031339	0.030856	67,779	2,091	66,734	1,132,461	16.7080	**63**
64	1	10	355	0.500	0.028169	0.027778	65,688	1,825	64,776	1,065,727	16.2240	**64**
65	1	8	383	0.500	0.020888	0.020672	63,863	1,320	63,203	1,000,951	15.6733	**65**
66	1	6	353	0.500	0.016997	0.016854	62,543	1,054	62,016	937,748	14.9936	**66**
67	1	11	314	0.500	0.035032	0.034429	61,489	2,117	60,431	875,732	14.2420	**67**
68	1	11	315	0.500	0.034921	0.034321	59,372	2,038	58,353	815,301	13.7320	**68**
69	1	10	260	0.500	0.038462	0.037736	57,334	2,164	56,253	756,948	13.2023	**69**
70	1	15	303	0.500	0.049505	0.048309	55,171	2,665	53,838	700,695	12.7005	**70**
71	1	17	267	0.500	0.063670	0.061706	52,506	3,240	50,886	646,857	12.3198	**71**
72	1	13	283	0.500	0.045936	0.044905	49,266	2,212	48,160	595,971	12.0971	**72**
73	1	14	199	0.500	0.070352	0.067961	47,053	3,198	45,455	547,812	11.6423	**73**
74	1	11	217	0.500	0.050691	0.049438	43,856	2,168	42,772	502,357	11.4548	**74**
75	1	14	195	0.500	0.071795	0.069307	41,687	2,889	40,243	459,586	11.0245	**75**
76	1	7	180	0.500	0.038889	0.038147	38,798	1,480	38,058	419,343	10.8083	**76**
77	1	6	145	0.500	0.041379	0.040541	37,318	1,513	36,562	381,285	10.2171	**77**
78	1	8	117	0.500	0.068376	0.066116	35,805	2,367	34,622	344,723	9.6277	**78**
79	1	12	137	0.500	0.087591	0.083916	33,438	2,806	32,035	310,101	9.2739	**79**
80	1	6	114	0.500	0.052632	0.051282	30,632	1,571	29,847	278,066	9.0776	**80**
81	1	6	81	0.500	0.074074	0.071429	29,061	2,076	28,023	248,220	8.5413	**81**
82	1	2	57	0.500	0.035088	0.034483	26,985	931	26,520	220,196	8.1598	**82**
83	1	9	60	0.500	0.150000	0.139535	26,055	3,636	24,237	193,676	7.4334	**83**
84	1	6	55	0.500	0.109091	0.103448	22,419	2,319	21,260	169,439	7.5577	**84**
85	1	2	56	0.500	0.035714	0.035088	20,100	705	19,747	148,179	7.3721	**85**
86	1	5	38	0.500	0.131579	0.123457	19,395	2,394	18,198	128,432	6.6220	**86**
87	1	6	44	0.500	0.136364	0.127660	17,000	2,170	15,915	110,235	6.4842	**87**
88	1	1	26	0.500	0.038462	0.037736	14,830	560	14,550	94,319	6.3600	**88**
89	1	3	16	0.500	0.187500	0.171429	14,270	2,446	13,047	79,769	5.5898	**89**
90+		14	79	0.000	0.177215	1.000000	11,824	11,824	66,722	66,722	5.6429	**90+**

Appendix Table 3b: Period Life Table for White (non-Hispanic) Males (1983, NLMS File 11)

Age	n	nDx	nPYx	nax	nMx	nqx	lx	ndx	nLx	Tx	ex	Age
0	1	8	5,178	0.049	0.001545	0.001543	100,000	154	99,853	7,376,225	**73.7623**	**0**
1-4	4	7	20,577	1.647	0.000340	0.001360	99,846	136	399,063	7,276,372	72.8761	**1-4**
5	1	3	5,068	0.500	0.000592	0.000592	99,710	59	99,680	6,877,308	68.9731	**5**
6	1	0	4,921	0.500	0.000000	0.000000	99,651	0	99,651	6,777,628	68.0137	**6**
7	1	1	5,000	0.500	0.000200	0.000200	99,651	20	99,641	6,677,977	67.0137	**7**
8	1	1	5,111	0.500	0.000196	0.000196	99,631	19	99,621	6,578,336	66.0270	**8**
9	1	2	5,620	0.500	0.000356	0.000356	99,612	35	99,594	6,478,715	65.0398	**9**
10	1	2	5,528	0.500	0.000362	0.000362	99,576	36	99,558	6,379,121	64.0628	**10**
11	1	1	5,525	0.500	0.000181	0.000181	99,540	18	99,531	6,279,563	63.0858	**11**
12	1	1	5,448	0.500	0.000184	0.000184	99,522	18	99,513	6,180,032	62.0971	**12**
13	1	1	5,594	0.500	0.000179	0.000179	99,504	18	99,495	6,080,519	61.1084	**13**
14	1	3	6,437	0.500	0.000466	0.000466	99,486	46	99,463	5,981,024	60.1192	**14**
15	1	4	8,333	0.500	0.000480	0.000480	99,440	48	99,416	5,881,561	59.1470	**15**
16	1	7	7,992	0.500	0.000876	0.000875	99,392	87	99,348	5,782,145	58.1752	**16**
17	1	10	8,223	0.500	0.001216	0.001215	99,305	121	99,245	5,682,797	57.2257	**17**
18	1	11	7,896	0.500	0.001393	0.001392	99,184	138	99,115	5,583,552	56.2948	**18**
19	1	9	7,539	0.500	0.001194	0.001193	99,046	118	98,987	5,484,437	55.3725	**19**
20	1	7	7,479	0.500	0.000936	0.000936	98,928	93	98,882	5,385,450	54.4381	**20**
21	1	12	7,373	0.500	0.001628	0.001626	98,835	161	98,755	5,286,568	53.4886	**21**
22	1	8	7,839	0.500	0.001021	0.001020	98,675	101	98,624	5,187,813	52.5749	**22**
23	1	9	7,967	0.500	0.001130	0.001129	98,574	111	98,518	5,089,189	51.6281	**23**
24	1	16	8,034	0.500	0.001992	0.001990	98,463	196	98,365	4,990,670	50.6859	**24**
25	1	10	8,104	0.500	0.001234	0.001233	98,267	121	98,206	4,892,305	49.7859	**25**
26	1	9	8,273	0.500	0.001088	0.001087	98,146	107	98,092	4,794,099	48.8468	**26**
27	1	7	8,152	0.500	0.000859	0.000858	98,039	84	97,997	4,696,007	47.8994	**27**
28	1	7	8,201	0.500	0.000854	0.000853	97,955	84	97,913	4,598,010	46.9401	**28**
29	1	9	8,237	0.500	0.001093	0.001092	97,871	107	97,818	4,500,097	45.9798	**29**
30	1	10	8,233	0.500	0.001215	0.001214	97,764	119	97,705	4,402,279	45.0295	**30**
31	1	11	8,137	0.500	0.001352	0.001351	97,646	132	97,580	4,304,574	44.0836	**31**
32	1	10	8,158	0.500	0.001226	0.001225	97,514	119	97,454	4,206,994	43.1426	**32**
33	1	8	8,086	0.500	0.000989	0.000989	97,394	96	97,346	4,109,540	42.1949	**33**
34	1	12	7,472	0.500	0.001606	0.001605	97,298	156	97,220	4,012,194	41.2361	**34**
35	1	12	7,080	0.500	0.001695	0.001693	97,142	165	97,060	3,914,974	40.3016	**35**
36	1	14	7,160	0.500	0.001955	0.001953	96,977	189	96,883	3,817,915	39.3691	**36**
37	1	10	7,002	0.500	0.001428	0.001427	96,788	138	96,719	3,721,032	38.4452	**37**
38	1	21	6,817	0.500	0.003081	0.003076	96,650	297	96,501	3,624,313	37.4994	**38**
39	1	10	6,329	0.500	0.001580	0.001579	96,353	152	96,276	3,527,812	36.6136	**39**
40	1	14	6,203	0.500	0.002257	0.002254	96,200	217	96,092	3,431,535	35.6707	**40**
41	1	11	5,970	0.500	0.001843	0.001841	95,984	177	95,895	3,335,443	34.7502	**41**
42	1	16	5,775	0.500	0.002771	0.002767	95,807	265	95,674	3,239,548	33.8133	**42**
43	1	15	5,469	0.500	0.002743	0.002739	95,542	262	95,411	3,143,874	32.9058	**43**
44	1	14	5,341	0.500	0.002621	0.002618	95,280	249	95,155	3,048,463	31.9948	**44**
45	1	13	5,167	0.500	0.002516	0.002513	95,031	239	94,911	2,953,308	31.0774	**45**
46	1	21	5,097	0.500	0.004120	0.004112	94,792	390	94,597	2,858,396	30.1544	**46**
47	1	24	5,054	0.500	0.004749	0.004737	94,402	447	94,179	2,763,799	29.2769	**47**
48	1	16	4,903	0.500	0.003263	0.003258	93,955	306	93,802	2,669,621	28.4139	**48**
49	1	29	4,833	0.500	0.006000	0.005982	93,649	560	93,369	2,575,819	27.5051	**49**
50	1	29	5,128	0.500	0.005655	0.005639	93,089	525	92,826	2,482,450	26.6676	**50**
51	1	25	4,973	0.500	0.005027	0.005015	92,564	464	92,332	2,389,624	25.8160	**51**
52	1	37	5,032	0.500	0.007353	0.007326	92,099	675	91,762	2,297,293	24.9436	**52**
53	1	41	4,917	0.500	0.008338	0.008304	91,425	759	91,045	2,205,531	24.1240	**53**
54	1	52	5,085	0.500	0.010226	0.010174	90,666	922	90,204	2,114,486	23.3218	**54**
55	1	40	4,999	0.500	0.008002	0.007970	89,743	715	89,385	2,024,281	22.5564	**55**
56	1	52	5,110	0.500	0.010176	0.010125	89,028	901	88,577	1,934,896	21.7336	**56**
57	1	66	5,009	0.500	0.013176	0.013090	88,126	1,154	87,550	1,846,319	20.9508	**57**
58	1	71	5,092	0.500	0.013943	0.013847	86,973	1,204	86,371	1,758,769	20.2220	**58**
59	1	84	5,025	0.500	0.016716	0.016578	85,769	1,422	85,058	1,672,398	19.4990	**59**
60	1	83	4,825	0.500	0.017202	0.017055	84,347	1,439	83,627	1,587,341	18.8192	**60**
61	1	83	4,634	0.500	0.017911	0.017752	82,908	1,472	82,172	1,503,713	18.1371	**61**
62	1	93	4,687	0.500	0.019842	0.019647	81,436	1,600	80,636	1,421,541	17.4558	**62**
63	1	93	4,532	0.500	0.020521	0.020312	79,836	1,622	79,026	1,340,904	16.7957	**63**
64	1	114	4,224	0.500	0.026989	0.026629	78,215	2,083	77,173	1,261,879	16.1335	**64**
65	1	107	4,339	0.500	0.024660	0.024360	76,132	1,855	75,205	1,184,706	15.5612	**65**
66	1	119	4,078	0.500	0.029181	0.028761	74,277	2,136	73,209	1,109,501	14.9373	**66**
67	1	121	3,883	0.500	0.031161	0.030683	72,141	2,214	71,034	1,036,292	14.3648	**67**
68	1	137	3,689	0.500	0.037137	0.036460	69,928	2,550	68,653	965,257	13.8037	**68**
69	1	113	3,565	0.500	0.031697	0.031203	67,378	2,102	66,327	896,605	13.3071	**69**
70	1	127	3,328	0.500	0.038161	0.037447	65,276	2,444	64,053	830,278	12.7196	**70**
71	1	118	3,099	0.500	0.038077	0.037365	62,831	2,348	61,657	766,225	12.1950	**71**
72	1	134	3,029	0.500	0.044239	0.043282	60,484	2,618	59,175	704,567	11.6489	**72**
73	1	131	2,726	0.500	0.048056	0.046928	57,866	2,716	56,508	645,393	11.1533	**73**
74	1	129	2,490	0.500	0.051807	0.050499	55,150	2,785	53,758	588,885	10.6778	**74**
75	1	119	2,365	0.500	0.050317	0.049082	52,365	2,570	51,080	535,127	10.2192	**75**
76	1	125	2,094	0.500	0.059694	0.057964	49,795	2,886	48,352	484,047	9.7208	**76**
77	1	113	1,823	0.500	0.061986	0.060122	46,909	2,820	45,498	435,695	9.2882	**77**
78	1	109	1,671	0.500	0.065230	0.063170	44,088	2,785	42,696	390,197	8.8503	**78**
79	1	126	1,545	0.500	0.081553	0.078358	41,303	3,236	39,685	347,501	8.4134	**79**
80	1	132	1,379	0.500	0.095722	0.091349	38,067	3,477	36,328	307,816	8.0862	**80**
81	1	101	1,150	0.500	0.087826	0.084132	34,589	2,910	33,134	271,488	7.8489	**81**
82	1	92	1,072	0.500	0.085821	0.082290	31,679	2,607	30,376	238,353	7.5239	**82**
83	1	95	893	0.500	0.106383	0.101010	29,072	2,937	27,604	207,978	7.1538	**83**
84	1	76	759	0.500	0.100132	0.095358	26,136	2,492	24,890	180,373	6.9014	**84**
85	1	77	660	0.500	0.116667	0.110236	23,644	2,606	22,340	155,484	6.5761	**85**
86	1	57	468	0.500	0.121795	0.114804	21,037	2,415	19,830	133,143	6.3289	**86**
87	1	51	423	0.500	0.120567	0.113712	18,622	2,118	17,563	113,314	6.0849	**87**
88	1	46	367	0.500	0.125341	0.117949	16,505	1,947	15,531	95,750	5.8015	**88**
89	1	42	271	0.500	0.154982	0.143836	14,558	2,094	13,511	80,219	5.5104	**89**
90+		142	760	0.000	0.186842	1.000000	12,464	12,464	66,708	66,708	5.3521	**90+**

Appendix Table 3c: Period Life Table for Black (non-Hispanic) Females (1983, NLMS File 11)

Age	n	nDx	nPYx	nax	nMx	nqx	lx	ndx	nLx	Tx	ex	Age
0	1	1	828	0.048	0.001208	0.001206	100,000	121	99,885	7,640,741	**76.4074**	**0**
1-4	4	1	3,484	1.648	0.000287	0.001147	99,879	115	399,248	7,540,856	75.4996	**1-4**
5	1	1	864	0.500	0.001157	0.001157	99,765	115	99,707	7,141,608	71.5845	**5**
6	1	0	835	0.500	0.000000	0.000000	99,649	0	99,649	7,041,901	70.6668	**6**
7	1	0	844	0.500	0.000000	0.000000	99,649	0	99,649	6,942,251	69.6668	**7**
8	1	0	865	0.500	0.000000	0.000000	99,649	0	99,649	6,842,602	68.6668	**8**
9	1	0	871	0.500	0.000000	0.000000	99,649	0	99,649	6,742,953	67.6668	**9**
10	1	0	894	0.500	0.000000	0.000000	99,649	0	99,649	6,643,303	66.6668	**10**
11	1	0	928	0.500	0.000000	0.000000	99,649	0	99,649	6,543,654	65.6668	**11**
12	1	0	955	0.500	0.000000	0.000000	99,649	0	99,649	6,444,005	64.6668	**12**
13	1	1	923	0.500	0.001083	0.001083	99,649	108	99,595	6,344,355	63.6668	**13**
14	1	0	1,166	0.500	0.000000	0.000000	99,541	0	99,541	6,244,760	62.7353	**14**
15	1	0	1,322	0.500	0.000000	0.000000	99,541	0	99,541	6,145,218	61.7353	**15**
16	1	1	1,317	0.500	0.000759	0.000759	99,541	76	99,504	6,045,677	60.7353	**16**
17	1	2	1,411	0.500	0.001417	0.001416	99,466	141	99,395	5,946,173	59.7810	**17**
18	1	0	1,330	0.500	0.000000	0.000000	99,325	0	99,325	5,846,778	58.8651	**18**
19	1	1	1,295	0.500	0.000772	0.000772	99,325	77	99,287	5,747,453	57.8651	**19**
20	1	2	1,301	0.500	0.001537	0.001536	99,248	152	99,172	5,648,166	56.9094	**20**
21	1	1	1,213	0.500	0.000824	0.000824	99,096	82	99,055	5,548,994	55.9962	**21**
22	1	3	1,293	0.500	0.002320	0.002317	99,014	229	98,900	5,449,939	55.0420	**22**
23	1	0	1,282	0.500	0.000000	0.000000	98,785	0	98,785	5,351,039	54.1687	**23**
24	1	2	1,271	0.500	0.001574	0.001572	98,785	155	98,707	5,252,254	53.1687	**24**
25	1	5	1,355	0.500	0.003690	0.003683	98,629	363	98,448	5,153,547	52.2516	**25**
26	1	0	1,240	0.500	0.000000	0.000000	98,266	0	98,266	5,055,100	51.4429	**26**
27	1	1	1,242	0.500	0.000805	0.000805	98,266	79	98,227	4,956,833	50.4429	**27**
28	1	0	1,127	0.500	0.000000	0.000000	98,187	0	98,187	4,858,607	49.4832	**28**
29	1	1	1,197	0.500	0.000835	0.000835	98,187	82	98,146	4,760,420	48.4832	**29**
30	1	5	1,135	0.500	0.004405	0.004396	98,105	431	97,889	4,662,274	47.5233	**30**
31	1	2	1,168	0.500	0.001712	0.001711	97,674	167	97,590	4,564,384	46.7309	**31**
32	1	0	1,115	0.500	0.000000	0.000000	97,507	0	97,507	4,466,794	45.8101	**32**
33	1	2	1,056	0.500	0.001894	0.001892	97,507	184	97,415	4,369,287	44.8101	**33**
34	1	1	959	0.500	0.001043	0.001042	97,322	101	97,272	4,271,872	43.8941	**34**
35	1	1	917	0.500	0.001091	0.001090	97,221	106	97,168	4,174,601	42.9394	**35**
36	1	3	891	0.500	0.003367	0.003361	97,115	326	96,952	4,077,433	41.9857	**36**
37	1	3	916	0.500	0.003275	0.003270	96,788	316	96,630	3,980,481	41.1256	**37**
38	1	2	823	0.500	0.002430	0.002427	96,472	234	96,355	3,883,851	40.2589	**38**
39	1	2	778	0.500	0.002571	0.002567	96,238	247	96,114	3,787,496	39.3556	**39**
40	1	3	802	0.500	0.003741	0.003734	95,991	358	95,812	3,691,382	38.4556	**40**
41	1	2	787	0.500	0.002541	0.002538	95,632	243	95,511	3,595,571	37.5979	**41**
42	1	3	737	0.500	0.004071	0.004062	95,390	388	95,196	3,500,060	36.6923	**42**
43	1	0	711	0.500	0.000000	0.000000	95,002	0	95,002	3,404,864	35.8399	**43**
44	1	3	653	0.500	0.004594	0.004584	95,002	435	94,784	3,309,862	34.8399	**44**
45	1	4	700	0.500	0.005714	0.005698	94,567	539	94,297	3,215,077	33.9980	**45**
46	1	3	611	0.500	0.004910	0.004898	94,028	461	93,798	3,120,780	33.1900	**46**
47	1	3	605	0.500	0.004959	0.004946	93,567	463	93,336	3,026,983	32.3509	**47**
48	1	4	614	0.500	0.006515	0.006494	93,104	605	92,802	2,933,647	31.5092	**48**
49	1	5	629	0.500	0.007949	0.007918	92,500	732	92,134	2,840,845	30.7119	**49**
50	1	6	677	0.500	0.008863	0.008824	91,767	810	91,363	2,748,711	29.9530	**50**
51	1	2	602	0.500	0.003322	0.003317	90,958	302	90,807	2,657,348	29.2152	**51**
52	1	6	624	0.500	0.009615	0.009569	90,656	868	90,222	2,566,541	28.3107	**52**
53	1	7	603	0.500	0.011609	0.011542	89,789	1,036	89,270	2,476,319	27.5794	**53**
54	1	7	566	0.500	0.012367	0.012291	88,752	1,091	88,207	2,387,049	26.8956	**54**
55	1	5	618	0.500	0.008091	0.008058	87,661	706	87,308	2,298,842	26.2241	**55**
56	1	6	615	0.500	0.009756	0.009709	86,955	844	86,533	2,211,534	25.4331	**56**
57	1	5	560	0.500	0.008929	0.008889	86,111	765	85,728	2,125,001	24.6775	**57**
58	1	8	581	0.500	0.013769	0.013675	85,345	1,167	84,762	2,039,273	23.8944	**58**
59	1	6	539	0.500	0.011132	0.011070	84,178	932	83,712	1,954,511	23.2187	**59**
60	1	6	567	0.500	0.010582	0.010526	83,246	876	82,808	1,870,799	22.4730	**60**
61	1	11	493	0.500	0.022312	0.022066	82,370	1,818	81,461	1,787,990	21.7068	**61**
62	1	7	485	0.500	0.014433	0.014330	80,552	1,154	79,975	1,706,529	21.1853	**62**
63	1	8	478	0.500	0.016736	0.016598	79,398	1,318	78,739	1,626,554	20.4860	**63**
64	1	7	464	0.500	0.015086	0.014973	78,080	1,169	77,496	1,547,815	19.8233	**64**
65	1	10	530	0.500	0.018868	0.018692	76,911	1,438	76,192	1,470,319	19.1171	**65**
66	1	15	517	0.500	0.029014	0.028599	75,474	2,158	74,394	1,394,126	18.4717	**66**
67	1	11	432	0.500	0.025463	0.025143	73,315	1,843	72,394	1,319,732	18.0008	**67**
68	1	12	413	0.500	0.029056	0.028640	71,472	2,047	70,448	1,247,338	17.4522	**68**
69	1	8	425	0.500	0.018824	0.018648	69,425	1,295	68,778	1,176,890	16.9520	**69**
70	1	8	412	0.500	0.019417	0.019231	68,130	1,310	67,475	1,108,112	16.2646	**70**
71	1	3	372	0.500	0.008065	0.008032	66,820	537	66,552	1,040,637	15.5737	**71**
72	1	16	329	0.500	0.048632	0.047478	66,283	3,147	64,710	974,085	14.6958	**72**
73	1	7	284	0.500	0.024648	0.024348	63,136	1,537	62,368	909,375	14.4033	**73**
74	1	10	306	0.500	0.032680	0.032154	61,599	1,981	60,609	847,008	13.7503	**74**
75	1	5	266	0.500	0.018797	0.018622	59,618	1,110	59,063	786,399	13.1905	**75**
76	1	15	262	0.500	0.057252	0.055659	58,508	3,256	56,880	727,335	12.4313	**76**
77	1	13	234	0.500	0.055556	0.054054	55,252	2,987	53,759	670,455	12.1345	**77**
78	1	4	183	0.500	0.021858	0.021622	52,265	1,130	51,700	616,697	11.7994	**78**
79	1	11	198	0.500	0.055556	0.054054	51,135	2,764	49,753	564,997	11.0491	**79**
80	1	13	200	0.500	0.065000	0.062954	48,371	3,045	46,849	515,243	10.6519	**80**
81	1	9	136	0.500	0.066176	0.064057	45,326	2,903	43,874	468,395	10.3339	**81**
82	1	11	122	0.500	0.090164	0.086275	42,422	3,660	40,593	424,521	10.0070	**82**
83	1	4	110	0.500	0.036364	0.035714	38,763	1,384	38,070	383,928	9.9046	**83**
84	1	6	108	0.500	0.055556	0.054054	37,378	2,020	36,368	345,858	9.2529	**84**
85	1	5	70	0.500	0.071429	0.068966	35,358	2,438	34,138	309,490	8.7531	**85**
86	1	6	73	0.500	0.082192	0.078947	32,919	2,599	31,620	275,351	8.3645	**86**
87	1	5	49	0.500	0.102041	0.097087	30,320	2,944	28,848	243,732	8.0386	**87**
88	1	5	46	0.500	0.108696	0.103093	27,377	2,822	25,965	214,883	7.8491	**88**
89	1	4	47	0.500	0.085106	0.081633	24,554	2,004	23,552	188,918	7.6939	**89**
90+		24	176	0.000	0.136364	1.000000	22,550	22,550	165,366	165,366	7.3333	**90+**

Appendix Table 3d: Period Life Table for White (non-Hispanic) Females (1983,NLMS File 11)

Age	n	nDx	nPYx	nax	nMx	nqx	lx	ndx	nLx	Tx	ex	Age
0	1	3	4,915	0.047	0.000610	0.000610	100,000	61	99,942	8,258,217	**82.5822**	**0**
1-4	4	6	19,553	1.649	0.000307	0.001227	99,939	123	399,468	8,158,275	81.6325	**1-4**
5	1	0	4,553	0.500	0.000000	0.000000	99,816	0	99,816	7,758,807	77.7308	**5**
6	1	1	4,567	0.500	0.000219	0.000219	99,816	22	99,805	7,658,991	76.7308	**6**
7	1	0	4,569	0.500	0.000000	0.000000	99,795	0	99,795	7,559,185	75.7475	**7**
8	1	1	4,941	0.500	0.000202	0.000202	99,795	20	99,784	7,459,391	74.7475	**8**
9	1	0	5,063	0.500	0.000000	0.000000	99,774	0	99,774	7,359,606	73.7625	**9**
10	1	1	5,295	0.500	0.000189	0.000189	99,774	19	99,765	7,259,832	72.7625	**10**
11	1	1	5,242	0.500	0.000191	0.000191	99,756	19	99,746	7,160,067	71.7761	**11**
12	1	2	5,168	0.500	0.000387	0.000387	99,736	39	99,717	7,060,321	70.7897	**12**
13	1	1	5,316	0.500	0.000188	0.000188	99,698	19	99,689	6,960,604	69.8169	**13**
14	1	2	6,179	0.500	0.000324	0.000324	99,679	32	99,663	6,860,915	68.8300	**14**
15	1	2	7,764	0.500	0.000258	0.000258	99,647	26	99,634	6,761,252	67.8521	**15**
16	1	0	7,736	0.500	0.000000	0.000000	99,621	0	99,621	6,661,618	66.8695	**16**
17	1	3	8,083	0.500	0.000371	0.000371	99,621	37	99,603	6,561,997	65.8695	**17**
18	1	2	7,986	0.500	0.000250	0.000250	99,584	25	99,572	6,462,394	64.8937	**18**
19	1	4	8,127	0.500	0.000492	0.000492	99,559	49	99,535	6,362,822	63.9099	**19**
20	1	3	8,291	0.500	0.000362	0.000362	99,510	36	99,492	6,263,288	62.9411	**20**
21	1	8	8,326	0.500	0.000961	0.000960	99,474	96	99,427	6,163,795	61.9637	**21**
22	1	1	8,322	0.500	0.000120	0.000120	99,379	12	99,373	6,064,369	61.0228	**22**
23	1	1	8,520	0.500	0.000117	0.000117	99,367	12	99,361	5,964,996	60.0300	**23**
24	1	3	8,604	0.500	0.000349	0.000349	99,355	35	99,338	5,865,635	59.0370	**24**
25	1	4	8,767	0.500	0.000456	0.000456	99,321	45	99,298	5,766,297	58.0574	**25**
26	1	4	8,840	0.500	0.000452	0.000452	99,275	45	99,253	5,666,999	57.0837	**26**
27	1	9	8,714	0.500	0.001033	0.001032	99,230	102	99,179	5,567,746	56.1093	**27**
28	1	1	8,715	0.500	0.000115	0.000115	99,128	11	99,122	5,468,567	55.1668	**28**
29	1	6	8,719	0.500	0.000688	0.000688	99,117	68	99,082	5,369,445	54.1730	**29**
30	1	4	8,686	0.500	0.000461	0.000460	99,048	46	99,026	5,270,362	53.2100	**30**
31	1	3	8,583	0.500	0.000350	0.000349	99,003	35	98,985	5,171,337	52.2343	**31**
32	1	6	8,413	0.500	0.000713	0.000713	98,968	71	98,933	5,072,351	51.2524	**32**
33	1	9	8,719	0.500	0.001032	0.001032	98,898	102	98,847	4,973,418	50.2886	**33**
34	1	10	8,096	0.500	0.001235	0.001234	98,796	122	98,735	4,874,572	49.3400	**34**
35	1	9	7,581	0.500	0.001187	0.001186	98,674	117	98,615	4,775,837	48.4003	**35**
36	1	6	7,422	0.500	0.000808	0.000808	98,557	80	98,517	4,677,222	47.4572	**36**
37	1	5	7,337	0.500	0.000681	0.000681	98,477	67	98,443	4,578,705	46.4952	**37**
38	1	13	6,971	0.500	0.001865	0.001863	98,410	183	98,318	4,480,262	45.5266	**38**
39	1	10	6,740	0.500	0.001484	0.001483	98,226	146	98,154	4,381,944	44.6106	**39**
40	1	13	6,553	0.500	0.001984	0.001982	98,081	194	97,984	4,283,790	43.6761	**40**
41	1	8	6,069	0.500	0.001318	0.001317	97,886	129	97,822	4,185,807	42.7619	**41**
42	1	10	5,864	0.500	0.001705	0.001704	97,758	167	97,674	4,087,985	41.8176	**42**
43	1	8	5,820	0.500	0.001375	0.001374	97,591	134	97,524	3,990,311	40.8881	**43**
44	1	7	5,652	0.500	0.001238	0.001238	97,457	121	97,397	3,892,787	39.9437	**44**
45	1	5	5,591	0.500	0.000894	0.000894	97,336	87	97,293	3,795,390	38.9926	**45**
46	1	6	5,272	0.500	0.001138	0.001137	97,249	111	97,194	3,698,097	38.0270	**46**
47	1	16	5,411	0.500	0.002957	0.002953	97,139	287	96,995	3,600,903	37.0697	**47**
48	1	9	5,217	0.500	0.001725	0.001724	96,852	167	96,768	3,503,908	36.1780	**48**
49	1	15	5,204	0.500	0.002882	0.002878	96,685	278	96,546	3,407,140	35.2396	**49**
50	1	21	5,455	0.500	0.003850	0.003842	96,407	370	96,221	3,310,594	34.3399	**50**
51	1	13	5,234	0.500	0.002484	0.002481	96,036	238	95,917	3,214,373	33.4704	**51**
52	1	21	5,450	0.500	0.003853	0.003846	95,798	368	95,614	3,118,456	32.5524	**52**
53	1	14	5,288	0.500	0.002648	0.002644	95,430	252	95,303	3,022,842	31.6762	**53**
54	1	22	5,390	0.500	0.004082	0.004073	95,177	388	94,983	2,927,538	30.7588	**54**
55	1	31	5,479	0.500	0.005658	0.005642	94,790	535	94,522	2,832,555	29.8826	**55**
56	1	23	5,548	0.500	0.004146	0.004137	94,255	390	94,060	2,738,033	29.0493	**56**
57	1	33	5,509	0.500	0.005990	0.005972	93,865	561	93,584	2,643,973	28.1679	**57**
58	1	44	5,456	0.500	0.008065	0.008032	93,304	749	92,929	2,550,389	27.3341	**58**
59	1	44	5,403	0.500	0.008144	0.008111	92,555	751	92,179	2,457,459	26.5514	**59**
60	1	44	5,498	0.500	0.008003	0.007971	91,804	732	91,438	2,365,280	25.7644	**60**
61	1	43	5,206	0.500	0.008260	0.008226	91,072	749	90,698	2,273,842	24.9674	**61**
62	1	48	5,293	0.500	0.009069	0.009028	90,323	815	89,915	2,183,144	24.1704	**62**
63	1	51	5,047	0.500	0.010105	0.010054	89,508	900	89,058	2,093,228	23.3860	**63**
64	1	65	4,939	0.500	0.013161	0.013075	88,608	1,159	88,029	2,004,171	22.6184	**64**
65	1	62	5,225	0.500	0.011866	0.011796	87,449	1,032	86,934	1,916,142	21.9115	**65**
66	1	62	4,855	0.500	0.012770	0.012689	86,418	1,097	85,869	1,829,208	21.1670	**66**
67	1	68	4,626	0.500	0.014700	0.014592	85,321	1,245	84,699	1,743,339	20.4327	**67**
68	1	67	4,631	0.500	0.014468	0.014364	84,076	1,208	83,472	1,658,640	19.7278	**68**
69	1	85	4,444	0.500	0.019127	0.018946	82,869	1,570	82,084	1,575,168	19.0080	**69**
70	1	67	4,312	0.500	0.015538	0.015418	81,299	1,253	80,672	1,493,084	18.3655	**70**
71	1	75	4,090	0.500	0.018337	0.018171	80,045	1,454	79,318	1,412,413	17.6452	**71**
72	1	83	4,032	0.500	0.020585	0.020376	78,591	1,601	77,790	1,333,095	16.9625	**72**
73	1	92	3,644	0.500	0.025247	0.024932	76,989	1,920	76,029	1,255,305	16.3049	**73**
74	1	91	3,469	0.500	0.026232	0.025893	75,070	1,944	74,098	1,179,275	15.7091	**74**
75	1	83	3,355	0.500	0.024739	0.024437	73,126	1,787	72,232	1,105,178	15.1133	**75**
76	1	88	3,101	0.500	0.028378	0.027981	71,339	1,996	70,341	1,032,945	14.4794	**76**
77	1	93	2,924	0.500	0.031806	0.031308	69,343	2,171	68,257	962,604	13.8818	**77**
78	1	90	2,616	0.500	0.034404	0.033822	67,172	2,272	66,036	894,347	13.3143	**78**
79	1	87	2,504	0.500	0.034744	0.034151	64,900	2,216	63,792	828,311	12.7629	**79**
80	1	88	2,347	0.500	0.037495	0.036805	62,684	2,307	61,530	764,519	12.1965	**80**
81	1	84	1,960	0.500	0.042857	0.041958	60,377	2,533	59,110	702,989	11.6434	**81**
82	1	83	1,807	0.500	0.045932	0.044901	57,843	2,597	56,545	643,879	11.1315	**82**
83	1	72	1,556	0.500	0.046272	0.045226	55,246	2,499	53,997	587,335	10.6313	**83**
84	1	76	1,373	0.500	0.055353	0.053863	52,747	2,841	51,327	533,338	10.1112	**84**
85	1	76	1,224	0.500	0.062092	0.060222	49,906	3,005	48,404	482,011	9.6583	**85**
86	1	69	1,027	0.500	0.067186	0.065002	46,901	3,049	45,377	433,607	9.2452	**86**
87	1	61	819	0.500	0.074481	0.071807	43,852	3,149	42,278	388,231	8.8532	**87**
88	1	56	627	0.500	0.089314	0.085496	40,703	3,480	38,963	345,953	8.4994	**88**
89	1	50	577	0.500	0.086655	0.083056	37,223	3,092	35,678	306,990	8.2472	**89**
90+		196	1,558	0.000	0.125802	1.000000	34,132	34,132	271,312	271,312	7.9490	**90+**

Appendix Table 4a: Partial Cohort Life Table for Black (non-Hispanic) Males
(1923-24 Birth Cohort, Conditional on Survival to Age 60, NLMS File 11)

Age	n	nDx	nPYx	nax	nMx	SE(nMx)	nqx	SE(nqx)	lx	SE(lx)	ndx	nLx
60	1	9	446	0.5	0.020179	0.006659	0.019978	0.006592	100000	0	1998	99001
61	1	17	437	0.5	0.038902	0.009253	0.038159	0.009077	98002	659	3740	96132
62	1	18	420	0.5	0.042857	0.009887	0.041958	0.00968	94263	1092	3955	92285
63	1	13	402	0.5	0.032338	0.008825	0.031824	0.008685	90307	1388	2874	88870
64	1	12	389	0.5	0.030848	0.008769	0.03038	0.008636	87434	1556	2656	86105
65	1	13	377	0.5	0.034483	0.0094	0.033898	0.009241	84777	1687	2874	83340
66	1	12	364	0.5	0.032967	0.009361	0.032432	0.009209	81904	1809	2656	80575
67	1	16	352	0.5	0.045455	0.011108	0.044444	0.010861	79247	1906	3522	77486
68	1	12	336	0.5	0.035714	0.010127	0.035088	0.00995	75725	2014	2657	74397
69	1	14	324	0.5	0.04321	0.011301	0.042296	0.011062	73068	2084	3090	71523
70	1	15	310	0.5	0.048387	0.012195	0.047244	0.011907	69978	2154	3306	68325

Appendix Table 4b: Partial Cohort Life Table for White (non-Hispanic) Males
(1923-24 Birth Cohort, Conditional on Survival to Age 60, NLMS File 11)

Age	n	nDx	nPYx	nax	nMx	SE(nMx)	nqx	SE(nqx)	lx	SE(lx)	ndx	nLx
60	1	83	4825	0.5	0.017202	0.001872	0.017055	0.001856	100000	0	1706	99147
61	1	86	4742	0.5	0.018136	0.001938	0.017973	0.001921	98294	186	1767	97411
62	1	66	4656	0.5	0.014175	0.001733	0.014075	0.00172	96528	262	1359	95848
63	1	76	4590	0.5	0.016558	0.001884	0.016422	0.001868	95169	307	1563	94388
64	1	110	4514	0.5	0.024369	0.002295	0.024075	0.002268	93606	351	2254	92480
65	1	105	4404	0.5	0.023842	0.002299	0.023561	0.002272	91353	403	2152	90277
66	1	114	4299	0.5	0.026518	0.002451	0.026171	0.002419	89200	445	2334	88033
67	1	122	4185	0.5	0.029152	0.002601	0.028733	0.002564	86866	484	2496	85618
68	1	105	4063	0.5	0.025843	0.00249	0.025513	0.002458	84370	520	2153	83294
69	1	109	3958	0.5	0.027539	0.002602	0.027165	0.002566	82217	548	2233	81101
70	1	105	3849	0.5	0.02728	0.002626	0.026913	0.002591	79984	573	2153	78908

Appendix Table 4c: Partial Cohort Life Table for Black (non-Hispanic) Females
(1923-24 Birth Cohort, Conditional on Survival to Age 60, NLMS File 11)

Age	n	nDx	nPYx	nax	nMx	SE(nMx)	nqx	SE(nqx)	lx	SE(lx)	ndx	nLx
60	1	6	567	0.5	0.010582	0.004297	0.010526	0.004275	100000	0	1053	99474
61	1	10	561	0.5	0.017825	0.005587	0.017668	0.005537	98947	427	1748	98073
62	1	11	551	0.5	0.019964	0.005959	0.019766	0.005901	97199	690	1921	96239
63	1	8	540	0.5	0.014815	0.005199	0.014706	0.005161	95278	887	1401	94577
64	1	5	532	0.5	0.009398	0.004183	0.009355	0.004164	93877	1003	878	93438
65	1	12	527	0.5	0.02277	0.006499	0.022514	0.006426	92999	1068	2094	91952
66	1	13	515	0.5	0.025243	0.006913	0.024928	0.006827	90905	1203	2266	89772
67	1	11	502	0.5	0.021912	0.006535	0.021675	0.006464	88639	1327	1921	87678
68	1	11	491	0.5	0.022403	0.00668	0.022155	0.006606	86717	1419	1921	85757
69	1	11	480	0.5	0.022917	0.006831	0.022657	0.006754	84796	1501	1921	83836
70	1	13	469	0.5	0.027719	0.007582	0.02734	0.007478	82875	1575	2266	81742

Appendix Table 4d: Partial Cohort Life Table for White (non-Hispanic) Females
(1923-24 Birth Cohort, Conditional on Survival to Age 60, NLMS File 11)

Age	n	nDx	nPYx	nax	nMx	SE(nMx)	nqx	SE(nqx)	lx	SE(lx)	ndx	nLx
60	1	44	5498	0.5	0.008003	0.001202	0.007971	0.001197	100000	0	797	99601
61	1	57	5454	0.5	0.010451	0.001377	0.010397	0.00137	99203	120	1031	98687
62	1	58	5397	0.5	0.010747	0.001404	0.010689	0.001396	98172	180	1049	97647
63	1	61	5339	0.5	0.011425	0.001455	0.01136	0.001446	97122	225	1103	96570
64	1	59	5278	0.5	0.011178	0.001447	0.011116	0.001439	96019	263	1067	95485
65	1	60	5219	0.5	0.011496	0.001476	0.011431	0.001467	94951	295	1085	94409
66	1	76	5159	0.5	0.014732	0.001677	0.014624	0.001665	93866	323	1373	93180
67	1	74	5083	0.5	0.014558	0.00168	0.014453	0.001668	92493	354	1337	91825
68	1	82	5009	0.5	0.016371	0.001793	0.016238	0.001779	91157	382	1480	90416
69	1	88	4927	0.5	0.017861	0.001887	0.017703	0.00187	89676	409	1588	88883
70	1	118	4839	0.5	0.024385	0.002218	0.024091	0.002191	88089	435	2122	87028

Appendix Figure 1. Age-Specific Mortality, NLMS vs, Human Mortality Database (HMD)
(Birth Cohort 1923-24, Conditional on Survival to Age 60)