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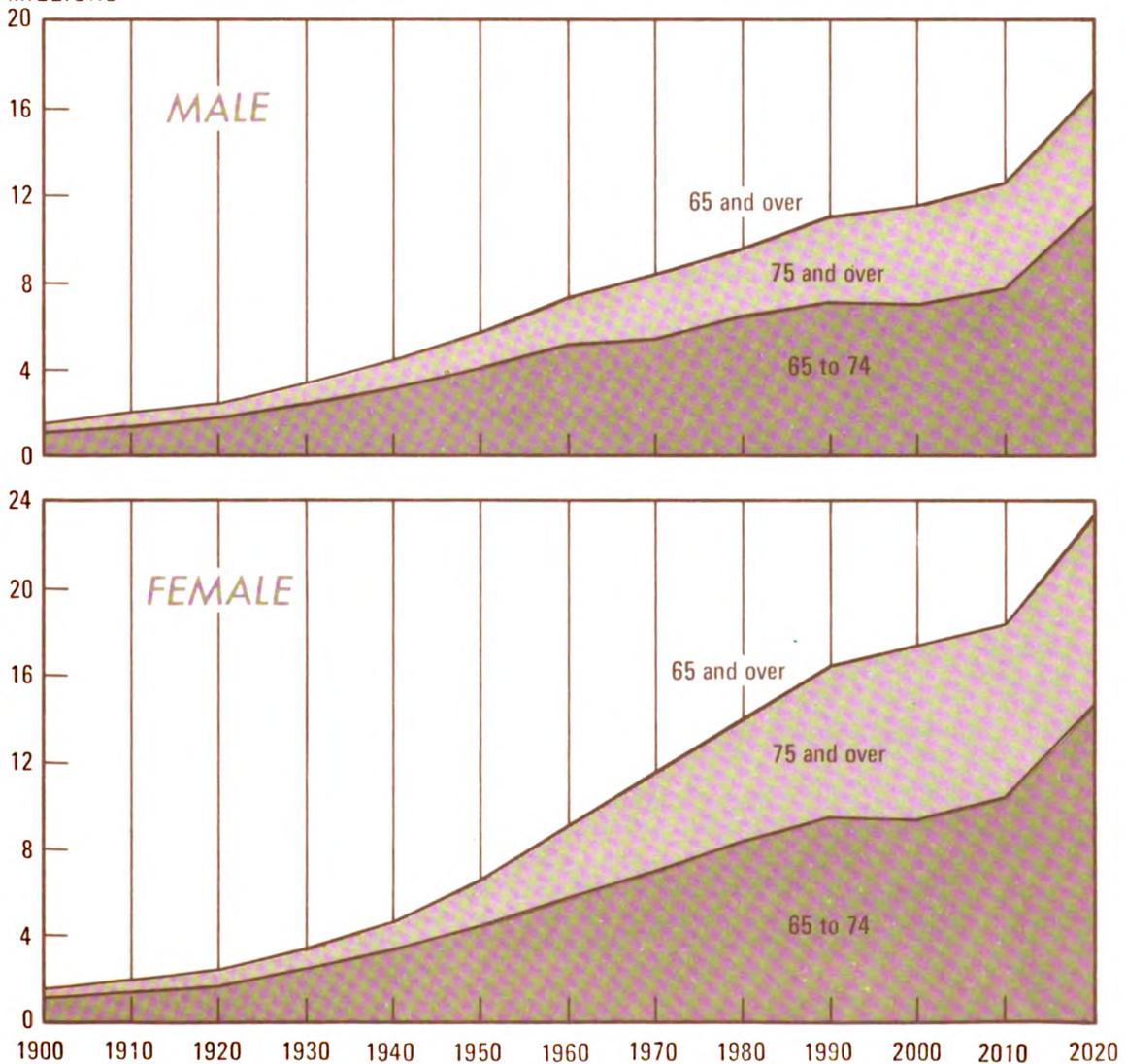
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SOME DEMOGRAPHIC ASPECTS OF AGING IN THE UNITED STATES

Growth of the Population 65 Years and Over: 1900 to 2020

MILLIONS



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SOME DEMOGRAPHIC ASPECTS OF AGING IN THE UNITED STATES

By Jacob S. Siegel and William E. O'Leary, U.S. Bureau of the Census

Aging in the general sense of "getting older" is a phenomenon that affects all of us from the day we are born until the day we die, so that a discussion of the demographic aspects of aging could be concerned with how population characteristics vary with age. The present treatment of the subject does deal with such age variation to some extent but it focuses on the demographic characteristics of older people, namely those over 55, particularly those over 65 and over 75, where the impact of aging is most pronounced and of principal public concern. Since the older population is not a single homogeneous mass and their characteristics tend to vary sharply by age, even within the band 65 and over, it is desirable and even necessary to consider the older population in terms of component age groups, distinguishing at least an older and younger segment. For convenience and simplicity in the discussion, however, the single broad group 65 and over is often selected for detailed consideration.

A distinction should be made between the aging of individuals and the aging of populations. The demographer is interested in both aspects of aging. His interest in the former is limited to the general experience of population groups with respect to the aging of individuals; this experience is reflected in measures such as life expectancy and the probability of survival from one age to another. Aging of this kind is a function of changes in mortality rates. The aging of a population refers to the fact that a population is "getting older" and may be measured variously in terms of the median age, the proportion of persons 65 and over, the ratio of persons 65 and over to children under 15, etc. The various measures of aging may possibly indicate different degrees of aging and a population may be described as "aging" and "younging" at the same time if the proportion of aged persons and the proportion of children are both increasing.¹ Aging of populations is a function of changes in mortality, fertility, and migration (see below).

Note: Revised version of a background paper prepared for the Conference on "The Epidemiology of Aging" sponsored by the National Institute of Child Health and Human Development, U.S. Public Health Service, held at Elkridge, Md., June 11-14, 1972.

¹U.S. Bureau of the Census, The Methods and Materials of Demography, by Henry S. Shryock, Jacob S. Siegel, and Associates, U.S. Government Printing Office, Washington, D.C., 1971, pp.234-235.

Numbers and Proportions of Older Persons

Numbers of older persons. Interest in how older people fare has intensified in recent years, partly because of their rapidly growing numbers. When we look at population projections, we see that the need for concern with a large aged population will remain with us indefinitely. The number of people who were 65 and over was 3.1 million in 1900 (table 1). By 1940 the number had nearly tripled to 9.0 million. It more than doubled again to 20.2 million by 1970. In the year 2000 there is expected to be about 29 million.² The number is rising about 3 to 4 million every decade, or roughly 300,000 to 400,000 per year. The 20.6 million estimated persons over 65 on July 1, 1971 exceeded the July 1, 1970 figure by 390,000.³

The population over 65 increased rapidly during the 1960-70 period (21 percent), much more rapidly than the population as a whole (13 percent). (See table 1.) Yet, the growth rate of this age group during the 1960's was well below that of the 1950's (34 percent) and the preceding decades (35 to 37 percent for 1920 to 1950). The population over 65 is expected to continue to show substantial percentage increases for the next few decades (16 to 18 percent), albeit smaller increases than before 1970.

These changes reflect principally increases in the numbers of births 65 to 84 years or so before the particular reference date. As these numbers shifted, the rate of growth of the elderly population in the appropriate later years fluctuated. The general rise in the number of births in the 19th century and in the first few decades of this century largely account for the past and prospective rapid increases in the number of elderly persons up to about 1990.

²U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 470, "Projections of the Population of the United States, by Age and Sex: 1970 to 2020," Nov. 1971.

³U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 483, "Preliminary Estimates of the Population of the United States, by Age and Sex: April 1, 1960 to July 1, 1971," April 1972, table 7.

Table 1. TOTAL POPULATION 65 YEARS OLD AND OVER AND 75 YEARS OLD AND OVER, AND DECENNIAL INCREASE: 1900 TO 2020

(Numbers in thousands; population estimated as of July 1)

Year	Population 65 years and over			Population 75 years and over		
	Number	Increase in preceding decade		Number	Increase in preceding decade	
		Amount	Percent		Amount	Percent
ESTIMATES						
1900.....	3,099	(X)	(X)	899	(X)	(X)
1910.....	3,986	887	28.6	1,170	271	30.1
1920.....	4,929	943	23.7	1,449	279	23.8
1930.....	6,705	1,776	36.0	1,945	496	34.2
1940.....	9,031	2,326	34.7	2,664	719	37.0
1950.....	12,397	3,366	37.3	3,904	1,240	46.5
1960.....	¹ 16,659	4,262	34.4	¹ 5,625	1,721	44.1
1970.....	¹ 20,156	3,497	21.0	¹ 7,691	2,066	36.7
PROJECTIONS						
1980.....	² 23,703	3,547	17.6	² 9,017	1,326	17.2
1990.....	² 27,509	3,806	16.1	² 10,735	1,718	19.1
2000.....	² 28,839	1,330	4.8	² 12,476	1,741	16.2
2010.....	30,940	2,101	7.3	12,569	93	0.7
2020.....	40,261	9,321	30.1	13,870	1,301	10.4

X Not applicable.

¹More recent estimates, prepared after the compilation of the data in this report, are as follows (in thousands):

	65 and over	75 and over
1970	20,177	7,695
1960	16,679	5,624

²Revised projections, prepared after the compilation of the data in this report, are given in Current Population Reports, Series P-25, No. 493. They are as follows (in thousands):

	65 and over	75 and over
1980	24,051	9,371
1990	27,768	10,999
2000	28,842	12,551

Source of projections: Current Population Reports, Series P-25, No. 470.

Table 2. DECENNIAL PERCENT INCREASE OF POPULATION BY BROAD AGE GROUPS: 1950 TO 2000

(A minus sign (-) denotes a decrease; periods extend from July 1 of initial year to June 30 of terminal year)

Age and projection series	1950 to 1960	1960 to 1970	1970 to 1980	1980 to 1990	1990 to 2000
SERIES B¹					
All ages.....	18.7	13.4	15.6	17.7	15.7
Under 15 years.....	36.8	3.2	14.0	33.3	8.6
15 to 24 years.....	10.0	48.3	13.0	-4.3	47.0
25 to 44 years.....	3.2	2.7	28.8	25.9	3.8
SERIES E¹					
All ages.....	18.7	13.4	11.2	10.4	7.8
Under 15 years.....	36.8	3.2	-1.5	10.9	2.3
15 to 24 years.....	10.0	48.3	13.0	-10.1	15.8
25 to 44 years.....	3.2	2.7	28.8	25.9	0.8
ALL SERIES--45 TO 84 YEARS					
45 to 64 years.....	17.4	15.8	3.8	3.8	29.4
45 to 54 years.....	17.9	13.1	-3.5	10.3	44.5
55 to 64 years.....	16.7	19.3	13.0	-3.1	11.1
65 to 84 years.....	33.1	18.0	18.3	16.0	3.7
65 to 74 years.....	29.9	13.0	17.8	14.2	-2.5
75 to 84 years.....	41.4	29.8	19.2	19.6	15.6
85 years and over.....	59.3	² 51.5	(NA)	(NA)	(NA)

NA Not available.

¹Figures between the heavy lines are based wholly or partly on projections of births.

²Relates to period April 1, 1960 to March 31, 1970. The 1970 census figures have been adjusted for a gross overstatement of centenarians.

Source of projections: Current Population Reports, Series P-25, No. 470.

Of particular interest is the impact of the shifting trend in the number of births since World War I. As a result of the rapid drop in the number of births during the 1920-30 and 1930-40 decades, we can expect a sharp drop in the growth rate of the population 65 and over after about 1990, lasting about two decades (5 percent for 1990-2000 and 7 percent for 2000-2010). The births of the post-war "baby boom," 1945-1957, which may be seen moving through the age distribution on the basis of the decennial data in table 2 (e.g., 5 to 14 years old in 1960 and 15 to 24 years old in 1970), will ultimately have their impact on the size of the aged population. Early in the next century (2010 to 2020) the number of the aged will leap forward (30 percent) as these cohorts attain age 65. After about 2020, again the growth rate may be expected to fall off sharply, principally as a result of the rapid deflation in the size of birth cohorts during the 1960's.

The projected numbers of older persons cited here should be close to the mark because they are unaffected by future fertility. The people who will be over 55, 65, and 75 in the year 2000 or even the year 2020 are now living. The fact that projected fertility is not involved is fortunate; fertility is a component that cannot be predicted closely because it tends to fluctuate widely.

Mortality and immigration importantly affect the number of elderly persons also, however. Immigration has contributed to the growth of the aged population, but fluctuations in the volume of immigration have sometimes accelerated growth rates and at other times reduced them. The large and increasing volume of immigration prior to World War I contributed greatly to the rapid increase in the number of aged persons up to 1960.

Furthermore, the past general decline in death rates has contributed, along with the rise in the number of births, to the rapid increase in the number of aged persons. Death rates are expected to continue to decline and there is even the possibility of substantial future reductions in mortality rates. The latter trend could mean a somewhat larger elderly population and greater decennial increases than we have projected. The projection of the population 65 and over for the year 1990 (27.5 million) would be larger by about 1.6 million, or 6 percent, for example, if "rapidly declining" mortality rates had been used in our calculations rather than "slightly declining" mortality rates.⁴

Gross changes. Because of the high death rates of the older population, membership in the group is relatively short in duration and the identity of the members changes rapidly over relatively short periods of time. "Population turnover" in this group may be measured in several ways. Consider the period of a decade. Very simply, we may examine the percentage of the total population 65 and over falling in the 65 to 74 year group. Of the population 65 and over in 1970, 62 percent joined after 1960 (table 3). We may also examine the components of change during the 1960-70 decade in relation to the initial size of the population. The gross increase rate during 1960-70--the percent which the number of persons reaching age 65 during the decade (14.4 million) plus the number of (net) immigrants (0.1 million) is of the initial population (16.6 million)--was 87 percent. The gross loss rate--the percent which the number of deaths during the decade (12.5 million) is of the initial population--was 76 percent. The percent of the initial population 65 and over who died during the decade was 64 percent. In addition, the new arrivals sustained a loss of 14 percent by 1970, resulting in a gross loss rate for the initial population and the new arrivals combined of 41 percent.

A more sensitive measure of the turnover, or "growth effectiveness," of the older population is given by the ratio of (a) the net increase in the older population to (b) the gross change in this age group (i.e., the sum of the components of change without regard to sign). The lower the ratio the greater the turnover. For the 1960-70 decade this ratio was 0.13, that is, there was a net addition to the population 65 and over of only 13 persons for every 100 demographic events (additions through aging and immigration; deaths) affecting that age group. During the course of the year 1970-71, 1.4 million "arrivals" and 1.0 million "departures" accounted for the increase of 0.4 million persons 65 and over; these figures imply a growth effectiveness rate of 0.16. The growth effectiveness rate for this age group is well below that for the population under 65 taken as a whole.

Proportions of older persons. The older population has been growing steadily as a share of the total population, but whether its share will decline, remain about the same, or continue to increase in the future depends principally on the future course of fertility. From 1900 to 1970 the proportion of the population 55 years of age and over doubled; persons in these ages now approximate 19 percent of the total population as compared with 9.4 percent in 1900 (table 4). At the end of this century the proportion will probably fall between 16 percent (Series B) and 19 percent (Series E), depending on whether future fertility is rel-

⁴ Estimated from data in U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 381, "Projections of the Population of the United States, by Age, Sex, and Color to 1990, With Extensions of Population by Age and Sex to 2015," Dec. 1967, table Z.

atively "high" or "low".⁵ Considering the older segment of this age band separately, the proportion of the population 75 and over is expected to vary between 3.9 percent (Series B) and 4.6 percent (Series E) in the year 2000, as compared with 3.8 percent in 1970.

⁵Series B and Series E correspond to the series of population projections presented in Current Population Reports, Series P-25, No. 470.

The proportion of the population 65 years and over was 4.1 percent in 1900 and 5.4 percent in 1930; by 1970 it had risen to 9.8 percent. It may then rise or fall, again depending mainly on the course of fertility. The proportion may reach a peak of nearly 11 percent in 1990 and then stay at about this level to the year 2000 (Series E), or it may decline gradually and slowly to about 9 percent in 2000 after reaching a peak in 1980 (Series B). In any case, the steady rise in the proportion 65 and over that we have seen in the past cannot be taken for granted for the future.

Table 3. ESTIMATES OF THE DEMOGRAPHIC COMPONENTS OF CHANGE IN THE POPULATION 65 YEARS OLD AND OVER: 1960-70 AND 1950-60

(Numbers in thousands. Figures by race are affected by the race misclassification of some persons of Spanish origin as Negro and other races rather than white in the 1970 census¹)

Item and period	All classes	White		Negro and other races	
		Male	Female	Male	Female
1960 to 1970					
Population 65 years and over, 1970.....	20,066	7,646	10,685	770	965
Population 65 years and over, 1960.....	16,560	6,908	8,396	595	661
Net increase.....	3,506	738	2,289	175	304
Number reaching age 65.....	14,388	6,044	7,009	636	699
"Net migrants" 65 years and over.....	68	22	38	3	5
Deaths 65 years and over.....	12,534	6,141	5,302	585	506
Deaths to initial population 65 years and over.....	10,581	5,013	4,659	471	440
Deaths to persons reaching age 65.....	1,953	1,128	643	114	66
Gross change ¹	26,990	12,207	12,349	1,224	1,210
Rate of gross gain ¹	87.3	87.8	83.9	107.4	106.5
Rate of gross loss.....	75.7	88.9	63.1	98.3	76.6
Population 65 to 74 years as percent of population 65 years and over, 1970.....	62.0	64.3	59.6	67.7	65.6
Ratio, net change to gross change ¹.....	.130	.060	.185	.143	.251
Mortality rate of population 65 years and over ²	40.5	47.4	34.4	47.5	37.2
Mortality rate of initial population 65 years and over ²	63.9	72.6	55.5	79.2	66.6
Mortality rate for persons reaching age 65 ²	13.6	18.7	9.2	17.9	9.4
1950 to 1960					
Population 65 years and over, 1960.....	16,560	6,908	8,396	595	661
Population 65 years and over, 1950.....	12,295	5,365	6,016	448	466
Net increase.....	4,265	1,543	2,380	147	195
Number reaching age 65.....	12,564	5,622	5,975	481	486
"Net migrants" 65 years and over.....	62	26	36	-	-
Deaths 65 years and over.....	10,117	5,078	4,251	433	355
Deaths to initial population 65 years and over.....	8,550	4,158	3,704	366	322
Deaths to persons reaching age 65.....	1,567	920	547	67	33
Gross change ¹	22,743	10,726	10,262	914	841
Rate of gross gain ¹	102.7	105.3	99.9	107.4	104.3
Rate of gross loss.....	82.3	94.6	70.7	96.7	76.2
Population 65 to 74 years as percent of population 65 years and over, 1970.....	66.4	68.1	64.6	69.5	68.5
Ratio, net change to gross change ¹.....	.188	.144	.232	.161	.232
Mortality rate of population 65 years and over ²	40.7	46.2	35.5	46.6	37.3
Mortality rate of initial population 65 years and over ²	69.5	77.5	61.6	81.7	69.1
Mortality rate for persons reaching age 65 ²	12.5	16.4	9.2	13.9	6.8

- Represents zero.

¹Gross change does not include the large residual (1.6 million for all classes) representing the difference between net increase and the components of change. Net increase or net change represents the difference between census counts, including the "error of closure".

²Per 100 population.

**Table 4. PERCENT OF THE TOTAL POPULATION IN THE OLDER AGES, BY SEX AND RACE:
1900 TO 2000**

(Estimates and projections as of July 1, except as indicated)

Sex, age, and race	1900	1930	1960	1970 ¹	Projections					
					1980		1990		2000	
					Series B ²	Series E ²	Series B ²	Series E ²	Series B ²	Series E ²
ALL RACES										
Both Sexes										
55 years and over.....	9.4	12.3	17.9	18.9	18.9	19.7	17.2	19.1	16.0	19.0
65 years and over.....	4.1	5.4	9.2	9.8	10.0	10.4	9.9	10.9	8.9	10.6
75 years and over.....	1.2	1.6	3.1	3.8	3.8	4.0	3.9	4.3	3.9	4.6
Male										
55 years and over.....	9.4	12.5	16.9	17.2	16.8	17.5	15.0	16.7	13.9	16.7
65 years and over.....	4.0	5.4	8.4	8.4	8.4	8.7	8.1	9.0	7.3	8.7
75 years and over.....	1.1	1.5	2.7	3.0	2.9	3.0	2.9	3.2	2.9	3.4
Female										
55 years and over.....	9.4	12.2	18.8	20.6	20.9	21.7	19.3	21.3	18.0	21.2
65 years and over.....	4.1	5.5	10.0	11.2	11.6	12.0	11.6	12.8	10.6	12.5
75 years and over.....	1.2	1.7	3.5	4.5	4.7	4.9	4.8	5.3	4.9	5.7
WHITE										
Both Sexes										
55 years and over.....	9.7	12.8	18.5	19.8	19.1	20.3	17.4	19.3	(NA)	(NA)
65 years and over.....	4.2	5.7	9.6	10.3	10.1	10.7	10.1	11.2	(NA)	(NA)
75 years and over.....	1.2	1.6	3.3	4.0	3.8	4.0	3.9	4.3	(NA)	(NA)
Male										
55 years and over.....	9.6	12.9	17.4	18.0	16.9	18.1	15.2	16.9	(NA)	(NA)
65 years and over.....	4.2	5.6	8.8	8.8	8.4	9.0	8.3	9.2	(NA)	(NA)
75 years and over.....	1.2	1.6	2.8	3.1	2.9	3.1	2.9	3.2	(NA)	(NA)
Female										
55 years and over.....	9.7	12.8	19.6	21.5	21.2	22.5	19.6	21.6	(NA)	(NA)
65 years and over.....	4.3	5.8	10.5	11.7	11.7	12.4	11.9	13.1	(NA)	(NA)
75 years and over.....	1.3	1.7	3.7	4.7	4.6	4.9	4.9	5.4	(NA)	(NA)
NEGRO AND OTHER RACES										
Both Sexes										
55 years and over.....	7.0	7.9	12.9	13.8	11.8	13.0	10.5	12.4	(NA)	(NA)
65 years and over.....	3.0	3.2	6.1	6.8	5.8	6.3	5.5	6.5	(NA)	(NA)
75 years and over.....	1.0	1.0	1.9	2.3	2.2	2.4	2.1	2.5	(NA)	(NA)
Male										
55 years and over.....	7.3	8.6	12.8	13.2	10.6	11.8	9.1	10.8	(NA)	(NA)
65 years and over.....	3.0	3.3	6.0	6.3	5.0	5.5	4.6	5.4	(NA)	(NA)
75 years and over.....	0.9	1.0	1.8	2.0	1.8	2.0	1.6	1.9	(NA)	(NA)
Female										
55 years and over.....	6.6	7.2	13.0	14.4	12.9	14.2	11.9	14.0	(NA)	(NA)
65 years and over.....	3.0	3.1	6.3	7.3	6.4	7.1	6.4	7.5	(NA)	(NA)
75 years and over.....	1.0	1.1	2.0	2.5	2.5	2.7	2.5	2.9	(NA)	(NA)

NA Not available.

¹The figures for "total" are estimates for July 1; those for "white" and "Negro and other races" are census figures for April 1. Figures by race are affected by the race misclassification of some persons of Spanish origin as "Negro and other races" rather than white.

²From Current Population Reports, Series P-25, No. 470.

³From Current Population Reports, Series P-25, No 381. These projections do not take account of the 1970 census results. Hence, the Series B and Series D projections by race are not fully comparable to the 1970 census figures by race, and to the Series B and Series E projections for all races combined shown at the top of the table. Series E projections by race are not available.

It may be of interest to note hypothetically that, if our population moves toward and attains a stationary level (as a result, say, of "high" mortality rates, replacement level fertility, and no net immigration), the proportion of the aged would rise steadily and in the ultimate stationary condition about 16 percent of the total population would be 65 or over.⁶ About 7 percent of the total would be 75 or over. These proportions are far above the corresponding proportions in 1970 and even the high proportions (Series E) in 2000.

Even as the proportion of the older population in the total is rising, so the older population itself is aging and is expected to continue to age (table 5). The proportion 65 to 69 of the group 65 and over is getting smaller, while the proportion 75 and over is getting larger, and the trend is expected to continue at least to the end of the century. In 1900 the proportion over 75 was 29 percent; by 1970 this proportion had risen to 38 percent. By the year 2000 we may expect about 43 percent of the 65-and-over group to fall in the 75-and-over group.

Role of fertility, mortality, and immigration.

As has been stated, the general rise in the numbers of births, particularly up to the early 1920's, the decline in age-specific death rates, and the heavy volume of immigrants, especially prior to World War I, have contributed, and will continue to contribute, to the increase in the number of persons over 65. However, as Hermalin has demonstrated, it has been the general decline in fertility which has contributed to the increase in the proportion of persons 65 and over in the first six decades of this century; the decline in mortality has had a slight tendency to produce a younger population.⁷ A decline in fertility always contributes to a rise in the proportion of the aged population but, contrary to one's intuitive sense, declines in mortality rates do not contribute to a rise in the proportion unless the declines have been concentrated at the older ages.⁸ Between 1900 and 1970, however, reductions in mortality have been greater at the younger ages, and so they have tended to produce a younger population, although, as stated, the effect was slight. The

historical decline in the birth rate, extending up to the mid-thirties, has been reinforced by the recent decline in the rate (that is, from 1957 on) in contributing to the rise in the proportion 65 and over.

The immigration factor operates like the mortality factor, i.e., it tends to reduce the proportion of elderly people unless it is concentrated in the older ages. The empirical analysis by Hermalin shows clearly that immigration led to a younger population in the United States in the first 60 years of this century.⁹

The proportion in the older ages in future years will be importantly affected by the assumptions regarding fertility, as we have seen. On the other hand, the proportion will be affected only slightly by changes in mortality unless the improvements are mainly confined to the older ages and are relatively large. Because of the relatively low level of mortality at the ages below 50, future substantial reductions in mortality can only occur at the ages above 50. If such reductions occur, they will contribute to an aging of the population. Illustrative figures for the proportion 65 and over in 1990 (Series D) are as follows: With constant mortality, 10.3 percent; with "slightly declining" mortality, 10.5 percent; and with "rapidly declining" mortality, 11.0 percent.¹⁰ The proportion in the older ages will be affected only slightly--i.e., slightly reduced--by the net immigration anticipated in future years. For example, the proportion 65 and over in 1990 (Series D) will be 10.9 percent for the population without immigration, as compared with 10.5 percent for the population with immigration (400,000 per year).¹¹ So far in this century fertility levels have been the principal determinant of the age composition of the U.S. population and, with the already low levels of mortality and immigration, they will become even more determinative. Since fertility is largely under voluntary control, fertility levels may fluctuate; as a result, there may be alternating periods of aging and younging.

Sex and Race Composition

A large majority of older persons are women. At the present time there are only 72 males for every 100 females over 65 (table 6). Only forty years ago there were just as many males as females over 65, but there has been a steady decline in the proportion of men since that time. If women over 65 at the present time feel that it is hard to find a

⁶U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 480, "Illustrative Population Projections for the United States: The Demographic Effects of Alternative Paths to Zero Growth," April 1972, table 7.

⁷Albert I. Hermalin, "The Effect of Changes in Mortality Rates on Population Growth and Age Distribution in the United States," Milbank Memorial Fund Quarterly, Vol. XLIV, No. 4, Part 1, October 1966, pp. 451-469.

⁸Ansley J. Coale, "The Effects of Changes in Mortality and Fertility on Age Composition," Milbank Memorial Fund Quarterly, Vol. XXXIV, No. 1, January 1956, pp. 79-114.

⁹Hermalin, *op. cit.*, p. 461.

¹⁰Estimated from data in U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 470 and No. 381.

¹¹Ibid.

male companion over 65, the projections offer little hope since they indicate that the situation will only

become more acute. In 1990, we expect to record only about 68 men for every 100 women.

Table 5. PERCENT DISTRIBUTION OF THE POPULATION 65 YEARS OLD AND OVER BY AGE: 1900 TO 2000

Estimates and Projections as of July 1¹

Age	1900	1930	1950	1960	1970	Projections		
						1980	1990	2000
65 years and over.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
65 to 69 years.....	42.3	41.7	40.7	37.6	33.9	34.8	34.2	29.9
70 to 74 years.....	28.7	29.3	27.8	28.6	28.0	27.2	26.8	26.9
75 to 79 years.....	29.0	29.0	17.4	18.5	18.6	18.5	19.5	21.5
80 years and over.....			14.1	15.3	19.6	19.6	19.5	21.7

Source of projections: Current Population Reports, Series P-25, No. 470.

Table 6. SEX RATIOS, BY RACE, FOR BROAD AGE GROUPS: 1900 TO 1990

(Males per 100 females. Figures as of July 1 except as indicated)

Age and race	1900	1930	1960	1970 ¹	Projections			
					1980		1990	
					Series B ²	Series E ²	Series B ²	Series E ²
ALL RACES								
All ages.....	104.4	102.5	97.8	95.8	95.8	95.5	96.5	95.7
Under 15.....	102.1	102.8	103.4	103.8	104.2	104.1	104.3	104.3
15 to 24.....	98.3	98.1	101.4	102.3	103.1		103.3	103.2
25 to 44.....	109.1	101.7	96.9	96.9	98.9		100.4	
45 to 54.....	113.9	109.4	97.2	93.2	92.8		93.9	
55 to 64.....	106.5	108.3	93.7	89.8	86.4		86.2	
65 to 74.....	104.5	104.1	86.7	77.6	76.2		74.3	
75 and over.....	96.3	91.8	75.1	63.7	58.6		57.8	
65 and over.....	102.0	100.4	82.6	72.1	69.1		67.5	
White								
All ages.....	104.9	102.9	98.1	95.3	96.8	96.3	97.3	96.5
Under 15.....	102.4	103.2	104.0	104.5	104.9	104.9	105.0	105.0
15 to 24.....	99.1	99.1	102.2	98.8	103.4		104.0	103.9
25 to 44.....	109.9	102.5	98.0	97.2	100.5		101.1	
45 to 54.....	113.6	108.8	97.4	93.8	95.4		96.7	
55 to 64.....	105.6	106.9	93.4	89.9	86.8		88.1	
65 to 74.....	103.9	103.5	86.4	77.2	76.2		74.1	
75 and over.....	97.1	92.0	74.3	63.2	60.0		58.4	
65 and over.....	101.9	100.1	82.1	71.6	69.8		67.7	
Negro and Other Races								
All ages.....	100.9	99.0	95.1	91.9	94.7	94.1	95.4	94.4
Under 15.....	100.0	99.0	100.0	100.0	101.3	101.3	101.5	101.4
15 to 24.....	93.2	90.5	95.5	93.9	99.7		100.4	100.4
25 to 44.....	102.3	95.3	88.9	84.4	94.0		96.0	
45 to 54.....	116.9	115.9	95.1	87.7	82.5		87.6	
55 to 64.....	119.3	130.0	96.8	88.5	82.0		77.6	
65 to 74.....	110.2	114.2	91.2	82.5	77.9		71.8	
75 and over.....	89.6	89.6	87.6	74.7	67.5		62.6	
65 and over.....	102.9	105.7	90.1	79.8	73.9		68.2	

¹The figures for "total" are estimates for July 1; those for "white" and "Negro and other races" are census figures for April 1. Figures by race are affected by the race misclassification of some persons of Spanish origin as Negro and other races rather than white.

²From Current Population Reports, Series P-25, No. 470.

³From Current Population Reports, Series P-25, No. 381. These projections do not take account of the 1970 census results. Hence, the series B and series D projections by race are not fully comparable to the 1970 census figures by race, and to the series B and series E projections for all races combined shown at the top of the table. Series E projections by race are not available.

The characteristic pattern of sex ratios by age for the United States population is a generally progressive decline throughout the age span, from a small excess of boys under 5 to a massive deficit of men in old age. This pattern reflects essentially the persistent excess of boys among the newborn and the progressive effect of higher death rates for males than for females over the entire age range, both in recent years and in the historical past. Furthermore, males have not benefited as much as females by the declines in death rates, resulting in a more rapid reduction in the sex ratio over the age span (see below). The heavy, predominantly male immigration prior to World War I is hardly reflected in the sex ratio of the population 65 and over now because of the diminution of their numbers.

Another indication of the effect of these factors is the fact that the female population 65 and over has been growing much more rapidly than the male population in this age range (table 7). Between 1960 and 1970, for example, the female population grew more than twice as fast (28 percent) as the male population (12 percent). Since the growth

rates for the two sexes are more nearly equal at the younger ages, the proportion 65 and over among females is now well above that for males, although the proportions were nearly equal in 1900. For 1970 the proportions of the total are 11.2 percent and 8.4 percent, and this pattern of differences is not likely to change much by the year 2000 (table 4).

The Negro and other-races population also shows a low sex ratio at ages 65 and over even though the figures for this group have been substantially higher than those for whites for many decades; in 1970 the comparative figures were 80 and 72 (table 6). The age pattern of sex ratios for the Negro population is very roughly like that for whites; but the "starting" level and the sex ratios at the younger ages are lower largely because of the lower sex ratio of births, and the sex ratios as recorded in the older ages are higher possibly because of the narrower gap between male and female mortality rates in the past and the relatively greater coverage of males than of females in the census. The Negro population has a much smaller proportion 65 and over (6.8 percent) than the white population (10.3 percent), principally because of the higher fer-

Table 7. DECENNIAL PERCENT INCREASE OF THE POPULATION 65 YEARS OLD AND OVER, AND 75 YEARS OLD AND OVER, BY RACE AND SEX: 1950 TO 2000

(Period extend from July 1 of initial year to June 30 of terminal year except as indicated)

Sex and Race	1950 to 1960	1960 to 1970	1970 to 1980	1980 to 1990	1990 to 2000
65 YEARS AND OVER					
All classes.....	34.4	21.0	17.6	16.1	4.8
Male.....	28.7	12.0	14.7	14.5	4.3
Female.....	39.4	28.5	19.7	17.2	5.2
White.....	34.1	¹ 19.8	² 17.5	² 16.7	(NA)
Male.....	28.3	¹ 10.7	² 14.0	² 14.5	(NA)
Female.....	39.3	27.3	² 20.1	² 18.1	(NA)
Negro and other races.....	37.3	¹ 38.2	² 20.4	² 22.1	(NA)
Male.....	32.8	¹ 29.4	² 14.4	² 16.6	(NA)
Female.....	41.6	¹ 46.1	² 25.0	² 26.3	(NA)
75 YEARS AND OVER					
All classes.....	44.1	33.1	14.9	20.9	16.2
Male.....	36.6	23.6	8.9	18.5	15.8
Female.....	50.2	40.3	18.9	22.3	16.5
White.....	43.3	¹ 36.3	² 14.8	² 20.7	(NA)
Male.....	35.7	¹ 23.8	² 8.8	² 18.5	(NA)
Female.....	49.7	¹ 45.5	² 18.8	² 21.9	(NA)
Negro and other races.....	54.1	¹ 49.3	² 16.4	² 23.4	(NA)
Male.....	48.4	¹ 37.1	² 9.7	² 18.1	(NA)
Female.....	57.9	¹ 59.9	² 21.2	² 27.3	(NA)

NA Not available.

¹Period extends from April 1, 1960 to March 31, 1970. If persons of unspecified race who were misclassified as of "other race" in the 1970 census are shifted from "other races" to "white," the increases for white and "Negro and other races" would be as follows:

	65 years and over	75 years and over
White	19.9	36.5
Negro and other races	36.5	46.4

²Projections were prepared before the 1970 census counts were available. See Current Population Reports, Series P-25, No. 381.

tility of the Negro population. (The dominance of fertility in determining age composition was noted earlier.)

The population of Spanish heritage has a quite low proportion of persons 65 and over (4.1 percent) and a relatively high sex ratio at these ages (90 males per 100 females) in comparison with the white population as a whole. The relevant factors may be similar to those in the comparison of the Negro and white populations.

Geographic Variations

States. Elderly persons tend to be most numerous in the largest States, of course. New York has the largest number of people over 65, with nearly two million (table 8). New York is followed by California, Pennsylvania, and Illinois; each of these four States has over a million people over age 65. These four States account for nearly one-third of the population in this age range.

In all States the number of persons 65 and over increased between 1960 and 1970. However, in the District of Columbia, Iowa, Maine, Montana, and Vermont, the number of persons 65 and over grew slowly (i.e., less than 10 percent). (See table 8.) At the same time the number of persons 65 and over grew by more than 70 percent in Arizona, Florida, and Nevada. Florida experienced a tremendous growth in the number of older people between 1960 and 1970, with an increase of 436,000. California added 425,000 to its number of older persons; California, however, has nearly twice the population of Florida and for that reason its growth rate (31 percent) was not spectacular, although high. Other States showing high growth rates for the population 65 and over are Maryland (32 percent), North Carolina (33 percent), Texas (33 percent), and New Mexico (38 percent).

If the number of persons 65 and over grew rapidly in a State--much more rapidly, say, than the national population (21 percent in 1960-70)--one would expect that, in addition to "natural increase" (i.e., persons reaching age 65 less deaths at ages 65 and over), there was a net influx of oldsters from outside the State at this age. But this is a very rough, even if ready, procedure. We could obtain a more direct indication of the relative contribution of "natural increase" and net migration to the increase in the number of elderly persons in the States in recent years by examining the percent changes in the number of older people during 1960-70 in relation to actual estimates of net migration rates during the decade for this age group. Such estimates of net migration could not

be developed for this study. Instead, estimates of net migration for the age cohort 65 and over in 1970 (55 and over in 1960) were prepared.¹² The national estimates of change for this cohort, suggesting the "natural decrease" component for States, is 38 percent; that is, the national population 55 and over in 1960 declined 38 percent by 1970 as it aged to 65 and over.

There was an estimated net out-migration of the cohort 65 and over in 1970 for 21 States and the District of Columbia. (See table 9.) New York, Illinois, Alaska, and the District of Columbia showed high rates (over 5 percent) of net out-migration, but all the States listed above having growth rates of the elderly of less than 10 percent lost population through net out-migration. Arizona, Florida, and Nevada, the States whose elderly population grew most rapidly (over 70 percent), experienced high in-migration rates (25.2, 36.0, 12.1 percent, respectively). California received 143,000 (net) migrants in this cohort but, because of the large size of the State, the migration rate was only 5.3 percent. Typically, States showing high growth rates for the population 65 and over showed an estimated net in-migration of the older population.

The list of States with relatively large proportions of older persons (e.g., over 11.5 percent) is comprised principally of States which have experienced heavy out-migration (table 10). In these areas typically young persons are leaving in large numbers, the elderly tend to remain behind, and an age distribution heavily weighted toward the older ages results. This is true in such midwestern States as Iowa, Kansas, Missouri, Nebraska, Oklahoma, and South Dakota (that is, much of the midwestern farm belt), as well as some other States in other sections of the country, such as Maine and Arkansas. In addition, the areas to which the elderly migrate in order to retire, usually areas of favorable climate, e.g., Florida, show high proportions of elderly. The States with low proportions (e.g., under 8.5 percent) of elderly persons fall mainly in the South and West; the list includes several States with relatively high fertility (e.g., Georgia, Louisiana, New Mexico, South Carolina) and some States which have experienced a large volume of net in-migration (e.g., Nevada, Maryland, Utah).

¹²These estimates were derived by the use of the national census survival rates published in U.S. Bureau of the Census, Current Population Reports, Series P-23, No. 41, "Preliminary National Census Survival Rates, by Race and Sex, for 1960 to 1970," April 1972. The 1960 census population in the age cohort (55 and over) was used as the base in computing the migration rates.

Table 8. POPULATION 65 YEARS OLD AND OVER AND 75 YEARS OLD AND OVER, 1960 AND 1970, AND INCREASE, 1960 TO 1970, FOR EACH STATE

(Numbers in thousands. Figures for "Negroes and other races" are affected by the misclassification of some persons of Spanish origin as of "Other race" rather than white)

Region, division, and State	Population 65 years and over						Population 75 years and over					
	All races				Negro and other races		All races				Negro and other races	
	Population		Increase		Popula- tion, 1970	Percent increase, 1960- 1970	Population		Increase		Popula- tion, 1970	Percent increase, 1960- 1970
	1970	1960	Amount	Percent			1970	1960	Amount	Percent		
United States.....	20,066	16,560	3,506	21.2	1,735	38.2	7,630	5,563	2,067	37.2	581	49.3
Northeast.....	5,199	4,498	701	15.6	273	67.0	1,961	1,463	498	34.0	85	82.7
North Central.....	5,727	5,078	649	12.8	304	52.0	2,277	1,752	525	30.0	99	67.0
South.....	6,043	4,582	1,461	31.9	972	23.1	2,194	1,531	662	43.3	333	32.9
West.....	3,096	2,401	695	29.0	187	81.7	1,199	817	382	46.7	63	96.2
Northeast:												
New England.....	1,270	1,122	148	13.2	23	61.8	505	390	115	29.5	9	84.6
Middle Atlantic.....	3,930	3,377	553	16.4	249	67.5	1,455	1,073	383	35.7	76	82.5
North Central:												
East North Central.....	3,811	3,358	452	13.5	240	59.2	1,485	1,131	354	31.3	76	76.2
West North Central.....	1,916	1,720	196	11.4	64	29.9	793	621	171	27.6	23	42.6
South:												
South Atlantic.....	2,937	2,099	837	39.9	447	28.4	1,043	677	366	54.1	147	38.6
East South Central.....	1,270	1,052	217	20.6	248	13.6	471	364	107	29.5	87	22.5
West South Central.....	1,836	1,430	406	28.4	277	24.0	679	491	189	38.5	98	34.8
West:												
Mountain.....	695	527	168	31.8	23	46.2	264	178	87	48.8	9	55.8
Pacific.....	2,401	1,873	527	28.2	163	88.3	934	639	295	46.1	55	103.2
NEW ENGLAND:												
Maine.....	115	107	8	7.6	-	46.4	46	40	6	13.7	-	114.1
New Hampshire.....	78	68	11	15.8	-	180.2	31	25	6	24.7	-	281.5
Vermont.....	47	44	4	8.6	-	55.0	19	17	2	13.9	-	116.1
Massachusetts.....	636	572	65	11.3	12	50.3	255	198	57	28.6	5	76.1
Rhode Island.....	104	90	14	16.1	2	48.7	40	30	10	33.0	1	58.4
Connecticut.....	289	243	46	19.1	8	85.2	114	80	34	43.2	3	103.7
MIDDLE ATLANTIC:												
New York.....	1,961	1,688	273	16.2	127	81.5	716	525	191	36.3	38	99.9
New Jersey.....	697	560	137	24.4	43	61.1	257	175	82	47.1	14	74.3
Pennsylvania.....	1,272	1,129	144	12.7	79	51.9	482	372	110	29.4	25	64.8
EAST NORTH CENTRAL:												
Ohio.....	998	897	101	11.2	68	51.5	393	311	82	26.3	22	70.4
Indiana.....	494	446	48	10.8	24	46.2	195	160	35	22.1	8	62.0
Illinois.....	1,094	975	119	12.2	84	53.0	421	320	102	31.9	26	62.3
Michigan.....	753	638	115	18.0	59	83.0	286	203	83	40.9	18	114.3
Wisconsin.....	473	403	70	17.4	6	101.1	189	137	52	37.8	2	130.1
WEST NORTH CENTRAL:												
Minnesota.....	409	354	55	15.4	4	49.4	169	121	48	39.3	1	76.2
Iowa.....	350	328	23	6.9	3	23.6	150	122	28	22.7	1	44.4
Missouri.....	561	503	57	11.4	41	31.3	223	184	40	21.8	15	41.2
North Dakota.....	66	59	8	13.3	1	36.0	27	21	6	31.1	-	34.1
South Dakota.....	80	72	9	12.5	2	24.4	34	24	9	41.7	1	27.8
Nebraska.....	184	164	19	11.8	3	33.1	78	59	19	32.7	1	49.9
Kansas.....	266	240	26	10.8	10	20.6	112	91	21	23.4	4	38.9
SOUTH ATLANTIC:												
Delaware.....	44	36	8	22.6	5	34.9	17	12	4	36.0	2	43.3
Maryland.....	300	227	73	32.3	41	48.1	108	74	33	44.9	13	55.4
District of Columbia.....	71	69	2	2.4	30	49.1	26	23	3	14.0	10	48.1
Virginia.....	366	289	77	26.7	65	20.0	133	98	35	35.9	23	35.9
West Virginia.....	194	173	22	12.7	10	11.9	74	61	12	20.5	3	32.8
North Carolina.....	414	312	102	32.7	82	29.7	146	102	44	43.1	27	39.0
South Carolina.....	191	151	40	26.8	54	12.6	66	47	19	39.4	18	27.2
Georgia.....	367	291	77	26.4	89	18.3	132	96	36	38.1	30	28.7
Florida.....	989	553	436	78.9	70	51.0	343	164	179	109.2	22	55.1
EAST SOUTH CENTRAL:												
Kentucky.....	337	292	45	15.4	24	10.4	130	104	26	25.3	9	22.3
Tennessee.....	384	309	75	24.3	57	21.8	142	107	35	32.7	20	31.8
Alabama.....	326	261	65	24.8	86	15.6	118	87	31	35.1	30	25.7
Mississippi.....	222	190	32	17.0	80	7.4	81	66	15	23.5	28	13.6
WEST SOUTH CENTRAL:												
Arkansas.....	238	194	44	22.3	44	12.0	91	67	24	36.3	17	29.9
Louisiana.....	307	242	65	26.9	90	17.1	107	80	27	33.1	31	23.9
Oklahoma.....	300	249	51	20.5	27	38.5	117	91	26	27.9	10	40.8
Texas.....	992	745	247	33.1	116	32.1	364	252	112	44.5	40	45.7
MOUNTAIN:												
Montana.....	69	65	3	5.1	1	20.0	30	22	7	33.4	1	16.7
Idaho.....	68	58	10	16.3	1	6.8	28	21	7	34.1	-	27.8
Wyoming.....	30	26	4	16.6	1	43.1	12	8	4	43.0	-	67.8
Colorado.....	188	158	30	18.8	5	47.8	76	57	19	33.1	2	64.1
New Mexico.....	71	51	19	37.7	4	61.0	26	16	9	57.0	2	64.6
Arizona.....	161	90	71	79.0	9	41.1	54	27	27	102.1	3	48.7
Utah.....	78	60	18	29.4	1	55.4	29	21	9	42.9	1	97.3
Nevada.....	31	18	13	70.4	2	91.1	10	6	4	78.4	-	93.5
PACIFIC:												
Washington.....	322	279	43	15.4	8	60.8	131	99	31	31.4	3	70.3
Oregon.....	227	184	43	23.5	4	83.1	91	63	28	44.0	1	111.4
California.....	1,801	1,376	425	30.9	118	108.2	696	465	230	49.5	39	132.2
Alaska.....	7	5	2	27.9	2	43.0	2	2	1	33.0	1	60.3
Hawaii.....	44	29	15	51.3	32	46.4	15	10	5	53.7	11	45.8

- Represents zero.

Source: 1970 Census of Population.

Table 9. ESTIMATED NET MIGRATION OF THE POPULATION 65 YEARS OLD AND OVER IN 1970, BY RACE, FOR STATES: 1960-70

(Numbers in hundreds. Figures by race are affected by the misclassification of some persons of Spanish origin as "Negro and other races" rather than white. Rate represents net migration between 1960 and 1970 of the cohort 55 and over in 1960 and 65 and over in 1970 as percent of the population 55 and over in 1960. Computed by use of a preliminary set of national census survival rates)

Region, division, and State	Total		White		Negro and other races	
	Amount	Rate	Amount	Rate	Amount	Rate
United States.....	123,648	0.4	107,222	0.4	16,426	0.6
Northeast.....	-333,605	-3.8	-343,566	-4.1	9,961	2.5
North Central.....	-219,903	-2.3	-226,500	-2.5	6,597	1.5
South.....	444,196	5.0	476,110	6.4	-31,914	-2.0
West.....	232,960	5.0	201,178	4.6	31,782	13.4
Northeast:						
New England.....	-29,606	-1.4	-33,624	-1.7	4,018	13.2
Middle Atlantic.....	-303,999	-4.5	-309,942	-4.9	5,943	1.6
North Central:						
East North Central.....	-229,126	-3.5	-234,355	-3.8	5,229	1.5
West North Central.....	9,223	0.3	7,855	0.3	1,368	1.4
South:						
South Atlantic.....	347,149	8.4	367,586	10.8	-20,437	-2.8
East South Central.....	14,579	0.7	28,946	1.8	-14,367	-3.5
West South Central.....	82,468	2.9	79,578	3.3	2,890	0.7
West:						
Mountain.....	66,725	6.5	64,517	6.5	2,208	6.6
Pacific.....	166,235	4.6	136,661	4.0	29,574	14.5
NEW ENGLAND:						
Maine.....	-2,783	-1.4	-2,881	-1.5	98	19.7
New Hampshire.....	2,210	1.8	2,093	1.7	117	67.6
Vermont.....	-170	-0.2	-210	-0.3	40	28.2
Massachusetts.....	-24,697	-2.3	-26,779	-2.5	2,082	12.9
Rhode Island.....	-2,501	-1.5	-2,864	-1.7	363	14.8
Connecticut.....	-1,665	-0.4	-2,983	-0.7	1,318	12.4
MIDDLE ATLANTIC:						
New York.....	-202,942	-5.9	-209,135	-6.4	6,193	3.5
New Jersey.....	-12,587	-1.1	-14,055	-1.3	1,468	2.3
Pennsylvania.....	-88,470	-4.0	-86,752	-4.2	-1,718	-1.4
EAST NORTH CENTRAL:						
Ohio.....	-58,753	-3.4	-59,286	-3.7	533	0.5
Indiana.....	-20,245	-2.4	-20,995	-2.6	750	2.1
Illinois.....	-105,145	-5.5	-103,168	-5.8	-1,977	-1.5
Michigan.....	-50,146	-3.9	-54,629	-4.5	4,483	5.6
Wisconsin.....	5,163	0.7	3,723	0.5	1,440	20.2
WEST NORTH CENTRAL:						
Minnesota.....	6,752	1.0	6,119	0.9	633	13.0
Iowa.....	-2,229	-0.4	-2,260	-0.4	31	0.7
Missouri.....	-4,863	-0.5	-5,289	-0.6	426	0.7
North Dakota.....	-388	-0.4	-375	-0.3	-13	-1.2
South Dakota.....	1,099	0.8	1,127	0.9	-28	-1.0
Nebraska.....	4,692	1.6	4,512	1.5	180	3.9
Kansas.....	4,160	1.0	4,021	1.0	139	0.8
SOUTH ATLANTIC:						
Delaware.....	113	0.2	260	0.4	-147	-1.8
Maryland.....	3,742	0.8	4,120	1.0	-378	-0.6
District of Columbia.....	-22,814	-15.7	-21,413	-22.0	-1,401	-2.9
Virginia.....	1,163	0.2	6,046	1.3	-4,883	-4.4
West Virginia.....	-10,441	-3.1	-8,543	-2.7	-1,898	-10.1
North Carolina.....	9,560	1.5	13,412	2.7	-3,852	-2.9
South Carolina.....	-2,829	-0.9	2,606	1.2	-5,435	-5.9
Georgia.....	2,533	0.4	7,718	1.8	-5,185	-3.5
Florida.....	366,122	36.0	363,380	39.8	2,742	2.7
EAST SOUTH CENTRAL:						
Kentucky.....	1,236	0.2	3,056	0.6	-1,820	-4.4
Tennessee.....	9,136	1.5	11,541	2.3	-2,405	-2.6
Alabama.....	6,603	1.3	10,139	2.8	-3,536	-2.5
Mississippi.....	-2,396	-0.7	4,210	1.9	-6,606	-4.8
WEST SOUTH CENTRAL:						
Arkansas.....	17,750	4.9	18,412	6.4	-662	-0.9
Louisiana.....	-3,765	-0.8	-28	-	-3,737	-2.5
Oklahoma.....	15,721	3.4	11,783	2.8	3,938	10.5
Texas.....	52,762	3.5	49,411	3.7	3,351	1.9
MOUNTAIN:						
Montana.....	-1,175	-1.0	-1,153	-1.0	-22	-0.9
Idaho.....	2,268	2.1	2,304	2.2	-36	-2.9
Wyoming.....	-1,468	-2.9	-1,504	-3.0	36	4.8
Colorado.....	9,512	3.2	8,713	3.0	799	13.1
New Mexico.....	2,780	2.6	2,299	2.3	481	7.9
Arizona.....	46,176	25.2	45,802	26.9	374	2.9
Utah.....	3,695	3.1	3,396	2.9	299	17.2
Nevada.....	4,937	12.1	4,660	12.0	277	14.3
PACIFIC:						
Washington.....	7,901	1.5	6,818	1.3	1,083	10.3
Oregon.....	17,413	5.1	16,615	4.9	798	18.9
California.....	142,886	5.3	114,613	4.5	28,273	20.9
Alaska.....	-2,669	-18.4	-2,741	-24.6	72	2.1
Hawaii.....	704	1.1	1,356	8.1	-652	-1.3

- Represents zero.

Source: 1970 Census of Population.

Table 10. PERCENT 65 YEARS OLD AND OVER AND 75 YEARS OLD AND OVER OF THE TOTAL POPULATION FOR EACH STATE: BY RACE, 1970; ALL CLASSES, 1960

Region, division, and State	Percent population 65 and over				Percent population 75 and over					
	1970			1960	1970				1960	
	All classes	White ¹	Negro	Persons of Spanish language ²	All classes	All classes	White ¹	Negro	Persons of Spanish language ²	All classes
United States.....	9.9	10.3	6.9	4.1	9.2	3.8	4.0	2.3	1.3	3.1
Northeast.....	10.6	11.1	5.7	2.5	10.1	4.0	4.2	1.7	0.8	3.3
North Central.....	10.1	10.5	6.2	2.7	9.8	4.0	4.2	2.0	0.8	3.4
South.....	9.6	10.1	7.9	4.9	8.3	3.5	3.7	2.7	1.6	2.8
West.....	8.9	9.3	4.9	4.3	8.6	3.4	3.6	1.5	1.4	2.9
Northeast:										
New England.....	10.7	10.9	4.7	3.1	10.7	4.3	4.4	1.7	1.0	3.7
Middle Atlantic.....	10.6	11.2	5.8	2.4	9.9	3.9	4.2	1.8	0.8	3.1
North Central:										
East North Central.....	9.5	9.9	5.9	2.5	9.3	3.7	3.9	1.8	0.7	3.1
West North Central.....	11.7	12.0	8.0	3.4	11.2	4.9	5.0	2.9	1.2	4.0
South:										
South Atlantic.....	9.6	10.3	6.8	6.1	8.1	3.9	3.7	2.2	2.0	2.6
East South Central.....	9.9	10.0	9.5	3.5	8.7	3.7	3.8	3.4	1.4	3.0
West South Central.....	9.5	9.7	8.7	4.6	8.1	3.5	3.6	3.1	1.5	2.9
West:										
Mountain.....	8.4	8.6	5.1	4.7	7.7	3.2	3.3	1.7	1.6	2.6
Pacific.....	9.1	9.5	4.8	4.2	8.8	3.5	3.7	1.5	1.3	3.0
NEW ENGLAND:										
Maine.....	11.6	11.6	4.8	4.6	11.0	4.6	4.6	1.8	2.3	4.2
New Hampshire.....	10.6	10.7	2.8	2.6	11.2	1.2	1.2	0.9	0.6	4.1
Vermont.....	10.7	10.7	6.2	5.5	11.2	4.3	4.3	3.0	2.2	4.3
Massachusetts.....	11.2	11.4	5.4	3.3	11.1	4.5	4.6	2.0	1.0	3.9
Rhode Island.....	11.0	11.2	5.7	3.4	10.4	4.2	4.3	2.1	1.2	3.5
Connecticut.....	9.5	9.9	4.0	2.8	9.6	3.8	3.9	1.2	0.8	3.1
MIDDLE ATLANTIC:										
New York.....	10.8	11.6	5.2	2.6	10.1	3.9	4.3	1.5	0.8	3.1
New Jersey.....	9.7	10.3	5.3	1.4	9.2	3.6	3.8	1.6	0.4	2.9
Pennsylvania.....	10.8	11.1	7.5	1.6	10.0	4.1	4.3	2.3	0.5	3.3
EAST NORTH CENTRAL:										
Ohio.....	9.4	9.6	6.7	2.9	9.2	3.7	3.8	2.2	0.8	3.2
Indiana.....	9.5	9.7	6.4	2.4	9.6	3.8	3.9	2.1	0.6	3.4
Illinois.....	9.8	10.5	5.6	2.4	9.7	3.8	4.1	1.7	0.6	3.2
Michigan.....	8.5	8.9	5.6	3.0	8.2	3.2	3.4	1.7	0.8	2.6
Wisconsin.....	10.7	11.0	3.3	2.1	10.2	4.3	4.4	1.0	0.7	3.5
WEST NORTH CENTRAL:										
Minnesota.....	10.7	10.8	5.8	2.4	10.4	4.4	4.5	2.2	0.6	3.5
Iowa.....	12.4	12.5	7.1	3.9	11.9	5.3	5.3	2.7	1.0	4.4
Missouri.....	12.0	12.4	8.3	4.0	11.7	4.8	5.0	2.9	1.4	4.2
North Dakota.....	10.7	11.0	0.9	1.5	9.3	4.4	4.5	0.4	0.6	3.3
South Dakota.....	12.1	12.5	3.4	1.8	10.5	5.1	5.2	1.4	0.7	3.6
Nebraska.....	12.4	12.6	6.1	2.8	11.6	5.3	5.4	2.2	1.0	4.2
Kansas.....	11.8	12.1	8.7	3.6	11.0	5.0	5.1	3.4	1.4	4.2
SOUTH ATLANTIC:										
Delaware.....	8.0	8.3	6.1	3.8	8.0	3.0	3.2	2.0	1.0	2.7
Maryland.....	7.6	8.1	5.6	2.9	7.3	2.7	3.0	1.8	0.9	2.4
District of Columbia.....	9.4	19.3	5.5	4.9	9.1	3.4	7.8	1.7	1.2	3.0
Virginia.....	7.9	8.0	7.5	2.5	7.3	2.9	2.9	2.6	0.8	2.5
West Virginia.....	11.1	11.0	14.6	5.9	9.3	4.2	4.2	4.9	1.3	3.3
North Carolina.....	8.1	8.5	7.1	1.9	6.9	2.9	3.0	2.3	0.5	2.2
South Carolina.....	7.4	7.6	6.8	2.2	6.3	2.5	2.7	2.2	0.7	2.0
Georgia.....	8.0	8.2	7.5	3.0	7.4	2.9	3.0	2.5	0.9	2.4
Florida.....	14.6	16.1	6.4	7.5	11.2	5.0	5.6	2.0	2.4	3.3
EAST SOUTH CENTRAL:										
Kentucky.....	10.5	10.5	10.3	3.0	9.6	4.0	4.1	3.8	1.2	3.4
Tennessee.....	9.8	9.9	9.1	3.2	8.7	3.6	3.7	3.2	1.2	3.0
Alabama.....	9.5	9.5	9.5	3.4	8.0	3.4	3.5	3.3	1.1	2.7
Mississippi.....	10.0	10.2	9.7	4.7	8.7	3.6	3.8	3.4	2.3	3.0
WEST SOUTH CENTRAL:										
Arkansas.....	12.4	12.4	12.2	4.3	10.9	4.7	4.8	4.7	1.6	3.7
Louisiana.....	8.4	8.5	8.2	5.3	7.4	2.9	3.0	2.9	1.5	2.5
Oklahoma.....	11.7	11.9	10.4	3.5	10.7	4.6	4.7	3.9	1.4	3.9
Texas.....	8.9	9.0	8.0	4.6	7.8	3.3	3.3	2.8	1.5	2.6
MOUNTAIN:										
Montana.....	9.9	10.1	4.6	3.2	9.7	4.3	4.4	1.6	1.0	3.3
Idaho.....	9.5	9.6	4.1	2.9	8.7	3.9	3.9	1.5	1.0	3.1
Wyoming.....	9.1	9.2	5.6	3.9	7.8	3.6	3.6	2.3	1.1	2.5
Colorado.....	8.5	8.7	4.8	4.7	9.0	3.5	3.5	1.8	1.7	3.3
New Mexico.....	6.9	7.2	4.8	5.4	5.4	2.5	2.5	1.6	2.0	1.7
Arizona.....	9.1	9.5	6.6	4.2	6.9	3.0	3.2	2.2	1.3	2.0
Utah.....	7.3	7.4	4.9	2.6	6.7	2.8	2.8	1.8	0.8	2.3
Nevada.....	6.3	6.6	3.1	4.0	6.4	2.0	2.1	0.7	1.3	1.9
PACIFIC:										
Washington.....	9.4	9.7	4.0	2.6	9.8	3.8	3.9	1.3	0.8	3.5
Oregon.....	10.8	11.0	5.2	3.0	10.4	1.3	4.4	1.7	0.8	3.6
California.....	9.0	9.5	4.9	4.2	8.8	3.5	3.7	1.5	1.3	3.0
Alaska.....	2.3	2.0	1.2	0.6	2.4	0.7	0.6	0.5	0.1	0.7
Hawaii.....	5.7	4.1	0.9	3.2	4.6	1.9	1.3	0.4	1.4	1.5

¹Figures are affected by the race misclassification of some persons of Spanish origin as "Negro and other races" rather than white.

²For New York, New Jersey, and Pennsylvania, persons of Puerto Rican birth and parentage only; for five Southwestern States includes other persons of Spanish surname. Note that persons of Spanish origin may be of any race.

Source: 1970 Census of Population.

We should note that, in spite of the fact that several States show high migration rates for the population 65 and over, this is an age group which moves relatively little. Mobility rates and migration rates show a steady downward progression with advancing age from age group 20 to 24 (except movers 75 and over); as shown by the following figures for the year 1970-71:

Age (years)	Percent of population with different residence	
	Different house, same county	Different county
Total, 1 and over.....	11.4	6.5
1 to 4.....	17.8	10.3
5 to 13.....	10.2	5.9
14 to 17.....	8.2	4.2
18 to 19.....	16.0	7.7
20 to 24.....	24.7	16.4
25 to 34.....	17.1	10.4
35 to 44.....	8.7	4.8
45 to 64.....	6.2	3.0
65 to 74.....	5.4	2.9
75 and over.....	6.8	2.3

In the year 1970-71 the migration rate of interstate migrants 65 and over was only 1.4 percent, or only one-sixth as great as the migration rate for youths 20 to 24 years old (8.6 percent), the 5-year age group with the highest rate (table 11).

Size of place and urban-rural residence. Considering places in terms of size in 1970, there seems to be a gradation in the proportion of

persons 65 and over with respect to size of place, excluding the farm population ("other rural" areas) and the urban fringe: the larger the place, the lower the percentage of elderly people. The highest proportion of elderly persons (13.6 percent) is found in small towns, i.e., rural places of 1,000 to 2,500 inhabitants (table 12). The next highest proportion is found in urban places of 2,500 to 10,000, followed in order by urban places of 10,000 or more, central cities, "other rural" areas, and the urban fringe. In the urban fringe young families with children predominate.

One of the lowest percentages (9.6 percent) is found in "other rural" areas (i.e., the farm population). If we try to explain the high percentage of aged persons in rural places of 1,000 to 2,500 as a result of the high rate of out-migration of young people to the larger cities, we should expect this reason to apply also to the "other rural" areas. A higher birth rate in the farm population may account for some of the difference. More important, many farmers over 65 can no longer operate their farms and so migrate, not to Florida or other distant States, but to the town closest to their farm.

Of the 20.1 million persons 65 and over in April 1970, over half (55 percent) lived in urbanized areas. Of the latter group about three-fifths (62 percent) lived in central cities and two-fifths (38 percent) in the urban fringe. Thus, about one-third (34 percent) of all aged persons lived in central cities. About one-quarter (27 percent) lived in rural areas. The distribution of Negroes diverged sharply from that for the population as a whole, principally in their concentration in central cities within urbanized areas. Of the 1.6 million

Table 11. MOBILITY AND MIGRATION RATES FOR THE POPULATION 65 YEARS OLD AND OVER AND 20 TO 24 YEARS OF AGE BY SEX: 1970-71

(Data relate to the period March 1970 to March 1971)

Mobility status	Both sexes			Male			Female		
	65 and over	20 to 24	Ratio	65 and over	20 to 24	Ratio	65 and over	20 to 24	Ratio
Total population.....	100.0	100.0	1.00	100.0	100.0	1.00	100.0	100.0	1.00
Same house (nonmovers).....	91.2	55.5	1.64	91.8	54.9	1.67	90.8	56.0	1.62
Different house.....	8.7	41.2	.21	8.1	39.0	.21	9.1	43.1	.21
Same county.....	6.0	24.7	.24	5.4	23.1	.23	6.4	26.2	.24
Different county.....	2.7	16.4	.16	2.7	16.0	.17	2.7	16.8	.16
Within State.....	1.3	7.9	.16	1.4	7.6	.18	1.2	8.1	.15
Between States.....	1.4	8.6	.16	1.2	8.3	.14	1.5	8.8	.17
Contiguous.....	0.5	1.9	.26	0.3	1.7	.18	0.7	2.2	.32
Noncontiguous.....	0.9	6.6	.14	0.9	6.7	.13	0.8	6.6	.12
Abroad.....	0.1	3.4	.03	0.1	6.1	.02	0.1	0.9	.11

Source: Current Population Reports, Series P-20, No. 235.

Negroes 65 and over, about 950,000, or three-fifths (61 percent), live in urbanized areas; of the latter group 86 percent live in central cities and 14 percent in the urban fringe. Thus, over half (52 percent) of all Negroes 65 and over live in a central city. About one-quarter (24 percent) live in rural areas, mostly on farms. The population of Spanish heritage is also heavily concentrated in central cities (51 percent) and in urbanized areas (about 75 percent), and its share of the rural population is much smaller (14 percent) than for the white population as a whole or the Negro population.

We may summarize the "distribution" tendencies of the elderly as follows: Their migration rates are relatively low; with increasing age, people migrate less. If the elderly do migrate, they generally go to the "old country" (if foreign-born) or other areas abroad (e.g., Mexico) to retire, various retirement areas within the United States, particularly Florida, or to rural places or small towns (from farms); or they may remain "stuck" in rural hinterlands or urban centers, particularly the deteriorated parts.

Mortality and Survival

Progress in the "control" of the aging process from a demographic point of view may be measured in terms of increases in the "quantity" of life, e.g., reductions in mortality rates or increases in survival rates or in average years of life lived, and in terms of improvements in the "quality" of life, e.g., reductions in rates of morbidity, disability,

and hospitalization. The discussion here is confined to the "quantity" dimension, i.e., measurement of mortality and longevity, and omits any direct consideration of the "quality" dimension.

Life expectancy. Progress in the reduction of mortality or in extending length of life is often measured by figures for life expectancy at birth. Life expectancy at birth is a capsulized indicator (standardized for changes in age composition to a limited degree) of progress in the elimination of premature death at all ages. It has shown a tremendous improvement since 1900, having risen from 49 years in 1900-02 (Original Death Registration States) to 69.5 years in 1955 and 70.5 years in 1969 (table 13). These figures imply a total gain of about 20 years in life expectancy in the first half of this century, or an average annual gain of 0.4 year in this period. In the past 15 years or so, however, life expectancy at birth has barely moved; a plateau was in fact reached about 1954.

Since life expectancy at birth is a function of death rates at all ages, it does not tell us at what ages the improvement occurred. We want particularly to distinguish progress in "life expectancy" or survival at the ages under 65 from the ages over 65. We can summarize changes in death rates in these and other age ranges in terms of life table survival rates and in terms of age-bounded expectancy values. According to the life table of 1900-02, 39 percent of the newborn babies would reach age 65; but according to the life table of 1969, the figure would be 72 percent--a gain of 33 persons aged 65 per 100 babies. The proportion

Table 12. DISTRIBUTION OF THE POPULATION 65 YEARS OLD AND OVER BY URBAN AND RURAL RESIDENCE AND BY SIZE OF PLACE, BY RACE: 1970

Race	1970										1960			
	Total	Urban					Rural				Total	Urban	Rural	
		Total	Urbanized areas			Other places of--		Total	Places of 1,000 to 2,500	Other rural				
			Total	Central cities	Urban fringe	10,000 or more	2,500 to 10,000							
NUMBER (in thousands)														
Total.....	20,066	14,631	11,106	6,812	4,264	1,788	1,737	5,434	903	4,532	16,560	11,526	5,033	
White.....	18,330	13,309	10,049	5,900	4,100	1,641	1,619	5,021	852	4,169	15,304	10,672	4,632	
Negro and other races....	1,735	1,322	1,056	892	164	147	118	413	51	362	1,256	854	102	
Negro.....	1,559	1,192	949	812	137	136	107	367	44	323	(NA)	(NA)	(NA)	
PERCENT OF ALL AGES														
Total.....	9.9	9.8	9.4	10.7	7.8	10.8	12.2	10.1	13.6	9.6	9.2	9.2	9.3	
White.....	10.3	10.3	10.0	12.0	8.0	11.1	12.5	10.3	13.9	9.7	9.6	9.7	9.6	
Negro and other races....	6.8	6.4	6.0	6.2	5.3	8.3	9.3	8.1	9.9	8.2	6.1	5.8	7.1	
Negro.....	6.9	6.5	6.0	6.2	5.4	8.7	9.7	8.7	10.4	8.5	(NA)	(NA)	(NA)	
PERCENT OF ALL AREAS														
Total.....	100.0	72.9	55.3	34.1	21.2	8.9	8.7	27.1	4.5	22.6	100.0	69.6	30.4	
White.....	100.0	72.6	54.8	32.5	22.4	9.0	8.8	27.4	4.6	22.7	100.0	69.7	30.3	
Negro and other races....	100.0	76.2	60.9	51.1	9.5	8.5	6.8	23.8	2.9	20.9	100.0	68.0	32.0	
Negro.....	100.0	76.5	60.9	52.1	8.8	8.7	6.9	23.5	2.8	20.7	(NA)	(NA)	(NA)	

NA Not available.

Source: 1970 Census of Population.

of persons surviving from age 65 to age 80 was 33 percent in 1900-02 and 49 percent in 1969--a gain of 16 persons aged 80 per 100 persons aged 65. Accordingly, the chance of survival from birth to age 65 and the chance of survival from age 65 to age 80 are both much higher than earlier; but the increase in the survival rate of persons above age 65 has been notably smaller than at the younger ages. The corresponding survival rates in 1955 were only a little lower than those for 1969.

Changes in life expectation for ages below 65, represented here by the average years of life lived between birth and age 65,¹³ may be compared with changes in life expectation at age 65, to illustrate these differences further. Average years of life lived below age 65 increased from 44 years in 1900-02 to 60 years in 1969 (i.e., by 16 years), but life expectancy at age 65 has moved ahead more slowly, from 12 years in 1900-02 to 15 years in 1969 (i.e., by 3 years). Once again,

¹³The average years of life lived between birth and age 65 is computed by the formula $\frac{T_{65} - T_0}{10}$ from the life table.

expectation values increased relatively little between 1955 and 1969, both for ages under 65 and over 65. Nearly all of the progress in life expectation recorded in the period 1900-02 to 1969 occurred by 1955 and at the younger ages, therefore, although there were some notable gains at the older ages in the earlier period.

Age-specific death rates at the older ages for the years 1940, 1954, and 1967 to 1971 also reflect the sharp deceleration of the improvement in mortality among the older population in the 1950's and 1960's as compared with earlier decades (table 14). The reasons for the slowing down and virtual halt in the reduction of death rates are not well known. An understanding of these changes may best be pursued in terms of an analysis of death rates specific by cause of death (see below). The annual data for 1967 to 1971 appear to suggest that another turning point in the trend of mortality was reached about 1968 and that mortality at the older ages may be on its way down again.

Sex and race differences. Mortality rates of males are well above those of females. Expectation of life at birth was 68 years for white males and 75 years for white females in 1969; the corre-

Table 13. AVERAGE FUTURE LIFETIME IN YEARS AT VARIOUS AGES, BY RACE AND SEX, FOR VARIOUS YEARS: 1900 TO 1969

Age, sex and race	1900-02 ¹	1929-31	1939-41	1949-51	1955	1959-61	1969
ALL CLASSES							
At birth.....	49.2	(NA)	63.6	68.1	69.5	69.9	70.5
0 to 64 years ²	44.4	(NA)	55.9	58.7	59.5	59.7	59.9
65 years.....	11.9	(NA)	12.8	13.8	14.2	14.4	14.8
75 years.....	7.1	(NA)	7.6	8.4	8.7	8.7	9.3
White Male							
At birth.....	48.2	59.1	62.8	66.3	67.3	67.6	67.9
0 to 64 years ²	43.7	52.9	55.8	58.2	58.8	59.0	59.3
65 years.....	11.5	11.8	12.1	12.8	12.9	13.0	13.0
75 years.....	6.8	7.0	7.2	7.8	8.0	7.9	8.2
White Female							
At birth.....	51.1	62.7	67.3	72.0	73.6	74.2	75.1
0 to 64 years ²	45.7	54.9	58.0	60.5	61.1	61.4	61.6
65 years.....	12.2	12.8	13.6	15.0	15.5	15.9	16.6
75 years.....	7.3	7.6	7.9	8.9	9.2	9.3	9.9
Negro and Other Races Male³							
At birth.....	32.5	47.6	52.3	58.9	61.2	61.5	60.7
0 to 64 years ²	30.6	44.4	47.9	53.1	54.6	54.9	54.6
65 years.....	10.4	10.9	12.2	12.8	13.2	12.8	12.5
75 years.....	6.6	7.0	8.2	8.8	10.4	8.9	10.4
Negro and Other Races Female³							
At birth.....	35.0	49.5	55.6	62.7	65.9	66.5	68.4
0 to 64 years ²	32.5	45.7	49.9	55.1	56.8	57.3	58.3
65 years.....	11.4	12.2	13.9	14.5	15.5	15.1	15.7
75 years.....	7.9	8.6	9.8	10.2	12.0	10.1	12.2

¹Original Death Registration States (10 States and the District of Columbia).

²Average years of life lived between birth and age 65, computed by the formula $(T_{65} - T_0) + 10$.

³Negro population only, for 1900-1902, 1929-1931, and 1939-1941.

Source: Life tables published by the National Center for Health Statistics, U.S. Public Health Service.

sponding figures for "Negro and other races" are 61 and 68 years (table 13). (Such statistics are not available for the population of Spanish heritage.) Males have not shared equally with females in the

progress in mortality reduction in this century, particularly at the older ages, as shown by the following ratios of male to female death rates for 1900, 1940, 1954, and 1969:

Age (years)	All classes				White				Negro and other races			
	1900 ¹	1940	1954	1969	1900 ¹	1940	1954	1969	1900 ¹	1940	1954	1969
55 to 64....	1.11	1.45	1.82	2.09	1.12	1.50	1.91	2.20	1.00	1.12	1.33	1.58
65 to 74....	1.11	1.29	1.57	1.86	1.11	1.30	1.59	1.92	1.08	1.20	1.35	1.44
75 to 84....	1.08	1.17	1.29	1.47	1.08	1.16	1.29	1.48	1.16	1.29	1.29	1.44
85 and over.	1.05	1.08	1.06	1.04	1.05	1.07	1.04	1.06	1.27	1.25	1.30	1.04

¹For the Original Death Registration States.

Gains in life expectation at age 65 between 1900 and 1969 were 1.5 years for white males and 4.4 years for white females; average future lifetime at this age is now 13.0 years for white males and 16.6 years for white females. For Negroes and other races also, death rates for the two sexes have been moving further and further apart, with gains in life expectation at age 65 for men and women similar to those for whites, and now life expectation for women at age 65 appears to be well above that for men (15.7 vs. 12.5).

At ages below 65, death rates of the Negro-and-other-races population are well above those for whites, with a difference of about four years in average years of life lived between birth and age 65 in 1969. The magnitude, and possibly even the direction, of differences between the death rates of the races at the older ages are subject to uncertainty. It appears that for the range 65 and over as a whole whites have somewhat lower rates; but between ages 65-74 and 75-84 the rates cross

over one another and Negroes then have the lower rates. The differences in recorded death rates of Negroes and whites at these higher ages can be explained in part by reporting errors in the census, especially misreporting of age of Negroes. In fact, calculations of death rates based wholly on Medicare data suggest that the "crossover" phenomenon may be an artifact in this age range.¹⁴ The differences between the rates for the race groups are affected by differences in mortality by occupation, education, and income. Much of the difference between death rates for whites and Negroes not explainable by errors in the data may be accounted for by differences in socioeconomic characteristics.¹⁵

¹⁴Francisco Bayo, "Mortality of the Aged," Transactions of the Society of Actuaries, Vol. 24, 1972, pp. 1-24.

¹⁵Evelyn M. Kitagawa and Philip M. Hauser, Social and Economic Differentials in Mortality, Cambridge, Harvard Univ. Press, 1973 (forthcoming).

Table 14. DEATH RATES FOR THE POPULATION 55 YEARS OLD AND OVER, BY AGE: 1940, 1954, AND 1967 TO 1971

Year and period	55 to 64	65 to 74	75 to 84	85 and over
RATES PER 1,000 POPULATION				
1940.....	22.2	48.4	112.0	235.7
1954.....	17.4	37.9	86.0	181.6
1967.....	16.7	37.5	79.0	194.2
1968.....	17.2	38.5	80.8	196.1
1969.....	16.8	37.4	79.0	190.9
Provisional Data				
1968.....	17.1	38.5	80.4	197.1
1969.....	16.9	37.4	79.3	187.8
1970.....	16.7	36.8	78.1	180.3
1971.....	16.2	35.9	77.6	176.7
PERCENT CHANGE				
1940-54.....	-21.6	-21.7	-23.2	-23.0
1954-68.....	-1.1	+1.6	-6.0	+8.0
1968-71.....	-5.3	-6.8	-3.5	-10.4

Source: National Center of Health Statistics publications.

Cause of death. "Diseases of the heart" far outranks any other cause of death among persons 65 and over. In 1968 the rates (per 100,000 population) for the 10 leading causes of death were as follows:

Rank	Cause of death ¹	Rate
	All causes.....	6,219.7
1	Diseases of heart.....	2,830.7
2	Malignant neoplasms.....	925.2
3	Cerebrovascular diseases.....	904.3
4	Influenza and pneumonia.....	246.0
5	Arteriosclerosis.....	167.3
6	Accidents.....	149.3
	Motor vehicle.....	39.6
	All other.....	109.8
7	Diabetes mellitus.....	136.5
8	Bronchitis, emphysema, and asthma.....	113.4
9	Cirrhosis of liver.....	36.3
10	Infections of kidney.....	35.1
	All other causes.....	675.5

¹Source: U.S. National Center for Health Statistics, Health in the Later Years of Life, table 2, p.11, October 1971.

Malignant neoplasms (cancer) and cerebrovascular diseases (mainly stroke) nearly tie for second place. Taken together, these three causes accounted for three out of four deaths at ages 65 and over in 1968. Other leading causes, in rank order, are influenza and pneumonia, arteriosclerosis, accidents, and diabetes, but they are all far less frequent than the first three.

Rates for males for diseases of the heart and malignant neoplasms are now far above those for women:

Cause of death	Ratio, male to female
All causes.....	1.421
Diseases of heart.....	1.408
Malignant neoplasms.....	1.688
Cerebrovascular diseases.....	1.046
Influenza and pneumonia.....	1.468
Arteriosclerosis.....	.998
Accidents.....	1.439
Motor vehicle.....	2.347
All other.....	1.213
Diabetes mellitus.....	.809
Bronchitis, emphysema, and asthma...	6.273

This pattern of sex differences is true also for influenza and pneumonia; bronchitis, emphysema, and asthma; and accidents. Cerebrovascular diseases show a small excess for males. On the other hand, the rate for diabetes and some other less frequent leading causes are much higher for women. Death rates of men at the older ages from some causes have risen in recent years (table 15).

At ages 65-74 death rates for Negro and other races are much higher than those for whites for every major disease except "bronchitis, emphysema, and asthma." At ages 75-84, however, the opposite appears to be the case. Recorded death rates at these ages are lower for Negro and other races. Cerebrovascular diseases and diabetes are exceptionally prevalent among Negro and other races at ages 65-74 and only drop to a par with whites at ages 75-84. Once again, because of errors of reporting in the census, the real shift from ages 65-74 to 75-84 may be less pronounced than is indicated by these figures.

Cause of death	Ratio, Negro and other races to white, 1969	
	65-74	75-84
All causes.....	1.552	.869
Diseases of heart.....	1.375	.782
Malignant neoplasms.....	1.316	.833
Cerebrovascular diseases.....	2.332	.999
Influenza and pneumonia.....	1.959	.938
Arteriosclerosis.....	1.936	.777
Accidents.....	1.583	.849
Motor vehicle.....	1.255	.850
All other.....	1.810	.849
Diabetes mellitus.....	2.162	1.030
Bronchitis, emphysema, and asthma..	.610	.446

Some diseases have all but been eliminated, statistically speaking, since their actual elimination would add little to life expectancy. For instance, according to life tables by cause of death for 1959-61, if tuberculosis were eliminated completely, there would be a mere 0.1 year gain in life expectancy at birth (table 16). On the other hand, if the major cardiovascular-renal diseases were eliminated, there would be a 10.9 year gain in life expectancy at birth, and even a 10.0 year gain in life expectancy at age 65. Malignant neoplasms rank second in the possible gains in expectation of life at birth which could be realized if a category of diseases were eliminated--2.3 years--but since these diseases affect a wide span of ages, the gain at age 65 would be only half as great.

According to the life tables by cause for 1959-61, a newborn infant had a 61 percent chance of eventually dying from a major cardiovascular-renal disease and a 15 percent chance of eventually dying from cancer (table 17). The major component of the former is diseases of the heart, with a probability of 42 percent. The probability of eventually dying from any other particular cause was less than 5 percent.

Table 15. DEATH RATES FOR SELECTED CAUSES OF DEATH FOR THE POPULATION 55 YEARS OLD AND OVER, BY AGE, RACE, AND SEX: 1940, 1954, AND 1969

Cause of death, race, and sex	55 to 64 years			65 to 74 years			75 to 84 years			85 years and over		
	1940	1954	1969	1940	1954	1969	1940	1954	1969	1940	1954	1969
All causes	2,215.5	1,737.4	1,677.5	4,838.3	3,785.1	3,738.2	11,203.9	8,603.5	7,896.0	23,565.1	18,157.5	19,044.6
Male.....	2,612.0	2,254.2	2,312.5	5,462.3	4,673.8	5,031.7	12,126.4	9,800.6	9,760.3	24,619.0	18,741.1	19,554.9
Female.....	1,800.4	1,236.7	1,105.5	4,222.2	2,979.1	2,708.5	10,368.6	7,625.9	6,632.9	22,759.1	17,740.0	18,796.2
White:												
Male.....	2,521.9	2,170.7	2,218.8	5,399.9	4,645.8	4,891.7	12,202.3	9,936.3	9,879.6	25,135.1	19,081.2	20,889.0
Female.....	1,684.4	1,137.8	1,009.5	4,153.6	2,918.8	2,553.7	10,482.6	7,716.0	6,694.7	23,495.3	18,284.5	19,796.7
Negro and other races:												
Male.....	3,710.7	3,227.1	3,252.8	6,283.2	5,006.0	6,654.5	10,876.9	7,995.0	8,407.8	19,972.0	14,381.8	10,172.1
Female.....	3,318.3	2,426.5	2,056.1	5,227.5	3,700.5	4,609.6	8,413.7	6,219.8	5,851.8	15,971.0	11,053.1	9,805.0
DISEASES OF THE HEART												
Male.....	1,931.8	1,008.9	1,013.8	1,212.2	2,112.5	2,252.8	4,962.3	4,405.3	4,443.7	10,343.6	8,300.0	9,207.3
Female.....	1,505.1	426.1	355.8	1,149.3	1,262.0	1,143.4	4,221.8	3,460.2	3,103.8	9,661.3	8,089.9	9,134.2
White												
Male.....	1,921.8	986.9	1,002.0	1,214.6	2,134.5	2,227.5	5,060.8	4,502.8	4,535.6	10,846.7	8,522.3	9,889.3
Female.....	1,472.4	389.3	318.1	1,148.3	1,244.9	1,084.2	4,308.6	3,520.9	3,149.0	10,240.5	8,388.1	10,046.9
Negro and Other Races												
Male.....	1,054.2	1,150.3	1,132.6	1,190.1	1,851.7	2,540.3	3,345.7	3,106.7	3,402.0	5,601.9	5,150.0	4,341.0
Female.....	1,935.5	868.4	728.9	1,585.9	1,635.1	1,870.7	2,730.7	2,512.0	2,532.7	4,324.8	4,428.2	4,570.0
MALIGNANT NEOPLASMS												
Male.....	352.2	433.0	505.9	737.2	839.4	1,017.4	1,275.2	1,371.6	1,491.0	1,467.0	1,688.8	1,829.4
Female.....	384.1	348.9	342.1	664.9	589.4	572.4	1,047.1	972.5	853.2	1,276.0	1,275.3	1,276.2
White												
Male.....	357.1	424.7	487.4	759.5	846.0	992.5	1,320.3	1,403.9	1,507.7	1,569.9	1,740.8	1,941.0
Female.....	385.4	341.8	333.9	677.1	598.8	560.5	1,080.5	994.8	869.9	1,348.5	1,327.5	1,349.4
Negro and Other Races												
Male.....	291.9	530.6	691.2	445.0	761.1	1,300.2	532.2	942.0	1,333.7	499.1	1,022.7	1,044.3
Female.....	367.6	434.8	423.9	486.1	475.1	717.9	473.7	623.8	611.5	608.2	634.4	618.8
CEREBROVASCULAR DISEASES (Vascular lesions affecting central nervous system)												
Male.....	218.3	185.8	139.1	593.6	550.9	475.1	1,475.7	1,514.9	1,331.8	2,617.4	2,887.2	3,181.2
Female.....	205.0	158.6	97.1	554.2	461.2	351.9	1,416.9	1,414.6	1,165.1	2,614.5	3,179.1	3,661.6
White												
Male.....	200.8	163.1	120.3	579.1	530.6	437.3	1,485.6	1,530.1	1,334.0	2,684.9	2,941.5	3,389.7
Female.....	180.1	132.6	78.3	531.4	436.1	314.1	1,423.9	1,424.1	1,164.0	2,705.4	3,276.8	3,854.7
Negro and Other Races												
Male.....	432.1	450.2	327.7	784.2	791.5	904.2	1,312.8	1,313.4	1,306.9	1,983.2	2,190.9	1,714.8
Female.....	531.1	472.0	283.0	888.1	764.0	816.3	1,298.0	1,265.9	1,179.4	1,775.6	1,978.1	1,926.3
INFLUENZA AND PNEUMONIA												
Male.....	119.3	38.4	54.5	253.5	92.3	145.2	719.4	258.9	393.6	2,041.9	774.0	1,137.6
Female.....	76.2	17.2	25.7	203.2	51.4	67.5	659.4	189.2	228.8	1,945.5	669.6	981.1
White												
Male.....	107.3	33.4	48.9	240.4	86.7	135.8	720.2	258.7	393.7	2,091.3	782.3	1,217.5
Female.....	65.6	14.2	22.9	194.3	46.9	62.6	663.4	189.4	231.5	2,015.5	683.2	1,040.5
Negro and Other Races												
Male.....	265.8	96.6	111.0	426.6	158.8	252.2	706.4	261.3	392.2	1,577.3	668.2	575.4
Female.....	214.5	53.2	53.5	332.7	105.2	128.1	590.6	186.5	194.1	1,299.8	503.1	447.5
ARTERIOSCLEROSIS												
Male.....	19.2	12.9	8.9	96.5	70.9	49.9	464.8	367.9	232.5	1,664.6	1,374.8	999.6
Female.....	13.0	7.8	4.7	67.9	48.6	32.4	370.8	298.9	189.4	1,472.3	1,401.8	1,122.3
White												
Male.....	17.3	11.4	8.2	95.6	68.0	46.9	474.2	373.5	237.0	1,757.4	1,451.4	1,079.3
Female.....	11.2	6.2	4.0	66.9	45.8	29.9	378.3	303.3	240.4	1,558.1	1,477.2	1,195.1
Negro and Other Races												
Male.....	44.0	30.4	15.1	106.5	110.1	83.2	309.7	289.7	181.4	792.0	650.0	439.3
Female.....	37.7	27.2	11.3	81.7	89.6	62.9	242.9	228.7	150.7	681.8	620.5	467.5

See footnotes at end of table.

Table 15. DEATH RATES FOR SELECTED CAUSES OF DEATH FOR THE POPULATION 55 YEARS OLD AND OVER, BY AGE, RACE, AND SEX: 1940, 1954, AND 1969—Continued

Cause of death, race, and sex	55 to 64 years			65 to 74 years			75 to 84 years			85 years and over		
	1940	1954	1969	1940	1954	1969	1940	1954	1969	1940	1954	1969
MOTOR VEHICLE ACCIDENTS												
Male.....	62.4	38.2	40.7	85.4	50.3	50.0	119.1	77.8	66.8	125.3	71.1	60.0
Female.....	18.7	14.7	17.2	28.6	19.4	23.5	37.2	24.8	26.7	26.9	23.5	18.9
White												
Male.....	62.8	36.7	37.9	86.5	50.4	48.3	121.1	79.1	67.0	127.3	69.1	65.7
Female.....	18.9	14.5	17.1	29.4	19.9	23.7	38.6	25.2	27.6	27.1	23.9	20.4
Negro and Other Races												
Male.....	57.8	54.8	69.4	72.1	50.0	68.3	85.5	60.5	65.2	106.5	95.5	19.7
Female.....	15.7	16.8	17.6	17.7	13.9	21.7	13.7	19.8	15.8	24.5	18.8	5.0
ALL OTHER ACCIDENTS												
Male.....	88.5	55.9	57.4	135.6	86.2	75.1	335.9	205.9	150.0	967.6	616.4	434.7
Female.....	30.4	17.3	18.5	110.4	50.1	36.9	485.8	228.5	120.6	1,521.3	822.6	466.6
White												
Male.....	87.8	54.3	53.6	135.7	84.9	70.8	342.9	209.1	151.7	1,014.5	634.8	468.8
Female.....	29.2	16.1	17.6	111.3	48.7	34.8	501.0	232.8	122.2	1,625.6	865.4	494.7
Negro and Other Races												
Male.....	96.5	74.6	94.6	133.8	102.6	124.2	221.0	163.0	131.4	525.8	381.8	195.1
Female.....	45.9	32.3	27.8	97.8	66.7	63.3	226.2	161.1	101.1	559.2	296.9	213.8
DIABETES MELLITUS												
Male.....	60.2	29.4	35.2	140.4	70.0	87.2	231.3	131.0	168.8	217.4	143.1	225.9
Female.....	114.6	46.9	38.8	240.5	112.5	104.3	311.4	172.5	197.5	223.2	164.0	284.1
White												
Male.....	61.2	28.6	32.0	145.6	70.9	83.1	238.8	135.4	170.2	229.2	147.2	242.2
Female.....	114.2	43.6	30.4	246.3	113.2	93.2	322.6	177.2	195.7	236.2	168.4	296.4
Negro and Other Races												
Male.....	47.6	38.4	67.0	73.0	59.9	133.8	108.1	72.3	152.9	106.5	90.9	111.5
Female.....	120.3	86.9	122.3	156.8	103.4	240.6	118.4	99.2	220.2	103.0	109.4	173.8

¹Approximation derived as follows: Rate for major cardiovascular-renal diseases, excluding vascular lesions affecting the central nervous system, non-cardiac hypertensive disease 1949, and chronic and unspecified nephritis and other renal sclerosis.

Source: National Center for Health Statistics, U.S. Public Health Service.

Table 16. GAIN IN EXPECTATION OF LIFE AT BIRTH AND AT AGE 65 DUE TO ELIMINATION OF VARIOUS CAUSES OF DEATH, BY RACE AND SEX: 1959-61

Various causes of death	Total		White				Negro and other races			
			Male		Female		Male		Female	
	At birth	At age 65	At birth	At Age 65	At birth	At age 65	At birth	At age 65	At birth	At age 65
Major cardiovascular-renal diseases....	10.9	10.0	10.9	9.6	10.5	10.2	10.4	9.3	12.5	10.8
Diseases of the heart.....	5.9	4.9	6.5	5.0	5.0	4.7	5.4	4.4	5.8	4.7
Vascular lesions affecting central nervous system.....	1.3	1.2	1.0	1.0	1.4	1.4	1.6	1.4	2.3	1.9
Malignant neoplasms.....	2.3	1.2	2.1	1.3	2.4	1.1	2.0	1.3	2.2	1.0
All accidents excluding motor vehicles.	0.6	0.1	0.8	0.1	0.4	0.2	1.2	0.1	0.6	0.1
Motor vehicle accidents.....	0.6	0.1	0.8	0.1	0.3	-	0.8	0.1	0.3	-
Influenza and pneumonia.....	0.5	0.2	0.5	0.2	0.4	0.2	1.1	0.4	0.9	0.3
Infective and parasitic diseases.....	0.2	0.1	0.2	0.1	0.1	-	0.6	0.2	0.4	0.1
Diabetes mellitus.....	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.1	0.4	0.2
Tuberculosis.....	0.1	-	0.1	0.1	0.1	-	0.3	0.1	0.2	-

- Represents zero.

Source: Life tables published by the National Center of Health Statistics, U.S. Public Health Service.

Table 17. PROBABILITY AT BIRTH AND AT AGE 65 OF EVENTUALLY DYING FROM VARIOUS CAUSES, BY SEX AND RACE: 1959-61

Probability for persons at the indicated exact age of eventually dying from the specified cause	Total population	White		Negro and other races	
		Male	Female	Male	Female
AT BIRTH					
Infective and parasitic diseases.....	.010	.011	.006	.027	.016
Malignant neoplasms.....	.152	.153	.155	.131	.124
Diabetes.....	.017	.013	.023	.013	.027
Major cardiovascular-renal diseases.....	.611	.594	.645	.521	.612
Vascular lesions affecting central nervous system.....	.133	.107	.159	.126	.175
Diseases of heart.....	.423	.438	.424	.337	.371
Influenza and pneumonia.....	.035	.032	.034	.048	.040
Accidents.....	.045	.054	.034	.065	.031
AT AGE 65					
Infective and parasitic diseases.....	.007	.009	.004	.019	.009
Malignant neoplasms.....	.134	.146	.124	.135	.099
Diabetes.....	.018	.013	.022	.013	.024
Major cardiovascular-renal diseases.....	.693	.671	.717	.642	.716
Vascular lesions affecting central nervous system.....	.161	.138	.180	.163	.206
Diseases of heart.....	.466	.472	.467	.407	.434
Influenza and pneumonia.....	.036	.036	.035	.045	.038
Accidents.....	.026	.025	.028	.024	.021

Source: Life tables published by the National Center of Health Statistics, U.S. Public Health Service.

Death rates at ages below 65 have fallen so low that the chances of eventually dying from the major killers are not grossly different for most causes at age 65 from the chances at birth. The chance of eventually dying from the major cardiovascular-renal diseases is somewhat higher (69 percent), and the chance of eventually dying from cancer is a little lower (13 percent), at age 65 than at birth. Roughly speaking, a 65-year old has a 50 percent chance of dying from diseases of the heart. Although more recent life tables by cause of death are not available, trends in death rates by cause since 1959-61 suggest that the probabilities for 1959-61 have changed little.

Because of our low death rates at ages under 65 and the relatively large proportion of older persons, the average age of persons dying from each of the major causes is quite high. In 1968 the median age at death of persons dying from the major cardiovascular-renal diseases was 75 years, but even for accidents it was 41 years. The median age of death from influenza and pneumonia (73) and cancer (67) fell between these figures. For all causes combined, the median age of persons dying is now 70; in 1900 it was about 36.

Geographic variations. Considering the sex-race (white, Negro and other races) groups sep-

arately, death rates for States have shown a steady convergence from at least 1929-31, when the first set of life tables for States was prepared. By 1959-61 the variation in life expectation had become rather small, except for Negro males (at birth):

Area and age	White		Negro	
	Male	Female	Male	Female
AT BIRTH				
High State.....	69.95	75.68	¹ 64.25	¹ 67.89
United States.....	67.55	74.19	² 61.48	² 66.47
Low State.....	64.55	72.68	¹ 57.27	¹ 63.40
Mean deviation ³ .	0.74	0.66	1.16	0.95
AT AGE 65				
High State.....	14.34	17.39	¹ 13.96	¹ 16.31
United States.....	12.97	15.88	² 12.84	² 15.12
Low State.....	12.11	14.96	¹ 11.65	¹ 13.85
Mean deviation ³ .	0.46	0.48	0.52	0.54

¹Twenty-three States for "Negro", excluding California and Hawaii.

²Twenty-five States, including California and Hawaii.

³Unweighted figures; 23 States for "Negro", excluding California and Hawaii.

The mean deviation in life expectation at birth--the average difference between the values for the various States and the U.S. (unweighted) average--was about 0.8 year for whites and 1.1 years for Negroes. At age 65 the figures were the same for each race group, 0.5 year. (Corresponding figures for 1969-71 cannot be computed from actual life tables but could be derived by indirect methods.)

A number of different approaches may be taken to the problem of projecting death rates for the United States. One is to extrapolate recent or long-term experience in the United States in terms of age-sex-race specific death rates, either on a period or cohort basis. Another is to consider analytically the components of death rates (e.g., cause of death) or the factors affecting them (e.g., morbidity rates by cause; smoking practices)

Prospects for mortality reduction. The future number of aged persons will depend directly on the progress in reducing death rates not only at the older ages but at the younger ages as well. We are interested, therefore, in the prospects for such reduction. It would be useful also to consider the prospects for reducing the gap between the rates for males and females, whites and Negroes, and other groups in our population, but we do not attempt to treat this topic here.

in the United States and to bring judgment to bear on the possibilities of applying present knowledge throughout the population in the treatment of the major illnesses and of developing new treatment procedures. This analysis and projection may be made on a period or cohort basis. In this connection we have to consider the competing risks of death; that is, the changes in the pattern of mortality rates by cause that would result from eliminating or at least sharply reducing certain causes. Still another procedure is to postulate that the United States will attain the level of the most advanced areas, either State of the United States or foreign country, or some analytic extension of that level, at some specified future date.

The hazards of extrapolating past trends in death rates are illustrated by the projections of age-specific death rates by sex and race for 1970 made by Tarver in 1955.¹⁶ Tarver fitted exponential curves to age-specific death rates arrayed in period form for 1930-1954. Because he made the projections at a sharp turning point in the trend of mortality and could not anticipate the change in direction, in general he greatly understated death rates for 1970, as is illustrated by the following values for "average years of life" of white males and white females:

Age and sex	Average years of life remaining or in interval			Change	
	Actual, 1955 (base year)	Actual, 1969	Projected, 1970	Actual, 1955-1969	Projected, 1955-1970
WHITE MALES					
Birth.....	67.3	67.9	70.3	0.6	3.0
0 to 64 years ¹	58.8	59.3	60.5	0.5	1.7
65 years.....	12.9	13.0	14.0	0.1	1.1
WHITE FEMALES					
Birth.....	73.6	74.9	77.8	1.3	4.2
0 to 64 years ¹	61.2	61.6	62.8	0.4	1.6
.65 years.....	14.0	16.4	17.4	2.4	3.4

¹ Computed by the formula, $(T_0 - T_{65}) \div l_0$.

¹⁶ James D. Tarver, "Projections of Mortality in the United States to 1970," The Milbank Memorial

Fund Quarterly, Vol. 37, No. 2, pp.132-143, April 1959.

The analytic projections of death rates made by the Social Security Administration in 1956¹⁷ proved to be more consistent with actual developments up

to 1967, even though the projections generally overstated the actual figures, as illustrated by the following comparison:

Age, sex, and mortality assumption	Average years of life remaining or in interval			Change	
	Actual, 1953 (base year)	Actual, 1967	Projected, 1965-70	Actual, 1953 to 1967	Projected, 1953 to 1965-70
BIRTH					
Male:					
Low.....	66.0	67.0	69.3	+1.0	+3.3
High.....			67.7		+1.7
Female:					
Low.....	72.0	74.2	75.6	+2.2	+3.6
High.....			74.0		+2.0
0 to 64 Years					
Male:					
Low.....	58.0	58.6	59.7	+0.6	+1.7
High.....			59.0		+1.0
Female:					
Low.....	60.4	61.1	61.7	+0.7	+1.3
High.....			61.2		+0.8
65 Years					
Male:					
Low.....	12.9	13.0	13.9	+0.1	+1.0
High.....			13.3		+0.4
Female:					
Low.....	15.3	16.4	16.8	+1.1	+1.5
High.....			16.0		+0.7

Death rates specific in terms of age, sex, and cause of death (10 classes) were considered in making the projections, and judgments were made as to the expected reduction in these specific rates by the year 2000, taking into account the past trend in the rates and recent and prospective medical developments. In its use of these projections of mortality the Bureau of the Census fortunately selected the high series in preparing its principal set of population projections.¹⁸

Even analytic projection of recent trends in death rates in the United States prepared today would probably show little increase in life expectation at birth or at age 65. An illustration is given by figures published by the Social Security Administration in 1966.¹⁹ Even their low mortality series implies an increase of less than five years in life expectation at birth, and of less than two

¹⁷U.S. Social Security Administration, Division of the Actuary, "Illustrative United States Population Projections," Actuarial Study No. 46, by T. N. E. Greville, May 1957.

¹⁸U.S. Bureau of the Census, Current Population Reports, Series P-25, Nos. 187, 251, and 286.

¹⁹U.S. Social Security Administration, Office of the Actuary, "United States Population Projections for OASDHI Cost Estimates," Actuarial Study No. 62, by Francisco Bayo, December 1966.

years in life expectation at age 65, between 1959-61 and 2000:

Age, sex, and mortality assumption	1959-61 (base period)	2000	Increase, 1959-61 to 2000
BIRTH			
Male:			
Low.....	66.8	71.6	4.8
High.....		69.1	2.3
Female:			
Low.....	73.2	77.5	4.3
High.....		75.3	2.1
65 YEARS			
Male:			
Low.....	13.0	14.8	1.8
High.....		13.8	0.8
Female:			
Low.....	15.8	17.6	1.8
High.....		16.7	0.9

The same general method was used by the Social Security Administration in projecting death rates in 1966 as in 1956.

We may consider the record of the "best" State as a guide to possible progress in the United States. Once again we have to go back to 1959-61, lacking age-adjusted death rates for the States for a more recent date. Nebraska had the highest expectation of life at birth in that period (72.0). (In general, life expectation was highest in several States of

the Midwest.) This figure exceeds the U.S. average (69.9) by merely 2.1 years. The best expectation at age 65 (15.7) exceeds the U.S. average (14.4) by merely 1.3 years. This suggests very little "room" for improvement before the United States is as good as its best area. A similar comparison for males and females separately indicates that the difference between life expectation at birth in the United States and the best State, for males, is equal to or greater than the difference for females: 1.5 years for white males vs. 1.5 years for white females, and 2.8 years for Negro males vs. 1.6 years for Negro females (excluding Hawaii and California). At age 65 the differences for white males and white females (1.4 years and 1.5 years), and for Negro males and Negro females (1.1 years and 1.2 years), are small and about equal. Fortunately, these figures suggest that, if geographic variations in mortality are reduced further, the trend of increasing disparity between the death rates of males and females which has been observed since at least 1900 is less likely to continue.

Greater possible improvement is suggested by the experience of the countries of low mortality in Europe. Sweden may be selected as the single country with the best overall record, although its death rates are not the lowest at many ages. (See table 18.) Expectation of life at birth for females in Sweden in 1969 was 76.4 years, as compared with 74.2 years for the female population of the United States in 1969. The difference, 2.2 years, is only a little greater than between the United States and the best State (females). If, however, we combine the lowest death rates for females in the countries of Europe into a single hypothetical table, the possibilities for additional

Table 18. DEATH RATES FOR THE FEMALE POPULATION 55 YEARS OLD AND OVER OF VARIOUS EUROPEAN COUNTRIES, BY AGE: 1965-66

(Deaths per 100,000 population in specified group)

Country and year	55 to 59 years	60 to 64 years	65 to 69 years	70 to 74 years	75 to 79 years	80 to 84 years	85 years and over
Austria, 1966.....	7.8	13.2	22.4	39.4	70.6	122.2	214.2
Belgium, 1965.....	7.9	13.3	22.4	39.5	70.2	118.7	211.7
Bulgaria, 1966.....	7.7	12.7	23.5	42.4	72.0	118.6	157.8
Czechoslovakia, 1965.....	8.0	13.4	24.3	42.9	76.5	126.6	220.9
Denmark, 1965.....	7.7	12.2	21.0	36.9	65.9	117.3	210.2
Finland, 1965.....	8.3	14.2	27.0	48.2	91.6	156.5	280.4
France, 1965.....	7.2	11.1	18.2	31.7	56.1	100.6	193.3
Germany, East, 1965.....	8.1	13.2	23.2	42.2	77.2	134.1	240.5
Germany, West, 1965.....	7.9	13.5	22.9	40.8	71.9	124.3	218.7
Hungary, 1966.....	8.1	13.4	23.7	42.3	73.8	125.3	221.3
Iceland, 1965.....	6.6	7.4	16.8	32.2	45.5	87.0	213.1
Italy, 1965.....	7.3	12.6	21.3	39.4	69.0	119.0	208.1
Netherlands, 1966.....	6.4	10.2	18.3	33.2	59.9	104.5	203.7
Norway, 1965.....	6.0	10.4	16.6	32.6	57.3	106.3	199.8
Sweden, 1966.....	6.1	10.2	17.5	32.9	61.0	105.6	196.7
Yugoslavia, 1965.....	8.9	14.7	27.8	46.8	79.1	125.3	181.2
Japan, 1966.....	8.1	13.3	22.3	39.4	70.4	124.2	201.0
United States, 1966.....	9.2	13.6	22.4	34.8	55.7	93.7	195.1

Source: U.N. Demographic Yearbook, 1967, Table 21.

increases in life expectation in the United States are suggested, although the differences are not impressive. The values for life expectation in this composite table are 78.5 years at birth, 62.9 years between birth and age 65, and 17.7 years at age 65, indicating differences of 4.3 years, 2.9 years, and 1.4 years over the United States, respectively:

Area	e_0	e_{0-64}	e_{65}
United States, 1969....	74.2	60.0	16.3
Sweden, 1969.....	76.4	62.2	16.7
Best country, 1965-66..	78.5	62.9	17.7
Difference, U. S. and best country.....	4.3	2.9	1.4

Bourgeois-Pichat has suggested extrapolating the trends in endogenous mortality in the countries with the lowest recorded rates as an approach to the measure of the limit of the decline in mortality imposed by the human constitution.²⁰ (Endogenous causes of death are those which have a typically genetic or biological basis and are presumably less amenable to control, as contrasted with the exogenous causes, which are typically environmentally caused.) The extrapolation would take account of medical developments in the most advanced countries and of actual past developments in the particular country. On this basis, in 1952 Bourgeois-Pichat calculated expectation values of 78.2 years for females and 76.3 years for males at birth, and 17.6 years for females and 16.3 years for males at age 65. Bourgeois-Pichat's projections have already been achieved; his figures for females agree almost exactly with those for the best country above. A new calculation of the same type would undoubtedly raise his figures. We can hypothesize, on this basis, that with present knowledge, a life expectancy at birth of 80 years, and at age 65 of 18 years, for females, is attainable in the United States in the near future. What is attainable is clearly a shifting thing, however, as recorded death rates abroad are reduced and as the scope of endogenous mortality is narrowed.

Some theoretical considerations relating to mortality prospects. Persons who are saved from death due to a particular cause or class of causes (e.g., cardiovascular-renal diseases) must die of some other causes (or some new causes to be identified). Nevertheless, death rates at each age by cause may continue to decline indefinitely. With the decline in age-specific death rates more individuals will survive to the older ages and, hence,

more persons will die at these later ages (and from a particular cause) even though death rates are lower than they had been.¹ This explains the seeming paradox that general age-specific death rates and cause-specific death rates by age may continue to decline while the chances of eventually dying from a particular disease (i.e., the number dying from that disease per 100 persons in the original cohort) may increase.

In the context of projections it is not useful to dwell on the fact that persons at age 65 would live 10 years longer on the average than they are now slated to live if the major cardiovascular-renal diseases were eliminated. The major cardiovascular-renal diseases are not likely to be eliminated in the foreseeable future although death rates from these causes may be substantially reduced. It should be clearly recognized that the cause-of-death life tables which provide such estimates of gain in life expectation are merely analytical tools, providing guides as to where effort may be most effective in extending life expectation.

Reference was made earlier to the effect of reductions in mortality on the growth of the elderly population in the United States. Consider now an extreme situation: How much faster would population grow if no one died? The immediate effect on the growth rate of the total population would be quite pronounced--an increase in the growth rate equal to the death rate. Coale has shown, however, that in the long run the rate of population growth would be increased only slightly if life expectancy at birth were infinite rather than about 70, as at present.²² He estimates the increase in the growth rate at somewhat less than 0.2 per 100 per year. Similarly, after the initial tremendous impact of the shift to zero mortality, the growth rate of the elderly population would change slowly. Of more importance in the present context is the effect on age composition of the elimination of deaths. Since, with a life expectancy of 70 years, any large reductions in death rates would be

²¹This fact may be illustrated by a hypothetical life table in which no one dies before age 85 and in which death rates between age 85 and some age such as 120 rise from 0 to 1.0, being always below the present rates until age 120. The fact that death rates below age 85 have fallen to zero means that 100,000 persons survive to age 85. Then, even with lower death rates, much larger numbers of persons die at the higher ages and from the various diseases of later life than in current life tables, until the cohort is extinct by about age 120.

²²Ansley J. Coale, "Increases in Expectation of Life and Population Growth," International Population Conference, Vienna 1959, International Union for the Scientific Study of Population.

²⁰Jean Bourgeois-Pichat, "Essai sur la mortalité 'biologique' de l'homme," Population (Paris), Vol. 7, No. 3, pp.381-394, July-Sept. 1952.

limited to ages over 60, the elimination of deaths would add greatly to the proportion of the population in the older ages. The exact increase in the proportion of the aged would depend, however, on the level of fertility; with low fertility, the proportion of the aged is high and would rise sharply if all deaths were eliminated.

Social and Economic Characteristics

Among the social and economic characteristics of the older population, we consider here only the following selected topics: education, marital status and living arrangements, work status, and income.

Educational attainment. The educational attainment of older persons is less than that of young adults. We have measured educational attainment here in terms of the median years of school completed and the percent of high school graduates. In 1969-70 the percentage of the population 65 and over which had graduated from high school was less than half as great as the percentage for the population 25 to 64 years of age. Only 28 percent of the older group were high school graduates. Half had completed less than nine years of school as compared with 12 years for all adults 25 and over. The negative relationship between age and educational attainment reflects the widening opportunity for education with the

passage of time, as well as the rising socio-economic status of our population and the resulting intergenerational influences. (See table 19.)

The situation is changing rapidly, as younger persons with more education move into the older group. By 1990 about half of the population over 65 is expected to be high school graduates, and the gap between the attainment of the group 65 and over and the attainment of the population 25 to 64 years will be sharply reduced. This convergence is more pronounced for women than for men. It is expected that by 1990 the percent of female high school graduates 65 and over will be only about one third below the percent for the younger group of females.

Marital status and living arrangements. The marital distribution and living arrangements of elderly men differ sharply from those of elderly women. Most men 65 and over are married and live with their wives; most women of this age are widowed and a substantial part live alone. In March 1971 over 7 out of 10 men were married and living with their wives, but only about one out of three women was married and living with her husband (table 20). Only one out of six men is widowed, but well over half of the women are in this category. Only one out of seven men is living alone, but one out of three women is living this way (table 21).

Table 19. EDUCATIONAL ATTAINMENT OF THE POPULATION 65 YEARS OLD AND OVER AND 25 TO 64 YEARS OF AGE, FOR VARIOUS YEARS: 1957 TO 1990

Sex and year	Median years of school completed, 65 years and over	Percent high school graduates, 65 years and over	Percent high school graduates, 25 to 64 years	65 years and over as percent of 25 to 64 years
Total, both sexes				
1957-59.....	8.3	19.8	46.1	43.0
1964-65.....	8.4	23.0	53.9	42.7
1969-70.....	8.7	28.2	60.4	46.7
1975.....	8.9	32.7	66.5	49.2
1980.....	9.7	37.9	71.6	52.9
1985.....	10.9	44.0	76.0	57.9
1990.....	11.9	49.4	79.7	62.0
Male				
1957-59.....	8.1	18.1	44.0	41.1
1964-65.....	8.3	21.4	52.5	40.8
1969-70.....	8.6	26.0	59.8	43.5
1975.....	8.8	30.8	66.5	46.3
1980.....	9.4	36.3	72.3	50.2
1985.....	10.7	43.0	77.2	55.7
1990.....	11.8	48.7	81.4	59.8
Female				
1957-59.....	8.4	21.2	48.0	44.2
1964-65.....	8.6	24.2	55.2	43.8
1969-70.....	8.8	29.8	61.1	48.8
1975.....	9.0	34.1	66.5	51.3
1980.....	9.9	38.9	71.0	54.8
1985.....	11.1	44.7	74.8	59.8
1990.....	12.0	49.9	78.1	63.9

Source: Current Population Reports, Series P-25, No. 476, and Current Population Reports, Series P-20, Nos. 77 and 99.

Table 20. DISTRIBUTION OF THE POPULATION 55 YEARS OLD AND OVER BY MARITAL STATUS, BY AGE AND SEX: 1960, 1971, AND 1985

Marital status and year	Male				Female			
	55 to 64 years	65 to 74 years	75 years and over	65 years and over	55 to 64 years	65 to 74 years	75 years and over	65 years and over
1960								
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Single.....	7.9	6.7	7.8	7.1	6.5	8.4	8.6	8.5
Married.....	82.5	78.9	59.1	72.5	65.8	45.6	21.8	37.1
Spouse present.....	79.0	76.2	56.5	69.8	62.9	43.5	20.6	35.3
Spouse absent.....	3.4	2.7	2.6	2.6	2.9	2.1	1.2	1.8
Widowed.....	6.2	12.7	31.6	18.8	24.5	44.4	68.3	52.9
Divorced.....	3.5	1.7	1.5	1.6	3.2	1.7	1.2	1.5
1971								
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Single.....	5.8	7.7	6.2	7.1	6.4	7.8	6.5	7.3
Married.....	87.4	79.0	62.5	73.1	68.2	46.3	21.8	36.2
Spouse present.....	84.2	76.1	59.6	70.1	64.9	44.5	20.1	34.5
Spouse absent.....	3.2	2.9	2.9	2.9	3.3	1.7	1.7	1.7
Widowed.....	3.5	10.0	29.5	17.1	21.2	43.0	70.2	54.2
Divorced.....	3.3	3.2	1.8	2.7	4.1	2.9	1.4	2.3
1985								
<u>Series M1</u>								
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Single.....	4.2	4.0	5.4	4.4	3.5	5.6	7.5	6.4
Ever married.....	95.8	96.0	94.6	95.6	96.5	94.4	92.5	93.6
<u>Series M4</u>								
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Single.....	5.1	5.2	6.1	5.5	3.7	5.7	7.5	6.4
Ever married.....	94.9	94.8	93.9	94.5	96.3	94.3	92.5	93.6

Source: Current Population Reports, Series P-20, Nos. 105 and 225, and Series P-25, No. 388.

Table 21. LIVING ARRANGEMENTS OF THE POPULATION 55 YEARS OLD AND OVER BY AGE AND SEX: MARCH 1971

Living arrangements and sex	Male				Female			
	55 to 64 years	65 to 74 years	75 years and over	65 years and over	55 to 64 years	65 to 74 years	75 years and over	65 years and over
Total.....	8,815	5,402	3,071	8,473	9,880	6,854	4,766	11,620
Living alone.....	644	632	548	1,180	1,710	2,233	1,813	4,046
Spouse present.....	7,418	4,113	1,830	5,943	6,413	3,052	959	4,011
Living with someone else.....	753	657	693	1,350	1,757	1,569	1,994	3,563
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Living alone.....	7.3	11.7	17.8	13.9	17.3	32.6	38.0	34.8
Spouse present.....	84.2	76.1	59.6	70.1	64.9	44.5	20.1	34.5
Living with someone else.....	8.5	12.2	22.6	15.9	17.8	22.9	41.8	30.7

Source: Current Population Reports, Series P-20, No. 225.

The distribution of the population by marital status and by living arrangements shifts notably with increasing age. Within the range 55 and over, the proportion married falls sharply and the proportion widowed rises steeply. Corresponding to these changes, there are large increases in the proportions living alone or with someone other than one's spouse while the proportion of men and women living as married couples falls sharply. Only one out of five women 75 and over is married and living with her husband, and two out of five women 75 and over live alone.

Several factors explain the higher proportion of widows among elderly women. The principal ones are the higher mortality rates of men, intensified by the fact that husbands are typically older than their wives by several years, and the higher remarriage rates of widowers, who may take wives from among single or divorced women or women under 65 as well as widows.

The distribution of elderly persons by marital status has changed little in the past decade, but their distribution by family status has shown marked shifts. Nearly 80 percent of the men and 58 percent of the women 65 and over were members of families in 1971. Most men (73 percent) lived as family heads but only a minority of the women lived as wives of family heads (34 percent) or family heads themselves (9 percent). The proportions of male heads or wives of heads were about the same as in 1961, but the overall proportion of men and women living in families had decreased somewhat since that year. This decrease results from the decrease in "other relatives," persons residing in families who were neither heads nor wives of heads of the families in which they lived. The proportion of all men 65 years old and over who were other relatives in families dropped from 11 percent in 1961 to 7 percent in 1971; and the proportion for women dropped from 22 percent to 15 percent.

Family status	1971		1961	
	Male	Female	Male	Female
Percent.....	100.0	100.0	100.0	100.0
In families.....	79.7	57.5	83.5	67.6
Head.....	72.7	8.7	72.5	11.6
Wife.....	(X)	33.8	(X)	34.4
Other relative.....	7.0	15.0	11.0	21.6
Primary individual....	14.7	36.2	12.1	27.6
Secondary individual..	1.9	1.6	2.1	2.5
Inmate of institution..	3.6	4.6	2.4	2.4

X Not applicable.

Source: Current Population Reports, Series P-20, No. 225.

In the last decade there has been an increase in the proportion of elderly men and women who maintained their own households in a nonfamily situation. Such "primary" individuals represented about 15 percent of the men 65 years old and over and about 36 percent of the women in March 1971. Nearly all (about 96 percent) primary individuals 65 years old and over occupied their own house or apartment entirely alone as "one-personhouseholds" in 1971.

Contrary to the popular view, only a small proportion of the elderly population (less than 5 percent) live in institutions. Rates of institutional residence are at a minimum at about ages 40 to 44 for males (1.3 percent) and at ages 20 to 29 for females (0.4 percent), and then rise steadily with increasing age (6.0 percent and 8.1 percent for ages 75 and over).

Labor force participation rates. Labor force participation rates for elderly males have been dropping over the years. In 1950 the rate for males 65 years and over was 46 percent. By 1971 it was 26 percent and it is projected to drop to 22 percent by 1980. In spite of the sharp decline, one out of four men 65 and over is still working today. The decline reflects the joint effect of the increase in voluntary retirement programs, the institution of more stringent retirement rules by employers and companies, and the decline in self-employment. The declining trend begins at ages 55 to 59 and is reflected in each older age group. Still, over four out of five men at ages 55 to 64 work today. (See table 22.)

The worker rates for older women, on the other hand, have experienced no such decline. The rates for women 65 and over have remained stable over the past two decades at around 10 percent; that is, one out of ten women 65 and over work. At the same time women 55 to 64 have left their homes at an increasing rate to join the work force. The labor force participation rate for women 55 to 64 has risen from 27 percent in 1950 to 43 percent in 1971 and is expected to climb to a projected rate of 47 percent in 1980. That is, over two out of five women 55 to 64 work today. Women who have completed rearing a family have been returning to the work force in great numbers, just as have younger women whose children have reached school age.

Worker rates for older Negroes are distinguished by the much greater level of the rates for Negro women over those for all women. The rates have been converging so rapidly, however, that projections for 1980 show little difference.

Table 22. LABOR FORCE PARTICIPATION RATES FOR THE POPULATION 55 YEARS OLD AND OVER, BY AGE, SEX, AND RACE, FOR VARIOUS YEARS: 1950 TO 1980

(Figures are annual averages)

Age, sex, and race	1950	1955	1960	1965	1970	1971	1975 ¹	1980 ¹
ALL CLASSES								
Male								
55 to 64.....	86.9	87.9	87.5	84.7	83.0	82.2	83.9	83.7
55 to 59.....	(NA)	(NA)	92.3	90.2	89.5	88.8	90.5	90.5
60 to 64.....	(NA)	(NA)	81.8	78.0	75.0	74.1	76.3	75.7
65 and over.....	45.8	39.6	33.2	27.9	26.8	25.5	23.4	21.8
65 to 69.....	(NA)	(NA)	46.8	43.0	41.6	39.4	33.8	31.3
70 and over.....	(NA)	(NA)	24.5	19.1	17.7	17.0	17.1	16.0
Female								
55 to 64.....	27.0	32.5	38.3	41.1	43.0	42.9	45.7	47.3
55 to 59.....	(NA)	(NA)	45.0	47.1	49.0	48.5	54.2	56.2
60 to 64.....	(NA)	(NA)	30.6	34.0	36.1	36.4	36.2	37.3
65 and over.....	9.7	10.6	11.9	10.0	9.7	9.5	9.8	9.9
65 to 69.....	(NA)	(NA)	19.0	17.4	17.3	17.0	17.4	17.4
70 and over.....	(NA)	(NA)	7.8	6.1	5.7	5.6	6.0	6.1
NEGRO AND OTHER RACES								
Male								
55 to 64.....	81.9	83.1	82.5	78.8	79.2	77.8	81.1	81.7
55 to 59.....	(NA)	(NA)	(NA)	(NA)	83.5	84.8	(NA)	(NA)
60 to 64.....	(NA)	(NA)	(NA)	(NA)	73.6	68.9	(NA)	(NA)
65 and over.....	45.5	40.0	31.2	27.9	27.4	24.5	22.8	20.8
65 to 69.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
70 and over.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Female								
55 to 64.....	40.9	40.7	47.3	48.9	47.1	47.1	49.3	49.6
55 to 59.....	(NA)	(NA)	(NA)	(NA)	53.4	53.1	(NA)	(NA)
60 to 64.....	(NA)	(NA)	(NA)	(NA)	39.0	39.3	(NA)	(NA)
65 and over.....	16.5	12.1	12.8	12.9	12.2	11.5	10.9	10.6
65 to 69.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
70 and over.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

NA Not available.

¹Prepared before the estimates for 1970 and 1971 were available.

Source: Publications of the Department of Labor.

Income. The median income for families with heads 65 and over (\$5,053) was just half the median income for all families (\$9,867) in 1970 (table 23). This ratio has remained nearly steady for the last few decades. The median income of families with heads 65 and over increased considerably (about 74 percent) over the decade 1960-70 in current dollars but grew less rapidly in constant dollars. The median income of unrelated individuals (i.e., those not living with any relatives) over 65 nearly doubled in the 1960-70 decade but is still quite low (\$1,951 in 1970). Unrelated individuals over 65 have a median income only about two-fifths as great as families with heads over 65. The median income of Negro families with heads over 65 (\$3,282) is only a little over 60 percent of that of white families with heads over 65 (\$5,263).

A substantial segment of family heads 65 and over (14 percent) are below the low-income level (table 24). The sex and race of the family head is an important factor in the poverty status of families. A major proportion of Negro female family heads 65 and over (44 percent) are below the low-income level. An even greater proportion of Negro female unrelated individuals (about two-thirds) have incomes below the low-income line. In fact, for each sex-race group, the percent below the low-income level for unrelated individuals 65 and over is 2 or 3 times as great as that for heads of families in the corresponding sex-race category. The percent below the low-income level for Negro family heads over 65 (33 percent) is nearly 3 times that for white family heads (12 percent). Yet, because of the very great difference in the age distribution

of the two races, aged family heads and aged unrelated individuals comprised about 17 percent

of all low-income whites, but only about 7 percent of the low-income Negroes in 1971.

Table 23. MEDIAN INCOME OF FAMILIES WITH HEADS 65 YEARS AND OVER AND OF UNRELATED INDIVIDUALS 65 YEARS AND OVER, FOR VARIOUS YEARS: 1960 TO 1970

Race and year	Families					Unrelated individuals		
	Total	Male head			Female head	Total	Male	Female
		Total	Married, wife present	Other marital status				
ALL RACES								
1970.....	\$5,053	\$5,011	\$4,966	\$6,722	\$5,370	\$1,951	\$2,250	\$1,888
1969.....	4,803	4,779	4,721	6,174	4,986	1,855	2,191	1,777
1968.....	4,592	4,564	4,532	5,471	4,756	1,734	1,916	1,670
1967.....	3,928	3,867	3,837	4,509	4,421	1,480	1,813	1,412
1963.....	3,352	3,346	3,261	5,426	3,408	1,277	1,561	1,175
1960.....	2,897	2,857	2,818	4,063	3,139	1,053	1,313	960
White								
1970.....	\$5,263	\$5,177	\$5,107	\$7,320	\$5,909	\$2,005	\$2,365	\$1,937
1969.....	4,952	4,884	4,827	6,352	5,699	1,922	2,336	1,838
1968.....	4,746	4,692	4,645	6,127	5,142	1,797	1,981	1,734
1967.....	4,071	3,971	3,929	4,965	4,780	1,520	1,906	1,439
1963.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1960.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Negro								
1970.....	\$3,282	\$3,393	\$3,359	(B)	\$2,878	\$1,443	\$1,708	\$1,357
1969.....	3,045	3,222	3,154	(B)	2,511	1,283	1,321	1,263
1968.....	3,070	2,986	2,923	(B)	3,274	1,275	1,403	1,202
1967.....	2,609	2,551	2,556	(B)	2,808	1,127	1,299	1,058
1963.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1960.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

NA Not available. B Base less than 75,000.

Source: Current Population Reports, Series 60, Nos. 46, 59, 66, 75, and 80.

Table 24. PERSONS 65 YEARS OLD AND OVER BELOW THE LOW INCOME LEVEL IN 1971 BY FAMILY STATUS AND SEX AND RACE OF HEAD

(Numbers in thousands. Persons as of March 1972)

Family status and race	Total	Below low income level	
		Number	Percent
ALL CLASSES			
Heads of families.....	7,478	1,062	14.2
Unrelated individuals.....	6,060	2,563	42.3
Male			
Heads of families.....	6,461	828	12.8
Unrelated individuals.....	1,365	445	32.6
Female			
Heads of families.....	1,017	234	23.0
Unrelated individuals.....	4,695	2,118	45.1
WHITE			
Heads of families.....	6,794	842	12.4
Unrelated individuals.....	5,521	2,222	40.2
Male			
Heads of families.....	5,954	681	11.4
Unrelated individuals.....	1,173	338	28.8
Female			
Heads of families.....	839	161	19.2
Unrelated individuals.....	4,348	1,884	43.3
NEGRO			
Heads of families.....	632	211	33.4
Unrelated individuals.....	495	317	64.0
Male			
Heads of families.....	465	138	29.7
Unrelated individuals.....	161	88	54.8
Female			
Heads of families.....	168	73	43.6
Unrelated individuals.....	334	228	68.4

Note: The weighted average threshold at the low-income level in 1971 is \$1,931 for an unrelated individual 65 years of age or over and \$3,424 for a family of two persons with a head 65 years or over.

Source: Current Population Reports, Series P-60, No. 82.

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