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Demography of Aging in United States

Lynda Burton

What demographic facts / statistics related to health of aging persons are important enough to memorize?

Current number

Peak number

Year when baby boomers reach peak

Number (%) living alone

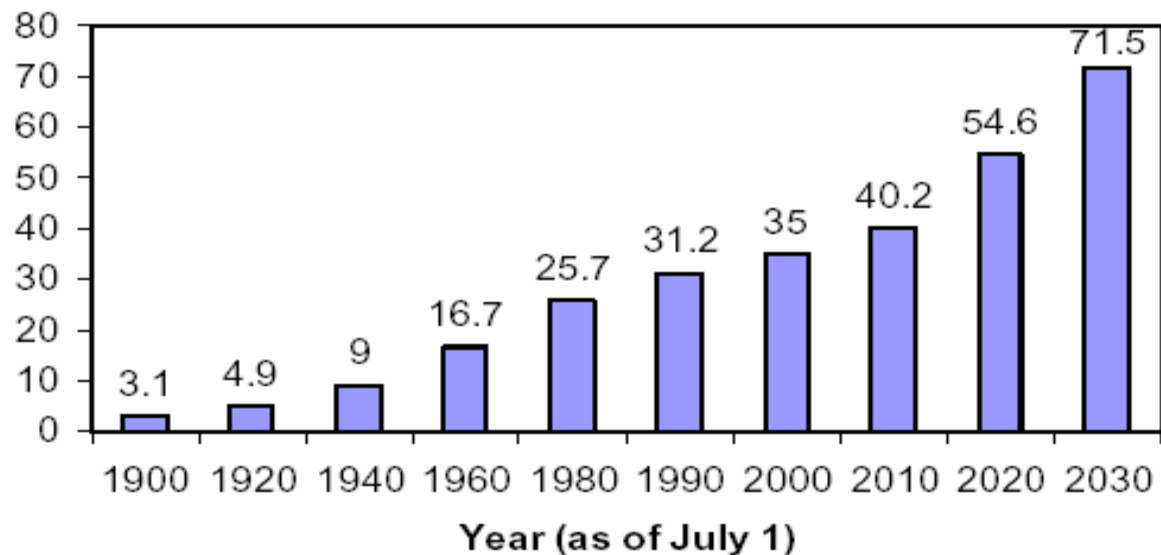
Number in poverty

Life expectancy

Trends in educational attainment

Support ratios

**Figure 1: Number of Persons 65+,
1900 - 2030 (numbers in millions)**

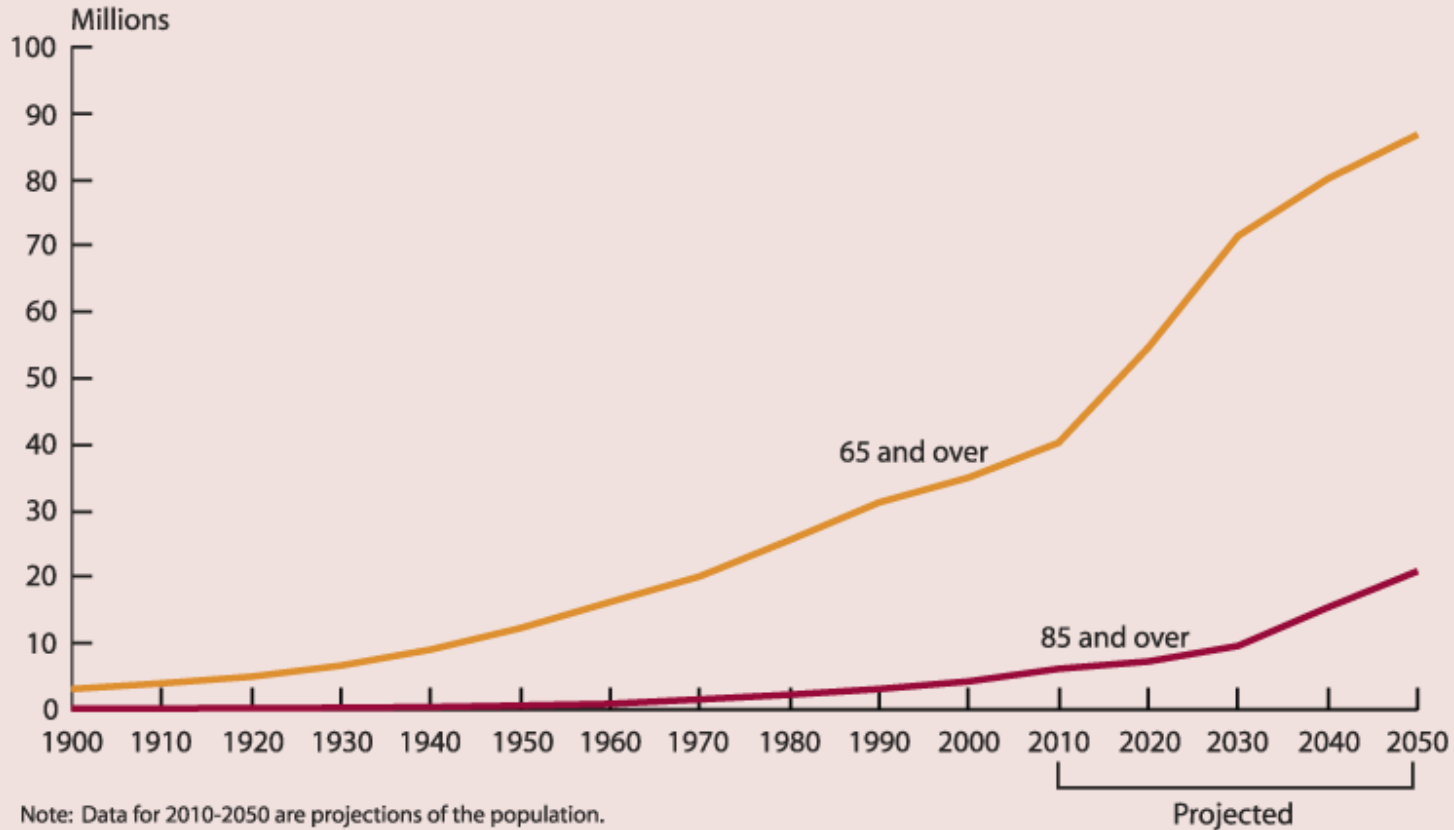


Note: Increments in years are uneven.

(Sources: Projections of the Population by Age are taken from the January 2004 Census Internet Release. Historical data are taken from "65+ in the United States," Current Population Reports, Special Studies, P23-190 Data for 2000 are from the 2000 Census and 2003 data are taken from the Census estimates for 2003.)

Indicator 1 - Number of Older Americans

Number of people age 65 and over, by age group, selected years 1900-2000 and projected 2010-2050



Note: Data for 2010-2050 are projections of the population.
Reference population: These data refer to the resident population.
Source: U.S. Census Bureau, Decennial Census and Projections.

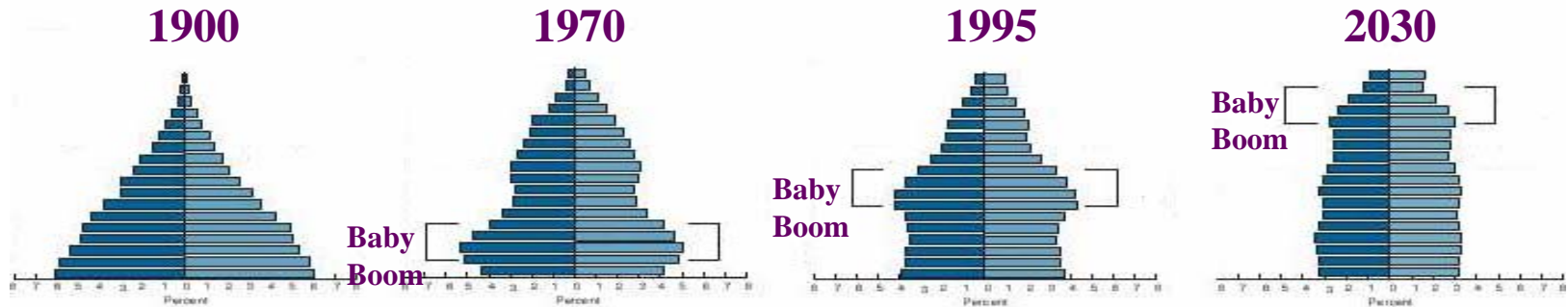
Basic building blocks of population:

» fertility

» mortality

» migration

U.S. Population by Age and Sex:



Changes in Age Structure – RELATIVE SIZE of the older population

Also important in measuring the impact of population aging is the relative size of the older population, or the proportion in various age groups.

AGING AT BASE VS. AGING AT THE APEX

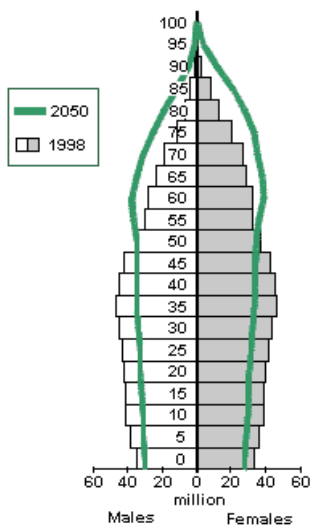
There are two ways that a population can age proportionally: We call them aging at the base and at the apex because of the changes they make on a population pyramid.

Aging at the Base—occurs when fertility declines and new birth cohorts are smaller than previous ones. These declines were the main source of population aging in the first half of the 20th century.

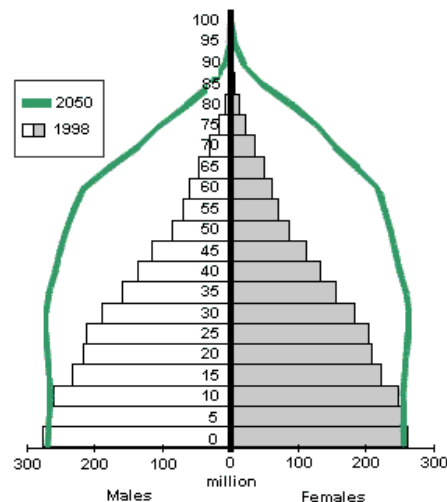
Aging at the Apex—Increased survival at older ages leads to addition of people to the pyramid at the top, called Aging at the Apex. This form of population aging has characterized the latter half of the century, and is an increasingly important part of population aging in fact **in the last 10-15 years, 2/3 of all the aging of the U.S. population has been due to declining older age mortality.**

Age Structure Changes: 1998-2050, by Country's Stage in Development

More Developed



Less Developed



Which means that...

In sheer numbers, there are far more elderly persons in less developed countries; almost two thirds of the world's elderly live in LDCs now. This is expected to rise to 80% by the middle of the next century.

In percentage terms, the elderly population is expected to rise to over 20% of the population in less developed regions in the next 50 years, an increase of over 400%

Source: United Nations World Population Prospects: The 1998 Revision, www.popin.org/pop1998/8.htm

Definitions

- Life expectancy at birth
- Life expectancy at age 65
- Maximum life span
- Aged dependency ratio (support ratio)

- How to think about life expectancy

Extension of maximum life span??

- Caloric restriction
- Life enhancement products
- Evidence of mutations of aging genes (nematodes)
- Olshansky—Science 2001—obesity and longevity
- Westendorp—organism encoded for early survival and reproduction, not longevity

Research Highlights

in the Demography and Economics of Aging

no. 8

march 2006

The Future of Human Life Expectancy: Have We Reached the Ceiling or is the Sky the Limit?

--After remaining fairly constant for most of human history, life expectancy has nearly doubled in the past century.

--Maximum life span—longest number of years a human being has lived—has increased. Will this continue?

--James Fries estimated mean age of 85, SD of 7 years

--Olshansky and Carnes speak of “biological warranty.” If human life could live to 100, then there should be little decline around the average age of 75-80.

--Mortality reduction school of thought—death rate for oldest old decreases over time.

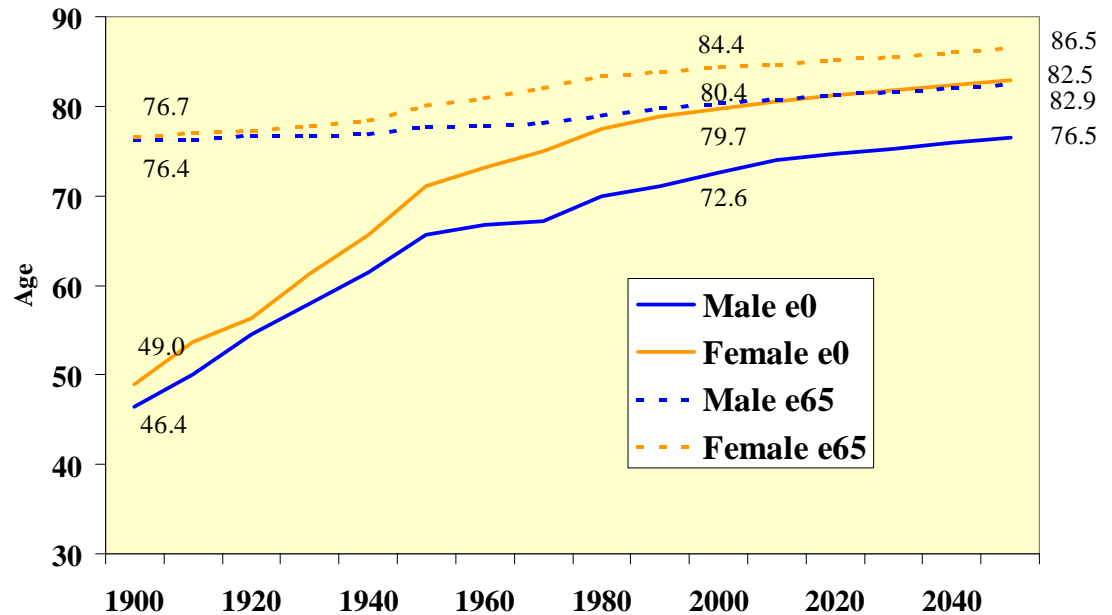
Gains in Life Expectancy 1900-2050

Mortality

Mortality has had two effects on the age structure of the population.

(1) The reductions in infant and child mortality before WWII rectangularizes the population from the bottom of the pyramid as new birth cohorts survive in to adulthood.

(2) Increases in old-age survival since the 1960's rectangularize the pyramid from the apex. We start to see this in 1995 and especially by 2030 as the baby boom moves through the oldest ages.



The United States even exceeds countries of Western Europe and Japan in Oldest Old survival (above age 80), although the quality of data on age at death at these very old ages is always questionable. This advantage is hypothesized to be related to lifestyle changes (i.e. reduced smoking, increased exercise, and lower fat diets) that caught on much earlier and more pervasively in the United States than in Europe.

In fact, Japan has moved in the opposite direction. With their rapid economic development, they have begun eating substantially higher-fat diets and have increased levels of sedentary behavior and rates of smoking.

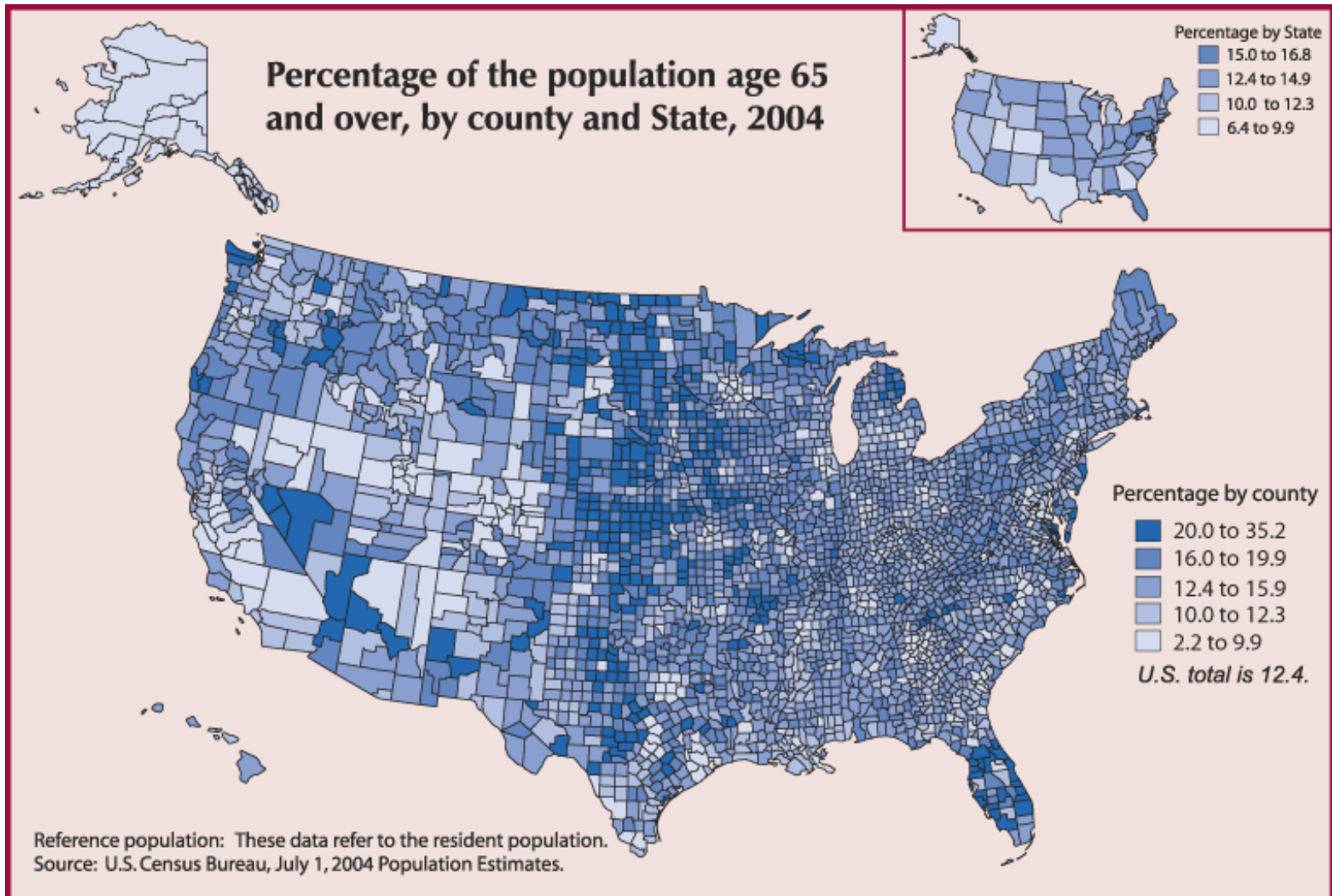
Life expectancy at birth and age 65, selected countries, female, 2002

	e0	e65
Japan	1	1
Spain	3	8
Germany	14	12
Sweden	8	10
US	26	18

Percent of the Population Aged 65 and over for Regions of the World: 2000 and 2030

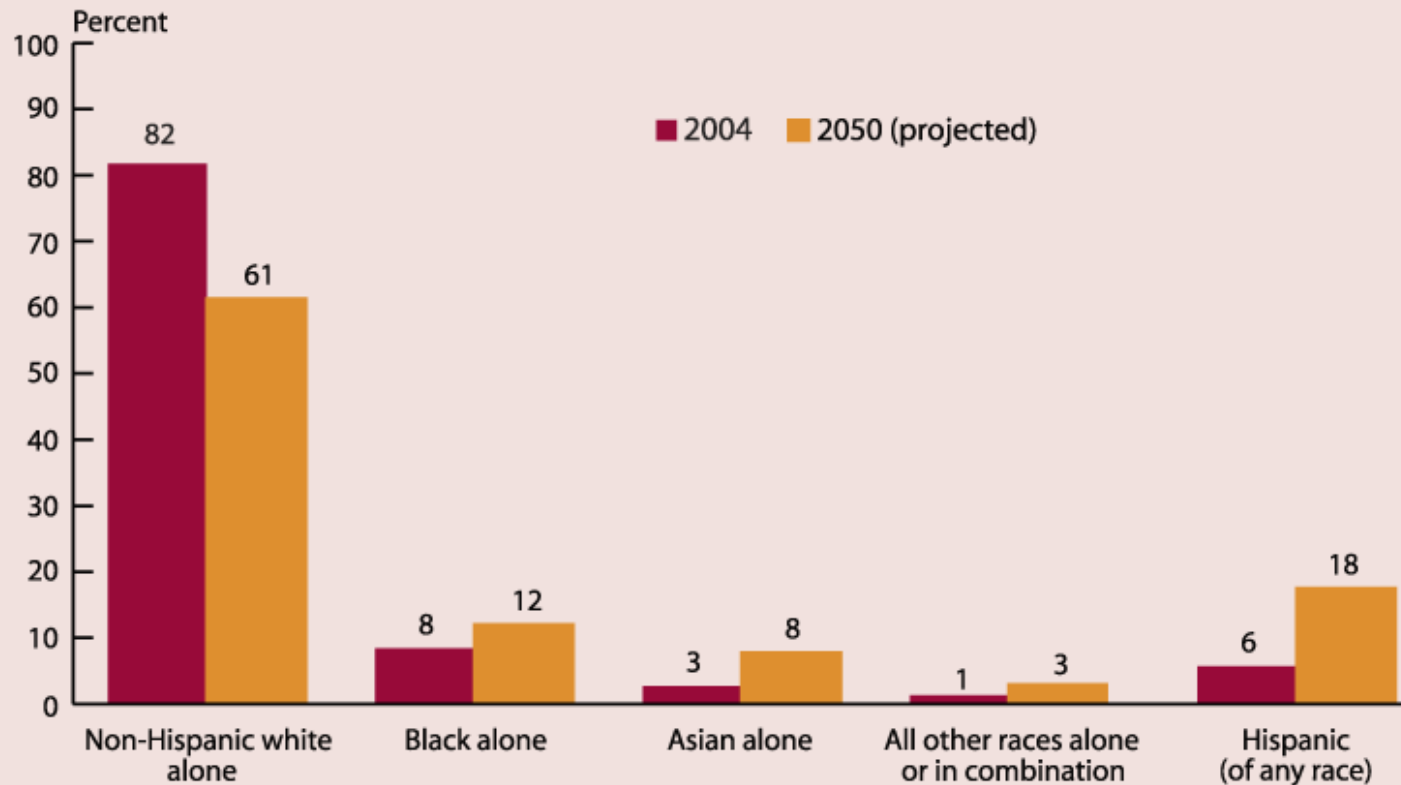
	2000	2030
Asia	5.9	12
Europe	14	21.6
Latin America	5.6	11.9
Near East	4.4	8.4
Northern Am.	12.4	20.0
Sub saharan	2.9	3.7

Indicator 1 - Number of Older Americans



Indicator 2 - Racial and Ethnic Composition

Population age 65 and over, by race and Hispanic origin, 2004 and projected 2050



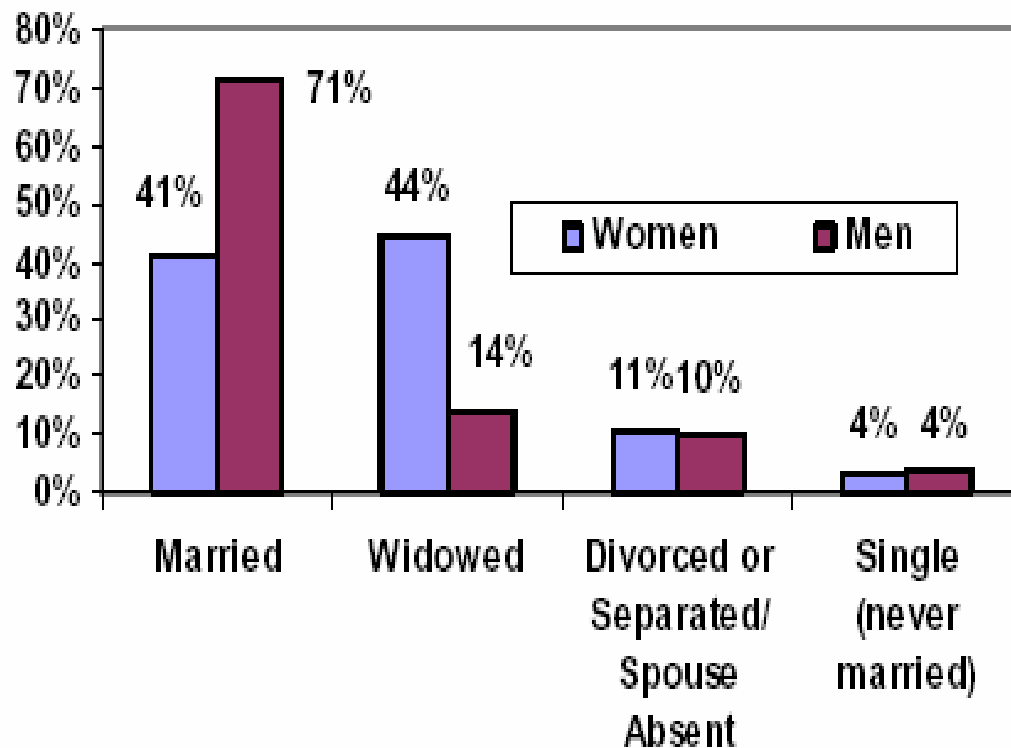
Note: The term "non-Hispanic white alone" is used to refer to people who reported being white and no other race and who are not Hispanic. The term "black alone" is used to refer to people who reported being black or African American and no other race, and the term "Asian alone" is used to refer to people who reported only Asian as their race. The use of single-race populations in this report does not imply that this is the preferred method of presenting or analyzing data. The U.S. Census Bureau uses a variety of approaches. The race group "All other races alone or in combination" includes American Indian and Alaska Native, alone; Native Hawaiian and Other Pacific Islander, alone; and all people who reported two or more races.

Reference population: These data refer to the resident population.

Source: U.S. Census Bureau, Population Estimates and Projections, 2004.

Family Structure and Living Arrangements

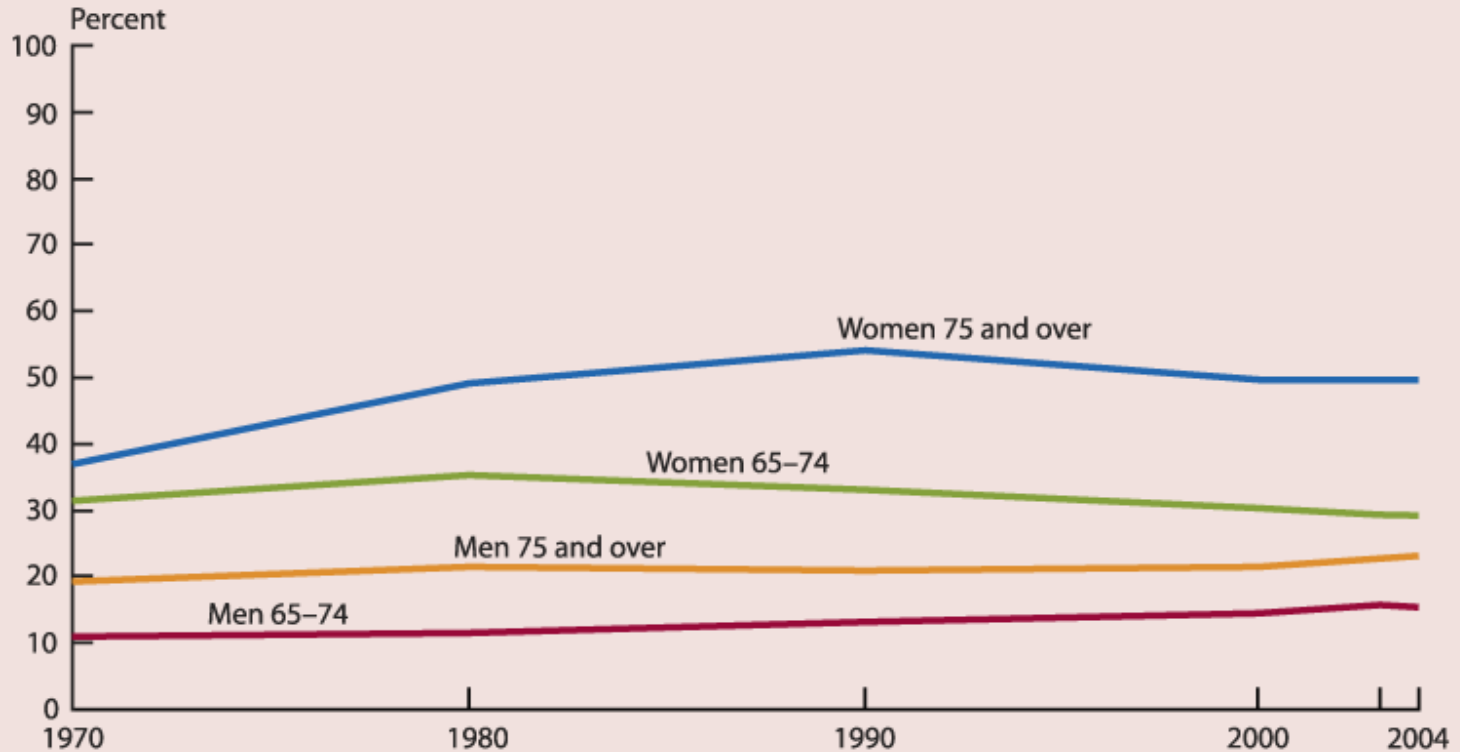
Figure 2: Marital Status of Persons 65+ - 2003



(Based on Internet releases of data from the 2003 Current Population Survey of the U.S. Bureau of the Census)

Indicator 5 - Living Arrangements

Population age 65 and over living alone, by age group and sex, selected years 1970-2004



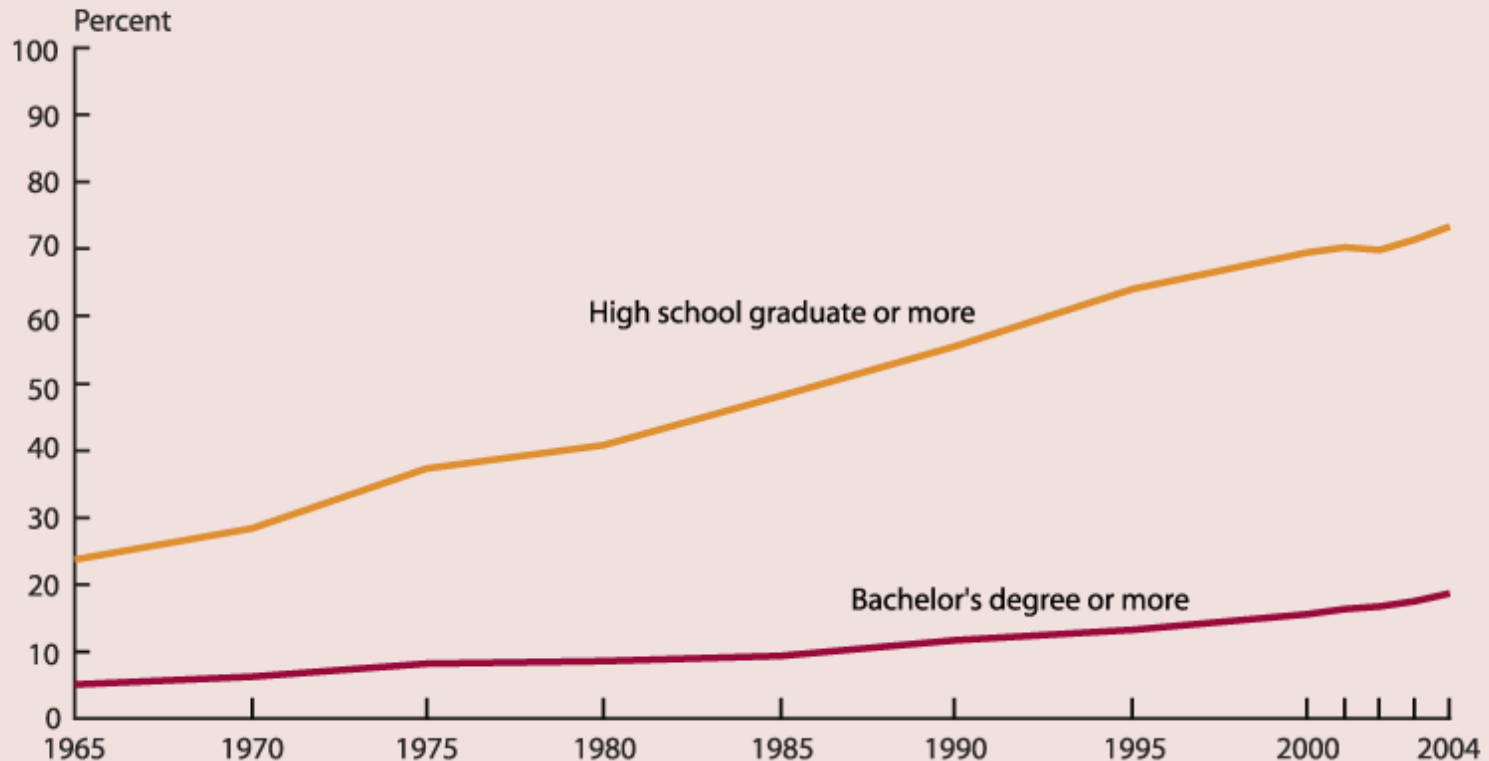
Reference population: These data refer to the civilian noninstitutionalized population.

Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement.

Increasing Educational Attainment

Indicator 4 - Educational Attainment

Educational attainment of the population age 65 and over, selected years 1965-2004



Note: A single question which asks for the highest grade or degree completed is now used to determine educational attainment. Prior to 1995, educational attainment was measured using data on years of school completed.

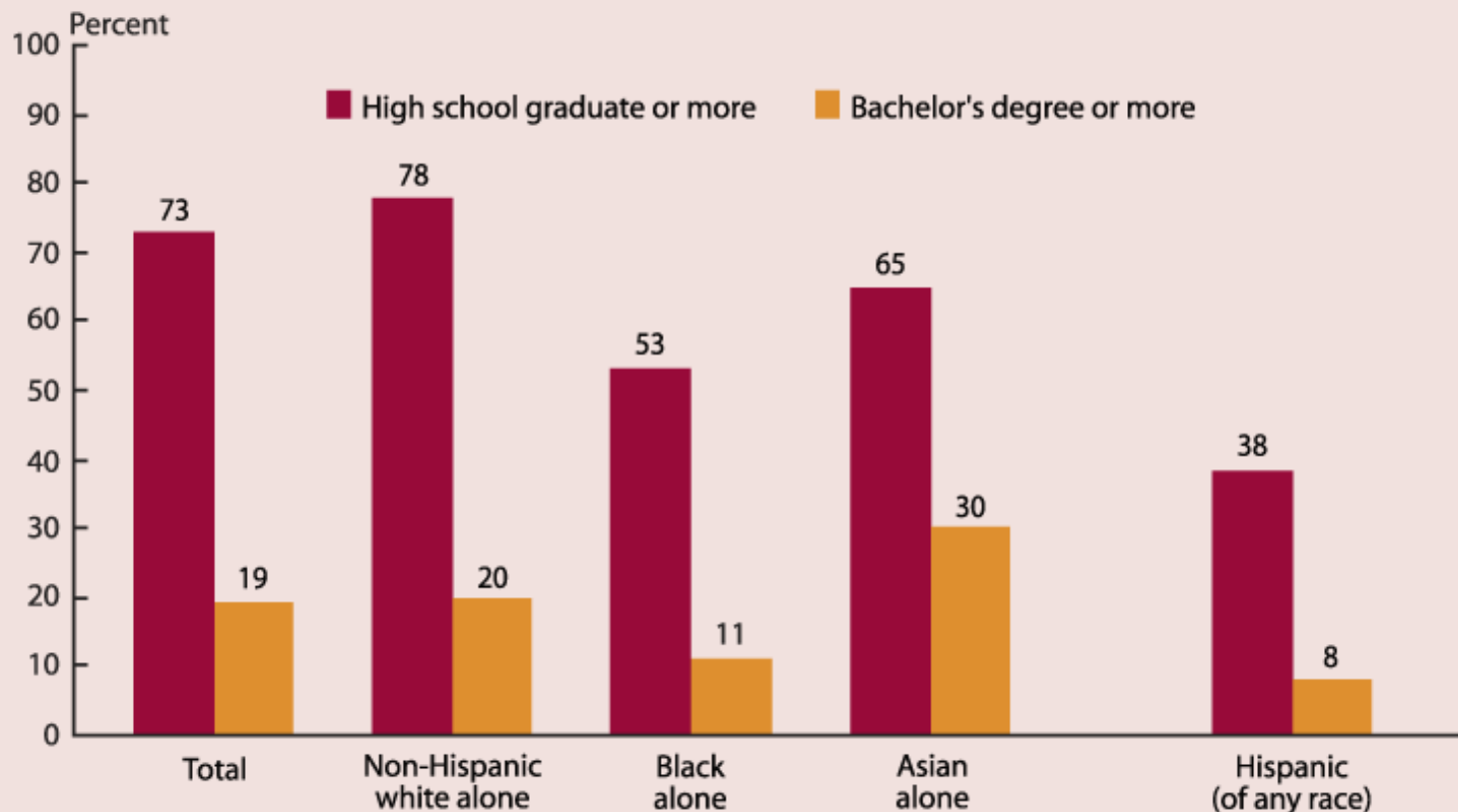
Decennial Census data from 1950 to 2000 used to construct this indicator in *Older Americans 2000* and *2004* have been replaced with data from the Current Population Survey beginning in 1965.

Reference population: These data refer to the civilian noninstitutionalized population.

Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement.

Indicator 4 - Educational Attainment

Educational attainment of the population age 65 and over, by race and Hispanic origin, 2004



Note: The term "non-Hispanic white alone" is used to refer to people who reported being white and no other race and who are not Hispanic. The term "black alone" is used to refer to people who reported being black or African American and no other race, and the term "Asian alone" is used to refer to people who reported only Asian as their race. The use of single-race populations in this report does not imply that this is the preferred method of presenting or analyzing data. The U.S. Census Bureau uses a variety of approaches.

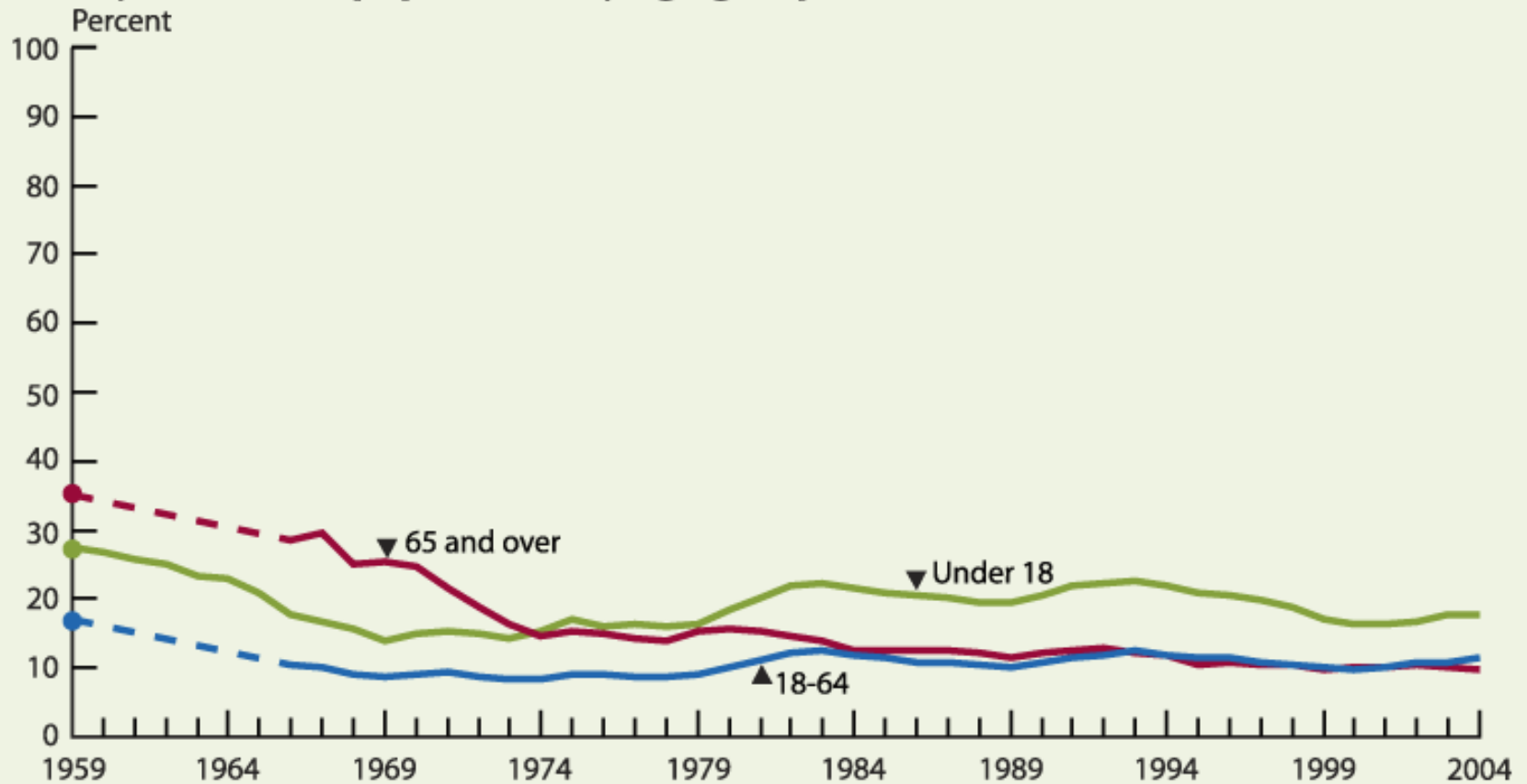
Reference population: These data refer to the civilian noninstitutionalized population.

Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement.

Wealth and Poverty

Indicator 7 - Poverty

Poverty rate of the population, by age group, 1959-2004



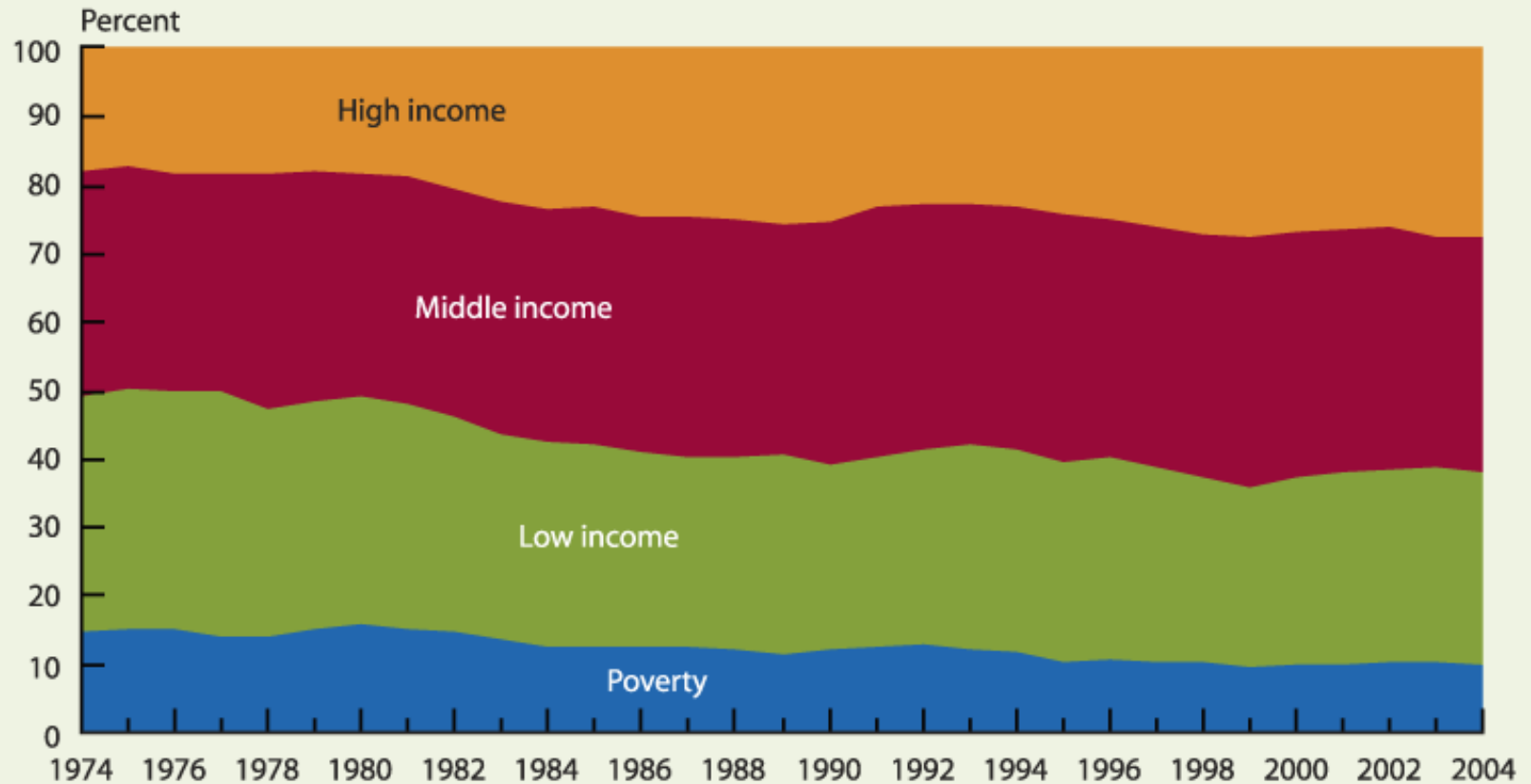
— — — — Data are not available from 1960-1965 for the 18-64 and 65 and over age groups.

Reference population: These data refer to the civilian noninstitutionalized population.

Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 1960-2005.

Indicator 8 - Income

Income distribution of the population age 65 and over, 1974-2004



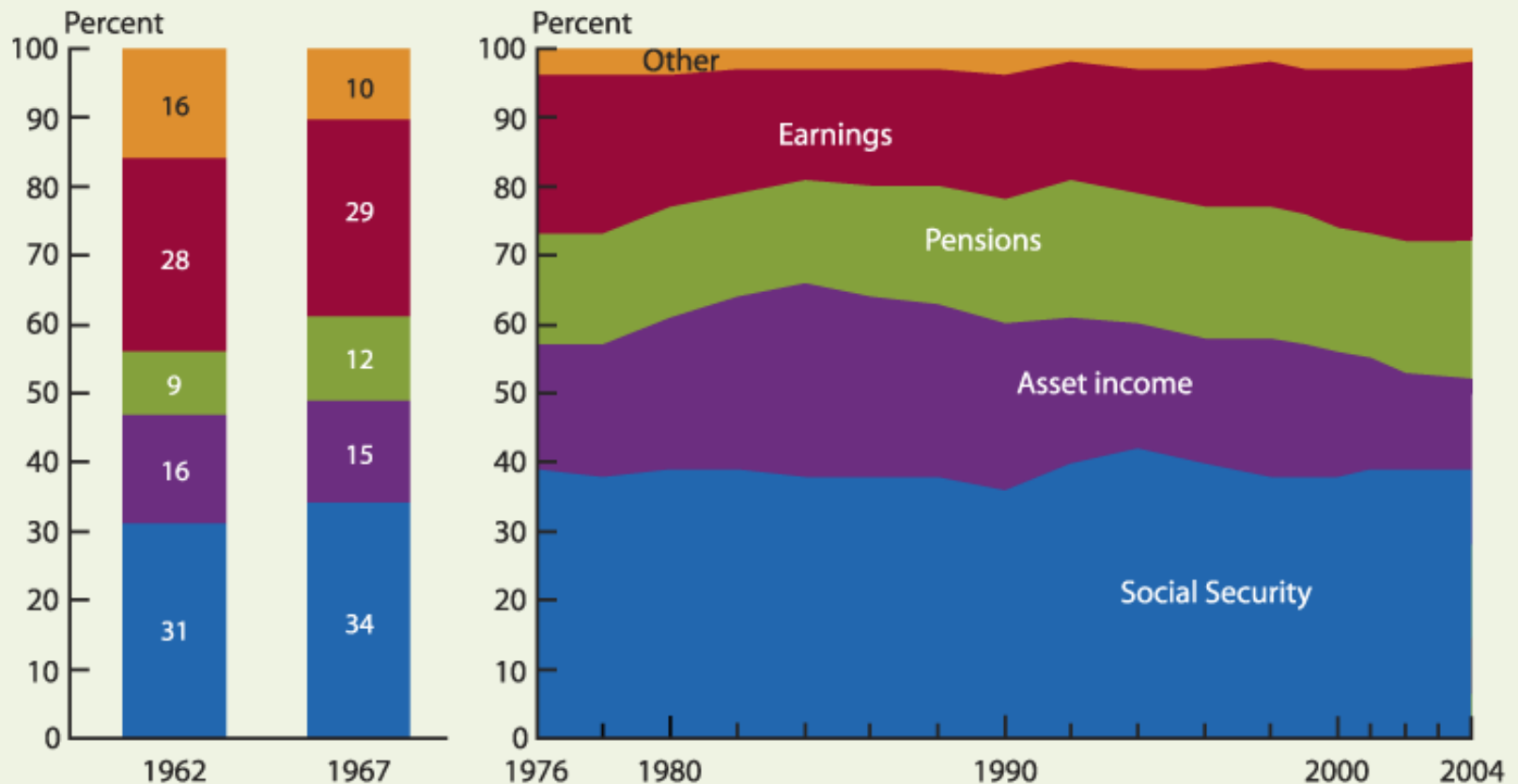
Note: The income categories are derived from the ratio of the family's income (or an unrelated individual's income) to the corresponding poverty threshold. Being in poverty is measured as income less than 100 percent of the poverty threshold. Low income is between 100 percent and 199 percent of the poverty threshold. Middle income is between 200 percent and 399 percent of the poverty threshold. High income is 400 percent or more of the poverty threshold.

Reference population: These data refer to the civilian noninstitutionalized population.

Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 1975-2005.

Indicator 9 - Sources of Income

Aggregate income by source for the population age 65 and over, selected years 1962-2004



Note: The definition of "other" includes, but is not limited to, public assistance, unemployment compensation, worker's compensation, alimony, child support, and personal contributions.

Reference population: These data refer to the civilian noninstitutionalized population.

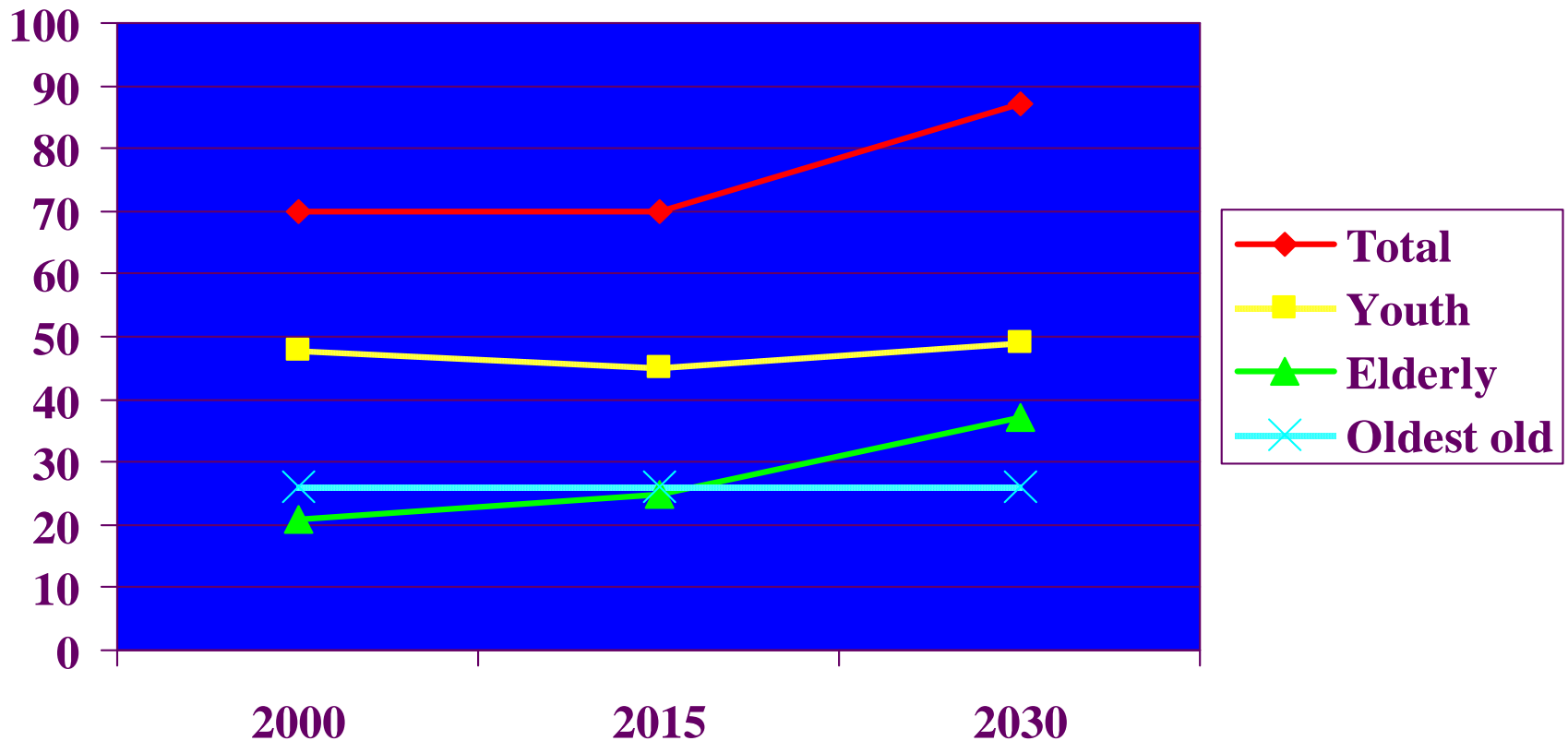
Source: Social Security Administration, 1963 Survey of the Aged, 1968 Survey of Demographic and Economic Characteristics of the Aged; U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 1976-2004.

Support ratios: 1980-2030

	Total	Youth	older
1980	76.2	56.4	19.4
1990	70.2	48.8	21.4
2000	69.6	48.5	21.1
2010	66.5	44.8	21.7
2020	74.6	46.2	28.4
2030	84.4	48.2	36.2

Total is number of people 0 to 19 and 65 and over per 100 people age 20 to 64. Youth is number of people 0-19 per 100 people 20 to 64; elderly is people 65 and over; oldest old is people 80 and over. An Aging World, U. S. Census Bureau 2000

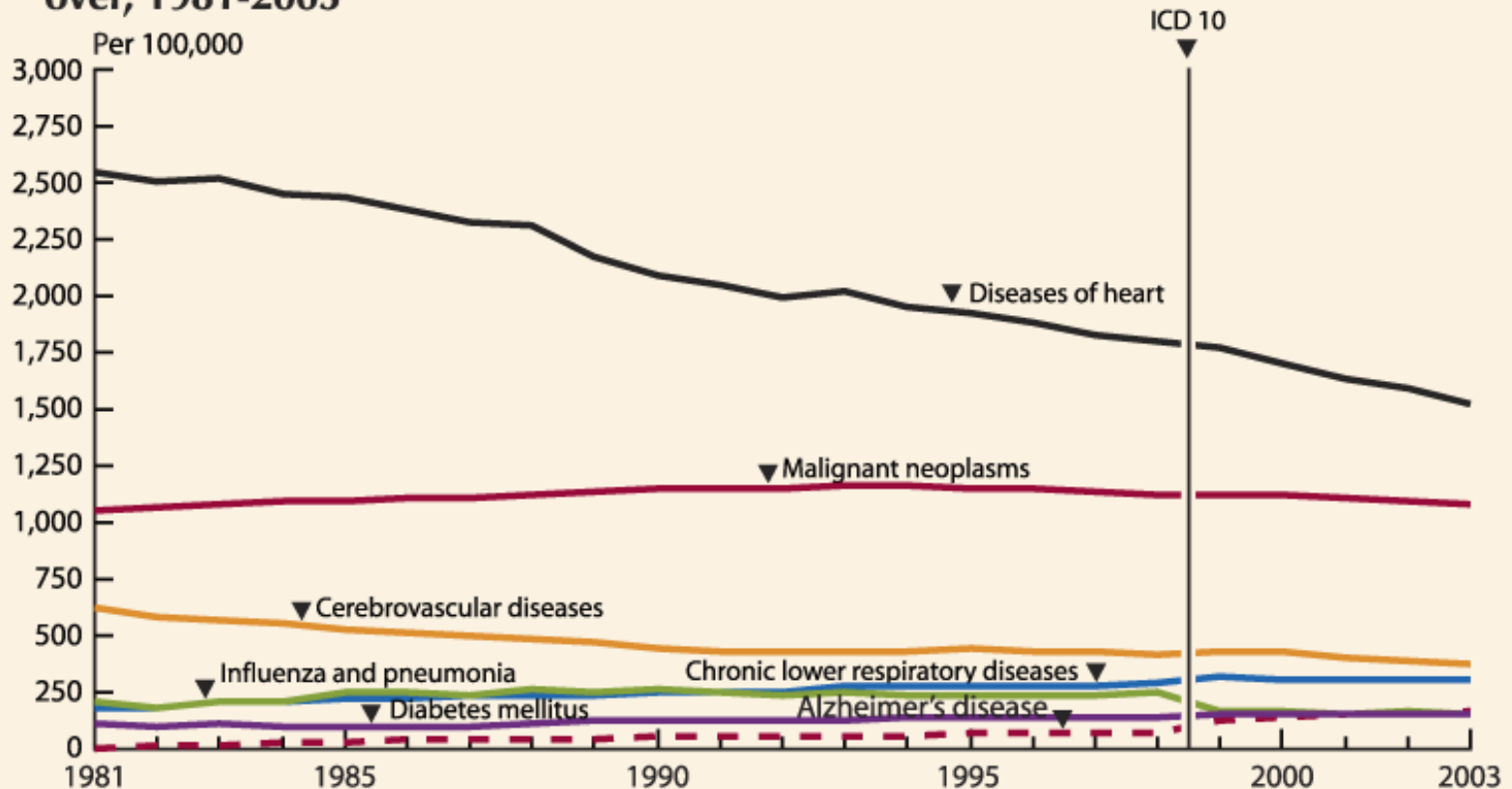
Support ratios



Total is number of people 0 to 19 and 65 and over per 100 people age 20 to 64. Youth is number of people 0-19 per 100 people 20 to 64; elderly is people 65 and over; oldest old is people 80 and over. An Aging World, U. S. Census Bureau 2000

Indicator 14 - Mortality

Death rates for selected leading causes of death among people age 65 and over, 1981-2003



Note: Death rates for 1981-1998 are based on the 9th revision of the *International Classification of Disease* (ICD-9). Starting in 1999, death rates are based on ICD-10, and trends in death rates for some causes may be affected by this change.³ For the period 1981-1998, causes were coded using ICD-9 codes that are most nearly comparable with the 113 cause list for ICD-10 and may differ from previously published estimates. Rates are age-adjusted using the 2000 standard population.

Reference population: These data refer to the resident population.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System.

Major Research Areas

- Demography & population
- Biodemography, longevity, & genetics
- Population, economic, & policy forecasting
- Health, chronic illness, & disability
- Health care & health policy
- Income, savings, work, & retirement
- Family support systems
- Socioeconomic status & health
- Minority populations
- Dementia/Alzheimer's Disease
- Comparative international research