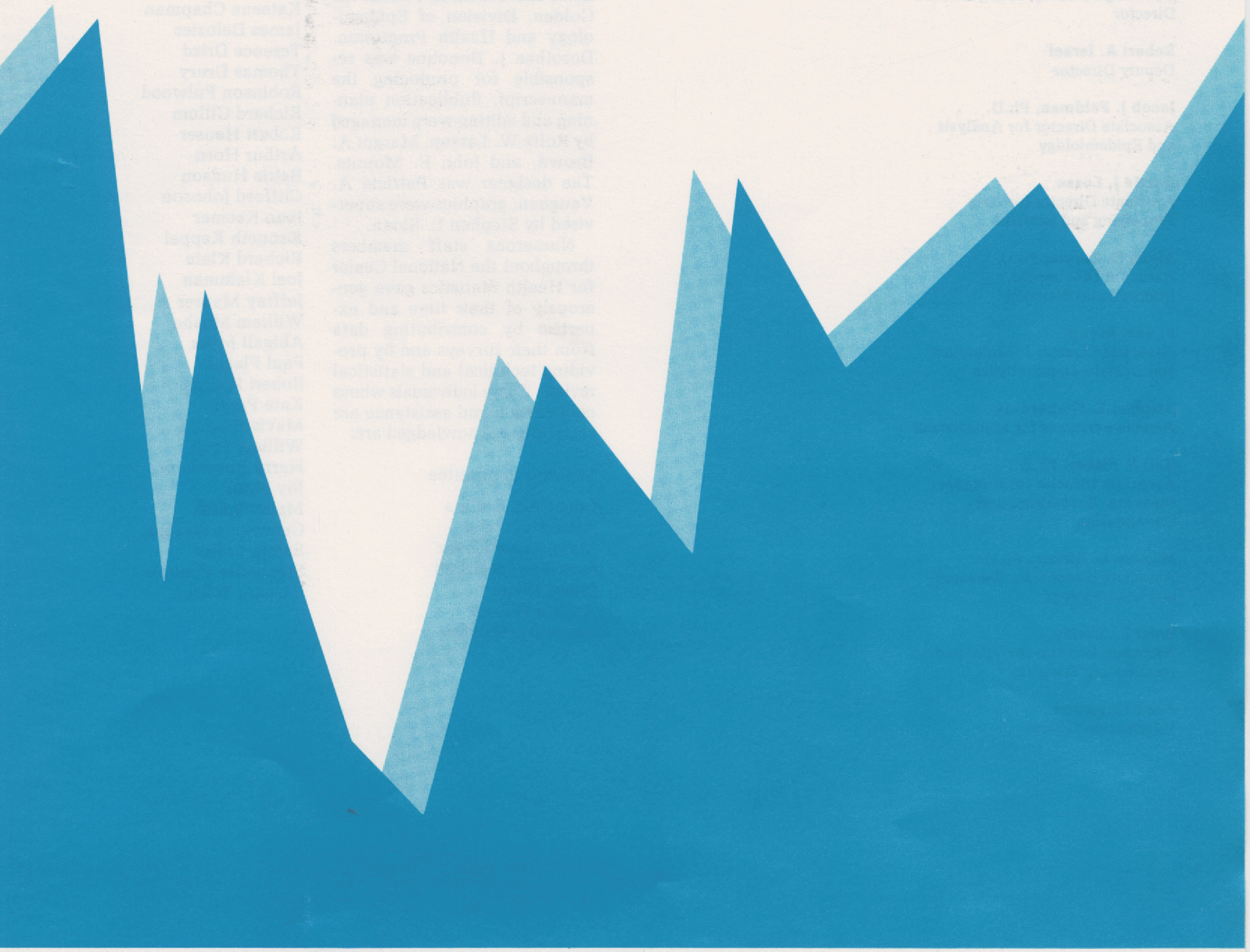
Charting the Nation's Health

Trends Since 1960



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Center for Health Statistics

Hyattsville, Maryland
August 1985

DHHS Pub. No. (PHS) 85–1251

Suggested citation

National Center for Health Statistics, P. M. Golden: *Charting the Nation's Health: Trends Since 1960.* DHHS Pub. No. (PHS) 85–1251. Public Health Service. Washington. U.S. Government Printing Office, Aug. 1985.

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Library of Congress Cataloging-in-Publication Data

Golden, Patricia M.
Charting the nation's health.

(DHHS publication ; no. (PHS) 85–1251)
Written by Patricia M. Golden.
1. Health status indicators—United States.
2. Public health—United States—Statistics.
3. Medical care—United States—Utilization—Statistics.
4. Health surveys—United States. 5. United States—Statistics, Medical. 6. United States—Statistics, Vital. I. National Center for Health Statistics (U.S.)
II. Title. III. Series: DHHS publication ; no. (PHS) 85–1251. [DNLM: 1. Health—United States—statistics.
2. Vital Statistics—United States. WB 16 G618c]
RA407.3.G65 1985 614.4'273 85–15591
ISBN 0–8406–0322–3

National Center for Health Statistics

Manning Feinleib, M.D., Dr.P.H.
Director

Robert A. Israel
Deputy Director

Jacob J. Feldman, Ph.D.
Associate Director for Analysis and Epidemiology

Garrie J. Losee
Associate Director for Data Processing and Services

Alvan O. Zarate, Ph.D.
Assistant Director for International Statistics

E. Earl Bryant
Associate Director for Interview and Examination Statistics

Stephen E. Nieberding
Associate Director for Management

Gail F. Fisher, Ph.D.
Associate Director for Program Planning, Evaluation, and Coordination

Monroe G. Sirken, Ph.D.
Associate Director for Research and Methodology

Peter L. Hurley
Associate Director for Vital and Health Care Statistics

Alice Haywood
Information Officer

Acknowledgments

This chartbook was coordinated and written by Patricia M. Golden, Division of Epidemiology and Health Promotion. Dorothea J. Donohue was responsible for producing the manuscript. Publication planning and editing were managed by Rolfe W. Larson, Margot A. Brown, and John E. Mounts. The designer was Patricia A. Vaughan; graphics were supervised by Stephen L. Sloan.

Numerous staff members throughout the National Center for Health Statistics gave generously of their time and expertise by contributing data from their surveys and by providing technical and statistical review. These individuals whose cooperation and assistance are gratefully acknowledged are:

Steering Committee

John Gary Collins
Alice Haywood
Mary Grace Kovar
Joan Van Nostrand
James Weed
Ronald Wilson
Catherine Woteki

Contributors

Robert J. Armstrong
Bobbie Bloom
Kateena Chapman
James Delozier
Terence Drizd
Thomas Drury
Robinson Fulwood
Richard Gillum
Robert Heuser
Arthur Horn
Bettie Hudson
Clifford Johnson
Joan Keemer
Kenneth Keppel
Richard Klein
Joel Kleinman
Jeffrey Maurer
William Mosher
Abigail Moss
Paul Placek
Robert Pokras
Kate Prager
Mavis Prather
William Pratt
Harry Rosenberg
Joy Shull
Mabel Smith
Genevieve Strahan
Selma Taffel
Stephanie Ventura
Barbara Wilson

Contents

Figures

Introduction

Good health and longevity are undoubtedly among each person's prized goals. How far Americans have come in realizing these goals can be measured in a number of ways. Since 1960, the National Center for Health Statistics (NCHS) has measured the health of Americans by collecting and reporting vital and health statistics for the United States.

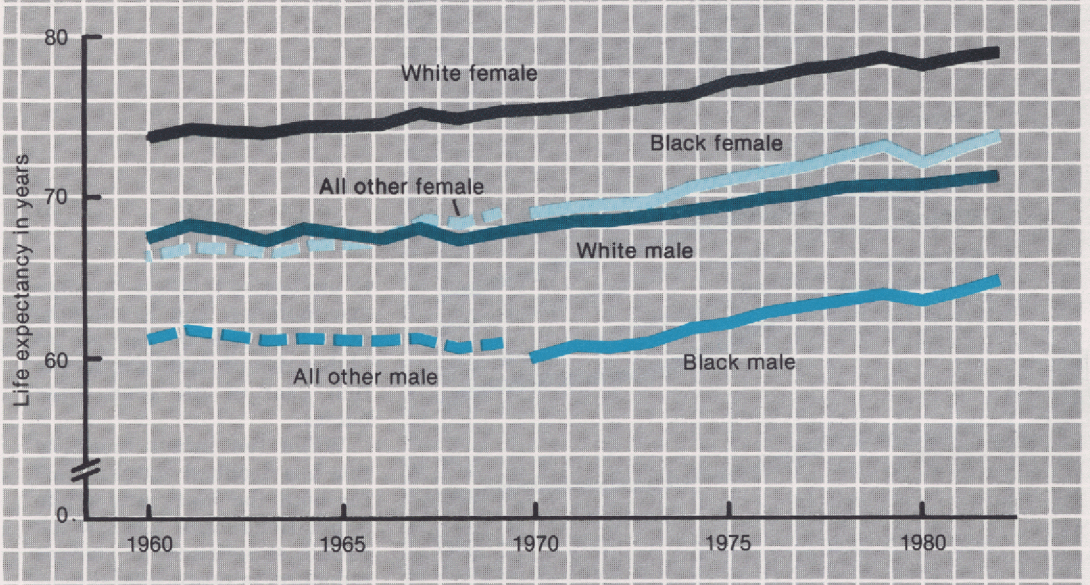
The charts in this book and the accompanying text highlight a number of major patterns and trends. The data are selected entirely from the NCHS Vital Statistics Program and eight other major NCHS data systems (appendix). The first charts describe the increase in longevity realized by Americans since 1960 and also the self-perceived health status of Americans over time. These charts are followed by a section of charts describing the health status of infants, children and young adults, midlife adults, and elderly Americans. The next section shows trends in the availability and utilization of health resources; it is followed by a section of charts on selected risk factors. The last chart presents additional data on longevity.

Clearly this book is not intended to be a source of detailed health statistics or of in-depth analysis of major health issues. However, in addition to data directly related to the charts, the text presents data related to the various health issues addressed.

Measuring longevity is easier than assessing health status. Data from the National Center for Health Statistics clearly show that Americans are living longer than they did as recently as 1960 **(figure 1)**. In 1960 life expectancy at birth was about 70 years. Life expectancy at birth reached nearly 75 years in 1983. Over the years, white people have had longer life expectancies than black people, but the longstanding disparity between life expectancy for white and black Americans was less in 1983 than in 1960.

Unlike longevity, health status is not so easily quantifiable and is usually assessed by examining a number of indicators.

Figure 1. Life expectancy at birth, by race and sex: United States, 1960-82



SOURCE: Division of Vital Statistics, National Vital Statistics System.

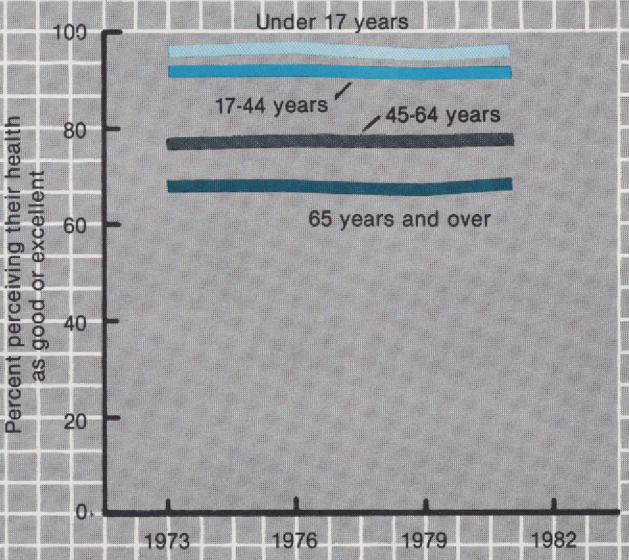
Changes in these indicators over time can be observed to determine where Americans have made gains in improving their health status as well as where progress has been slow.

The way people feel about their health is one index of health status **(figure 2)**. When asked "Compared to other persons your age, would you say that your health is excellent, good, fair, or poor?" 87.3 percent of the population said good or excellent in 1981. Moreover, people of all ages have generally held just about the same perception of their health status over the past several years. When asked the same question in 1973, 87.1 percent of the population rated their health good or excellent. Among the elderly living in the community in 1981, nearly 70 percent perceived their health as good or excellent compared with their peers. The significance of personal health perceptions lies in the fact that often people may act as if they are in good health if they think of themselves as in good health, regardless of impairments, disabilities, or illnesses.

A number of other important pieces of information provide more precise indicators of health status. Among these measures are factors affecting babies at the time of birth; the number of people dying and the causes of these deaths; how long people live and the number and kind of disabilities, physical impairments, and illnesses they suffer; the amount and kind of health services used; and the type of health behaviors, such as good nutrition, they practice.

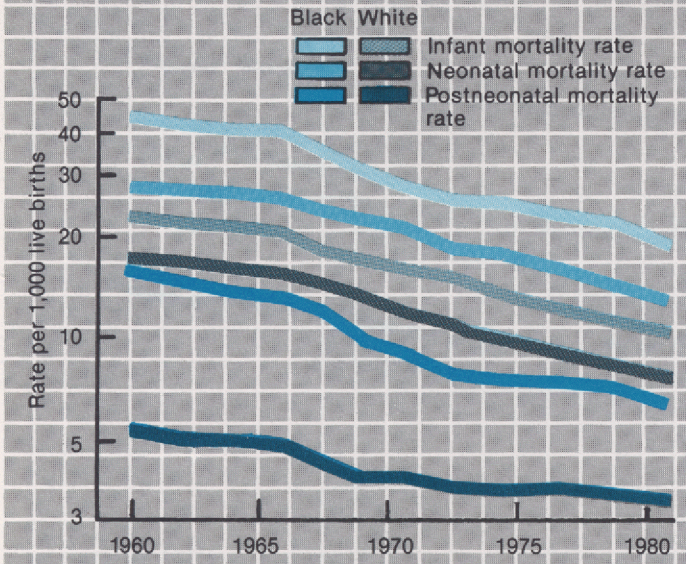
Although perceptions of health have not changed much over the past several years, many other health status indicators obtainable from NCHS data systems have fluctuated in direction and magnitude. On the other hand—quite similar to perceptions of health—some measures have shown little or no change over time.

Figure 2. Perceived health status, by age: United States, 1973-81



SOURCE: Division of Health Interview Statistics, National Health Interview Survey.

Figure 3. Infant mortality rates, by age and race: United States, 1960-82



SOURCE: Division of Vital Statistics, National Vital Statistics System.

Infants

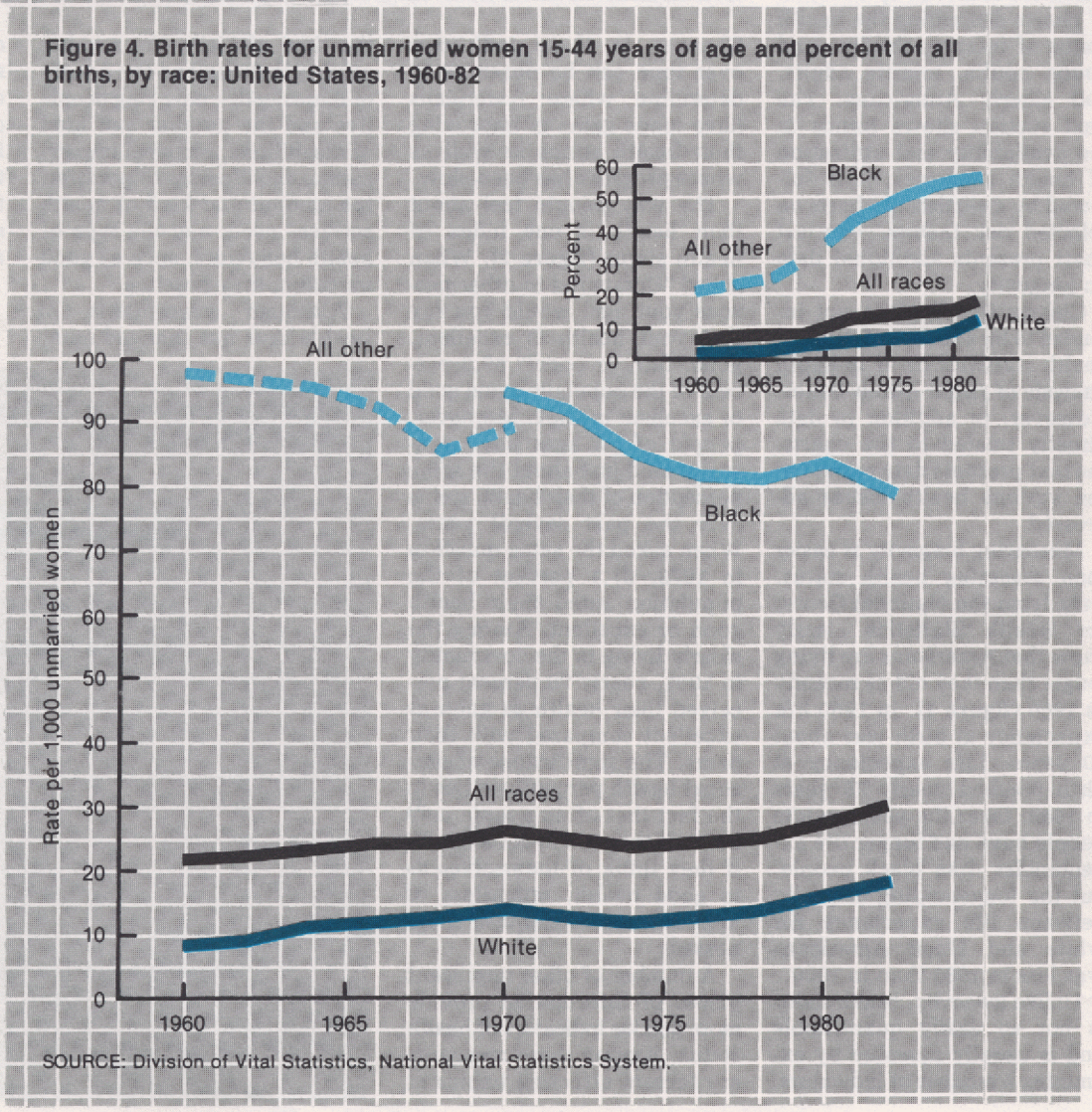
The infant mortality rate has been reduced by over half—down from 26.0 per 1,000 live births in 1960 to 11.5 in 1982 **(figure 3)**. Although showing only a small decline in the early 1960's, the infant mortality rate has fallen, on the average, about 4 percent per year from 1965 to 1982. Among the factors contributing to the overall decline in the infant mortality rate are advances in medical science, especially in treatment of newborns, improved socioeconomic conditions, and wider availability of maternal and infant care services.

Nevertheless, notable differences in infant mortality rates among socioeconomic groups persist. Infant mortality rates are higher for black babies than for white ones; and babies born to unmarried mothers, to teenage mothers, and to mothers over 35 years of age are at higher risk of death during the first year of life than other babies.

While the infant mortality rate has declined about as fast for both the black and white populations since 1960, black people experienced a sharper reduction in postneonatal mortality during this period. In 1960 the postneonatal mortality rate for black infants was 16.5; by 1982 this rate had dropped to 6.6—a reduction of 60 percent. During the same period, the postneonatal mortality rates for white infants declined from 5.7 to 3.3—a reduction of 40 percent.

Neonatal mortality, which seems to be influenced by socioeconomic and environmental factors to a lesser degree than

Figure 4. Birth rates for unmarried women 15-44 years of age and percent of all births, by race: United States, 1960-82



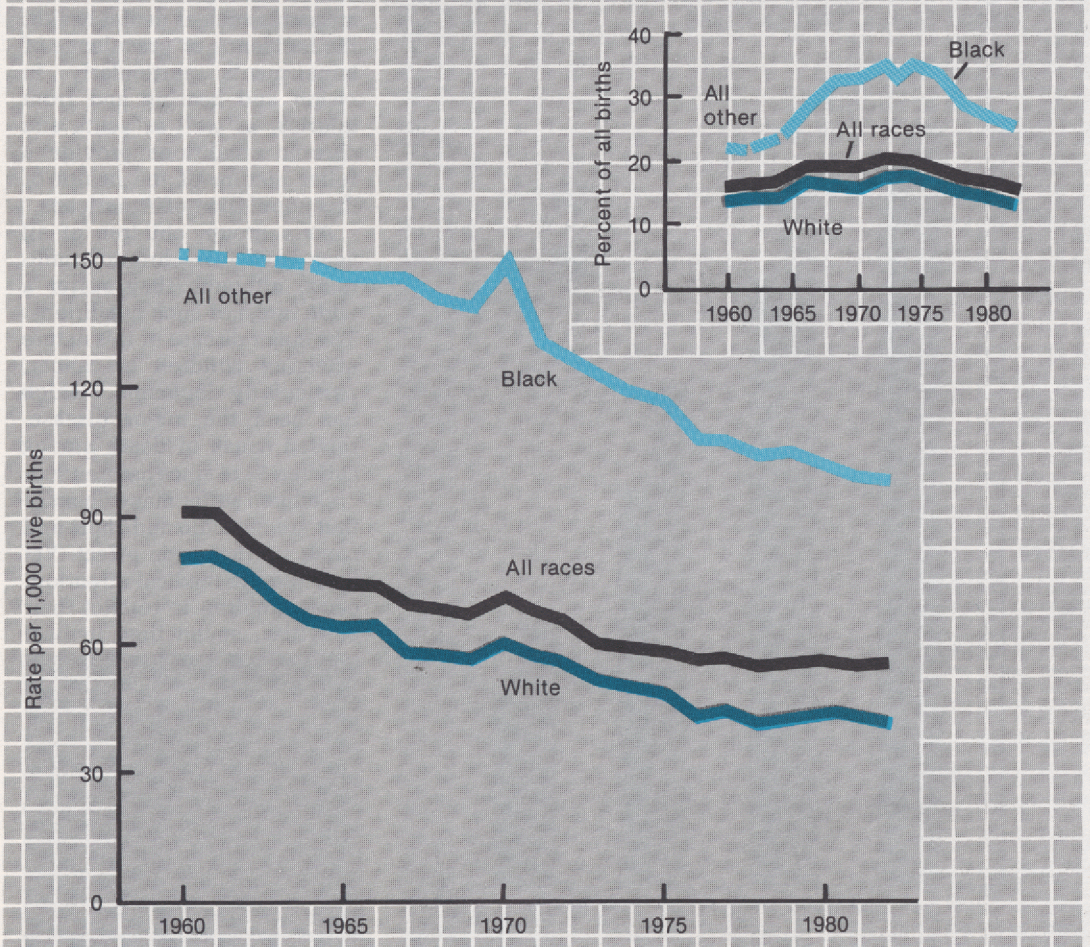
SOURCE: Division of Vital Statistics, National Vital Statistics System.

postneonatal mortality, is by far the bigger portion of infant mortality for both races. Although black people experienced more than a 50-percent decline in neonatal death rates between 1960 and 1982, in 1982 the neonatal mortality rate for black infants was about two times as high as the rate for white infants.

Birth rates for unmarried white women have been generally increasing since 1960 although they did show a significant dip during the early 1970's. In contrast, birth rates for black unmarried women, though considerably higher than those for white unmarried women, have been falling slowly but steadily **(figure 4)**. Whereas the racial differential in rates was more than 10 per 1,000 in 1960, by 1982 it had fallen to 4 per 1,000 unmarried women 15–44 years of age. Unmarried women, regardless of race, accounted for a sharply increasing share of all births during the period 1960–82.

Childbearing among teenagers **(figure 5)** declined in the early 1970's but has remained relatively stable since 1976. Although the birth rates declined faster for black teenagers than for white, in 1982 the number of babies born per 1,000 black teenagers 15–19 years old was still twice as high as the number for white teenagers. Between 1960 and 1973 the proportion of births to teenage mothers increased from 13.9 percent to 19.7. By 1982 the proportion had fallen to 14.2. Throughout the period 1960–82, trends in the proportions of births for both black and white teenagers have been generally parallel, with the proportions

Figure 5. Birth rates for mothers 15-19 years of age and percent of births to mothers under 20 years, by race: United States, 1960-82



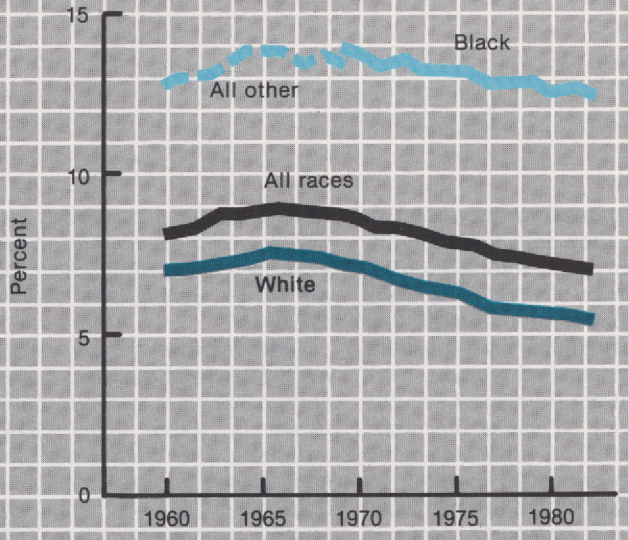
SOURCE: Division of Vital Statistics, National Vital Statistics System.

for black teenagers still about twice those for white teens.

Much of the differential in black and white infant mortality can be attributed to the difference in birth-weight distribution between the two groups **(figure 6)**. Compared to babies of normal weight, low-birth-weight babies (less than 2,500 grams) regardless of race face a greater chance of dying before 1 year of age. Although the incidence of low birth weight declined slightly for both white and black babies from 1970 to 1982, low-birth-weight incidence for black babies remained double that for white babies throughout this period.

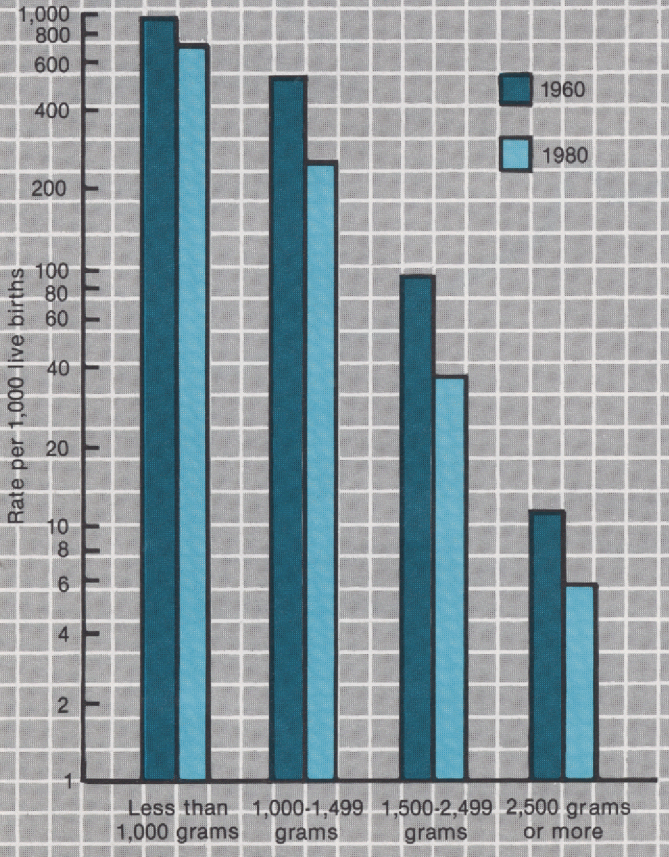
The decline in infant mortality since the mid-1960's for both black and white infants to a large extent results from greatly improved survival for infants of low birth weight, but the reduction has been significant for all birth-weight groups. During this time, babies weighing 1,000 grams or more experienced, on average, a 50-percent reduction in mortality rates during the time period. Mortality of smaller babies also decreased but not as markedly **(figure 7)**.

Figure 6. Infants weighing less than 2,500 grams at birth, by race: United States, 1960-82



SOURCE: Division of Vital Statistics, National Vital Statistics System.

Figure 7. Infant mortality rates, by birth weight: United States, 1960 and 1980



SOURCE: Division of Vital Statistics, National Natality Survey and National Death Index Match Project.

Children and young adults

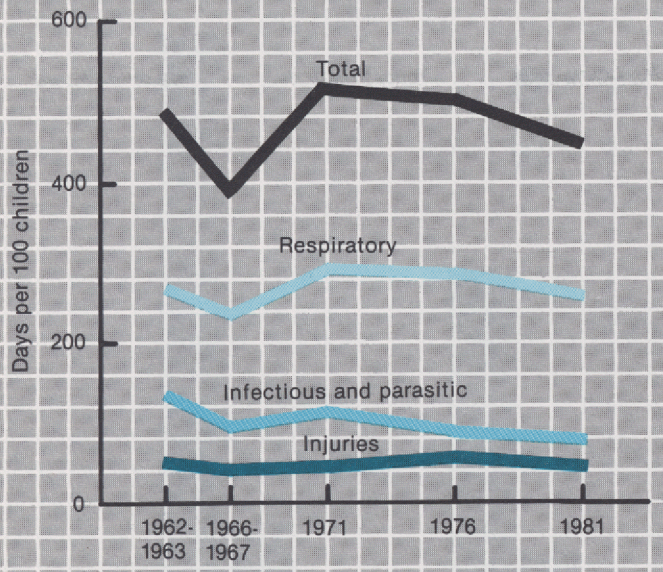
Children 1–14 years of age have had the lowest overall death rate (1960–82) of any other age group throughout the lifespan. The death rate at these ages is very low; in 1983 only about 35 deaths occurred per 100,000 population.

Death rates tell less about the health of children and teens than about the health of older people, mainly because diseases cause relatively few deaths among children. Other measures such as dental health, the incidence or prevalence of impairments particularly in vision and hearing and from injuries, as well as acute and chronic conditions provide a fuller picture of the health of this population of Americans.

As a group, children of all ages have few chronic conditions, although they suffer a wide range of such conditions. The major disease of this nature affecting children is cancer, particularly leukemia, which has been the major disease-related cause of death among children 5–14 since before 1960.

Children suffer many illnesses that are episodic and short and cause no long-term effect. Yet they require medical attention, cause children to restrict their activities, spend time in bed,

Figure 8. School-loss days: United States, 1962-81



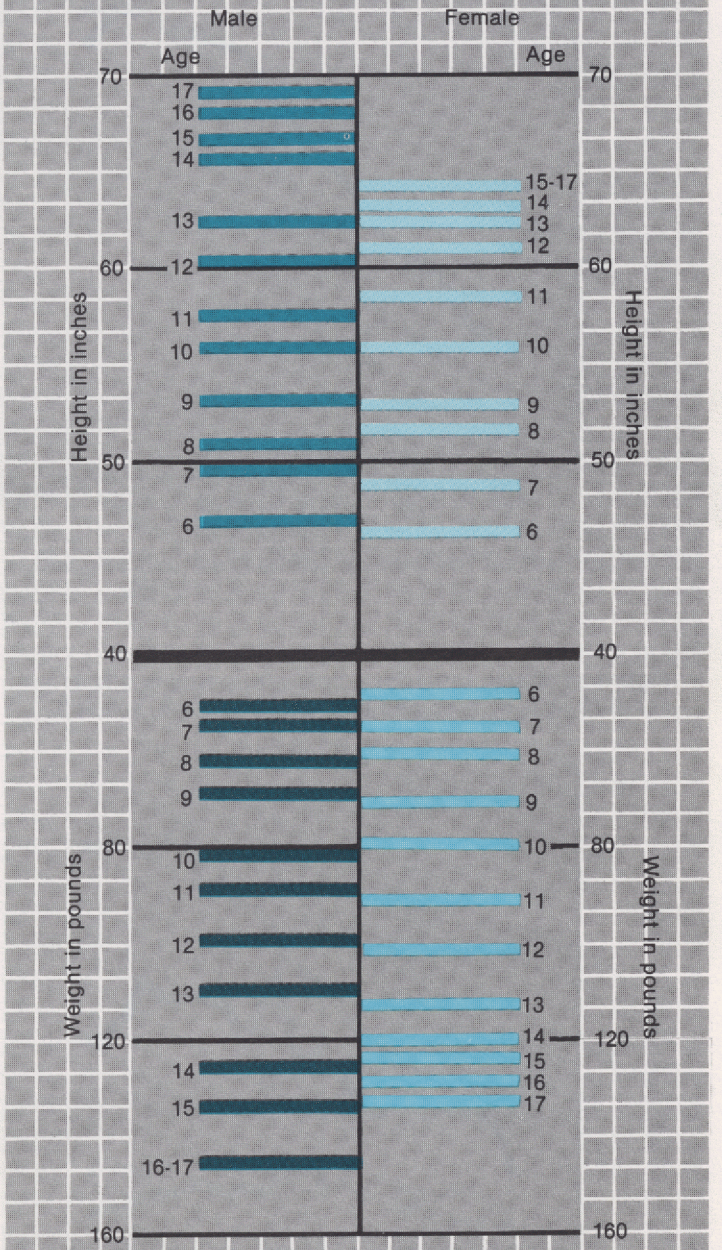
SOURCE: Division of Health Interview Statistics, National Health Interview Survey.

and lose time from school. The number of school-loss days per 100 children because of acute illnesses was about the same in the early 1980's as it was in the early 1960's **(figure 8)**. The rates of school loss have fluctuated throughout this period primarily from high absenteeism attributable to influenza outbreaks, which in some years accounted for almost one-third of all school-loss days. As would be expected, rates of school loss for infectious and parasitic diseases decreased somewhat since the early 1960's as a result of the availability of immunizing agents for childhood diseases. Respiratory diseases have consistently been the main reason for absence from school because of illness throughout the period. Injuries have accounted for less than 10 percent of the total school days lost from illness for any given year. However, since the mid-1970's the number of school-loss days from injuries reported per 100 children has been higher than the number reported in the 1960's.

Another way to evaluate the health of the Nation's children is to determine whether changes have occurred in average heights and weights **(figure 9)**. Growth is characteristic of healthy, well-fed children. If illness or dietary inadequacy is chronic and mild, a child's linear growth will be slowed, and height will be low for age. If illness or dietary inadequacy is severe, the child will lose weight and will have a low weight-to-height ratio. From 8 to 12 years of age, girls on the average are taller and weigh more than boys. At the age of 13, boys achieve greater average heights and weights, and girls tend to level off. Little change has taken place in the average heights and weights of boys and girls 6–17 years of age from the 1960's through the late 1970's.

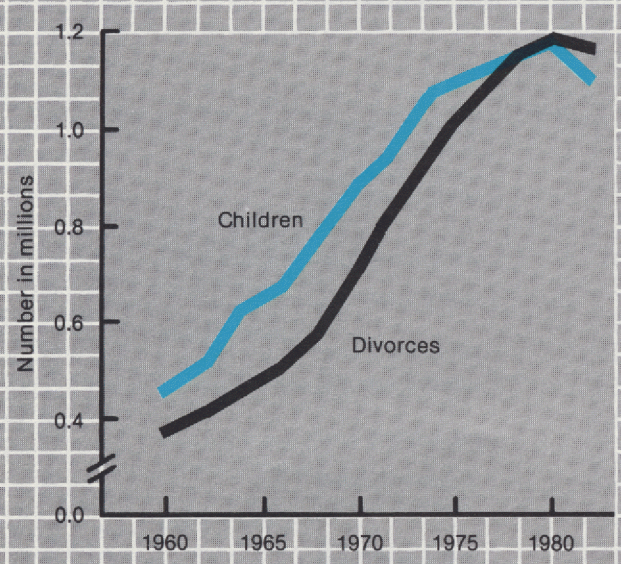
It is important to monitor the overall physical health of children but equally important to assure that they grow up mentally ready to contribute to life and to share in its pleasures throughout adulthood. Indeed, many factors contribute to or detract from this process; and the list of such factors has expanded over the years. The

Figure 9. Mean heights and weights for children 6-11 years and youths 12-17 years of age: United States, 1976-80



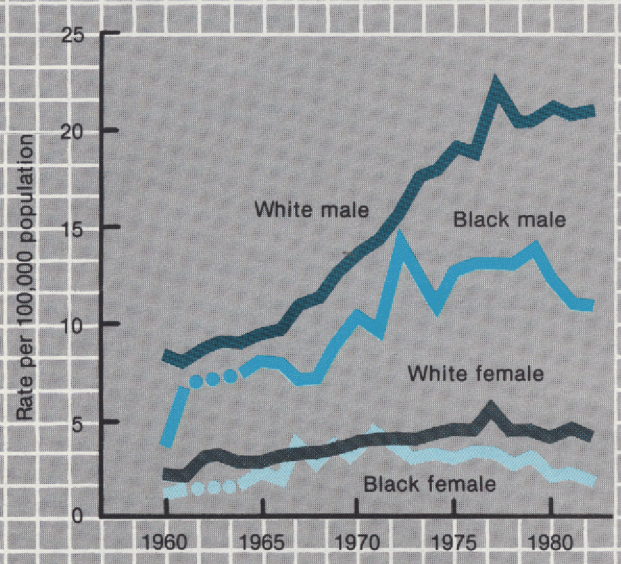
SOURCE: Division of Health Examination Statistics, National Health and Nutrition Examination Survey.

Figure 10. Children involved in divorce: United States, 1960-82



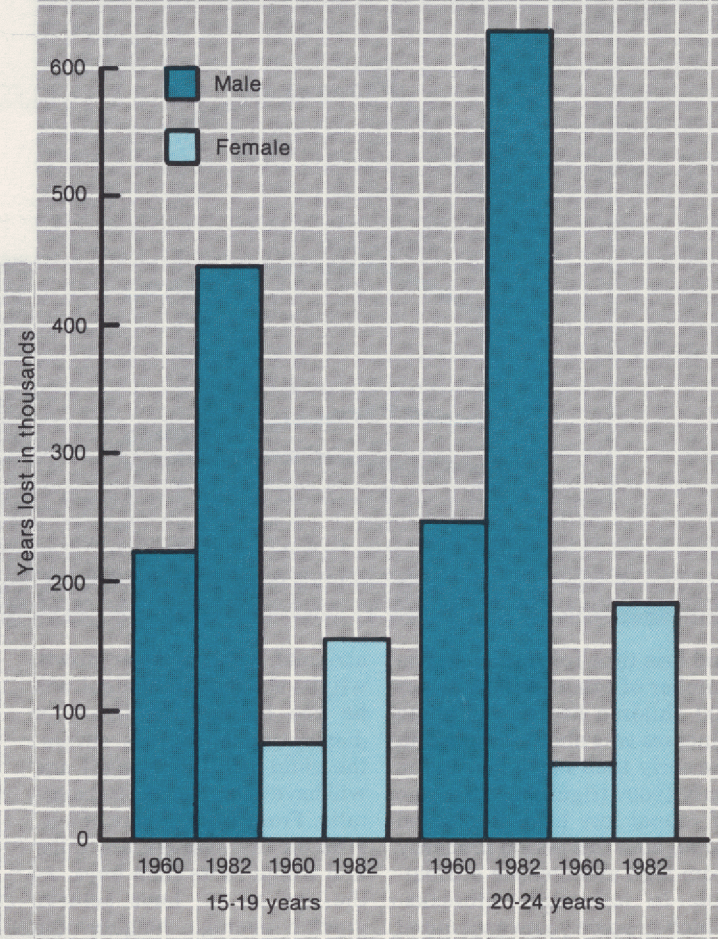
SOURCE: Division of Vital Statistics, National Vital Statistics System.

Figure 11. Death rates for suicide for persons 15-24 years of age, by race and sex: United States, 1960-82



SOURCE: Division of Vital Statistics, National Vital Statistics System.

Figure 12. Potential years of life lost from motor vehicle accidents, suicides, and homicides for persons 15-24 years of age, by sex: United States, 1960 and 1982



SOURCE: Computed by Division of Epidemiology from data compiled by Division of Vital Statistics.

home environment and family structure have continued to be high on this list but the nature of these factors has also changed over the years.

More so in the 1980's than in the 1960's, children may live in one-parent families because either the parent has never married or is divorced. In 1982, 1,108,000 children were involved in divorce, compared with 463,000 children in 1960 **(figure 10)**. Between 1960 and 1972 this number had more than doubled (1,021,000) and has exceeded 1 million children every year since.

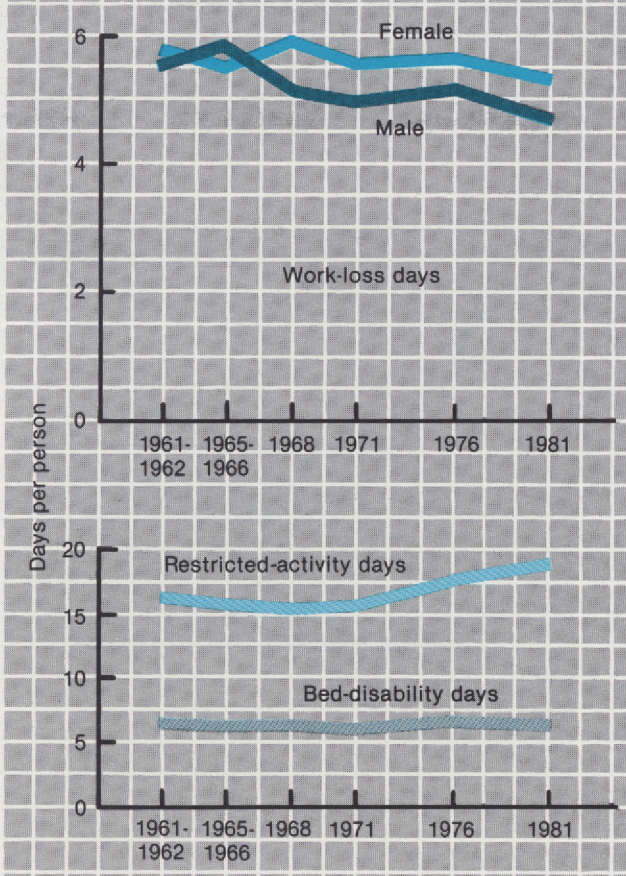
The impact of divorce on the emotional and physical health of children is of clear concern. Another issue of clear concern is deaths from violent causes among teenagers and young adults. In 1982, 76.3 percent of the deaths to young people 15–24 years of age were because of some violent cause—mainly accident, homicide, or suicide. In 1960 as in 1982, accidents were the leading cause of death among persons 15–24 years of age. Whereas deaths from accidents and suicides have continued to show significant sex differences, racial differences have been most pronounced among homicide deaths since 1960. The homicide rate for white males 15–24 years of age has been less than that of both black males and black females in this age group. Between 1978 and 1982 homicide was the leading cause of death among these young black males. But fortunately the homicide rate for black males 15–24 years of age has been declining since 1971 from a high of 108.2 to 72.0 per 100,000 in 1982.

Since 1960 suicide rates **(figure 11)** among young adults 15–24 years of age have been

higher for white males than for either black males, white females, or black females. Since the early 1970's the rates for black females have declined, while those for black males have fluctuated considerably. Since 1977 there has been stability in the rate for white males and a small decline for white females. Among the subgroup of teenagers 15–19 years of age, only the suicide rates for white males have shown no sign of abatement. The 1977 rate of 15.1 per 100,000 for these teenagers was exceeded by a rate of 15.5 in 1982.

Whereas any premature death is particularly regrettable, deaths from violent causes pose one of the most pressing problems facing society today because most of these deaths involve young people who could have had so many more years of productivity ahead of them **(figure 12)**. For example, in 1960, males between 15 and 19 years of age could have expected to live, on average, another 52.3 years. However, motor vehicle accidents, homicides, and suicides claimed the lives of 4,208 of these young men, resulting in a potential of 220,078 years of life lost to society. In 1982 the average life expectancy of these young men was greater than in 1960 and the death toll from these three violent causes was greater. Thus, in 1982 the potential years of life lost to society as a result of these deaths was more than double. Moreover, without the advances that have been made in the treatment of shock and trauma over the years, the tremendous toll that violence continues to exact on society could indeed be higher.

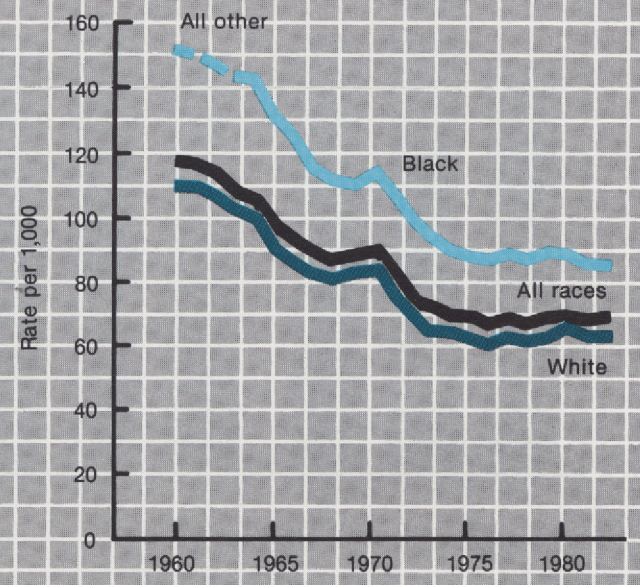
Figure 13. Disability days: United States, 1961-81



NOTE: Data for 1961-62 and 1965-66 are for fiscal years. All other data shown are for calendar years.

SOURCE: Division of Health Interview Statistics, National Health Interview Survey.

Figure 14. Fertility rates for women 15-44 years of age, by race: United States, 1960-82



SOURCE: Division of Vital Statistics, National Vital Statistics System.

Adults

As Americans move into adulthood, measures of productivity and reproduction become important gauges of health. Pinning down an overall measure of productivity is somewhat difficult but can take into account such indicators as days of work lost, bed-disability days, and restricted-activity days. For the most part, these three indicators have remained rather stable throughout the last two decades **(figure 13)**.

Since the mid-1960's women have had higher rates of work-loss days than men. The rates of work loss for both sexes have declined a bit since the mid-1970's.

Since the late 1960's the rate of restricted-activity days has increased. But this increase may not necessarily reflect increased morbidity. Individuals may have become more prone to limiting their activities at the onset of illness to prevent more serious health consequences later. The rise in restricted-activity days as well as the slight increase in bed-disability days also correlates with increases observed in physician utilization and therefore may reflect earlier detection of illness and better health management.

By contrast, measures of the reproductive patterns of the population are easier to define and have shown significant changes between 1960 and 1982. During the 1960's and early 1970's women of childbearing age (15–44 years) were clearly having fewer babies than women had during the late 1940's and 1950's. During this period the fertility rate **(figure 14)** fell from 118 per 1,000 women 15–44 years of age in 1960 to 66 in 1975—attributable mainly

to the unprecedented decline in birth rates for women having three or more children.

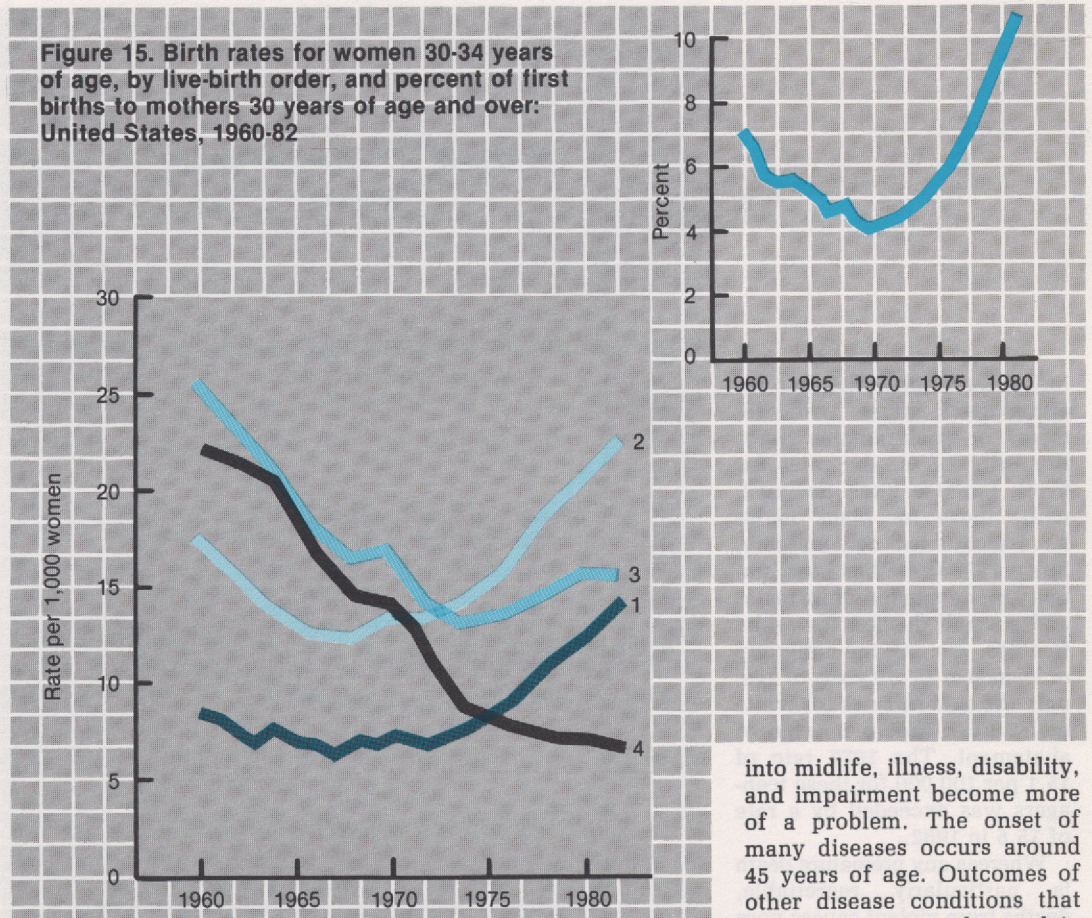
Not only are women having fewer births but many seem to be postponing them as well. The recent increases in birth rates for women in their early thirties is a reflection principally of the substantial rise in first and second birth rates for these women **(figure 15)**. Large cohorts of women born during the Baby Boom began reaching their thirties by the late 1970's, but large proportions of these women seem to have delayed marriage or childbearing, possibly because of employment or education, until age 30 or later. As a result, an increasing fraction of first births began to be born to women in their thirties. In 1982, 10.6 percent of first births were to women 30 years of age and over, compared with 4.0 in 1970 and 6.8 in 1960.

Contraception, both its practice and the choice of methods, is perhaps the principal factor enabling American couples to determine how many children to have and when to have them. For both white and black married couples, use of contraceptives increased between 1965 and 1982, but preferred methods have shifted somewhat differently for each of these two groups **(figure 16)**. Overall, married couples have shown more than a threefold increase in opting for surgical sterilization from 1965 until 1982. On the other hand, by 1982 the popularity of the oral contraceptive pill, introduced in 1960, had declined sharply from its zenith in 1973. Nonetheless, among women who want more children the pill remains the preferred method.

As Americans move beyond their younger adult years and into midlife, illness, disability, and impairment become more of a problem. The onset of many diseases occurs around 45 years of age. Outcomes of other disease conditions that may have gone undetected in earlier years may also become manifest around this age.

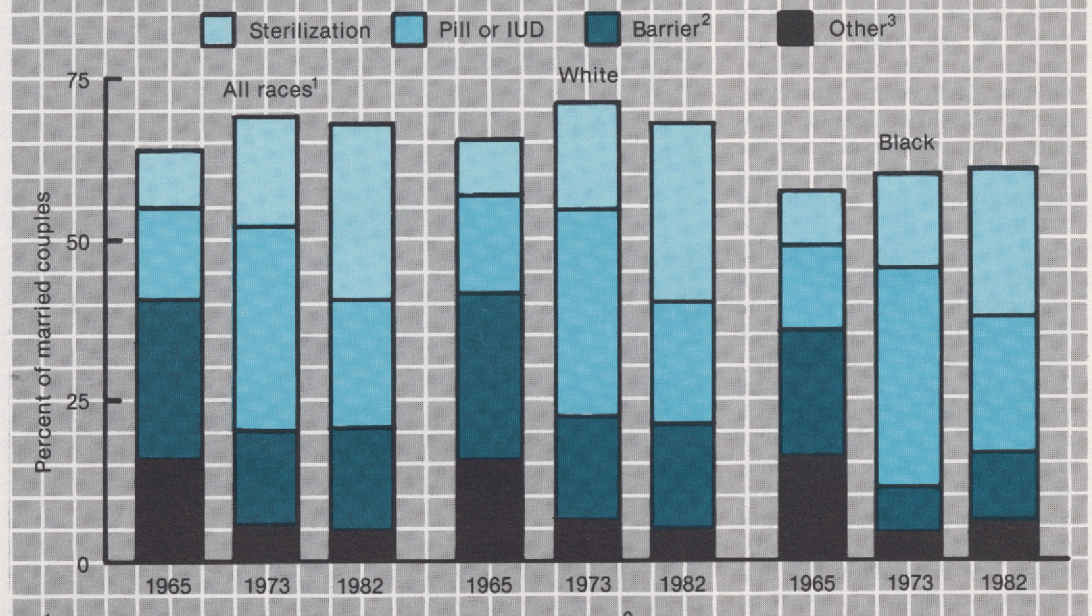
The prevalence of known diabetes **(figure 17)**, for example, shows a tremendous difference between people 25–

Figure 15. Birth rates for women 30-34 years of age, by live-birth order, and percent of first births to mothers 30 years of age and over: United States, 1960-82



SOURCE: Division of Vital Statistics, National Vital Statistics System.

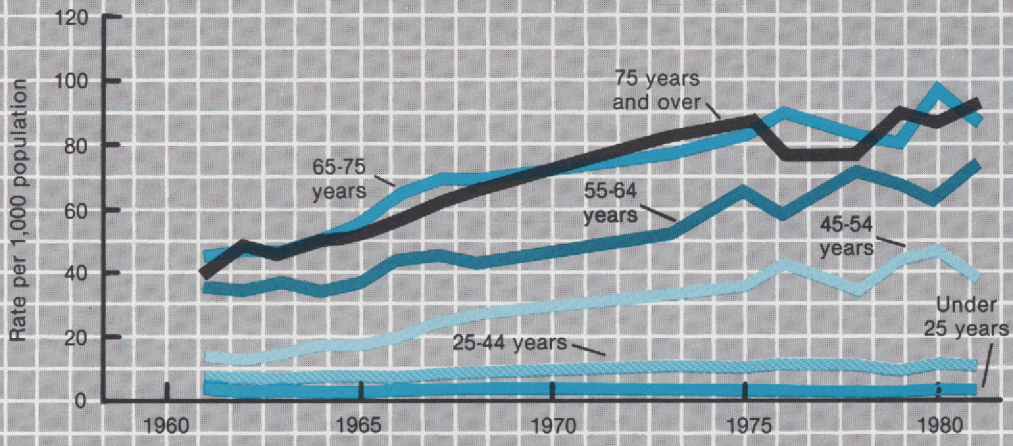
Figure 16. Contraceptive use, according to method and race: United States, 1965, 1973, and 1982



[1]Includes all other races not shown separately.
[2]Includes diaphragm, condom, foam.
[3]Includes rhythm, natural family planning, withdrawal and other.

SOURCE: Division of Vital Statistics, National Survey of Family Growth.

Figure 17. Rates of known diabetes, by age: United States, 1961-81



NOTE: 1961-67 fiscal year. 1968 July-December only. 1973-81 calendar year. 1978-81 based on one-third subsample of households.

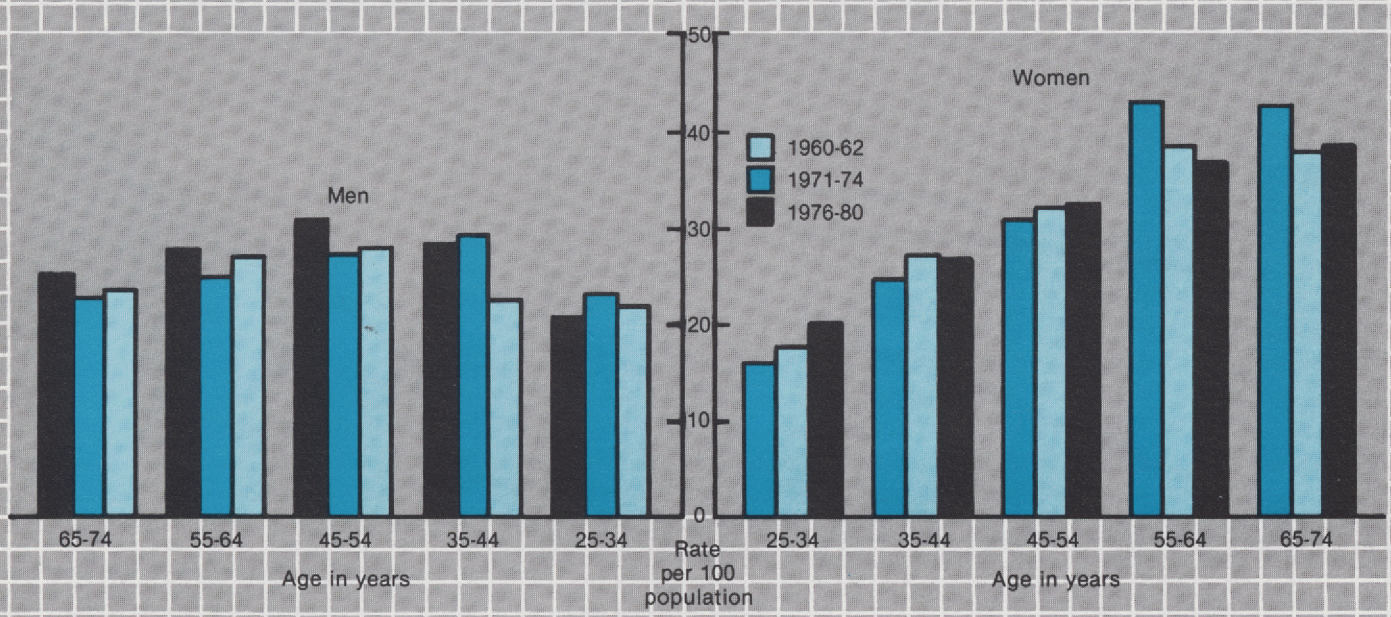
SOURCE: Division of Health Interview Statistics, National Health Interview Survey.

44 years of age and those 45–54 years. In fact, over the 20-year period (1961–81), the prevalence rates for persons in the older age group were on average three to four times as high as those for persons in the younger. However, a number of people of every age are estimated to have undetected diabetes.

Diabetes is more prevalent among women than among men and becomes more prevalent among both sexes with increased age. Although the aging of the population may account for part of the change in prevalence, between 1961 and 1981 diabetes rates have increased appreciably for persons 45 years of age and over, with the rates fluctuating erratically between 1975 and 1981. Some of the increase in the known prevalence of diabetes over the years has resulted from better access to care and improved detection of diabetes as well as from surviving the disease.

Overweight and obesity (an excessive storage of energy in the form of fat) both have been linked to adverse effects on longevity and health. Overweight and obesity are associated with maturity-onset diabetes as well as with other diseases including hypertension, hypercholesterolemia, and coronary artery disease. In 1976–80 approximately 32 million American adults 25–74 years of age (approximately 25 percent) were overweight **(figure 18)**. Over the period 1960–80, the prevalence of overweight remained about the same for most age-sex groups except for an increase among women 25–54 years of age. Of particular interest is the fact that black women are much more likely to be overweight than white women and men of either race. Approximately 60 percent of black females 45–74 years of age were overweight in 1976–80.

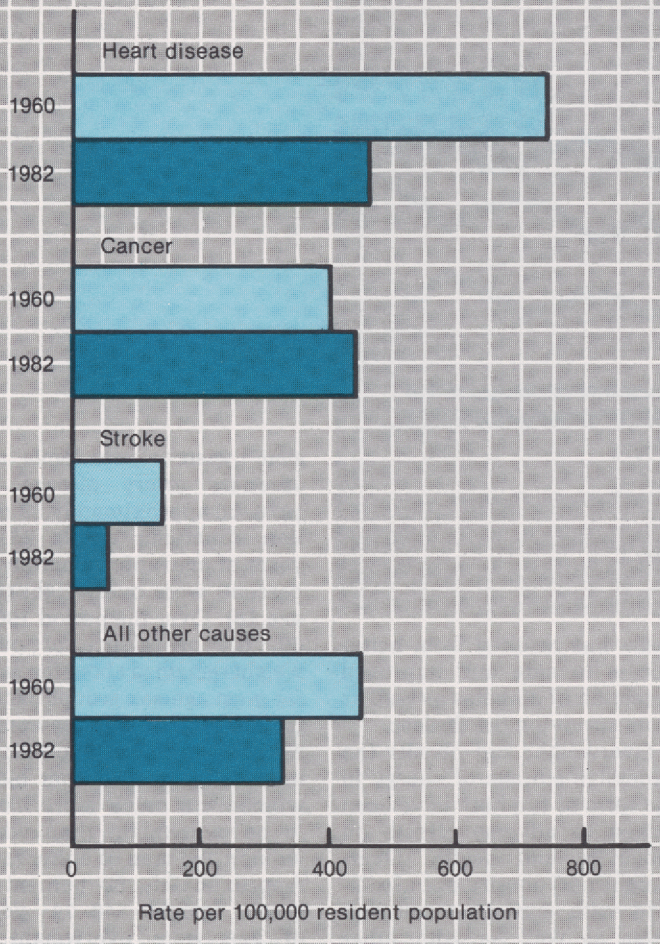
Figure 18. Overweight in persons 25-74 years of age, by sex: United States, selected periods 1960-80



NOTE: Overweight defined as body mass index greater than or equal to sex-specific 85th percentile for persons 20-29 years in 1976-80 NHANES.

SOURCE: Division of Health Examination Statistics, National Health and Nutrition Examination Survey.

Figure 19. Death rates for heart disease, cancer, and stroke for persons 55-64 years of age: United States, 1960 and 1982



SOURCE: Division of Vital Statistics, National Vital Statistics System.

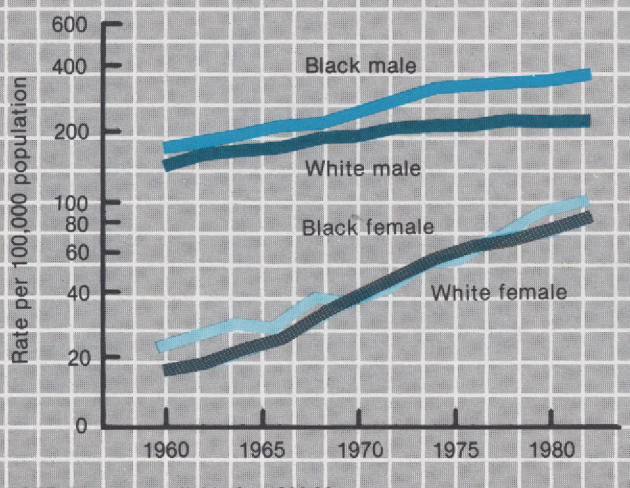
Late midlife is the time when death rates—particularly those from heart disease, cancer, and stroke—become significantly higher than those for younger persons **(figure 19)**. In 1960 and in 1982 diseases of the heart, cancer, and stroke represented the three leading causes of death for persons 55–64 years of age. Of the three only rates for cancer were higher in 1982 than in 1960. Among this age group the death rates for stroke declined 60 percent and heart disease declined 36 percent; but the death rates for cancer increased about 11 percent.

The major factor in the increased cancer death rates was respiratory cancer **(figure 20)**. In 1982 mortality from respiratory cancer among persons 55–64 years was approaching two times what it was in 1960. If respiratory cancer were not considered, mortality from cancer for this age group would show a decline of 8 percent between 1960 and 1982.

The 1979–82 trends for respiratory cancer are all generally upward for both races and both sexes beginning with older age groups, but the rises are steeper for females. Between 1979 and 1982 the percent of increase for women 55–64 years was about 20 percent compared with 3 percent for men. This rapid increase for women is associated with increases in cigarette smoking.

In marked contrast to death rates for cancer, death rates for heart disease declined for the entire population between 1960 and 1970. Since the mid-1960's the decline in death rates for heart disease among persons 55–64 years of age has been steady and dramatic. If the 1960 death rates for heart disease had prevailed, heart disease would have claimed far more lives in 1982 than it actually did for this age group **(figure 21)**. This decline in deaths from heart disease has been the major factor contributing to a decline in total mortality for the population 55–64 years of age and has also been the major factor contributing to greater numbers of Americans living to age 65. In 1960, 71 percent of the population could expect to reach their 65th birthdays; by 1982, 78 percent could expect to reach that age. On average, Americans who attained 65 years of age in 1983 could expect to live another 16 or 17 years. In 1960 life expectancy at age 65 was just 14 years.

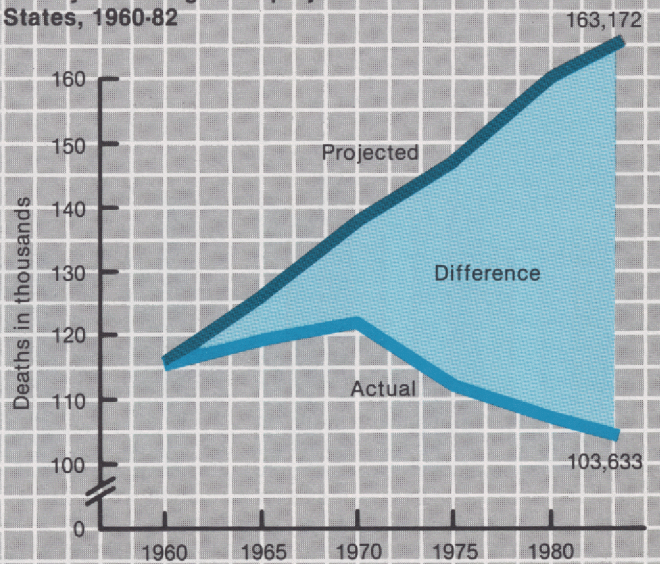
Figure 20. Death rates for respiratory cancer for persons 55-64 years of age, by race and sex: United States, 1960-82



NOTE: Data not available for 1962-63.

SOURCE: Division of Vital Statistics, National Vital Statistics System.

Figure 21. Deaths from heart disease for persons 55-64 years of age and projected deaths: United States, 1960-82



SOURCE: Division of Vital Statistics, National Vital Statistics System. Projections computed by Division of Epidemiology from data compiled by Division of Vital Statistics.

Elderly

Most of the elderly do not reside in nursing homes or in any other institution but reside in the community, despite some chronic disability or impairment. A growing proportion of these elderly persons are maintaining households even though some may need help with personal care such as bathing or dressing or with home management activities such as doing household chores or preparing meals. Most of these householders are women, mainly because of longer lives compared with men, but partly because of changes in patterns of marriage, remarriage, and divorce.

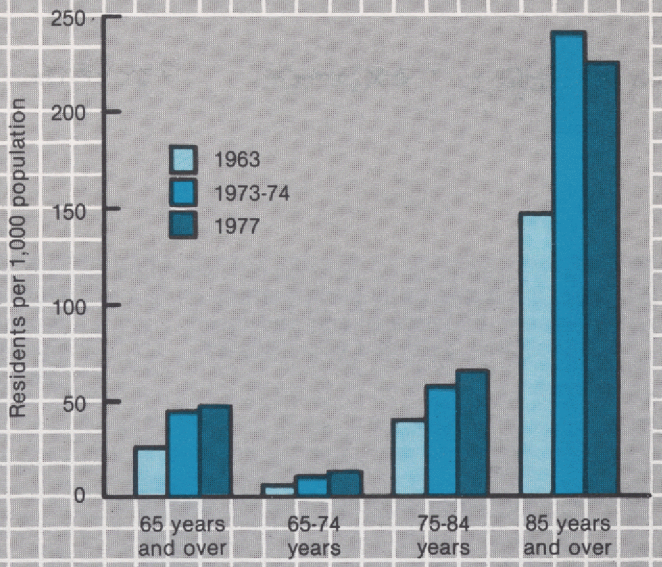
Since the late 1960's women have been, in general, marrying at a slower rate and divorcing at a higher rate, and men have been remarrying at a faster rate than women **(figure 22)**. In 1982 widows were only about half as likely to remarry as they were in 1963. In 1963 the number of remarriages per 1,000 widowed women was 10.2; in 1982 it was 6.1. Although the rate of remarriage among both widows and widowers has declined since the 1960's, still in 1982, widowers were over five times as likely as widows to remarry after the death of a spouse. In 1963 the number of remarriages per 1,000 widowed men was 38.4; in 1982 it was 32.1.

Although only a small proportion of the elderly live in nursing homes, most of the nursing home population is elderly. From the early 1960's through the late 1970's (1977), the elderly population residing in nursing homes increased 88 percent **(figure 23)**. Although the nursing home population between the ages of 65 and 74 doubled its size during this period, this group of nursing home residents accounted for only a small portion of the overall increase in the nursing home population. The major portion was accounted for by the elderly population 85 years of age and over, which had the biggest increase in numbers, consistent with their poorer health and their greater likelihood of living alone. From the mid-1970's to late 1970's, the growth of the elderly population in nursing homes has stabilized, particularly among the oldest residents.

To a large degree, increases in life expectancy of the elderly can be attributed to advances in medical technology. Advances in medical technology are also responsible for certain innovations and improvements in medical procedures, medicines, prostheses, and so on, which can enable these seniors to better manage impairments or to obtain relief from pain caused by illness.

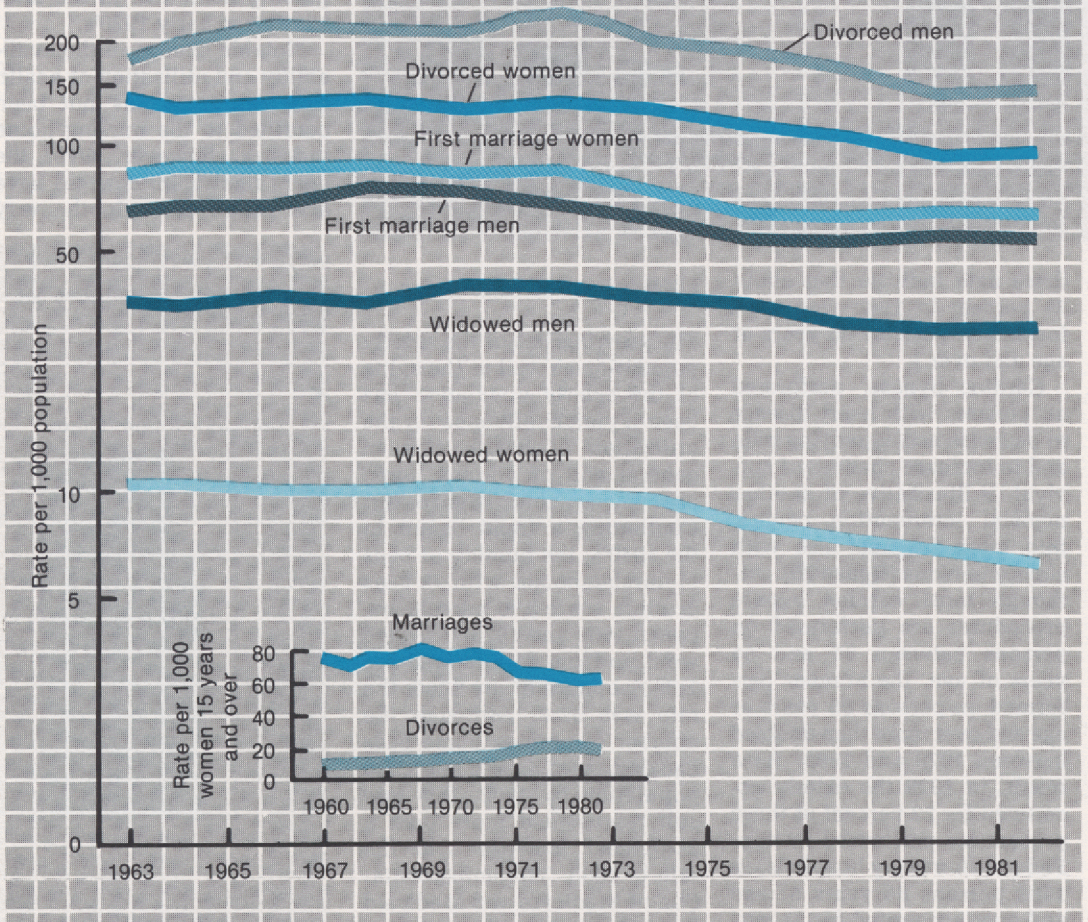
Surgical procedures for lens extractions have been modified over time so that they are safer, result in less trauma to the patient, and involve shorter lengths of stay in the hospital. These benefits are extremely important to older people who suffer the greatest number of eye impairments, especially cataracts,

Figure 23. Nursing home use by persons 65 years of age and over: United States, 1963, 1973-74, and 1977



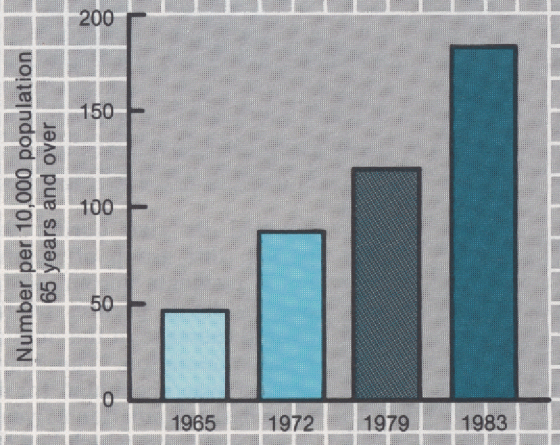
SOURCE: Division of Health Care Statistics, National Nursing Home Survey.

Figure 22. Marriage rates for men and women, by previous marital status, and marriage rate for unmarried women and divorce rate for married women: United States, 1963-82



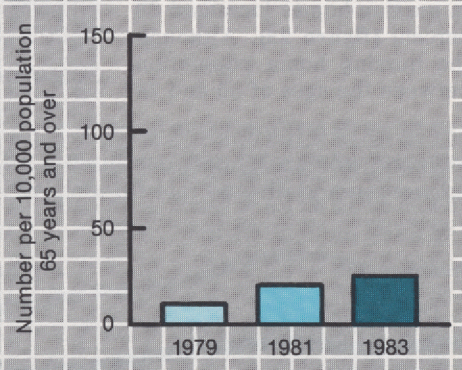
SOURCE: Division of Vital Statistics, National Vital Statistics System.

Figure 24. Rates of lens extractions for persons 65 years of age and over: United States, selected year 1965-83



NOTE: Includes only non-Federal short-stay hospitals.
SOURCE: Division of Health Care Statistics, National Hospital Discharge Survey.

Figure 25. Rates of cardiac bypass procedures for persons 65 years of age and over: United States, 1979, 1981, and 1983



NOTE: Includes only non-Federal short-stay hospitals.
SOURCE: Division of Health Care Statistics, National Hospital Discharge Survey.

but whose physical health is less able to cope with the strains of surgery.

From 1965 to 1983 lens extraction procedures performed on the civilian population in non-Federal short-stay hospitals increased from 142 thousand to 630 thousand per year—more than a fourfold increase **(figure 24)**. The majority of these procedures have always been performed on patients 65 years of age and over. Between 1965 and 1980 the proportion of these operations performed on the elderly increased from 61 percent to 80 percent. In 1965 lens extractions were performed on the elderly at a rate of 47 per 10,000 population; in 1983 the rate was 183. (Although data on the insertion of prosthetic lenses associated with cataract operations have become available only recently, these data indicate that about 83 percent in 1983 were performed on patients 65 years of age and over.)

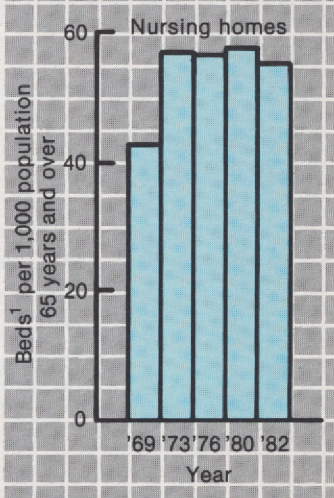
Cardiac bypass, performed on persons with heart disease to decrease accompanying pain and to increase chances of survival, is illustrative of another medical intervention coming into more frequent use with elderly persons **(figure 25)**. Although most cardiac bypass procedures are performed on persons between 35 and 64 years of age, the number performed on persons 65 years of age and over more than doubled between 1979 and 1983. As a result, in 1979 the elderly accounted for 22 percent of these procedures performed in non-Federal short-stay hospitals; in 1982 persons 65 years of age and over accounted for 35 percent of these operations.

Utilization of resources

The growing size of the elderly population as well as the aging of the elderly population has been a major influence on the utilization of health care in general and of nursing home care in particular **(figure 26)**. Continuing a trend begun in the 1940's, the number of beds in nursing homes with 25 beds or more soared 30 percent between 1969 and 1973. The rate went up from 43.4 to 56.8 per 1,000 population. By 1980, the rate was 57.2. Although the number of nursing home beds had decreased to 54.8 per 1,000 population by 1982, this rate still represented more than a 25-percent increase over the rate in 1969. The implementation of Medicare and Medicaid in 1966 and the liberalization of eligibility requirements for these programs in 1972 were the main contributors to the rapid increase in the rate of nursing home use in the mid-1960's and early 1970's.

Notable change in the availability and utilization of health care resources has not been confined to the nursing home industry, however. Over the years significant changes have also taken place in the way

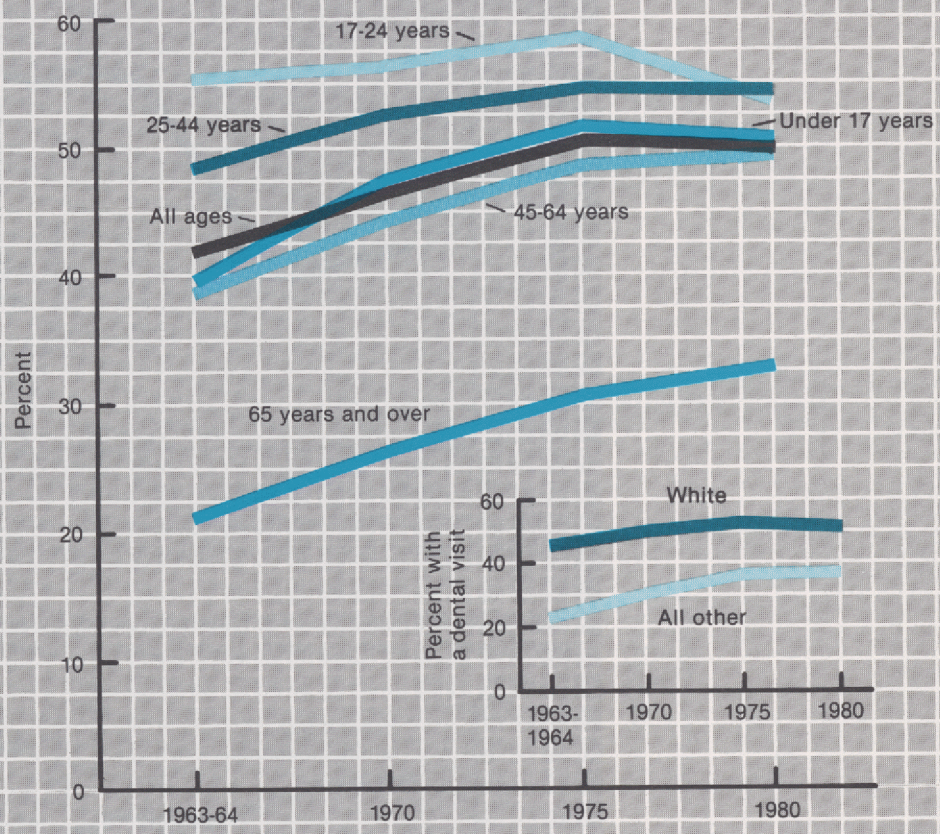
Figure 26.



[1]Nursing homes with 25 or more beds.

Americans have come to use dentists, physicians, and hospitals, as well as in the way these practitioners make their services available. Although changes in the nature and availability of health care services and resources have affected patterns of mortality and morbidity, changes in mortality and morbidity have, in turn, helped shape patterns of health care utilization.

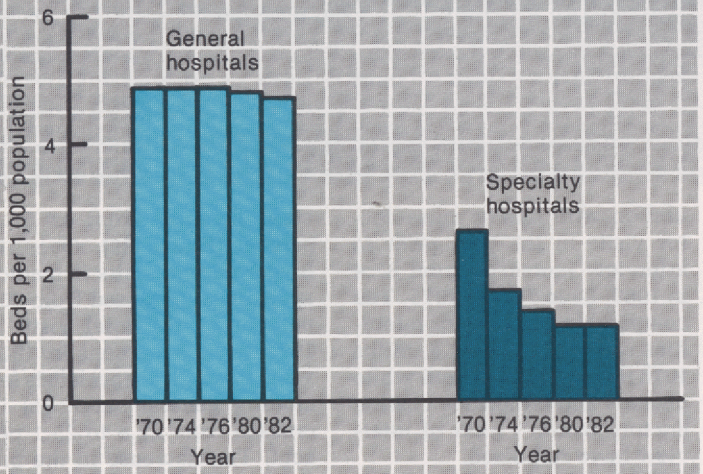
Figure 27. Percent of population with a dental visit within 1 year, by age and race: United States, selected years 1963-80



NOTE: In 1963-64 the age categories were: under 15 years, 15-24 years, 25-44 years, 45-64 years, 65 years and over.

SOURCE: Division of Health Interview Statistics, National Health Interview Survey.

Bed rates for nursing homes, general hospitals, and specialty hospitals: United States, selected years 1969-82

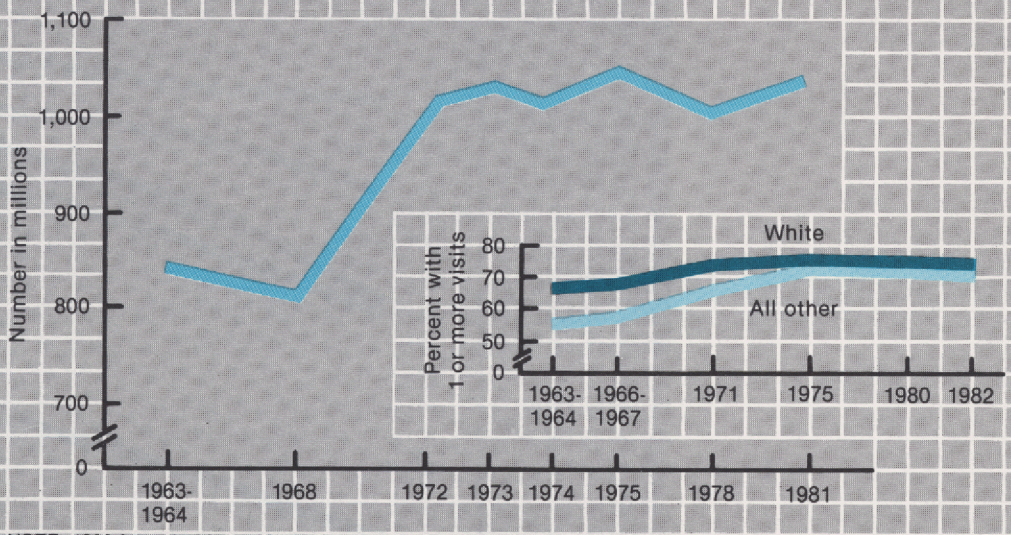


SOURCE: Division of Health Care Statistics, National Master Facility Inventory.

In contrast to the increase in nursing home beds, the number of beds in specialty hospitals has decreased. In 1982 the number of beds per 1,000 population was one-half of what it was in 1970 (1.1 compared with 2.6). During this same 12-year period the number of beds in general hospitals decreased slightly.

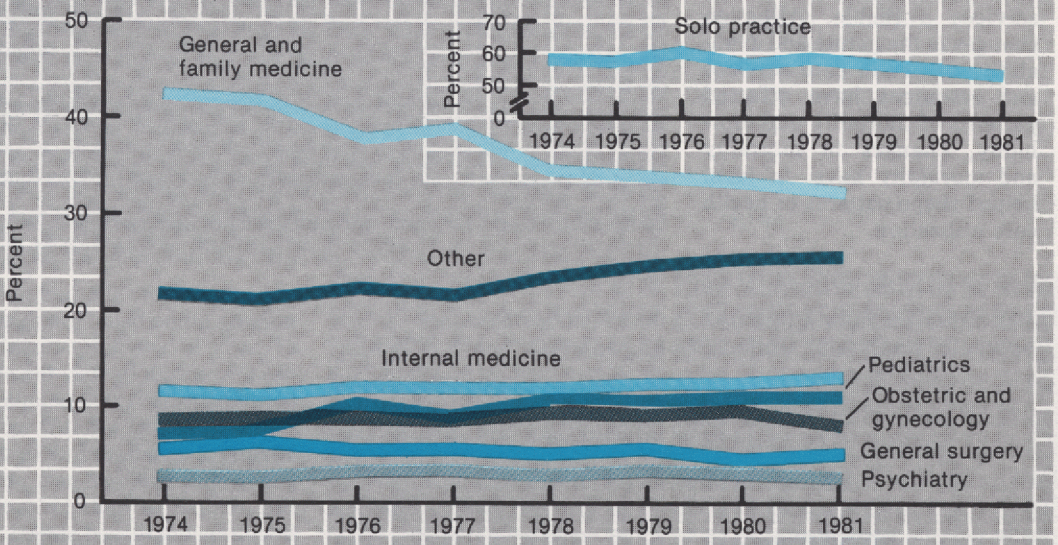
Since 1963–64 Americans on the whole have increased their use of dental services **(figure 27)**. In 1963–64, 42 percent of the population had seen a dentist in the previous year compared with about 50 percent in 1980. From the early 1960's to the mid-1970's, increases were the greatest for the older and younger populations (65 years and over and under 17 years). Since 1975, rates have been relatively stable for most age groups, although a continued rise is noted among the elderly.

Figure 28. Physician visits and percent of population with 1 or more visits, by race: United States, selected years 1963-82



NOTE: 1963-64 and 1966-67 are for fiscal years. All other years shown are for calendar year.
SOURCE: Division of Health Interview Statistics, National Health Interview Survey.

Figure 29. Distribution of physicians visits, by physician specialty, and percent of physicians in solo practice: United States, 1974-81



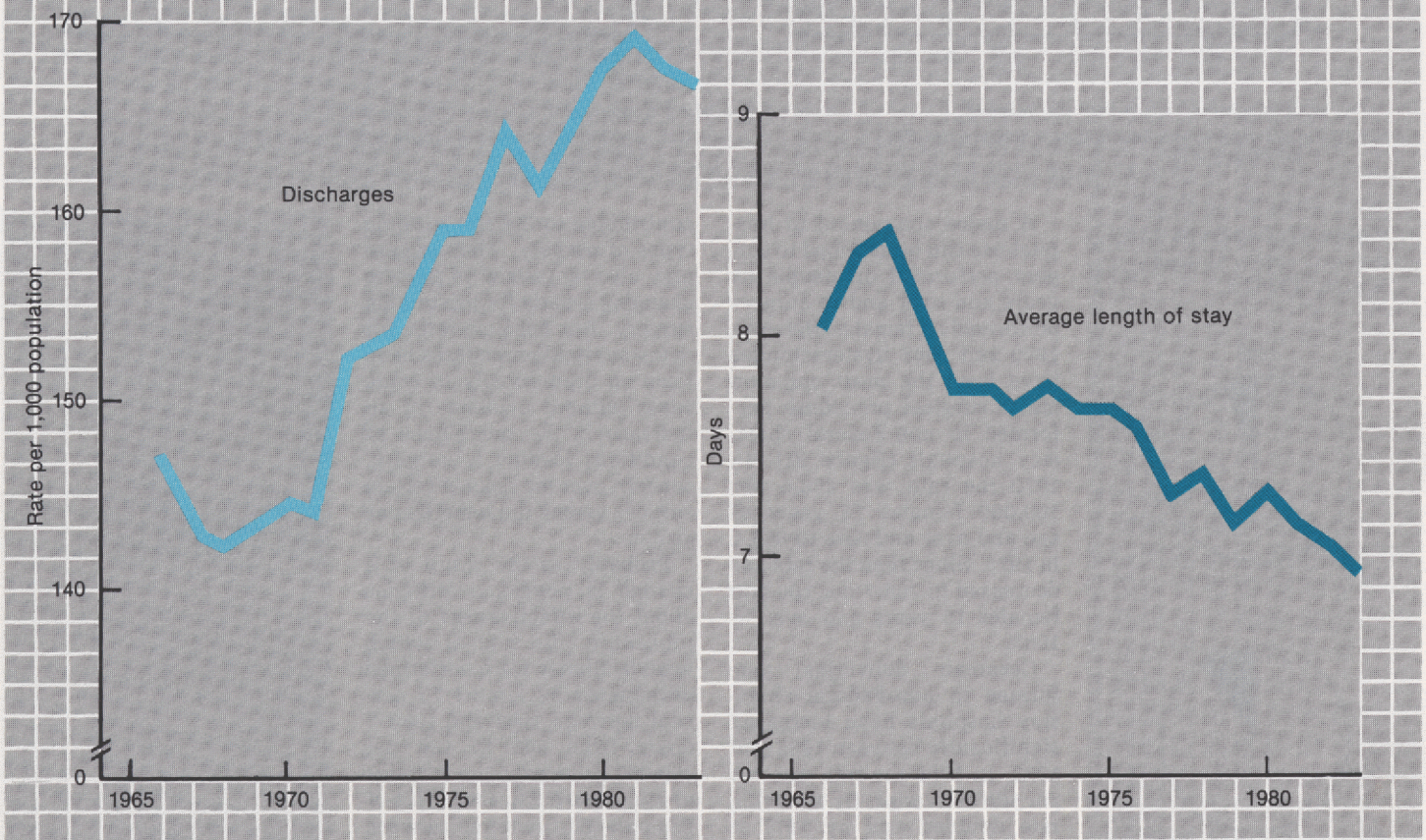
SOURCE: Division of Health Care Statistics, National Ambulatory Medical Care Survey.

Americans have also sought more physician services since the early 1960's. In fact, the volume of physician visits that Americans made per year climbed between 1968 and 1972, from just over 815 million to over 1 billion **(figure 28)**. The increase in the single year 1969–70 was over 87 million. Availability of care through the Medicare and Medicaid programs is responsible for a large portion of this increase. The annual volume of physician visits was relatively stable from 1972 through 1982. Nevertheless, during this period Americans continued to make over 1 billion visits per year to physicians.

Consistent with this rise in the volume of physician visits has been an increase in the number of people visiting physicians. The percent of the population with one or more doctor visits in the year prior to interview increased from 67.4 in 1963–64 to 75.7 in 1975. The comparable percents for minorities were 52.2 and 71.5. Since 1975 the percents of both white persons and minorities visiting doctors within 1 year of interview have stabilized.

From 1974 through 1981 the percent of office visits to general and family practice physicians declined from 42 to 33 percent **(figure 29)**. Over the 8-year period, visits to medical specialists increased from 25.0 percent of the total visits in 1974 to 31.3 percent in 1981; visits to surgical specialists (excluding general surgeons) increased from 22.4 to 25.1 percent. The decrease in the proportion of visits to general and family practice physicians can be attributed largely to a cor-

Figure 30. Discharge rates and average length of stay in non-Federal short-stay hospitals: United States, 1966-83



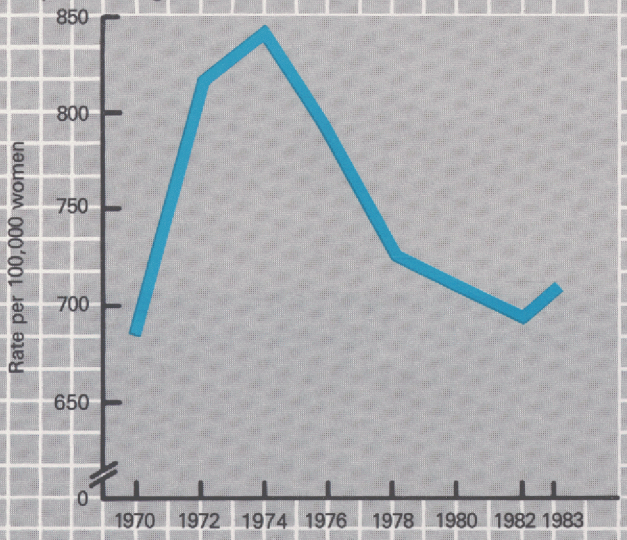
SOURCE: Division of Health Care Statistics, National Hospital Discharge Survey.

responding decrease in the proportion of these doctors in office-based practices.

From 1974 through 1978 visits to solo practice physicians accounted for about 60 percent of all visits. This percent decreased substantially in 1979 and was down to 55.0 percent in 1981. It appears, however, that the corresponding increase in the proportion of visits to group practices and partnerships lagged somewhat behind the earlier growth of these practices.

The period 1966–71 represented a time of rather stable hospital discharge rates from non-Federal short-stay hospitals; but from 1972 to 1983 there was a small but steady increase in the utilization of these hospitals **(figure 30)**. In 1972 the rate of discharges from these facilities was 152 per 1,000 population; in 1983 it was 167 per 1,000. For the most part, however, the trend in the average length of stay of patients in non-Federal short-stay hospitals has been in the opposite direction. The average length of time patients stayed in these facilities rose somewhat between 1965 and 1968 but declined thereafter. From 1968 to 1983 the average length of stay decreased from 8.5 days to 6.9 days per patient.

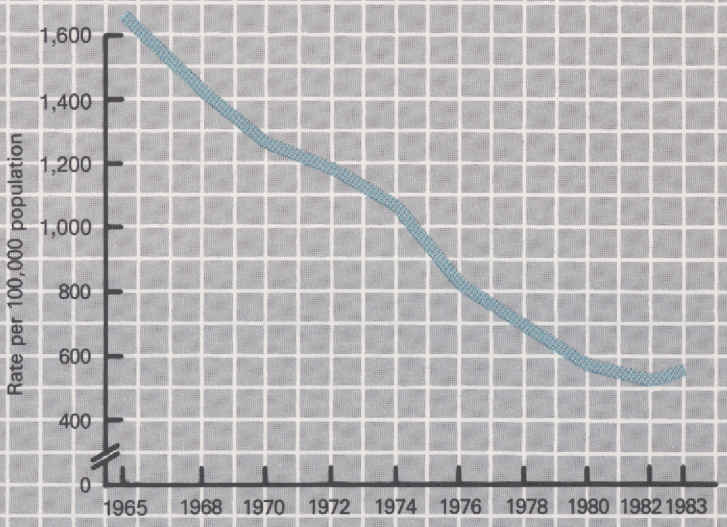
Figure 31. Rates of hysterectomies for women 15 years of age and over: United States, 1970-83



NOTE: Includes only non-Federal short-stay hospitals.

SOURCE: Division of Health Care Statistics, National Hospital Discharge Survey.

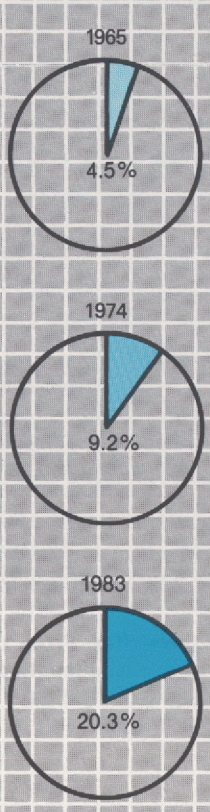
Figure 33. Rates of tonsillectomies for persons under 16 years of age: United States, 1965-83



NOTE: Includes only non-Federal short-stay hospitals.

SOURCE: Division of Health Care Statistics, National Hospital Discharge Survey.

Figure 32. Cesarean delivery rates: United States, 1965-83



NOTE: Includes only non-Federal short-stay hospitals.

SOURCE: Division of Health Care Statistics, National Hospital Discharge Survey.

A major component of hospital use can be ascribed to surgery performed on people 65 years and over and to surgery performed on females. Between 1970 and 1983 hysterectomies have been the most common major surgical procedure performed in non-Federal short-stay hospitals **(figure 31)**. In 1970 the rate was 688.5 per 100,000 females 15 years of age and over and rose to 863.1 in 1975. Since then the rate has decreased to 708.7 per 100,000 females 15 years and over in 1983.

Cesarean deliveries performed in non-Federal short-stay hospitals have increased significantly between 1965 and 1983. In 1965 the rate was 4.5 per 100 deliveries. By 1974 this rate doubled and by 1977 it tripled. At 20.3 cesareans per 100 deliveries in 1983, the rate of cesarean delivery more than quadrupled over the 18-year period **(figure 32)**. The increase has been fairly uniform for women of all ages and marital statuses. The increasing cesarean rate for younger mothers has contributed heavily to the overall rise because almost all of their subsequent births have been by surgical delivery.

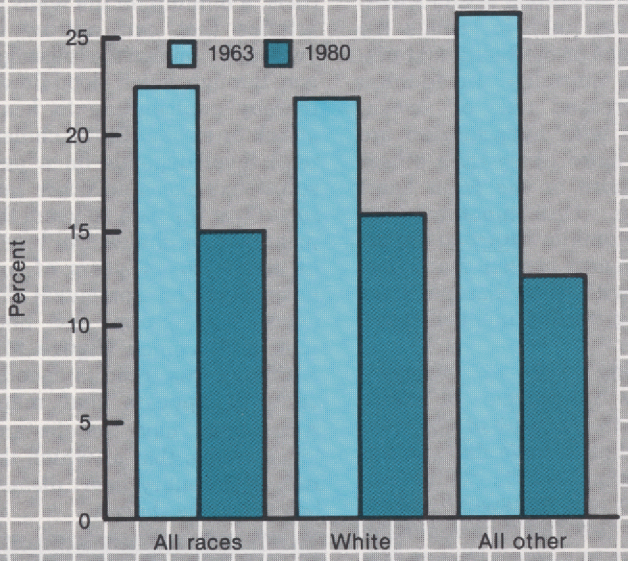
Increased specialization by doctors and more sophisticated medical technology may have contributed to the rise in some types of surgery. The increase may also be caused in part by changing criteria for performing surgery. But because rates for many surgical procedures have risen so dramatically in some cases without evidence of an increase in the prevalence of conditions leading to surgery, concern over the risks of certain surgery versus the benefits has grown.

Probably as the result of a change in physician attitudes about the effectiveness of the procedure, the rate at which tonsillectomies were performed plummeted by almost 70 percent between 1965 and 1983—down from 541 to 166 per 100,000 children under 15 years of age **(figure 33)**. Over half of this reduction occurred between 1965 and 1974.

Similar concerns are arising about obstetrical diagnostic techniques (x rays, ultrasound, electronic fetal monitoring, and amniocentesis). Although these techniques are particularly beneficial in high-risk or complicated cases, there is considerable controversy over whether their risks and costs outweigh their benefits in low-risk or uncomplicated pregnancies.

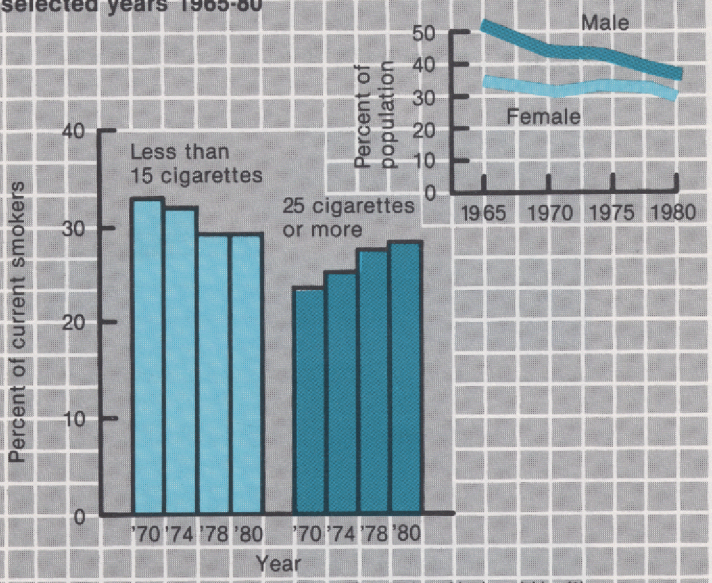
Subsequent to major public awareness campaigns stressing the need for caution in exposing

Figure 34. Mothers exposed to medical x rays during pregnancy, by race: United States, 1963 and 1980



SOURCE: Division of Vital Statistics, National Natality Survey.

Figure 35. Current smokers 17 years of age and over, by cigarettes smoked per day and sex: United States, selected years 1965-80



SOURCE: Division of Health Interview Statistics, National Health Interview Survey.

pregnant women to ionizing radiation, use of x-ray procedures on expectant mothers declined **(figure 34)**. In 1963, 22.5 percent of the mothers who gave birth to live infants were exposed to medical x rays during pregnancy, compared with 15 percent in 1980. In 1963, 21.8 percent of white mothers and 25.9 percent of mothers of other races were exposed to medical x rays. By 1980 these proportions had declined to 15.6 percent for white mothers and 12.4 percent for mothers of other races. Similar reductions occurred for pregnant women in all age groups.

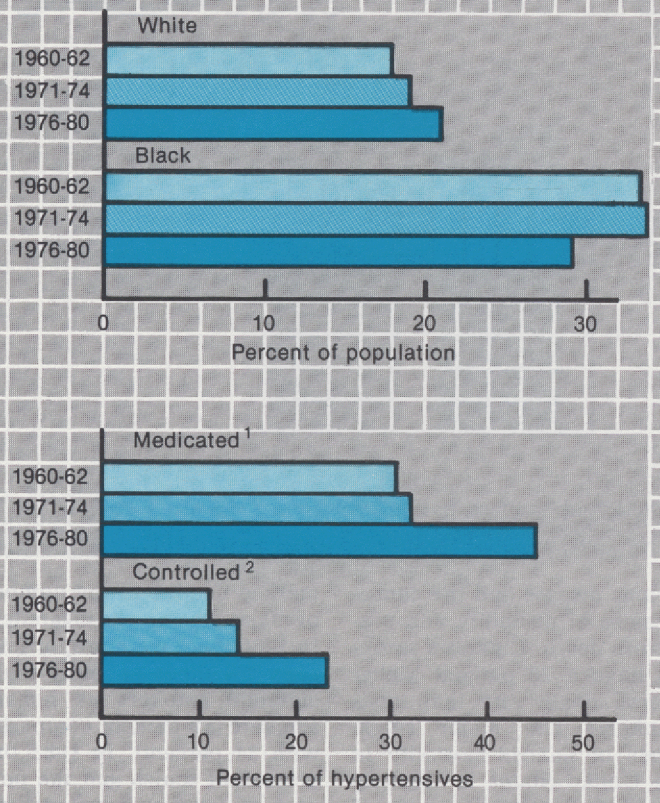
Selected risk factors

Indeed surgery and most other medical interventions require that both benefit and risk be weighed. In fact, as the tools of medical science become more powerful and sophisticated, the risks of iatrogenic diseases or other ill effects from medical care can increase rather than decrease. Despite the legitimacy of such concerns, far less is known about the risks of medical technology than is known about the benefits. Case after case documents the contributions of medical science and technology to enhancing and extending the lives of the American people. Yet, as a result of the changing nature of health problems, the potential for continued improvements in health may depend as much on what people do or do not do for themselves. The choices an individual makes about behavior related to smoking, drinking, nutrition, rest, and work habits, as well as the use of preventive health services such as periodic pap smears, physical and breast examinations, and checkups for hypertension, can reduce the risk of health problems in a number of areas.

Stopping cigarette smoking may be the most promising action to reduce the incidence of serious disease and the consequences of disability and premature death. Cigarette smokers have a 70 percent higher overall death rate than nonsmokers. The major single cause of cancer mortality in the United States is cigarette smoking. Smoking is a causal factor in coronary heart disease and arteriosclerotic peripheral vascular disease and is also the most important cause of chronic obstructive lung disease. Cigarette smoking during pregnancy can increase the risk of spontaneous abortion, retarded fetal growth, and even fetal or neonatal death. Smoking acts synergistically with other factors (obesity and/or hypertension, for example) to increase risk of disease and premature death from a host of causes.

The number of cigarette smokers has shown a major decline since the first Surgeon General's Report on Smoking and Health released in 1964 **(figure 35)**. Even the relatively sharp rise in smoking among teenage females that occurred during the mid-to-late 1970's has since been curbed. A major pattern in smoking behavior that has emerged over the past two decades is a convergence of the proportions of smokers for males and females, which is primarily attributable to the marked decline in the number of males who smoke cigarettes. In 1965 there were proportionately 1½ times as many male cigarette smokers as female smokers (52 percent compared with 34 percent). In 1983 the percent of males and the percent of females who smoked were just about equal. Among persons continuing to smoke, however, the percent who

Figure 36. Definite hypertension among persons 18-74 years of age: United States, selected periods 1960-80



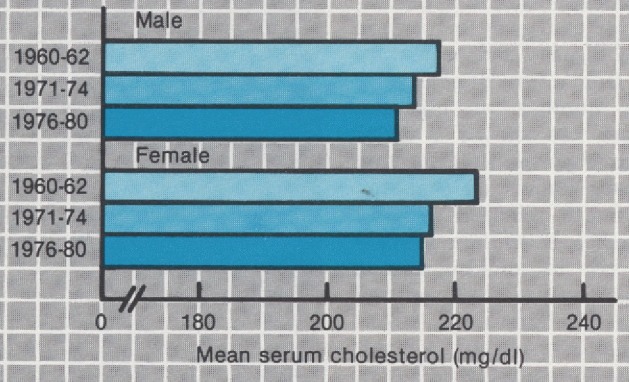
[1]Taking antihypertensive medication "always," "often," or "sometimes."

[2]Systolic blood pressure less than 160 mmHg and diastolic less than 95 mmHg.

NOTE: Age adjusted.

SOURCE: Division of Health Examination Statistics, National Health and Nutrition Examination Survey.

Figure 37. Mean serum cholesterol levels for persons 20-74 years of age, by sex: United States, selected periods 1960-80



NOTE: All values referenced to the Abell-Kendall method. Abell, L. L., et al.: A simplified method for the estimation of total cholesterol in serum and demonstration of its specificity. *J. Biol. Chem.* 195:357-66, 1952.

SOURCE: Division of Health Examination Statistics, National Health and Nutrition Examination Survey.

smoke 25 or more cigarettes per day has been increasing.

Controlling hypertension is another important action Americans can take to reduce the incidence of morbidity and premature mortality. In addition to increased risk of stroke, people with hypertension are much more likely than others to acquire or die from heart disease. Unfortunately, the asymptomatic nature of hypertension may prevent many persons with this disease from seeking needed medical treatment.

During 1960–62 approximately 18 percent of white adults 18–74 years of age were estimated to have definite hypertension. In 1971–74 the proportion was somewhat higher, and in 1976–80 the proportion stood at 21 percent **(figure 36)**. In 1971–74 the proportion of black adults who had definite hypertension was 15 percentage points higher than that of white adults, but by 1976–80 this differential had been cut almost in half. Between 1971–74 and 1976–80 the proportion of black adults with hypertension decreased from 33.9 to 28.6 percent.

Interpreting the exact magnitude of the changes suggested by these trends is complicated to some degree because increased understanding of how to treat and control hypertension has led physicians to diagnose and treat patients at lower levels of blood pressure than earlier. In 1960–62 about one-third of the population with definite high blood pressure took some type of antihypertensive medication. In 1976–80 still less than half the population with definite hypertension was taking medication. Nevertheless, the proportion of hypertensives who were keeping their blood pressure below the level of 160/95 mmHg nearly doubled between 1960–62 and 1976–80—in part because of adherence to prescribed medication.

Good dietary practices may help people to enhance their prospects of maintaining health. Such practices include the consumption of more fresh fruit and vegetables and less refined sugars, fats (especially saturated fat), sodium, and cholesterol.

Studies have shown that too much cholesterol in the blood is associated with arteriosclerosis, a buildup on the walls of arteries that can narrow or eventually close the passageway through which blood flows, thereby contributing to heart attack or stroke. Blood cholesterol level depends on a person's sex, age, and other factors. Over the past 20 years the mean serum cholesterol levels of adults 20–74 years of age have declined somewhat for every age group for both men and women **(figure 37)**. Although this trend is encouraging it appears that many Americans have cholesterol levels above that at which the risk of coronary heart disease begins to rise sharply.

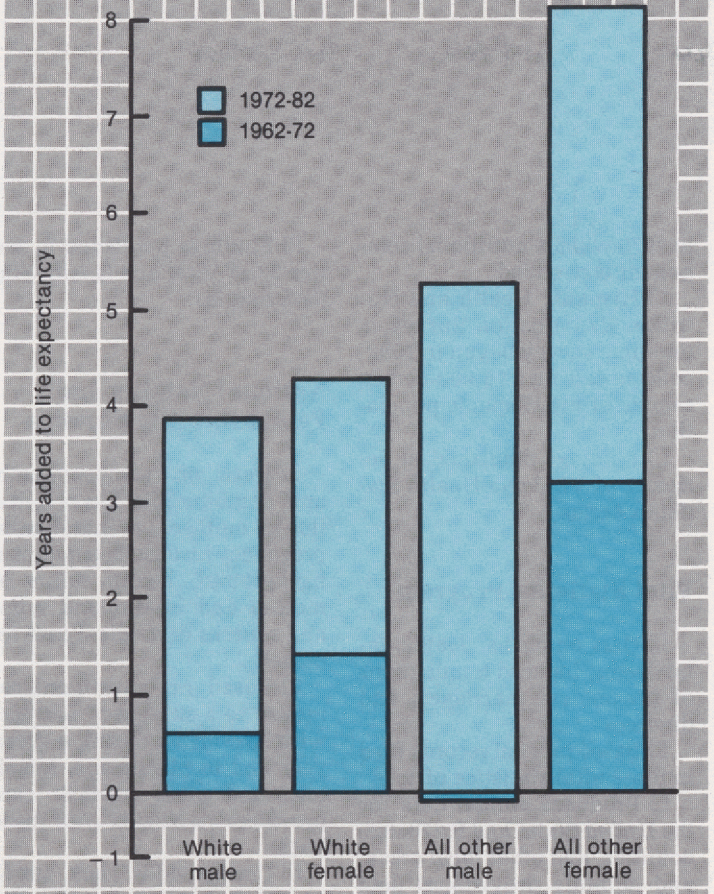
Conclusion

Although many of the major causes of death and disease among Americans lend themselves to preventive modalities, many diseases, illnesses, and impairments remain for which knowledge of risk is unknown or inconclusive. Continued social, biomedical, and biotechnologic advances as well as healthier lifestyles will all help to determine what will be reflected by health statistics over the next 25 years.

As recently as the mid-1960's further declines in the death rate were not expected. But death rates continued to decline over the following years and at a faster rate. As a result, greater gains in life expectancy at birth occurred during the more recent 10-year period (1972–82) than in the preceding 10 years **(figure 38)**. Over the entire 20 years 1962–82 females made greater gains in life expectancy at birth than males, and females among minority races realized the greatest gain of all.

It is indeed uncertain whether trends in these data will continue to chart impressive gains in life expectancy like those of the past two decades. While in the mid-1980's it is still not certain how much further, if at all, death rates will decline, it is certain that reducing the physical, emotional, and economic burdens imposed by illness remains a major challenge. It is to be hoped that over the next 25 years health statistics will document that more and more Americans survive to reach their potential life expectancy and will also reflect further improvements in quality of life.

Figure 38. Years of life added to life expectancy at birth, by race and sex: United States, 1962-72 and 1972-82



SOURCE: Division of Vital Statistics, National Vital Statistics System.

Appendix

Data systems and sources

National Health Interview Survey

☐ Data on the incidence of illness and accidental injuries; prevalence of chronic diseases and impairments; disability; physician and dental visits; hospitalizations; and other health topics; and on the relationship among demographic and socioeconomic characteristics and health characteristics

☐ Based on household interviews conducted in about 42,000 households representative of the civilian noninstitutionalized population

☐ Conducted annually since 1957

☐ Findings published in Series 10 of *Vital and Health Statistics* series

National Health and Nutrition Examination Survey

☐ Data on the prevalence of specific conditions or chronic diseases; data on blood pressure, serum cholesterol, and visual acuity to determine normal levels; and nutritional status and deficiencies

☐ Based on physical examination including laboratory procedures, medical history, and standardized tests administered to a sample of 30,000 people, 1–74 years of age

☐ Conducted in 2- to 4-year cycles in mobile examination centers

☐ Began in 1959 as the Health Examination Survey, expanded in 1970 when a nutritional component was added

☐ Hispanic Health and Nutrition Examination Survey, a one-time survey begun in 1982, collects data on a 16,000-person sample of the Hispanic population.

☐ Findings published in Series 11 of *Vital and Health Statistics* series

Vital Statistics Program

☐ Data on births, deaths, fetal deaths, induced terminations of pregnancy, marriages, and divorces

☐ Based on vital records filed in State vital statistics offices

☐ Produces annual data for the United States and for States, counties, and other local areas, and monthly provisional data for the United States and each State

☐ Findings published in *Monthly Vital Statistics Report*, annual *Vital Statistics of the United States*, and Series 20 and 21 of *Vital and Health Statistics* series

National Survey of Family Growth

☐ Data on family planning practices and attitudes, factors influencing trends and differences in fertility, and related aspects of maternal and child health

☐ Cycles I and II, conducted in 1973 and 1976, based on interviews with about 9,000 and 10,000 ever-married women ages 15–44, respectively

☐ Cycle III, conducted in 1982–83, representative of all women 15–44 years regardless of marital status

☐ Findings published in Series 23 of *Vital and Health Statistics* series

National Natality and Fetal Mortality Surveys

☐ Data on socioeconomic and demographic characteristics of mothers, prenatal care, pregnancy history, occupational background, health status of mother and infant, and types and sources of medical care received

☐ Based on questionnaires mailed to a sample of mothers with live births during a given year and to physicians, hospitals, and other medical care providers associated with those births

☐ Conducted in 1963, 1964–66, 1968–69, 1972, and 1980. National Fetal Mortality Survey was done in conjunction with the 1980 Natality Survey

☐ Early findings published in Series 22 of *Vital and Health Statistics* series. Data from later surveys now appear in Series 21

National Hospital Discharge Survey

☐ Data on the use of non-Federal short-stay hospitals; on diagnoses, surgical procedures and characteristics of inpatients; and size, location and ownership of hospitals

☐ Based on data abstracted from a sample of approximately 200,000 records from a sample of 500 hospitals

☐ Conducted annually since 1965

☐ Findings published in Series 13 of *Vital and Health Statistics* series

National Ambulatory Medical Care Survey

☐ Data on visits to physicians, including patients' symptoms and physician's diagnoses

☐ Based on a sample of 50,000 visits to a sample of approximately 3,000 physicians in office-based private practice

☐ Conducted annually 1974 to 1981; every 3 years beginning in 1985

☐ Beginning in 1980 data were collected on the number and names of specific drugs prescribed in office-based practice

☐ Findings published in Series 13 of *Vital and Health Statistics* series

National Nursing Home Survey

☐ Data on nursing homes, their services, staffs, and financial characteristics; and on residents' personal and health characteristics

☐ Based on self-administered questionnaires and interviews with administrators and staff in a sample of 1,700 nursing homes

☐ Conducted periodically since 1963, most recently in 1985

☐ Findings published in Series 13 of *Vital and Health Statistics* series

National Master Facility Inventory

☐ A listing of inpatient health facilities in the United States, including hospitals, nursing homes, and other facilities, such as those for the mentally retarded or physically disabled

☐ Data on services, location, staff, and other characteristics of the facilities

☐ Based on data collected in questionnaires sent to facilities or through associations or State agencies

☐ Conducted periodically since 1963. Final hospital survey in 1976; nursing home surveys in 1980 and 1982

☐ Findings published in Series 14 of *Vital and Health Statistics* series

Sources

Data from the National Center for Health Statistics are available to the health community and the public in published reports, data tapes, and special tabulations prepared in answer to specific requests. The major statistical publications are described below.

☐ *Vital and Health Statistics series*—Background, methodological, and analytical studies and presentation of findings from NCHS health surveys and the Vital Statistics System.

☐ *Vital Statistics of the United States*—Annual compilation of mortality, natality, marriage, and divorce data with extensive demographic and geographic detail.

☐ *Monthly Vital Statistics Report*—Contains monthly and cumulative provisional data on births, natural increase, marriages, divorces, deaths, and infant deaths for States and the United States, with brief analyses of these vital statistics. It also presents death rates by cause, age, race, and sex, estimated from a sample of death certificates filed in States.

☐ *Advance Data from Vital and Health Statistics*—Provides an early release of selected findings from health and demographic surveys.

☐ *Health, United States*—A comprehensive annual summary of national health statistics submitted by the Secretary of Health and Human Services to the President and Congress.

Several guides to the Center's data are also published:

☐ *Catalog of Publications of the National Center for Health Statistics*—Lists and indexes *Vital and Health Statistics* series reports, *Advance Data, Vital Statistics of the U.S., Monthly Vital Statistics Report,* and miscellaneous publications produced during the last 5 years.

☐ *NCHS Publications on . . .* Presents bibliographies of reports on selected population groups such as women, minorities, and youth.

☐ *Data Systems of the National Center for Health Statistics*—Describes Center surveys in detail.

☐ *Catalog of Public Use Data Tapes from the National Center for Health Statistics*—Describes approximately 150 standardized, fully documented microdata tapes produced by the data systems.

In addition, the Center's Scientific and Technical Information Branch provides reference and referral services. Efforts are made to help users locate and use the data and to identify other sources of data.

Glossary

Age—Age is reported as age at last birthday, i.e., age in completed years, often calculated by subtracting date of birth from the reference date, with the reference date being the date of the examination, interview, or other contact with an individual.

Age adjustment—Age adjustment, using the direct method, is the application of the age-specific rates in a population of interest to a standardized age distribution in order to eliminate the differences in observed rates that result from age differences in population composition. This adjustment is usually done when comparing two or more populations at one point in time or one population at two or more points in time.

Average length of stay—In the National Hospital Discharge Survey, the average length of stay is the total number of patient days accumulated at the time of discharge, counting the date of admission but not the date of discharge by patients discharged during a reporting period, divided by the number of patients discharged. As measured in the National Nursing Home Survey, *length of stay for residents* is the time from their admission until the reporting time, while the *length of stay for discharges* is the time between the date of admission and the date of discharge.

Bed—Any bed that is set up and staffed for use for inpatients is counted as a bed in a facility. In the National Master Facility Inventory, the count is of beds at the end of the reporting period; for the American Hospital Association, it is of the average number of beds during the entire period.

Bed-disability day—A day on which a person stays in bed for more than half of the daylight hours (or normal waking hours) because of a specific illness or injury. All *hospital days* are bed-disability days. Bed-disability days may also be work-loss or school-loss days.

Birth rate—This measure divides the number of live births in a population in a given period by the resident population at the middle of that period. The rate may be restricted to births to women of specific age, race, marital status, or geographic location, or it may be related to the entire population.

Cause of death—For the purpose of national mortality statistics, every death is attributed to one underlying condition, based on information reported on the death certificate and utilizing the international rules for selecting the underlying cause of death from the reported conditions using the then current revision of the *International Classification of Diseases.*

Use of successive revisions for classification of diseases may introduce discontinuities in the comparability of cause-of-death statistics over time. For further discussion, see the technical appendixes of the annual volumes of *Vital Statistics of the United States,* Volume II, Mortality, produced by the National Center for Health Statistics. The most recent published volume is: *Vital Statistics of the United States, 1979,* Volume II, Mortality, Part A, DHHS Pub. No. (PHS) 84–1101, Public Health Service, Washington, U.S. Government Printing Office, 1984.

Condition—A health condition is a departure from a state of physical or mental well-being. Conditions, except impairments, are coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).

Based on duration, there are two categories of conditions, acute and chronic. In the National Health Interview Survey, an *acute condition* is a condition that has lasted less than 3 months and has involved either a physician visit (medical attention) or restricted activity, and a *chronic condition* is any condition lasting 3 months or more or is one of certain conditions classified as chronic regardless of their time of onset. The National Nursing Home Survey uses a specific list of conditions classified as chronic, also disregarding time of onset.

Death rate—This measure divides the number of deaths in a population in a given period by the resident population at the middle of that period. It may be restricted to deaths in specific age, race, sex, or geographic groups, or it may be related to the entire population.

Dental visit—The National Health Interview Survey counts visits to a dentist's office for treatment or advice, including services by a technician or hygienist acting under the dentist's supervision, as dental visits. Services provided to hospital inpatients are not included.

Disability—Disability is any temporary or long-term reduction of a person's activity as a result of an acute or chronic condition. It is often measured in terms of the number of days that a person's activity has been reduced.

Disability day—The National Health Interview Survey identifies several types of days on which a person's usual activity is reduced because of illness or injury (reported for the 2-week period preceding the week of the interview). These short-term disability days are not mutually exclusive categories and include restricted-activity days, bed-disability days, work-loss days, and school-loss days.

Discharge—According to the National Hospital Discharge Survey, American Hospital Association, and National Master Facility Inventory, this is the formal release of an inpatient by a hospital, i.e., the termination of a period of hospitalization (including stays of 0 nights) by death or by disposition to a place of residence, nursing home, or another hospital. In this report, newborn infants are excluded. In the National Nursing Home Survey, discharge is the formal release of a resident by a nursing home.

General hospital—Hospitals that provide both diagnostic and treatment services for patients with a variety of medical conditions, both surgical and nonsurgical. According to the World Health Organization, these hospitals provide medical and nursing care for more than one category of medical discipline (e.g., general medicine, specialized medicine, general surgery, specialized surgery, and obstetrics); excluded are hospitals, usually ones in rural areas, that provide a more limited range of care.

Hospital—According to the American Hospital Association (AHA) and National Master Facility Inventory (NMFI), hospitals are institutions licensed as hospitals whose primary function is to provide diagnostic and therapeutic patient services for medical conditions and that have at least six beds, an organized physician staff, and continuous nursing services under the supervision of registered

nurses. AHA data differ slightly from those of NMFI, because data from NMFI reflect osteopathic hospitals as well as hospitals not registered with AHA. Non-AHA hospitals comprise 5–10 percent of all hospitals in the country. The World Health Organization considers an establishment a hospital if it is permanently staffed by at least one physician, can offer inpatient accommodation, and can provide active medical and nursing care. Hospitals may be classified by type of service, ownership, and length of stay.

Hypertension—Definite hypertension is systolic blood pressure equal to or greater than 160 mmHg and/or diastolic blood pressure equal to or greater than 95 mmHg or taking antihypertensive medication.

Incidence—Incidence is the number of cases of disease having their onset during a prescribed period of time and is often expressed as a rate (e.g., the incidence of measles per 1,000 children 5–15 years of age during a year). Incidence is a measure of morbidity or other events that occur within a specified period of time.

Infant mortality—Infant mortality is the death of live-born children who have not reached their first birthday and is usually expressed as a rate (i.e., the number of infant deaths during a year per 1,000 live births reported in the year).

International Classification of Diseases, Ninth Revision—The *International Classification of Diseases* (ICD) classifies mortality information for statisical purposes. ICD was first used in 1900 and has been revised about every 10 years since then. The *Ninth Revision*, published in 1977, is used to code U.S. mortality data beginning with data for 1979. The clinical modification of the *Ninth Revision* is used to code U.S. morbidity data.

Revision	Year of conference	Years in use in United States
7th.....	1955	1958–1967
8th.....	1965	1968–1978
9th.....	1975	1979–present

Life expectancy—Life expectancy is the average number of years of life remaining to a person at a particular age and is based on a given set of age-specific death rates, generally the mortality conditions existing in the period mentioned. Life expectancy may be determined by race, sex, or other characteristics using age-specific death rates for the population with that characteristic.

Live birth—In the World Health Organization's definition, also adopted by the United Nations and the National Center for Health Statistics, a live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life such as heartbeat, umbilical cord pulsation, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born.

Live-birth order—In the National Vital Statistics System, this item from the birth certificate indicates the number of live births a woman has had, counting the birth being recorded.

Marital status—The population is classified through self-reporting into the categories married and unmarried. Married includes all married people including those separated from their spouses. Unmarried includes those who are single (never married), divorced, or widowed.

Neonatal mortality—The neonatal mortality rate is the number of deaths under 28 days of age per 1,000 live births.

Nursing home—No uniform definition is possible because the minimum standards and regulations for nursing homes vary among the States. However, the National Master Facility Inventory includes in its count only facilities licensed by the States in which they are located. The homes are then classified according to the level of care they provide as nursing care homes, personal care homes with nursing, personal care homes without nursing, and domiciliary care homes. In the 1977 National Nursing Home Survey, all four categories of homes were included. In the 1973–74 survey, only nursing homes providing some level of nursing care were classified as nursing homes.

Office—In the National Health Interview Survey, an office refers to the office of any physician in private practice, including physicians connected with prepaid group practices. In the National Ambulatory Medical Care Survey, an office is any location for a physician's ambulatory practice other than hospitals, nursing homes, other extended care facilities, patients' homes, and industrial clinics. However, private offices in hospitals are included.

Office-based physicians—Physicians who spend the plurality of their time working in practices based in private offices; *hospital-based physicians* spend the plurality of their time as salaried physicians in hospitals.

Overweight—Overweight is defined for men as body mass index greater than or equal to 27.8 kilograms/meter^2, and for women as body mass index greater than or equal to 27.3 kilograms/meter^2. These cut points were used because they represent the sex-specific 85th percentiles for persons 20–29 years of age in the 1976–80 National Health and Nutrition Examination Survey. (Pregnant women excluded from all calculations.)

Physician—Physicians are licensed doctors of medicine or osteopathy classified by the American Medical Association and others through self-reporting.

Physician specialty—A physician specialty is any specific branch of medicine in which a physician may concentrate. The specialty classification used by the National Ambulatory Medical Care Survey (NAMCS) follow these American Medical Association categories:

Primary care specialties include general practice (or family practice), internal medicine, and pediatrics.

Medical specialties include, along with internal medicine and pediatrics, the areas of allergy, cardiovascular disease, dermatology, gastroenterology, pediatric allergy and cardiology, and pulmonary diseases.

Surgical specialties include general surgery, neurological surgery, obstetrics and gynecology, ophthalmology, orthopedic surgery, otolaryngology, plastic surgery, colon and rectal surgery, thoracic surgery, and urology.

Other specialties covered by NAMCS are geriatrics, neurology, preventive medicine, psychiatry, and public health.

Physician visit—The National Health Interview Survey counts as a physician visit a visit in person or by telephone to a doctor of medicine or doctor of osteopathy for the purpose of examination, diagnosis, treatment, or advice. The service may be provided directly by the physician or by a nurse or other person acting under the physician's supervision. Contacts involving services provided on a mass basis are not included nor are contacts for hospital inpatients.

Physician visits are generally classified by the type of place of visit. In the National Health Interview Survey, this includes the *office, hospital outpatient clinic or emergency room, telephone* (advice given by a physician in a telephone call), *company or industrial clinic* (units at a place of business that provide treatment through a physician or trained nurse), *home* (any place in which a person was staying at the time a physician was called there), as well as other places.

In the National Ambulatory Medical Care Survey, an *office visit* is any direct personal exchange between an ambulatory patient and a physician or members of his or her staff for the purposes of seeking care and rendering health services.

Population—The U.S. Bureau of the Census collects and publishes data on several different types of population in the United States. Various statistical systems then use the appropriate population in calculating rates.

Total population is the population of the United States, including all members of the Armed Forces living in foreign countries, Puerto Rico, Guam, and the U.S. Virgin Islands.

Other Americans abroad (e.g., civilian Federal employees and dependents of members of the Armed Forces or other Federal employees) are not included.

Resident population is the population living in the United States. This includes members of the Armed Forces stationed in the United States and their families as well as foreigners working or studying here; it excludes foreign military, naval, and diplomatic personnel and their families located here and residing in embassies or similar quarters as well as Americans living abroad. The resident population is often the denominator when calculating birth and death rates and incidence of disease.

Civilian population is the resident population excluding members of the Armed Forces. Families of members of the Armed Forces are included, however.

Civilian noninstitutionalized population is the civilian population not residing in institutions. Institutions include correctional institutions, detention homes, and training schools for juvenile delinquents; homes for the aged and dependent (e.g., nursing homes and convalescent homes); homes for dependent and neglected children; homes and schools for the mentally or physically handicapped; homes for unwed mothers; psychiatric, tuberculosis, and chronic disease hospitals and residential treatment centers. This population is the denominator in rates calculated for the National Center for Health Statistics' National Health Interview Survey, National Health and Nutrition Examination Survey, National Hospital Discharge Survey, and National Ambulatory Medical Care Survey.

Postneonatal mortality—The postneonatal mortality rate is the number of deaths that occur from 28 days to 365 days after birth per 1,000 live births.

Prevalence—Prevalence is the number of cases of a disease, infected persons, or persons with some other attribute present during a particular interval of time. It is often expressed as a rate (e.g., the prevalence of diabetes per 1,000 persons during a year).

Race—Beginning in 1976, the Federal Government's data systems classified individuals into the following racial groups: American Indian or Alaskan Native, Asian or Pacific Islander, black, and white. In this report, three racial categories are generally used: "white," "all other," and "black." The "all other" category includes all races other than white.

Depending on the data source, the classification by race may be based on self-classification or on observation by an interviewer or other persons filling out the questionnaire. In the National Vital Statistics System, newborn infants are assigned the race of their parents. If the parents are of different races and one is white, the child is assigned the other parent's race. If either parent is Hawaiian, the child is classified as Hawaiian. In all other cases, the child is assigned the father's race. Prior to 1964, the National Vital Statistics System classified all births for which race was unknown as "white." The National Health Interview Survey assigns children whose parents are of different races to the race of the father.

Resident—In the National Nursing Home Survey, a resident is a person who has been formally admitted to but not discharged from an establishment.

Restricted-activity day—Any day on which a person cuts down on his or her usual activities for all or most of that day because of an illness or an injury. Restricted-activity days are unduplicated counts of bed-disability, work-loss, and school-loss days as well as other days during which a person cuts down on his or her usual activities.

School-loss day—A day on which a child did not attend school for at least half of his or her normal schoolday because of a specific illness or injury. School-loss days are determined only for children 6–16 years of age.

Self-assessment of health—In the National Health Interview Survey, the respondents are asked to evaluate the health of everyone in their household compared with other people of the same age.

Serum cholesterol—Elevated serum cholesterol includes cholesterol levels of at least 260 milligrams/100 milliliters.

Short-stay hospital—In the National Hospital Discharge Survey, hospitals in which the average length of stay is less than 30 days. The American Hospital Association and National Master Facility Inventory define *short-term hospitals* as hospitals in which more than half the patients are admitted to units with an average length of stay of less than 30 days and *long-term hospitals* as ones in which more than half the patients are admitted to units with an average length of stay of 30 days or more. The National Health Interview Survey defines *short-stay hospitals* as any hospital or hospital department in which the type of service provided is general; maternity; eye, ear, nose, and throat; children's; or osteopathic.

Specialty hospital—Hospitals such as psychiatric, tuberculosis, chronic disease, rehabilitation, maternity, and alcoholic or narcotic, providing a particular type of service to the majority of their patients.

Work-loss day—A day on which a person did not work at his or her job or business for at least half of his or her normal workday because of a specific illness or injury. The number of work-loss days is determined only for currently employed persons.