

Health, United States, 2004

With Chartbook on Trends in the Health of Americans



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

Copyright Information

Permission has been obtained from the copyright holders to reproduce certain quoted material in this report. Further reproduction of this material is prohibited without specific permission of the copyright holder. All other material contained in this report is in the public domain and may be used and reprinted without special permission; citation as to source, however, is appreciated.

Suggested Citation

National Center for Health Statistics.
Health, United States, 2004
With Chartbook on Trends in the Health of Americans.
Hyattsville, Maryland: 2004.

Library of Congress Catalog Number 76-641496
For sale by Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

U.S. Department of Health and Human Services

Tommy G. Thompson
Secretary

Centers for Disease Control and Prevention

Julie Louise Gerberding, M.D., M.P.H.
Director

National Center for Health Statistics

Edward J. Sondik, Ph.D.
Director

Preface

Health, United States, 2004 is the 28th report on the health status of the Nation and is submitted by the Secretary of the Department of Health and Human Services to the President and Congress of the United States in compliance with Section 308 of the Public Health Service Act. This report was compiled by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC). The National Committee on Vital and Health Statistics served in a review capacity.

The *Health, United States* series presents national trends in health statistics. Each report includes highlights, a chartbook, trend tables, extensive appendixes, and an index. An Executive Summary presents major findings.

Chartbook

The third *Chartbook on Trends in the Health of Americans* updates and expands information from last year's chartbook. In addition to assessing the Nation's health by presenting trends and current information on selected determinants and measures of health status, the 2004 chartbook includes a feature on drugs, which documents changes that have occurred in drug practice and utilization patterns. Among the drugs presented in the special feature are asthma drugs, antidepressant drugs, cholesterol-lowering drugs, and nonsteroidal anti-inflammatory drugs. Other changes include the addition of information on frequency of cigarette smoking by high school students, conditions causing activity limitation among children, and leading causes of death for the total population. Determinants of health considered in the chartbook include demographic factors, health insurance coverage, health behaviors and risk factors, and preventive health care. Measures of health status include mortality and limitations of activity resulting from chronic health conditions. Many measures are shown separately for persons of different ages because of the strong effect of age on health. Selected figures also highlight differences in determinants and measures of health status by such characteristics as sex, race, and Hispanic origin.

Trend Tables

The chartbook section is followed by 153 trend tables organized around four major subject areas: health status and

determinants, health care utilization, health care resources, and health care expenditures. A major criterion used in selecting the trend tables is availability of comparable national data over a period of several years. The tables present data for selected years to highlight major trends in health statistics. Earlier editions of *Health, United States* may present data for additional years that are not included in the current printed report. Where possible, these additional years of data are available in Excel spreadsheet files on the *Health, United States* Web site. Tables with additional data years are listed in [Appendix III](#).

Racial and Ethnic Data

Many tables in *Health, United States* present data according to race and Hispanic origin consistent with Department-wide emphasis on expanding racial and ethnic detail when presenting health data. Trend data on race and ethnicity are presented in the greatest detail possible after taking into account the quality of data, the amount of missing data, and the number of observations. New standards for Federal data on race and ethnicity are described in Appendix II under [Race](#).

Changes in This Edition

Each volume of *Health, United States* is prepared to maximize its usefulness as a standard reference source while maintaining its continuing relevance. Comparability is fostered by including similar trend tables in each volume. Timeliness is maintained by adding new tables each year to reflect emerging topics in public health and improving the content of ongoing tables. New to *Health, United States, 2004* is a table on prevalence of diabetes ([table 55](#)) based on the National Health and Nutrition Examination Survey (NHANES), a table on serious psychological distress ([table 58](#)) based on the National Health Interview Survey, two tables on drug use—one on use of prescription drugs in the past month ([table 86](#)) based on NHANES data and one on drugs recorded during visits to office-based physicians and hospital outpatient departments ([table 87](#)) based on the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey Hospital Outpatient Department component, and a table on the supply of Medicare-certified providers and suppliers ([table 114](#)) based on data from the Centers for Medicare & Medicaid Services.

[Table 97](#) was revised to better reflect recent changes in types of procedures performed on hospital inpatients, based on the National Hospital Discharge Survey.

In another change, unrounded resident population estimates for 10-year age groups by sex, race, and Hispanic origin are now available in the spreadsheet version of [table 1](#) and can be accessed through the *Health, United States* Web site described below under Electronic Access. Previously, population estimates were presented rounded in thousands.

Appendixes

[Appendix I](#) describes each data source used in the report and provides references for further information about the sources. [Appendix I](#) has been reformatted to present more standard information on each data source. Data sources are listed alphabetically within two broad categories: Government Sources and Private and Global Sources.

[Appendix II](#) is an alphabetical listing of terms used in the report. It also presents standard populations used for age adjustment ([tables I, II, and III](#)); ICD codes for causes of death shown in *Health, United States* from the Sixth through Tenth Revisions and the years when the Revisions were in effect ([tables IV and V](#)); comparability ratios between ICD-9 and ICD-10 for selected causes ([table VI](#)); ICD-9-CM codes for external cause-of-injury, diagnostic, and procedure categories ([tables VII, IX, and X](#)); industry codes from the Standard Industrial Classification Manual ([table VIII](#)); National Drug Code (NDC) Therapeutic Class recodes of generic analgesic drugs ([table XI](#)); and sample tabulations of NHIS data comparing the 1977 and 1997 Standards for Federal data on race and Hispanic origin ([tables XII and XIII](#)).

[Appendix III](#) lists tables for which additional years of trend data are available electronically in Excel spreadsheet files on the *Health, United States* Web site and CD-ROM, described below under Electronic Access.

Index

The Index to Trend Tables is a useful tool for locating data by topic. Tables are cross-referenced by such topics as Child and adolescent health; Women's health; Men's health; State data; American Indian, Asian, Black, and Hispanic origin populations; Education; Poverty status; Disability; and Metropolitan/nonmetropolitan data.

Electronic Access

Health, United States may be accessed on the World Wide Web at www.cdc.gov/nchs/hus.htm. From the *Health, United States* Web site, one may also register for the *Health, United States* electronic mailing list to receive announcements about release dates and notices of updates to tables.

Health, United States, 2004, the chartbook, and each of the 153 individual trend tables are available as separate Acrobat .pdf files on the Web. Individual tables are downloadable as Excel spreadsheet files. Both .pdf and spreadsheet files for selected tables will be updated on the Web if more current data become available near the time when the printed report is released. Readers who register for the electronic mailing list will be notified of these table updates. Previous editions of *Health, United States* and chartbooks, starting with the 1993 edition, also may be accessed from the *Health, United States* Web site.

Health, United States is also available on CD-ROM, where it can be viewed, searched, printed, and saved using Adobe Acrobat software on the CD-ROM.

Copies of the Report

Copies of *Health, United States, 2004* and the CD-ROM may be purchased from the Government Printing Office through links to GPO on the National Center for Health Statistics Web site, Printed Publications page.

Questions?

For answers to questions about this report, contact:

Information Dissemination Staff
National Center for Health Statistics
Centers for Disease Control and Prevention
3311 Toledo Road, Fifth Floor
Hyattsville, Maryland 20782
Phone: 1-866-441-NCHS
E-mail: nchsquery@cdc.gov
Internet: www.cdc.gov/nchs

Acknowledgments

Overall responsibility for planning and coordinating the content of this volume rested with the Office of Analysis and Epidemiology, National Center for Health Statistics (NCHS), under the direction of Amy B. Bernstein and Diane M. Makuc.

Production of *Health, United States, 2004* highlights, trend tables, and appendixes was managed by Kate Prager. Trend tables were prepared by Amy B. Bernstein, Alan J. Cohen, Margaret A. Cooke, La-Tonya D. Curl, Catherine R. Duran, Sheila Franco, Virginia M. Freid, Ji-Eun Lee, Andrea P. MacKay, Mitchell B. Pierre, Jr., Rebecca A. Placek, Kate Prager, Laura A. Pratt, and Henry Xia, with assistance from Stephanie Gray. Appendix II tables and the index were assembled by Anita L. Powell. Production planning and coordination of trend tables were managed by Rebecca A. Placek. Administrative and word processing assistance were provided by Carole J. Hunt, Lillie C. Featherstone, and Brenda L. Wolfrey.

Production of the *Chartbook on Trends in the Health of Americans* was managed by Virginia M. Freid. Production of the Special Feature on Drugs was managed by Amy B. Bernstein. Data and analysis for specific charts were provided by Margaret A. Cooke, Sheila Franco, Qiuping Gu, Deborah D. Ingram, Ellen A. Kramarow, Andrea P. MacKay, Patricia N. Pastor, Ryne Paulose, and Kate Prager. Graphs were drafted by La-Tonya D. Curl and data tables were prepared by Rebecca A. Placek. Technical assistance and programming were provided by Lara Akinbami, Liming Cai, Alan J. Cohen, Catherine R. Duran, Ji-Eun Lee, Mitchell B. Pierre, Jr., and Henry Xia and by Gregory Spencer of the U.S. Census Bureau.

Technical assistance and review of the Special Feature on Drugs and National Drug Code Therapeutic Class recodes were provided by Michael C. Evans, Gianna C. Rigoni, Judy A. Staffa, and Anne E. Trontell of the Food and Drug Administration, Center for Drug Evaluation and Research.

Publications management and editorial review were provided by Thelma W. Sanders. Oversight review for publications and electronic products were provided by Linda L. Bean. The designer was Sarah Hinkle. Production was done by Jacqueline M. Davis and Zung T. Le. Printing was managed by Patricia L. Wilson and Joan D. Burton, Office of Information Services.

Electronic access through the NCHS Internet site and CD-ROM were provided by Christine J. Brown, Jacqueline M. Davis, Dorothy Day, Zung T. Le, Sharon L. Ramirez, Thelma W. Sanders, and Patricia L. Wilson.

Data and technical assistance were provided by staff of the following NCHS organizations: *Division of Health Care Statistics*: Irma E. Arispe, Catharine W. Burt, Donald K. Cherry, Marni J. Hall, Lola Jean Kozak, Karen L. Lipkind, Linda F. McCaig, Robert Pokras, Robin E. Remsburg, Susan M. Schappert, Judith Shinogle, and Genevieve W. Strahan; *Division of Health Examination Statistics*: Lisa Broitman, Vicki Burt, Margaret D. Carroll, Lester R. Curtin, Bruce Dye, Jeffrey Hughes, Clifford L. Johnson, Cynthia Ogden, and Ryne Paulose; *Division of Health Interview Statistics*: Patricia F. Adams, Veronica E. Benson, Barbara Bloom, Viona I. Brown, Margaret L. Cejku, Pei-Lu Chiu, Robin A. Cohen, Richard H. Coles, Marcie Cynamon, Cathy C. Hao, Kristina Kotulak-Hays, Susan S. Jack, Jane B. Page, John R. Pleis, Eve Powell-Griner, Charlotte A. Schoenborn, Mira L. Shanks, Anne K. Stratton, and Luong Tonthat; *Division of Vital Statistics*: Robert N. Anderson, Elizabeth Arias, Thomas D. Dunn, Brady E. Hamilton, Kenneth D. Kochanek, Marian F. MacDorman, Joyce A. Martin, T.J. Mathews, Arialdi M. Minino, William D. Mosher, Sherry L. Murphy, Gail A. Parr, Manju Sharma, Stephanie J. Ventura, and Jim Weed; Office of Analysis and Epidemiology: Mark L. Eberhardt, Lois A. Fingerhut, Deborah D. Ingram, Elizabeth W. Jackson, Richard J. Klein, Patricia A. Knapp, Suzanne Proctor, Erin Reidy, and Thomas C. Socey; and *Office of International Statistics*: Juan Rafael Albertorio-Diaz and Francis C. Notzon.

Additional data and technical assistance were also provided by the following organizations of the Centers for Disease Control and Prevention: *Epidemiology Program Office*: Samuel L. Groseclose and Patsy A. Hall; *National Center for Chronic Disease Prevention and Health Promotion*: Joy Herndon, Sherry Everett Jones, Laura K. Kann, Steve Kinchen, Shari L. Shanklin, and Lilo T. Strauss; *National Center for HIV, STD, and TB Prevention*: Melinda Flock, Allyn Nakashima, and Luetta Schneider; *National Immunization Program*: Lawrence Barker and Emmanuel Maurice; by the following organizations within the Department of Health and Human Services: *Agency for Health Care Research and Quality*: David Kashihara and Steven Machlin; *Centers for Medicare & Medicaid Services*: Cathy A. Cowan, Frank Eppig, Denise F. Franz, David A. Gibson, Deborah W. Kidd,

Helen C. Lazenby, Katharine R. Levit, Anna Long, Joanne S. Mack, Anne B. Martin, and Carter S. Warfield; *Health Resources and Services Administration*: Evelyn Christian; *National Institutes of Health*: James D. Colliver, Catherine C. Cowie, and Lynn A. G. Ries; *Office of the Secretary, DHHS*: Mitchell Goldstein; *Substance Abuse and Mental Health Services Administration*: Joanne Atay, Judy K. Ball, Joseph C. Gfroerer, Ronald Manderscheid, and Deborah Trunzo; and by the following governmental and nongovernmental organizations: *Bureau of the Census*: Joseph Dalaker and Bernadette D. Proctor; *Bureau of Labor Statistics*: Alan Blostin, Kay Ford, Daniel Ginsburg, Elizabeth Rogers, John Stinson, and Peggy Suarez; *Department of Veterans Affairs*: Michael F. Grindstaff; *Alan Guttmacher Institute*: Rebecca Wind; *American Association of Colleges of Podiatric Medicine*: Carol E. Gill; *Association of Schools of Public Health*: Mah-Sere K. Sow; *Cowles Research Group*: C. McKeen Cowles; *InterStudy*: Richard Hamer; and *National League for Nursing*: Linbania Jacobson and Kathy A. Kaufman.

Contents

Preface	iii
Acknowledgments	v
List of Chartbook Figures	x
List of Trend Tables	xii

Executive Summary and Highlights

Executive Summary	3
Highlights	7
Health Status and Determinants	7
Health Care Utilization and Health Care Resources	12
Health Care Expenditures	14
Special Feature: Drugs	17

Chartbook on Trends in the Health of Americans

Population	20
Age	21
Race and Ethnicity	22
Poverty	24
Health Insurance	26
Preventive Health Care	28
Prenatal Care	28
Vaccination: Adults 65 Years of Age and Over	30
Health Risk Factors	32
Smoking	33
Physical Activity	35
Overweight and Obesity	37
Limitation of Activity	38
Children	38
Working-Age Adults	40
Adults 65 Years of Age and Over	42
Mortality	44
Life Expectancy	44
Infant Mortality	46
Leading Causes of Death for All Ages	48

Special Feature: Drugs	50
Overall Drug Use	50
Asthma Drugs	54
Antidepressant Drugs: Adults	58
Stimulants and Antidepressant Drugs: School-Age Children	62
Cholesterol-Lowering Drugs	64
Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)	66
References	68
Technical Notes	72
Data Tables for Figures 1–36	74

Trend Tables

Health Status and Determinants	105
Population	105
Fertility and Natality	109
Mortality	131
Determinants and Measures of Health	206
Utilization of Health Resources	247
Ambulatory Care	247
Inpatient Care	289
Health Care Resources	307
Personnel	307
Facilities	317
Health Care Expenditures and Health Insurance	325
National Health Expenditures	325
Health Care Coverage and Major Federal Programs	345
State Health Expenditures and Health Insurance	369

Appendixes

Contents	389
I. Data Sources	393
II. Definitions and Methods	441
III. Additional Data Years Available	485
Index to Trend Tables and Chartbook Figures	489

Executive Summary

Health, United States, 2004, is the 28th annual report on the health status of the Nation and is submitted by the Secretary of the Department of Health and Human Services to the President and Congress. It assesses the Nation's health by presenting trends and current information on selected determinants and measures of health status in a chartbook followed by 153 trend tables organized around four major subject areas: health status and determinants, health care utilization, health care resources, and health care expenditures.

Monitoring the health of the Nation is essential for identifying and prioritizing health policy, program, and research initiatives. Current measures of the health status of the population, as well as its determinants, provide critical information for assessing how the Nation's resources should be directed to improve the health of its population. Examination of emerging trends also identifies diseases, conditions, and risk factors that warrant study and intervention. *Health, United States* provides an annual picture of health, and its determinants, for the entire Nation. It also identifies differences in health and health care among specific populations. Existing disparities, as well as whether any differences are narrowing or increasing, can be identified among people of differing races and ethnicities, genders, education and income levels, and geographic locations. Given the increasing diversity of the Nation and the numerous changes in the health care infrastructure over time this is a challenging task, but it is a critically important undertaking.

Overall Health of the Nation

The health of the Nation has continued to improve overall, in part because of the resources that have been devoted to health education, public health programs, health research, and health care. The United States spends more per capita than any other country on health, and the rate of increase in spending is going up. Much of this spending is on health care—notable examples are prescription drugs and cardiac operations—that control or reduce the impact of chronic diseases and conditions affecting an increasingly older population.

Over the past 50 years many diseases have been controlled or their morbidity and mortality substantially reduced. A decline in the death rate from heart disease is an example of

a major public health achievement and is in large part a result of public education campaigns emphasizing a healthy lifestyle and increased use of cholesterol-lowering medications (1). Public health and private efforts to improve motor vehicle transportation safety, as well as to increase safety in homes and workplaces, have contributed to lower death rates caused by unintentional injuries for children and adults. Finally, the decline in the death rate for HIV disease in the 1990s (table 42) demonstrates how new medical treatments can dramatically delay or decrease the number of deaths caused by a particular disease. Yet even as progress is made in improving both the quantity and quality of life, increases in longevity are associated with increased prevalence of chronic conditions. Equally important is the fact that these improvements have not been equally distributed by income, race, ethnicity, education, and geography.

Health Status and Its Determinants

Life expectancy in the United States has shown a long-term upward trend. Infant mortality and mortality from heart disease, stroke, and unintentional injuries are all substantially lower than in 1950, contributing to the upward trend in life expectancy (figure 25 and tables 22, 29, 36, and 37). However, men and women in many other countries have longer life expectancies than in the United States. For example, in 1999 life expectancy at birth in Japan was more than 3 years longer for men and more than 4 years longer for women than in the United States (table 26).

In addition, in 2002 the infant mortality rate in the United States increased for the first time since 1958. The rise in infant mortality is attributed to an increase in neonatal deaths (infants less than 28 days old), particularly infants who died within the first week of life. However, there was a continued decrease in late-term fetal deaths—defined as 28 or more weeks of gestation (2).

Decreased cigarette smoking among adults is a prime example of a trend in a risk factor for disease and death that has contributed to declines in mortality. Even with decreases in cigarette smoking since the Surgeon General's Report in 1964, about 25 percent of men and 20 percent of women were current smokers in 2002 (figure 12 and table 60). Overweight and obesity, and physical inactivity among both adults and children are significant risk factors for several chronic diseases, including diabetes, and these indicators have not shown improvement (table 69) (3). The rising

prevalence of overweight in children and adolescents, and the high percentage of both adults and adolescents not engaging in recommended amounts of physical activity raise additional concerns for future health outcomes.

Although rates of reportable childhood infectious diseases such as mumps and measles have all but disappeared (table 51), the prevalence of many chronic diseases is increasing with the aging of the population (figure 1, table 1). In 1999–2000, more than 8 percent of persons 20 years of age and over were estimated to have diabetes, including diabetes previously diagnosed by a physician and undiagnosed diabetes based on the results of a fasting blood sugar test (table 55). Incidence rates for all cancers combined declined in the 1990s for males, although there was no significant change in cancer incidence for females overall (table 53).

Self- or proxy-reported limitation in one's usual activities because of chronic health limitations and overall health status have not changed measurably since 1997 (tables 56 and 57). However, for persons aged 65 and over, the percentage with a limitation in one of six activities of daily living has declined since 1992 (figure 21).

Health Care Utilization and Resources

People use health care services for many reasons—to treat illnesses and health conditions, to mend breaks and tears, to prevent or delay future health care problems, and to reduce pain and increase quality of life, as well as to obtain information about their health status and prognosis. The study of trends in health care utilization provides important information on these phenomena and spotlights areas that may warrant future in-depth studies. Trends in utilization may also be used as the basis for projecting future health care needs, health care expenditures, or manpower training or supply needs.

Use of many types of preventive or early-detection health services has been increasing. The percentage of mothers receiving prenatal care in the first trimester of pregnancy has continued to edge upward (table 6). Since 1989 the percentage of older adults ever having received a pneumococcal vaccine increased sharply (figure 10). The percentage of children 19–35 months of age vaccinated for many childhood infectious diseases is at a high level, and the percentage of children receiving the new varicella (chickenpox) vaccine has increased since 1997 (table 72).

Use of Pap smears and mammograms by women in the recommended age and time intervals has also increased since 1987 (tables 81 and 82).

Admissions to hospitals and length of stay declined substantially over the 1980s and 1990s, but these declines appear to be leveling off (tables 92, 93, and 96). The diagnoses recorded on inpatient hospital stays are changing, as are the procedures being performed on inpatients (table 97). Hospitalizations for procedures that can be performed on an outpatient basis, such as lens extractions and knee arthroscopies, have all but disappeared from inpatient settings. Instead, inpatient care is becoming considerably more complex, with more procedures such as insertions of cardiac stents and hip replacements being performed, particularly on older persons. The visit rate to hospital outpatient departments is increasing for the population overall, and the number and types of services performed during visits to physicians' offices—particularly the number of drugs prescribed, continued, administered, or provided per visit—are increasing rapidly for persons in older age groups (table 87).

As the nature of health care changes, the supply of health providers and the sites where specific services are provided have been evolving. Services that historically were provided in inpatient settings are increasingly offered in outpatient settings, and the number of physical therapy providers, comprehensive outpatient rehabilitation facilities, and ambulatory surgical centers certified by the Centers for Medicare & Medicaid Services has increased since the 1980s (table 114). The supply of some other types of providers has been declining, such as the number of inpatient mental health beds (table 110).

Expenditures and Health Insurance

In 2002 national health care expenditures in the United States totaled \$1.6 trillion, a 9.3 percent increase from 2001 (table 116). Since 1995 the average annual rate of increase for prescription drug expenditures was higher than for any other type of health expenditure (table 118), indicating the importance of prescription drugs to the Nation.

Access to health care is determined by many factors including the supply of providers and the ability to use and pay for available care. Health insurance is strongly associated with the ability to access health care services and providers. The percentage of the population under 65 years of age with

no health insurance coverage (either public or private) fluctuated around 16–17 percent between 1994 and 2002 (figure 7 and table 131). In 2002 the percentage with private health insurance decreased (figure 6 and table 132). This decrease was offset by an increase in the percentage with Medicaid, resulting in little change in the percentage uninsured.

Disparities in Risk Factors, Access, and Utilization

Throughout the 21st century, efforts to improve health will be shaped by important changes in the U.S. population. Efforts to improve health care will be in the context of a Nation that is growing older and becoming more racially and ethnically diverse. In 2001 more than one-quarter of adults and one-third of children were identified as black, Hispanic, Asian or Pacific Islander, or American Indian or Alaska Native. Thirteen percent of the U.S. population identified themselves as Hispanic, and 4 percent as Asian or Pacific Islander (table 1).

Health, United States, 2004, identifies major areas where disparities in health and health care exist by race, ethnicity, and socioeconomic status. Persons living in poverty are considerably more likely to be in poor health and less likely than nonpoor persons to have used many types of health care. In 2002 the percentage of persons reporting their health status as fair or poor was more than three times as high for persons living below the poverty level as for those with family income more than twice the poverty level (table 57). Poor persons were four times as likely as nonpoor persons to report serious psychological distress (table 58).

Large disparities in infant mortality rates remain among racial and ethnic groups (table 19), and the gap in life expectancy between the sexes and between the black and white populations has been narrowing, but persists (table 27). Disparities in access to health care, risk factors, and morbidity also persist among persons under 65 years of age of Hispanic origin, and American Indians who are more likely to be uninsured than are those in other racial and ethnic groups. Obesity, a major risk factor for many chronic diseases, also varies by race (figure 17 and tables 69 and 70). Diabetes, which is associated with obesity, rises sharply with age and is more common among non-Hispanic black and Mexican persons than non-Hispanic white persons (table 55).

While many aspects of the health of the Nation have improved as a whole, the health of some subpopulations has lagged behind. The large differences in health status by race and Hispanic origin documented in this report may be explained by several factors including socioeconomic status, health practices, psychosocial stress and resources, environmental exposures, discrimination, and access to health care (4). Socioeconomic and cultural differences among racial and ethnic groups in the United States will likely continue to influence patterns of disease, disability, and health care use in the future.

Special Feature: Drugs

Drugs are defined as articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease or nonfood articles intended to affect the structure or any function of the body of man or other animals (5). Drugs, both prescribed and nonprescription, are an increasingly important component of health care. They can cure some diseases (e.g., antibiotics); control symptoms (e.g., analgesics or pain relievers and asthma drugs); replace or supplement needed chemicals (e.g., insulin and vitamins); and control the body's self-regulating systems (e.g., high blood pressure and thyroid drugs). Drugs can serve as complements to medical procedures (e.g., anticoagulants during heart valve replacement surgery); deterrents to disease and disability (e.g., lipid-lowering drugs that lessen the risk of coronary artery disease); and new treatments where previously there were none (e.g., drugs for HIV). Factors affecting the recent increase in utilization of medications include the growth of third-party insurance coverage for drugs, the availability of successful new drugs, marketing to physicians and increasingly directly to consumers, and clinical guidelines recommending increased utilization of medications for conditions such as high cholesterol, acid-reflux disease, and asthma (6,7).

Between 1988–94 and 1999–2000 the percentage of noninstitutionalized Americans of all ages who reported using any prescription drug during the past month increased from 39 to 44 percent (age adjusted) (figure 26 and table 86). During the same period the percentage of persons who reported using three or more drugs in the past month increased from 12 percent to more than 17 percent (age adjusted) (figure 26 and table 86). Perhaps most striking is the increase in the percentage of older persons who reported

taking three or more prescription drugs during a 1-month period—almost one-half of those 65 and over in 1999–2000, compared with just over one-third in 1988–94. Use of drugs for some conditions is increasing (e.g., cholesterol-lowering statin drugs and antidepressant drugs) (figures 30–36). For other conditions, such as asthma, some classes of drugs appear to be replacing older drugs (figures 28 and 29).

Trends in drug use illustrate how practice patterns and health care are changing over time. Drugs can increase both length and quality of life, particularly for older persons, but they also incur costs and may have damaging side effects and interactions. As the use of multiple drugs increases and drug expenditures continue to rise, tradeoffs between drugs' costs and benefits are becoming major clinical and policy issues.

Continued collection and dissemination of reliable and accurate information about all components of health, its determinants, and resources expended will be critical for charting future trends, identifying how resources can be most effectively targeted, and prioritizing and evaluating programs and policies that will improve the health of all Americans. Following are highlights from *Health, United States, 2004 With Chartbook on Trends in the Health of Americans* that summarize major findings.

References

1. Achievements in Public Health, 1900–1999: Decline in deaths from heart disease and stroke—United States, 1900–1999. *MMWR* 48(30):649–56. 1999.
2. Kochanek KD, Martin JA. Supplemental analyses of recent trends in infant mortality. Centers for Disease Control and Prevention, National Center for Health Statistics. Accessed on May 10, 2004, at www.cdc.gov/nchs/products/pubs/pubd/hestats/infantmort/infantmort.htm.
3. Flegal KM, Carroll MD, Ogden CL et al. Prevalence and trends in obesity among US adults, 1999–2000. *JAMA* 288:1723–7. 2002.
4. Williams DR, Rucker TD. Understanding and addressing racial disparities in health care. *Health Care Financ Rev* 21(4): 75–90. 2000.
5. The Food, Drug and Cosmetic (FD&C) Act, sec. 201(g)(1).
6. Berndt, ER. The U.S. pharmaceutical industry: Why major growth in times of cost containment? *Health Affairs* 20(2): 100–14. 2001
7. Chockley N. The emerging impact of direct-to consumer prescription drug advertising. Testimony before the Subcommittee on Consumer Affairs, Foreign Commerce and Tourism of the Senate Committee on Commerce, Science and Transportation. July 24, 2001.

Highlights

Health, United States, 2004 is the 28th report on the health status of the Nation. It assesses the Nation's health by presenting trends and current information on selected determinants and measures of health status in a chartbook followed by 153 trend tables. The 2004 Chartbook on Trends in the Health of Americans features a section on use of drugs, which are assuming an ever-increasing role in health care in preventing and curing diseases, reducing complications, controlling symptoms, and improving quality and length of life. The trend tables that follow the chartbook are organized around four major subject areas: health status and determinants, health care utilization, health care resources, and health care expenditures. Highlights of the featured topic, drugs, follow other major findings from the report.

Health Status and Determinants

Population characteristics

Important changes in the U.S. population will shape future efforts to improve health and health care. Two major changes in the demographic characteristics of the U.S. population are the increasing racial and ethnic diversity of the Nation and the growth of the older population.

The **racial and ethnic composition** of the Nation has changed over time. The Hispanic population and the Asian and Pacific Islander population have grown more rapidly than other racial and ethnic groups in recent decades. In 2002, 13 percent of the U.S. population identified themselves as Hispanic and 4 percent as Asian or Pacific Islander (table 1).

From 1950 to 2000 the proportion of the **population age 75 years and over** rose from 3 to 6 percent. By 2050 it is projected that 12 percent, or about one in eight Americans, will be 75 years of age or over

In 2002 the overall percent of Americans living in **poverty** was 12.1 percent, up from 11.7 percent in 2001 and 11.3 percent in 2000, the first increase in the poverty rate since 1993. In 2002 more than one-half of black and Hispanic children under 18 years and more than one-half of the black and Hispanic population age 65 years and over were either poor or near poor (figures 4 and 5 and table 2).

Fertility

Birth rates for teens continued their steady decline while birth rates for women 35–44 years of age increased in 2002.

The **birth rate for teenagers** declined for the 11th consecutive year in 2002, to 43.0 births per 1,000 women aged 15–19 years, the lowest rate in more than six decades. The birth rate for 15–17 year olds in 2002 was 40 percent lower than in 1991, and the birth rate for older teens 18–19 years of age was 23 percent lower than the rate in 1991 (table 3).

In 2002 the **fertility rate** for Hispanic women (94.4 births per 1,000 Hispanic women 15–44 years) was 64 percent higher than for non-Hispanic white women (57.4 per 1,000) (table 3).

Between 1995 and 2002 the **birth rate for unmarried women** was relatively stable, about 43–44 births per 1,000 unmarried women ages 15–44 years. The birth rate for unmarried black women declined to 66.2 per 1,000 in 2002, an historic low, and the birth rate for unmarried Hispanic women increased for the fourth year in a row to 87.9 per 1,000 (table 9).

Health Behaviors and Risk Factors

Health behaviors and risk factors have a significant effect on health outcomes. Cigarette smoking increases the risk of lung cancer, heart disease, emphysema, and other respiratory diseases. Overweight and obesity increase the risk of death and disease as well as the severity of disease. Regular physical activity lessens the risk of disease and enhances physical functioning. Heavy and chronic use of alcohol and use of illicit drugs increase the risk of disease and injuries.

Since 1990 the percent of **adults who smoke cigarettes** has declined only slightly. In 2002, 25 percent of men and 20 percent of women were smokers. Cigarette smoking by adults is strongly associated with educational attainment. Adults with less than a high school education were three times as likely to smoke as were those with a bachelor's degree or more education in 2002 (figure 12 and tables 60 and 61).

Between 1997 and 2003 the percent of **high school students who reported smoking cigarettes** in the past month declined from 36 percent to 22 percent, reversing an upward trend that began in the early 1990s. Despite the declines in cigarette smoking rates among high school students, 26 percent of high school students in grade 12 were current smokers in 2003, and 13 percent smoked cigarettes on 20 or more days in the past month (figures 12 and 13).

Cigarette smoking during pregnancy is a risk factor for poor birth outcomes such as low birthweight and infant death. In 2002 the proportion of mothers who smoked cigarettes during pregnancy declined to 11 percent, down from 20 percent in 1989. In 2002 the smoking rate during pregnancy for mothers ages 18–19 years (18 percent) remained higher than that for mothers of other ages (figure 12 and table 11).

Low birthweight is associated with elevated risk of death and disability in infants. In 2002 the rate of low birthweight (infants weighing less than 2,500 grams at birth) increased to 7.8 percent overall, up from 7.0 percent in 1990 (table 12).

In 2003, one-third of **high school students**, about the same as in 2001, did not engage in the recommended amounts of moderate or vigorous **physical activity**. The percent reporting an insufficient amount of physical activity was higher for female than for male high school students (figure 14).

In 2002 the percent of adults 18 years of age and over who were **inactive during their leisure time** was higher for women than men and increased sharply with age. Among adults 18–44 years of age, 30 percent of men and 35 percent of women were inactive during leisure time (figure 15).

The prevalence of **overweight and obesity among adults** 20–74 years of age increased from 47 percent in 1976–80 to 65 percent in 1999–2002. During this period the prevalence of obesity among adults 20–74 years of age increased from 15 to 31 percent (percents are age adjusted) (figure 16 and table 69).

The prevalence of **obesity** among adults varies by **race and ethnicity**. In 1999–2002, 50 percent of non-Hispanic black women 20–74 years of age were obese, compared with 39 percent of women of Mexican origin and 31 percent of non-Hispanic white women (percents are age adjusted). Obesity among black women increased 60 percent since 1976–80, from 31 percent to 50 percent (figure 17 and table 69).

Between 1976–80 and 1999–2002 the prevalence of **overweight among children** 6–11 years of age more than doubled from 7 to 16 percent and the prevalence of overweight among **adolescents** 12–19 years of age more than tripled from 5 to 16 percent (figure 16 and table 70).

In 2002 among current drinkers age 18 years and over, 41 percent of men and 20 percent of women reported drinking **five or more alcoholic drinks** on at least 1 day in the past year (age adjusted). This level of alcohol consumption was most common among young adults 18–24 years of age (table 66).

In 2002 the prevalence of **illicit drug use** within the past 30 days among youths 12–17 years of age was almost 12 percent. The percent of youths reporting illicit drug use increased with age, from 4 percent among 12–13 year olds to 11 percent among those age 14–15 years and 20 percent among those 16–17 years in 2002 (table 63).

Between 1991 and 2002 the number of **cocaine-related emergency department episodes** per 100,000 population tripled for persons 35 years and over, to 79 episodes per 100,000. Males, age 26–34 years, had the highest episode rate, 222 per 100,000 in 2002. The same patient may be involved in multiple drug-related episodes (table 65).

Morbidity

Limitation of activity due to chronic health conditions, limitations in activities of daily living, and self-assessed (or family member-assessed) health status are summary measures of morbidity presented in this report. Additional measures of morbidity include the incidence and prevalence of specific diseases, injury-related emergency department use, and suicide attempts.

Between 1997 and 2002 **limitation of activity** due to chronic health conditions was reported for 6–7 percent of children under the age of 18 years. Among preschool children (under 5 years) the chronic conditions most often mentioned were speech problems, asthma, and mental retardation or another developmental problem. Among school-age children (5–11 and 12–17 years), learning disabilities and Attention Deficit Hyperactivity Disorder (ADHD) were the conditions most often mentioned (table 56 and figure 18).

Limitations in handling personal care needs such as bathing (**activities of daily living or ADLs**) increase sharply with age among the noninstitutionalized population. In 2002, 14 percent

of all Medicare beneficiaries 65 years of age and over were limited in at least one of six ADLs. Among noninstitutionalized persons age 65 years and over, about 11 percent had difficulty and received help or supervision with at least one ADL (figure 21).

Mental illness is a significant **cause of activity limitation** among working-age adults living in the community. In 2000–2002 mental illness was the second most frequently mentioned causal condition for activity limitation among adults 18–44 years of age and the third most frequently mentioned among adults 45–54 years (figure 20).

In 2002 the percent of persons reporting their **health status as fair or poor** was more than three times as high for persons living below the poverty level as for those with family income more than twice the poverty level (20 percent and 6 percent, age adjusted). Levels of fair or poor health were higher in the South and outside of metropolitan areas (table 57).

New **pediatric AIDS cases** have been declining steadily since 1994 when U.S. Public Health Service guidelines recommended testing and treatment of pregnant women and neonates to reduce perinatal HIV transmission. The vast majority of pediatric AIDS cases occur through perinatal exposure. In 2003, about 150 new AIDS cases were reported among children under the age of 13 years, compared with more than 700 cases in 1990 (table 52).

In 2002 **tuberculosis** incidence declined for the 10th consecutive year to 5.4 cases per 100,000 population, down from 10.5 in 1992 and 12.3 in 1980 (table 51).

Untreated **chlamydial infections** can lead to pelvic inflammatory disease (PID) with potentially serious complications including infertility, chronic pelvic pain, and life-threatening tubal pregnancy. In 2002 the reported rate for chlamydial infection was 297 cases per 100,000 persons. Rates of reported chlamydial infection have been increasing annually since the late 1980s when public programs for screening and treatment of women were first established to avert pelvic inflammatory disease and related complications (table 51).

In 1999–2000 more than 8 percent of persons 20 years of age and over were estimated to have **diabetes**, including diabetes previously diagnosed by a physician and undiagnosed diabetes based on the results of a fasting blood sugar examination. Diabetes rises sharply with age and is

more common among non-Hispanic black and Mexican adults than non-Hispanic white adults (based on age-adjusted rates) (table 55).

Incidence rates for **all cancers combined** declined in the 1990s for males. Between 1990 and 2000 age-adjusted cancer incidence rates declined on average 1 percent or more per year for black males, non-Hispanic white males, and American Indian or Alaska Native males. Although there was no significant change in cancer incidence for females overall, among non-Hispanic white females and Asian or Pacific Islander females, cancer incidence increased on average 0.4 percent per year between 1990 and 2000, a significant increase (table 53).

The most frequently diagnosed **cancer sites in males** are prostate, followed by lung and bronchus, and colon and rectum. Cancer incidence at these sites is higher for black males than for males of other racial and ethnic groups. In 2000 age-adjusted cancer incidence rates for black males exceeded those for white males by 66 percent for prostate, 46 percent for lung and bronchus, and 17 percent for colon and rectum (table 53).

Breast cancer is the most frequently diagnosed cancer among females. Breast cancer incidence is higher for non-Hispanic white females than for females in other racial and ethnic groups. In 2000 age-adjusted breast cancer incidence rates for non-Hispanic white females exceeded those for black females by 22 percent, for Asian or Pacific Islander females by 54 percent, and for Hispanic females by 59 percent (table 53).

Injuries accounted for 36 percent of all visits to emergency departments (ED) in 2001–2002. The proportion of ED visits that were injury-related declined with age from 39 percent for children and adults under 45 years of age to 33 percent for persons 45–64 years and 27 percent for those 65 years and over. Males had a higher injury-related visit rate than females overall and for all age groups under 65 years (tables 83 and 84).

Between 1993 and 2003 the percent of high school students who reported attempting suicide (8–9 percent) and whose **suicide attempts** required medical attention (just under 3 percent) remained fairly constant. Girls were more likely than boys to consider or attempt suicide. However in 2002 adolescent boys (15–19 years of age) were five times as likely to die from suicide as were adolescent girls, in part

reflecting their choice of more lethal methods, such as firearms (tables 46 and 59).

The prevalence of **serious psychological distress** was 3 percent of civilian noninstitutionalized adults 18 years of age and over in 2001–02. Four percent of persons age 45–54 years had serious psychological distress, more than younger and older age groups. Persons living below the poverty line were four times as likely as those above 200 percent of poverty to have serious psychological distress (8 percent compared with 2 percent) (table 58).

Mortality Trends

Life expectancy and infant mortality are measures often used to gauge the overall health of a population. Life expectancy shows a long-term upward trend. Infant mortality increased in 2002, the first year since 1958 that the rate has not declined or remained unchanged.

In 2002 **life expectancy** at birth for the total population reached a record high of 77.4 years, up from 75.4 years in 1990 (table 27).

In 2002 the **infant mortality** rate was 7.0 infant deaths per 1,000 live births, up from 6.8 in 2001. Between 1958 and 2001, the infant mortality rate either decreased or remained level. The rise in infant mortality in 2002 is attributed to an increase in neonatal deaths (within 28 days of birth), particularly deaths of infants within the first week of life (figure 23 and table 22).

Between 1950 and 2002 the age-adjusted **death rate for the total population** declined 42 percent to 845 deaths per 100,000 population. This reduction was driven largely by declines in mortality from heart disease, stroke, and unintentional injury (figure 25 and table 29).

Mortality from **heart disease**, the leading cause of death, declined almost 3 percent in 2002, continuing a long-term downward trend. The 2002 age-adjusted death rate for heart disease was 59 percent lower than the rate in 1950 (figure 25 and tables 29 and 31).

Mortality from **cancer**, the second leading cause of death, decreased more than 1 percent in 2002, continuing the decline that began in 1990. Overall cancer age-adjusted death rates rose from 1960 to 1990 and then reversed direction (figure 25 and tables 29 and 31).

Mortality from **stroke**, the third leading cause of death, declined almost 3 percent in 2002. Between 1950 and 2002, the age-adjusted death rate for stroke declined 69 percent (figure 25 and tables 29 and 31).

The age-adjusted death rate for **chronic lower respiratory diseases** (CLRD), the fourth leading cause of death, was 54 percent higher in 2002 than in 1980. The upward trajectory for CLRD death rates is a result of steadily increasing death rates for females, most noticeably for females age 55 years and over (figure 25 and tables 29, 31, and 41).

Mortality from **unintentional injuries**, the fifth leading cause of death, increased more than 3 percent in 2002. Age-adjusted death rates for unintentional injuries generally declined from 1950 until 1992 and then increased slightly (figure 25 and tables 29 and 31).

Disparities in Mortality

Despite overall declines in mortality, racial and ethnic disparities in mortality, as well as disparities among persons of different education levels, persist. The gap in life expectancy between the sexes and between the black and white populations has been narrowing.

Large disparities in **infant mortality** rates among **racial and ethnic groups** continue. In 2001 infant mortality rates were highest for infants of non-Hispanic black mothers (13.5 deaths per 1,000 live births), American Indian mothers (9.7 per 1,000), and Puerto Rican mothers (8.5 per 1,000); and lowest for infants of mothers of Chinese origin (3.2 per 1,000 live births) and Cuban mothers (4.2 per 1,000) (table 19).

Infant mortality increases as **mother's level of education** decreases. In 2001 the mortality rate for infants of mothers with less than 12 years of education was 49 percent higher than for infants of mothers with 13 or more years of education. This disparity was more marked among non-Hispanic white infants, for whom mortality among infants of mothers with less than a high school education was more than twice that for infants of mothers with more than a high school education (table 20).

Between 1990 and 2002 **life expectancy at birth** increased 2.9 years for **males** and 1.1 year for **females**. The difference in life expectancy between males and females narrowed from 7.0 years in 1990 to 5.2 years in 2002 (figure 27 and table 27).

Between 1990 and 2002 **mortality from lung cancer** declined for **men** and increased for **women**. Although these trends reduced the sex differential for this cause of death, the age-adjusted death rate for lung cancer was still 76 percent higher for men than for women in 2002 (table 39).

Since 1990 mortality from **chronic lower respiratory diseases** remained relatively stable for **men** while it increased for **women**. These trends reduced the gap between the sexes for this cause of death. In 1990 the age-adjusted death rate for males was more than 100 percent higher than for females. In 2002 the difference between the rates had been reduced to 43 percent (table 41).

Between 1990 and 2002 **life expectancy at birth** increased more for the **black** than for the **white population**, thereby narrowing the gap in life expectancy between these two racial groups. In 1990 life expectancy at birth was 7.0 years longer for the white than for the black population. By 2002 the difference had narrowed to 5.5 years

Overall mortality was 31 percent higher for **black Americans** than for white Americans in 2002 compared with 37 percent higher in 1990. In 2002 age-adjusted death rates for the black population exceeded those for the white population by 41 percent for **stroke**, 30 percent for **heart disease**, 25 percent for **cancer**, and more than 750 percent for **HIV disease** (table 29).

The **5-year survival rate** for black females diagnosed in 1992–99 with breast cancer was 14 percentage points lower than the 5-year survival rate for white females (table 54).

In 2002 **breast cancer mortality** for black females was 36 percent higher than for white females, compared with less than 15 percent higher in 1990 (based on age-adjusted death rates) (table 40).

Homicide rates among young black males 15–24 years of age and **young Hispanic males** were about 50 percent lower in 2002 than in 1992 and 1993 when homicide rates peaked for these groups. Despite these downward trends, homicide was still the leading cause of death for young black males and the second leading cause for young Hispanic males in 2002, and homicide rates for young black and Hispanic males remained substantially higher than for young non-Hispanic white males (table 45).

HIV disease mortality peaked in 1995 and then fell sharply with the advent of new drug therapies. However the decline in HIV disease mortality has slowed in recent years. Between

1999 and 2002, age-adjusted death rates for HIV disease declined about 3 percent per year on average for males and were unchanged for females (table 42).

In 2002 the death rate for **motor vehicle-related injury for young American Indian males** 15–24 years of age was almost 40 percent higher and the suicide rate was almost 60 percent higher than the rates for those causes for young white males. Death rates for the American Indian population are known to be underestimated (tables 44 and 46).

In 2002 age-adjusted death rates for **stroke for Asian males** ages 45–54 and 55–64 years were about 15 percent higher than for white males of those ages. Since 1990, stroke mortality for Asian males and females ages 45–74 years has generally exceeded that for white males and females of those ages. Death rates for the Asian population are known to be underestimated (table 37).

Death rates vary by educational attainment. In 2002 the age-adjusted death rate for persons 25–64 years of age with fewer than 12 years of education was 2.7 times the rate for persons with 13 or more years of education (table 34).

Occupational Health

Improvements in workplace safety constitute a major public health achievement in the twentieth century. Despite important accomplishments, preventable injuries and deaths continue to occur.

In 2002 approximately 2.5 million **workplace injury and illness** cases in the private sector involved days away from work, job transfer, or restriction. The manufacturing and service industries each reported more than 600,000 such cases with incidence rates of 4.1 and 2.2 cases per 100 full-time employees respectively (table 50).

Between 1992 and 2002 the **occupational injury death rate** decreased 23 percent to 4 deaths per 100,000 employed workers. Mining (including oil and gas extraction), the industry with the highest death rate in 2002 (24 per 100,000), accounted for 2 percent of all occupational injury deaths. The industry accounting for the largest percentage of occupational injury deaths, construction (20 percent), had a death rate of 12 per 100,000 (table 49).

A total of 2,715 **pneumoconiosis deaths**, for which pneumoconiosis was either the underlying or nonunderlying cause of death, occurred in 2002, compared with 4,151

deaths in 1980. Pneumoconiosis deaths are primarily associated with occupational exposures and can be prevented through effective control of worker exposure to occupational dusts (table 48).

Health Care Utilization and Health Care Resources

Major changes continue to occur in the delivery of health care in the United States, driven in part by changes in payment policies intended to rein in rising costs and by advances in technology that have allowed more complex treatments to be performed on an outpatient basis. Use of hospital inpatient services overall has decreased, yet inpatient care is becoming more complex with more cardiac procedures performed, especially on older persons. New types of health care providers including ambulatory surgery centers and end-stage renal disease facilities have emerged that provide services previously provided only in hospital settings.

Between 1995 and 2002 the rate of visits to **office-based physicians** increased from 271 per 100 population to 316 per 100 population (age adjusted). The increase was smaller for persons age 18–44 years than for other age groups (table 83).

In 2002 the **hospital emergency department** visit rate for black persons was twice the rate for white persons (71 visits compared with 36 visits per 100 persons, age adjusted). Adults 75 years and over had a higher rate of visits to the hospital emergency department than any other age group (61 visits per 100 persons) (table 83).

In 2002, 63 percent of all **surgical operations** in community hospitals were performed on outpatients, up from 51 percent in 1990 and 16 percent in 1980 (table 98).

In 2002 the **hospital discharge rate** was 117 discharges per 1,000 population, 23 percent lower than the rate in 1985. Most of the decline in the discharge rate had occurred by 1996. Between 2000 and 2002, the discharge rate increased slightly while **average length of stay** remained at 4.9 days, 1.7 days shorter than it was in 1985 (data are age adjusted) (table 93).

Between 1991–92 and 2001–02 **hospital stays with at least one operation on vessels of the heart** performed on persons 75 years of age and over increased from 73 to 124

hospital stays per 10,000 persons (rates are age adjusted) (table 97).

Between 1991–92 and 2001–02 **hospital stays with at least one diagnostic ultrasound** performed on persons 18 years of age and over decreased substantially from 71 to 32 hospital stays per 10,000 persons (rates are age adjusted) (table 97).

The percent of persons with **untreated dental caries** has declined for every age group except children 2–5 years of age. In 1999–2000, 26 percent of adults 18–64 years of age had untreated dental caries, following a decline from 48 to 28 percent between 1971–74 and 1988–94 (table 80).

Between 1995 and 2002 **allopathic medicine graduates** remained stable at nearly 16,000 per year, and osteopathic medicine graduates increased from 1,800 to 2,500 per year (table 106).

Between 1990 and 2002 the number of **community hospital beds** declined from about 927,000 to 821,000. Community hospital occupancy, estimated at 66 percent in 2002, increased from 62 percent in 1996, after declining from 67 percent in 1990 (table 109).

Between 1990 and 2000 the number of inpatient **mental health beds** per 100,000 civilian population in the United States declined 31 percent to 77 beds per 100,000 population. The largest decreases were in State and county mental hospitals and private psychiatric hospitals, which each had a decrease of almost 50 percent to 21 beds and 10 beds per 100,000 population, respectively (table 110).

In 2002 there were 6,800 Medicare-certified **home health agencies**, down from 10,800 in 1997. During this same period, the number of Medicare-certified **hospices** remained stable at about 2,300 (table 114).

In 2002 there were nearly 1.8 million **nursing home beds** in facilities certified for use by Medicare and Medicaid beneficiaries. Between 1995 and 2002 nursing home bed occupancy in those facilities was relatively stable, estimated at 82 percent in 2002 (table 113).

Preventive Health Care

Use of preventive health services helps reduce morbidity and mortality from disease. Use of several different types of preventive services has been increasing. However disparities

in use of preventive health care by race and ethnicity, and family income, remain.

The percent of mothers receiving **prenatal care** in the first trimester of pregnancy has continued to edge upward from 76 percent in 1990 to 84 percent in 2002. Although increases occurred for all racial and ethnic groups, in 2002 the percent of mothers with early prenatal care still varied substantially, from 70 percent for American Indian mothers to 91–92 percent for mothers of Japanese and Cuban origin (figures 8 and 9 and table 6).

In 2002, 78 percent of children 19–35 months of age received the combined **vaccination** series of four doses of DTaP (diphtheria-tetanus-acellular pertussis) vaccine, three doses of polio vaccine, one dose of MMR (measles-mumps-rubella vaccine), and three doses of Hib (Haemophilus influenzae type b) vaccine. Children living below the poverty threshold were less likely to have received the combined vaccination series than were children living at or above poverty (72 percent compared with 79 percent) (table 72).

In 2002, 66 percent of noninstitutionalized adults 65 years of age and over reported an **influenza vaccination** within the past year, the same percent as in 1999 and more than double the percent in 1989. Between 1989 and 2002 the percent of older adults ever having received a **pneumococcal vaccine** increased sharply from 14 percent to 56 percent (figure 10).

Between 1987 and 2000 the percent of women 18 years and over who reported a **Pap smear** in the past 3 years increased from 74 percent to 81 percent. Among women 25 years and over, in 2000, Pap smear use was lowest among women with less than a high school education and highest among women with at least some college education (70 percent and 88 percent) (table 82).

Access to Care

Access to care is important for preventive care and prompt treatment of illness and injuries. A major determinant of access to care is health insurance coverage and the generosity of coverage. Indicators of access to health services also include having a usual source of health care and having a recent health care contact.

The percent of the **population under 65 years of age with no health insurance coverage** (either public or private) fluctuated around 16–17 percent between 1994 and 2002.

Among the under 65 population, poor and near poor persons whose family incomes were less than 200 percent of poverty were much more likely than others to be uninsured (figures 6 and 7 and table 131).

The likelihood of being uninsured varies substantially among the **States**. In 2002 the percent of the population under 65 years of age with **no health insurance coverage** varied from less than 9 percent in Minnesota to more than 22 percent in Nevada, New Mexico, and Texas (table 153).

In 2002, 11 percent of **children** under 18 years of age had **no health insurance coverage**. Between 2000 and 2002 among children with family income just above the poverty level (1–1.5 times poverty), the percent uninsured dropped from 25 to 19 percent. However children with low family income remain substantially more likely than higher-income children to lack coverage (table 131).

Persons of **Hispanic origin and American Indians** who are under 65 years of age are more likely to have **no health insurance coverage** than are those in other racial and ethnic groups. In 2002 among the Hispanic-origin population, persons of Mexican origin were the most likely to lack health insurance coverage (37 percent). Non-Hispanic white persons were the least likely to lack coverage (13 percent) (figure 7 and table 131).

In 2002 **Hispanic persons** were more likely than non-Hispanic white and non-Hispanic black persons to have had **no health care visits** within the past 12 months (26 percent compared with 14–15 percent, percents are age adjusted) (table 71).

Twelve percent of **children** under 18 years of age had **no health care visit** to a doctor or clinic within the past 12 months in 2001–02. Hispanic and non-Hispanic black children were more likely to be without a recent visit than non-Hispanic white children (19 percent and 14 percent compared with 10 percent) (table 74).

Six percent of **children** under 18 years of age had **no usual source of health care** in 2001–02. Hispanic children were more likely than other children to be without a usual source of care (9 percent of Hispanic children under 6 years of age and 16 percent of Hispanic children 6–17 years of age were without a usual source of care) (table 75).

Poor children are more likely to have **untreated dental caries** than children in families with incomes above the poverty level. In 1999–2000, 34 percent of poor children 6–17

years of age had untreated dental caries compared with 13 percent of children in families with incomes 200 percent of the poverty level or greater (table 80).

Twenty-eight percent of young **children** under 6 years of age had an **emergency department (ED) visit** within the past 12 months in 2002. Young children with Medicaid coverage were more likely than those with private coverage or the uninsured to have had an ED visit within the past 12 months (38 percent compared with 22–25 percent) (table 76).

Working-age males 18–64 years of age were nearly twice as likely as working-age females to have **no usual source of health care** in 2001–02 (21 percent of males and 11 percent of females, percents are age adjusted) (table 77).

In 2002, 63 percent of **working-age adults** 18–64 years of age had a **dental visit** in the past year. Less than one-half of poor and near poor working-age adults (persons with family incomes of less than twice the poverty level) had a dental visit in the past year compared with 69 percent of nonpoor working-age adults (with family incomes of at least twice the poverty level) (table 79).

Use of hospital inpatient care is greater among the poor than among the nonpoor whose family income is at least twice the poverty level. In 2002 among persons under 65 years of age, the hospital discharge rate for the poor was nearly twice the rate for nonpoor (158 and 83 per 1,000 population). Among those under 65 years of age, average length of stay was 1.3 days longer for poor than for nonpoor persons (4.7 and 3.4 days, data are age adjusted) (table 92).

Health Care Expenditures

After 25 years of double-digit annual growth in national health expenditures, the rate of growth slowed during the 1990s. At the end of the decade the rate of growth started edging up again. Since the millennium, the rate has accelerated with no indication of a slowdown. The United States continues to spend more on health than any other industrialized country.

In 2002 **national health care expenditures** in the United States totaled more than \$1.5 trillion, a 9.3 percent increase, compared with 8.5 percent in 2001 and 7.1 percent in 2000. In the mid-1990s annual growth had slowed somewhat, following an average annual growth rate of 11 percent during the 1980s (table 116).

The United States spends a larger **share of the gross domestic product (GDP) on health** than does any other major industrialized country. In 2001 the United States devoted 14 percent of the GDP to health compared with 11 percent each in Germany and Switzerland and nearly 10 percent in Canada and France, countries with the next highest shares (table 115).

In 2002 national health expenditures grew 9.3 percent, compared with 3.6 percent growth in the gross domestic product (GDP). **Health expenditures as a percent of the GDP** increased to 14.9 percent in 2002, up from 14.1 percent in 2001, and 13.2–13.4 percent between 1995 and 2000 (table 116).

In 2003 the rate of increase in the medical care component of the **Consumer Price Index (CPI)** was 4.0 percent, continuing to outpace overall inflation (2.3 percent). The CPI for hospital services showed the greatest price increase (7.4 percent) compared with other components of medical care (table 117).

Expenditures by Type of Care and Source of Funds

During the last few years expenditures for prescription drugs have grown at a faster rate than any other type of health expenditure. Hospital care, however, continues to account for the largest share of health care spending.

Expenditures for hospital care accounted for 31 percent of all national health expenditures in 2002. Physician services accounted for 22 percent of the total in 2002, prescription drugs for 11 percent, and nursing home care for 7 percent (table 118).

Between 2000 and 2002 **community hospital expenses** increased at an average annual rate of 8 percent compared with a 5-percent increase between 1995–2000 (table 125).

Between 1995 and 2002 the average annual rate of increase for **prescription drug expenditures** was 15 percent, higher than for any other type of health expenditure (table 118).

In 2001 and 2002 **prescription drug expenditures** increased 15–16 percent. Prescription drugs posted a 5-percent rate of price increase in the Consumer Price Index in 2001 and 2002 and a 3-percent increase in 2003 (tables 117 and 118).

In 2002, 48 percent of **prescription drug expenditures** were paid by private health insurance (up from 24 percent in

1990), 30 percent by out-of-pocket payments (down from 59 percent in 1990), and 18 percent by Medicaid. Although Medicare is the federal program that funds health care for persons age 65 years and over, and older Americans are the highest per capita consumers of prescription drugs, Medicare paid less than 2 percent of prescription drug expenses in 2002 (table 119).

In 2000, 88 percent of persons age 65 years and over in the civilian noninstitutionalized population had a **prescribed medicine expense** compared with 59 percent of younger people. Women 65 years of age and over averaged \$731 out-of-pocket for prescribed medicine compared with \$467 for men in 2000. Among those under 65 years of age, out-of-pocket expenses averaged \$218 for women and \$175 for men in 2000 (table 120).

In 2000, 96 percent of **persons age 65 years and over** in the civilian noninstitutionalized population reported **medical expenses** averaging about \$6,100 per person with expense. Eighteen percent of expenses were paid out-of-pocket, 15 percent by private insurance, and 65 percent by public programs (mainly Medicare and Medicaid) (tables 120 and 121).

The burden of **out-of-pocket expenses** for health care varies considerably by age. In 2000 about one-third of persons 65 years of age and over with health care expenses paid \$1,000 or more out-of-pocket and approximately an additional one-fifth incurred expenses of \$500 to \$1,000. One-fifth of adults 18–44 years of age with health care expenses paid at least \$500 out-of-pocket in 2000 (table 122).

In 2002, 34 percent of **personal health care expenditures** were paid by the Federal Government and 11 percent by State and local government; private health insurance paid 36 percent and consumers paid 16 percent out-of-pocket (table 119).

In 2002 the major **sources of funds for hospital care** were Medicare (31 percent) and private health insurance (34 percent). **Physician services** were also primarily funded by private health insurance (49 percent) and Medicare (20 percent). In contrast, **nursing home care** was financed primarily by Medicaid (49 percent) and out-of-pocket payments (25 percent). The Medicare share of nursing home expenditures has risen from 3 percent in 1990 to 13 percent in 2002

In 2003 **Federal expenditures for HIV-related activities** grew to \$16.7 billion, an 11-percent increase compared with a 6-percent increase in 2002. Of the total Federal HIV-related spending in 2003, 61 percent was for medical care, 17 percent for research, 12 percent for education and prevention, and 10 percent for cash assistance (table 128).

Publicly Funded Health Programs

The two major publicly funded health programs are Medicare and Medicaid. Medicare is funded through the Federal Government and covers the health care of persons 65 years of age and over and disabled persons. Medicaid is jointly funded by the Federal and State Governments to provide health care for certain groups of low-income persons and, in recent years, has expanded to cover a greater proportion of the low-income population—particularly low-income children. Medicaid benefits and eligibility vary by State.

In 2002 the **Medicare** program had 41 million enrollees and expenditures of \$266 billion

In 2002 **hospital insurance (HI)** accounted for 57 percent of **Medicare** expenditures. Expenditures for home health agency care continued to hover around 3 percent of HI expenditures, down from 14 percent in 1995 (table 136).

In 2002 **supplementary medical insurance (SMI)** accounted for 43 percent of **Medicare** expenditures. Sixteen percent of SMI expenditures in 2002 were payments to managed care organizations, down from 20–22 percent in 1998–2000. Nearly one-half of the \$96 billion SMI paid for fee-for-service utilization in 2002 went to physicians under the physician fee schedule (table 136).

Of the 33.9 million **Medicare enrollees in the fee-for-service program** in 2001, 11 percent were 85 years of age and over and 15 percent were under 65 years of age. Among fee-for-service Medicare enrollees age 65 years and over, payments in 2001 increased with age of enrollee from an average of \$4,400 per year per enrollee for those age 65–74 years to \$8,500 for those 85 years and over (table 137).

In 2000, 80 percent of Medicare beneficiaries were non-Hispanic white, 9 percent were non-Hispanic black, and 7 percent were Hispanic. Some 22–23 percent of Hispanic and non-Hispanic black beneficiaries were persons under 65 years of age entitled to **Medicare through disability**, compared with 12 percent of non-Hispanic white beneficiaries (table 138).

In 2001 **Medicare payments per fee-for-service enrollee** varied by State, ranging from less than \$4,400 in Hawaii, South Dakota, and New Mexico to more than \$6,800 in New Jersey, the District of Columbia, New York, Maryland, and Louisiana (table 150).

In 2001 **Medicaid** vendor payments totaled \$186 billion for 46 million recipients (table 139).

In 2002 **Medicaid enrollment** increased to 11.8 percent of the noninstitutionalized population under 65 years of age, up from 10.3 percent in 2001. In 2002 among children less than 18 years of age, 24.5 percent were covered by Medicaid, a 3.3 percentage point increase over the previous year (table 130).

In 2001 children under the age of 21 years accounted for 46 percent of **Medicaid recipients** but only 16 percent of expenditures. Aged, blind, and disabled persons accounted for nearly one-quarter of recipients and nearly 70 percent of expenditures (table 139).

In 2001, 20 percent of **Medicaid payments** went to nursing facilities, 14 percent to inpatient general hospitals, 16 percent to capitated payment services, and 13 percent to prescribed drugs (table 140).

In 2001 **Medicaid payments per recipient varied by State** from less than \$3,000 in California, Tennessee, Georgia, and Washington to more than \$7,000 in New York and New Hampshire. On average payments per recipient were lower in the Southeast, Southwest, and Far West States than in the New England and Mideast States (table 151).

In 2003 spending on health care by the **Department of Veterans Affairs** was \$26 billion, an increase of 11 percent over the previous year. Forty-one percent of inpatients and 33 percent of outpatients were low-income veterans without a service-connected disability (table 141).

Health Insurance

Seventy percent of the population under 65 years of age has private health insurance, most of which is obtained through the workplace. In private industry, about 6 percent of employees' total compensation is devoted to health insurance. Most health insurance is now provided through some form of managed care organization, including health maintenance organizations (HMOs), preferred provider organizations (PPOs), and point-of-service plans (POSS). One-quarter of all

persons in the United States were enrolled in HMOs in 2002. HMO enrollment peaked in 1999 and has declined slowly since then.

In 2002 the age-adjusted proportion of the population under 65 years of age with **private health insurance** declined to 70 percent from 72 percent in 2001. Between 1995 and 2001 the proportion had fluctuated between 71 and 73 percent after declining from 77 percent in 1984. Ninety-four percent of private coverage was obtained through the workplace (a current or former employer or union) in 2002 (figure 6 and table 129).

In 2003 **private employers' health insurance costs** per employee-hour worked were \$1.41, up from \$1.28–1.29 in 2001–02. Among private employers the share of total compensation devoted to health insurance was 5.9–6.3 percent in 2001–03 (table 124).

Enrollment in HMOs totaled 72 million persons or one-quarter of the U.S. population in 2003. HMO enrollment varied from 17–20 percent in the South and Midwest to 32–36 percent in the Northeast and West. HMO enrollment increased steadily through 1999 but declined more than 9 million by 2003. Between 1999 and 2003 the number of HMO plans decreased from 643 to 454 plans (table 134).

In 2002, 25–27 percent of children under 18 years of age and adults age 18–44 and 45–64 years had health insurance coverage through a **private HMO**. Eleven percent of children had coverage through a **Medicaid HMO** while 2–3 percent of adults under 65 years of age had this coverage (table 133).

State Health Expenditures

Total personal health care per capita expenditures and its components vary substantially among the States. State expenditures are affected by factors such as population age structure and health, payment rates, and supply of services.

Personal health care per capita expenditures averaged \$3,800 in 1998, but varied among the States from \$2,700 in Utah to \$4,800 in Massachusetts. Higher expenditures were clustered in the New England and Mideast States, with lower per capita expenditures in the Rocky Mountain, Southwest, and Far West States (table 142).

The components of personal health care expenditures vary significantly by State. **Hospital care** per capita expenditures in 1998 ranged from \$1,016 in Utah to \$1,807 in

Massachusetts. **Physician** and other professional services per capita expenditures varied from \$763 in Utah to \$1,347 in Minnesota. Per capita expenditures for **nursing home care** ranged from \$90 in Alaska to \$860 in Connecticut (tables 143–145).

Twenty-one percent of all personal health care expenditures were paid by **Medicare** in 1998, up from 17 percent in 1991. The Medicare share of State health expenditures in 1998 varied from 9 percent in Alaska to 25–26 percent in Pennsylvania, Mississippi, and Louisiana, and 28 percent in Florida (table 147).

The share of personal health care expenditures paid by **Medicaid** increased from 13 percent in 1991 to 16 percent in 1995 through 1998. The Medicaid share of personal health care expenditures in 1998 ranged from less than 10 percent in Nevada and Virginia, to 21–22 percent in the District of Columbia, Maine, and Rhode Island, and 32 percent in New York (table 148).

Special Feature: Drugs

Drugs, both prescribed and over-the-counter, are an increasingly important component of health care. New drugs, and new uses for older drugs, are improving health outcomes and quality of life, curing some conditions, preventing or delaying disease, and hastening recovery. Trends in the percent of persons who reported taking a drug during a 1-month period, as well as trends in specific types of drugs prescribed, ordered, or provided during visits to office-based physicians and hospital outpatient departments, show the extent to which large changes in practice patterns and utilization can occur during a relatively short time period.

Between 1988–94 and 1999–2000 the percent of Americans of all ages who reported using **at least one prescription drug during the past month** increased from 39 to 44 percent. During the same period the percent of persons who reported using three or more drugs in the past month increased from 12 to 17 percent (percents are age adjusted) (figure 26 and table 86).

In 1999–2000 more than 60 percent of adults age 45–64 years and more than 80 percent of adults age 65 years and over reported taking **at least one prescription drug during the past month** (figure 26 and table 86).

In 1999–2000 **Mexican adults** age 65 years and over were less likely to report taking a **prescription drug in the past month** than non-Hispanic white or non-Hispanic black adults (69 percent compared with 85–87 percent) (table 86).

Between 1995–96 and 2001–02 visits to physician offices and hospital outpatient departments in which **five or more drugs** were prescribed, ordered, or provided increased from 4 to 7 percent of all visits (age adjusted). This increase was largest for persons age 75 years and over, for whom the percent of visits with five or more drugs increased from 13 percent in 1995–96 to 20 percent in 2001–02 (figure 27).

The percent of civilian noninstitutionalized persons age 65 years and over with an annual **out-of-pocket expense for prescribed medicine** increased from 82 percent in 1987 to 88 percent in 2000. For persons age 65 years and over with prescribed medicine expenses, the average amount paid out-of-pocket increased from \$321 in 1987 to \$623 in 2000 (expenses in 2000 dollars) (table 120).

Between 1995–96 and 2000–01 there was a substantial increase in the rate that **antidepressant drugs, blood glucose/sugar regulators, and cholesterol-lowering drugs** were prescribed, ordered, or provided during visits to physician offices and hospital outpatient departments (table 87).

Among physician office visits and hospital outpatient department visits with an **asthma** diagnosis, the percent of visits in which a long-term control asthma drug was prescribed, ordered, or provided surpassed the percent with a quick-relief (rescue) drug between 1995–96 and 1997–98. By 2001–02, 55 percent of asthma visits had a long-term asthma control drug prescribed, ordered, or provided compared with 39 percent in 1995–96 (figure 28).

The percent of **adults using antidepressants** almost tripled between 1988–94 and 1999–2000. Use is higher among women than men. In 1999–2000, 10 percent of women 18 years and over reported taking an antidepressant in the past month, compared with 4 percent of men (figure 30).

In 1999–2000 the percent of **non-Hispanic white adults using antidepressants** was 3 times the percent among non-Hispanic black and Mexican adults. In 1988–94, use among non-Hispanic white adults was 1.4 times that among non-Hispanic black and Mexican adults (figure 31).

The rate of visits to office-based physicians and hospital outpatient departments in which a **selective serotonin**

reuptake inhibitor (SSRI), a newer type of antidepressant, was prescribed, ordered, or provided nearly doubled between 1995–96 and 2001–02. In 2001–02 the SSRI visit rate among women was 25 visits per 100 women—more than twice the rate observed among men (figure 32).

In 2000–2002 the rate of **visits with a stimulant drug** prescribed, ordered or provided among **boys** was more than two times the visit rate among girls, reflecting the higher prevalence of identified Attention Deficit Hyperactivity Disease (ADHD) in boys compared with girls (figure 33).

The rate of **visits with an antidepressant drug** prescribed, ordered, or provided was similar for boys and girls in 2000–02. The antidepressant visit rate was more than twice as high among **adolescents** as younger school-age children (3.4 per 100 children 5–11 years of age and 8.8 per 100 adolescents 12–17 years of age) (figure 34).

For men and women age 45–64 years, the rate of drug visits to office-based physicians and hospital outpatient departments with a **cholesterol-lowering statin** prescribed, ordered, or provided increased by more than 200 percent between 1995–96 and 2001–02 (figure 35).

Since the introduction of **selective COX-2 nonsteroidal anti-inflammatory drugs (NSAIDs)**, their use has become widespread. In 2001–02, selective COX-2 inhibitors accounted for 51 percent of NSAID visits among adults age 18 years and over, surpassing traditional NSAIDs. This dramatic growth in COX-2 NSAID visits is evident in all adult age groups (figure 36).