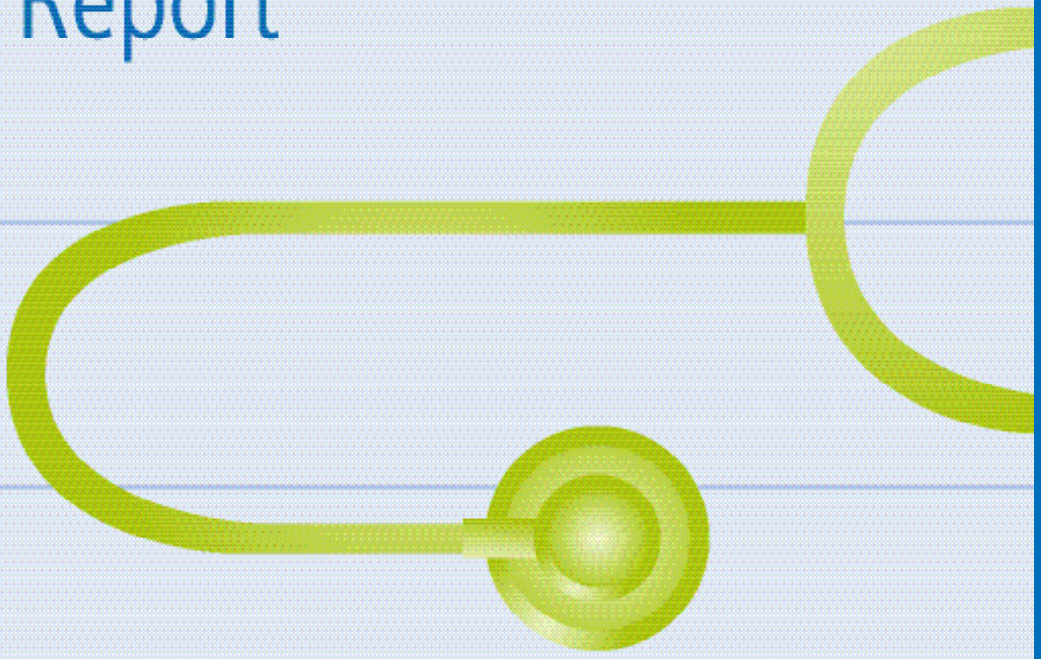
2004 National Healthcare Disparities Report



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2004 National Healthcare Disparities Report

U.S. Department of
Health and Human Services

Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850

AHRQ Publication No. 05-0014
December 2004

Second Printing, March 2005

Acknowledgments

The National Healthcare Disparities Report (NHDR) is the product of collaboration among agencies across the Department of Health and Human Services (HHS). Many individuals guided and contributed to this report. Without their wisdom and magnanimous support, this report would not have been possible.

Specifically, we thank:

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Other AHRQ Contributors: Fran Chevarley, Rosaly Correa, Carole, Denise Dougherty, Sharon Larson, Pamela Owens, Larry Patton, Denise Remus, Mary Rolston, Randie Siegel, and Phyllis Zucker. AHRQ would also like to acknowledge the contributions of the late Ellen Howe in support of NHDR activities.

Contents

Chapter *Page*

Highlights 1

1. **Introduction and Methods** 7

2. **Quality of Health Care** 21
   - Effectiveness 23
     - Cancer 23
     - Diabetes 24
     - End Stage Renal Disease 25
     - Heart Disease 26
     - HIV and AIDS 27
     - Maternal and Child Health 27
     - Mental Health 27
     - Respiratory Diseases 28
     - Nursing Home and Home Health Care 30
   - Patient Safety 32
   - Timeliness 34
   - Patient Centeredness 35
   - Summary Tables 36

3. **Access to Health Care** 59
   - Getting Into the Health Care System 61
   - Getting Care Within the Health Care System 65
   - Patient Perceptions of Care 67
   - Health Care Utilization 69
   - Summary Tables 76

4. **Priority Populations** 87
   - Racial and Ethnic Minorities 89
   - Low Income Groups 96
   - Women 101
   - Children 109
   - Elderly 117
   - Residents of Rural Areas 123
   - Individuals With Special Health Care Needs 130

Appendixes:

A. Data Sources . . . . . www.qualitytools.ahrq.gov
B. Detailed Methods . . . . . www.qualitytools.ahrq.gov
C. Measure Specifications . . . . . www.qualitytools.ahrq.gov
D. Data Tables . . . . . www.qualitytools.ahrq.gov

Key Themes and Highlights From the National Healthcare Disparities Report

The United States health care delivery system is among the world's finest with outstanding providers, facilities, and technology. Many Americans enjoy easy access to care. However, not all Americans have full access to high quality health care.

Released in 2003, the first National Healthcare Disparities Report (NHDR) is a comprehensive national overview of disparities in health care among racial, ethnic, and socioeconomic groups in the general U.S. population and among priority populations. This second NHDR is built upon the 2003 report and continues to include a comprehensive national overview of disparities in health care in America. In addition, in the 2004 report, a second critical goal of the report is developed: tracking the Nation's progress towards the elimination of health care disparities.

In the 2004 report, three key themes are highlighted for policymakers, clinicians, health system administrators, and community leaders who seek to use this information to improve health care services for all Americans:

- Disparities are pervasive.
- Improvement is possible.
- Gaps in information exist, especially for specific conditions and populations.

Disparities Are Pervasive

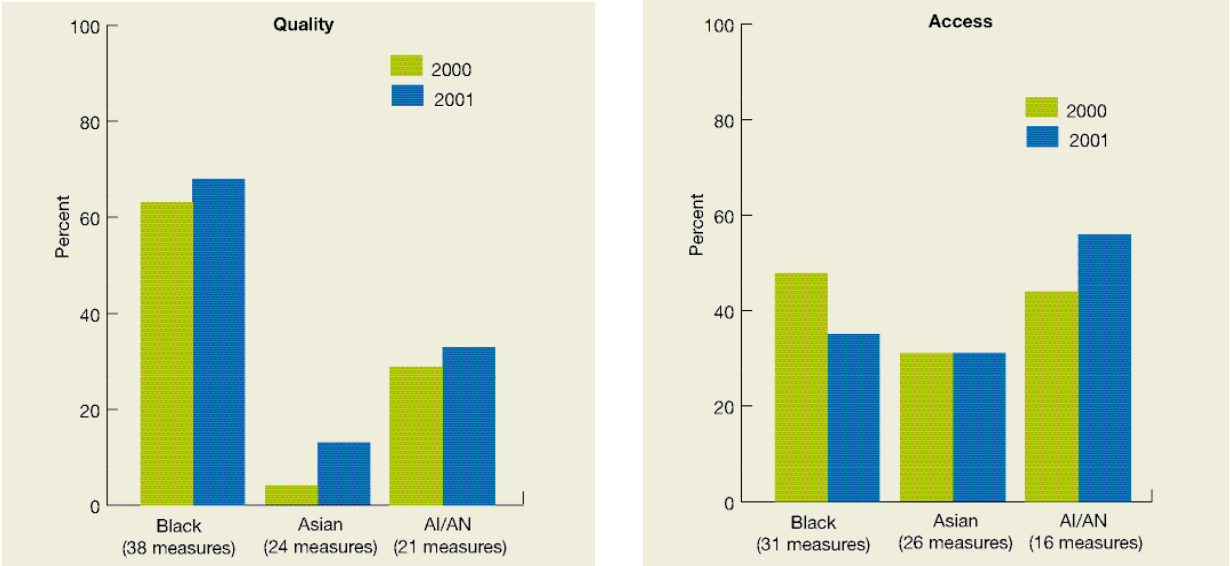
Consistent with extensive research and findings in the 2003 report, the 2004 report finds that disparities related to race, ethnicity, and socioeconomic status[i] pervade the American health care system. While varying in magnitude by condition and population, disparities are observed in almost all aspects of health care, including:

- Across all dimensions of quality of health care including effectiveness, patient safety, timeliness, and patient centeredness.
- Across all dimensions of access to care including getting into the health care system, getting care within the health care system, patient perceptions of care, and health care utilization.
- Across many levels and types of care including preventive care, acute care, and chronic care.
- Across many clinical conditions including cancer, diabetes, end stage renal disease, heart disease, and respiratory diseases.
- Across many care settings including primary care, dental care, mental health care, substance abuse treatment, emergency rooms, hospitals, and nursing homes.
- Within many subpopulations including women, children, elderly, persons with disabilities, residents of rural areas, and individuals with special health care needs.

[i]Consistent with Healthy People 2010, the NHDR defines disparities as any differences among populations. In addition, all disparities discussed in the NHDR meet criteria based on statistical significance and size of difference described in Chapter 1. Income and education are the primary measures of socioeconomic status used in the report.

To begin to quantify disparities systematically, a subset of measures for which comparable data are available for 2000 and 2001 are highlighted in the 2004 report. This subset consists of 38 measures of effectiveness of health care and 31 measures of access to health care. Data sources are the Surveillance, Epidemiology, and End Results (SEER) program, U.S. Renal Data System (USRDS), Medical Expenditure Panel Survey (MEPS), the Centers for Disease Control and Prevention (CDC) AIDS Surveillance System, National Vital Statistics System-Natality (NVSS-N), National Immunization Survey (NIS), National Health Interview Survey (NHIS), and National Hospital Discharge Survey (NHDS). For each measure, racial, ethnic, and socioeconomic groups are compared with an appropriate comparison group; each group could receive care that is poorer than, about the same as, or better than the comparison group.[ii] For each group, the percentage of measures for which the group received poorer care was then calculated.

Figure H.1. Percent of measures for which members of selected racial groups experience poorer quality of care (left) or have worse access to care (right) compared with whites in 2000 and 2001



Source: SEER, USRDS, MEPS, CDC AIDS Surveillance System, NVSS-N, NIS, NHIS, NHDS, 2000-2001.

Note: Poorer quality of care and worse access to care indicate that for a particular measure, the group does not receive as high quality care or have as much access to care as whites and that the relative difference is at least 10% and statistically significant with $p<0.05$. Number of measures available for each group is indicated in parentheses.

Key: AI/AN=American Indian and Alaska Native

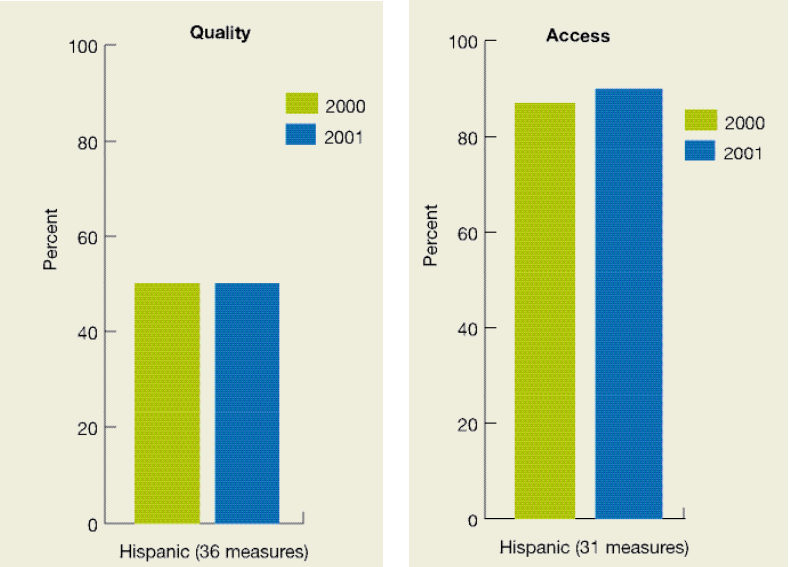
Of measures tracked in 2000 and 2001, in both years:

- Blacks received poorer quality of care than whites for about two-thirds of quality measures and had worse access to care than whites for about 40% of access measures (Figure H.1).
- Asians[iii] received poorer quality of care than whites for about 10% of quality measures and had worse access to care than whites for about a third of access measures.
- American Indians and Alaska Natives (AI/ANs) received poorer quality of care than whites for about a third of quality measures and had worse access to care than whites for about half of access measures.

[ii] Data on all measures were not available for all groups; see Tables 1.2 and 1.3 for lists of measures available for each group. Only relative differences of at least 10% and statistically significant with $p< 0.05$ are discussed in this report.

[iii] Including "Asians or Pacific Islanders (APIs)" when information is not collected separately for each group.

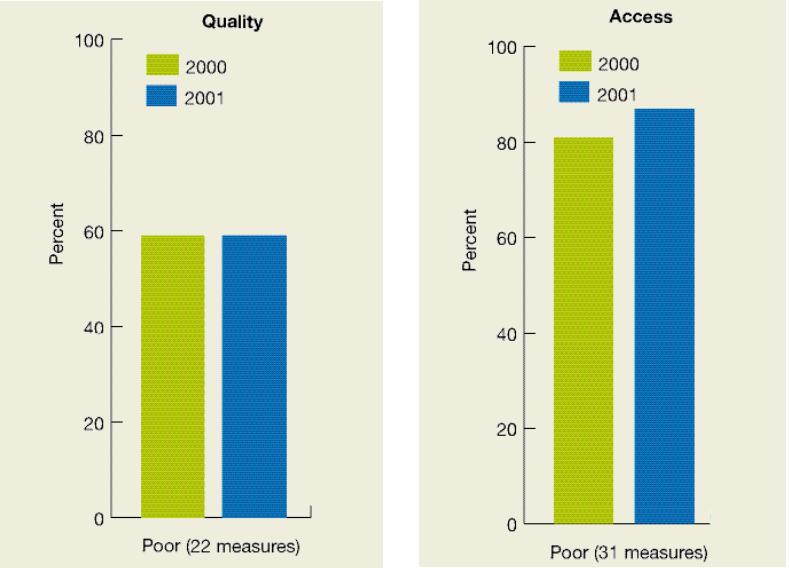
Figure H.2. Percent of measures for which Hispanics experience poorer quality of care (left) or have worse access to care (right) compared with non-Hispanic whites in 2000 and 2001



Source: SEER, USRDS, MEPS, CDC AIDS Surveillance System, NVSS-N, NIS, NHIS, NHDS, 2000-2001.

Note: Poorer quality of care and worse access to care indicate that for a particular measure, the group does not receive as high quality care or have as much access to care as non-Hispanic whites and that the relative difference is at least 10% and statistically significant with $p<0.05$. Number of measures available for each group is indicated in parentheses.

Figure H.3. Percent of measures for which the poor experience poorer quality of care (left) or have worse access to care (right) compared with high income individuals in 2000 and 2001



Source: SEER, USRDS, MEPS, CDC AIDS Surveillance System, NVSS-N, NIS, NHIS, NHDS, 2000-2001.

Note: Poorer quality of care and worse access to care indicate that for a particular measure, the group does not receive as high quality care or have as much access to care as high income individuals and that the relative difference is at least 10% and statistically significant with $p<0.05$. Number of measures available for each group is indicated in parentheses.

Of measures tracked in 2000 and 2001, in both years:

- Hispanics received lower quality of care than non-Hispanic whites for half of quality measures and had worse access to care than non-Hispanic whites for about 90% of access measures (Figure H.2).
- Poor people[iv] received lower quality of care for about 60% of quality measures and had worse access to care for about 80% of access measures than those with high income (Figure H.3).

[iv] "Poor" is defined as having family incomes less than 100% of the Federal poverty level and "high income" is defined as having family incomes 400% or more of the Federal poverty level.

Improvement Is Possible

The Department of Health and Human Services (HHS) leads many initiatives aimed at reducing health care disparities and improving health care quality. While cause and effect relationships would be difficult to demonstrate, these activities are often associated with improvements in care. In the 2003 report, several examples of the absence or reversal of disparity that coincided with HHS programs were identified, including:

- Absence of racial or ethnic disparity in management of anemia among end stage renal disease patients in 2001, coinciding with the Centers for Medicare & Medicaid Services End Stage Renal Disease Clinical Performance Measures Project.
- Higher rates of Pap testing among black compared with white women in 2000, coinciding with the CDC National Breast and Cervical Cancer Early Detection Program.
- Higher rates of blood pressure monitoring among blacks compared with whites in 1998, coinciding with the National Heart, Lung, and Blood Institute National High Blood Pressure Education Program.

In the 2004 report, new examples of decreasing disparities in health care are added, including:

- Elimination of racial, ethnic, and socioeconomic disparities in quality of and access to health care observed among people who receive care in community health centers.
- Elimination of differences in rates of late stage breast cancer between black and white women from 1992 to 2001 due to falling rates among black women coupled with rising rates among white women. This result may be related to the CDC National Breast and Cervical Cancer Early Detection Program and improving rates of mammography among black women.
- Lower rates of measles-mumps-rubella vaccination for black children age 19-35 months compared with white children and lower rates of *Haemophilus influenzae* vaccination for Hispanic children compared with non-Hispanic white children in 2000 but no significant differences in 2002. These results may in part be related to the CDC National Immunization Program.
- Lower rates of influenza vaccination for elderly Asian and Pacific Islander Medicare beneficiaries than white beneficiaries in 1998 but no significant difference in 2000.
- Less likelihood that blacks and Asians would report a source of ongoing care compared with whites in 1999 but no significant differences in 2001.

While these examples demonstrate that improvement is possible, reducing disparities is a gradual process. In the 2004 report, the accumulation of more than a single year of data for many measures allows the examination of changes over time. While changes over 2 years of data are difficult to interpret, these changes are presented in this report to illustrate the tracking function of the NHDR. It is hoped that future reports with more years of data will be able to document sustained reductions in health care disparities.

In general, from one year to the next, improvements in measures of quality of or access to health care are small, and disparities are particularly slow to change. For all racial, ethnic, and socioeconomic groups, specific disparities observed in 2000 were almost always observed in 2001 as well (Figures H.1-H.3). Even when improvement in quality or access is observed, disparities often persist because all groups typically change proportionately. To reduce disparities, groups with poorer quality of care or access to care need to experience more rapid improvement in care than other groups and this is rarely observed.

Longer term trends are better able to capture improvements in health care over time but generally support the thesis that disparities change gradually. For example, the three SEER measures used in the report are trended over a decade. For two of these, significant changes over the decade are demonstrated; rates of late stage colorectal and cervical cancer fell while rates of late stage breast cancer remained constant. However, most of the racial and ethnic differences in late stage cancer observed in 1992 are still present in 2001.

Gaps in Information Exist, Especially for Specific Conditions and Populations

In the 2003 report, providing a comprehensive national overview of disparities in health care was limited by a number of gaps in information, including:

- Few measures for some conditions such as quality of HIV care and mental health care.
- Few measures that were unique but important to specific populations.
- Limited data to address particular population groups such as children, the elderly, persons with disabilities, residents of rural areas, and individuals with special health care needs or at the end of life.
- Limited data to address Hispanic and Asian subpopulations and barriers related to language and literacy.
- Limited data to understand why disparities exist and how they can be eliminated.

In the 2004 report, efforts to address some of these information gaps have begun, including:

- More measures of unique and high importance to children and to the elderly.
- Information about hospital care received by American Indians and Alaska Natives from Indian Health Service facilities.
- Information about care delivered in community health centers from the Health Resources and Services Administration Community Health Center User Survey.
- Information about children with special health care needs from the National Survey of Children with Special Health Care Needs.
- Expanded analyses of residents along the urban-rural continuum using the new Federal classification system.
- Expanded stratified and multivariate analyses that begin to disaggregate disparities related to race and ethnicity from disparities related to socioeconomic status.

However, many gaps in information remain. For example, of the subset of measures tracked between 2000 and 2001, statistically reliable estimates were not possible for:

- The vast majority of measures among Native Hawaiians and Other Pacific Islanders.
- About half of measures among American Indians and Alaska Natives.
- About a third of quality of care measures among Asians.

Future NHDRs will benefit from ever improving data for examining and tracking disparities. For example, MEPS data for the 2005 report will include large oversamples of Asians and people with incomes less than 200% of the Federal poverty level and will add new survey questions about language and cultural competency. NHIS data will also begin to include oversamples of Asians. The increasing number of health plans that are beginning to collect data on race and ethnicity will improve understanding of disparities in health care. The revolution in health information technologies will allow data needed to assess disparities to be collected and processed more quickly, efficiently, securely, and economically.

As knowledge of disparities in health care and commitment to reducing disparities continue to grow, the ability to monitor and track improvements in disparities will become critical. In the 2004 report, work begun in 2003 to lay the information infrastructure needed to track the Nation's progress towards the elimination of disparities in health care is continued and expanded. Working together, using the NHDR as a guide, America's patients, providers, purchasers, and policymakers can make full access to high quality health care a reality for all.

Chapter 1. Introduction and Methods

In 1999, Congress directed the Agency for Healthcare Research and Quality (AHRQ) to produce an annual report, starting in 2003, to track "prevailing disparities in health care delivery as it relates to racial factors and socioeconomic factors in priority populations."[1] Although the emphasis is on disparities related to race, ethnicity, and socioeconomic status (SES), this directive includes a charge to examine disparities in "priority populations"—groups with unique health care needs or issues that require special focus.

The first National Healthcare Disparities Report (NHDR) was a comprehensive national overview of disparities in health care among racial, ethnic, and socioeconomic groups in the general U.S. population and among priority populations. It was released in 2003 with its companion report, the National Healthcare Quality Report (NHQR); the reports emphasize the interdependence of efforts to measure and address quality and disparities in health care and are intended to be used as companion documents.

This second NHDR is built upon the 2003 report and continues to include a comprehensive national overview of disparities in America. In addition, in the 2004 report, a second critical goal of the report series is developed—tracking the Nation's progress towards the elimination of health care disparities. Additional years of data are added that begin to allow examination of changes in disparities over time.

Together, the 2004 NHDR and NHQR are designed to provide policymakers with a snapshot of the current status of disparities and quality in American health care and an assessment of how disparities and quality are changing over time. In addition, tools used to create these reports are available in the appendixes. Health care providers and payers may apply these tools to their own data to assess their performance relative to the national benchmarks included in the reports.

Health Care Disparities

In the 2003 NHDR, the lack of consensus on a definition of "disparities" was noted. For example, in *Healthy People 2010* (HP2010), in pursuit of the overarching goal of eliminating health disparities, all differences among populations in measures of health and health care are considered evidence of disparities.[2] At the other end of the spectrum, in the report by the Institute of Medicine (IOM), *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, disparities are defined as differences that remain after taking into account patient needs and preferences and the availability of health care.[3] Still others associate health care disparities with adverse health outcomes, personal responsibility, or provider prejudice.

To monitor and track progress in eliminating disparities over time, national data on disparities are needed. Because existing Federal data typically do not capture patient needs or preferences for care, in the NHDR a broad definition of disparities is used and, consistent with HP2010, any differences among populations are considered disparities. While many differences in care are documented in this report, no inferences about *causes* of disparities should be drawn. Specifically, findings about racial and ethnic differences in care should not be interpreted as evidence of racial or ethnic bias in the health care system.

New Developments in Addressing Health Care Disparities

In the 2003 report, a small sample of the many programs in the Department of Health and Human Services (HHS) and in the private sector that focus on reducing disparities in health and health care were listed. This past year, substantial contributions to the understanding of disparities have been made, while other activities have led the Nation closer to the goal of eliminating disparities in health care, including:

- **Department of Health and Human Services Disparities Council**—This group convenes leaders from across HHS under the Assistant Secretary for Health to coordinate and maximize the effectiveness of the many Federal initiatives in place to eliminate disparities and to identify and evaluate new opportunities for eliminating disparities. It relies upon the NHDR and other efforts to measure and track disparities to help focus Federal action and monitor progress.
- **National Business Group on Health Employer Toolkit for Reducing Racial and Ethnic Health Disparities**—Developed in partnership with many of America's leading companies, including Pfizer, Verizon, Texas Instruments, Coca-Cola, and Kellogg, this resource includes summaries of disparities research for corporate audiences, the business case for reducing disparities, and best practices for helping employees overcome barriers to care.
- **National Health Plan Learning Collaborative To Reduce Disparities and Improve Quality**—Ten of America's foremost health plans, including Aetna, Anthem, Cigna, Harvard Pilgrim, HealthPartners, Highmark, Kaiser Permanente, Molina, UnitedHealth Group, and WellPoint, have joined with the Agency for Healthcare Research and Quality and the Robert Wood Johnson Foundation to improve race and ethnicity data collection and develop interventions to reduce disparities in treatment of diabetes and other chronic conditions. Lessons learned by plans in the collaborative will be shared with the health care community.
- **American Public Health Association National Public Health Week**—The 2004 theme, Eliminating Health Disparities, brought the public health community together to advance understanding of disparities and develop resources for improvement, including a Health Disparities Community Solutions Database with 500 initiatives launched by communities.
- **National Research Council report on collection of data for addressing disparities**—The report, *Eliminating Health Disparities: Measurement and Data Needs*, found that current data on race, ethnicity, and socioeconomic position are severely limited and made recommendations to HHS and States for improving data collection.
- **America's Health Insurance Plans/Robert Wood Johnson Foundation Collection of Racial and Ethnic Data by Health Plans Survey**—This study found that more than half of the Nation's health insurance plans collect information on the race, ethnicity, and primary language of their membership to identify enrollees with risk factors, reduce disparities, assess variation, and identify need for interpreters and translated materials.

- **Health Research and Educational Trust/Commonwealth Fund report on collection of racial and ethnic data by hospitals**—This report, *Who, When, and How: The Current State of Race, Ethnicity, and Primary Language Data Collection in Hospitals*, found that more than three-fourths of the Nation's hospitals collect patient race and ethnicity information and that most hospitals do not see any drawbacks to collecting such information.
- **Institute of Medicine and Agency for Healthcare Research and Quality reports on health literacy**—In *Health Literacy: A Prescription to End Confusion*, the IOM found that almost half of Americans have difficulty understanding and acting upon health information and that these people with limited health literacy use hospitals and emergency rooms more often and generate higher health care costs. In *Literacy and Health Outcomes*, AHRQ found that low reading skill and poor health are related across a variety of medical conditions.
- **Trans-HHS Cancer Health Disparities Progress Review Group** — This group brought together researchers, health practitioners, advocates, and cancer survivors to make recommendations to HHS about how to eliminate the unequal burden of suffering and death due to cancer. The Progress Review Group report, *Making Cancer Health Disparities History*, is a detailed and integrated 3-year plan.

How This Report Is Organized

In addition to the Highlights summarizing key themes from the 2004 report, the basic structure of the report is unchanged from last year and consists of the following:

- **Chapter 1: Introduction and Methods** documents the organization, data sources, and methods used in the 2004 report and describes major changes from the 2003 report.
- **Chapter 2: Quality of Health Care** examines disparities in quality of health care in the general U.S. population. Measures of quality of health care used in this chapter are identical to measures used in this year's NHQR except when data to examine disparities are unavailable. Sections cover four components of health care quality: effectiveness, patient safety, timeliness, and patient centeredness; the effectiveness section is subdivided by medical condition.
- **Chapter 3: Access to Health Care** examines disparities in access to health care in the general U.S. population. Sections cover four components of health care access: getting into the health care system, getting care within the health care system, patient perceptions of care, and health care utilization.
- **Chapter 4: Priority Populations** examines disparities in quality of and access to health care among AHRQ's priority populations including:
  - Racial and ethnic minorities
  - Low income groups
  - Women
  - Children
  - Elderly
  - Residents of rural areas
  - Individuals with special health care needs

Appendixes are available online (www.qualitytools.ahrq.gov) and include:

- **Appendix A: Data Sources** provides information about each database analyzed for the NHDR including data type, sample design, and primary content.
- **Appendix B: Detailed Methods** provides detailed methods for select databases analyzed for the NHDR.
- **Appendix C: Measure Specifications** provides information about how to generate each measure analyzed for the NHDR. It includes both measures highlighted in the report text as well as other measures that were examined but not included in the text. It also includes information about the summary measures used in the report.
- **Appendix D: Data Tables** provides detailed tables for most measures analyzed for the NHDR, including both measures highlighted in the report text and measures examined but not included in the text. A few measures cannot support detailed tables and are not included in the appendix. When data are available, race tables and ethnicity tables are stratified by age, gender, residence location, and one or more socioeconomic variables (household income, education, insurance, and/or area income). When data are available, socioeconomic tables are stratified by age, gender, residence location, race, and ethnicity. Summary data tables organized by topic are presented first followed by detailed data tables for each measure.

New in This Report

Consistent with the goal of improving quality of and access to health care for all Americans, a number of improvements in the quality and accessibility of the NHDR are made this year. Improvements include changes to report format, changes to the measure set, addition of new data sources, expanded analyses, and summary of disparities.

Changes to Report Format

The expansion of the 2004 report with the inclusion of new measures, data, and analyses prompted a reassessment of the report format. With broad support across HHS, the 2004 NHDR and NHQR have been restructured as chartbooks. This format allows more detailed discussion of a subset of the NHDR measures. These highlighted measures are the focus of report text. All measures are still presented in the summary tables at the end of Chapters 2 and 3 as well as in the appendixes.

The Interagency Work Group for the NHDR helped identify disparities to highlight. These highlighted measures were published in the *Federal Register* for public review and comment. In addition to the criteria for inclusion in the original measure set (importance, scientific soundness, feasibility), new criteria were established for selecting highlighted measures, including:

- **Recency of data**—Measures with newer data were favored.
- **Proximity to care**—Process measures were favored over outcome measures.
- **Clinical significance**—Measures with greater clinical significance were favored.
- **Methodological soundness**—Measures with fewer methodological caveats were favored.
- **Prevalence**—Measures affecting more people were favored over measures affecting fewer people.

- **Generalizability**—Measures that apply to the general population were favored over measures unique to specific populations.
- **Specificity**—Measures that are specific for a particular condition were favored over measures that are not specific.
- **Number of comparisons**—Measures that support more comparisons by race, ethnicity, and SES were favored over measures that support fewer comparisons.

Each section in the 2004 report begins with a description of the importance of the section's topic. Then, figures and bullets highlight findings related to a small number of measures relevant to this topic. When data are available, these figures typically show contrasts by:

- **Race**—Blacks, Asians, Native Hawaiians and Other Pacific Islanders (NHOPIs), American Indians and Alaska Natives (AI/ANs), and people of more than one race compared with whites.
- **Ethnicity**—Hispanics compared with non-Hispanic whites.
- **Income**—Poor, near poor, and middle income people compared with high income people.[i]
- **Education**—People with less than a high school education and high school graduates compared with people with any college education.

When information for more than a single data year is available, figures illustrate trends over time. When data support stratified analyses, a figure showing racial and ethnic differences stratified by SES is included. As in last year's report, bullets focus on findings that meet report criteria for importance;[ii] comparisons not discussed in bullets do not meet these criteria. However, absence of differences that meet criteria for importance should not be interpreted as absence of disparities. Often, large differences between groups did not meet our criteria for statistical significance because of small sample sizes and limited power. In addition, significance testing used in this report does not take into account multiple comparisons.

Changes to the Measure Set

The measure set used in this report has been improved in several ways. First, measures that reflect problems for only a very small number of Americans, that were extremely limited by small sample sizes, or that relied on databases which are not repeated regularly and hence cannot be used to analyze trends were dropped. Second, a handful of measures were modified to reflect more current standards of care. Third, age adjustment[iii] for a number of measures was updated. Finally, a number of new measures were added to fill identified gaps, including measures of:

- Inpatient mortality for select acute conditions and procedures from the Healthcare Cost and Utilization Project (HCUP).

[i] Throughout this report, "poor" is defined as having family incomes less than 100% of the Federal poverty level; "near poor," between 100% and 199%; "middle income," between 200% and 399%; and "high income," 400% or more of the Federal poverty level.

[ii] Criteria for importance are that the difference is statistically significant at the alpha=0.05 level, two-tailed test and that the relative difference is at least 10% different from the reference group when framed positively as a favorable outcome or negatively as an adverse outcome. For trends, the least recent year is used as the reference group and the most recent year is tested against that year.

[iii] Age-adjusted measures are labeled as such. All other measures are not age adjusted.

- Nursing home quality from the Minimum Data Set (MDS) developed by the Centers for Medicare & Medicaid Services (CMS) between last year's and this year's NHDR.
- Children's preventive services and counseling collected in the Medical Expenditure Panel Survey (MEPS) beginning in 2001.
- Quality of care for the elderly from the Medicare Current Beneficiary Survey (MCBS).

Measure revisions were proposed and reviewed in meetings of the Interagency Work Group for the NHDR, which includes representation from across HHS, and then published in the *Federal Register* for public comment.

Addition of New Data Sources

Although the 2003 report included over two dozen databases (Table 1.1), gaps were noted. This year, new sources of data were identified and added to help fill these gaps. As in the 2003 report, standardized suppression criteria were applied to all databases to support reliable estimates.[iv] New data added this year come from:

- Medicare Patient Safety Monitoring System, which includes information from chart reviews about patient safety events among hospitalized Medicare beneficiaries.
- Indian Health Service (IHS) facilities, which include information about hospital care received by American Indians and Alaska Natives in IHS service areas.
- Health Resources and Services Administration (HRSA) Community Health Center User Survey, which includes information about care delivered in community health centers (CHCs).
- National Survey of Children with Special Health Care Needs, which includes information about disabled and chronically ill children.

Expanded Analyses

In the 2004 report, the accumulation of more than a single year of data for many measures allows reporting of change over time. While changes over 2 years of data are difficult to interpret, it is hoped that future reports with additional years of data will be able to document progress towards the elimination of health care disparities. For some measures, longer trends are presented because public use files typically include multiple years of data. For example, recent releases from the Surveillance, Epidemiology, and End Results program include cancer registry data from 1992 to 2001. For data sources that typically produce single year public use files, only years of data gathered for the 2003 and 2004 reports are shown. Older data, while often available from data sources, are not used.

Multivariate analyses. The presentation of disparities is also expanded to include more multivariate models and analyses stratified by SES. Because racial and ethnic minorities are disproportionately of lower SES populations, health care disparities among racial and ethnic minorities are often highly correlated with

[iv] Estimates based on sample size fewer than 30 or with relative standard error greater than 30% were considered unreliable and suppressed. Databases with more conservative suppression criteria were allowed to retain them.

disparities that fall along socioeconomic lines. To begin to distinguish between disparities related to race and ethnicity and disparities related to SES, multivariate analyses are needed.

Multivariate analyses are presented for several measures to begin to disentangle the independent effects of different SES measures on racial and ethnic disparities. For consistency across models, a general logistic regression model was developed that adjusts for age, gender, household income, education, insurance, and residence location. This model was applied to measures to quantify racial effects relative to whites and ethnic effects relative to non-Hispanic whites after controlling for these covariates; results are shown as odds ratios. Only the National Health Interview Survey and MEPS include data to support these models. Results for several MEPS measures are presented in the 2004 report; results for other measures will be added in future iterations of this report. Multivariate results are presented in the report for:

- Diabetes services
- Patient perceptions of need
- Difficulty getting care
- Patient-provider communication
- Patient-provider relationship

Stratified analyses. Stratified analyses also help to disentangle the effects of race and ethnicity from the effects of SES on health care. In addition, racial and ethnic effects often differ across socioeconomic groups and socioeconomic effects often differ across racial and ethnic groups; stratified analyses illustrate these interaction effects clearly. All measures presented in this report are tabulated to allow stratified analyses whenever possible. These tables (see Appendix D) allow examination of racial and ethnic differences within specific income and education groups and examination of SES differences within specific racial and ethnic groups. Stratified analyses are presented in the report for:

- Influenza vaccination (Figure 2.6)
- Health insurance (Figure 3.2)
- Problems getting referral to a specialist (Figure 3.6)
- Office or outpatient visits (Figure 3.10)
- Prenatal care (Figure 4.16)
- Childhood vaccination (Figure 4.19)
- Pneumonia vaccination among the elderly (Figure 4.27)
- Family-centered care among children with special health care needs (Figure 4.38)
- Health insurance among children with special health care needs (Figure 4.40)

Summary of Disparities

In the 2004 report, efforts to summarize disparities have been refined. In the Highlights and in Chapter 4, Priority Populations, a subset of measures for which comparable data are available for 2000 and 2001 are highlighted. This subset consists of 38 measures of effectiveness of health care and 31 measures of access to health care. Because mortality and health care utilization are strongly affected by factors other than health care, such as genetic predisposition, lifestyle, comorbid conditions, and environmental and social determinants, these measures are not included in the summary measures. Data sources are:

- Surveillance, Epidemiology, and End Results (SEER) program
- U.S. Renal Data System (USRDS)
- Medical Expenditure Panel Survey (MEPS)
- Centers for Disease Control and Prevention (CDC) AIDS Surveillance System
- National Vital Statistics System-Natality (NVSS-N)
- National Immunization Survey (NIS)
- National Health Interview Survey (NHIS)
- National Hospital Discharge Survey (NHDS)

For each measure, racial, ethnic, and socioeconomic groups are compared with an appropriate comparison group; each group could receive care that is worse than, about the same as, or better than the comparison group. For each group, the percentages of measures for which the group received worse care, similar care, or better care were calculated. Note that data from the AIDS Surveillance System and NIS used in the summary measures are for 2000 and 2001, while data from these databases presented elsewhere in this report are for 2002.

Data on all measures were not available for all groups. Hence, summary measures should only be used to quantify differences between a specific group and its comparison group. Comparisons of different racial and ethnic minority groups (i.e., blacks vs. AI/ANs) would not be appropriate. See Tables 1.2 and 1.3 for lists of measures available for each group and Appendix C for data on each measure for each group.

Table 1.1. Databases used in the 2004 NHDR (new databases in bolded italics)

Surveys collected from samples of civilian, noninstitutionalized populations:

- AHRQ, Medical Expenditure Panel Survey (MEPS), 1999-2001
- CDC-NCHS, National Health Interview Survey (NHIS), 1999-2001
- CDC-NCHS/National Immunization Program, National Immunization Survey (NIS), 2000-2002
- ***CDC-NCHS, National Survey of Children with Special Health Care Needs (NSCSHCN), 2002***
- CMS, Medicare Current Beneficiary Survey (MCBS), 1998-2000
- ***HRSA, Community Health Center User Survey, 2002***
- SAMHSA, National Survey on Drug Use and Health (NSDUH), 2001-2002

Data collected from samples of health care facilities and providers:

- CDC-NCHS, National Ambulatory Medical Care Survey (NAMCS), 1999-2001
- CDC-NCHS, National Hospital Ambulatory Medical Care Survey-Outpatient Department (NHAMCS-OPD), 1999-2001
- CDC-NCHS, National Hospital Ambulatory Medical Care Survey-Emergency Department (NHAMCS-ED), 1999-2001
- CDC-NCHS, National Hospital Discharge Survey (NHDS), 1998-2001
- CMS, End Stage Renal Disease Clinical Performance Measures Project (ESRD CPMP), 2001-2002

Data extracted from data systems of health care organizations:

- AHRQ, Healthcare Cost and Utilization Project State Inpatient Databases disparities analysis file[i] (HCUP SID), 2001
- ***CMS, Medicare Patient Safety Monitoring System, 2002***
- CMS, Nursing Home Minimum Data Set, 2002
- CMS, Quality Indicators program, 2000-2001
- HIV Research Network data (HIVRN), 2001
- ***IHS, National Patient Information Reporting System (NPIRS), 2002***
- NIH, United States Renal Data System (USRDS), 1998-2001

Data from surveillance and vital statistics systems:

- CDC-National Center for HIV, STD, and TB Prevention, HIV/AIDS Surveillance System, 2001
- CDC-National Center for HIV, STD, and TB Prevention, TB Surveillance System, 2000
- CDC-NCHS, National Vital Statistics System (NVSS), 2000-2001
- NIH, Surveillance, Epidemiology, and End Results (SEER) program, 1992-2001

[i] This file is designed to provide national estimates of disparities in the AHRQ Quality Indicators using weighted records from a sample of hospitals from the following 22 States: AZ, CA, CO, CT, FL, GA, HI, KS, MD, MA, MI, MO, NJ, NY, PA, RI, SC, TN, TX, VA, VT, and WI. For details, see Appendix, A, Data Sources, and Appendix C, Measure Specifications.

Table 1.2. Availability of measures of effectiveness of health care with comparable data for 2000 and 2001 for different racial, ethnic, and socioeconomic groups

Measure	Data source	Black	Hispanic	Asian or API	AI/AN	Poor
Rate of late stage breast cancer (Stage II and higher) among women age 40 and over	SEER	✔	✔	✔	✔	
Rate of invasive cervical cancer among women age 20 and over	SEER	✔	✔	✔	✔	
Rate of late stage colorectal cancer (regional and distant) among people age 50 and over	SEER	✔	✔	✔	✔	
Dialysis patients registered on the waiting list for transplantation	USRDS	✔	✔	✔	✔	
Persons receiving a kidney transplant within 3 years of date of renal failure	USRDS	✔	✔	✔	✔	
Adults with diabetes who had a hemoglobin A1c measurement at least once in past year	MEPS	✔	✔			✔
Adults with diabetes who had a lipid profile in past 2 years	MEPS	✔	✔			✔
Adults with diabetes who had a retinal eye examination in past year	MEPS	✔	✔			✔
Adults with diabetes who had a foot examination in past year	MEPS	✔	✔			✔
Adults with diabetes who had an influenza immunization in past year	MEPS	✔	✔			✔
Smokers receiving advice to quit smoking	MEPS	✔	✔			✔
New AIDS cases among persons ages 13 and over	CDC AIDS Surveillance	✔	✔	✔	✔	
Pregnant women receiving prenatal care in first trimester	NVSS-N	✔	✔	✔	✔	
Live-born infants with low birthweight (<2,500 grams)	NVSS-N	✔	✔	✔	✔	
Live-born infants with very low birthweight (<1,500 grams)	NVSS-N	✔	✔	✔	✔	
Infant mortality per 1,000 live births, all	NVSS-N	✔	✔	✔	✔	
Infant mortality per 1,000 live births, birthweight >2,499 grams	NVSS-N	✔	✔	✔	✔	
Infant mortality per 1,000 live births, birthweight 1,500-2,499 grams	NVSS-N	✔	✔	✔	✔	
Infant mortality per 1,000 live births, birthweight <1,500 grams	NVSS-N	✔	✔	✔	✔	
Maternal deaths per 100,000 live births	NVSS-N	✔	✔			

✔Indicates that reliable data on measure are available for this group and included in summary across measures of quality for this group.

Key: API=Asian or Pacific Islander; AI/AN=American Indian or Alaska Native; Poor=Individuals with household incomes <100% of Federal poverty thresholds.

Table 1.2. Availability of measures of effectiveness of health care with comparable data for 2000 and 2001 for different racial, ethnic, and socioeconomic groups (continued)

Measure	Data source	Black	Hispanic	Asian or API	AI/AN	Poor
Children 19-35 months who received all recommended vaccinations	NIS	✔	✔	✔	✔	✔
Children 19-35 months who received 4 doses of diphtheria-tetanus-pertussis (DTaP) vaccine	NIS	✔	✔	✔	✔	✔
Children 19-35 months who received 3 doses of polio vaccine	NIS	✔	✔	✔	✔	✔
Children 19-35 months who received 1 dose of measles-mumps-rubella vaccine	NIS	✔	✔	✔	✔	✔
Children 19-35 months who received 3 doses of H. influenzae type b (Hib) vaccine	NIS	✔	✔	✔	✔	✔
Children 19-35 months who received 3 doses of hepatitis B vaccine	NIS	✔	✔	✔	✔	✔
Children 19-35 months who received 1 dose of varicella vaccine	NIS	✔	✔	✔	✔	✔
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	NHIS	✔	✔			✔
Adolescents (13-15) who received 2 or more doses of measles-mumps-rubella vaccine	NHIS	✔	✔			✔
Adolescents (13-15) who received 1 or more doses of diphtheria-tetanus booster	NHIS	✔	✔			✔
Adolescents (13-15) who received 1 or more doses of varicella vaccine	NHIS	✔	✔			✔
Children 2-17 with a dental visit	MEPS	✔	✔	✔		✔
High risk persons 18-64 who received influenza vaccine in past year	NHIS	✔	✔	✔	✔	✔
People 65 and over who received influenza vaccine in the past year	NHIS	✔	✔	✔		✔
High risk persons 18-64 who ever received pneumococcal vaccination	NHIS	✔	✔			✔
People 65 and over who ever received pneumococcal vaccination	NHIS	✔	✔	✔		✔
Hospital admissions for asthma per 100,000 population under 18	NHDS	✔				
Hospital admissions for asthma per 100,000 population 18 and over	NHDS	✔				

✔ Indicates that reliable data on measure are available for this group and included in summary across measures of quality for this group.

Key: API=Asian or Pacific Islander; AI/AN=American Indian or Alaska Native; Poor=Individuals with household incomes <100% of Federal poverty thresholds.

Table 1.3. Availability of measures of access to health care with comparable data for 2000 and 2001 for different racial, ethnic, and socioeconomic groups

Measure	Data source	Black	Hispanic	Asian or API	AI/AN	Poor
People under 65 with health insurance	NHIS	✔	✔	✔	✔	✔
People under 65 with public health insurance only	NHIS	✔	✔	✔	✔	✔
People under 65 with any private health insurance	NHIS	✔	✔	✔	✔	✔
People 65 and over with any private health insurance	NHIS	✔	✔	✔		✔
People uninsured all year	MEPS	✔	✔	✔	✔	✔
People with any period of uninsurance during the year	MEPS	✔	✔	✔	✔	✔
People with any period of public insurance during the year	MEPS	✔	✔	✔	✔	✔
People who have a specific source of ongoing care	NHIS	✔	✔	✔	✔	✔
People in fair or poor health with a specific source of ongoing care	NHIS	✔	✔	✔		✔
People with a hospital, emergency room, or clinic as source of ongoing care	NHIS	✔	✔	✔	✔	✔
People without a usual source of care who indicate a financial or insurance reason for not having a source of care	MEPS	✔	✔			✔
People who have a usual primary care provider	MEPS	✔	✔	✔	✔	✔
Families that experience difficulties or delays in obtaining health care or do not receive needed care	MEPS	✔	✔	✔		✔
Families that experience difficulties or delays in obtaining health care due to financial or insurance reasons	MEPS	✔	✔			✔
Families that did not receive a doctor's care or prescription medications because the family needed the money	MEPS	✔	✔			✔
Families not very satisfied that they can get health care if they need it	MEPS	✔	✔	✔		✔

✔ Indicates that reliable data on measure are available for this group and included in summary across measures of access for this group.
Key: API=Asian or Pacific Islander; AI/AN=American Indian or Alaska Native; Poor=Individuals with household incomes <100% of Federal poverty thresholds.

Table 1.3. Availability of measures of access to health care with comparable data for 2000 and 2001 for different racial, ethnic, and socioeconomic groups (continued)

Measure	Data source	Black	Hispanic	Asian or API	AI/AN	Poor
People who sometimes or never get appointments for routine care as soon as wanted	MEPS	✔	✔	✔		✔
People who sometimes or never get care for illness or injury as soon as wanted	MEPS	✔	✔			✔
People with provider who has office hours nights or weekends	MEPS	✔	✔	✔	✔	✔
People with difficulty getting appointments on short notice	MEPS	✔	✔	✔	✔	✔
People with difficulty contacting provider over the telephone	MEPS	✔	✔	✔	✔	✔
Adults without problems getting referral to a specialist in past year	MEPS	✔	✔			✔
People not very satisfied with professional staff at provider's office	MEPS	✔	✔	✔	✔	✔
People who usually wait over 30 minutes before seeing provider	MEPS	✔	✔	✔	✔	✔
People with provider who usually asks about medications and treatments other doctors may give	MEPS	✔	✔	✔	✔	✔
Adults whose providers sometimes or never listened carefully to them	MEPS	✔	✔	✔		✔
Adults whose providers sometimes or never explained things in a way they could understand	MEPS	✔	✔	✔		✔
Adults whose providers sometimes or never showed respect for what they had to say	MEPS	✔	✔	✔		✔
People not satisfied with quality of care received from provider	MEPS	✔	✔	✔	✔	✔
Adults whose providers sometimes or never spent enough time with them	MEPS	✔	✔	✔		✔
Adults who rate their health care in the past year <7 on a scale from 0 to 10	MEPS	✔	✔	✔		✔

✔Indicates that reliable data on measure are available for this group and included in summary across measures of access for this group.

Key: API=Asian or Pacific Islander; AI/AN=American Indian or Alaska Native; Poor=Individuals with household incomes <100% of Federal poverty thresholds.

References

[1] Healthcare Research and Quality Act of 1999 (Public Law 106-129). 113 Stat. 1653; Dec. 6, 1999. Available at: http://lcweb2.loc.gov/law/usa/us060129.pdf

[2] U.S. Department of Health and Human Services. Healthy People 2010 (2nd ed.) 2 vols. Washington, DC: U.S. Govt. Print. Off.; November 2000.

[3] Institute of Medicine, Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Smedley BD, Stith AY, Nelson AR (Eds.). Washington, DC: National Academies Press; 2003.

Chapter 2. Quality of Health Care

The U.S. health care system is considered to be among the world's best. As better understanding of health and sickness have led to superior ways of preventing, diagnosing, and treating diseases, the health of most Americans has improved dramatically. However, ample evidence indicates that some Americans do not receive the full benefits of high quality care. Specifically, disparities in health care related to race, ethnicity, and socioeconomic status (SES) have been demonstrated by much research and confirmed by the first National Healthcare Disparities Report (NHDR).

Components of Health Care Quality

Quality health care means doing the right thing, at the right time, in the right way, for the right people—and having the best possible results.[1] Quality health care is care that is:

- **Effective**—Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit.
- **Safe**—Avoiding injuries to patients from the care that is intended to help them.
- **Timely**—Reducing waits and sometimes harmful delays for both those who receive and those who give care.
- **Patient centered**—Providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- **Equitable**—Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.
- **Efficient**—Avoiding waste, including waste of equipment, supplies, ideas, and energy.[2]

Health care quality is measured in several ways including:

- **Clinical performance measures**—Measures of how well providers deliver specific services needed by specific patients, such as whether children get the immunizations that they need.
- **Patient assessments**—Measures of how well providers meet health care needs from the patient's perspective, such as whether providers communicate clearly.
- **Outcomes of care**—Measures of health that may be affected by the quality of health care received, such as death rates from cancers that can be prevented by screening.

The measures used in this chapter are the same as those used in the National Healthcare Quality Report (NHQR). Because outcome measures like mortality are strongly affected by factors other than health care, such as genetic predisposition, lifestyle, comorbid conditions, and environmental and social determinants, process measures are highlighted in this report. Outcome measures are included in the quality of care measure set and presented in the summary and detailed tables because they add to understanding of disparities. Disparities in delivery of specific health care services that are associated with worse outcomes merit more attention than disparities in health care not associated with differences in outcomes.

How This Chapter Is Organized

This chapter presents new information about disparities in quality of health care in America. It is constructed to mirror sections in the NHQR—effectiveness, patient safety, timeliness, and patient centeredness. Effectiveness of care is presented under nine priority areas: cancer, diabetes, end stage renal disease (ESRD), heartdisease, HIV and AIDS, maternal and child health, mental health, respiratory diseases, and nursing home and home health care.

As in the 2003 NHDR, the discussion on quality of care in this chapter focuses on disparities in quality of care related to race, ethnicity, and SES in the general U.S. population. Disparities in quality of care within specific priority populations are presented in Chapter 4.

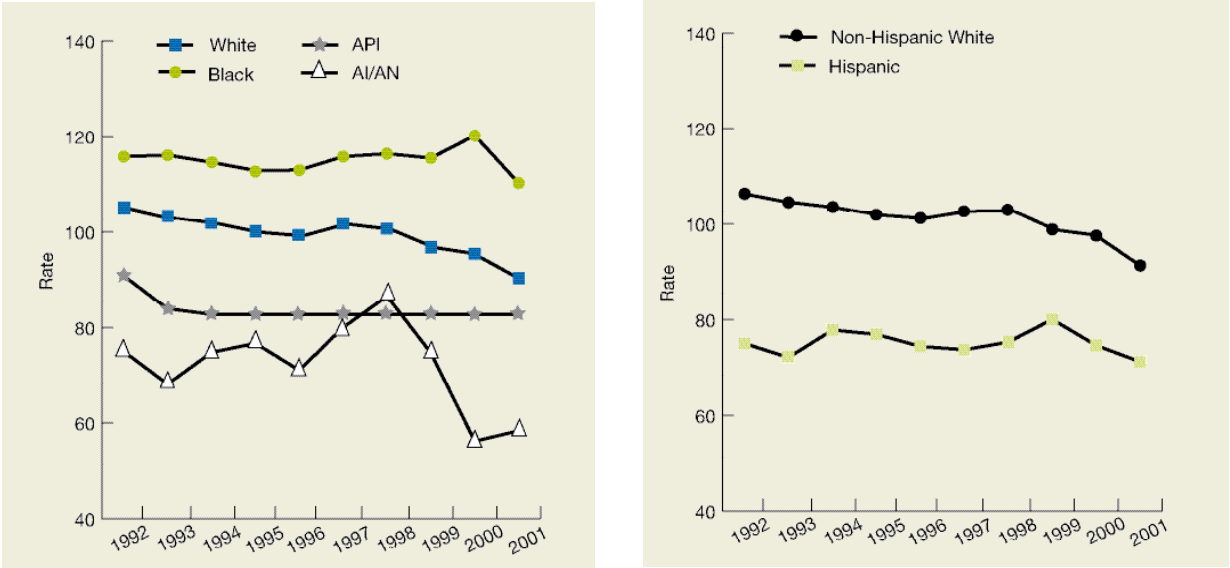
In addition to new data on quality of care, this chapter goes beyond the 2003 NHDR and adds analyses of changes over time, as well as some stratified and multivariate analyses. To present this greater detail, individual sections of Chapter 2 highlight a small number of measures, where applicable. Results for all measures are found in the summary tables at the end of the chapter.

Effectiveness

Cancer

Cancer is caused by the uncontrolled multiplication and spread of abnormal cells. Unchecked, cancer can lead to death.[3] While cancer incidence and death rates are falling,[4] an estimated 1.4 million people will be diagnosed with cancer and 560,000 will die from cancer in the United States in 2004.[5] Total costs of cancer in 2003 exceeded $189 billion; direct costs for physicians, hospitals, and drugs exceeded $64 billion.[6] Cancer incidence, mortality, screening, and treatment vary by race and ethnicity[7 8] and by SES.[9 10] Ensuring that all populations have access to appropriate cancer screening services is a core element of reducing cancer health disparities.[11] Screening for colorectal cancer with fecal occult blood testing or sigmoidoscopy is an effective way of reducing new cases of late stage disease and mortality caused by this cancer.

Figure 2.1. Age-adjusted incidence rate per 100,000 of late stage (regional and distant) colorectal cancer among people 50 and older, by race (left) and ethnicity (right), 1992-2001



Source: Surveillance, Epidemiology, and End Results program, 1992-2001.

Reference population: People age 50 and older.

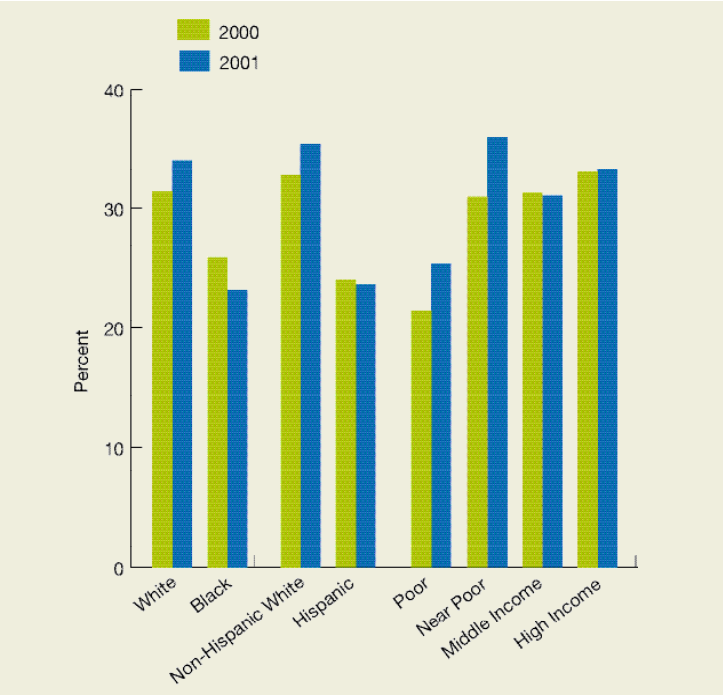
Note: For findings related to all cancer measures, see Tables 2.1a and 2.1b. Available data do not support analyses stratified by SES.

- For all years from 1992 to 2001, rates of late stage colorectal cancer were higher among blacks compared with whites (Figure 2.1, left). APIs had lower rates compared with whites for all years except 2001. AI/ANs had lower rates compared with whites for all years except 1997 and 1998.
- For all years from 1992 to 2001, rates of late stage colorectal cancer were lower among Hispanics compared with non-Hispanic whites (Figure 2.1, right).
- Rates of late stage colorectal cancer declined from 1992 to 2001 among whites and non-Hispanic whites.

Diabetes

Diabetes is a disease in which the body does not produce or use insulin properly; cells are starved for sugar and damage to the heart, kidneys, nerves, and eyes can occur. In 2002, over 18 million people in the United States had diabetes and 1.3 million new cases were diagnosed.[12] Diabetes is the leading cause of blindness, nontraumatic lower extremity amputation, and ESRD and is the sixth leading cause of death. In 2002, costs of diabetes totaled $132 billion, including over $90 billion in direct medical expenditures.[13] Blacks, Hispanics, and AI/ANs are more likely to have diabetes and its complications and are more likely to die from diabetes.[14] [15] [16] Effective management of diabetes includes hemoglobin A1c management, lipid management, eye examination, foot examination, and influenza immunization.[17] [18]

Figure 2.2. Adults with diabetes who had all five recommended diabetic services in the past year, by race, ethnicity, and income, 2000-2001



Source: Medical Expenditure Panel Survey, 2000-2001.

Reference population: Civilian, noninstitutionalized population with diabetes age 18 and older.

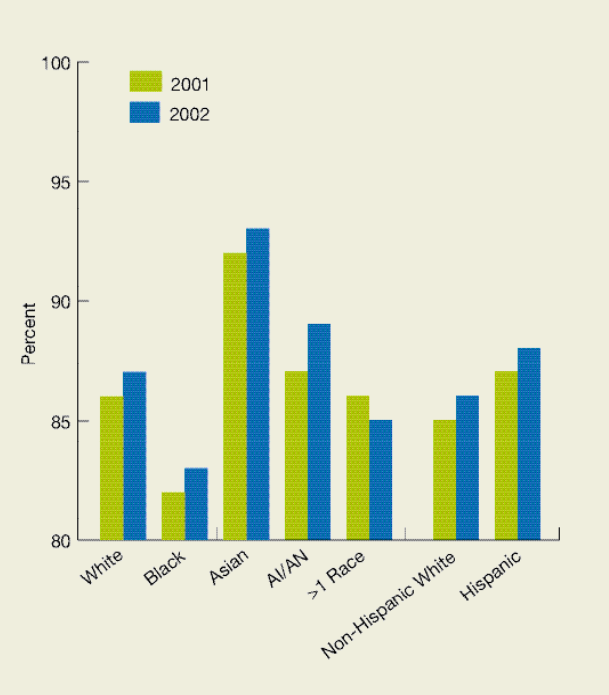
Note: Recommended diabetic services are 1) hemoglobin A1c in past year, 2) lipid profile in past 2 years, 3) retinal eye examination in past year, 4) foot examination in past year, and 5) influenza immunization in past year. Respondents with missing values are excluded from the measure. For findings related to all diabetes measures (including each diabetic service), see Tables 2.2a and 2.2b. Available data do not support analyses stratified by SES.

- In 2001, the proportion of adults with diabetes who received all five recommended diabetic services was lower among blacks compared with whites and among Hispanics compared with non-Hispanic whites (Figure 2.2).
- In 2000 and 2001, differences across income groups in the proportion of adults with diabetes who received all five services were not significant.
- The proportion of adults with diabetes who received all five services did not change significantly from 2000 to 2001 for any racial, ethnic, or income group.
- In multivariate models controlling for age, gender, income, education, insurance, and residence location, blacks were 38% and Hispanics were 33% less likely than their respective comparison groups to receive all services in 2001.

End Stage Renal Disease

End stage renal disease is the permanent failure of the kidneys to excrete waste, concentrate urine, and regulate electrolytes and necessitates lifetime treatment with dialysis or a kidney transplant.[19] Over 400,000 people in the United States have ESRD, and almost 100,000 new ESRD patients begin treatment with either dialysis or renal transplantation each year.[20] About one-fifth of ESRD patients die each year; and age-adjusted 5-year survival is 33% for patients receiving dialysis. In 2001, expenditures for ESRD totaled almost $23 billion, nearly two-thirds of which were paid by Medicare. In general, minorities are more likely to develop ESRD and less likely to be treated for ESRD with kidney transplantation.[21] Adequacy of dialysis is important to the 70% of ESRD patients on dialysis. Racial differences in adequacy of dialysis (urea reduction ratio 65% or higher) have previously been reported.[22]

Figure 2.3. Hemodialysis patients with adequate dialysis (urea reduction ratio 65% or higher), by race and ethnicity, 2001-2002



Source: CMS ESRD Clinical Performance Measures Project, 2001-2002.

Reference population: Hemodialysis patients age 18 and older.

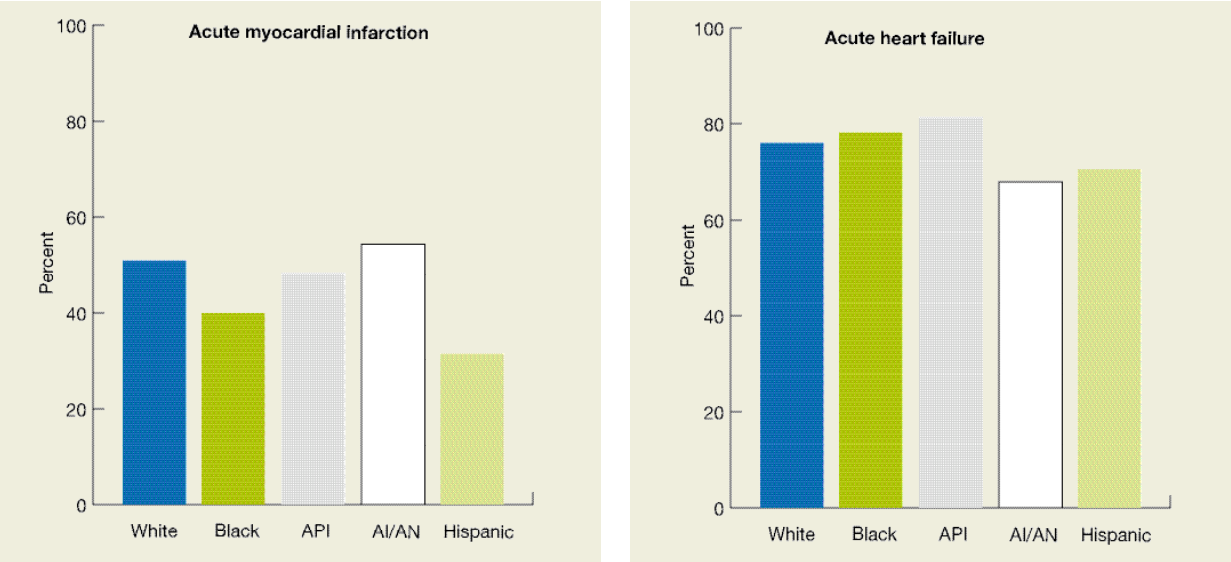
Note: For findings related to all ESRD measures, see Table 2.3a. Available data do not support analyses stratified by SES.

- In both 2001 and 2002, the proportion of adult hemodialysis patients who received adequate dialysis was lower among blacks and higher among Asians compared with whites (Figure 2.3).
- In both years, the proportion of adult hemodialysis patients who received adequate dialysis was similar among Hispanics and non-Hispanic whites.
- The proportion of adult hemodialysis patients who received adequate dialysis did not change significantly from 2000 to 2001 for any racial or ethnic group.

Heart Disease

Heart disease includes coronary and hypertensive heart diseases and heart failure. About 13.2 million people have coronary heart disease, and 1.2 million heart attacks occur each year; about 5 million Americans have heart failure, and 550,000 develop it each year.[23] Heart disease is the leading cause of death for men and for women in the United States, responsible for almost 700,000 deaths in 2002, and the third leading cause of activity limitation. The total economic cost of heart disease is estimated to be $239 billion, including $131 billion in direct health care expenditures. Coronary heart disease prevalence and heart disease death rates are higher among blacks. Racial, ethnic, and socioeconomic differences in cardiac care, especially invasive cardiovascular procedures, have been demonstrated.[24 25 26 27 28]

Figure 2.4. Medicare beneficiaries hospitalized for acute myocardial infarction who receive smoking cessation counseling (left) and Medicare beneficiaries hospitalized for acute heart failure who have an evaluation of left ventricular ejection fraction (right), by race/ethnicity, 2001-2002



Source: CMS Quality Improvement Organization program, 2001-2002.

Reference population: Elderly Medicare beneficiaries hospitalized for acute myocardial infarction (left) or acute heart failure (right).

Note: White, Black, API, and AI/AN are non-Hispanic groups. For findings related to all heart disease measures, see Tables 2.4a and 2.4b. Available data do not support analyses stratified by SES.

- After a heart attack, patients who are smokers need to quit to reduce the risk of subsequent cardiac events. Provider counseling makes the chances of successfully quitting greater. The proportion of elderly Medicare beneficiaries hospitalized for acute myocardial infarction who received smoking cessation counseling was lower among black and Hispanic elderly compared with non-Hispanic white elderly (Figure 2.4, left).
- To guide appropriate treatment, patients with heart failure need tests to determine how well the heart pumps blood. The proportion of elderly Medicare beneficiaries hospitalized for acute heart failure who received such an evaluation of the left ventricular ejection fraction was lower among AI/AN and Hispanic elderly and higher among black and API elderly compared with non-Hispanic white elderly (Figure 2.4, right).

HIV and AIDS

Measures of quality of care for HIV and AIDS tracked in the NHDR include:

- AIDS prevention
- Management of HIV

For findings related to all quality measures for HIV and AIDS, see Tables 2.5a and 2.5b at the end of this chapter. HIV and AIDS are discussed in the section on HIV care in Chapter 3, Access to Health Care.

Maternal and Child Health

Measures of quality of maternal and child health care tracked in the NHDR include:

- Maternity care
- Childhood immunizations
- Adolescent immunizations
- Treatment of pediatric gastroenteritis
- Childhood screening and counseling
- Childhood dental care

For findings related to all maternal and child health quality measures, see Tables 2.6a and 2.6b at the end of this chapter. Maternal health is discussed in the section on women and child health is discussed in the section on children in Chapter 4, Priority Populations.

Mental Health

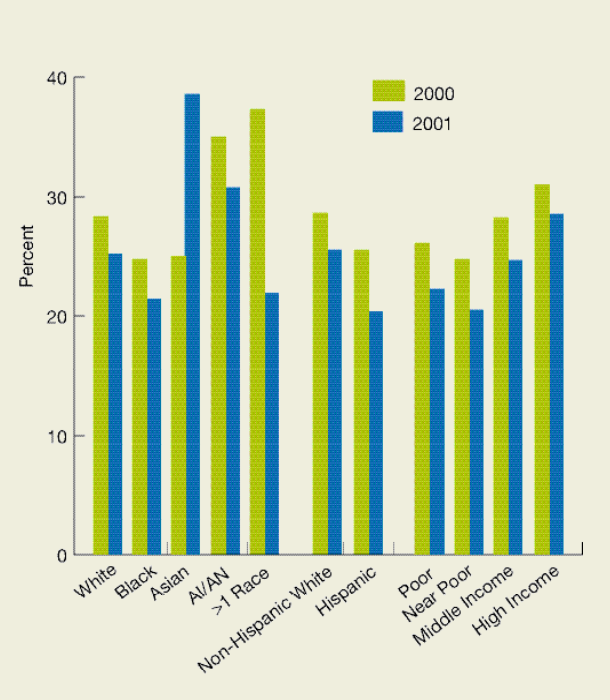
Measures of quality of mental health care tracked in the NHQR include treatment of depression. Most of these measures come from the National Committee on Quality Assurance Health Plan Employer Data and Information Set (HEDIS) which does not collect information about patient race, ethnicity, or SES. Work is currently underway to develop new mental health care measures that could be used to examine disparities.

For findings related to the single mental health quality measure that could be tracked in the NHDR, suicide mortality, see Tables 2.7a and 2.7b at the end of this chapter. Mental health is discussed in the section on mental health care and substance abuse treatment in Chapter 3, Access to Health Care.

Respiratory Diseases

Respiratory diseases include upper respiratory diseases (sinusitis and pharyngitis); chronic lower respiratory diseases (asthma and chronic obstructive pulmonary disease, or COPD); and acute lower respiratory diseases (pneumonia and influenza). Asthma affects about 15 million people and COPD affects about 11 million people in the Nation.[29] In 2002, chronic lower respiratory disease and acute lower respiratory disease were the fourth and seventh leading causes of death respectively.[30] Annual costs of respiratory diseases exceed $132 billion, including $76 billion in health care expenditures. Some respiratory conditions, such as asthma and tuberculosis, are more prevalent among minorities and people with low incomes.[31 32] Racial differences in care of respiratory diseases have also been observed.[33 34 35] Vaccination is an effective strategy for reducing illness, death, and disparities associated with pneumococcal disease and influenza.[36 37]

Figure 2.5. High risk adults ages 18-64 who had influenza vaccination in the past year, by race, ethnicity, and income, 2000-2001



Source: National Health Interview Survey, 2000-2001.

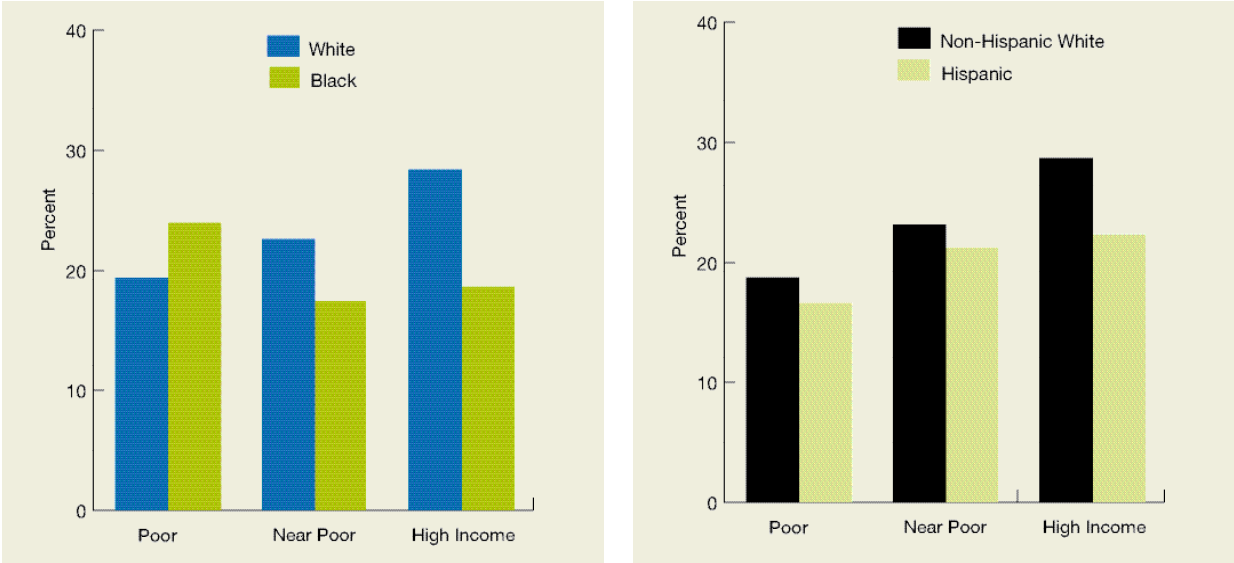
Reference population: Civilian, noninstitutionalized high risk adults age 18-64.

Note: Measure is age adjusted. High risk conditions include diabetes, heart disease, lung disease, kidney disease, liver disease, and cancer. For findings related to all respiratory diseases measures, see Tables 2.8a and 2.8b.

- In both 2000 and 2001, the proportion of high risk adults age 18-64 who received influenza vaccination in the past year was lower among blacks compared with whites and among the poor and near poor compared with people with high incomes (Figure 2.5).
- The proportion of high risk adults who received influenza vaccination was also lower among Hispanics compared with non-Hispanic whites and higher among Asians compared with whites in 2001.
- The proportion of high risk adults who received influenza vaccination declined significantly between 2000 and 2001 among whites, people of more than one race, non-Hispanic whites, and Hispanics but rose among Asians.

Racial and ethnic minorities are disproportionately poor. To distinguish the effects of race, ethnicity, and income on health care quality, measures are presented by income level.

Figure 2.6. High risk adults ages 18-64 who had influenza vaccination in the past year, by race (left) and ethnicity (right) stratified by income, 2001



Source: National Health Interview Survey, 2001.

Reference population: Civilian, noninstitutionalized high risk adults age 18-64.

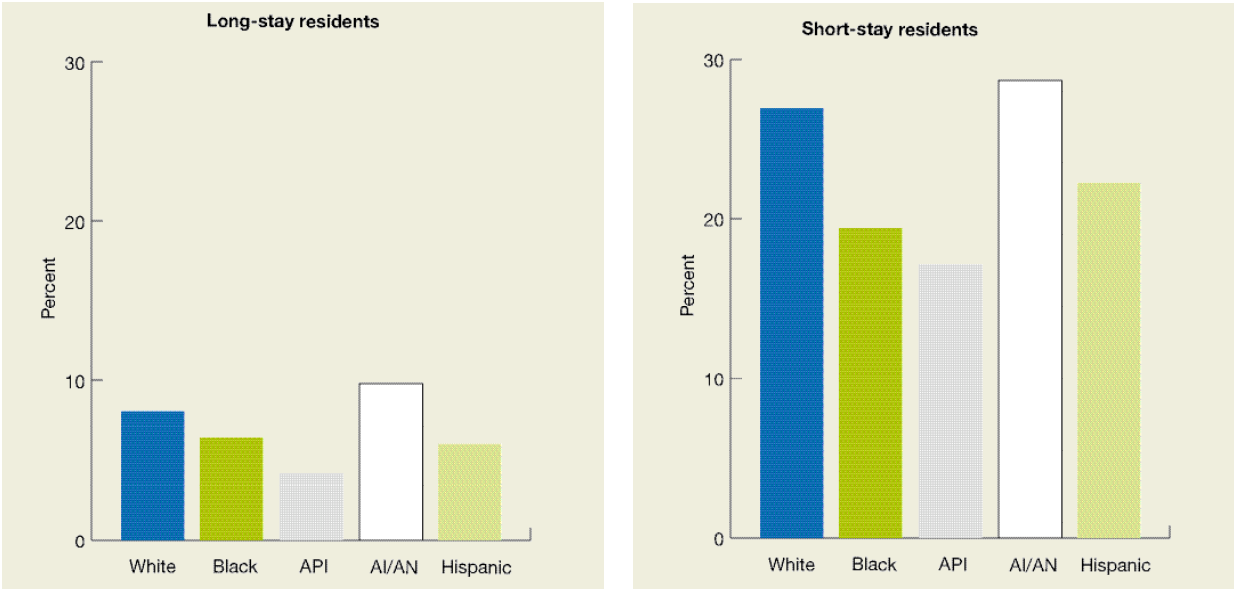
Note: Measure is age adjusted. High risk conditions include diabetes, heart disease, lung disease, kidney disease, liver disease, and cancer.

- Income explains some but not all of the differences in rates of influenza vaccination among high risk adults by race and ethnicity.
- Racial and ethnic differences tend to be larger among high income groups than among the poor and near poor (Figure 2.6).
- No group achieved the Healthy People 2010 (HP2010) goal of 60% of high risk adults age 18-64 vaccinated against influenza.

Nursing Home and Home Health Care

Nursing home and home health care include the provision of personal, social, and medical services to people who have functional or cognitive limitations in their ability to perform self-care and other activities necessary to live independently. On an average day in 1999, 1.6 million people resided in one of America's 18,000 nursing homes.[38] Almost three-quarters of persons discharged from nursing homes required help with three or more activities of daily living (ADLs) prior to discharge. Of persons discharged from nursing homes, 24% leave by dying, 29% are admitted to a hospital, and only 33% are recovered and stabilized. Average length of stay for people discharged from nursing homes is 272 days. In 1998, nursing home expenditures totaled almost $80 billion, about half of which was paid by Medicaid and Medicare. About 70% of nursing home residents are supported in part by Medicaid.[39] Racial, ethnic, and socioeconomic differences in nursing home care have been observed,[40] particularly in the management of pain[41 42] and rates of rehabilitative services.[43] Moreover, black nursing home residents are more likely to live in nursing homes that have limited resources (e.g., fewer nurses)[44] Long-stay nursing home residents require chronic care for extended periods while short-stay nursing home residents require temporary skilled nursing care or rehabilitation services after a hospital stay and are expected to return home. Both types of residents should be checked by nursing home staff for pain so that pain can be treated. However, some residents may refuse pain medications or choose to take less because of side effects or personal or cultural preferences.

Figure 2.7. Nursing home residents with moderate to severe pain among long-stay nursing home residents (left) and short-stay nursing home residents (right), 2002



Source: CMS Minimum Data Set, 2002.

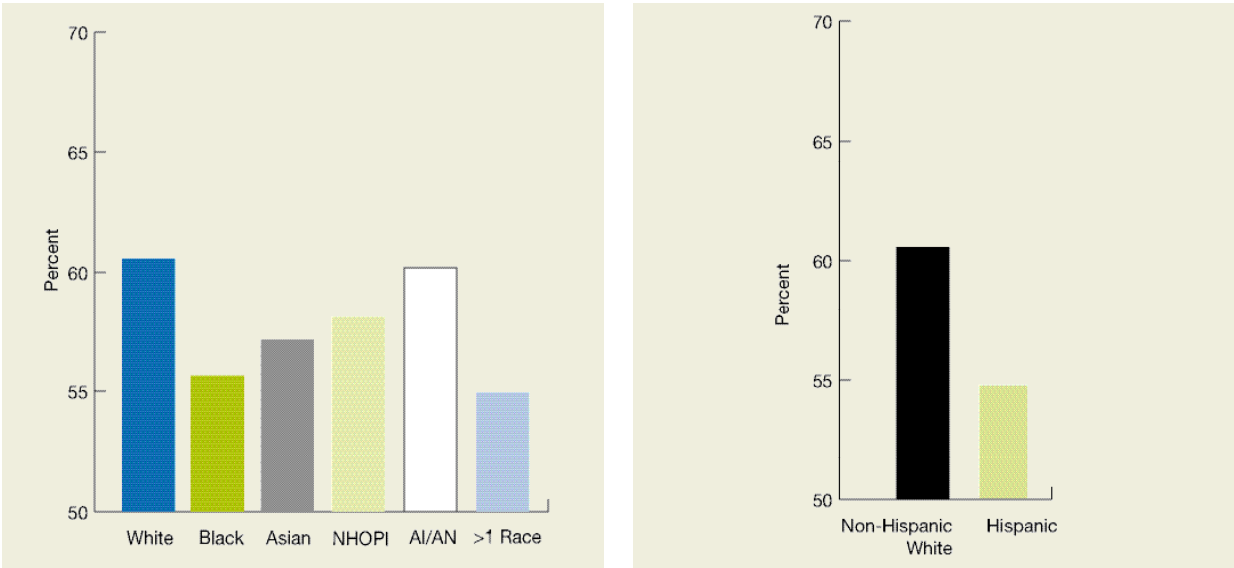
Reference population: Long-stay (left) and short-stay (right) nursing home residents.

Note: White, Black, API, and AI/AN are non-Hispanic groups. Moderate to severe pain is defined as very bad pain at any time or moderate pain every day in the last week. For findings related to all nursing home measures, see Tables 2.9a and 2.9b. Available data do not support analyses stratified by SES.

- In 2002, the proportion of long-stay nursing home residents who reported moderate to severe pain was higher among AI/ANs and lower among non-Hispanic blacks, APIs, and Hispanics compared with non-Hispanic whites (Figure 2.7, left).
- In 2002, the proportion of short-stay nursing home residents who reported moderate to severe pain was lower among non-Hispanic blacks, APIs, and Hispanics compared with non-Hispanic whites (Figure 2.7, right).

On an average day in 2000, 1.5 million people were under the care of one of America's 11,400 home health care agencies.[45] Half of persons served by home health care agencies received help with at least one ADL. Average length of stay for people served by home health care agencies is 312 days, and Medicare is the primary payment source for half of home health care patients. Home health care includes skilled nursing care, physical and occupational therapy, speech-language therapy, and medical social services provided by skilled health care professionals in a patient's home. Most home health care is temporary and part time; home health staff teach patients and their informal caregivers to provide needed care, such as medications, wound care, therapy, and stress management, and to become as self-sufficient as possible. Home health care quality measures relate to activities that are important to live independently and provide information about patients' physical and mental health, and whether their ability to perform basic daily activities is maintained or improved. How well a patient improves in ability level while getting home health care reflects both the agency's quality of service and the patient's level of cooperation. Being able to get to and from the toilet is important for patients to stay clean, feel comfortable, and remain healthy and typically improves with home health care. Independent toileting is critical for patients who do not have informal caregivers to help when home health caregivers are not present

Figure 2.8. Home health care patients who get better at getting to and from the toilet, by race (left) and ethnicity (right), 2002



Source: CMS Outcome and Assessment Information Set, 2002.

Reference population: Home health care patients.

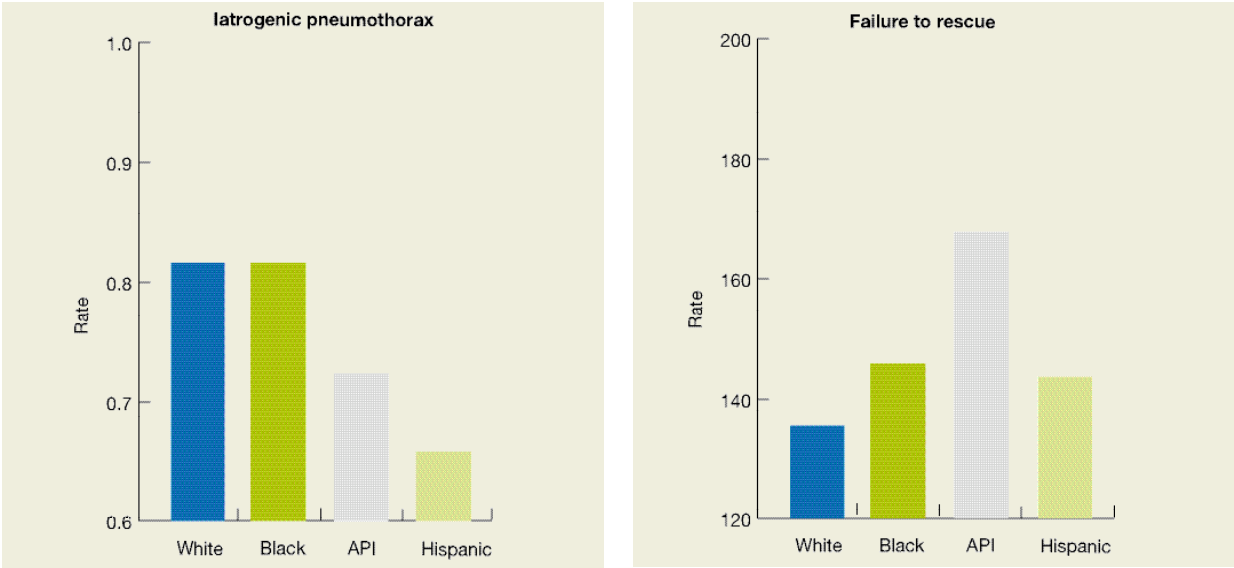
Note: For findings related to all home health care measures, see Tables 2.9a and 2.9b. Available data do not support analyses stratified by SES.

- In 2002, the proportion of home health care patients who got better at getting to and from the toilet was lower among blacks and people of more than one race compared with whites (Figure 2.8, left).
- In 2002, the proportion of home health care patients who got better at getting to and from the toilet was lower among Hispanics compared with non-Hispanic whites (Figure 2.8, right).

Patient Safety

Medical care can lead to injuries to patients from the care that is intended to help them. Adverse drug reactions, both avoidable and unavoidable, occur in 6.7% of hospitalized patients[46] and are rising.[47] In two studies, preventable adverse drug events were found to occur in about 2% of hospital admissions[48 49] and 20% of these events were life-threatening. Among Medicare beneficiaries in ambulatory settings, the overall rate of adverse drug events was 50 per 1,000 person-years; over 40% of serious, life-threatening, or fatal events were deemed preventable.[50] An estimated 44,000 to 98,000 Americans die each year as a result of medical errors, making it the eighth leading cause of death.[51] Costs attributable to medical errors are estimated at $17 billion to $29 billion annually.[51] Visits to U.S. emergency departments for adverse effects of medical treatments increased 67% between 1992 and 1999.[52]

Figure 2.9. Iatrogenic pneumothorax per 1,000 discharges (left) and deaths per 1,000 discharges with complications potentially resulting from care (failure to rescue) (right), by race/ethnicity, 2001



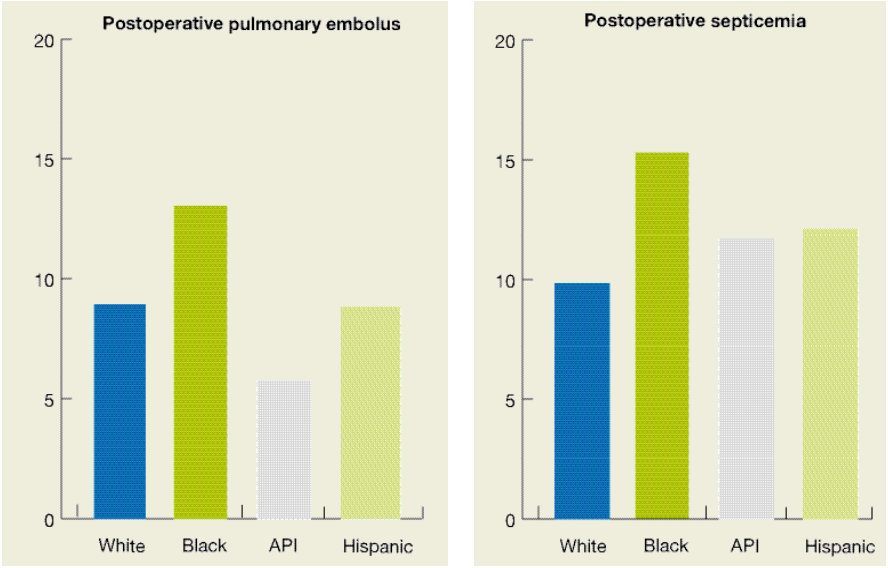
Source: HCUP State Inpatient Databases disparities analysis file, 2001.

Reference population: All hospitalized patients (left) and hospitalized patients with complications potentially resulting from care (right).

Note: White, Black, and API are non-Hispanic groups. Rates are adjusted by age, gender, age-gender interactions, comorbidities, and DRG clusters. For findings related to all patient safety measures, see Table 2.10a. Available data do not support analyses stratified by SES.

- Human error during procedures can sometimes lead to injuries or adverse events. These include accidental laceration, leaving a foreign body, or iatrogenic pneumothorax (puncture of the lung) during a procedure. In 2001, rates of iatrogenic pneumothorax were lower among Hispanics compared with non-Hispanic whites (Figure 2.9, left). Black-white differences were not significant.
- Deaths that could be avoided include those among patients hospitalized for conditions that rarely result in death and those associated with complications of care. In 2001, deaths from complications potentially resulting from care (failure to rescue) were higher among APIs compared with non-Hispanic whites (Figure 2.9, right). Other differences by race/ethnicity were not significant.

Figure 2.10. Postoperative pulmonary embolus or deep vein thrombosis per 1,000 surgical discharges (left) and postoperative septicemia per 1,000 elective surgery discharges of longer than 3 days (right), by race/ethnicity, 2001



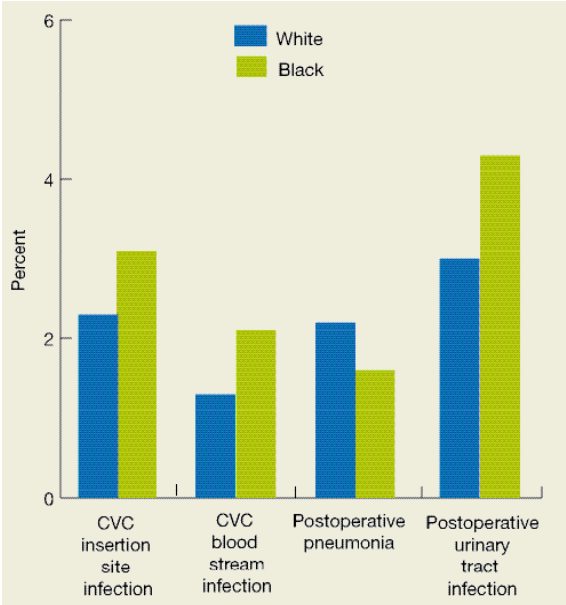
Source: HCUP State Inpatient Databases disparities analysis file, 2001.

Reference population: Patients hospitalized for surgery (left) and for elective surgery with stay longer than 3 days (right).

Note: White, Black, and API are non-Hispanic groups. Rates are adjusted by age, gender, age-gender interactions, comorbidities, and DRG clusters. For findings related to all patient safety measures, see Tables 2.10a. Available data do not support analyses stratified by SES.

- Inpatient care can be compromised by complications that arise during surgery or in the postoperative period. Following surgery, blood clots can form in the legs (deep vein thrombosis) and travel to the lungs (pulmonary embolus). In 2001, rates of postoperative pulmonary embolus or deep vein thrombosis were higher among blacks and lower among APIs compared with non-Hispanic whites (Figure 2.10, left).
- Nosocomial infections are infections acquired in the hospital. In 2001, rates of postoperative septicemia (life-threatening invasion of the bloodstream by microorganisms) were higher among blacks and Hispanics compared with non-Hispanic whites (Figure 2.10, right).

Figure 2.11. Various nosocomial infections, by race, 2002



Source: Medicare Patient Safety Monitoring System, 2002.

Reference population: Hospitalized Medicare beneficiaries.

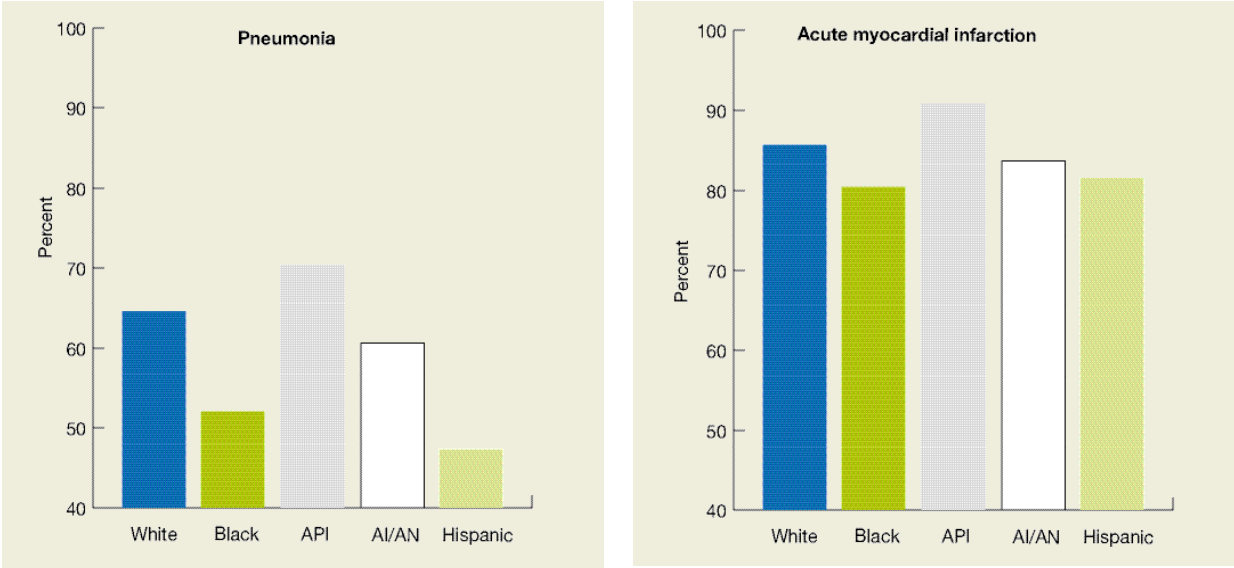
Note: For findings related to all patient safety measures, see Table 2.10a. Available data do not support analyses stratified by SES.

- Black Medicare beneficiaries also tended to have higher rates of a variety of nosocomial infections associated with operative procedures and central venous catheters (CVCs)—i.e., catheters inserted into large veins near the heart which are commonly used to give medications, fluids, and nutrients to severely ill patients. However, differences compared with whites did not attain statistical significance due to small sample sizes (Figure 2.11).

Timeliness

Timely care delivers appropriate medical services when they are needed. It reduces waits and sometimes harmful delays for both those who receive and those who give care. Delays in care are not uncommon. For example, while patients seek care from emergency departments for different reasons and with varying levels of urgency, they wait an average of 45 minutes to see a physician. Those with emergent conditions (i.e., conditions that should be cared for in less than 15 minutes) wait an average of 24 minutes.[53] Precise estimates of the human costs of delayed care are not available. Overcrowding in emergency rooms leads to higher death and revisit rates,[54] some of which may be related to delays in treatment. The precise costs of delayed care are also not known. People who have a primary care provider have lower long-term health care costs,[55 56] perhaps in part related to more timely access to care. Timely care is particularly important for patients hospitalized for medical emergencies.

Figure 2.12. Percent of Medicare beneficiaries hospitalized for pneumonia who receive antibiotics within 4 hours of arrival (left) and hospitalized for acute myocardial infarction who receive aspirin within 24 hours of admission (right), by race/ethnicity, 2001-2002



Source: CMS Quality Improvement Organization program, 2001-2002.

Reference population: Elderly Medicare beneficiaries hospitalized for pneumonia (left) or acute myocardial infarction (right).

Note: White, Black, API, and AI/AN are non-Hispanic groups. For findings related to all timeliness measures, see Tables 2.11a and 2.11b. Available data do not support analyses stratified by SES.

- The prompt administration of antibiotics can save lives and reduce lengths of stay for pneumonia. The proportion of elderly Medicare beneficiaries hospitalized for pneumonia who received antibiotics within 4 hours of arrival was lower among black and Hispanic elderly and higher among API elderly compared with non-Hispanic white elderly (Figure 2.12, left).
- Aspirin should be given immediately to patients with heart attacks. The proportion of elderly Medicare beneficiaries hospitalized for acute myocardial infarction who received aspirin within 24 hours of admission was lower among black and Hispanic elderly and higher among API elderly compared with non-Hispanic white elderly (Figure 2.12, right).

Patient Centeredness

Patient centered care is respectful of and responsive to individual patient preferences, needs, and values and ensures that patient values guide all clinical decisions. Measures of patient centeredness tracked in the NHDR include:

- Patient-provider communication
- Patient-provider relationship

For findings related to all measures of patient centeredness, see Tables 2.12a and 2.12b at the end of this chapter. Patient-provider communication and relationship are discussed in the section on patient perceptions of care in Chapter 3, Access to Health Care.

Table 2.1a. Racial and Ethnic Differences in Effectiveness of Care: Cancer

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Cancer Screening[iii]						
Rate of breast cancers diagnosed at late stage	=	↑ [iii]		↑		↑
Rate of cervical cancers diagnosed at late stage	↓	= [iii]		↑		↓
Rate of colorectal cancers diagnosed at late stage	↓	= [iii]		↑		↑
Cancer Treatment[iv]						
Cancer deaths per 100,000 population per year for all cancers	↓	↑ [iv]		↑		↑
Cancer deaths per 100,000 male population per year for prostate cancer	↓	↑ [iv]		↑		↑
Cancer deaths per 100,000 female population per year for breast cancer	↓	↑ [iv]		↑		↑
Cancer deaths per 100,000 population per year for lung cancer	↓	↑ [iv]		↑		↑
Cancer deaths per 100,000 population per year for colorectal cancer	↓	↑ [iv]		↑		↑

Table 2.1b. Socioeconomic Differences in Effectiveness of Care: Cancer

Measure	Income Difference[v]			Educational Difference[vi]		Insurance Difference[vii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Cancer Treatment[iv]						
Cancer deaths per 100,000 population per year for all cancers				↓	↓	
Cancer deaths per 100,000 male population per year for prostate cancer				↓	↓	
Cancer deaths per 100,000 female population per year for breast cancer				=	↓	
Cancer deaths per 100,000 population per year for lung cancer				↓	↓	
Cancer deaths per 100,000 population per year for colorectal cancer				↓	↓	

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: Surveillance, Epidemiology, and End Results program, 2001. This source does not provide rate estimates for Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[iv] Source: National Vital Statistics System-Mortality, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[v] Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[vi] Compared with persons with any college education.
[vii] Compared with persons under 65 with any private health insurance.

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
↑ Group receives better quality of health care than the comparison group or has better outcomes.
↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.2a. Racial and Ethnic Differences in Effectiveness of Care: Diabetes

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Management of Diabetes						
Adults with diabetes who had a hemoglobin A1c measurement at least once in past year[iii]	=					↓
Adults with diabetes who had a lipid profile in past 2 years[iii]	=					=
Adults with diabetes who had a retinal eye examination in past year[iii]	=					↓
Adults with diabetes who had a foot examination in past year[iii]	=					↓
Adults with diabetes who had an influenza immunization in past year[iii]	↓					↓
Hospital admissions for uncontrolled diabetes per 100,000 population[iv]	↓ [iv]	= [iv]				↓
Hospital admissions for short-term complications of diabetes per 100,000 population[iv]	↓ [iv]	↑ [iv]				=
Hospital admissions for long-term complications of diabetes per 100,000 population[iv]	↓ [iv]	= [iv]				↓
Hospital admissions for lower extremity amputations in patients with diabetes per 1,000 population[v]	=					

Table 2.2b. Socioeconomic Differences in Effectiveness of Care: Diabetes

Measure	Income Difference[vi]			Educational Difference[vii]		Insurance Difference[viii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Management of Diabetes[iii]						
Adults with diabetes who had a hemoglobin A1c measurement at least once in past year	↓	=	=	↓	=	
Adults with diabetes who had a lipid profile in past 2 years	=	=	=	↓	↓	↓
Adults with diabetes who had a retinal eye examination in past year	↓	↓	=	↓	=	↓
Adults with diabetes who had a foot examination in past year	=	=	=	=	=	=
Adults with diabetes who had an influenza immunization in past year	=	=	=	=	=	=

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[iv] Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
[v] Source: National Hospital Discharge Survey, 1999-2001. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[vi] Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[vii] Compared with persons with any college education.
[viii] Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

Table 2.3a. Racial and Ethnic Differences in Effectiveness of Care: End Stage Renal Disease

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Management of End Stage Renal Disease[iii]						
Hemodialysis patients with urea reduction ratio 65% or higher	↓	↑		=	=	=
Hemodialysis patients with hemoglobin 11 or higher	=	=		=	=	↑
Hemodialysis patients with arteriovenous fistula as primary mode of vascular access	↓	=		=	=	↑
Renal Transplantation						
Dialysis patients registered on the waiting list for transplantation	↓	↑ [iv]		↓		↓
Persons receiving a kidney transplant within 3 years of date of renal failure	↓	↓ [iv]		↓		↓

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii] Source: CMS End Stage Renal Disease Clinical Performance Measures Project, 2002.
[iv]U.S. Renal Data System, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.4a. Racial and Ethnic Differences in Effectiveness of Care: Heart Disease

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Counseling on Risk Factors[iii]						
Current smokers age 18 and over receiving advice to quit smoking	=					=
Treatment of Acute Myocardial Infarction?						
AMI patients administered aspirin within 24 hours of admission	↓ [iv]	↑ [iv]		=		↓
AMI patients with aspirin prescribed at discharge	↓ [iv]	= [iv]		=		↓
AMI patients administered beta-blocker within 24 hours of admission	= [iv]	= [iv]		=		↓
AMI patients with beta blocker prescribed at discharge	= [iv]	= [iv]		=		↓
AMI patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	= [iv]	= [iv]		=		=
AMI patients given smoking cessation counseling while hospitalized	↓ [iv]	= [iv]		=		↓
Treatment of Acute Heart Failure [iv]						
Heart failure patients with evaluation of left ventricular ejection fraction	↑ [iv]	↑ [iv]		↓		↓
Heart failure patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	= [iv]	= [iv]		=		=
Management of Congestive Heart Failure[v]						
Hospital admissions for congestive heart failure per 100,000 population	↓					
Inpatient Mortality for Cardiovascular Conditions and Procedures[v]						
Deaths per 1,000 adult admissions with acute myocardial infarction	= [vi]	= [vi]				=
Deaths per 1,000 adult admissions with congestive heart failure	↑ [vi]	= [vi]				↑
Deaths per 1,000 admissions with coronary artery bypass surgery, age 40+	= [vi]	= [vi]				=
Deaths per 1,000 admissions with Percutaneous transluminal coronary angioplasty, age 40+	↓ [vi]	= [vi]				↓
Deaths per 1,000 admissions with abdominal aortic aneurysm repair	= [vi]					=
Deaths per 1,000 pediatric heart surgery admissions, age <18	= [vi]	= [vi]				=

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[iv]Source: CMS Quality Improvement Organization program, 2001-2002. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander, American Indian or Alaska Native. These contrasts compare each group with non-Hispanic whites.
[v]Source: National Hospital Discharge Survey, 2001. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[vi]Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; AMI=acute myocardial infarction

Table 2.4b. Socioeconomic Differences in Effectiveness of Care: Heart Disease

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Counseling on Risk Factors[iv]						
Current smokers age 18 and over receiving advice to quit smoking	=	=	=	=	=	↓

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: HS=high school

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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.5a. Racial and Ethnic Differences in Effectiveness of Care: HIV and AIDS

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
AIDS Prevention						
New AIDS cases per 100,000 population 13 and over[iii]	↓ [iii]	↑ [iii]		↓		↓
Management of HIV						
HIV-infection deaths per 100,000 population[iv]	↓	↑ [iv]		=		↓

Table 2.5b. Socioeconomic Differences in Effectiveness of Care: HIV and AIDS

Measure	Income Difference[v]			Educational Difference[vi]		Insurance Difference[vii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Management of HIV						
HIV-infection deaths per 100,000 population[iv]				↓	↓	

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Centers for Disease Control and Prevention, 2002. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
[iv]Source: National Vital Statistics System-Mortality, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[v]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[vi]Compared with persons with any college education.
[vii]Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.6a. Racial and Ethnic Differences in Effectiveness of Care: Maternal and Child Health

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Maternity Care[iii]						
Pregnant women receiving prenatal care in first trimester	↓	=	↓	↓		↓
Live-born infants with low birthweight (<2,500 grams)	↓	=	=	=		=
Live-born infants with very low birthweight (<1,500 grams)	↓	↑	↓	=		=
Infant mortality per 1,000 live births, all	↓	↑	↓	↓		=
Infant mortality per 1,000 live births, birthweight >2,499 grams	↓	↑	=	↓		↑
Infant mortality per 1,000 live births, birthweight 1,500-2,499 grams	=	↑		↓		↓
Infant mortality per 1,000 live births, birthweight <1,500 grams	↓	=	=	=		=
Maternal deaths per 100,000 live births	↓					↓
Immunization, Childhood[iv]						
Children 19-35 months who received all recommended vaccines	↓	=		↓	↓	↓
Children 19-35 months who received 4 doses of diphtheria-tetanus-pertussis (DTaP) vaccine	↓	=		↓	↓	↓
Children 19-35 months who received 3 doses of polio vaccine	↓	=	=	=	=	=
Children 19-35 months who received 1 dose of measles-mumps-rubella vaccine	=	=	↑	↓	=	↓
Children 19-35 months who received 3 doses of *H. influenzae* type b (Hib) vaccine	↓	=	↑	↓	=	=
Children 19-35 months who received 3 doses of hepatitis B vaccine	↓	=		↓	↓	=
Children 19-35 months who received 1 dose of varicella vaccine	=	↑		=	=	↑
Immunization, Adolescent[v]						
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	=				=	=
Adolescents (13-15) who received 2 or more doses of measles-mumps-rubella vaccine	↓				=	↓
Adolescents (13-15) who received 1 or more doses of diphtheria-tetanus booster	=				=	=
Adolescents (13-15) who received 1 or more doses of varicella vaccine	=					=

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii] Source: National Vital Statistics System, 2001. This source did not collect information for >1 race.
[iv]Source: National Immunization Survey, 2002.
[v]Source: National Health Interview Survey, 2001.

Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Table 2.6a. Racial and Ethnic Differences in Effectiveness of Care: Maternal and Child Health (continued)

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Treatment of Pediatric Gastroenteritis[iii]						
Hospital admissions for pediatric gastroenteritis per 100,000 population	= [iii]	↑ [iii]				=
Childhood Screening and Counseling[iv]						
Children who had their height and weight measured by a doctor or other health provider	=	= [iv]		↓		↓
Children 2-17 with advice about physical activity	=	= [iv]		↓		=
Children 2-17 with advice about eating healthy	=	= [iv]		↓		↓
Children 3-6 with a vision check	↑					↓
Children with advice to parent or guardian about smoking in the house	=	↓ [iv]		=		↑
Children 0-40 lbs with advice to parent or guardian about using child car safety seats	=					=
Children 40-80 lbs with advice to parent or guardian about using booster seats	=					=
Children over 80 lbs with advice to parent or guardian about using lap and shoulder belts	=	= [iv]				=
Children 2-17 with advice about using helmets	=	= [iv]		↓		=
Childhood Dental Care[iv]						
Children 2-17 with a dental visit	↓	↓ [iv]		↓		↓

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[ii]Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: Non-Hispanic white, Non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
[iv]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate. This source did not collect information for >1 race.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

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Blank cell: Reliable estimate for group could not be made.

Table 2.6b. Socioeconomic Differences in Effectiveness of Care: Maternal and Child Health

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Maternity Care[iv]						
Pregnant women receiving prenatal care in first trimester				↓	↓	
Live-born infants with low birthweight (<2,500 grams)				↓	↓	
Live-born infants with very low birthweight (<1,500 grams)				=	↓	
Infant mortality per 1,000 live births, all				↓	↓	
Infant mortality per 1,000 live births, birthweight >2,499 grams				↓	↓	
Infant mortality per 1,000 live births, birthweight 1,500-2,499 grams				↓	↓	
Infant mortality per 1,000 live births, birthweight <1,500 grams				=	=	
Maternal deaths per 100,000 live births				↓	↓	
Immunization, Childhood[v]						
Children 19-35 months who received all recommended vaccines	↓	↓	↓			
Children 19-35 months who received 4 doses of diphtheria-tetanus-pertussis (DTaP) vaccine	↓	↓	↓			
Children 19-35 months who received 3 doses of polio vaccine	↓	↓	↓			
Children 19-35 months who received 1 dose of measles-mumps-rubella vaccine	↓	↓	↓			
Children 19-35 months who received 3 doses of H. influenzae type b (Hib) vaccine	↓	↓	↓			
Children 19-35 months who received 3 doses of hepatitis B vaccine	↓	↓	=			
Children 19-35 months who received 1 dose of varicella vaccine	↓	↓	↓			
Immunization, Adolescent[vi]						
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	=	=	=			=
Adolescents (13-15) who received 2 or more doses of measles-mumps-rubella vaccine	=	↓	↓			=
Adolescents (13-15) who received 1 or more doses of tetanus-diphtheria booster	=	=	=			=
Adolescents (13-15) who received 1 or more doses of varicella vaccine	=	=	=			=

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with mothers with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: National Vital Statistics System, 2001. This source did not collect information for >1 race.
[v]Source: National Immunization Survey, 2002.
[vi]Source: National Health Interview Survey, 2001.
Key: HS=high school

Table 2.6b. Socioeconomic Differences in Effectiveness of Care: Maternal and Child Health (continued)

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Childhood Screening and Counseling[iv]						
Children who had their height and weight measured by a doctor or other health provider	↓	↓	↓			↓
Children 2-17 with advice about physical activity	↓	↓	↓			↓
Children 2-17 with advice about eating healthy	↓	↓	↓			↓
Children 3-6 with a vision check	↓	↓	↓			↓
Children with advice to parent or guardian about smoking in the house	↑	↑	↑			=
Children 0-40 lbs with advice to parent or guardian about using child car safety seats	=	=	=			=
Children 40-80 lbs with advice to parent or guardian about using booster seats	↓	↓	↓			↓
Children over 80 lbs with advice to parent or guardian about using lap and shoulder belts	↓	↓	=			↓
Children 2-17 with advice about using helmets	↓	↓	↓			↓
Childhood Dental Care [iv]						
Children 2-17 with dental visit in past year	↓	↓	↓			↓

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with mothers with any college education.
[iii]Compared with children with any private health insurance.
[iv]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate. This source did not collect information for >1 race.
Key: HS=high school

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.7a. Racial and Ethnic Differences in Effectiveness of Care: Mental Health

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Treatment of Depression						
Suicide deaths per 100,000 population[iii]	↑	↑ [iii]		↑		↑

Table 2.7b. Socioeconomic Differences in Effectiveness of Care: Mental Health

Measure	Income Difference[iv]			Educational Difference[v]		Insurance Difference[vi]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Treatment of Depression						
Suicide deaths per 100,000 population[iii]				↓	↓	

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: National vital Statistics System-Mortality, 2001. This source did not collect information on Asians and NHOPIs seperately but in aggregate as Asians or Pacific Islander. This source did not collect information for >1 race. This source did not collect information on income or insurance
[iv]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[v]Compared with persons with any college education.
[iv]Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school.

Key to Symbols Used in Quality of Health Care Tables:
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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.8a. Racial and Ethnic Differences in Effectiveness of Care: Respiratory Diseases

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Influenza Immunization						
High risk persons 18-64 who received influenza vaccine in past year[iii]	↓	↑		=	=	↓
People 65 and over who received influenza vaccine in the past year[iii]	↓	=				↓
Hospital admissions for influenza per 100,000 population 65 and over[iv]	= [iv]	= [iv]				=
Pneumococcal Immunization[iii]						
High risk persons 18-64 who ever received pneumococcal vaccination	=				=	↓
People 65 and over who ever received pneumococcal vaccination	↓	↓				↓
Treatment of Pneumonia						
Pneumonia patients who have blood cultures taken before antibiotics[v]	↓ [v]	= [v]		=		↓
Pneumonia patients who receive initial antibiotic dose within 4 hours of arrival[v]	↓ [v]	↑ [v]		=		↓
Pneumonia patients who receive initial antibiotic consistent with current recommendations[v]	= [v]	= [v]		↓		=
Pneumonia patients who receive influenza screening or vaccination[v]	↓ [v]	= [v]		=		↓
Pneumonia patients who receive pneumococcal screening or vaccination[v]	↓ [v]	= [v]		↑		↓
Deaths per 1,000 adult admissions with pneumonia[iv]	= [iv]	↓ [iv]				=
Treatment of Upper Respiratory Infection[vi]						
Rate antibiotics prescribed at visits with a diagnosis of common cold per 10,000 population	=					
Management of Asthma[vii]						
Hospital admissions for asthma per 100,000 population under 18	↓					
Hospital admissions for asthma per 100,000 population 18 and over	↓					
Treatment of Tuberculosis[viii]						
Tuberculosis patients who complete a curative course of treatment within 12 months of initiation of treatment	=	= [viii]		↑		=

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: National Health Interview Survey, 2001.
[iv] Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
[v] Source: CMS Quality Improvement Organization program, 2001-2002. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
[vi] Source: National Ambulatory Medical Care Survey/National Hospital Ambulatory Medical Care Survey, 2000-2001. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[vii] Source: National Hospital Discharge Survey, 2001. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[viii] Source: CDC National TB Surveillance System, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

Table 2.8b. Socioeconomic Differences in Effectiveness of Care: Respiratory Diseases

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Influenza Immunization[iv]						
High risk persons 18-64 who received influenza vaccination in the past year	↓	↓	↓	↓	↓	↓
People 65 and over who received influenza vaccination in the past year	↓	↓	=	↓	↓	
Pneumococcal Immunization[iv]						
High risk persons 18-64 who ever received pneumococcal vaccination	↑	↑	=	=	=	=
People 65 and over who ever received pneumococcal vaccination	↓	↓	=	↓	↓	

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: National Health Interview Survey, 2001.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

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Blank cell: Reliable estimate for group could not be made.

Table 2.9a. Racial and Ethnic Differences in Effectiveness of Care: Nursing Home and Home Health Care

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Chronic Care in Nursing Facilities[iii]						
Long-stay nursing home residents who have moderate to severe pain	↑ [iii]	↑ [iii]		↓		↑
Long-stay nursing home residents who were physically restrained	↑ [iii]	↓ [iii]		↓		↓
Long-stay nursing home residents who spend most of their time in bed or in a chair	↓ [iii]	↓ [iii]		=		↓
Long-stay nursing home residents who had a urinary tract infection	↑ [iii]	↑ [iii]		=		↑
Long-stay nursing home residents who are more depressed or anxious	↑ [iii]	↑ [iii]		↑		↑
Low risk long-stay nursing home residents who lose control of their bowels or bladder	= [iii]	= [iii]		↑		↑
Low risk long-stay nursing home residents who had a catheter inserted and left in their bladder	= [iii]	↑ [iii]		↓		=
Post-Acute Care in Nursing Facilities[iii]						
Short-stay nursing home residents with delirium	↑ [iii]	↑ [iii]		=		↑
Short-stay nursing home residents who have moderate to severe pain	↑ [iii]	↑ [iii]		=		↑
Short-stay nursing home residents who have pressure sores	↓ [iii]	= [iii]		=		↓

[i]Compared with whites.

[ii]Compared with non-Hispanic whites.

[iii]Source: CMS Minimum Data Set. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

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Blank cell: Reliable estimate for group could not be made.

Table 2.9a. Racial and Ethnic Differences in Effectiveness of Care: Nursing Home and Home Health Care (continued)

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Home Health Care[iii]						
Home health care patients who get better at getting dressed	↓	↓	=	↓	=	↓
Home health care patients who get better at taking their medicines correctly	=	=	=	=	=	=
Home health care patients who get better at bathing	↓	=	=	=	=	=
Home health care patients who don't get worse at bathing	=	↑	↑	=	=	↑
Home health care patients who get better at getting in and out of bed	=	=	=	=	=	=
Home health care patients who get better at walking or moving around	=	↑	↑	=	=	=
Home health care patients who get better at going to and from the toilet	↓	=	=	=	↓	↓
Home health care patients who have less pain when moving around	=	↑	=	=	=	↑
Home health care patients who have less shortness of breath	=	=	=	=	=	=
Home health care patients who have less urinary incontinence	=	=	=	=	=	↓
Home health care patients who are confused less often	=	=	=	=	=	=
Home health care patients who had to be admitted to the hospital	↓	↑	=	↓	↓	=

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: CMS Outcome and Assessment Information Set, 2002.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.10a. Racial and Ethnic Differences in Patient Safety

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Nosocomial Infections						
Selected infections due to medical care per 1000 discharges[iii]	↓ [iii]	↓ [iii]				=
Postoperative septicemia per 1,000 elective surgical discharges of 4 or more days[iii]	↓ [iii]	= [iii]				↓
Medicare beneficiaries with central venous catheter-associated infection at insertion site[iv]	=					
Medicare beneficiaries with central venous catheter-associated blood stream infection[iv]	=					
Medicare beneficiaries with postoperative pneumonia[iv]	=					
Medicare beneficiaries with postoperative urinary tract infection[iv]	=					
Medicare beneficiaries with ventilator-associated pneumonia[iv]	=					
Medicare beneficiaries with hospital-acquired blood stream infection[iv]	=					
Complications of Care						
Postoperative hemorrhage or hematoma with surgical drainage or evacuation per 1,000 surgical discharges[iii]	↓ [iii]	↓ [iii]				↑
Postoperative pulmonary embolus or deep vein thrombosis per 1,000 surgical discharges[iii]	↓ [iii]	↓ [iii]				=
Postoperative respiratory failure per 1,000 elective surgical discharges[iii]	↓ [iii]	↓ [iii]				↓
Postoperative physiologic/metabolic derangements per 1,000 elective surgeries[iii]	↓ [iii]	= [iii]				=
Complications of anesthesia per 1,000 surgical discharges[iii]	↑ [iii]	= [iii]				↑
Decubitus ulcers per 1,000 selected stays of 4 or more days[iii]	↓ [iii]	↑ [iii]				↓
Postoperative hip fractures per 1,000 surgical discharges age 18 and over[iii]	↑ [iii]	= [iii]				=
Medicare beneficiaries with postoperative pulmonary embolus or deep vein thrombosis[iv]	↓					

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: HCUP SID disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
[iv]Source: Medicare Patient Safety Monitoring System, 2002.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Table 2.10a. Racial and Ethnic Differences in Patient Safety (continued)

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Injuries or Adverse Events Due to Care						
Medicare beneficiaries with central venous catheter-associated mechanical complication[iii]	=					
Accidental laceration or puncture during procedure per 1,000 discharges[iv]	= [iv]	= [iv]				↑
Iatrogenic pneumothorax per 1,000 relevant discharges[iv]	= [iv]	= [iv]				↑
Reclosure of postoperative disruption of abdominal wall (postoperative abdominal wound dehiscence) per 1,000 abdominopelvic-surgery discharges[iv]	= [iv]	↑ [iv]				↑
Foreign body left in during procedure per 1,000 discharges[iv]	= [iv]	= [iv]				=
Birth Related Trauma[iv]						
Birth trauma injury to neonate per 1,000 selected live births	= [iv]	= [iv]				↑
Obstetric trauma per 1,000 instrument-assisted deliveries	↑ [iv]	= [iv]				=
Obstetric trauma per 1,000 vaginal deliveries without instrument assistance	↑ [iv]	= [iv]				↑
Obstetric trauma per 1,000 cesarean deliveries	= [iv]	= [iv]				↑
Potentially Avoidable Death[v]						
Deaths per 1,000 discharges in low-mortality DRGs	↓ [iv]	= [iv]				=
Deaths per 1,000 discharges with complications potentially resulting from care (failure to rescue)	= [iv]	↓ [iv]				=
Medication Safety[v]						
Persons with provider who does not usually ask about medications and treatments other doctors may give	↑	= [v]		=		↑

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Medicare Patient Safety Monitoring System, 2002.
[iv]Source: HCUP State Inpatient Databases disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
[v]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.11a. Racial and Ethnic Differences in Timeliness

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Usual Source of Care[iii]						
People who have a specific source of ongoing care	=	=	=	=	↓	↓
People in fair or poor health who have a specific source of ongoing care	=	=			=	↓
People with a hospital, emergency room, or clinic as source of ongoing care	↓	=		↓	=	↓
Patient Perceptions of Their Care[iv]						
Families that experience difficulties or delays in obtaining health care or do not receive needed care	=	= [iv]		=		↓
Families that experience difficulties or delays in obtaining health care due to financial or insurance reasons	=					=
Adults who sometimes or never can get appointment for routine care as soon as wanted	↓	↓ [iv]		=		↓
Adults who sometimes or never can get care for illness or injury as soon as wanted	↓	↓ [iv]				↓
Clinical Timeliness[v]						
Pneumonia patients who receive initial antibiotic dose within 4 hours of arrival	↓ [v]	↑ [v]		=		↓
AMI patients administered aspirin within 24 hours of admission	↓ [v]	↑ [v]		=		↓

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: National Health Interview Survey, 2001.
[iv]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[v]Source: CMS Quality Improvement Organization program, 2001-2002. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander. Contrasts compare each group with non-Hispanic whites.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; AMI=acute myocardial infarction

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↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.11b. Socioeconomic Differences in Timeliness

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Usual Source of Care[iv]						
People who have a specific source of ongoing care	↓	↓	↓	↓	↓	↓
People in fair or poor health who have a specific source of ongoing care	↓	↓	=	↓	↓	↓
People with a hospital, emergency room, or clinic as source of ongoing care	↓	↓	↓	↓	↓	↓
Patient Perceptions of Their Care[v]						
Families that experience difficulties or delays in obtaining health care or do not receive needed care	↓	↓	↓	↓	=	↓
Families that experience difficulties or delays due to financial or insurance reasons	↓	↓	↓	↓	=	↓
Adults who sometimes or never can get appointment for routine care as soon as wanted	↓	=	↓	=	↓	↓
Adults who sometimes or never can get care for illness or injury as soon as wanted	↓	↓	=	↓	=	↓

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: National Health Interview Survey, 2001.
[v]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: HS=high school

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
↑ Group receives better quality of health care than the comparison group or has better outcomes.
↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

Table 2.12a. Racial and Ethnic Differences in Patient Centeredness

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Patient-Provider Communication[iii]						
Adults whose providers sometimes or never listened carefully to them	=	↓ [iii]		=		↓
Adults whose providers sometimes or never explained things in a way they could understand	↓	↓ [iii]		=		↓
Adults whose providers sometimes or never showed respect for what they had to say	=	= [iii]		↓		↓
Patient-Provider Relationship[iii]						
Adults whose providers sometimes or never spent enough time with them	=	= [iii]		↓		↓

Table 2.12b. Socioeconomic Differences in Patient Centeredness

Measure	Income Difference[iv]			Educational Difference[v]		Insurance Difference[vi]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Patient-Provider Communication[iii]						
Adults whose providers sometimes or never listened carefully	↓	↓	↓	↓	=	↓
Adults whose providers sometimes or never explained things in a way they could understand	↓	↓	↓	↓	↓	↓
Adults whose providers sometimes or never showed respect for what they had to say	↓	↓	↓	↓	↓	↓
Patient-Provider Relationship[iii]						
Adults whose providers sometimes or never spent enough time	↓	↓	↓	↓	=	↓

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[iv]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[v]Compared with persons with any college education.
[vi]Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

Key to Symbols Used in Quality of Health Care Tables:
=: Group and comparison group receive about same quality of health care or have similar outcomes.
↑ Group receives better quality of health care than the comparison group or has better outcomes.
↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.
Blank cell: Reliable estimate for group could not be made.

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Chapter 3. Access to Health Care

Many Americans have good access to health care that enables them to benefit fully from the Nation's health care system. However, others face barriers that make the acquisition of basic health care services a struggle. As demonstrated by extensive research and confirmed in the first National Healthcare Disparities Report (NHDR), racial and ethnic minorities and people of low socioeconomic status (SES) are disproportionately represented among those with access problems.

Components of Health Care Access

- Access to health care means having "the timely use of personal health services to achieve the best health outcomes."[1] Attaining good access to care requires three discrete steps:
- **Getting into the health care system**—People need to gain entry into the system in order to receive needed care.
- **Getting care within the health care system**—Once in the system, people need to go to sites of care where they can receive the specific services they need.
- **Finding providers who meet individual patient needs**—Once they identify appropriate sites of care, people need to find specific providers with whom they can develop a relationship based on mutual communication and trust.[2]

Health care access is measured in several ways including:

- **Structural measures**—Measures of the presence or absence of specific resources that enable health care, such as having health insurance or having a provider with hours on nights or weekends.
- **Patient assessments**—Measures of patients' perceptions of how well their providers interact with them.
- **Health care utilization**—Measures of the ultimate outcome of good access to care; i.e., the successful receipt of needed services.

How This Chapter Is Organized

This chapter presents new information about disparities in access to health care in America. It is divided into four sections:

- Getting into the health care system
- Getting care within the health care system
- Patient perceptions of care
- Health care utilization

As in the 2003 NHDR, this chapter focuses on disparities in access to care related to race, ethnicity, and SES in the general U.S. population. Disparities in access to care within specific priority populations are found in Chapter 4, Priority Populations.

In addition to presenting new data, this chapter goes beyond last year's report and adds analyses of changes over time as well as some multivariate models and stratified analyses. To present this greater detail, the

sections of the chapter highlight a small number of measures, where applicable. Results for all measures are found in the summary tables at the end of the chapter.

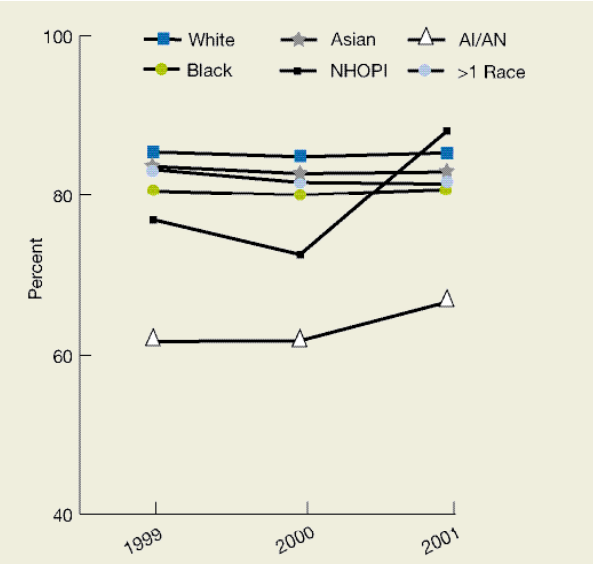
The first NHDR included measures of cultural competency and health information. This year, new data on these topics are not available, so they are not discussed. New data on these topics are anticipated next year.

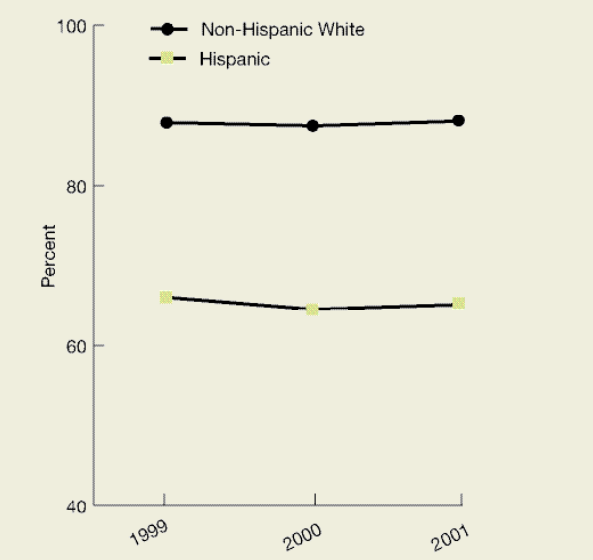
Getting Into the Health Care System

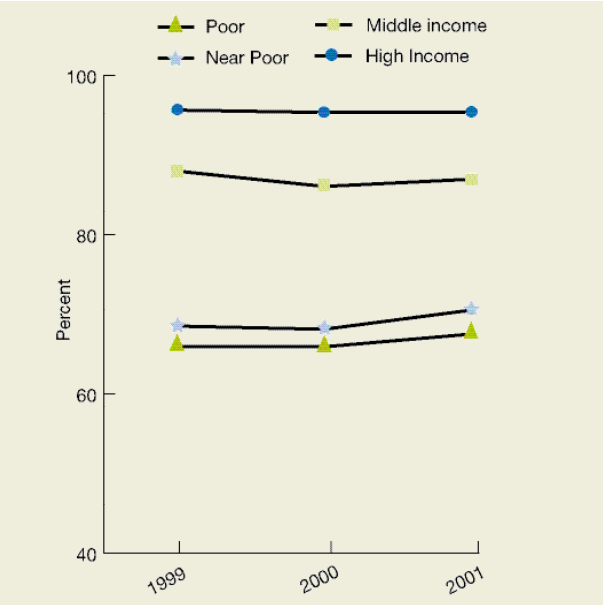
Health Insurance

Health insurance helps people get into the health care system. In 2002, 15.2% of Americans were uninsured.[3] The uninsured are more likely to die early[4 5] and have poor health status;[6 7] the costs of early death and poor health among the uninsured total $65 billion to $130 billion.[8] The uninsured report more problems getting care,[9] are diagnosed at later disease stages, and get less therapeutic care.[10] They are sicker when hospitalized and more likely to die during their stay.[11]

Figure 3.1. People under age 65 with health insurance by race (top left), ethnicity (top right), and income (bottom left), 1999-2001







Source: National Heath Interview Survey, 1999-2001.

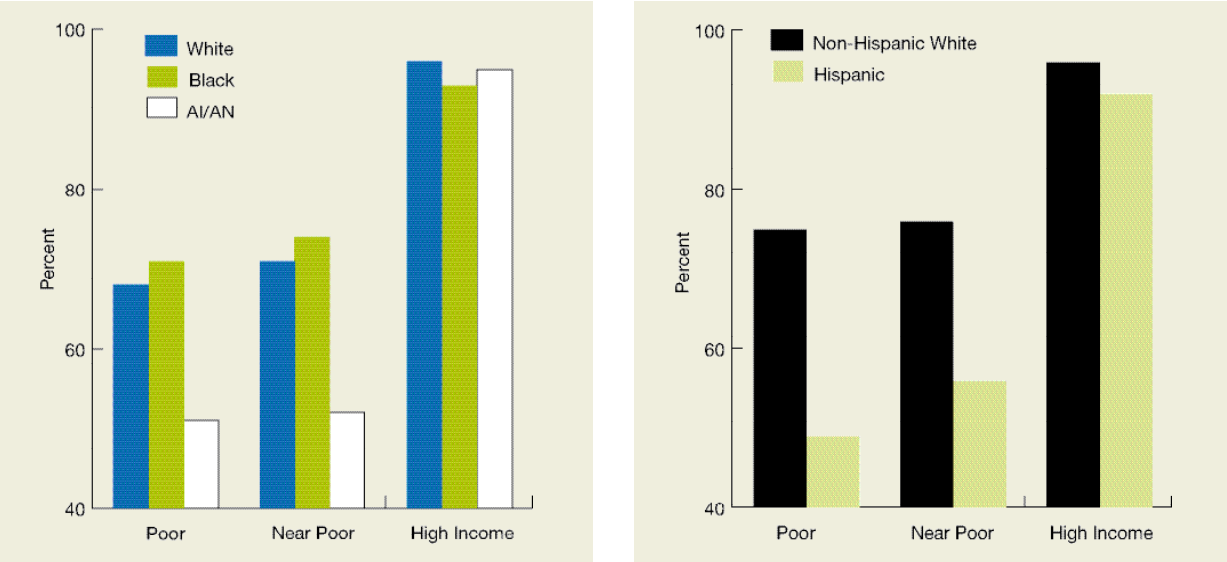
Reference population: Civilian, noninstitutionalized people under age 65.

Note: Measure is age adjusted. NHIS respondents are asked about health insurance coverage at the time of interview (point-in-time estimate). For findings related to all health insurance measures, see Tables 3.1a and 3.1b.

- For all years, the proportion with insurance was lower among blacks and AI/ANs compared with whites; Hispanics compared with non-Hispanic whites; and poor, near poor, and middle income compared with high income groups (Figure 3.1).
- From 1999-2001, rates of insurance did not change significantly among any racial, ethnic, or income groups.

Racial and ethnic minorities are disproportionately poor. To distinguish the effects of race, ethnicity, and income on health care access, measures are presented by income level.

Figure 3.2. People under age 65 with health insurance by race (left) and ethnicity (right) stratified by income, 2001



Source: National Heath Interview Survey, 2001.

Reference population: Civilian, noninstitutionalized people under age 65.

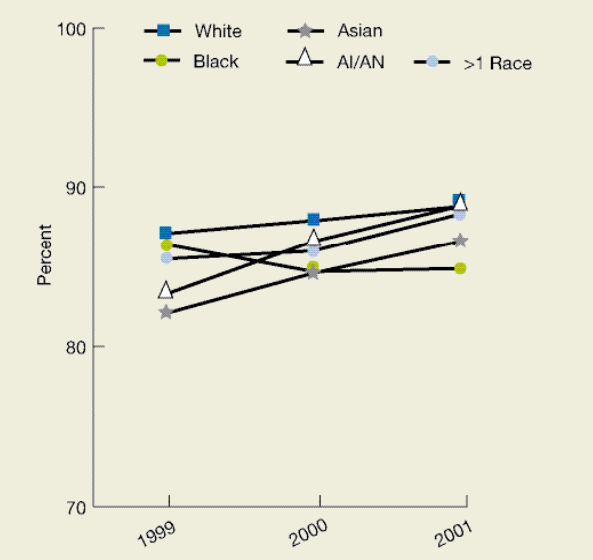
Note: Measure is age adjusted. NHIS respondents are asked about health insurance coverage at the time of interview (point-in-time estimate).

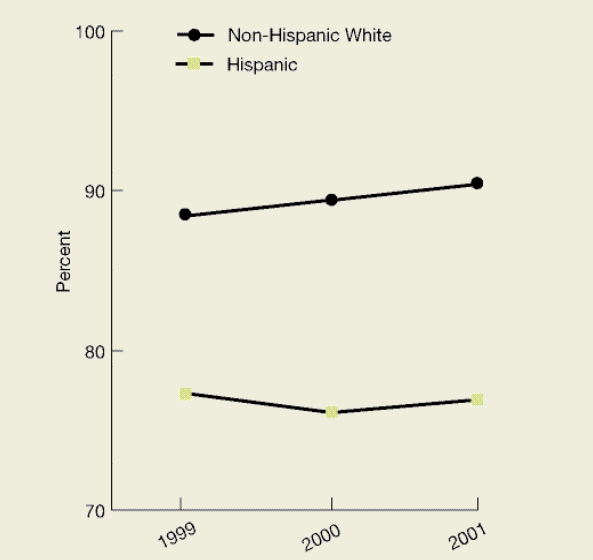
- Income explains some but not all of the differences in rates of insurance among people under age 65 by race and ethnicity.
- While differences in health insurance tend to attenuate or disappear among blacks and among high income individuals, they persist among poor and near poor AI/ANs and Hispanics (Figure 3.2).
- No group achieved the HP2010 goal of 100% of Americans with health insurance.

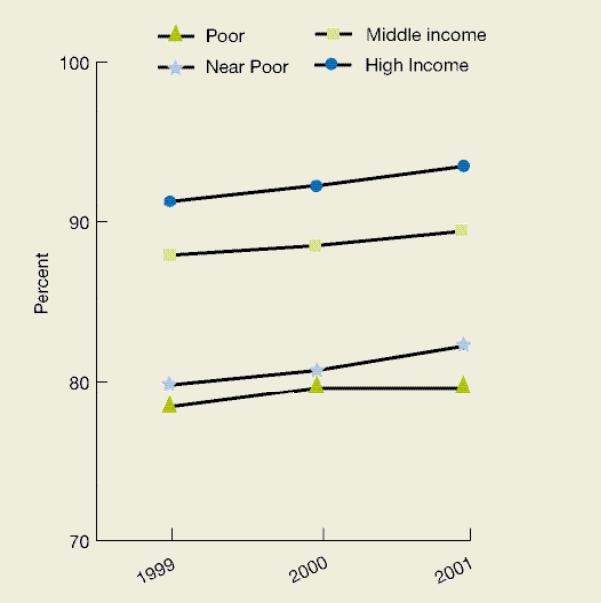
Usual Source of Care

Having a usual source of care helps people get into the health care system, yet over 40 million Americans do not have a specific source of ongoing care.[12] People without a usual source of care report more difficulties obtaining needed services[13] and fewer preventive services, including blood pressure monitoring, flu shots, prostate exams, Pap tests, and mammograms.[14]

Figure 3.3. People with a specific source of ongoing care by race (top left), ethnicity (top right), and income (bottom left), 1999-2001







Source: National Heath Interview Survey, 1999-2001.

Reference population: Civilian, noninstitutionalized population.

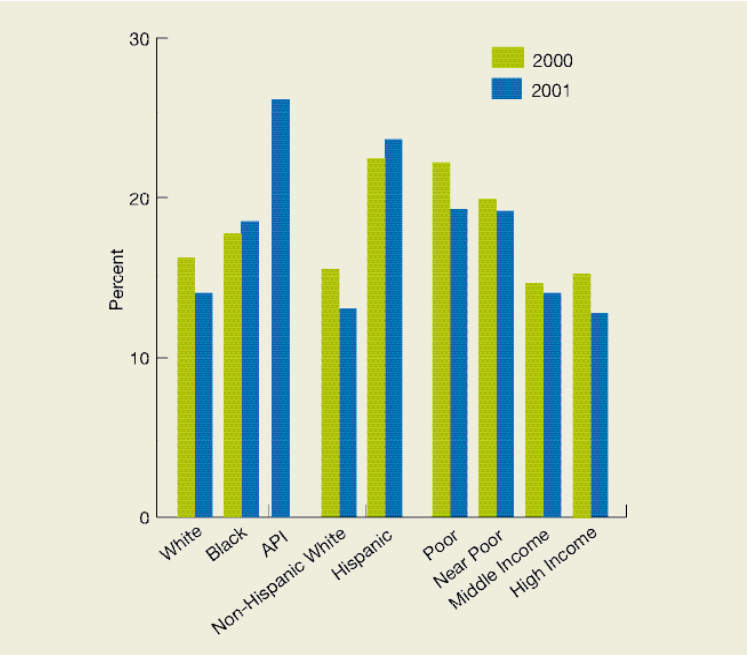
Note: Measure is age adjusted. For findings related to all usual source of care measures, see Tables 3.1a and 3.1b.

- In all 3 years, the proportion of people with a specific source of ongoing care was lower among Hispanics compared with non-Hispanic whites and among poor, near poor, and middle income groups compared with high income groups; racial differences were not significant (Figure 3.3).
- Between 1999 and 2001, rates of source of ongoing care improved for all groups except AI/AN, multiple race individuals, Hispanics, and the poor.
- No group achieved the HP2010 goal of 96% of Americans with a specific source of ongoing care.

Patient Perceptions of Need

Patient perceptions of need include perceived difficulties or delays obtaining care and problems getting care as soon as it is wanted. While patients may not always be able to assess their need for care, problems getting care when patients perceive that they are ill or injured likely reflect significant barriers to care.

Figure 3.4. Adults who can sometimes or never get care for illness or injury as soon as wanted by race, ethnicity, and income, 2000-2001



Source: Medical Expenditure Panel Survey, 2000-2001.

Reference population: Civilian, noninstitutionalized people age 18 and over.

Note: For findings related to all patient perceptions of need measures, see Tables 3.1a and 3.1b.

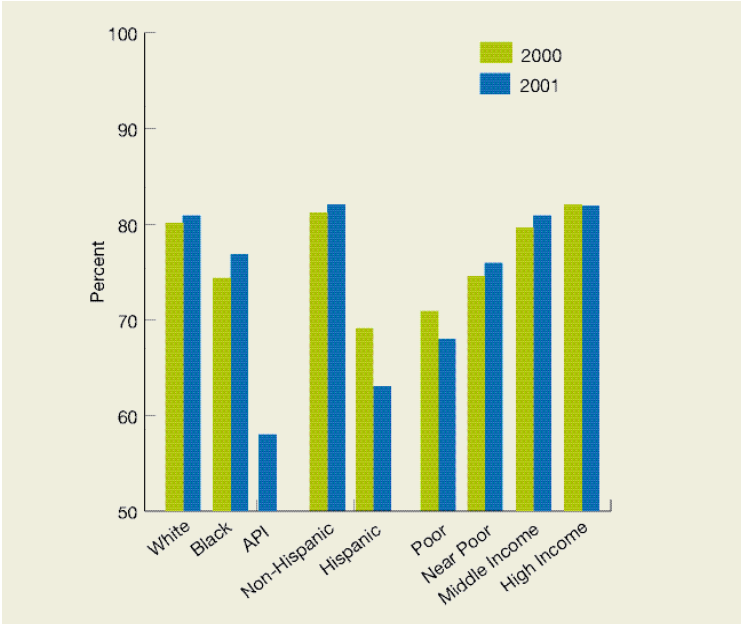
- In both 2000 and 2001, the proportion of adults who sometimes or never get care for illness or injury as soon as they wanted was higher among Hispanic compared with non-Hispanic white adults and among poor and near poor compared with high income adults (Figure 3.4).
- The proportion of adults who sometimes or never get care for illness or injury as soon as they wanted was also higher among black and API adults compared with white adults in 2001 (there were too few APIs to provide a reliable estimate in 2000).
- From 2000 to 2001, the proportion of adults who sometimes or never get care for illness or injury as soon as they wanted decreased among white, non-Hispanic white, and high income adults.
- In multivariate models controlling for age, gender, income, education, insurance, and residence location, the black-white difference is attenuated, but other differences persist in 2001. APIs are 99% more likely than whites, Hispanics are 45% more likely than non-Hispanic whites, and the near poor are 47% more likely than high income people to have problems getting care for illness or injury.

Getting Care Within the Health Care System

Difficulty Getting Care

Gaining entry into the health care system does not ensure that patients receive all the services that they need; many patients report difficulties navigating the health care system even after they have gained entry. For example, a quarter of managed care patients report difficulties obtaining referrals to specialists.[15] Difficulty scheduling appointments or reaching the physician via phone, long waiting times for an appointment, and dissatisfaction with physician staff can lead patients[16] and parents of patients [17] to seek non-urgent emergency department (ED) visits. Problems getting care within the health care system can include provider unavailability on nights or weekends; dissatisfaction with professional staff; longer waiting times; and difficulties getting appointments, contacting providers by phone, and getting referrals to specialists.

Figure 3.5. Adults without problems getting referral to a specialist in the past year by race, ethnicity, and income, 2000-2001



Source: Medical Expenditure Panel Survey, 2000-2001.

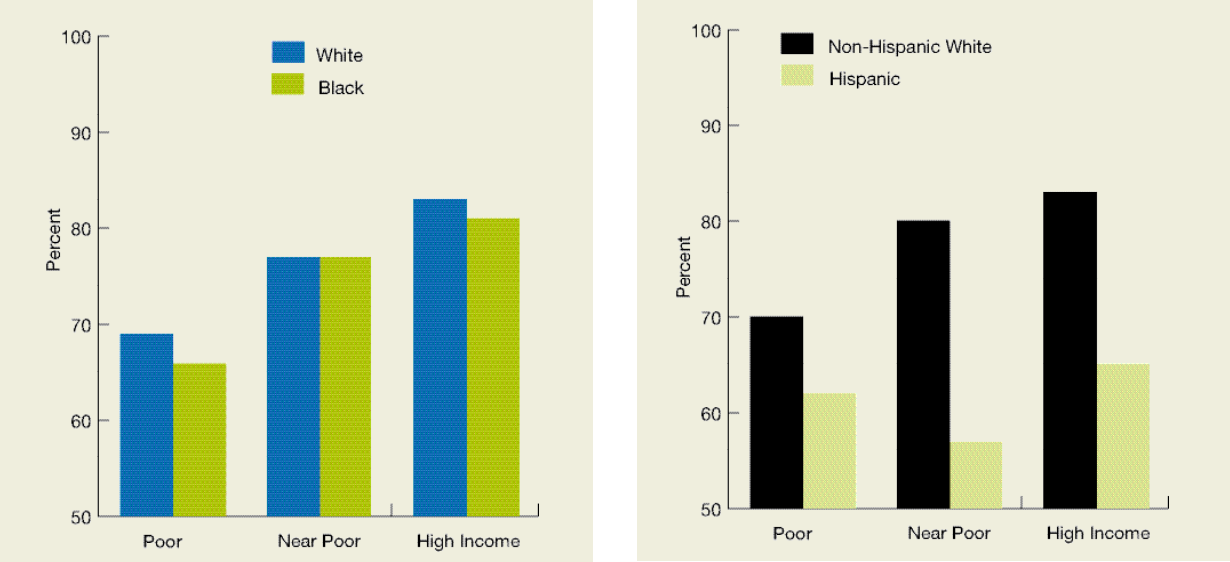
Reference population: Civilian, noninstitutionalized people age 18 and over.

Note: For findings related to all measures of getting care within the health care system, see Tables 3.2a and 3.2b.

- From 2000 to 2001, rates of no problems getting a referral decreased among Hispanics but did not change among any other groups (Figure 3.5).
- In 2000 and 2001, the proportion of adults without problems getting a referral to a specialist was lower among Hispanic compared with non-Hispanic white adults and poor and near poor compared with high income adults.
- The proportion of adults without problems getting a referral was also lower among API compared with white adults in 2001 (there were too few APIs to provide a reliable estimate in 2000); black-white differences were not noted.
- In multivariate models controlling for age, gender, income, education, insurance, and residence location, racial, ethnic, and income-related differences persist. APIs are 63% less likely than whites and Hispanics are 47% less likely than non-Hispanic whites to report no problems getting referrals. Compared with high income adults, the poor and near poor are 41% and 28% less likely to report no problems getting referrals, respectively.

To distinguish the effects of race, ethnicity, and income on health care access and to identify populations at greatest risk for difficulties getting care within the health care system, measures are presented by income level.

Figure 3.6. Adults without problems getting referral to a specialist in the past year by race (left) and ethnicity (right) stratified by income, 2001



Source: Medical Expenditure Panel Survey, 2001.

Reference population: Civilian, noninstitutionalized people age 18 and over.

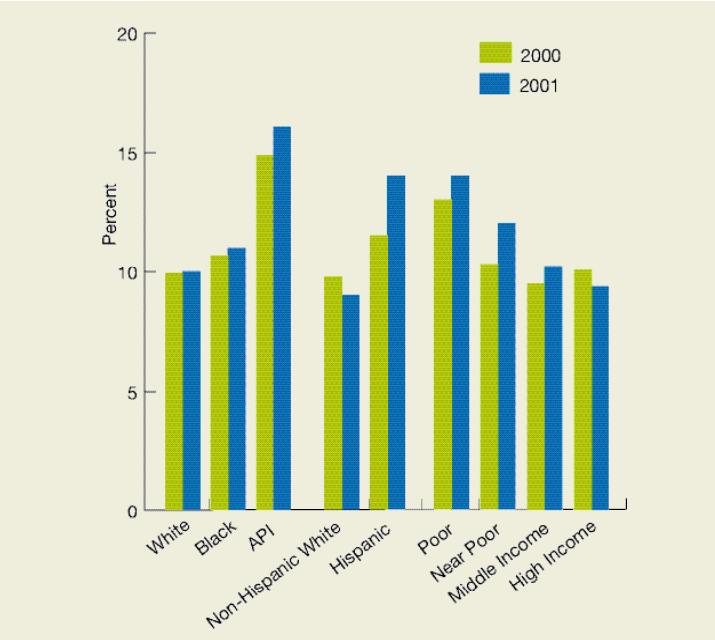
- Income explains some but not all of the differences in rates of problems getting a referral to a specialist among adults by ethnicity.
- Ethnic differences are observed across all income groups (Figure 3.6).

Patient Perceptions of Care

Patient-Provider Communication

Accessing health care does not guarantee optimal care if patients and providers do not communicate effectively. Barriers to patient-provider communication are common. About 47 million people speak a language other than English at home; almost half do not speak English very well.[18] A fifth of Americans score at the lowest level of literacy and another quarter score at the next level; understanding health information often requires literacy skills above these levels.[19] Health literacy, the "capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions,"[20] may be an even bigger problem. People with low literacy have less understanding of their medical conditions and health care,[21 22] worse health status,[23] higher use of emergency and inpatient services, and lower adherence to medications and participation in medical decisionmaking.[24] Estimates of health expenditures attributable to low health literacy range from $29 billion to $69 billion per year.[25] Providers also differ in communication proficiency; variation in listening skills has been noted.

Figure 3.7. Adults whose providers sometimes or never listen carefully to them by race, ethnicity, and income, 2000-2001



Source: Medical Expenditure Panel Survey, 2000-2001.

Reference population: Civilian, noninstitutionalized people age 18 and over.

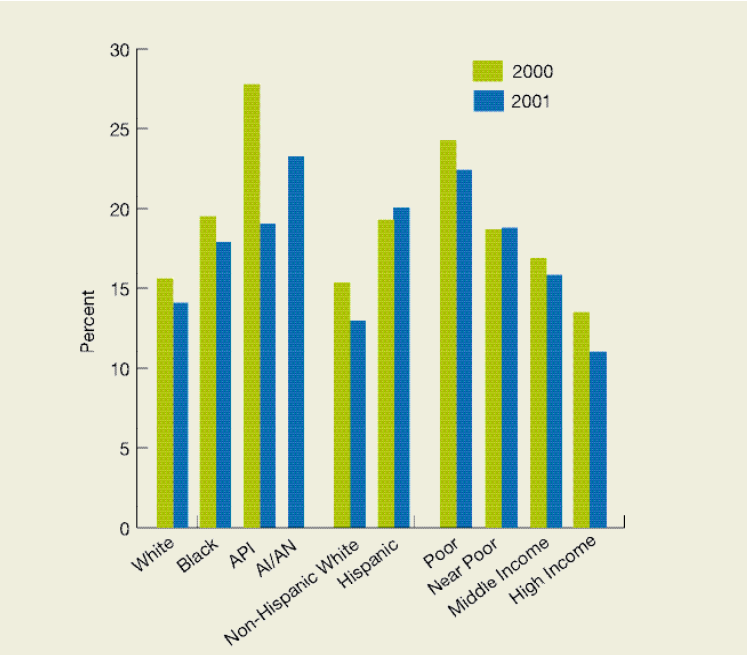
Note: For findings related to all measures of patient-provider communication, see Tables 3.3a and 3.3b.

- In 2001, the proportion of adults with providers who sometimes or never listen carefully was higher among API compared with white, Hispanic compared with non-Hispanic white, and poor, near poor, and middle income compared with high income adults; black-white differences were not noted.
- Between 2000 and 2001, rates of adults with providers who sometimes or never listen carefully did not change significantly among any groups.
- In multivariate models controlling for age, gender, income, education, insurance, and residence location, the difference between Hispanic and non-Hispanic whites is attenuated, but other differences persist. APIs are 73% more likely than whites to have providers who sometimes or never listen carefully. Compared with high income adults, poor, near poor, and middle income adults are 52%, 56%, and 37% more likely to have providers who sometimes or never listen carefully, respectively.

Patient-Provider Relationship

The patient-provider relationship is built upon mutual respect, trust, and understanding. Patient perceptions of the strength of this relationship may be reflected in patient satisfaction and ratings of health care. The first NHDR reported that many racial and ethnic minority groups as well as low SES groups are more likely to rate their overall health care poorly.

Figure 3.8. Adults who rate their health care in the past year less than 7 on a scale from 0 to 10 by race, ethnicity, and income, 2000-2001



Source: Medical Expenditure Panel Survey, 2000-2001.

Reference population: Civilian, noninstitutionalized people age 18 and over.

Note: For findings related to all measures of the patient provider relationship, see Tables 3.3a and 3.3b.

- In both 2000 and 2001, the proportion of adults who rate their health care less than 7 on a scale from 0 (worse health care possible) to 10 (best health care possible) was higher among black compared with white adults; Hispanic compared with non-Hispanic white adults; and poor, near poor, and middle income compared with high income adults (Figure 3.8).
- The proportion of adults who rate their health care less than 7 was also higher among AI/AN compared with white adults in 2001 (there were too few AI/AN adults to provide a reliable estimate in 2000).
- Between 2000 and 2001, the proportion of adults who rate their health care less than 7 declined among white, API, non-Hispanic white, and high income adults.
- In multivariate models controlling for age, gender, income, education, insurance, and residence location, all racial and ethnic differences are attenuated, but income-related differences persist. Compared with high income adults, poor, near poor, and middle income adults are 66%, 60%, and 44% more likely to rate their health care less than 7.

Health Care Utilization

Measures of health care utilization complement patient reports of barriers to care and permit a fuller understanding of access to care. Barriers to care that are associated with differences in health care utilization may be more significant than barriers that do not affect utilization patterns. Many landmark reports on disparities have relied on measures of heath care utilization,[26 27 28] and these data demonstrate some of the largest differences in care among diverse groups. More recent efforts to understand and inform health care delivery continue to include measures of health care utilization.[29 30]

Interpreting health care utilization data is more complex than analyzing data on patient perceptions of access to care. Besides access to care, health care utilization is strongly affected by health care need and patient preferences and values. In addition, greater use of services does not necessarily indicate better care. In fact, high use of some inpatient services may reflect impaired access to outpatient services. Hence, the summary table on health care utilization uses a different key from other summary tables of access to care. Rather than indicating better or worse access, symbols on this table simply identify the amount of care received by racial, ethnic, and socioeconomic groups relative to their comparison groups.

Each year, the Nation's 12 million health services workers provide about 820 million office visits and 590 million hospital outpatient visits and treat 35 million hospitalized patients, 2.5 million nursing home residents, 1.4 million home health care patients, and 100,000 people in hospice settings.[31] Each year, about 70% of the civilian noninstitutionalized population visit a medical provider's office or outpatient department, about 60% receive a prescription medication, and about 40% visit a dental provider.[32]

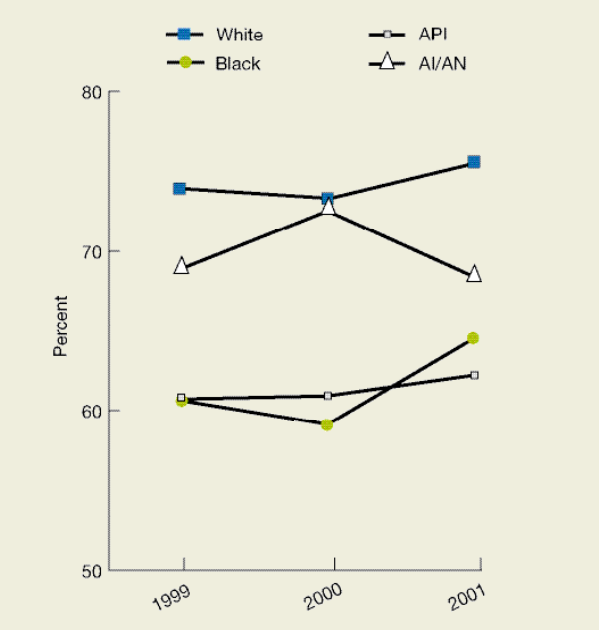
National health expenditures totaled $1.3 trillion in fiscal year 2002, about 13% of the gross domestic product. Governments account for 43% of the U.S. total, about 33% from the Federal Government in the form of Medicare and Medicaid payments and grants to States and about 10% from State and local governments. After almost a decade of modest growth, health care spending per capita rose 10% in 2001; premiums for private health insurance increased 12.7% in 2002.[33] Health expenditures among the civilian noninstitutionalized population in America are extremely concentrated, with 5% of the population accounting for 55% of outlays.[34] In addition, it has been estimated that as much as $390 billion a year, almost a third of all health care expenditures, are the result of poor quality care, including overuse, misuse, and waste.[35]

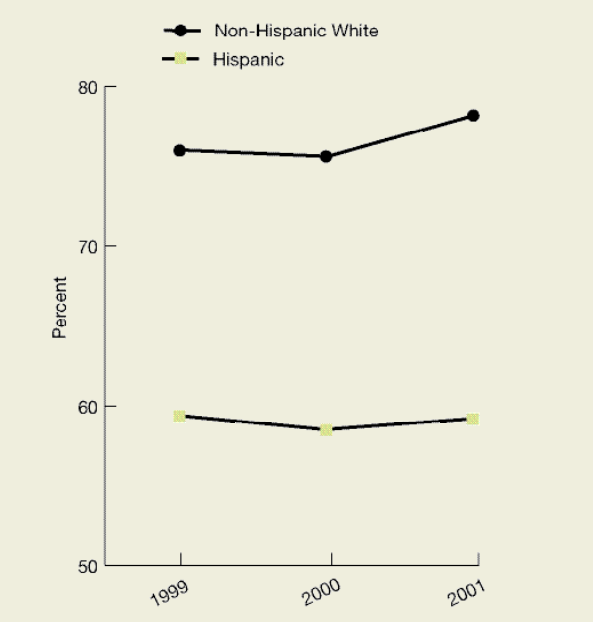
The first NHDR reported that different racial, ethnic, and SES groups had different patterns of health care utilization. Asians and Hispanics tended to have lower use of most health care services including routine care, emergency department visits, avoidable admissions, and mental health care. Blacks tended to have lower use of routine care, outpatient mental health care, and outpatient HIV care but higher use of emergency departments and hospitals, including higher rates of avoidable admissions, inpatient mental health care, and inpatient HIV care. Lower SES individuals tended to have lower use of routine care and outpatient mental health care and higher use of emergency departments, hospitals, and home heath care. This year, findings related to select health care utilization measures are highlighted.

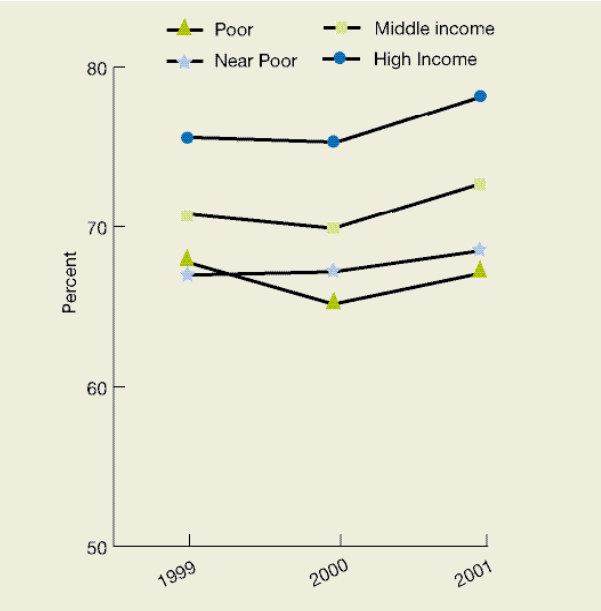
General Medical Care

Many Americans require office or outpatient services, dental services, and prescription medications on a regular basis as well as emergency room and inpatient hospital services at some point in their lives. Lower receipt of office or outpatient visits may indicate better health, patient preferences, or problems with access to services.

Figure 3.9. People with an office or outpatient visit in past year by race (top left), ethnicity (top right), and income (bottom left), 1999-2001







Source: Medical Expenditure Panel Survey, 1999-2001.

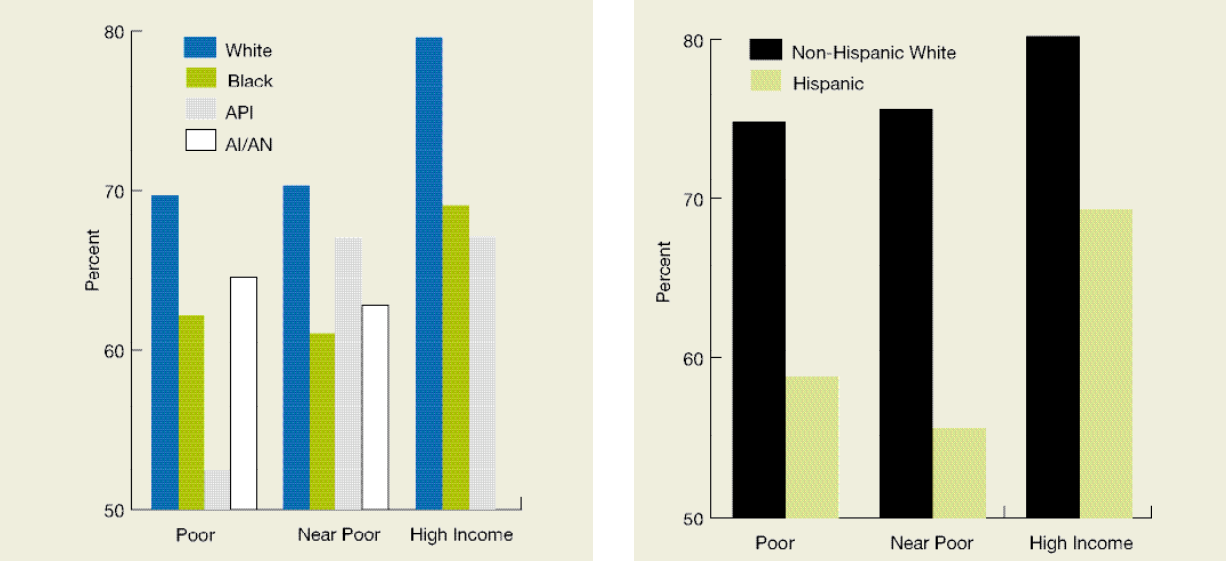
Reference population: Civilian, noninstitutionalized population.

Note: For findings related to all routine and acute care measures, see Tables 3.4a and 3.4b.

- In all 3 years, the proportion of people who had an office or outpatient visit in the past year was lower among blacks and APIs than among whites; among Hispanics than among non-Hispanic whites; and among poor, near poor, and middle income groups than among the high income group (Figure 3.9).
- Between 1999 and 2001, rates of office or outpatient use increased among the high income group but did not change significantly among any racial or ethnic groups.

To distinguish the effects of race, ethnicity, and income on health care utilization and to identify populations at greatest risk for barriers to health care utilization, measures are presented by income level.

Figure 3.10. People with an office or outpatient visit in past year by race (left) and ethnicity (right) stratified by income, 2001



Source: Medical Expenditure Panel Survey, 2001.

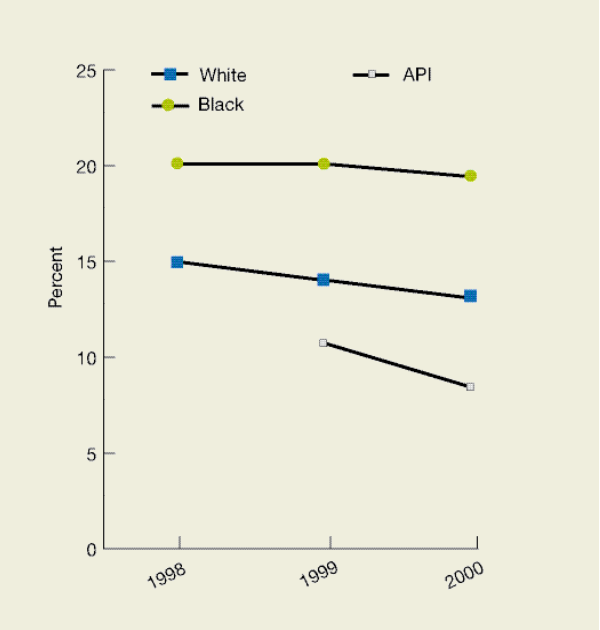
Reference population: Civilian noninstitutionalized population.

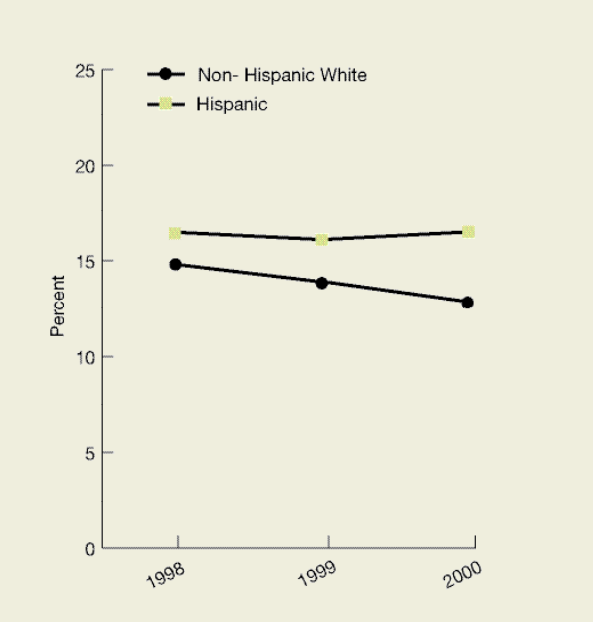
- Income explains some but not all of the differences in health care utilization by race and ethnicity.
- Racial and ethnic differences are observed across all income groups (Figure 3.10).

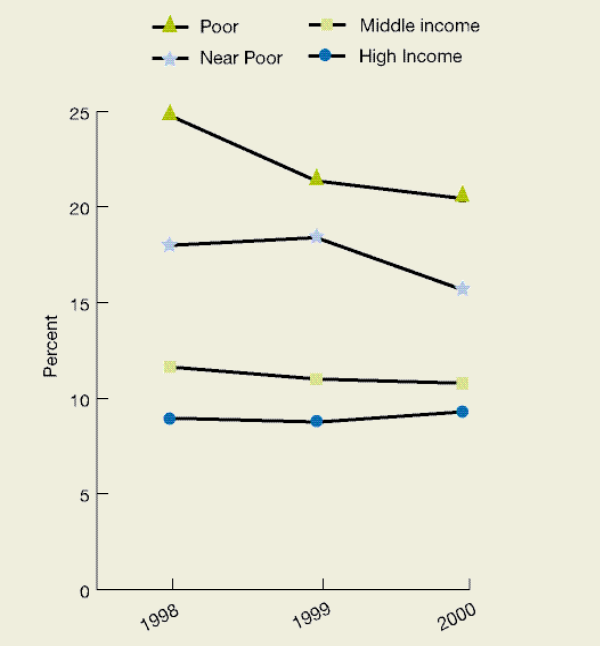
Nursing Home and Home Health Care

Nursing home and home health care includes the provision of personal, social, and medical services to people who have functional or cognitive limitations in their ability to perform self-care and other activities necessary to live independently. This NHDR reports on data from the CMS Medicare Current Beneficiary Survey to provide estimates of nursing home and Medicare-covered home health care by race, ethnicity, and SES.

Figure 3.11. Medicare beneficiaries 65 and older with Medicare-covered home health care in past year by race (top left), ethnicity (top right), and income (bottom left), 1998-2000







Source: Medicare Current Beneficiary Survey, 1998-2000.

Reference population: Medicare beneficiaries age 65 and over.

Note: For findings related to all chronic care measures, see Tables 3.4a and 3.4b.

- In all 3 years, the proportion of elderly Medicare beneficiaries who had Medicare-covered home health care in the past year was higher among black compared with white elderly and among poor and near poor compared with high income elderly; ethnic differences were not noted (Figure 3.11).
- Between 1998 and 2000, rates of Medicare-covered home health care use declined among white, non-Hispanic white, poor, and near poor elderly.

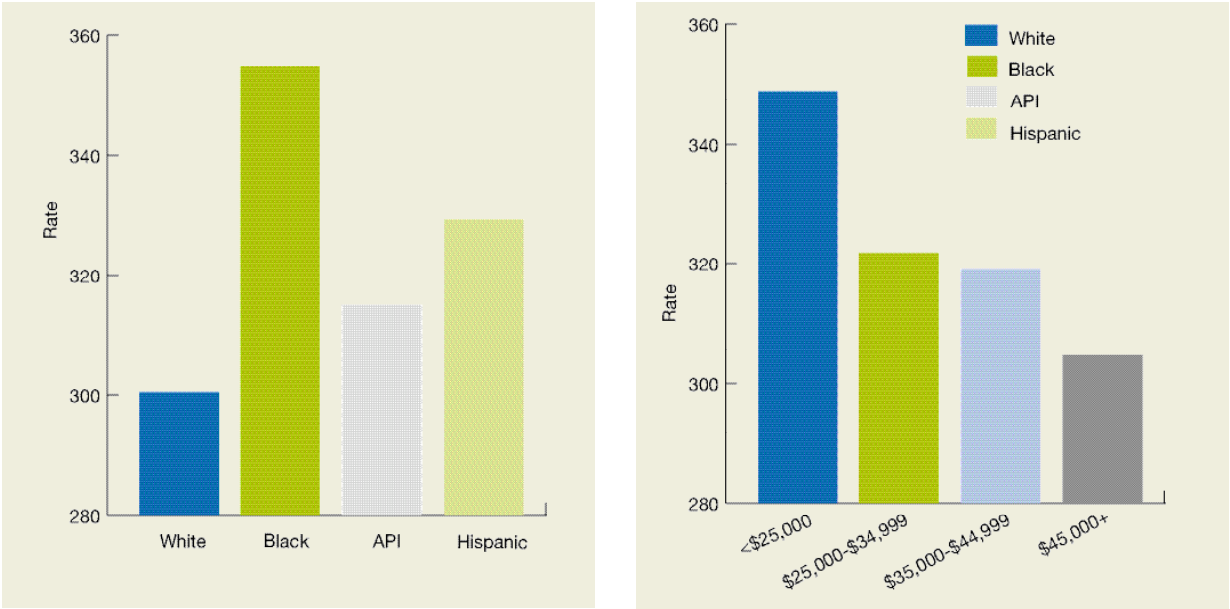
Avoidable Admissions

Avoidable admissions are hospitalizations that potentially could have been averted by high quality outpatient care. They relate to conditions for which good outpatient care can prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease. While not all admissions for these conditions can be avoided, rates in populations tend to vary with access to outpatient services. For example, better access to care should facilitate the diagnosis of appendicitis before rupture occurs.

Racial, ethnic, and socioeconomic differences in avoidable admissions are well documented; rates are higher among blacks compared with whites and among low income compared with high income individuals.[36 37 38] As the numbers of avoidable hospitalizations for some conditions increased between 1980 and 1998, the gaps between these demographic groups widened.[39]

Avoidable hospitalizations tracked in the NHDR include hospitalizations for hypertension, angina, chronic obstructive pulmonary disease, bacterial pneumonia, and perforated appendix and come from AHRQ's Healthcare Cost and Utilization Project State Inpatient Databases disparities analysis file. This file is designed to provide national estimates using weighted records from a sample of hospitals from 22 States that have 63% of U.S. hospital discharges. These 22 States participate in HCUP and have relatively complete race and ethnicity data.

Figure 3.12. Perforated appendix per 1,000 admissions with appendicitis by race/ethnicity (left) and area income (median income of ZIP Code of residence) (right), 2001



Source: HCUP State Inpatient Databases disparities analysis file, 2001.

Reference population: Patients hospitalized with appendicitis.

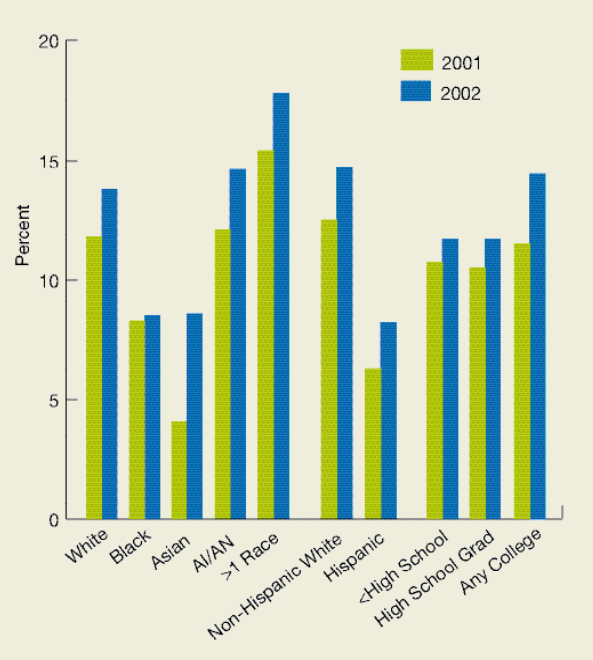
Note: White, Black, and API are non-Hispanic groups. For findings related to all avoidable admissions, see Tables 3.4a and 3.4b.

- In 2001, rates of perforated appendix per 1,000 admissions for appendicitis were higher among blacks and Hispanics compared with non-Hispanic whites and higher among residents of ZIP Codes with median income < $25,000, $25,000 to $34,999, and $35,000 to $44,999 compared with residents of ZIP Codes with income $45,000 and over (Figure 3.12).

Mental Health Care and Substance Abuse Treatment

Over 40 million people ages 18 to 64 had a mental disorder in the past year,[40] and about 20 million had a serious mental disorder that substantially limited activities.[41] In 2003, about 16 million Americans age 12 and older were heavy alcohol drinkers and about 54 million had a recent binge drinking episode.[41] About 20 million people age 12 and older were illicit drug users and about 71 million reported recent use of a tobacco product.[41] The direct costs of mental disorders and substance abuse amounted to $99 billion in 1996; lost productivity and premature death accounted for an additional $75 billion.[42] Although the prevalence of mental disorders for racial and ethnic minorities in the United States is similar to that for whites,[42] differences in care can be observed. Compared with whites, minorities have less access to mental health care and are less likely to receive needed services.[43] Racial, ethnic, and socioeconomic differences in the use of psychiatric medications;[44] psychiatric outpatient,[45] emergency,[46] and inpatient services;[47] and substance abuse treatment[41] have also been documented. These differences may reflect, in part, variation in preferences and cultural attitudes towards mental health and substance abuse.

Figure 3.13. Adults who reported they received mental health treatment or counseling in the past year by race, ethnicity, and education, 2001-2002



Source: SAMHSA, National Household Survey on Drug Abuse, 2001, and National Survey on Drug Use and Health, 2002.

Reference population: Civilian, noninstitutionalized population age 18 and older.

Note: For findings related to all mental health care measures, see Tables 3.4a and 3.4b.

- In both 2001 and 2002, the proportion of adults with mental health treatment or counseling in the past year was lower among blacks and Asians compared with whites and lower among Hispanics compared with non-Hispanic whites (Figure 3.13).
- Between 2001 and 2002, receipt of mental health care treatment or counseling increased among white, Asian, non-Hispanic white, and Hispanic adults and adults with college education.

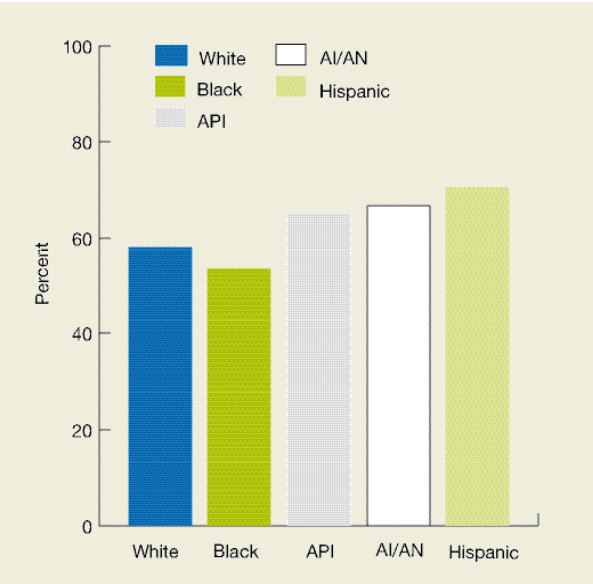
HIV Care

Between 850,000 and 950,000 individuals are infected with HIV in the United States, an estimated quarter of whom are unaware that they are infected.[48] Each year, about 40,000 people acquire HIV infection.[49 50] Since the use of highly active antiretroviral therapy (HAART) to treat HIV infection became widespread in 1996, new AIDS cases declined from the mid-1990's to 2001 but then leveled off in 2002.[51] Since its emergence, more than 500,000 Americans have died from AIDS, including over 16,000 people in 2002.[51]

AIDS incidence and death rates vary by race and ethnicity. Blacks make up about 12% of the U.S. population, but they accounted for 50% of the new AIDS cases reported in the United States in 2002.[52] Hispanics also have higher AIDS incidence rates compared with whites and accounted for 6,998 of the 40,793 new AIDS cases reported in 2002.[53] AIDS is the leading cause of death among black women 25 to 34 and black men 35 to 44.[54] Racial, ethnic, and socioeconomic differences in care for HIV and AIDS have been documented in, for example, receipt of antiretroviral therapy and therapy to prevent Pneumocystis pneumonia (PCP), a common infection among AIDS patients.[55 56 57]

HIV care can include outpatient and inpatient services. Because national data on HIV care are not routinely collected, HIV measures tracked in NHDR come from the HIV Research Network, which consists of 18 medical practices across the United States that treat large numbers of HIV patients. HIV patients typically require four or more ambulatory visits per year to ensure adequate monitoring of their disease with CD4 counts and viral loads.[58]

Figure 3.14. Adult HIV patients with four or more ambulatory visits in the past year by race/ethnicity, 2001



Source: HIV Research Network, 2001.

Reference population: HIV patients age 18 and older receiving care from HIV Research Network providers.

Note: White, Black, API, and AI/AN are non-Hispanic groups. For findings related to all HIV care measures, see Tables 3.4a and 3.4b.

- In 2001, the proportion of adults with HIV with four or more ambulatory visits in the past year was lower among black and higher among Hispanic compared with non-Hispanic white HIV patients (Figure 3.14).

Table 3.1a. Racial and Ethnic Differences in Getting Into the Health Care System

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Health Insurance Coverage						
People under 65 with health insurance[iii]	↓	=	=	↓	↓	↓
People under 65 with any private health insurance[iii]	↓	=	=	↓	↓	↓
People 65 and over with any private health insurance[iii]	↓	↓	=	↓	↓	↓
People uninsured all year[iv]	=	↑ [iv]		=		↓
People with any period of uninsurance during the year[iv]	=	= [iv]		=		↓
People with any period of public insurance during the year[iv]	↓	= [iv]		↓		↓
Usual Source of Care						
People who have a specific source of ongoing care[iii]	=	=	=	=	↓	↓
People in fair or poor health who have a specific source of ongoing care[iii]	=	=			=	↓
People with a hospital, emergency room, or clinic as source of ongoing care[iii]	↓	=		↓	=	↓
People without a usual source of care who indicate a financial or insurance reason for not having a source of care[iv]	=					↓
People who have a usual primary care provider[iv]	=	= [iv]		=		↓
Patient Perceptions of Need[iv]						
Families that experience difficulties or delays in obtaining health care or do not receive needed care	=	= [iv]		=		↓
Families that experience difficulties or delays in obtaining health care due to financial or insurance reasons	=					=
Families that did not receive a doctor's care or prescription medications because the family needed the money	=					↓
Families not very satisfied that they can get health care if they need it	=	↓ [iv]		=		↓
People who sometimes or never get appointments for routine care as soon as wanted	↓	↓ [iv]		=		↓
People who sometimes or never get care for illness or injury as soon as wanted	↓	↓ [iv]				↓

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: National Health Interview Survey, 2001.
[iv] Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Key to Symbols Used in Access to Health Care Tables:
=: Group and comparison group have about same access to health care.
↑ Group has better access to health care than the comparison group.
↓ Group has worse access to health care than the comparison group.
Blank cell: Reliable estimate for group could not be made.

Table 3.1b. Socioeconomic Differences in Getting Into the Health Care System

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Health Insurance Coverage						
People under 65 with health insurance[iv]	↓	↓	↓	↓	↓	
People under 65 with any private health insurance[iv]	↓	↓	↓	↓	↓	
People 65 and over with any private health insurance[iv]	↓	↓	↓	↓	↓	
People uninsured all year[v]	↓	↓	↓	↓	↓	
People with any period of uninsurance during the year[v]	↓	↓	↓	↓	↓	
People with any period of public insurance during the year[v]	↓	↓	↓	↓	↓	
Usual Source of Care						
People who have a specific source of ongoing care[iv]	↓	↓	↓	↓	↓	↓
People in fair or poor health who have a specific source of ongoing care[iv]	↓	↓	=	↓	↓	↓
People with a hospital, emergency room, or clinic as source of ongoing care[iv]	↓	↓	↓	↓	↓	↓
People without a usual source of care who indicate a financial or insurance reason for not having a source of care[v]	↓	↓	↓	↓	↓	↓
People who have a usual primary care provider[v]	↓	↓	↓	↓	=	↓
Patient Perceptions of Need[v]						
Families that experience difficulties or delays in obtaining health care or do not receive needed care	↓	↓	↓	↓	=	↓
Families that experience difficulties or delays due to financial or insurance reasons	↓	↓	↓	↓	=	↓
Families that did not receive a doctor's care or prescription medications because the family needed the money	↓	↓	↓	↓	↓	↓
Families not very satisfied that they can get health care if they need it	↓	↓	↓	↓	↓	↓
People who sometimes or never get appointments for routine care as soon as wanted	↓	=	↓	=	↓	↓
People who sometimes or never get care for illness or injury as soon as wanted	↓	↓	=	↓	=	↓

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: National Health Interview Survey, 2001.
[v]Source: Medical Expenditure Panel Survey, 2001.
Key: HS=high school

Table 3. 2a. Racial and Ethnic Differences in Getting Care Within the Health Care System

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Difficulty Getting Care[iii]						
People with provider who has office hours nights or weekends	=	= [iii]		↓		=
People with difficulty getting appointments on short notice	↑	= [iii]		=		↓
People with difficulty contacting provider over the telephone	↑	= [iii]		↓		↓
Adults without problems getting referral to a specialist in past year	=	↓ [iii]				↓
People not very satisfied with professional staff at provider's office	=	↓ [iii]		↓		↓
People who usually wait over 30 minutes before seeing provider	↓	= [iii]		=		↓

Table 3.2b. Socioeconomic Differences in Getting Care Within the Health Care System

Measure	Income Difference[iv]			Educational Difference[v]		Insurance Difference[vi]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Difficulty Getting Care[iii]						
People with provider who has office hours nights or weekends	↓	↓	=	=	=	↓
People with difficulty getting appointments on short notice	=	=	=	↑	↑	=
People with difficulty contacting provider over the telephone	=	=	=	=	=	=
Adults without problems getting referral to a specialist in past year	↓	↓	=	↓	=	↓
People not very satisfied with professional staff at provider's office	=	=	=	=	=	=
People who usually wait over 30 minutes before seeing provider	↓	↓	↓	↓	=	↓

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
[iv]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[v]Compared with persons with any college education.
[vi]Compared with persons under 65 with any private health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; HS=high school

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=: Group and comparison group have about same access to health care.
↑ Group has better access to health care than the comparison group.
↓ Group has worse access to health care than the comparison group.
Blank cell: Reliable estimate for group could not be made.

Table 3.3a. Racial and Ethnic Differences in Patient Perceptions of Care

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Patient-Provider Communication[iii]						
People with provider who usually asks about medications and treatments other doctors may give	↑	= [iii]		=		↑
Adults whose providers sometimes or never listened carefully to them	=	↓ [iii]		=		↓
Adults whose providers sometimes or never explained things in a way they could understand	↓	↓ [iii]		=		↓
Adults whose providers sometimes or never showed respect for what they had to say	=	= [iii]		↓		↓
Patient-Provider Relationship[iii]						
People not satisfied with quality of care received from provider	=	↓ [iii]		↓		↓
Adults whose providers sometimes or never spent enough time with them	=	↓ [iii]		↓		↓
Adults who rate their health care in the past year <7 on a scale from 0 to 10	↓	= [iii]		↓		↓

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Key to Symbols Used in Access to Health Care Tables:
=: Group and comparison group have about same access to health care.
↑ Group has better access to health care than the comparison group.
↓ Group has worse access to health care than the comparison group.
Blank cell: Reliable estimate for group could not be made.

Table 3.3b. Socioeconomic Differences in Patient Perceptions of Care

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Patient-Provider Communication[iv]						
People with provider who usually asks about medications and treatments other doctors may give	=	=	=	=	↓	↑
Adults whose providers sometimes or never listened carefully	↓	↓	↓	↓	=	↓
Adults whose providers sometimes or never explained things in a way they could understand	↓	↓	↓	↓	↓	↓
Adults whose providers sometimes or never showed respect for what they had to say	↓	↓	↓	↓	↓	↓
Patient-Provider Relationship[iv]						
People not satisfied with quality of care from provider	↓	↓	↓	=	=	↓
Adults whose providers sometimes or never spent enough time	↓	↓	↓	↓	=	↓
Adults who rate their health care in the past year <7 on a scale from 0 to 10	↓	↓	↓	↓	↓	↓

[i]Compared with persons with family incomes 400% of Federal poverty thresholds or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: Medical Expenditure Panel Survey, 2001.
Key: HS=high school

Key to Symbols Used in Access to Health Care Tables:
=: Group and comparison group have about same access to health care.
↑ Group has better access to health care than the comparison group.
↓ Group has worse access to health care than the comparison group.
Blank cell: Reliable estimate for group could not be made.

Table 3.4a. Racial and Ethnic Differences in Health Care Utilization

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
General Medical Care						
People with an office or outpatient visit in the past year[iii]	↓	↓[iii]		↓		↓
People with a prescription medication in the past year[iii]	↓	↓[iii]		=		↓
People with a dental visit in the past year[iii]	↓	↓[iii]		↓		↓
People with an emergency room visit in the past year[iii]	↑	↓[iii]		↑		↓
People with an inpatient discharge in the past year[iii]	=	↓[iii]		=		↓
Outpatient visits per 100 population[iv]	↓	=[iv]		↓		
Emergency department visits per 100 population[iv]	↑	↓[iv]		↓		
Total hospitalizations per 100 population[v]	↑					
Nursing Home and Home Health Care[vi]						
Medicare beneficiaries 65 and over with Medicare-covered home health care	↑[vi]	↓[vi]				↑
Medicare beneficiaries under 65 with Medicare-covered home health care	↓[vi]					=
Medicare beneficiaries 65 and over with nursing home care in the past year	=[vi]					↓
Medicare beneficiaries under 65 with nursing home care in the past year	↓[vi]					
Avoidable Admissions[vii]						
Admissions for hypertension per 100,000 population 18 and older	↑[vii]	=[vii]				↑
Admissions for angina per 100,000 population 18 and older	↑[vii]	↓[vii]				=
Admissions for chronic obstructive pulmonary disease per 100,000 population 18 and older	=[vii]	↓[vii]				↓
Admissions for bacterial pneumonia per 100,000 population	↑[vii]	↓[vii]				=
Admissions for perforated appendix per 1,000 admissions with appendicitis	↑[vii]	=[vii]				↑

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders This source did not collect information for >1 race.
[iv]Source: National Center for Health Statistics, National Ambulatory Medical Care Survey/National Hospital Ambulatory Medical Care Survey, 2000-2001. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.
[v]Source: National Center for Health Statistics National Hospital Discharge Survey, 2001. This source did not collect information for >1 race separately. Missing rates preclude analysis by ethnicity.
[vi]Source: Medicare Current Beneficiary Survey, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.
[vii]Source: HCUP SID disparities analysis file, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: Non-Hispanic white, Non-Hispanic black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic whites.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Table 3.4a. Racial and Ethnic Differences in Health Care Utilization (continued)

Measure	Racial Difference[i]					Ethnic Difference[ii]
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Mental Health Care and Substance Abuse Treatment[iii]						
Adults who received mental health treatment or counseling in the past year	↓	↓		=	=	↓
Adults who received outpatient mental health treatment or counseling	↓	=		=	=	↓
Adults who received prescription medications for mental health treatment	↓	↓		=	=	↓
Adults who received inpatient mental health treatment or counseling	↑					=
Adults with serious mental illness who received mental health treatment or counseling	↓					↓
People age 12 and older who received illicit drug or alcohol abuse treatment in the past year	↑				=	=
People age 12 and older who needed treatment for illicit drug use and who received such treatment in the past year	=					=
HIV Care						
Hospitalizations for HIV per 10,000 population[iv]	↑					
HIV patients with 4 or more ambulatory visits in the past year[v]	↑ [v]	= [v]		=		↑
HIV patients with CD4 <50 with 4 or more ambulatory visits in the past year[v]	= [v]					=
HIV patients with an inpatient hospitalization in the past year[v]	↑ [v]	= [v]		=		↑
HIV patients with CD4 <50 with an inpatient hospitalization in the past year[v]	= [v]					=

[i]Compared with whites.
[ii]Compared with non-Hispanic whites.
[iii]Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2002.
[iv]Source: National Center for Health Statistics, National Hospital Discharge Survey, 2001. This source did not collect information for >1 race separately. Missing rates preclude analysis by ethnicity.
[v]Source: HIV Research Network, 2001. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander, American Indian or Alaska Native. These contrasts compare each group with non-Hispanic whites.
NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native

Key to Symbols Used in Health Care Utilization Tables:
(Note difference from other Access to Health Care Tables):
=: Group and comparison group receive about same amount of health care.
↑ Group receives more health care than the comparison group.
↓ Group receives less health care than the comparison group.
Blank cell: Reliable estimate for group could not be made.

Table 3.4b. Socioeconomic Differences in Health Care Utilization

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
General Medical Care[iv]						
People with an office or outpatient visit in the past year	↓	↓	↓	↓	↓	↓
People with a prescription medication in the past year	↓	↓	↓	↓	=	↓
People with a dental visit in the past year	↓	↓	↓	↓	↓	↓
People with an emergency room visit in the past year	↑	↑	↑	↑	↑	=
People with an inpatient discharge in the past year	↑	↑	↑	↑	↑	↓
Nursing Home and Home Health Care[v]						
Medicare beneficiaries 65 and over with Medicare-covered home health care	↑	↑	=			
Medicare beneficiaries 65 and over with nursing home care in past year	↑	↑	=			
Mental Health Care and Substance Abuse Treatment[vi]						
Adults who received mental health treatment or counseling in the past year				↓	↓	
Adults who received outpatient mental health treatment or counseling				↓	↓	
Adults who received prescription medications for mental health treatment				↓	↓	
Adults who received inpatient mental health treatment or counseling				↑	↑	
Adults with serious mental illness who received mental health treatment or counseling				↓	↓	
People age 12 and older who received illicit drug or alcohol abuse treatment in the past year				↑	↑	
People age 12 and older who needed treatment for illicit drug use and who received such treatment in the past year				↑	↑	

[i]Compared with persons with family incomes 400% of Federal poverty threshold or above.
[ii]Compared with persons with any college education.
[iii]Compared with persons under 65 with any private health insurance.
[iv]Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2001.
[v]Source: Medicare Current Beneficiary Survey, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.
[vi]Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2002. Income and insurance disparities were not analyzed.
Key: HS=high school

Key to Symbols Used in Health Care Utilization Tables:
(Note difference from other Access to Health Care Tables):
=: Group and comparison group receive about same amount of health care.
↑ Group receives more health care than the comparison group.
↓ Group receives less health care than the comparison group.
Blank cell: Reliable estimate for group could not be made.

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Chapter 4. Priority Populations

Many Americans enjoy easy access to one of world's finest health care delivery systems. However, as demonstrated in the 2003 National Healthcare Disparities Report (NHDR), some Americans do not have full access to the best quality health care.

To examine the issue of disparities in health care, Congress directed the Agency for Healthcare Research and Quality (AHRQ) to produce an annual report to track "prevailing disparities in health care delivery as it relates to racial factors and socioeconomic factors in priority populations."[1] While the emphasis is on disparities related to race, ethnicity, and socioeconomic status (SES), this directive includes a charge to examine disparities in "priority populations"—groups with unique health care needs or issues that require special attention.

This chapter addresses the congressional directive on priority populations. Chapters 2 and 3 of this report examine racial, ethnic, and socioeconomic differences in quality of health care and access to health care in the general U.S. population; this chapter focuses on differences within and across priority populations. For example, comparisons are made between black and white women and between low income and high income women. This approach may help policymakers understand the impact of racial, ethnic, and socioeconomic differences on specific populations and to target quality improvement programs towards groups in greatest need. Appendix D includes detailed tables that allow examination of racial, ethnic, and socioeconomic disparities both in the general population and across priority populations for most measures.

Priority Populations

AHRQ's priority populations, specified by Congress in the Healthcare Research and Quality Act of 1999 (Public Law 106-129), are:

- Low income groups
- Minority groups
- Women
- Children
- Elderly
- Individuals with special health care needs, including individuals with disabilities and individuals who need chronic care or end-of-life health care.

In addition, this legislation directs AHRQ to examine health care delivery in rural areas. Hence, this chapter addresses each of these priority populations as well as residents of rural areas.

How This Chapter Is Organized

This chapter presents new information about disparities in quality of and access to health care in priority populations. It is presented in the following order:

- Racial and ethnic minorities
- Low income groups
- Women
- Children
- Elderly
- Residents of rural areas
- Individuals with special health care needs

To avoid repetition of findings from previous chapters on race, ethnicity, and SES, the first two sections summarize quality of and access to health care for racial and ethnic minorities and low income groups.

Subsequent sections focus on the remaining priority populations and examine disparities in care within each population group. In addition to presenting new data, this chapter goes beyond last year's report by adding changes over time as well as some stratified analyses. To present this greater detail, these sections highlight a small number of measures. Results for all measures are found in the detailed appendix tables.

It should be noted that this chapter does not provide a comprehensive assessment of health care differences in each priority population. Most of the measures tracked in the NHDR were selected to be applicable across many population groups; only a few, such as immunizations among children and screening for breast cancer among women, were specific to particular groups. For some groups, these general measures overlook important health care problems specific to particular populations. In addition, national data may not address key health issues for specific population groups, including persons with disabilities, and are often unable to generate reliable estimates for many smaller groups. Instead, this chapter should be seen as a starting point, identifying some problem areas and indicating gaps in current data and understanding.

Racial and Ethnic Minorities

In 2000, about 30% of the U.S. population identified themselves as members of racial or ethnic minority groups. By 2050, it is projected that these groups will account for almost half of the U.S. population.[2] Census 2000 counted over 36 million blacks or African Americans (12.9% of the U.S. population);[3] over 35 million Hispanics or Latinos who live in the U.S. (12.5%) and another 3.8 million who live in the Commonwealth of Puerto Rico;[4] almost 12 million Asians (4.2%);[5] 874,000 Native Hawaiians and Other Pacific Islanders (0.3%);[6] and over 2 million American Indians and Alaska Natives (0.7%), of whom 38% reside on Federal trust lands.[7] Racial and ethnic minorities are more likely than non-Hispanic whites to be poor or near poor.[8] In addition, Hispanics, blacks, and some Asian subgroups are less likely than non-Hispanic whites to have a high school education.[9] In general, racial and ethnic minorities often experience worse access to care and lower quality of preventive, primary, and specialty care.[8 9]

In previous chapters of this report, health care differences by racial[i] and ethnic[ii] categories as defined by the Office of Management and Budget (OMB) and used by the U.S. Census Bureau are described.[10] In this section, quality of and access to health care for each minority group are summarized. While a large number of quality of and access to care measures are examined in the NHDR, a subset of measures, for which comparable data are available for 2000 and 2001, are highlighted in this section. Specifically, this subset consists of 38 measures of effectiveness of health care and 31 measures of access to health care. Data sources are the Surveillance, Epidemiology, and End Results program, U.S. Renal Data System, Medical Expenditure Panel Survey, the CDC AIDS Surveillance System, National Vital Statistics System-Natality, National Immunization Survey, National Health Interview Survey, and National Hospital Discharge Survey. Mortality and health care utilization measures are not included to allow focus on quality and access measures more directly related to health care. Data on all measures were not available for all groups. See Tables 1.2 and 1.3 for lists of measures available for each group and Appendix C for data on each measure for each group. Changes in differences related to race and ethnicity between 2000 and 2001 are examined. For each group, a measure can be worse than, about the same as, or better than an appropriate comparison group. Only relative differences of at least 10% and that are statistically significant with $p < 0.05$ are discussed in this report.

The 2003 NHDR examined differences in health care by patient language as well as differences in health care among various Hispanic and Asian subgroups and among American Indians and Alaska Natives who obtain care from Indian Health Service (IHS) facilities. New data on language and subgroups are not available this year, so the 2004 NHDR does not contain a corresponding section; it is anticipated that new data will be available for the next NHDR. The current report does include expanded measures related to care delivered by IHS facilities.

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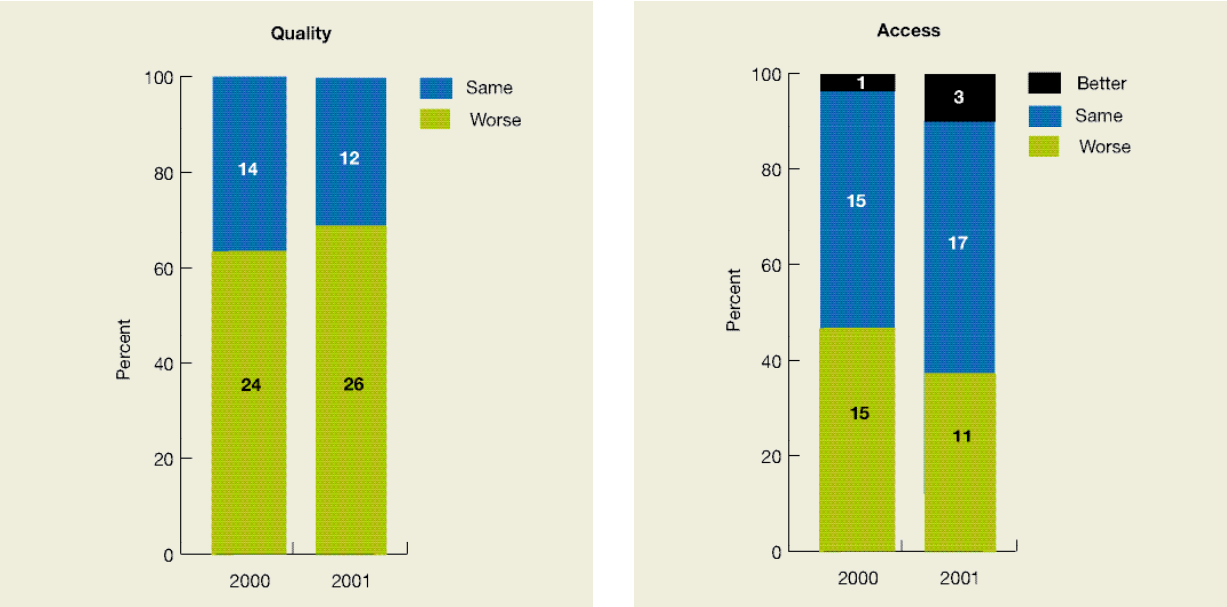
[i]Races include: black or African American, Asian, Native Hawaiian or Other Pacific Islander, American Indian and Alaska Native, and white.

[ii]Ethnicity differentiates Hispanics and non-Hispanics. This report also distinguishes non-Hispanic whites and non- Hispanic blacks.

Blacks or African Americans

In the 2003 NHDR, blacks had poorer quality of care than whites for about 60% of quality measures, including not receiving prenatal care and recommended childhood and adult immunizations. In the 2003 NHDR, blacks had worse access to care than whites for about 40% of access measures, including lacking health insurance or a source of ongoing health care, having problems getting referral to a specialist, and rating their health care poorly.

Figure 4.1. Blacks compared with whites in 2000 and 2001 on measures of quality of care (left) and access to care (right)



Better = Blacks receive better quality of care or have better access to care than whites.

Same = Blacks and whites receive about the same quality of care or access to care.

Worse = Blacks receive poorer quality of care or have worse access to care than whites.

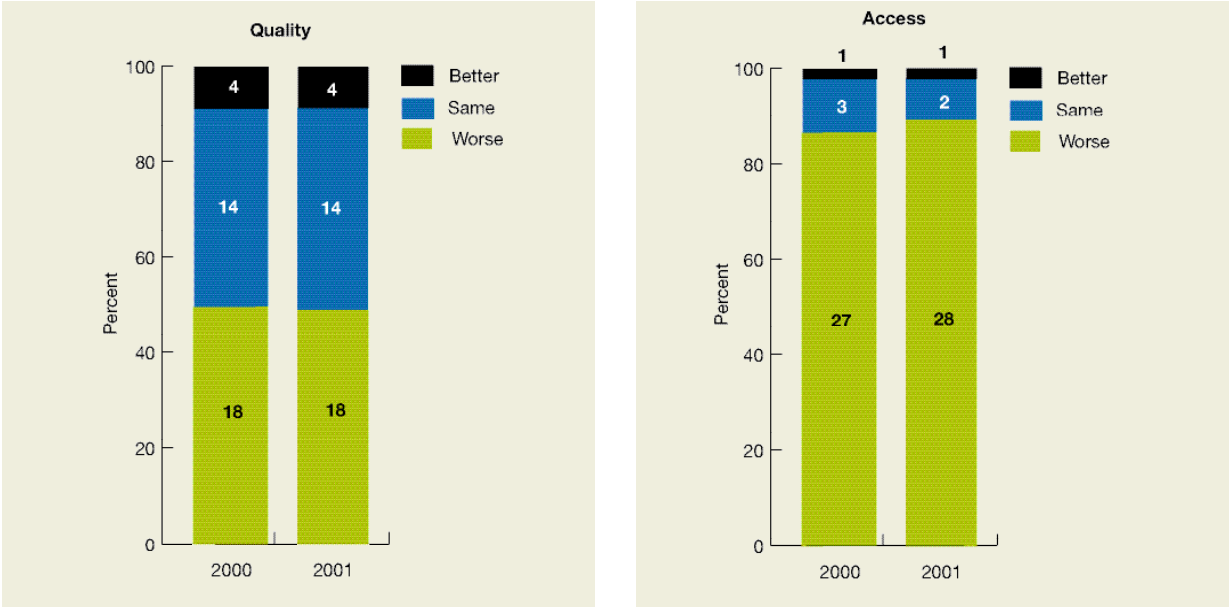
Source: SEER, USRDS, MEPS, CDC AIDS Surveillance System, NVSS-N, NIS, NHIS, NHDS, 2000-2001.

- Of the 38 measures of quality with comparable data for 2000 and 2001, blacks received poorer quality of care than whites for about two-thirds of measures in both 2000 and 2001 (Figure 4.1, left).
- Between 2000 and 2001, only 1 of these 38 measures demonstrated significant improvement among blacks while 2 demonstrated significant deterioration: black children 19-35 months who received 1 dose of varicella vaccine improved while black children 19-35 months who received 3 doses of *H. influenzae* type B or 3 doses of hepatitis B vaccine fell.
- Of the 31 measures of access with comparable data for 2000 and 2001, blacks had worse access to care than whites for about 40% of measures in both 2000 and 2001 (Figure 4.1, right).
- Between 2000 and 2001, 2 of these 31 measures demonstrated significant improvement among blacks while none deteriorated: blacks who had a source of ongoing care or who were uninsured for a full year both improved between 2000 and 2001.

Hispanics or Latinos

In the 2003 NHDR, Hispanics had poorer quality of care than non-Hispanic whites for about 40% of quality measures, including not receiving screening for cancer or cardiovascular risk factors and not receiving recommended childhood and adult immunizations. In the 2003 NHDR, Hispanics had worse access to care compared with non-Hispanic whites for over two-thirds of access measures, including lacking health insurance or a source of ongoing health care, having problems getting a referral to a specialist, and rating their health care poorly.

Figure 4.2. Hispanics compared with non-Hispanic whites in 2000 and 2001 on measures of quality of care (left) and access to care (right)



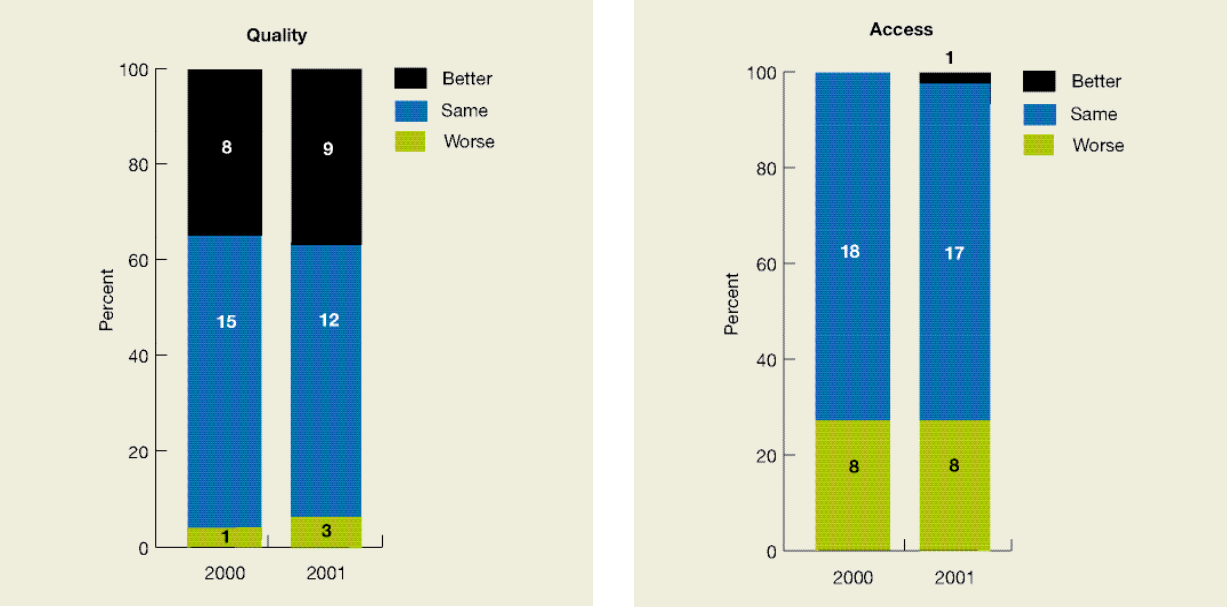
Better = Hispanics receive better quality of care or have better access to care than non-Hispanic whites.
Same = Hispanics and non-Hispanic whites receive about the same quality of care or access to care.
Worse = Hispanics receive poorer quality of care or have worse access to care than non-Hispanic whites.
Source: SEER, USRDS, MEPS, CDC AIDS Surveillance System, NVSS-N, NIS, NHIS, NHDS, 2000-2001.

- Of the 38 measures of quality with comparable data for 2000 and 2001, information on Hispanics was available for 36. Of these 36 measures, Hispanics received poorer quality of care than non-Hispanic whites for half of measures in both 2000 and 2001 (Figure 4.2, left).
- Between 2000 and 2001, 5 of these 36 measures demonstrated significant improvement among Hispanics while 1 demonstrated significant deterioration: receipt of several different vaccines improved among Hispanic children 19-35 months between 2000 and 2001 while receipt of influenza vaccine among high risk adults 18-64 deteriorated.
- Of the 31 measures of access with comparable data for 2000 and 2001, Hispanics had worse access to care than non-Hispanic whites for about 90% of measures in both 2000 and 2001 (Figure 4.2, right).
- Between 2000 and 2001, none of these 31 measures demonstrated significant improvement among Hispanics while 1 deteriorated: Hispanic adults reporting no problems getting referral to a specialist fell between 2000 and 2001.

Asians

In the 2003 NHDR, Asians had poorer quality of care than whites for about 12% of quality measures and better quality of care for about 15%. Despite often achieving better quality of care, in the 2003 NHDR, Asians had worse access to care than whites for about two-thirds of access measures, including lacking a source of ongoing health care and having problems with patient-provider communication.

Figure 4.3. Asians compared with whites in 2000 and 2001 on measures of quality of care (left) and access to care (right)



Better = Asians receive better quality of care or have better access to care than whites.

Same = Asians and whites receive about the same quality of care or access to care.

Worse = Asians receive poorer quality of care or have worse access to care than whites.

Source: SEER, USRDS, MEPS, CDC AIDS Surveillance System, NVSS-N, NIS, NHIS, NHDS, 2000-2001.

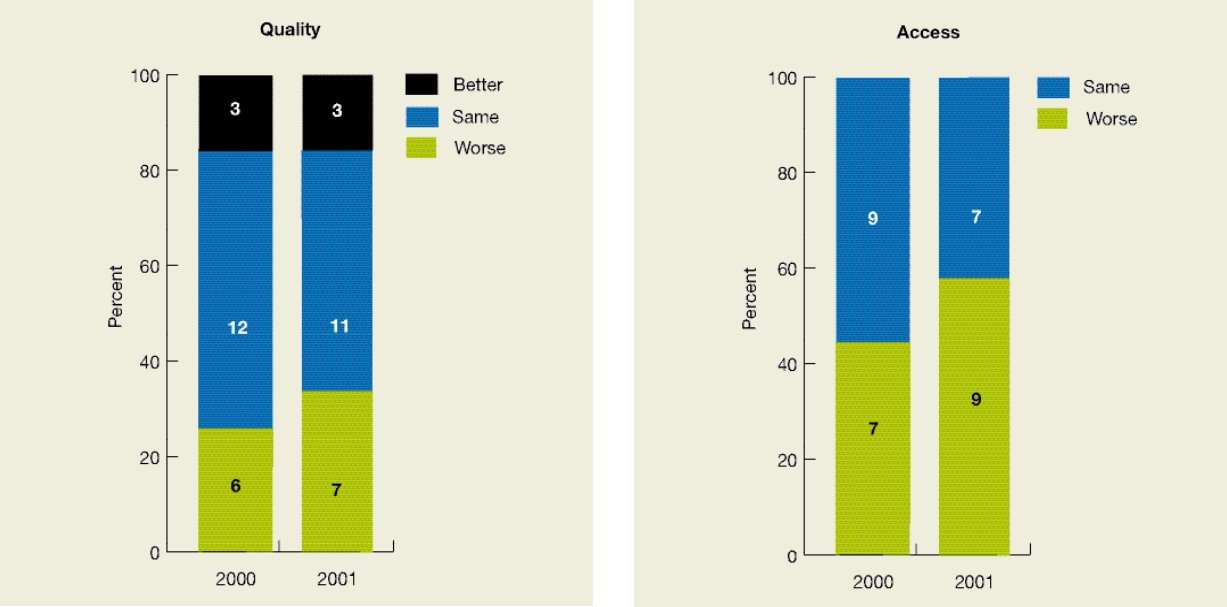
- Of the 38 measures of quality with comparable data for 2000 and 2001, information on Asians or Asians and Pacific Islanders in aggregate was available for 24. Of these 24 measures, Asians received poorer quality of care than whites for about 10% of measures in both 2000 and 2001 and better quality of care for about a third (Figure 4.3, left).
- Between 2000 and 2001, 2 of these 36 measures demonstrated significant improvement among Asians while none demonstrated significant deterioration: Asian children 19-35 months who received 1 dose of varicella vaccine and high risk Asian adults 18-64 who received influenza vaccine both improved between 2000 and 2001.
- Of the 31 measures of access with comparable data for 2000 and 2001, information on Asians or Asians and Pacific Islanders in aggregate was available for 26. Of these 26 measures, Asians had worse access to care than whites for about a third of measures in both 2000 and 2001 (Figure 4.3, right).[iii]
- Between 2000 and 2001, 1 of these 26 measures demonstrated significant improvement among Asians while none deteriorated: ratings of overall health care improved among Asian adults between 2000 and 2001.

[iii] The difference between findings this year and last year may be explained by the smaller number of measures relating to patient-provider communication and relationship, cultural competency, and health information in this year's report.

American Indians and Alaska Natives

In the 2003 NHDR, American Indians and Alaska Natives had poorer quality of care than whites for about a quarter of quality measures. In the 2003 NHDR, AI/ANs had worse access to care than whites for about a third of access measures, including lacking health insurance and having problems with patient-provider communication.

Figure 4.4. American Indians and Alaska Natives compared with whites in 2000 and 2001 on measures of quality of care (left) and access to care (right)



Better = AI/ANs receive better quality of care or have better access to care than whites.

Same = AI/ANs and whites receive about the same quality of care or access to care.

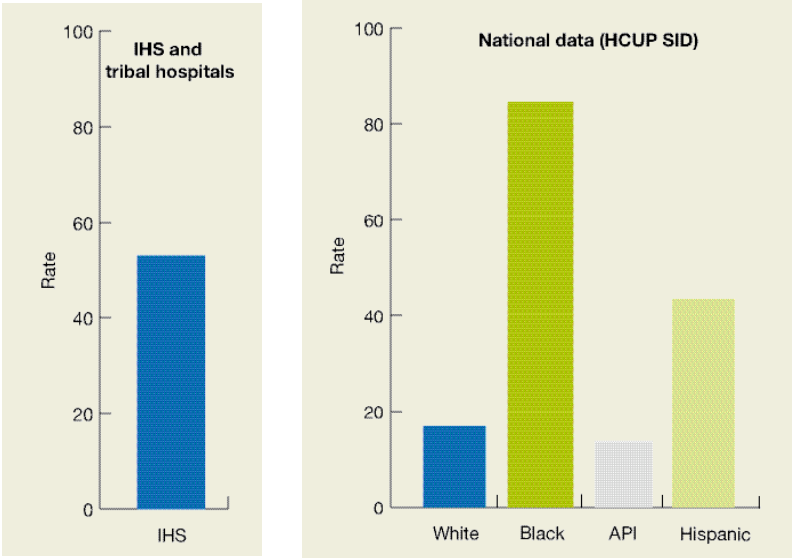
Worse: AI/ANs receive poorer quality of care or have worse access to care than whites.

Source: SEER, USRDS, MEPS, CDC AIDS Surveillance System, NVSS-N, NIS, NHIS, NHDS, 2000-2001.

- Of the 38 measures of quality with comparable data for 2000 and 2001, information on the AI/AN population was available for 21. Of these 21 measures, AI/ANs received poorer quality of care than whites for about a third of measures in both 2000 and 2001 (Figure 4.4, left).
- Between 2000 and 2001, none of these 21 measures demonstrated significant improvement among the AI/AN population while 1 demonstrated significant deterioration: AI/AN infant mortality deteriorated between 2000 and 2001.
- Of the 31 measures of access with comparable data for 2000 and 2001, information on AI/ANs was available for 16. Of these 16 measures of access, AI/ANs had worse access to care than whites for about a half of measures in both 2000 and 2001 (Figure 4.4, right).
- Between 2000 and 2001, none of these 16 measures demonstrated significant improvement among the AI/AN population while 1 deteriorated: AI/ANs not satisfied with the quality of care they received increased between 2000 and 2001.

Focus on Indian Health Service facilities. About 60% of AI/ANs nationwide rely on the Indian Health Service to provide access to health care.[11] In the 2003 NHDR, among diabetics served by IHS facilities, rates of hemoglobin A1c measurement and flu vaccine were comparable to rates in the overall U.S. diabetic population, while rates of retinal eye exam and foot examination were lower.[12] Due to low numbers and lack of data, information about AI/AN hospitalizations is difficult to obtain in most Federal and State hospital data sources. The 2004 NHDR begins to address this gap by examining data from IHS and tribal hospitals. Diabetes and pneumonia are common causes of morbidity and mortality in AI/AN populations.

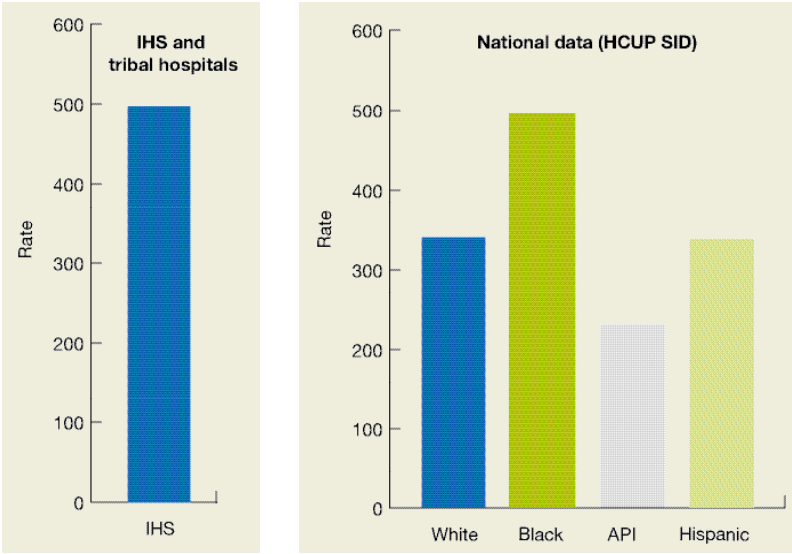
Figure 4.5. Hospitalizations for uncontrolled diabetes per 100,000 population in IHS and tribal hospitals (left) and nationally (right) by race/ethnicity



Source: IHS, National Patient Information Reporting System, 2002 and HCUP SID disparities analysis file (22 States), 2001.

- Hospitalizations for uncontrolled diabetes among AI/ANs in IHS hospitals were 53 per 100,000 population in IHS service areas in 2002 (Figure 4.5, left). In comparison, national rates were higher among blacks (85) and Hispanics (44) than non-Hispanic whites (17) in 2001 (Figure 4.5, right).

Figure 4.6. Hospitalizations for bacterial pneumonia per 100,000 population in IHS and tribal hospitals (left) and nationally (right) by race/ethnicity



Source: IHS, National Patient Information Reporting System, 2002 and HCUP SID disparities analysis file (22 States), 2001.

- Hospitalizations for bacterial pneumonia among AI/ANs in IHS hospitals were 497 per 100,000 population in IHS service areas in 2002 (Figure 4.6, left). In comparison, national rates were higher among blacks (495) and lower among APIs (230) than non-Hispanic whites (340) in 2001 (Figure 4.6, right).

Native Hawaiians and Other Pacific Islanders

The ability to assess disparities among Native Hawaiians and Other Pacific Islanders for the NHDR has been hampered by two main issues. First, the NHOPI racial category is relatively new to Federal data collection. Prior to 1997, NHOPIs were classified as part of the Asian and Pacific Islander racial category and could not be identified separately in most Federal data. In 1997, the Office of Management and Budget promulgated new standards for Federal data on race and ethnicity and mandated that information about NHOPIs be collected separately from information about Asians.[10] Federal agencies had until 2003 to be fully compliant with these standards. Because both the 2003 NHDR and 2004 NHDR report predominantly on data collected between 1999 and 2001, many of the databases used had not fully transitioned to the new standards. Hence, few databases could provide any estimates for the NHOPI population. Second, when information about this population was collected, databases often included insufficient numbers of NHOPIs to allow reliable estimates.

Consequently, in the 2003 NHDR, estimates for the NHOPI population could be generated for only a handful of NHDR measures. Similarly, in the 2004 NHDR, of the 38 measures of quality with comparable data for 2000 and 2001, estimates for NHOPIs could be made for only 10 (6 measures from the National Vital Statistics System-Natality and 4 measures from the National Immunization Survey). Of the 31 measures of access with comparable data for 2000 and 2001, estimates for NHOPIs could be made for only 2 (people under age 65 with health insurance and people under age 65 with private health insurance from the National Health Interview Survey). A lack of quality data on this population prohibits the 2004 NHDR from detailing disparities for this group. However, as data become available, this information will be included in future reports.

Low Income Groups

The poor are defined as people living in families whose household income falls below specific poverty thresholds. These thresholds vary by family size and composition and are updated annually by the U.S. Bureau of the Census. After falling for nearly a decade, from 2000 to 2002, the numbers of poor people in America rose from 31.6 million to 34.6 million and the poverty rate increased from 11.3% to 12.1%. Poverty varies by race and ethnicity. In 2002, 24% of blacks, 22% of Hispanics, 10% of Asians, and 10% of whites were poor.[13]

People with low incomes often experience worse health and are more likely to die prematurely.[14 15 16 17] In general, the poor have reduced access to high quality care. Income-related differences in quality of care that are independent of health insurance coverage have also been demonstrated.[18]

In previous chapters of this report, health care differences by income were described. These include comparisons of low income with high income groups on diabetic services (Figure 2.2); influenza vaccination (Figure 2.5); health insurance (Figure 3.1); specific source of ongoing care (Figure 3.3); patient perceptions of need (Figure 3.4); problems getting referral to a specialist (Figure 3.5); patient-provider communication (Figure 3.7); patient-provider relationship (Figure 3.8); office or outpatient visits (Figure 3.9); Medicare-covered home health care (Figure 3.11); and mental health care (Figure 3.13). Rather than repeat these findings, quality of and access to health care for the poor are summarized in this section.

In the 2003 NHDR, health care received by the poor[i] and by high income[ii] individuals was compared for a large number of measures related to quality of and access to care. In the 2004 NHDR, a subset of measures, for which comparable data are available for 2000 and 2001, are highlighted. Data on all measures were not available for the poor. See Tables 1.2 and 1.3 for lists of measures available for the poor and Appendix C for data on each measure for the poor.

Changes in income-related differences over these 2 years are examined. For each measure, the poor can receive care that is worse than, about the same as, or better than care received by people with high incomes. Only relative differences of at least 10% and that are statistically significant with $p<0.05$ are discussed in this report.

Community health centers are vital sources of health care for many low income individuals. These centers are also effective at reducing disparities; black-white disparities in overall mortality and prenatal care and Hispanic-white disparities in tuberculosis case rates and prenatal care are smaller in States with better coverage of low income persons by community health centers.[19] Information on quality of and access to care provided by community health centers as well as on racial, ethnic, and socioeconomic differences in CHC care is also presented in this section.

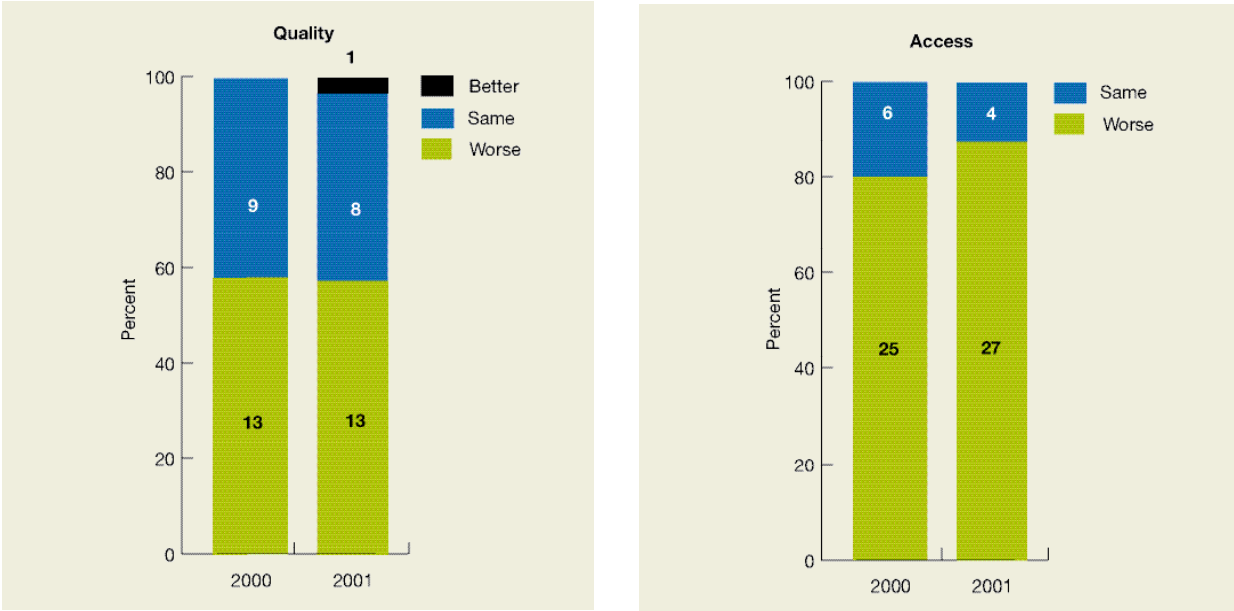
In the 2003 NHDR, the poor had lower quality of care than high income people for about two-thirds of quality measures with available data, including not receiving screening for cancer or cardiovascular risk factors and not receiving recommended childhood and adult immunizations. In the 2003 NHDR, the poor had worse access to care than high income people for about two-thirds of access measures, including lacking health insurance or a usual source of health care, having problems getting referred to a specialist, and rating their health care poorly.

[i]Household income less than Federal poverty thresholds.

[ii]Household income 400% of Federal poverty thresholds and higher.

In the 2004 NHDR, 38 measures of quality of health care with comparable data for 2000 and 2001 are highlighted. These measures come from SEER, USRDS, MEPS, CDC AIDS Surveillance System, NVSS-N, NIS, NHIS, and NHDS. Mortality measures from vital statistics are excluded to allow focus on quality measures more directly related to health care. In the 2004 NHDR, 31 measures of access to health care with comparable data for 2000 and 2001 are also highlighted. These measures come from MEPS and NHIS. Health care utilization measures are excluded to allow focus on measures more directly related to access to care.

Figure 4.7. Poor compared with high income individuals in 2000 and 2001 on measures of quality of care (left) and access to care (right)



Better = The poor receive better quality of care or have better access to care than high income people.

Same = The poor and high income people receive about the same quality of care or access to care.

Worse = The poor receive poorer quality of care or have worse access to care than high income people.

Source: MEPS, NIS, NHIS, 2000-2001.

- Of the 38 measures of quality with comparable data for 2000 and 2001, information on income was not available for 16. Of the remaining 22 measures, the poor received lower quality of care than high income individuals for about 60% of measures in both 2000 and 2001 (Figure 4.7, left).
- Between 2000 and 2001, only 1 of these 22 measures demonstrated significant improvement among different income groups: children 19-35 months who received 1 dose of varicella vaccine improved among poor children.
- Information on income was available for all 31 of the measures of access with comparable data for 2000 and 2001. The poor had worse access to care than high income individuals for over 80% of measures in both 2000 and 2001 (Figure 4.7, right).
- Between 2000 and 2001, 4 of the 31 measures demonstrated significant improvement among high income people while none demonstrated significant improvement among the poor. Six access measures declined among the poor compared with two measures among those with high income.

Focus on Federally Supported Health Centers

Community health centers serve a disproportionate share of the Nation's poor, uninsured, and racial/ethnic minorities and exist in areas where economic, geographic, and/or cultural barriers limit access to care. These centers are authorized under the Health Centers Consolidated Care Act of 1996, which amended section 330 of the Public Health Service Act and is administered by the Health Resources and Services Administration. Within the Consolidated Health Center program, there are several types of health centers that focus on providing care to specific vulnerable populations. HRSA awards grants to community health centers under section 330(e) to increase access to comprehensive primary and preventive health care and improve the health status of underserved and vulnerable populations throughout the United States and its territories. Health centers may also receive funding to provide services to special populations including homeless individuals, migrant and seasonal farm workers, and individuals residing in public housing, through individual health center grant mechanisms authorized under sections 330(g), 330(h), and 330(i), respectively.

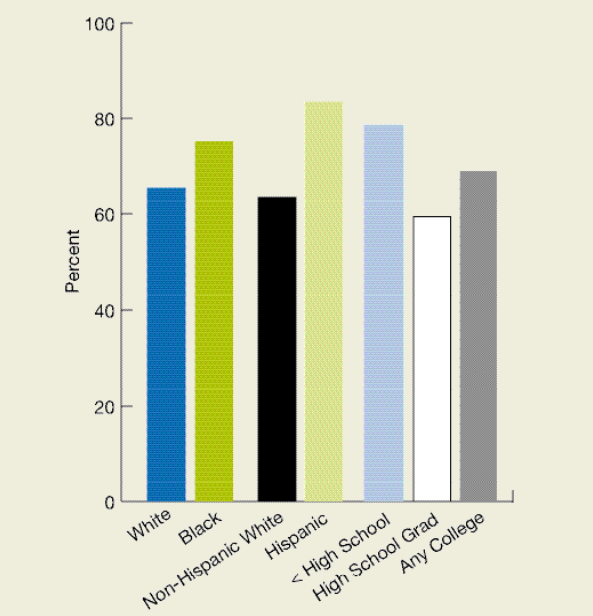
In 2002, 843 HRSA-funded health centers reported delivering primary and preventive care to 11.3 million patients at some 3,400 service sites under the authority of section 330 of the Public Health Service Act. Eighty-eight percent of these health centers (N=743) received section 330(e) funding and 9.9 million people were served through this CHC funding. Sixty-four percent of individuals receiving care through these community health centers (N=6.4 million) had incomes below 100% of the Federal poverty level, 33% were uninsured, 50% had public insurance, and 62% belonged to a racial or ethnic minority group. Thus, community health centers are a critical source of care for low income individuals and racial/ethnic minorities.

The Presidential Initiative to expand health centers will create 1,200 new or expanded health centers by the year 2006, resulting in the provision of comprehensive primary and preventive care to a projected additional 6 million people, many of whom face multiple barriers to receiving health care. As health centers expand, they will also continue to generate knowledge on improving primary and preventive care delivery at the practice and system levels among underserved populations. Such information has the potential to achieve improvements in access to and quality of care for racial/ethnic minorities and the poor.

This NHDR focuses on care provided by these CHCs with data from the 2002 HRSA Community Health Center User Survey. This survey is sponsored by HRSA and provides nationally representative data about the users of health centers receiving section 330(e) funding and the services they utilize. A total of 2,129 completed interviews were conducted from eligible users in 70 selected grantees to provide estimates for over 6 million CHC users (N=6,115,098). Representative data from health centers funded under section 330 to provide services for special populations are collected via distinct surveys.

Quality of health care. Screening for cancer is an important element of preventive care in the adult population and a critical service provided by community health centers.

Figure 4.8. Women 40 and older in community health centers who reported having a mammogram in the past 2 years by race, ethnicity, and education, 2002

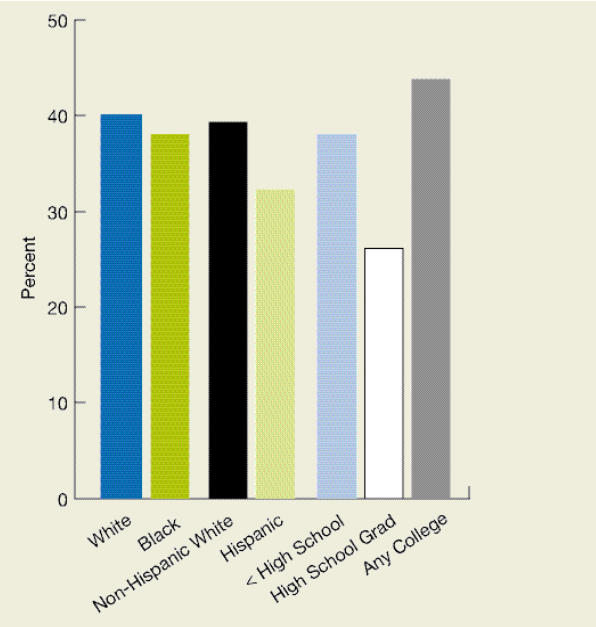


Source: HRSA Community Health Center User Survey, 2002.

Reference population: Women 40 and older who receive care in community health centers.

- In 2000, 70% of women 40 and older had a mammogram in the past 2 years, and many minorities and people of low SES were less likely to report screening (NHIS, 2000). In 2002, 70% of women 40 and older receiving care in CHCs had a mammogram in the past 2 years (Figure 4.8). Racial,ethnic, and SES differences observed in the general population were not observed among women in CHCs.

Figure 4.9. People 50 and older in community health centers who reported having a sigmoidoscopy in the past 3 years by race, ethnicity, and education, 2002



Source: HRSA Community Health Center User Survey, 2002.

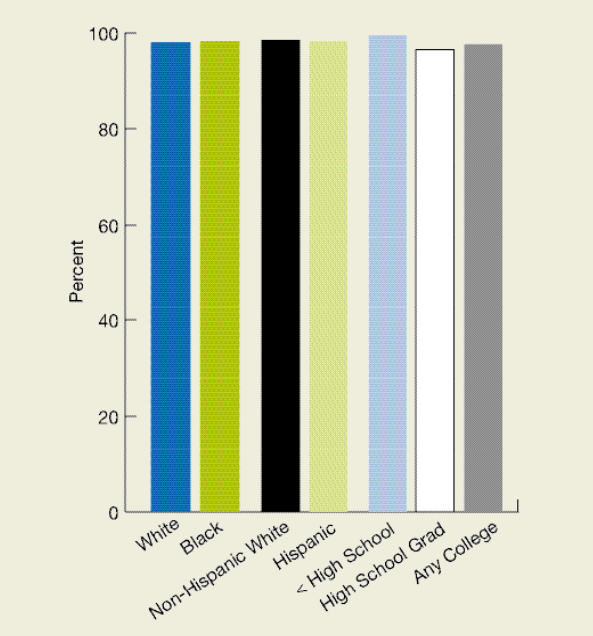
Reference population: People 50 and older who receive care in community health centers.

- In 2000, 39% of persons 50 and older reported ever having a sigmoidoscopy, and many minorities and people of low SES were less likely to report screening (NHIS, 2000). By comparison, 37% of people 50 and older receiving care in CHCs had a sigmoidoscopy in the past 3 years[iii] (Figure 4.9). Proportions were similar among all racial, ethnic, and education groups.

[iii]Note that the Community Health Center User Survey asks about sigmoidoscopy *in the past 3 years* while the NHIS asks about *ever* having sigmoidoscopy. Hence, it should be expected that the CHC rate would be lower than the NHIS rate.

Access to health care. An important element of access to care is having a usual source of care. Community health centers are the usual source of care for many low income and minority individuals.

Figure 4.10. People in community health centers who have a usual source of care by race, ethnicity, and education, 2002



Source: HRSA Community Health Center User Survey, 2002.

Reference population: People who receive care in community health centers.

- In 2001, 88% of the civilian noninstitutionalized population reported a source of ongoing care. Many racial and ethnic minorities and persons of lower SES were less likely to report such a source of care (NHIS, 2001). By comparison, in 2002, 98% of people receiving care in HRSA-funded community health centers reported a usual source of care. Proportions were similar among all racial and ethnic groups (Figure 4.10).

These data provide empiric evidence that HRSA-funded community health centers are successful in fulfilling their mission to improve access to care for millions of Americans and provide quality care to the patients they serve, regardless of race/ethnicity or socioeconomic status. Furthermore, racial/ethnic minority groups of users met or exceeded the Healthy People 2010 objectives for receiving mammography (70%) and for having a usual source of care (90%). These accomplishments may reflect health centers' longstanding community-oriented strategy of delivering health care and their participation in quality improvement initiatives such as the Health Disparities Collaboratives.

Women

Census 2000 counted 140 million females, 51% of the U.S. population, of whom 40 million are members of racial or ethnic minority groups.[20] By 2050, it is projected that just under half of females in the United States will be members of racial or ethnic minority groups.[21] The ratio of males to females is highest at birth, when male infants outnumber female infants, and gradually declines with age due to higher male mortality rates. Among Americans 85 and older, women outnumber men by more than 2 to 1.[22] Poverty disproportionately affects women; almost 13 million women lived in households with income below the Federal poverty level in 2001.[23]

Women in the United States have a life expectancy 5 years longer than men and lower age-adjusted death rates than men for 13 of the 15 leading causes of death.[24] However, women are more likely than men to report having arthritis, asthma, autoimmune diseases, and depression.[23] Overall, many women's health needs are inadequately addressed.[25] Among women, racial and ethnic differences in mortality and health status are observed. Black women have higher death rates than white women due to heart disease, cancer, and stroke while Hispanic, API, and AI/AN women have lower death rates due to these conditions.[23] Black and Hispanic women are also more likely to report fair or poor overall health and having diabetes. Poor or near poor women are more likely to report fair or poor overall health; limitations of activity; and having anxiety or depression, arthritis, asthma, diabetes, hypertension, obesity, and osteoporosis.[26]

In general, gender differences in quality of care are small. However, significant gender differences in cardiovascular care have been demonstrated. Among women, racial, ethnic, and socioeconomic differences in quality of care exist. Racial and ethnic differences are noted in receipt of cardiovascular procedures, cancer screening, and management of fibroids.[27] Socioeconomic differences are noted in receipt of Pap tests and mammograms.[28] Women are more likely to obtain preventive services than men.[23] Among women, racial, ethnic, and socioeconomic differences in access to care are observed. Black women are more likely than white women to report forgoing needed physician care; and Hispanic women are more likely than non-Hispanic white women to report lack of health insurance and coverage for dental and vision care, not having a regular health care provider, not seeing a specialist when needed, and problems communicating with physicians.[29] Poor and near poor women are more likely than high income women to report lack of health insurance, dissatisfaction with their health plan when insured, and not having a usual source of care.[28]

Many measures of relevance to women are tracked in the NHDR. Findings presented here seek to highlight conditions and topics of particular importance to quality of and access to health care for women including:

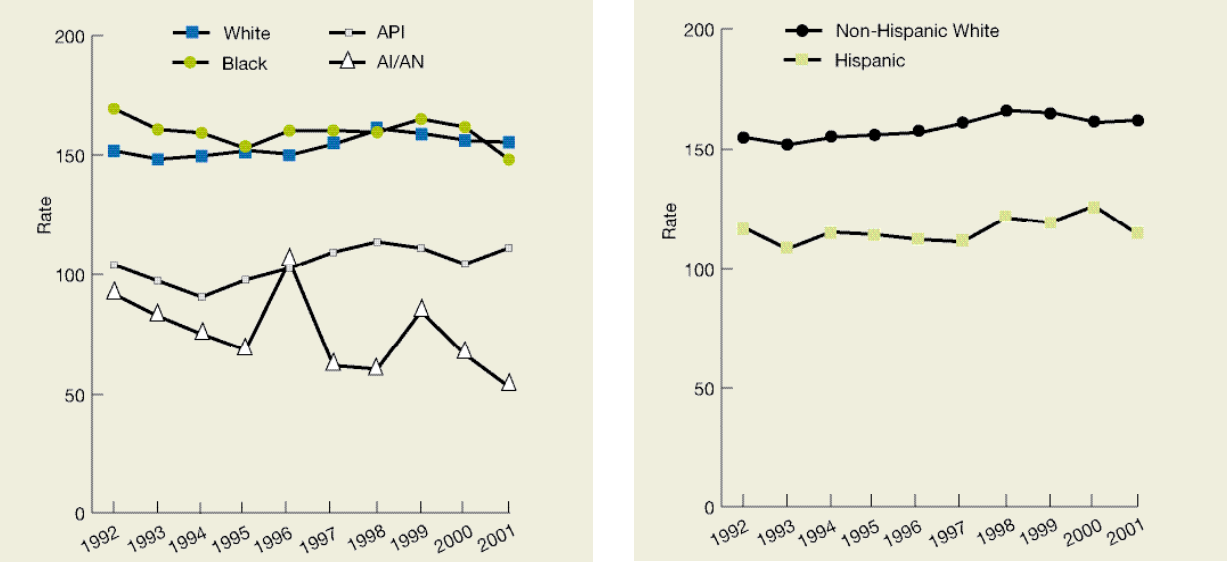
- Cancer
- Diabetes
- Heart disease
- Osteoporosis
- Maternity care
- Usual source of care

Quality of Health Care

Cancer. An estimated 670,000 women in the United States will be diagnosed with cancer in 2004. Cancer incidence has been stable among men since 1995 but continues to rise among women. An estimated 270,000 women in the United States will die from cancer in 2004, making it the second leading cause of death after heartdisease. Breast cancer is the most common cancer affecting women, accounting for a third of new cancers among women each year.[30]

Access to appropriate cancer screening services for all populations is a core element of efforts to reduce cancer health disparities.[31] Mammography is an effective means of reducing the incidence of late stage breast cancer and mortality caused by this cancer. In the 2003 NHDR, mammography was received less often by black, Asian, and AI/AN women compared with white women, by Hispanic women compared with non-Hispanic white women, and by low income and less educated women compared with more affluent women. In the 2004 NHDR, findings related to late stage breast cancer are highlighted.

Figure 4.11. Age-adjusted rate of late stage (stage II or higher) breast cancer per 100,000 women age 40 and older by race (left) and ethnicity (right), 1992-2001



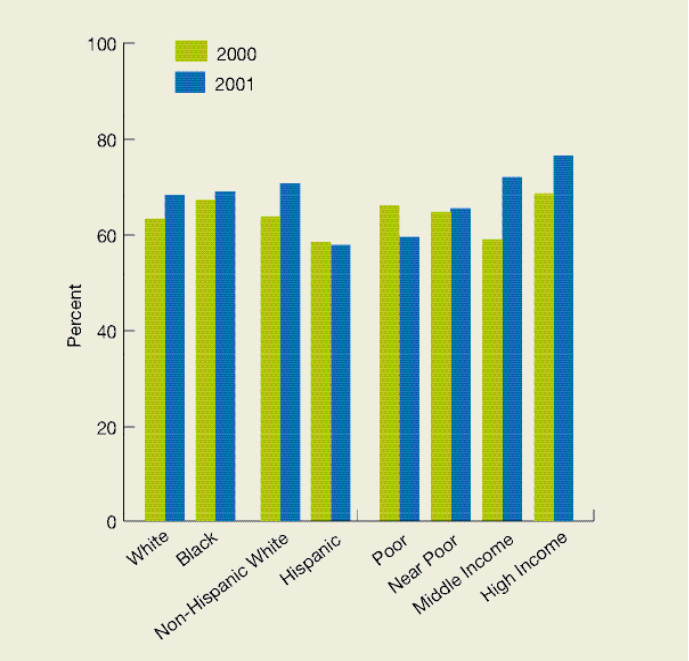
Source: SEER, 1992-2001.

Reference population: Women age 40 and older.

- In all years, rates of late stage breast cancer were lower among API and AI/AN women compared with white women and among Hispanic women compared with non-Hispanic white women (Figure 4.11). Black-white differences were not significant.
- Between 1992 and 2001, rates of late stage breast cancer decreased among black and AI/AN women.

Diabetes. In 2002, over 9.3 million women in the United States had diabetes.[32] Women are at greater risk than men for some complications related to diabetes, including diabetic ketoacidosis and cardiovascular disease due to diabetes.[33] In addition, poorly controlled diabetes during early pregnancy increases the risk for spontaneous abortion and major birth defects.[32] High quality management of diabetes includes hemoglobin A1c determination, lipid management, eye examination, foot examination, and influenza immunization.[34 35] Findings related to receipt of retinal eye examination by diabetic women are presented here. In 2001, diabetic men and women were equally likely to have a retinal eye examination in the past year (MEPS, 2001).

Figure 4.12. Women with diabetes who had a retinal eye exam in the past year by race, ethnicity, and income, 2000-2001



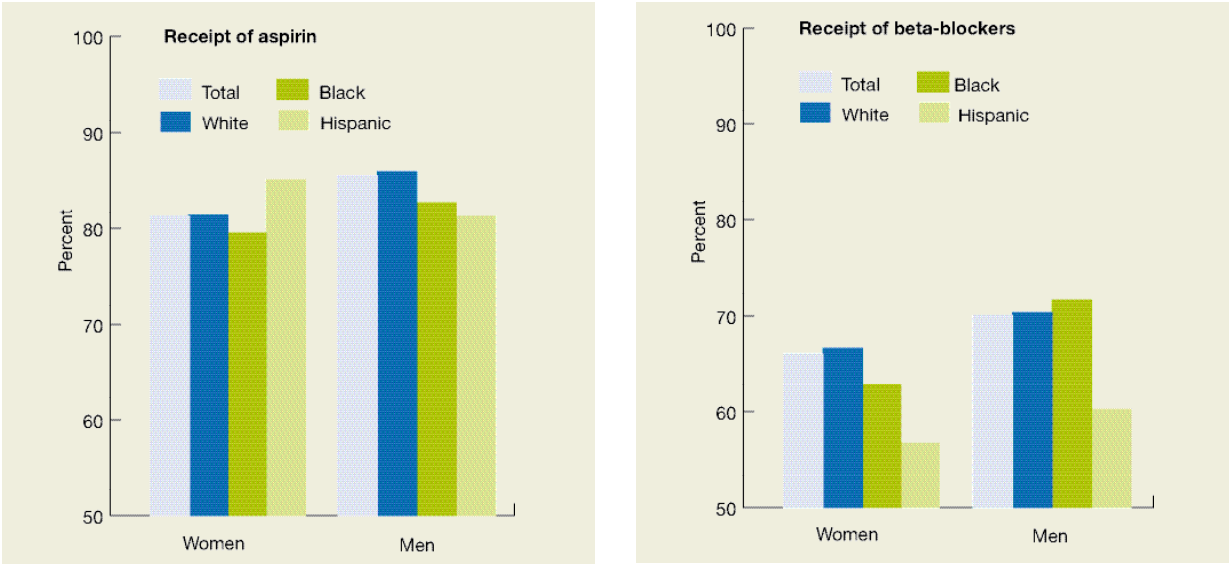
Source: Medical Expenditure Panel Survey, 2000-2001.

Reference population: Civilian noninstitutionalized women with diabetes age 18 and older.

- In 2001, the proportion of adults with diabetes who had a retinal eye examination in the past year was lower among Hispanic compared with non-Hispanic white women and among poor and near poor compared with high income women (Figure 4.12). Black-white differences were not significant.
- Between 2000 and 2001, rates of retinal eye examination improved among middle income diabetic women but did not change significantly among any racial or ethnic group.

Heart disease. Each year, about half a million women die of cardiovascular disease including 250,000 who die of heart attacks and 90,000 who die of stroke.[36] Although heart disease is the leading cause of death among both women and men, gender differences in cardiovascular care have been demonstrated and may relate to gender differences in disease presentation. Moreover, although major risk factors for cardiovascular disease can often be prevented or controlled through lifestyle changes, physicians are less likely to counsel women than men about diet, exercise, and weight reduction.[37] After a first heart attack, women are less likely than men to receive diagnostic and therapeutic procedures[38] and cardiac rehabilitation[39] and more likely to die or have a second heart attack.[40] Measures of quality of care for heart disease tracked in the NHDR include screening and counseling for cardiovascular risk factors, acute treatment of myocardial infarction and heart failure, and chronic management of hypertension and congestive heart failure. Findings related to receipt of aspirin and beta-blockers when hospitalized for acute myocardial infarction are highlighted here.

Figure 4.13. Elderly Medicare beneficiaries hospitalized for acute myocardial infarction who received aspirin (left) and beta-blockers (right) within 24 hours of admission by gender and race/ethnicity, 2000-2001

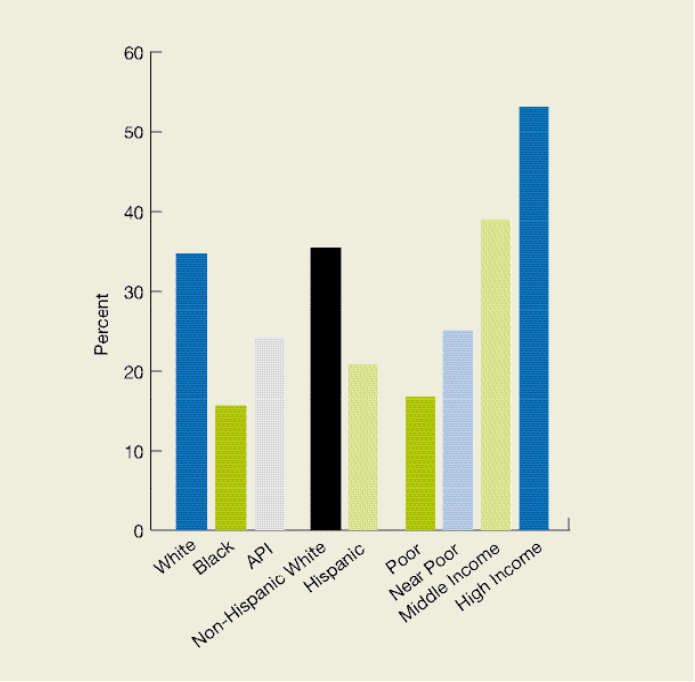


Source: CMS Quality Improvement Organization Program, 2000-2001.
Reference population: Medicare beneficiaries age 65 and older hospitalized for acute myocardial infarction.
Note: White and Black are non-Hispanic groups.

- In 2001, elderly female Medicare beneficiaries hospitalized for acute myocardial infarction were less likely than male beneficiaries to receive aspirin within 24 hours of admission. Among elderly female Medicare beneficiaries, the proportion who received aspirin within 24 hours of admission was similar among non-Hispanic white, black, and Hispanic women (Figure 4.13, left).
- In 2001, elderly female Medicare beneficiaries hospitalized for acute myocardial infarction were also less likely than male beneficiaries to receive beta-blockers within 24 hours of admission. Among both elderly female and male Medicare beneficiaries, the proportions who received beta-blockers within 24 hours of admission were lower among Hispanics compared with non-Hispanic whites (Figure 4.13, right). Black-white differences were not significant.

Osteoporosis. Osteoporosis is a disease characterized by loss of bone tissue that increases the risk of fractures of the hip, spine, and wrist. About 10 million people in the United States have osteoporosis and another 34 million with low bone mass are at risk for developing this disease. Because older women are at highest risk for osteoporosis, the U.S. Preventive Services Task Force recommends routine screening of women 65 and older for osteoporosis. White and Asian women are at greater risk for osteoporosis than black and Hispanic women.[41]

Figure 4.14. Elderly female Medicare beneficiaries who reported ever being screened for osteoporosis with a bone mass or bone density measurement by race, ethnicity, and income, 2000



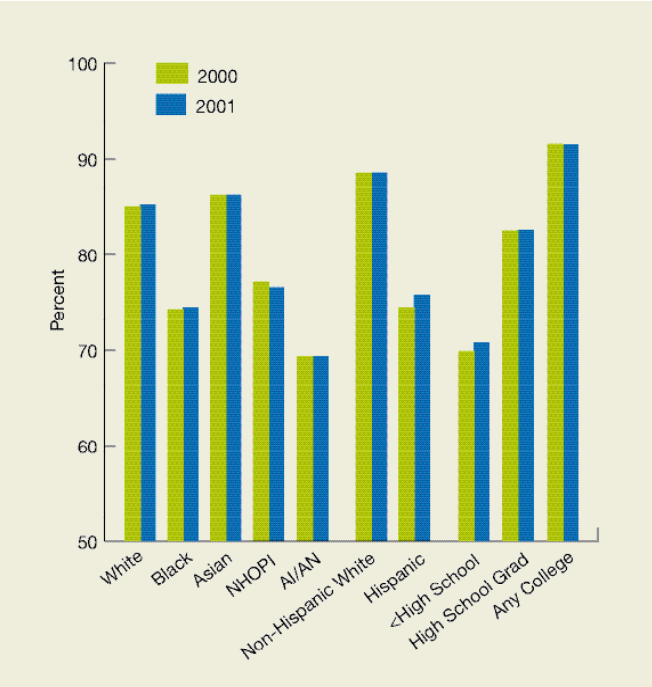
Source: Medicare Current Beneficiary Survey, 2000.

Reference population: Female Medicare beneficiaries age 65 and older living in the community.

- In 2000, the proportion of elderly female Medicare beneficiaries who were ever screened for osteoporosis with a bone mass or bone density measurement was lower among black compared with white women; among Hispanic compared with non-Hispanic white women; and among poor, near poor, and middle income compared with high income women (Figure 4.14).

Maternity care. Childbirth and reproductive care are the most common reasons for women of childbearing age to use health care. With more than 11,000 births each day in the United States, childbirth is the most common reason for hospital admission.[42] Comprehensive prenatal care may prevent complications of pregnancy and reduce preterm labor and neonatal mortality.[43] Given that birth outcomes may have lifetime effects, prenatal care is highly cost effective.[44] Findings related to initiation of prenatal care in the first trimester by pregnant women are presented here.

Figure 4.15. Mothers with prenatal care in the first trimester by race, ethnicity, and education, 2000-2001



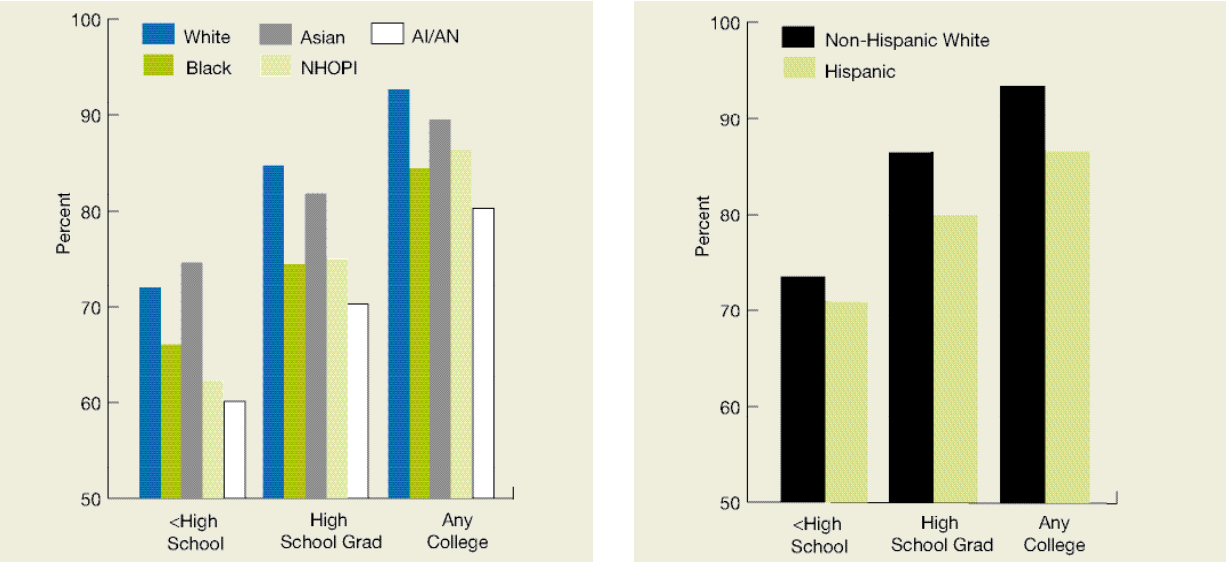
Source: National Vital Statistics System - Natality, 2000-2001.

Reference population: Women with live births.

- In both 2000 and 2001, the proportion of mothers who initiated prenatal care in the first trimester was lower among black, NHOPI, and AI/AN women compared with white women; lower among Hispanic compared with non-Hispanic white women; and lower among women with less than a high school education or high school graduates compared with women with any college education (Figure 4.15).
- Between 2000 and 2001, rates of prenatal care in the first trimester did not change significantly among any racial, ethnic, or education group.

Information about income is not typically collected on birth certificates, so education is commonly used as a proxy for SES. Racial and ethnic minorities have disproportionately less education than whites. To distinguish the effects of race, ethnicity, and education on quality of health care, measures are presented by level of education.

Figure 4.16. Mothers with prenatal care in the first trimester by race (left) and ethnicity (right) stratified by education, 2001



Source: National Vital Statistics System - Natality, 2001.

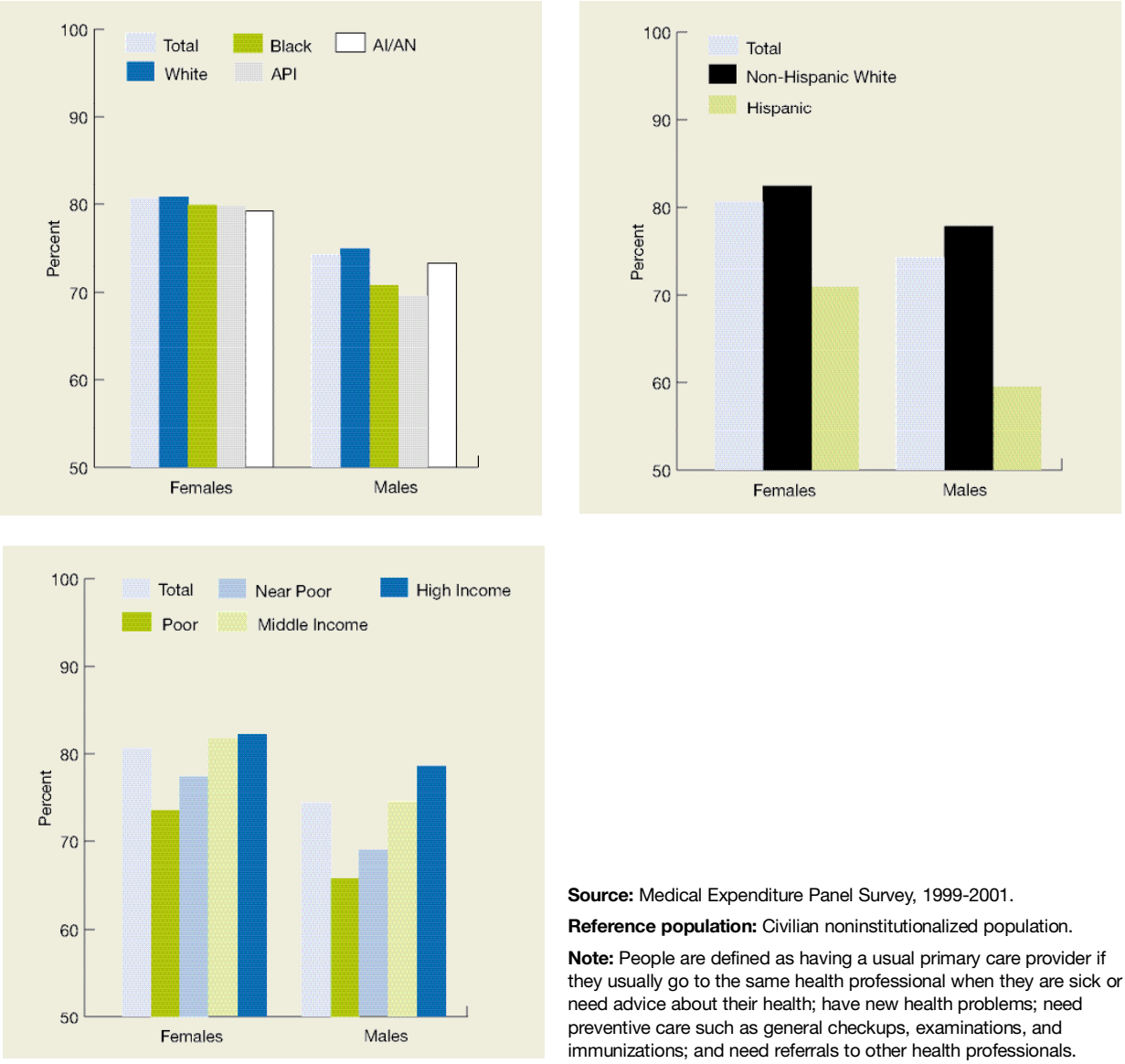
Reference population: Women with live births.

- Education explains some but not all of the differences in health care among women by race and ethnicity.
- Racial and ethnic differences in mothers who initiate prenatal care in the first trimester tend to persist among women with similar education (Figure 4.16).
- Only college educated whites and non-Hispanic whites achieved the Healthy People 2010 (HP2010) goal of 90% of mothers receiving prenatal care in the first trimester.

Access to Health Care

Usual source of care. Patients with a usual source of care are more likely to receive blood pressure and cholesterol monitoring, flu shots, Pap tests, and mammograms.[45] Having a primary care provider as one's usual source of care also leads to lower long-term health care costs.[46]

Figure 4.17. People with a usual primary care provider by gender and race (top left), ethnicity (top right), and income (bottom left), 2001



Source: Medical Expenditure Panel Survey, 1999-2001.

Reference population: Civilian noninstitutionalized population.

Note: People are defined as having a usual primary care provider if they usually go to the same health professional when they are sick or need advice about their health; have new health problems; need preventive care such as general checkups, examinations, and immunizations; and need referrals to other health professionals.

- In 2001, females were more likely to have a usual primary care provider than males (Figure 4.17).
- Among both females and males, the proportions with a usual primary care provider were lower among Hispanics compared with non-Hispanic whites and among poor and near poor compared with high income people. Racial differences were not significant.

Children

Census 2000 counted 72.3 million Americans, or 26% of the U.S. population, under age 18.[47] In 2001, over 4 million babies were born in the United States.[48] Racial and ethnic minorities account for almost 40% of all children.[49] In 1999, almost 17% of children lived in families with incomes below the poverty level compared with 11% of adults.[50]

In 2002, black children and American Indian or Alaska Native children had death rates about 1.5 to 2 times higher than white children. Black infants were more than twice as likely to die during their first year than white infants.[51] In 1996, Hispanic children were over twice as likely to report fair or poor health than non-Hispanic white children.[52]

Quality of health care among children varies by race, ethnicity, and SES.[53] Differences have been observed in childhood immunization,[54] management of asthma,[55] and evaluation and treatment for attention-deficit/hyperactivity disorder.[56] Access to health care among children also varies by race, ethnicity, and SES. Rates of uninsurance and public coverage;[57] getting a routine appointment as soon as wanted, receiving needed care, and patient experiences during care;[58] rating of health care;[59] and health care utilization and expenditures[60] differ among children by race, ethnicity, and SES.

Many measures of relevance to children are tracked in the NHDR. Findings presented here seek to highlight conditions and topics of particular importance to children's quality of and access to health care including:

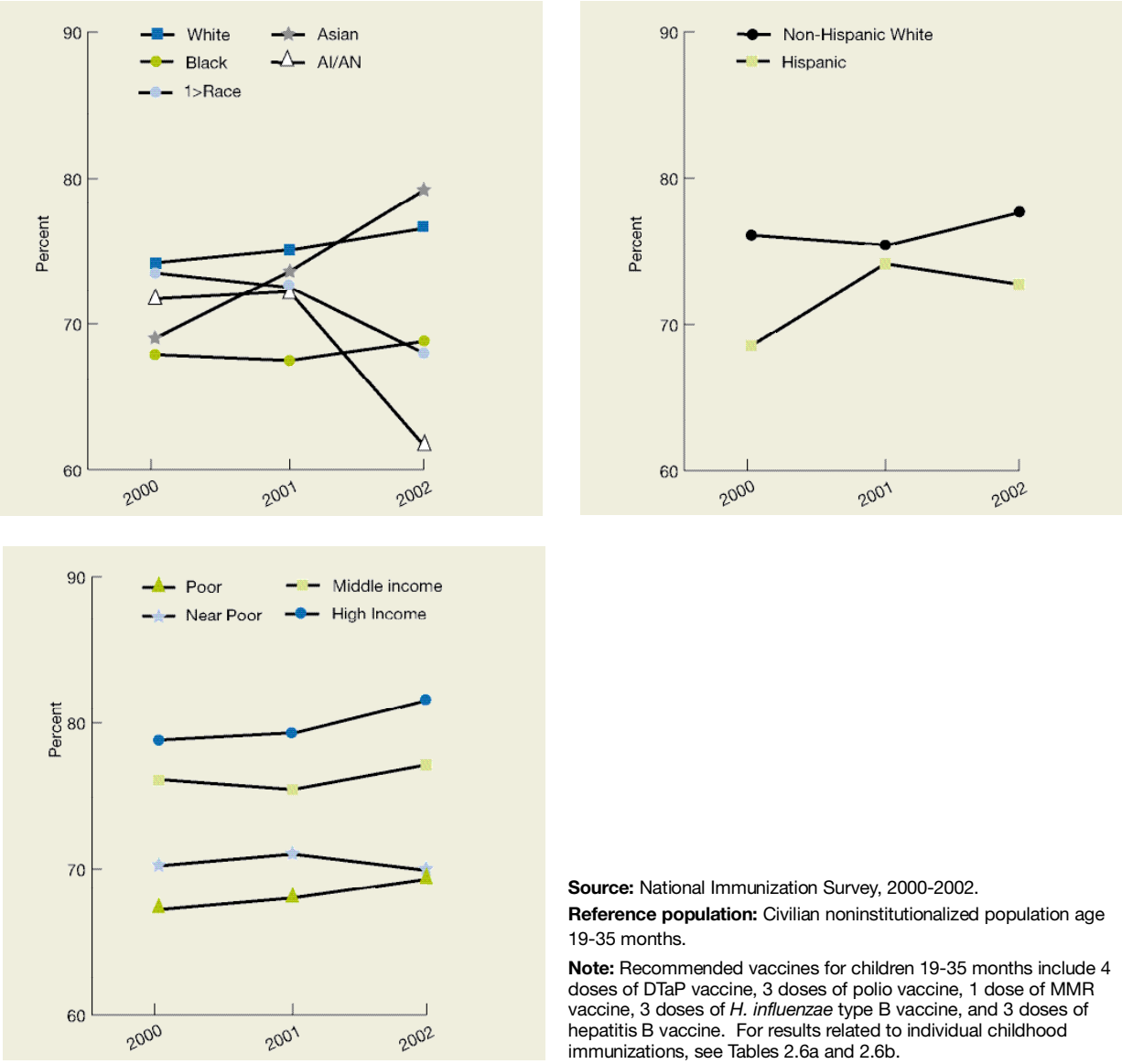
- Vaccinations
- Obesity
- Asthma
- Patient safety
- Health insurance
- Patient-provider communication

In addition, the final section of this chapter, which discusses individuals with special health care needs, focuses on children this year. In that section, data from the 2001 National Survey of Children with Special Health Care Needs are presented to assess disparities among this group of children.

Quality of Health Care

Vaccinations. Childhood vaccinations protect recipients from illness and disability and others in the community who cannot be vaccinated, such as small children and people who are immunosuppressed. They are important for reducing mortality and morbidity in populations.

Figure 4.18. Children age 19-35 months who received all recommended vaccines by race (top left), ethnicity (top right), and income (bottom left), 2000-2002



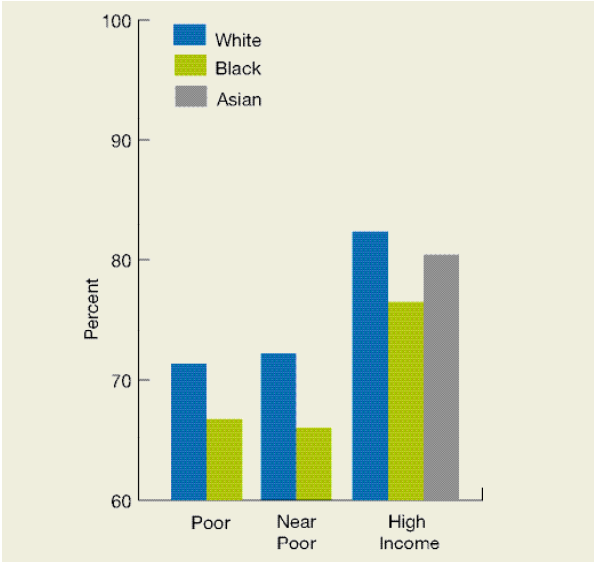
Source: National Immunization Survey, 2000-2002.

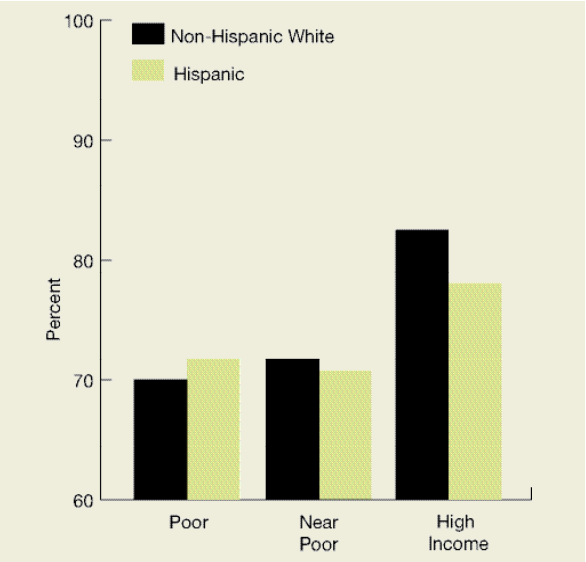
Reference population: Civilian noninstitutionalized population age 19-35 months.

Note: Recommended vaccines for children 19-35 months include 4 doses of DTaP vaccine, 3 doses of polio vaccine, 1 dose of MMR vaccine, 3 doses of *H. influenzae* type B vaccine, and 3 doses of hepatitis B vaccine. For results related to individual childhood immunizations, see Tables 2.6a and 2.6b.

- In all 3 years, the proportion of children who received all recommended vaccines was lower among black compared with white children; Hispanic compared with non-Hispanic white children; and poor, near poor, and middle income compared with high income children (Figure 4.18).
- Between 2000 and 2002, vaccination improved among Asian, Hispanic, and high income children.

Figure 4.19. Children age 19-35 months who received all recommended vaccines by race (left) and ethnicity (right) stratified by family income, 2002



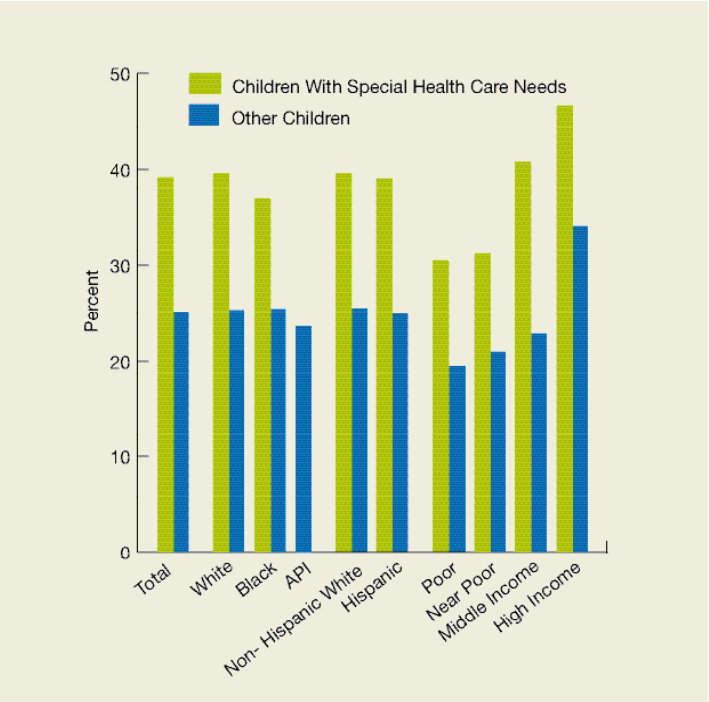


Source: National Immunization Survey, 2002.
Reference population: Civilian noninstitutionalized population age 19-35 months.
Note: Recommended vaccines for children 19-35 months include 4 doses of DTaP vaccine, 3 doses of polio vaccine, 1 dose of MMR vaccine, 3 doses of *H. influenzae* type B vaccine, and 3 doses of hepatitis B vaccine.

- Only high income whites, Asians, and non-Hispanic whites achieved the HP2010 goal of 80% of children receiving all recommended vaccines (Figure 4.19).

Obesity and overweight. Childhood obesity is a risk factor for diabetes, hypertension, and high cholesterol.[61] In the past 20 years, the prevalence of overweight (defined as age-gender specific body mass index at 95th percentile or higher) among children ages 6-11 has doubled, and the prevalence among adolescents ages 12-19 has tripled. In 1999-2000, 27% of Mexican boys and 18% of non-Hispanic black boys were overweight compared with 16% of boys ages 6-11 overall; 20% of Mexican girls and 22% of non-Hispanic black girls were overweight compared with 15% of girls overall.[48] Lack of physical activity is a major contributor to childhood obesity, and routine promotion of physical activity among young people is recommended.[62]

Figure 4.20. Children ages 2 to 17 whose parents reported advice from a doctor or other health provider about amount and kind of physical activity by race, ethnicity, and income, 2001



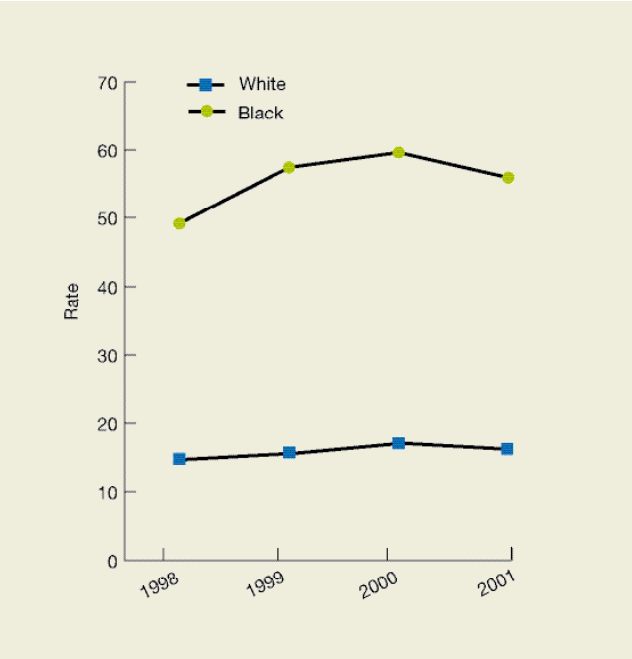
Source: Medical Expenditure Panel Survey, 2001.

Reference population: Civilian noninstitutionalized population age 2-17.

- In 2001, the proportion of parents with children 2 to 17 who had advice from a doctor or other health provider about amount and kind of physical activity was higher among parents of children with special health care needs (Figure 4.20).
- Among both CSHCN and other children, report of advice about physical activity was lower among parents of poor and near poor compared with high income children. Racial and ethnic differences were not significant.

Asthma. Asthma is one of the most prevalent chronic diseases affecting children. In 2002, 8.6% of black and 5.2% of white children and 8% of poor and 5.5% of non-poor children had an asthma attack.[63] Good asthma management, including anti-inflammatory medicine and a written action plan, can prevent asthma attacks and reduce use of emergency rooms and hospitals.

Figure 4.21. Hospital admissions for asthma per 10,000 children by race, 1998-2001



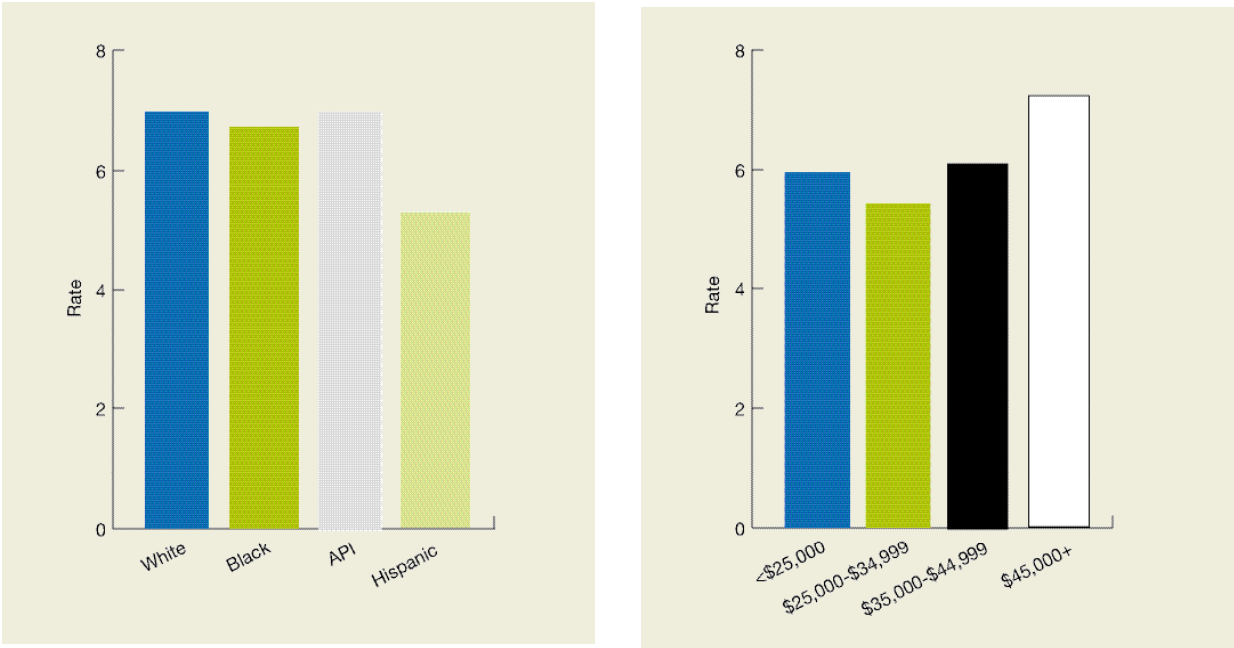
Source: National Hospital Discharge Survey, 1998-2001.

Reference population: Children age 0-17.

- In all 4 years, rates of hospital admissions for asthma were higher among black children than white children (Figure 4.21).
- Between 1998 and 2001, rates of hospitalization for asthma did not change significantly among black or white children.

Patient safety. Measures of patient safety tracked in the NHDR are part of AHRQ's Patient Safety Indicators.[64] Birth trauma counts injuries to full-term infants born alive in the hospital.

Figure 4.22. Birth trauma injury per 1,000 live births by race/ethnicity (left) and area income (right), 2001



Source: HCUP State Inpatient Databases disparities analysis file, 2001.

Reference population: Live births.

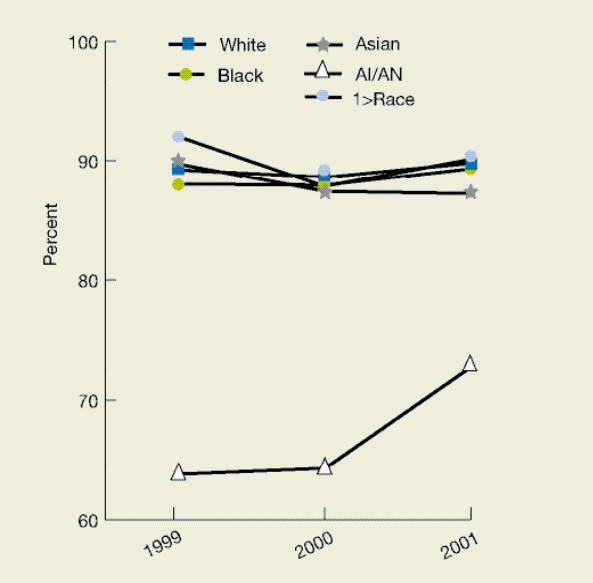
Note: White, Black, and API are non-Hispanic groups.

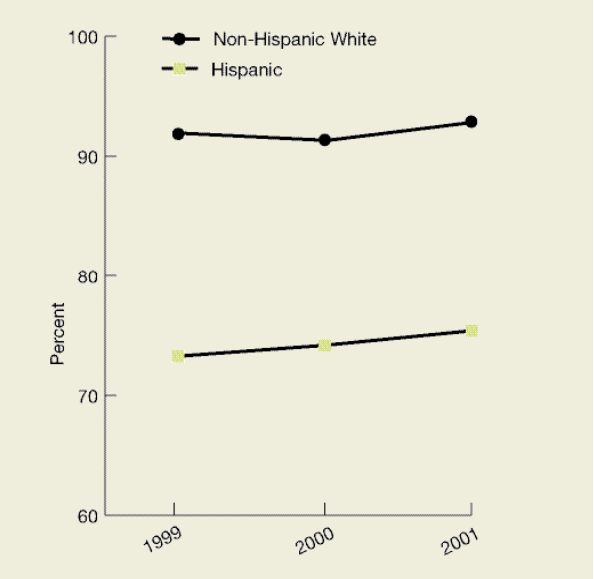
- In 2001, rates of birth trauma were lower among Hispanic compared with non-Hispanic white children and among residents of poorer ZIP Codes compared with residents of ZIP Codes with income of $45,000 and over (Figure 4.22). Black-white differences were not significant.

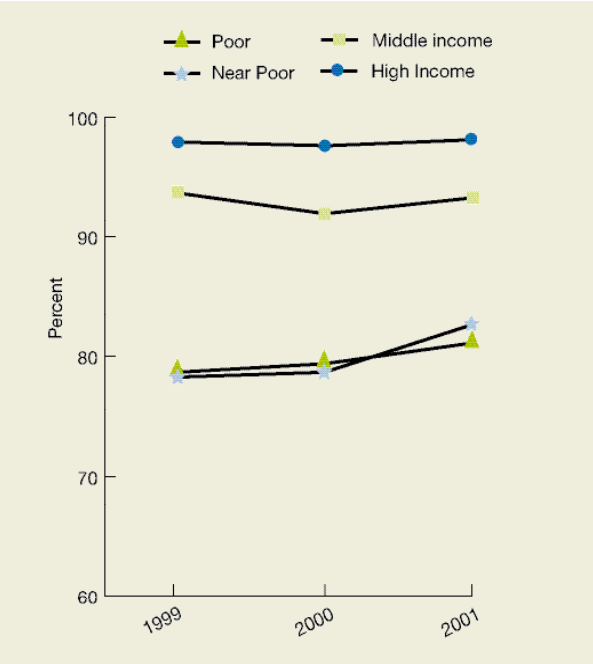
Access to Health Care

Health insurance. Health insurance greatly facilitates access to health care. Uninsured Americans are more likely to report needing but not receiving medical care[65] and tend to receive fewer preventive and therapeutic services.[66] During the late 1990's, insurance coverage among children increased due to State insurance expansions for low income children and the State Children's Health Insurance Program (SCHIP).[60]

Figure 4.23. Children with health insurance by race (top left), ethnicity (top right), and income (bottom left), 1999-2001





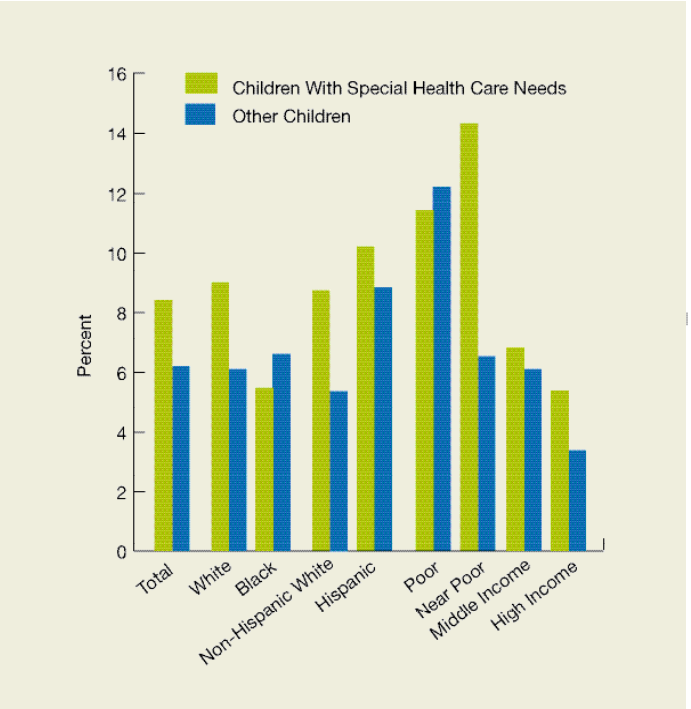


Source: National Health Interview Survey, 1999-2001.
Reference population: Civilian noninstitutionalized population age 0-17.
Note: Children with only Indian Health Service coverage are considered not to have health insurance.

- In all 3 years, the proportion of children with health insurance was lower among AI/AN children compared with white children; among Hispanic compared with non-Hispanic white children; and among poor, near poor, and middle income compared with high income children (Figure 4.23). Black-white differences were not significant.
- Between 1999 and 2001, rates of health insurance did not change significantly in any racial or ethnic groups.

Patient-provider communication. Effective patient-provider communication involves listening, asking questions, explaining information, and showing respect for patient concerns. Overall, parents are less likely to report problems communicating with their child's provider than adults in general report about communicating with their own providers. For example, 10.4% of adults report that their provider sometimes or never listens carefully while only 6.8% of parents report that their child's providers sometimes or never listen carefully (MEPS, 2001).

Figure 4.24. Children whose parents report that their child's providers sometimes or never listen carefully to them by race, ethnicity, and income, 2001



Source: Medical Expenditure Panel Survey, 2001.
Reference population: Civilian noninstitutionalized parents with children age 0-17.

- In 2001, the proportion of parents who reported that their child's providers sometimes or never listen carefully to them was higher among parents of CSHCN (Figure 4.24).
- Among both CSHCN and other children, reports of providers who sometimes or never listen carefully were higher among poor and near poor children compared with high income children.
- Among children without special health care needs, report of providers who sometimes or never listen carefully was also higher among Hispanic compared with non-Hispanic white children. Black-white differences were not significant.

Elderly

The elderly (age 65 and over) numbered 35.6 million in 2002, an increase of 3.3 million, or 10.2%, since 1992. About 1 in every 8 Americans is in this age group. By the year 2030, the elderly population will more than double to 71.5 million. Older women outnumber older men (20.8 million vs. 14.8 million). Members of minority groups are projected to represent 26.4% of the elderly in 2030, up from 16.4% in 2000. About 3.6 million elderly lived below the poverty level in 2002, corresponding to a poverty rate of 10.4%. Another 2.2 million or 6.4% of the elderly were classified as near poor (income between the poverty level and 125% of this level).[67]

On average, 65-year-olds can expect, to live an additional 18.1 years. In 2003, 38.6% of noninstitutionalized older persons assessed their health as excellent or very good compared with 66.6% of persons ages 18-64, and older blacks and Hispanics were less likely to rate their health as excellent or good than older whites. Most older people have at least one chronic condition. In 1997, more than half of the elderly reported a disability and over a third reported a severe disability.[67]

The Medicare program provides core health insurance to nearly all elderly Americans and reduces many financial barriers to acute and post-acute care services faced by the elderly. The Medicare Prescription Drug Improvement and Modernization Act of 2003 added important new prescription drug and preventive benefits to Medicare and provides extra financial help to people with low incomes. Consequently, differences in access to and quality of health care tend to be smaller among Medicare beneficiaries than among younger populations. However, racial, ethnic, and socioeconomic differences are still observed among the elderly.

Surveys of the general population often do not include enough elderly to examine racial, ethnic, or SES differences in health care. Consequently, this report relies upon data from the Medicare Current Beneficiary Survey to examine disparities in access to and quality of care.

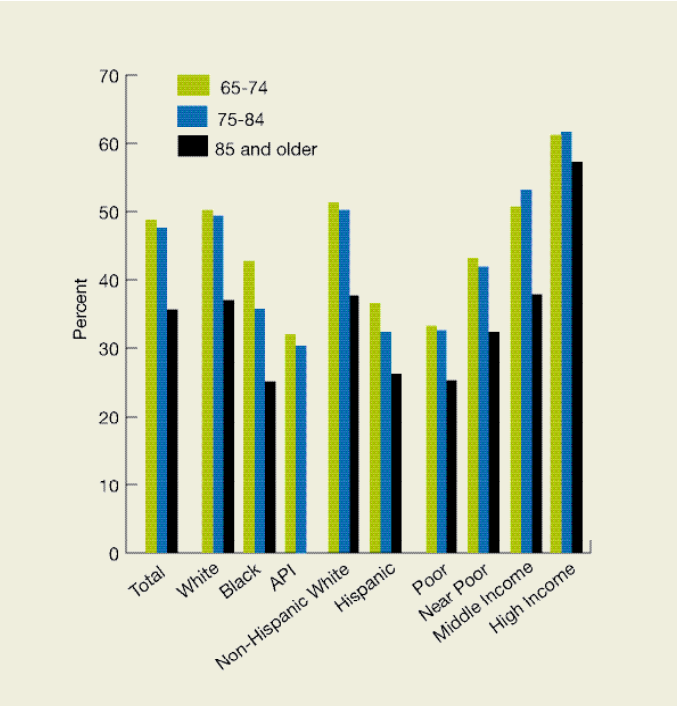
Many measures of relevance to the elderly are tracked in the NHDR. Findings presented here seek to highlight conditions and topics of particular importance to quality of and access to health care among elderly Americans including:

- Cancer
- Vaccinations
- Usual source of care
- Patient perceptions of need

Quality of Health Care

Cancer. Among the elderly, high quality health care includes screening for cancer and cardiovascular risk factors. Of all cancers that can be prevented by screening, colorectal cancer is the most deadly, causing over 55,000 deaths each year. Screening for colorectal cancer with fecal occult blood testing or sigmoidoscopy is an effective means of reducing the incidence of late stage disease and mortality caused by this cancer. The 2003 NHDR showed that while the elderly are more likely to receive colorectal cancer screening than younger age groups, racial, ethnic, and socioeconomic differences exist (NHIS, 2000). This year, more robust estimates from the MCBS are highlighted.

Figure 4.25. Elderly Medicare beneficiaries who reported ever having sigmoidoscopy or colonoscopy by race, ethnicity, and income, 2000

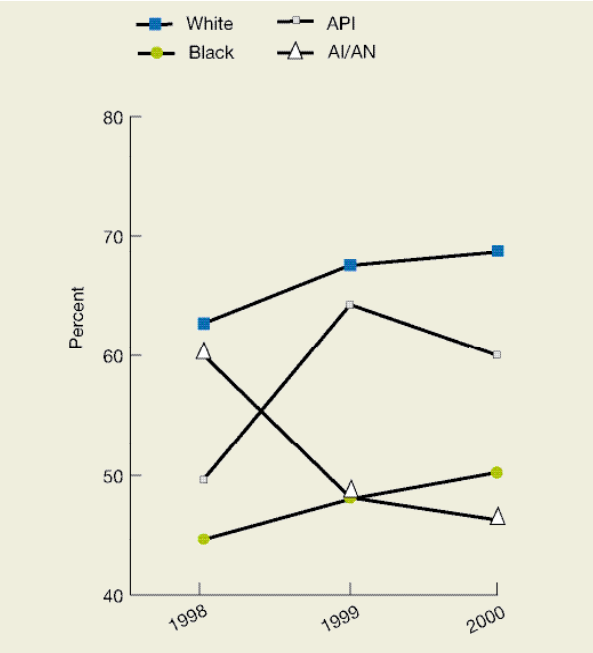


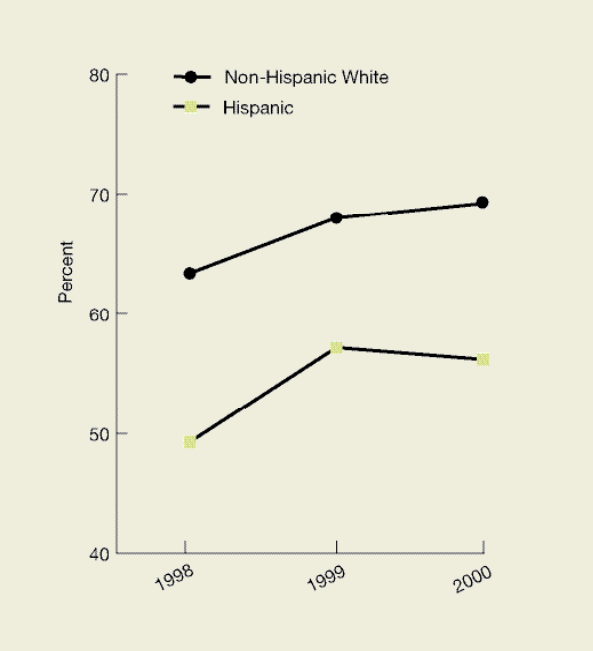
Source: Medicare Current Beneficiary Survey, 2000.
Reference population: Medicare beneficiaries age 65 and older living in the community.

- In 2000, the proportion of elderly Medicare beneficiaries who reported ever having sigmoidoscopy or colonoscopy was lower among those age 85 and older than among those age 65 to 74.
- Within all age groups, receipt of sigmoidoscopy or colonoscopy was lower among black compared with white elderly and among poor, near poor, and middle income compared with high income elderly (Figure 4.25). In addition, receipt of sigmoidoscopy or colonoscopy was lower among API compared with white elderly and Hispanic compared with non-Hispanic white elderly age 65 to 74 and age 75 to 84.
- High income elderly of all racial and ethnic groups and middle income whites achieved the HP2010 goal of 50% screened with sigmoidoscopy or colonoscopy while other racial, ethnic, and income groups did not.

Vaccinations. Vaccination of the elderly is an effective strategy for reducing illness and death associated with pneumococcal disease and influenza.

Figure 4.26. Elderly Medicare beneficiaries that ever had pneumonia vaccination by race (top left), ethnicity (top right), and income (bottom left), 1998-2000





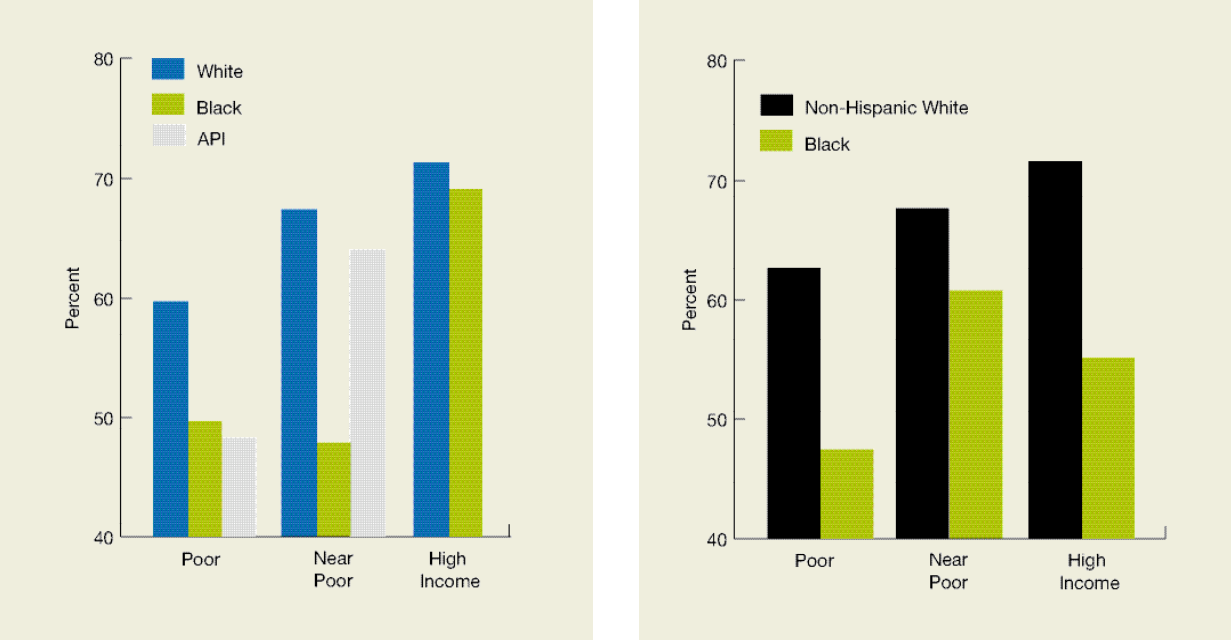
- In all 3 years, the proportion of elderly Medicare beneficiaries who had pneumococcal vaccination was lower among black compared with white elderly, among Hispanic compared with non-Hispanic white elderly, and among poor and near poor compared with high income elderly (Figure 4.26).
- The proportion of elderly Medicare beneficiaries who had pneumococcal vaccination was also lower among AI/AN elderly compared with white elderly in 2000.
- Between 1998 and 2000, proportions with pneumococcal vaccination improved among white and black elderly, non-Hispanic white elderly, and all income groups.

Source: Medicare Current Beneficiary Survey, 1998-2000.

Reference population: Medicare beneficiaries age 65 or older living in the community.

Racial and ethnic minorities are disproportionately poor. To distinguish the effects of race, ethnicity, and income on health care utilization, measures are presented by income level.

Figure 4.27. Elderly Medicare beneficiaries that ever had pneumonia vaccination by race (left) and ethnicity (right) stratified by income, 2000



Source: Medicare Current Beneficiary Survey, 2000.

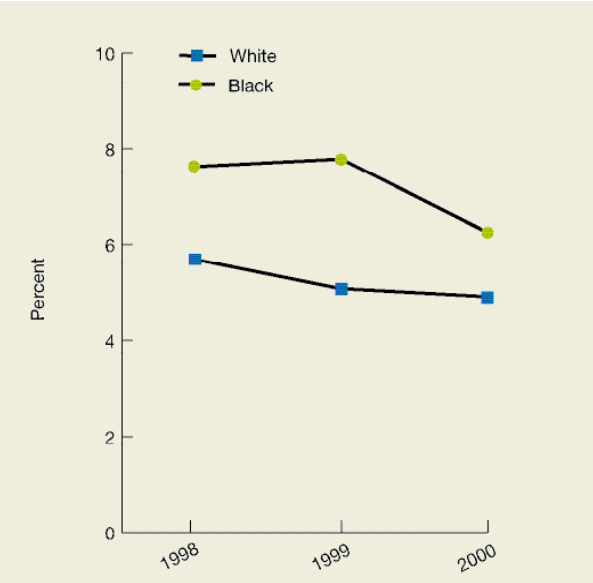
Reference population: Medicare beneficiaries age 65 or older living in the community.

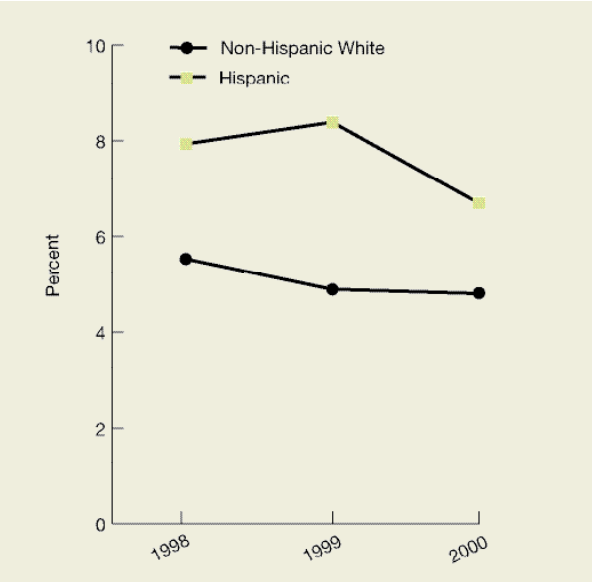
- Income explains some but not all of the differences in health care among the elderly by race and ethnicity.
- Black-white differences in pneumonia vaccination tend to attenuate among people with high incomes. However, they persist among the poor and near poor (Figure 4.27).
- Hispanic—non-Hispanic white differences in pneumonia vaccination are present at all income levels.
- No group achieved the HP2010 goal of 90% of elderly vaccinated against pneumococcal disease.

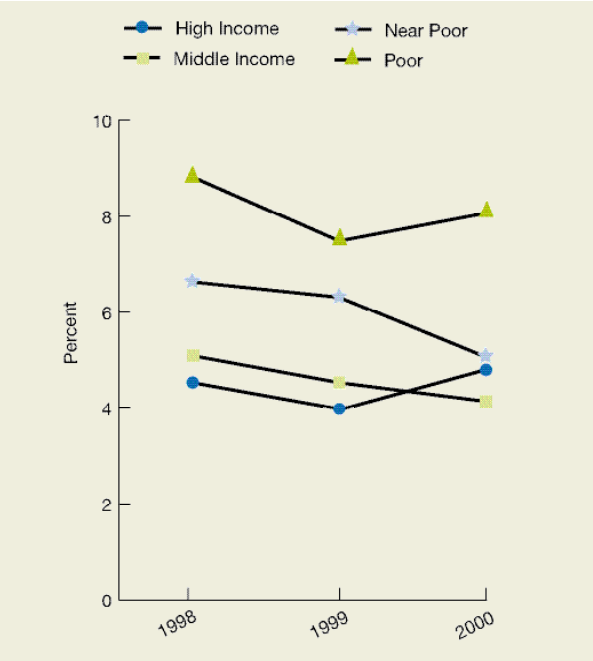
Access to Health Care

Usual source of care. Not having a usual source of care can prevent patients from receiving needed services. The 2003 NHDR reported that the elderly are more likely that younger age groups to have a specific source of ongoing care, but racial, ethnic, and socioeconomic differences exist.

Figure 4.28. Elderly Medicare beneficiaries with no usual source of care by race (top left), ethnicity (top right), and income (bottom left), 1998-2000







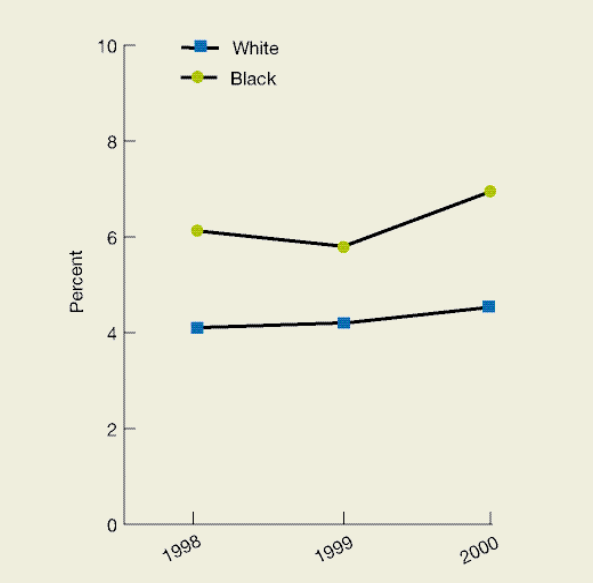
Source: Medicare Current Beneficiary Survey, 1998-2000.

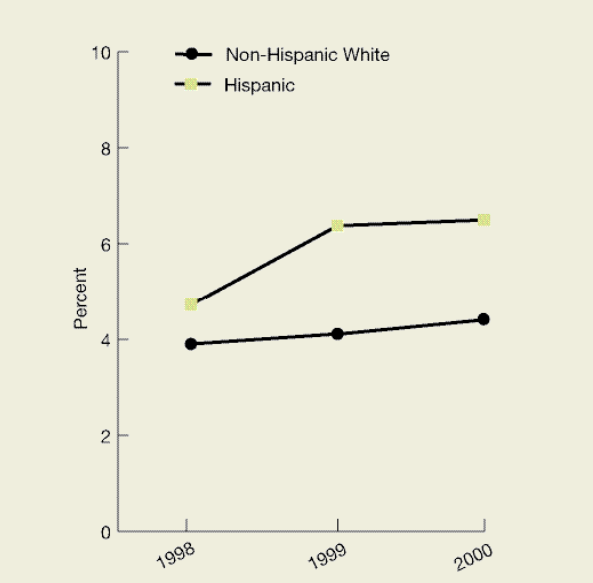
Reference population: Medicare beneficiaries age 65 or older living in the community.

- In all 3 years, the proportion of elderly Medicare beneficiaries who did not have a usual source of care was higher among poor and near poor compared with high income elderly (Figure 4.28).
- Between 1998 and 2000, report of a usual source of care did not change significantly for any racial, ethnic, or income group.
- Only high income white elderly achieved the HP2010 goal of 96% of Americans with a source of care while other racial, ethnic, and income groups did not.

Patient perceptions of need. In the 2003 NHDR, the elderly were less likely than younger age groups to report difficulties or delays in obtaining health care and not getting routine care or care for illness or injury as soon as wanted. However, racial, ethnic, and socioeconomic differences in patient perceptions of need were observed.

Figure 4.29. Elderly Medicare beneficiaries with delayed care due to cost by race (top left), ethnicity (top right), and income (bottom left), 1998-2000





Source: Medicare Current Beneficiary Survey, 1998-2000.

Reference population: Medicare beneficiaries age 65 or older living in the community.

- In all 3 years, the proportion of elderly Medicare beneficiaries who reported delayed care due to cost was higher among poor and near poor compared with high income elderly (Figure 4.29).
- Between 1998 and 2000, delayed care due to cost did not change significantly for any racial, ethnic, or income group.

Residents of Rural Areas

One in five Americans lives in a non-metropolitan area. Compared with their urban counterparts, rural residents are disproportionately elderly and poor.[68]

Rural residents are more likely to report fair or poor health, to have chronic conditions such as diabetes, and to die from heart disease.[68 69] Residents of the most rural counties experience "the highest death rates for children and young adults … and the highest mortality for ischemic heart disease and suicide among men." [70]

There are fewer health care providers per capita in rural areas than in non-rural areas. Although 20% of Americans live in rural areas, only 9% of the Nation's physicians practice in rural areas.[71] There are programs to address the need for physicians in rural areas, such as the National Health Service Corps Scholarship Program, and programs that deliver care in rural areas, such as the Indian Health Service and community health centers. In addition, many non-physician providers work in rural areas and help to deliver needed services. However, many facilities that rural residents rely upon, such as small rural hospitals, have closed or are in financial distress.[72]

Transportation needs are also pronounced among rural residents, who face longer distances to reach health care delivery sites. Residents of "frontier counties" [i] find it particularly difficult to obtain health care due to long distances and travel times to sources of care. Of the 940 "frontier counties," most have limited health care services and 78 do not have any at all.[73 74]

Rural residents are less likely to receive recommended preventive services and report, on average, fewer visits to health care providers.[75] Rural minorities appear to be particularly disadvantaged, and differences are observed in cancer screening and management of cardiovascular disease and diabetes.[76 77]

Many measures of relevance to residents of rural areas are tracked in the NHDR. In the 2003 NHDR, racial, ethnic, and socioeconomic comparisons among residents of areas outside of metropolitan statistical areas (MSAs) were presented. Recognizing that the broad category "non-MSA" masks considerable heterogeneity across the urban-rural continuum, more detailed geographic typologies have been applied to two AHRQ databases for the 2004 NHDR.

[i] "Frontier countries have a population density of less than seven persons per square mile, and residents travel a significant distance for health care.

HCUP State Inpatient Databases. This year, data from the HCUP State Inpatient Databases use new Federal definitions of metropolitan, micropolitan, and non-core based statistical areas published in June 2003 (Table 4.1).[78] HCUP urban-rural contrasts compare residents of micropolitan and non-core based statistical areas with residents of metropolitan statistical areas. HCUP data are used to provide information about quality of care including:

- Diabetes
- Heart disease
- Child health
- Patient safety

Medical Expenditure Panel Survey. This year, data from MEPS also use new Federal definitions. In addition, Urban Influence Codes are used to further subdivide metropolitan and non-core based statistical areas (Table 4. 1). MEPS urban-rural contrasts compare residents of small metropolitan, micropolitan, and non-core based statistical areas with residents of large metropolitan statistical areas. MEPS data are used to provide information about access to care including:

- Health insurance
- Difficulty getting care
- Health care utilization

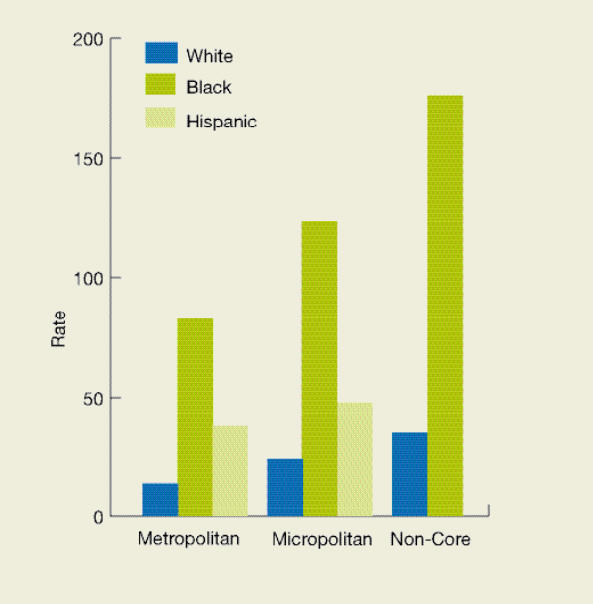
Table 4.1. Urban-rural categories used in HCUP State Inpatient Databases and MEPS analyses

HCUP SID disparities analysis file, 2001: New Federal categories	Metropolitan statistical area (metro): Urban area of 50,000 or more inhabitants		Micropolitan statistical area (micro): Urban area of at least 10,000 but less than 50,000	Non-core based statistical area (non-core): Not metro or micro	
MEPS, 2001: Divides metro and non-core using Urban Influence Codes	Large metropolitan: Metro of 1 million or inhabitants	Small metropolitan: Metro of less than 1 million inhabitants	Micropolitan	Non-core adjacent: Non-core adjacent to metro or micro	Non-core not adjacent: Non-core not adjacent to metro or micro

Quality of Health Care

Diabetes. Effective outpatient care for diabetes reduces admissions for uncontrolled diabetes. Although not all admissions for uncontrolled diabetes can be avoided, rates in populations tend to vary with access to outpatient services.

Figure 4.30. Adult admissions for uncontrolled diabetes without complications per 100,000 population by race/ethnicity, 2001

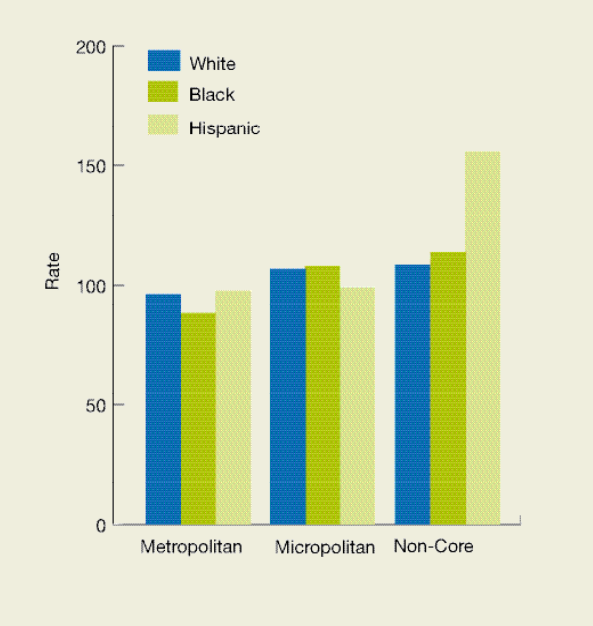


Source: HCUP SID disparities analysis file, 2001.
Reference population: Civilian noninstitutionalized population age 18 and older.

- In 2001, rates of adult admissions for uncontrolled diabetes were higher among residents of micropolitan and non-core based statistical areas than among residents of metropolitan statistical areas.
- Admission rates for uncontrolled diabetes were higher among Hispanics than among non-Hispanic whites in metropolitan areas and higher among blacks than among non-Hispanic whites in all geographic areas (Figure 4.30).

Heart disease. Inpatient death rates may in part reflect access to high quality hospital care.

Figure 4.31. Deaths per 1,000 adult admissions for acute myocardial infarction by race/ethnicity, 2001

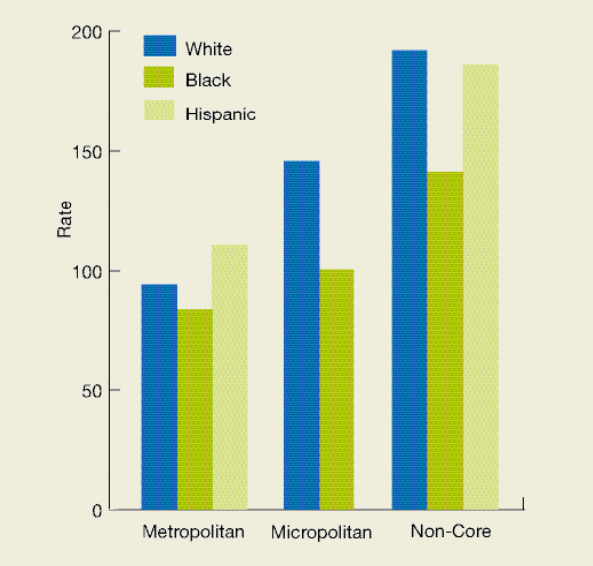


Source: HCUP SID disparities analysis file, 2001.
Reference population: Adults age 18 and older hospitalized with acute myocardial infarction.
Note: White and Black are non-Hispanic groups.

- In 2001, inpatient death rates among adults admitted for acute myocardial infarction were higher among residents of micropolitan and non-core based statistical areas than among residents of metropolitan statistical areas.
- Inpatient death rates were higher among Hispanics than among non-Hispanic whites in non-core based statistical areas (Figure 4.31). Black-white differences were not significant.

Child health. Effective primary care for children should result in fewer admissions for pediatric gastroenteritis.

Figure 4.32. Pediatric admissions for gastroenteritis per 100,000 population by race/ethnicity, 2001

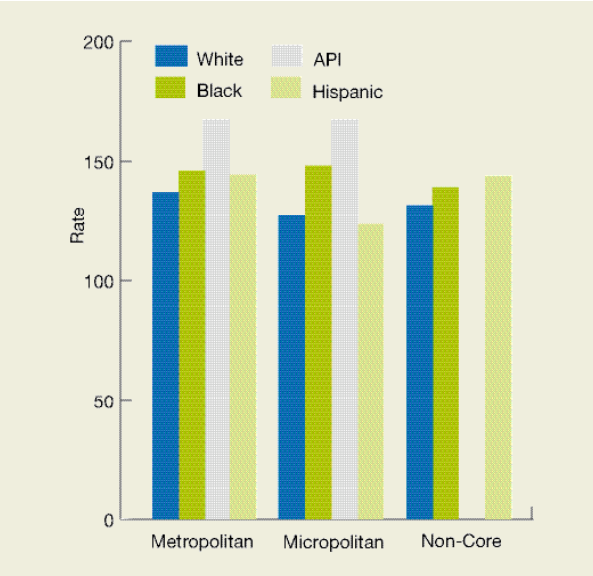


Source: HCUP SID disparities analysis file, 2001.
Reference population: Children age 0 to 17.
Note: White and Black are non-Hispanic groups.

- In 2001, admission rates for pediatric gastroenteritis were higher among residents of micropolitan and non-core based statistical areas than among residents of metropolitan statistical areas.
- Admission rates for pediatric gastroenteritis were similar among all racial/ethnic groups in all statistical areas (Figure 4.32).

Patient safety. AHRQ's Patient Safety Indicators capture adverse events associated with inpatient care but cannot distinguish between events that are avoidable and unavoidable.

Figure 4.33. Deaths per 1,000 discharges with complications potentially resulting from care (failure to rescue) by race/ethnicity, 2001



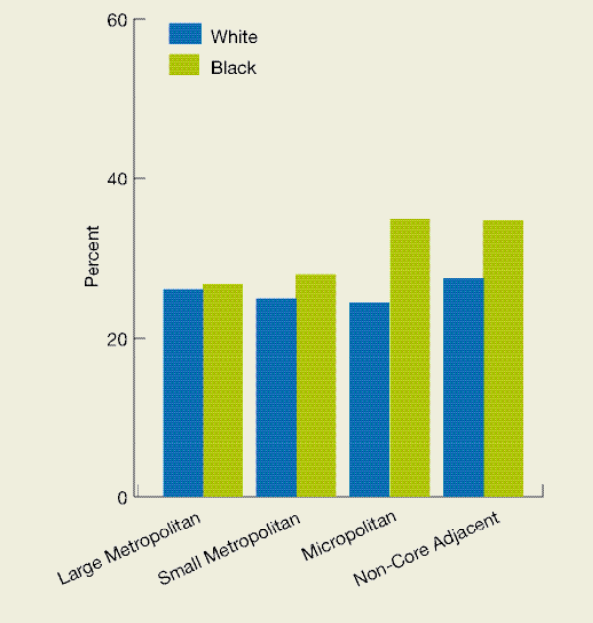
Source: HCUP SID disparities analysis file, 2001.
Reference population: People discharged with complications potentially resulting from care.
Note: White, Black, and API are non-Hispanic groups.

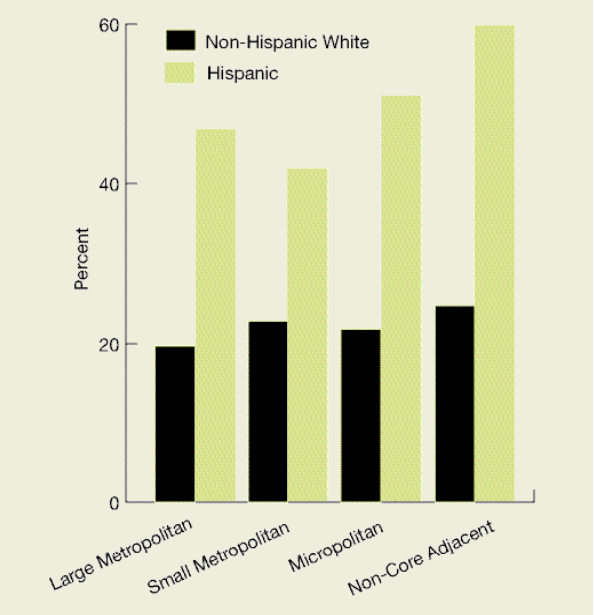
- In 2001, rates of death associated with complications potentially resulting from hospital care (failure to rescue) were lower among residents of micropolitan and non-core based statistical areas than among residents of metropolitan statistical areas.
- Rates of death associated with complications were higher among blacks, Hispanics, and APIs than among non-Hispanic whites in metropolitan statistical areas and higher among blacks than among non-Hispanic whites in micropolitan statistical areas (Figure 4.33).

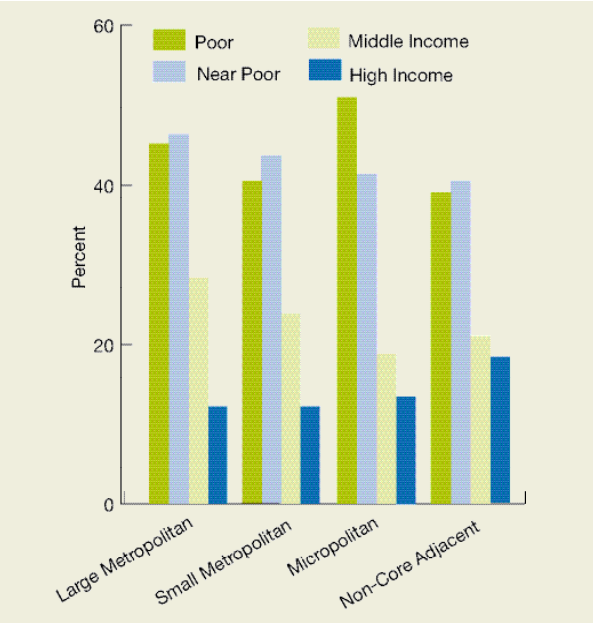
Access to Health Care

Health insurance. Health insurance facilitates entry into the health care system.

Figure 4.34. People under 65 with any period of uninsurance in past year by race (top left), ethnicity (top right), and income (bottom left), 2001







- In 2001, similar percentages of people under 65 in large metropolitan, small metropolitan, micropolitan, and non-core based adjacent statistical areas reported a period of uninsurance in the past year.
- The proportion of people under 65 with any period of uninsurance in the past year was higher among blacks compared with whites in micropolitan statistical areas, among Hispanics compared with non-Hispanic whites in all four statistical areas, and among poor and near poor people compared with high income people in all four statistical areas (Figure 4.34).

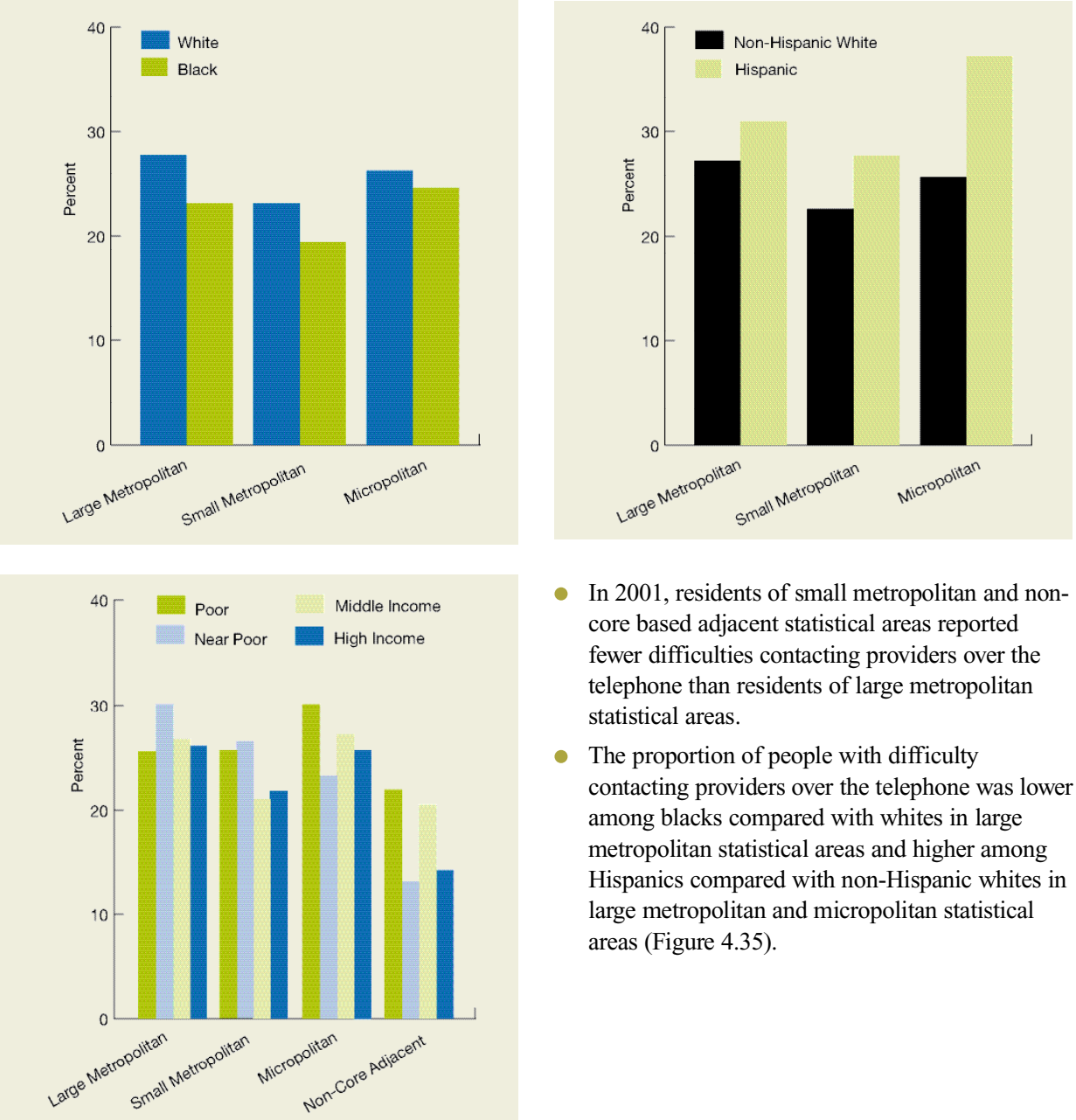
Source: Medical Expenditure Panel Survey, 2001.

Reference population: Civilian noninstitutionalized population under age 65.

Note: Sample sizes were too small to provide estimates for residents of non-core based statistical areas not adjacent to metropolitan or micropolitan areas.

Difficulty getting care. Maintaining contact and managing patient care over the telephone may be particularly important in geographic areas with few providers and long travel times to care.

Figure 4.35. People with difficulty contacting provider over the telephone by race (top left), ethnicity (top right), and income (bottom left), 2001

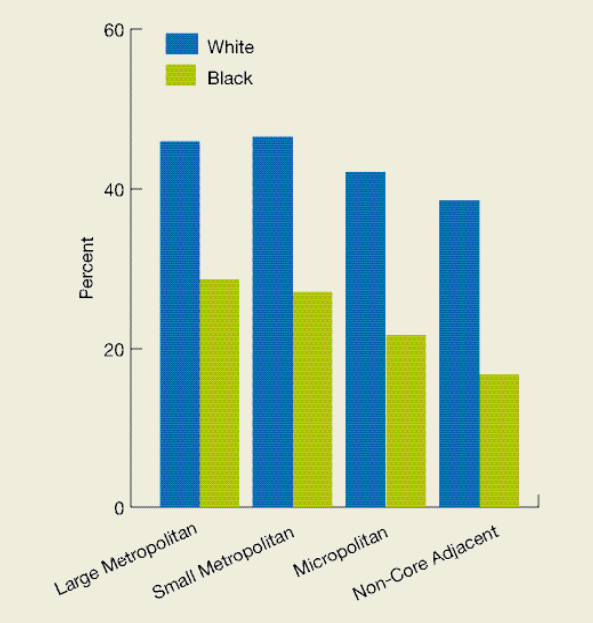


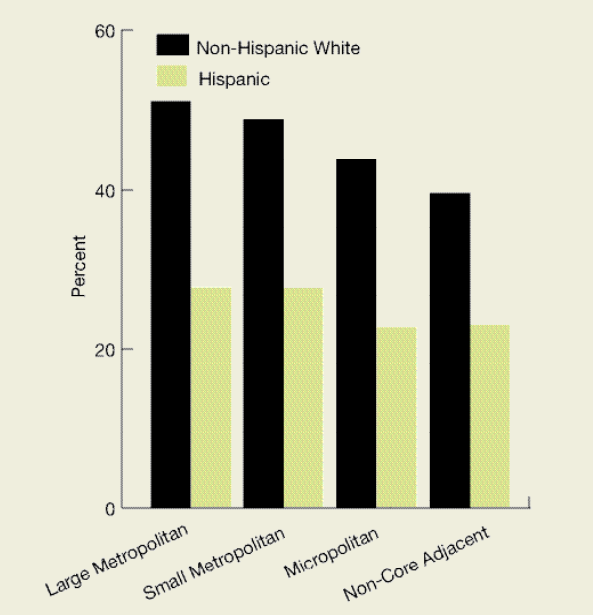
- In 2001, residents of small metropolitan and non-core based adjacent statistical areas reported fewer difficulties contacting providers over the telephone than residents of large metropolitan statistical areas.
- The proportion of people with difficulty contacting providers over the telephone was lower among blacks compared with whites in large metropolitan statistical areas and higher among Hispanics compared with non-Hispanic whites in large metropolitan and micropolitan statistical areas (Figure 4.35).

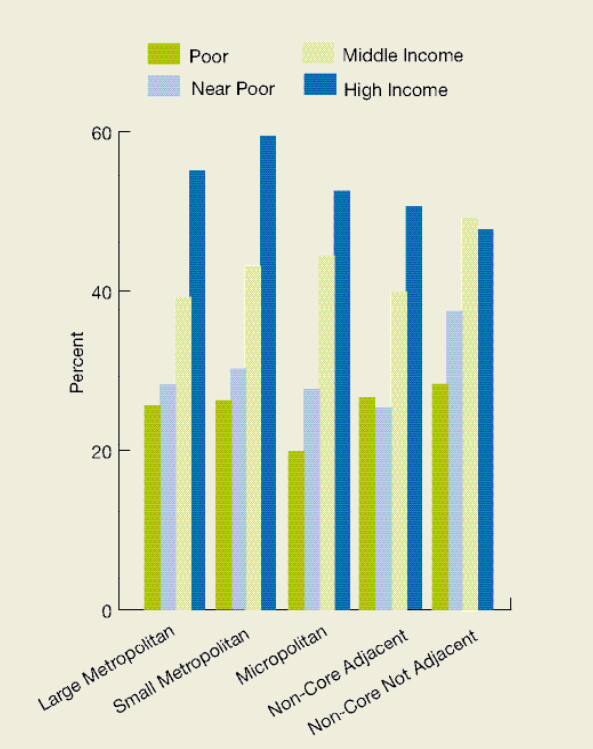
Source: Medical Expenditure Panel Survey, 2001.
Reference population: Civilian noninstitutionalized population.
Note: Sample sizes were too small to provide estimates for residents of non-core based statistical areas not adjacent to metropolitan or micropolitan areas.

Health care utilization. Routine dental care helps maintain healthy teeth.

Figure 4.36. People with a dental visit in past year by race (top left), ethnicity (top right), and income (bottom left), 2001







- In 2001, residents of non-core based statistical areas not adjacent to metropolitan or micropolitan areas were less likely to report a dental visit in the past year than residents of large metropolitan statistical areas.
- The proportion of people with dental visits in the past year was lower among blacks compared with whites and Hispanics compared with non-Hispanic whites in large metropolitan, small metropolitan, micropolitan, and non-core based adjacent statistical areas (Figure 4.36).
- The proportion of people with dental visits was lower among poor compared with high income people in all five statistical areas; among near poor compared with high income people in large metropolitan, small metropolitan, micropolitan, and non-core based adjacent statistical areas; and among middle income compared with high income people in large metropolitan, small metropolitan, and micropolitan statistical areas.

Source: Medical Expenditure Panel Survey, 2001.

Reference population: Civilian noninstitutionalized population.

Note: Data support estimates for residents of non-core not adjacent areas by income but not by race or ethnicity.

Individuals With Special Health Care Needs

Individuals with special health care needs include individuals with disabilities, individuals who need chronic care or end-of-life health care, and children with special heath care needs. In the 2003 NHDR, a small amount of information about each of these groups was reported; in the 2004 NHDR, one of these groups, children with special health care needs, is highlighted. The recently available 2001 National Survey of Children with Special Health Care Needs (NSCSHCN) is used to provide more detailed information about disparities in health care for this group. In future iterations of the NHDR, it is anticipated that detailed information about other individuals with special health care needs will be provided.

Studying access to and quality of care for children with chronic conditions is difficult due to the low prevalence of most conditions in children.[79 80 81] A standard definition of CSHCN was developed in 1995.[80 82] This definition was subsequently used to develop the CSHCN Screener Questionnaire[80] and included in the 2001 NSCSHCN.[83 84] The 2001 NSCSHCN estimated that 12.8% of all noninstitutionalized children, or 9.4 million children, had special health care needs in the United States in 2001.[84]

By definition, children with special health care needs are children that require more medical care because they are less healthy. As a result of requiring more medical care, CSHCN have higher medical expenses, on average, than other children, and their medical expenses make up a disproportionately higher share of children's total health care dollars.[80 85 86] According to the 2001 NSCSHCN, costs of care for 20.9% of CSHCN caused financial problems for their families.[84] In addition to financial burdens, families of CSHCN spend considerable time caring for them. An estimated 13.5% of CSHCN had families who spent 11 or more hours per week providing or coordinating care.[84]

Having higher health care needs makes CSHCN susceptible to access, cost, quality, and coverage weaknesses in the health care system. Studies have documented that poor and racial and ethnic minority children with chronic conditions may experience lower quality care.[87 88] Children with chronic conditions are reported by their parents to be less likely than other children to receive the full range of needed health services.[89] Among CSHCN, minorities are more likely than white children to be without health insurance coverage or a usual source of care.[90]

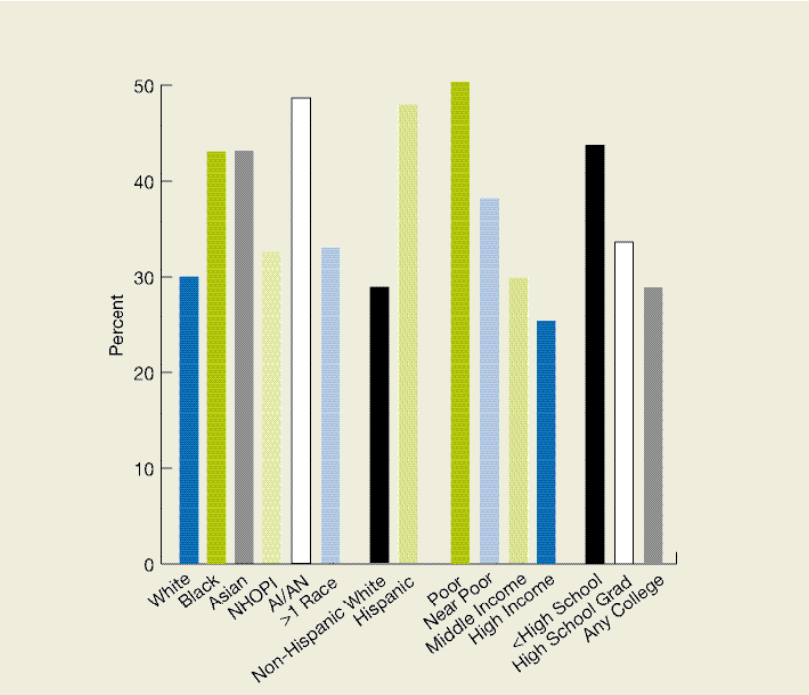
Many measures of relevance to CSHCN are tracked in the NHDR. The section on children in this chapter includes comparisons of CSHCN with other children on receipt of counseling about physical activity (Figure 4.20) and on parent-provider communication (Figure 4.24). Findings presented here seek to focus on family-centered care and to highlight topics in access to health care of particular importance to CSHCN including:

- Health insurance
- Usual source of care
- Patient perceptions of need
- Difficulty getting care

Focus on Family-Centered Care

Family-centered care requires providers who spend adequate time with the child, listen carefully to the parent, are sensitive to family values and customs, communicate specific needed health information, and help the family feel like a partner in the child's care.

Figure 4.37. Children with special health care needs without family-centered care by race, ethnicity, income, and parental education, 2001

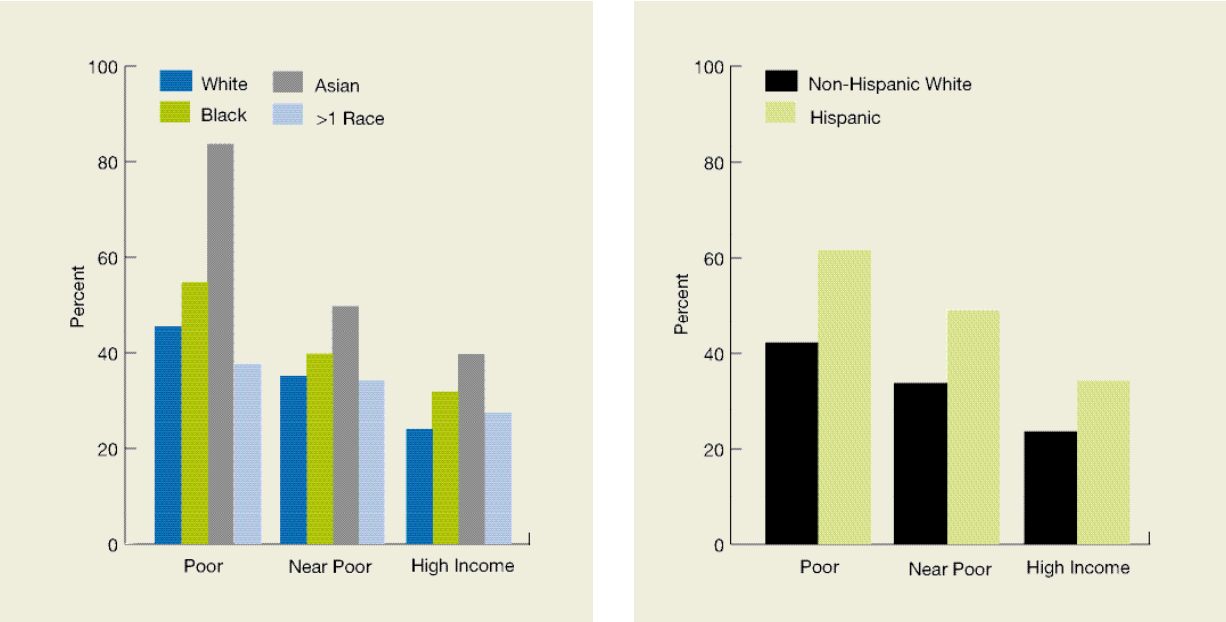


Source: National Survey of Children with Special Health Care Needs, 2001.

Reference population: Civilian noninstitutionalized population age 0 to 17 with special health care needs.

- In 2001, the proportion of CSHCN reported as not receiving family-centered care was higher among black, Asian, and AI/AN compared with white CSHCN; among Hispanic compared with non-Hispanic white CSHCN; among poor, near poor, and middle income compared with high income CSHCN; and among CSHCN whose parents had less than a high school education compared with CSHCN whose parents had any college education (Figure 4.37).

Figure 4.38. Children with special health care needs without family-centered care by race (left) and ethnicity (right) stratified by income, 2001



Source: National Survey of Children with Special Health Care Needs, 2001.

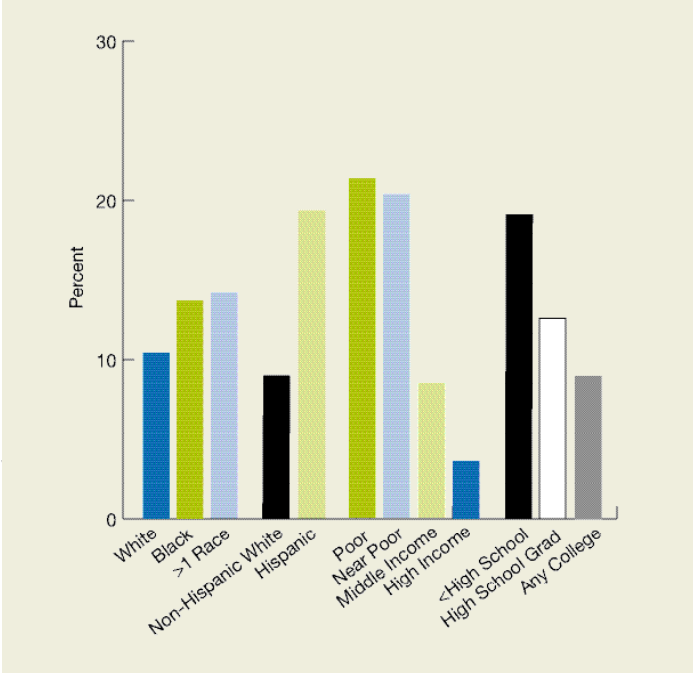
Reference population: Civilian noninstitutionalized population age 0 to 17 with special health care needs.

- Income explains some but not all of the differences in quality of care among CSHCN by race and ethnicity. For example, although racial and ethnic differences in family-centered care tend to attenuate among CSHCN in high income families, they often persist among the poor and near poor (Figure 4.38).

Access to Health Care

Health insurance. An important measure of access to care is health insurance coverage.

Figure 4.39. Children with special health care needs who were without health insurance at some point in the past year by race, ethnicity, income, and parental education, 2001

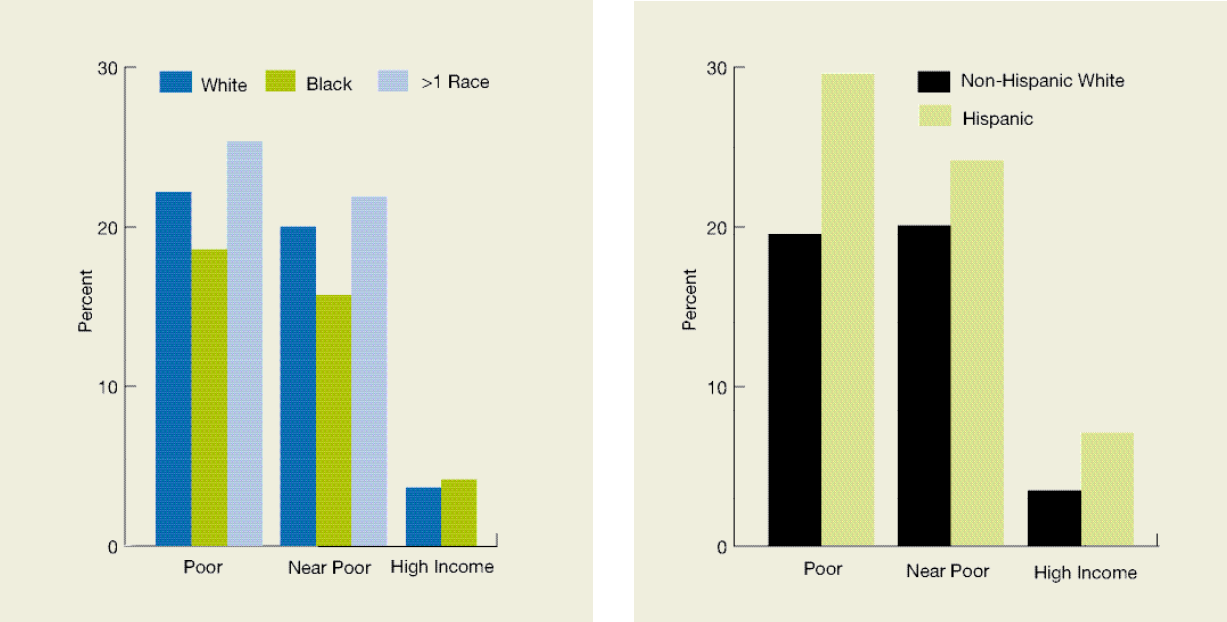


Source: National Survey of Children with Special Health Care Needs, 2001.

Reference population: Civilian noninstitutionalized population age 0 to 17 with special health care needs.

- In 2001, the proportion of CSHCN reported as having no health insurance at some time in the past year was higher among black and multiple race CSHCN compared with white CSHCN; among Hispanic compared with non-Hispanic white CSHCN; among poor, near poor, and middle income compared with high income CSHCN; and among CSHCN whose parents had less than a high school education or were high school graduates compared with CSHCN whose parents had any college education (Figure 4.39).

Figure 4.40. Children with special health care needs who were without health insurance at some point in the past year by race (left) and ethnicity (right) stratified by income, 2001

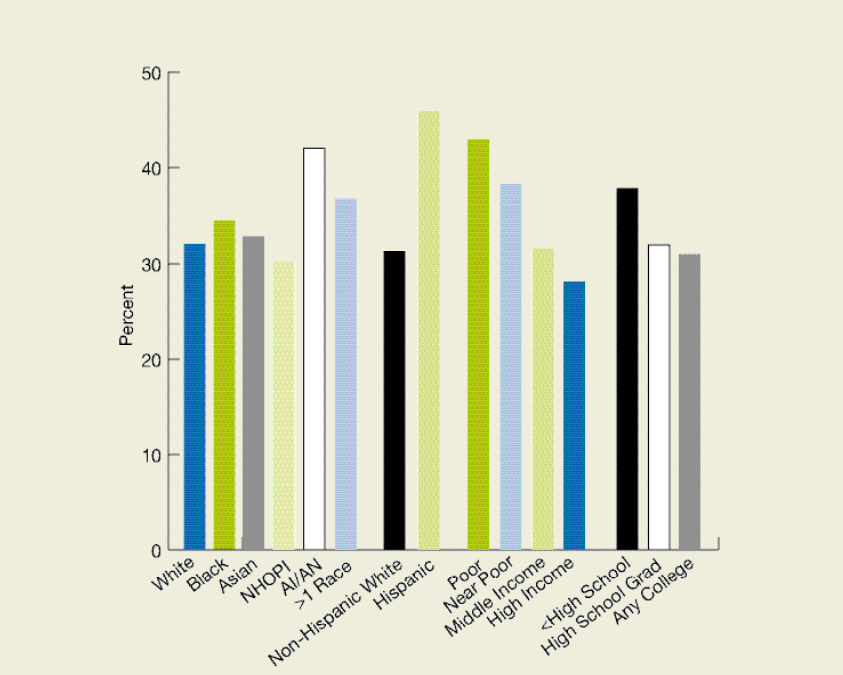


Source: National Survey of Children with Special Health Care Needs, 2001.

Reference population: Civilian noninstitutionalized population age 0 to 17 with special health care needs.

- Income explains some but not all of the differences in access to care among CSHCN by ethnicity. For example, although differences in health insurance between Hispanics and non-Hispanic whites tend to attenuate or disappear among CSHCN in high income families, they persist among the poor (Figure 4.40). In contrast, differences among racial groups are not significant at all income levels.

Figure 4.41. Currently insured children with special health care needs whose insurance is not adequate by race, ethnicity, income, and parental education, 2001

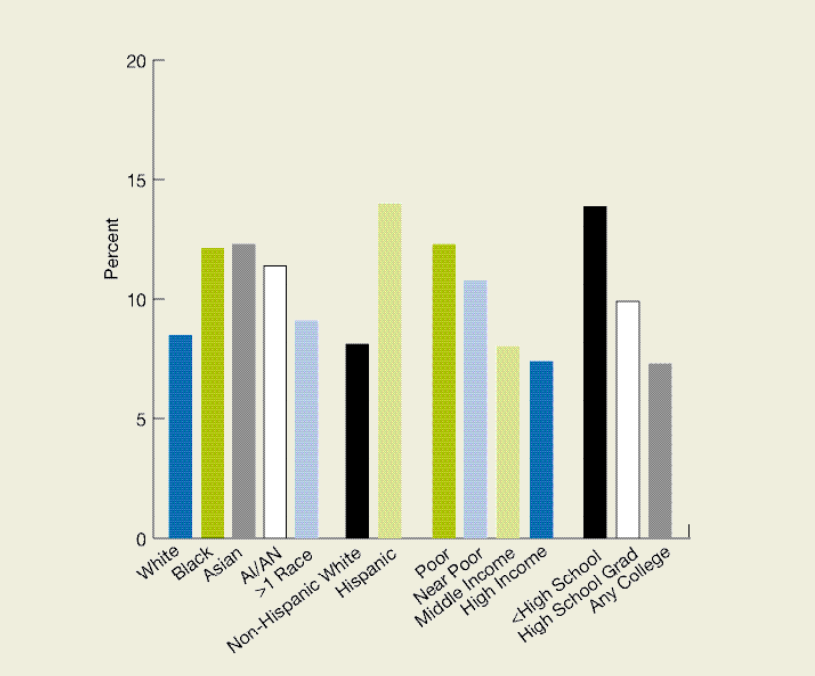


Source: National Survey of Children with Special Health Care Needs, 2001.
Reference population: Civilian noninstitutionalized population age 0 to 17 with special health care needs who have health insurance.
Note: Among CSHCN with insurance, adequacy of health insurance assesses the degree to which benefits cover the child's needs, uncovered costs are reasonable, and the child is able to see the providers he or she needs.

- In 2001, the proportion of CSHCN with insurance reported as having less than adequate insurance was higher among Hispanic comparedwith non-Hispanic white CSHCN; among poor, near poor, and middle income compared with high income CSHCN; and among CSHCN whose parents had less than a high school education compared with CSHCN whose parents had any college education (Figure 4.41). Racial differences were not significant.

Usual source of care. Having a usual source of care is another important part of access to care.

Figure 4.42. Children with special health care needs who have no usual source of health care by race, ethnicity, income, and parental education, 2001



Source: National Survey of Children with Special Health Care Needs, 2001.

Reference population: Civilian noninstitutionalized population age 0 to 17 with special health care needs.

- In 2001, the proportion of CSHCN reported as having no usual source of care was higher among black than white CSHCN, Hispanic than non-Hispanic white CSHCN, poor and near poor than high income CSHCN, and CSHCN whose parents had less than a high school education or were high school graduates than CSHCN whose parents had any college education (Figure 4.42).

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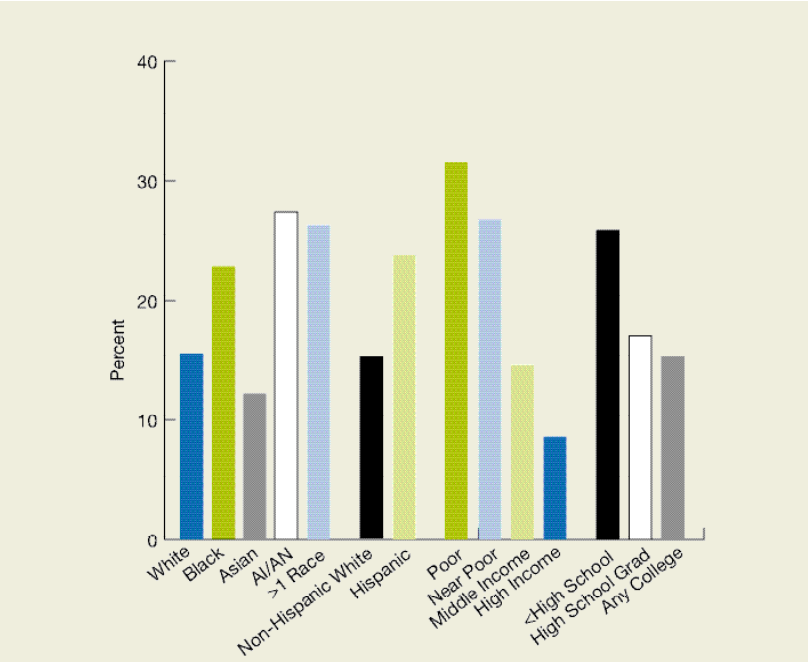
Patient perceptions of need. CSHCN require many different types of health care services.

Figure 4.43. Children with special health care needs who reported any unmet needs for specific health care services in the past year by race, ethnicity, income, and parental education, 2001

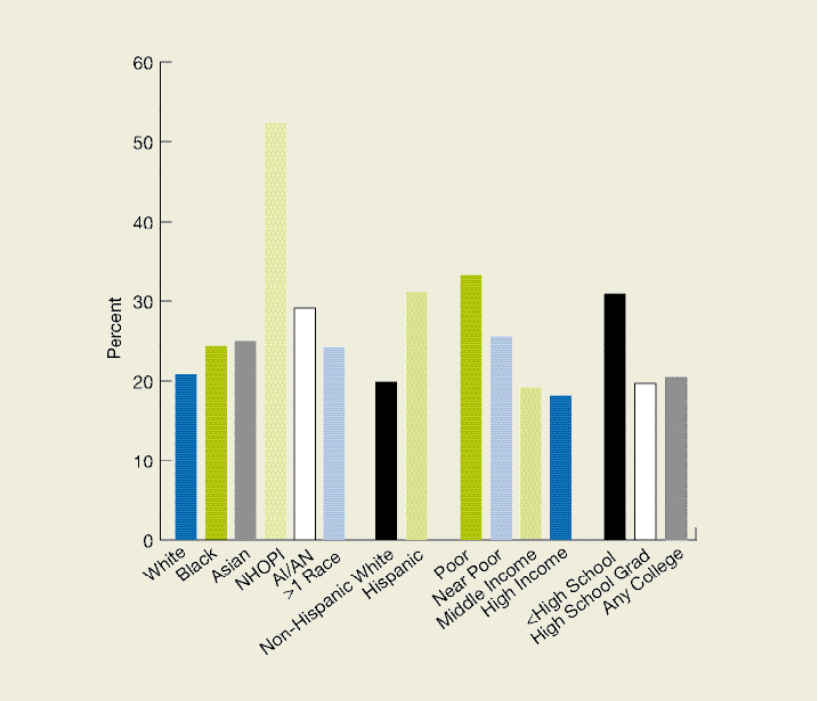


Source: National Survey of Children with Special Health Care Needs, 2001.
Reference population: Civilian noninstitutionalized population age 0 to 17 with special health care needs.

- In 2001, the proportion of CSHCN reported as having unmet needs for specific health care services was higher among black, AI/AN, and multiple race CSHCN compared with white CSHCN; Hispanic compared with non-Hispanic white CSHCN; poor, near poor, and middle income compared with high income CSHCN; and CSHCN whose parents had less than a high school education compared with CSHCN whose parents had any college education (Figure 4.43).

Difficulty getting care. Children with special health care needs often require care from specialists.

Figure 4.44. Children with special health care needs needing specialty care who reported difficulty getting a referral in the past year by race, ethnicity, income, and parental education, 2001



Source: National Survey of Children with Special Health Care Needs, 2001.

Reference population: Civilian noninstitutionalized population age 0 to 17 with special health care needs who needed specialty care.

- In 2001, the proportion of CSHCN needing specialty care reported as having difficulty getting a referral was higher among NHOPI compared with white CSHCN; Hispanic compared with non-Hispanic white CSHCN;poor and near poor compared with high income CSHCN; and CSHCN whose parents had less than a high school education compared with CSHCN whose parents had any college education (Figure 4.44). Black-white differences were not significant.

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U.S. Department of
Health and Human Services

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AHRQ Publication No. 05-0014
December 2004