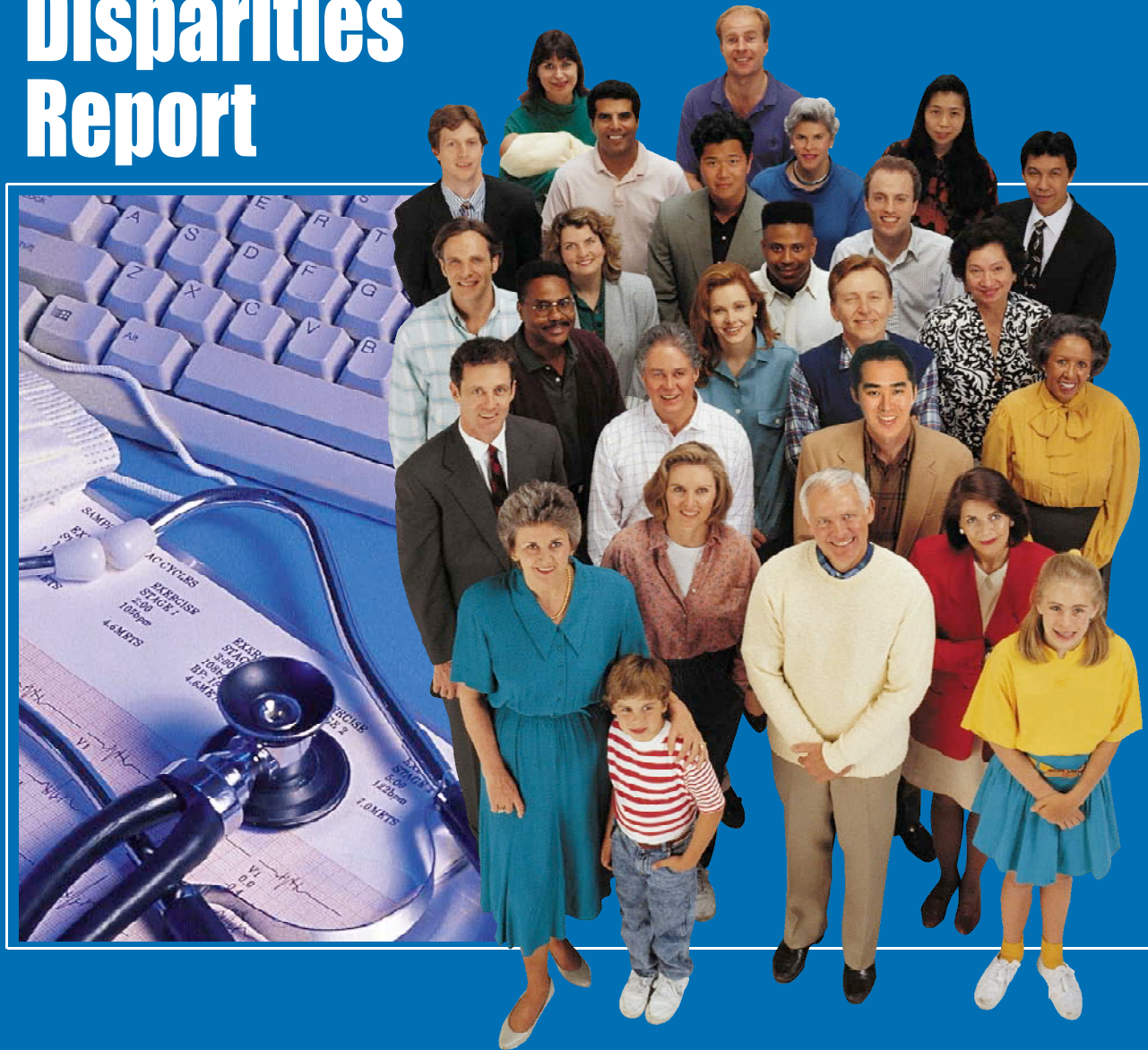
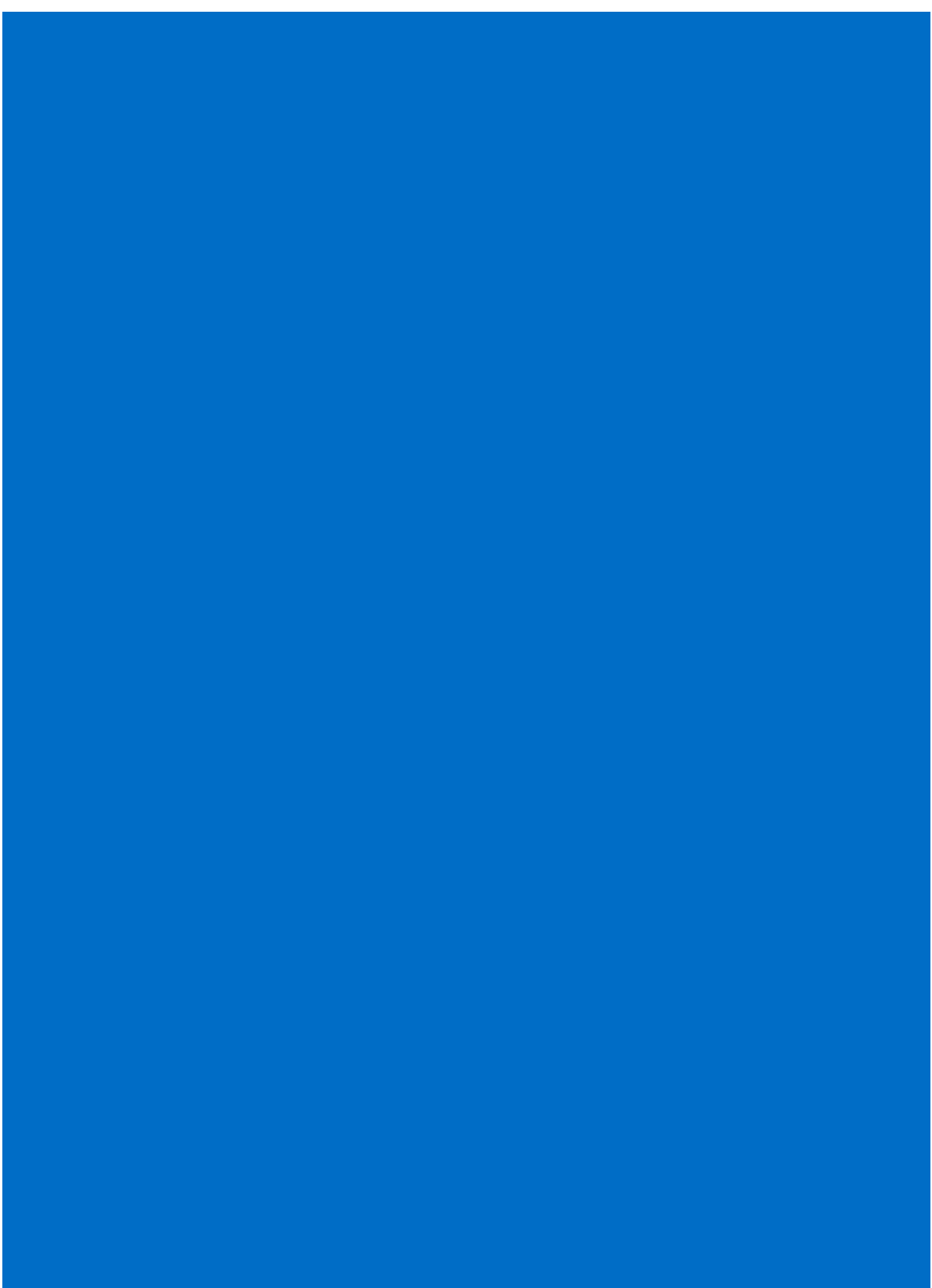


2006

National Healthcare Disparities Report



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2006 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. 07-0012
December 2006

Acknowledgments

The 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 magnanimous support, this report would not have been possible.

Specifically, we thank:

Primary AHRQ Staff: Carolyn Clancy, Bill Munier, Katherine Crosson, Ernest Moy, Elizabeth Dayton, Dwight McNeill, James Burgdorf, Karen Ho, and Donna Rae Castillo.

HHS Interagency Workgroup for the NHQR/NHDR: Irma Arispe (CDC-NCHS), Hakan Aykan (ASPE), Martin Dannenfelser (ACF), Agnes Davidson (OSOPHS), Eileen Elias (OD), Brenda Evelyn (FDA), Anita Everett (SAMHSA), Kay Felix-Aaron (HRSA), Suzanne Feetham (HRSA), Olinda Gonzalez (SAMHSA), Miryam Granthon (HRSA), Saadia Greenberg (AoA), Kirk Greenway (IHS), Lein Han (CMS), Trent Haywood (CMS), Tom Hertz (ASPE), Lisa Hines (CMS), Julia Holmes (CDC-NCHS), David Hunt (CMS), Deloris Hunter (NIH), David Introcaso (ASPE), Ruth Katz (ASPE), Richard Klein (CDC-NCHS), Lisa Koonin (CDC), Leopold Luberecki (ASL), Diane Makuc (CDC-NCHS), Ronald Manderscheid (SAMHSA), Marty McGeein (ASPE), Richard McNaney (CMS), Rebecca Middendorf (ASPE), Leo Nolan (IHS), Karen Oliver (NIH), Suzanne Proctor (CDC-NCHS), Susan Queen (HRSA), Michael Rapp (CMS), William Robinson (HRSA), Susan Rossi (NIH), Beatrice Rouse (SAMHSA), Paul Seligman (FDA), Leslie Shah (HRSA), Sam Shekar (HRSA), Adelle Simmons (ASPE), Sunil Sinha (CMS), Phillip Smith (IHS), Caroline Taplin (ASPE), Emmanuel Taylor (NIH), Benedict Truman (CDC), Nadarajen Vydelingum (NIH), Valerie Welsh (OSOPHS), Dinah Wiley (OCR), Barbara Wingrove (NIH).

AHRQ Center for Quality Improvement and Patient Safety NHQR/NHDR Team: Ernest Moy, James Burgdorf, Denise Burgess, Colleen Choi, Kathy Crosson, Elizabeth Dayton, Tina Ding, Daryl Gray, Sonja Hall, Karen Ho, Sara Hogan, Edward Kelley, Dwight McNeill, Judy Sangl, David Stevens, Nancy Wilson, Chunliu Zhan.

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Agency for Healthcare Research and Quality. 2006 National Healthcare Disparities Report. Rockville, MD: U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality; December 2006. AHRQ Pub. No. 07-0012.

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2006 National Healthcare Disparities Report—At A Glance

For most core quality measures, Blacks (73%), Hispanics (77%), and poor people (71%) received worse quality care than their reference groups. For most measures for poor people (67%), disparities were *increasing*; for most measures for minorities, significant changes in disparities were not observed.

Increasing disparities were especially prevalent in chronic disease management. Compared to their reference groups—

- Blacks had 90% more lower extremity amputations for diabetes.
- Asians were restrained in nursing homes 46% more often.
- American Indians and Alaska Natives were hospitalized from home health care 15% more often.
- Hispanics had 63% more pediatric asthma hospitalizations.
- Poor people were 37% less likely to receive recommended diabetes care.

All of these disparities were increasing over time. However, better and improving quality was also observed for at least 1 measure for every population.

For most core access measures, Hispanics (83%) and poor people (100%) had worse access to care than their reference groups. Disparities were *increasing* for most measures for Hispanics (80%) and poor people (60%).

Better access was only observed for Asians compared with Whites, although improving access was observed for at least 1 measure for every population.

Key Themes and Highlights From the National Healthcare Disparities Report

The Agency for Healthcare Research and Quality (AHRQ) is pleased to release the 2006 National Healthcare Disparities Report (NHDR) on behalf of the U.S. Department of Health and Human Services (HHS) and in collaboration with an HHS-wide Interagency Work Group. Like previous reports, the 2006 NHDR also received significant guidance from AHRQ leadership and AHRQ's National Advisory Committee. This fourth annual report to Congress provides a comprehensive national overview of disparities in health care among racial, ethnic, and socioeconomicⁱ groups in the general U.S. population and within priority populations and tracks the progress of activities to reduce disparities.

The NHDR tracks disparities related to quality of health care and access to health care. Measures of health care quality address the extent to which providers and hospitals deliver evidence-based care for specific services as well as the outcomes of the care provided. They are organized around four dimensions of quality—effectiveness, patient safety, timeliness, and patient centeredness—and cover four stages of care—staying healthy, getting better, living with illness or disability, and coping with the end of life. Measures of health care access include assessments of how easily patients are able to get needed health care and their actual use of services. They are organized around two dimensions of access—facilitatorsⁱⁱ and barriers to care and health care utilization.

The NHDR is complemented by its companion report, the National Healthcare Quality Report (NHQR), which uses the same quality measures as the NHDR to provide a comprehensive overview of the quality of health care in America. Both reports measure health care quality and track changes over time but with different orientations. The NHQR addresses the current state of health care quality and the opportunities for improvement for all Americans as a whole. This perspective is useful for identifying where we are doing well as a Nation and where more work is needed. The NHDR addresses the distribution of improvements in health care quality and access across the different populations that make up America. This perspective is useful for ensuring that all Americans benefit from improvements in care. Perspectives from both reports are needed for a complete understanding of quality of health care, and both reports support HHS Secretary Mike Leavitt's 500-Day Plan to fulfill the President's vision of a healthier America, specifically in the areas of better transparency of health care quality information and eliminating inequities in health care.

This year's NHDR and NHQR continue the tracking of trends across a broad array of measures of health care quality and access for many racial and ethnic minority groups and socioeconomic groups. In addition, the 2006 reports incorporate improved measures and methods for summarizing quality and disparities in health

ⁱ Socioeconomic differences include differences in education and income levels.

ⁱⁱ Facilitators to health care are factors that increase the likelihood that people will get the health care they need, such as having health insurance and a usual primary care provider.

care, including new composite measuresⁱⁱⁱ and expanded analyses of trends in disparities. This section offers a concise overview of findings from the 2006 NHDR. More detailed findings are presented in the chapters that follow.

In the 2006 NHDR, four key themes are highlighted for policymakers, researchers, clinicians, administrators, and community leaders who seek information to improve health care services for all Americans:

- Disparities remain prevalent.
- Some disparities are diminishing while others are increasing.
- Opportunities for reducing disparities remain.
- Information about disparities is improving, but gaps still exist.

Disparities Remain Prevalent

Consistent with extensive research and findings in previous NHDRs, the 2006 report finds that disparities^{iv} related to race, ethnicity, and socioeconomic status still pervade the American health care system. Although 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: facilitators and barriers to care and health care utilization.
- Across many levels and types of care including: preventive care,^v treatment of acute conditions,^{vi} and management of chronic disease.^{vii}
- Across many clinical conditions including: cancer, diabetes, end stage renal disease (ESRD), heart disease, HIV disease, mental health and substance abuse, and respiratory diseases.
- Across many care settings including: primary care, home health care, hospice care, emergency departments, hospitals, and nursing homes.
- Within many subpopulations including: women, children, elderly, residents of rural areas, and individuals with disabilities and other special health care needs.

ⁱⁱⁱ Composite measures provide readers with a summarized picture of some aspect of health care by combining information from multiple component measures. For example, the NHDR composite measure for “complications following surgery” includes measures for persons who develop pneumonia, bladder infection, and blood clots in the legs following surgery.

^{iv} 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, Introduction and Methods.

^v Preventive care includes counseling about healthy lifestyle behaviors and medical screenings to diagnose diseases at as early a stage as possible. For example, the NHDR includes measures for various screenings, counseling, maternal and child health care, and vaccinations.

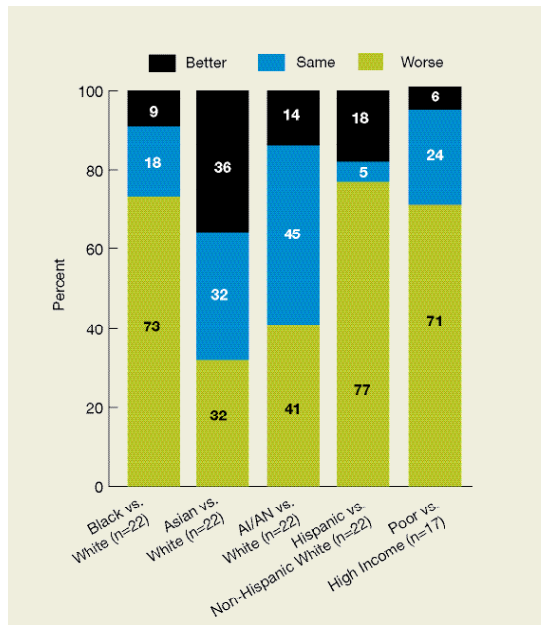
^{vi} Acute care is short-term medical care. For example, the NHDR includes measures for heart disease, pneumonia, and patient safety.

^{vii} Chronic care is long-term medical care. For example, the NHDR includes measures for nursing home, home health, and hospice care and chronic diseases such as diabetes, asthma, ESRD, and cancer.

Highlights

To quantify the prevalence of disparities across the core measures tracked in the 2006 report, racial and ethnic minority groups and socioeconomic groups are compared with an appropriate reference group^{viii} for each core measure.^{ix} Each group could receive care that is poorer than, about the same as, or better than the reference group. To facilitate comparisons across racial and ethnic groups, contrasts this year focus on 22 core measures of quality and 6 core measures of access which support reliable estimates for Whites, Blacks,^x Asians,^{xi} American Indians and Alaska Natives (AI/ANs), and Hispanics. Comparisons by income group focus on 17 core measures of quality and 6 core measures of access which support reliable estimates by income.^{xii}

Figure H.1. Core quality measures for which members of selected group experienced better, same, or poorer quality of care compared with reference group



Better = Population received better quality of care than the reference group.

Same = Population and reference group received about the same quality of care.

Worse = Population received poorer quality of care than reference group.

Key: AI/AN=American Indian or Alaska Native.

Note: “Asian” includes “Asian or Pacific Islander” (API) when information is not collected separately for each group. Data presented are the most recent data available. Totals may not add to 100% due to rounding.

For sizable proportions of measures, racial and ethnic minorities and the poor receive lower quality care.

- Blacks received poorer quality care than Whites for 73% (16/22) of core measures (Figure H.1). Blacks received better quality care than Whites for 9% (2/22) of core measures.^{xiii}

^{viii} For all measures, Blacks, Asians, and American Indians and Alaska Natives are compared with Whites; Hispanics are compared with non-Hispanic Whites; and poor individuals are compared with high income individuals.

^{ix} For a list of all core measures and the core measures included in these summary analyses, see Chapter 1, Introduction and Methods.

^x The NHDR officially uses the term “Blacks or African Americans” in accordance with the U.S. Office of Management and Budget (OMB). However, the text of the NHDR often refers simply to “Blacks.”

^{xi} “Asian” includes “Asian or Pacific Islander” (API) when information is not collected separately for each group.

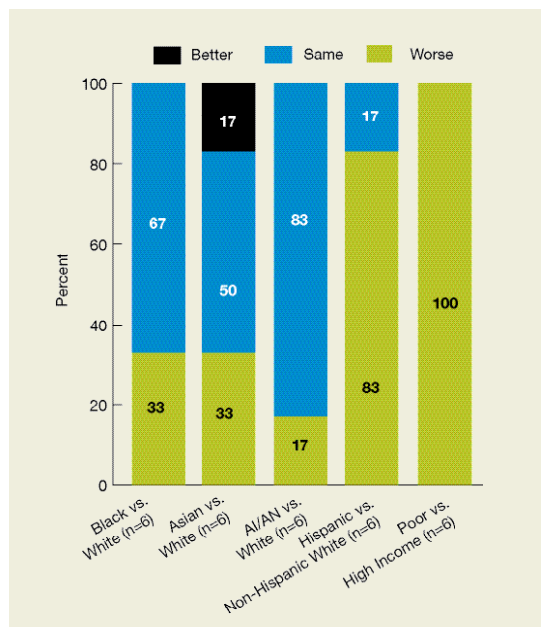
^{xii} Readers will note that findings in the 2006 Highlights suggest a snapshot of disparities similar to that shown in 2005. However, there are some differences, which are in part due to improved methods developed and approved by the HHS-wide Interagency Work Group that advises the NHDR. Specifically, in the 2005 NHDR, comparisons for each racial, ethnic, and income group included all measures with data available for that racial, ethnic, and income group. For example, although data were available for 46 quality measures for Blacks, data were only available for 21 quality measures for AI/ANs. In the 2006 NHDR, a uniform set of quality measures and access measures is analyzed for all racial, ethnic, and income groups. This change should be considered when comparing findings from the 2006 NHDR Highlights versus the 2005 NHDR Highlights.

^{xiii} Blacks had significantly lower rates of physical restraints among nursing home residents and suicide deaths than Whites.

Highlights

- Asians received poorer quality care than Whites for 32% (7/22) of core measures and better quality care for 36% (8/22) of core measures.^{xiv}
- American Indians and Alaska Natives received poorer quality care than Whites for about 41% (9/22) of core measures and better quality care for 14% (3/22) of core measures.^{xv}
- Hispanics received poorer quality of care than non-Hispanic Whites for 77% of core measures (17/22) and better quality care for 18% (4/22) of core measures.^{xvi}
- Poor people^{xvii} received lower quality of care than high income people for 71% (12/17) of core measures and better quality care for 6% (1/17) of core measures.^{xviii}

Figure H.2. Core access measures for which members of selected group experienced better, same, or worse access to care compared with reference group



Better = Population had better access to care than the reference group.

Same = Population and reference group had about the same access to care.

Worse = Population had worse access to care than reference group.

Key: AI/AN=American Indian or Alaska Native.

Note: “Asian” includes “Asian or Pacific Islander” when information is not collected separately for each group. Data presented are the most recent data available. Totals may not add to 100% due to rounding.

For many measures, racial and ethnic minorities and the poor have worse access to care:

- Blacks and Asians had worse access to care than Whites for a third (2/6) of core measures (Figure H.2).
- AI/ANs had worse access to care than Whites for 17% (1/6) of core measures.
- Hispanics had worse access than non-Hispanic Whites for 83% (5/6) of core measures.
- Poor people had worse access to care than high income people for all 6 core measures.

^{xiv} Asians had lower rates of late stage colorectal cancers, colorectal cancer deaths, new AIDS cases, suicide deaths, pressure sores among high-risk nursing home residents, and hospitalizations among home health care patients and higher rates of adequate hemodialysis and being on a transplant waiting list among dialysis patients.

^{xv} AI/ANs had lower rates of late stage colorectal cancers, colorectal cancer deaths, and suicide deaths.

^{xvi} Hispanics had lower rates of late stage colorectal cancers, colorectal cancer deaths, and suicide deaths and higher rates of adequate hemodialysis.

^{xvii} “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.

^{xviii} Poor people had higher rates of needed treatment for illicit drug use.

Some Disparities Are Diminishing While Others Are Increasing

The Department of Health and Human Services leads many initiatives aimed at reducing health care disparities and improving health care quality. Many private organizations also work to improve care and reduce disparities. To quantify the success of such efforts to reduce disparities, the 2005 NHDR began tracking changes in core measures over time. This year, methods for tracking trends in disparities have been improved. For each core measure, racial and ethnic minority groups and socioeconomic groups are compared with a designated reference group at different points in time:^{xix}

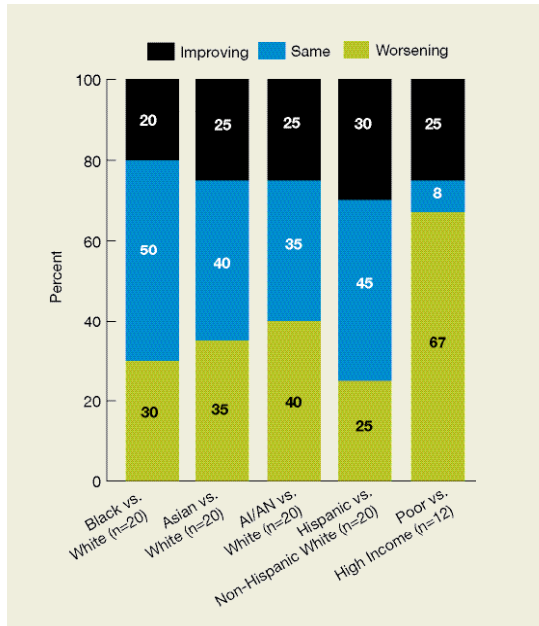
- Core measures for which the relative differences are changing less than 1% per year are identified as staying the same.
- Core measures for which the relative differences are becoming smaller at a rate of more than 1% per year are identified as improving disparities.
- Core measures for which the relative differences are becoming larger at a rate of more than 1% per year are identified as worsening disparities.

To facilitate comparisons across racial and ethnic groups, contrasts in the 2006 NHDR focus on 20 core measures of quality and 5 core measures of access which support reliable estimates for Whites, Blacks, Asians, American Indians and Alaska Natives, non-Hispanic Whites, and Hispanics at more than one time point. Comparisons by income group use these same 5 core measures of access. However, the income contrast uses 12 core measures of quality because less information is available by income group for quality measures and only 12 of the 20 core measures of quality support estimates by income group at more than one time point.^{xx}

^{xix} Consistent with Healthy People 2010, disparities are measured in relative terms as the percent difference between each group and a reference group; changes in disparity are measured by subtracting the percentage differences between the baseline and the most recent year. The change in each disparity is then divided by the number of years between the baseline and most recent estimate to calculate change in disparity per year. Note that statistical significance is not required to label a disparity as improving or worsening; very few changes in disparities over time are statistically significant at the 0.05 level.

^{xx} As noted earlier, findings for disparities trends in the Highlights of this report suggest the same general trends identified in the 2005 NHDR Highlights. Some differences are noted, which are in part due to improved methods. Methods changes in this report include the following: (1) measures with only a small amount of change may be identified as the “same,” whereas last year all measures were identified as “improving” or “worsening” regardless of the magnitude of change; and (2) a uniform set of quality measures and access measures is analyzed for all racial, ethnic, and income groups, whereas last year comparisons included all measures with data available for each racial, ethnic, and income group. These changes should be considered when comparing findings from the 2006 Highlights versus the 2005 Highlights.

Figure H.3. Change in disparities in core quality measures over time for members of selected groups compared with reference group



Improving = Population-reference group difference becoming smaller at rate greater than 1% per year.

Same = Population-reference group difference not changing.

Worsening = Population-reference group difference becoming larger at rate greater than 1% per year.

Note: “Asian” includes “Asian or Pacific Islander” when information is not collected separately for each group. The most recent and oldest years of data available are compared.

For racial and ethnic minorities, some disparities in quality of care are improving and some are worsening. For the poor, most disparities are worsening.

- Of disparities in quality experienced by Blacks, Asians, AI/ANs, and Hispanics, about a quarter were improving and about a third were worsening (Figure H.3).
- Two-thirds of disparities in quality experienced by poor people (8/12) were worsening.

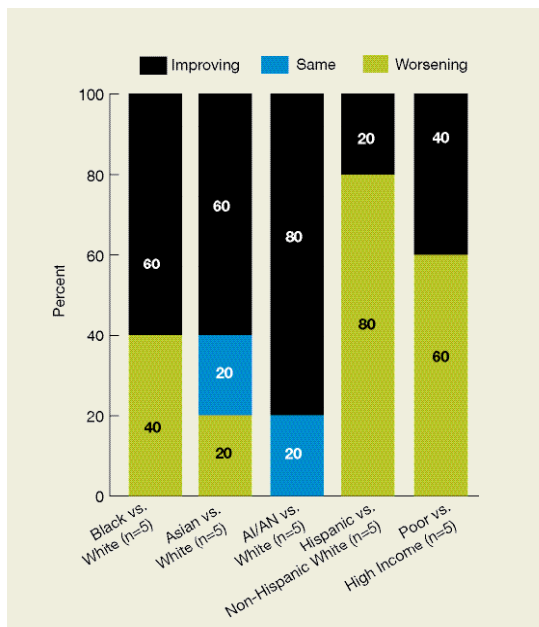
To illustrate these changing disparities in the quality of health care, examples include:

- From 2000 to 2003, the proportion of adults who received care for illness or injury as soon as wanted decreased for Whites (from 16.2% to 13.4%) but increased for Blacks (from 17.5% to 18.4%). This corresponds to an increase of 9.8% per year in this disparity. However, from 2000 to 2004, the rate of new AIDS cases remained about the same for Whites (from 7.2 to 7.1 per 100,000 population age 13 and over) but decreased for Blacks (from 75.4 to 72.1 per 100,000 population), corresponding to a decrease of 7.9% per year in this disparity.
- From 1999 to 2004, the proportion of adults age 65 and over who did not receive a pneumonia vaccine decreased for Whites (from 48% to 41%) but increased for Asians (from 59% to 65%). However, from 1998 to 2004, the proportion of children ages 19-35 months who did not receive all recommended vaccines decreased somewhat for Whites (from 26% to 17%) but even more for Asians (from 31% to 17%).
- From 2000 to 2003, the proportion of adults that had not received a recommended screening for colorectal cancer decreased for Whites (from 49% to 47%) but increased for AI/ANs (from 51% to 58%). However, from 2002 to 2003, the proportion of adults that reported communication problems with providers decreased somewhat for Whites (from 10.4% to 9.4%) but even more for AI/ANs (from 18.4% to 8.3%).

Highlights

- From 2001 to 2003, the rate of pediatric asthma hospitalizations remained the same for non-Hispanic Whites (139 hospitalizations per 100,000 population) but increased for Hispanics (from 188 to 226 per 100,000 population). However, from 2001 to 2003, the proportion of children without a vision check decreased somewhat for non-Hispanic Whites (from 40% to 38%) but even more for Hispanics (from 48% to 42%).
- From 2000 to 2003, the proportion of adults age 40 and over that did not receive three recommended services for diabetes decreased substantially for high income persons (from 54% to 41%) but less for poor persons (from 68% to 63%). However, from 2001 to 2003, the proportion of children whose parents or guardians reported communication problems with providers remained about the same for high income persons (from 3.6% to 3.3%) but decreased for poor persons (from 12.5% to 9.5%).

Figure H.4. Change in disparities in core access measures over time for members of selected groups compared with reference group



Improving = Population-reference group difference becoming smaller at rate greater than 1% per year.

Same = Population-reference group difference not changing.

Worsening = Population-reference group difference becoming larger at rate greater than 1% per year.

Key: AI/AN=American Indian or Alaska Native.

Note: “Asian” includes “Asian or Pacific Islander” when information is not collected separately for each group. The most recent and oldest years of data available are compared.

For racial minorities, most disparities in access to care that could be tracked are improving; for Hispanics and the poor, most disparities are worsening. Of core measures of access that could be tracked over time:

- Most disparities experienced by Blacks (3/5), Asians (3/5), and AI/ANs (4/5) were improving (Figure H.4).
- Most disparities experienced by Hispanics (4/5) and by poor people (3/5) were worsening.

Opportunities for Reducing Disparities Remain

Although some disparities are diminishing, many opportunities for improvement can still be found. For all groups, measures could be identified for which the group not only received worse care than the reference group but for which this difference was getting worse rather than better.

Table H.1. Disparities in quality of health care that are getting worse for selected groups by domain

Group	Preventive Services	Acute Illness Treatment	Chronic Disease Management	Timeliness	Patient Centeredness
Black vs. White	<ul style="list-style-type: none"> •Late stage colorectal cancer •Children with all vaccines •Elderly with pneumococcal vaccine 	<ul style="list-style-type: none"> •Hospital treatment of pneumonia 	<ul style="list-style-type: none"> •Patients with diabetes with amputations •Patients with adequate hemodialysis •Children hospitalized for asthma 	<ul style="list-style-type: none"> •Illness/injury care as soon as wanted 	<ul style="list-style-type: none"> •Adults with provider communication problems
Asian vs. White	<ul style="list-style-type: none"> •Colorectal cancer screening •Children with dietary advice •Elderly with pneumococcal vaccine 	<ul style="list-style-type: none"> •Hospital treatment of heart attack •Hospital treatment of pneumonia 	<ul style="list-style-type: none"> •Nursing home residents in restraints 	<ul style="list-style-type: none"> •Illness/injury care as soon as wanted 	<ul style="list-style-type: none"> •Adults with provider communication problems •Children with parent-provider communication problems
American Indian/Alaska Native vs. White		<ul style="list-style-type: none"> •Hospital treatment of heart attack 	<ul style="list-style-type: none"> •Patients who complete TB treatment •Nursing home residents in restraints •Home health care patients hospitalized 		
Hispanic vs. non-Hispanic White	<ul style="list-style-type: none"> •Elderly with pneumococcal vaccine 	<ul style="list-style-type: none"> •Children hospitalized for gastroenteritis •Hospital treatment of pneumonia 	<ul style="list-style-type: none"> •Children hospitalized for asthma •Patients who complete TB treatment 	<ul style="list-style-type: none"> •Illness/injury care as soon as wanted 	<ul style="list-style-type: none"> •Adults with provider communication problems
Poor vs. high income	<ul style="list-style-type: none"> •Colorectal cancer screening •Smokers with advice to quit •Children with all vaccines •Elderly with pneumococcal vaccine 		<ul style="list-style-type: none"> •Recommended services for diabetes 	<ul style="list-style-type: none"> •Illness/injury care as soon as wanted 	<ul style="list-style-type: none"> •Adults with provider communication problems

Note: “Asian” includes “Asian or Pacific Islander” when information is not collected separately for each group. The most recent and oldest years of data available are compared. A blank cell indicates that no disparity in quality of care was getting worse for the group. This may reflect lack of data or small sample sizes for some populations.

Highlights

- All groups had several measures for which they received worse care and for which the difference was getting worse (Table H.1). For Blacks, Asians, and Hispanics, these disparities involved all domains of quality that could be tracked: preventive services, treatment of acute illness, management of chronic disease and disability, timeliness, and patient centeredness. For AI/ANs, these disparities appeared concentrated in the treatment of acute illness and the management of chronic disease and disability.^{xxi}
- Some disparities in quality of care were prominent for multiple groups; these disparities include:
 - Colorectal cancer screening
 - Vaccinations
 - Hospital treatment of heart attack
 - Hospital treatment of pneumonia
 - Services for diabetes
 - Children hospitalized for asthma
 - Treatment of tuberculosis (TB)
 - Nursing home care
 - Problems with timeliness
 - Problems with patient-provider communication

Table H.2. Disparities in access to health care that are getting worse for selected groups

Group	Access to Health Care
Black vs. White	Usual primary care provider Unable or delayed in receiving care due to financial or insurance problems
Asian vs. White	
American Indian/ Alaska Native vs. White	
Hispanic vs. non-Hispanic White	Health insurance Source of ongoing care Usual primary care provider
Poor vs. high income	Source of ongoing care Usual primary care provider Unable or delayed in receiving care

Note: “Asian” includes “Asian or Pacific Islander” (API) when information is not collected separately for each group. The most recent and oldest years of data available are compared. A blank cell indicates that no disparity in access to care was getting worse for the group. This may reflect lack of data or small sample sizes for some populations.

The 2006 NHDR also finds that Hispanics and the poor faced many disparities in access to care that were getting worse (Table H.2):

- For Hispanics, not having health insurance and a usual source of care were getting worse.
- For the poor, not having a usual source of care and experiencing delays in care were getting worse.

^{xxi} In interpreting these findings it is important to note that there are significant gaps in data availability for AI/ANs.

Information About Disparities Is Improving, But Gaps Still Exist

New Data Sources and Measures

The 2006 NHDR provides more information about disparities than previous reports. Improvements include the addition of new data sources and new measures that have allowed analyses of new disparities:

- **Obesity.** New measures of counseling of overweight and obese persons from the National Health and Nutrition Examination Survey and the Medical Expenditure Panel Survey have been added to this year's report. One of these measures—obese adults who were given advice about exercise—is a new core measure.
 - Only 68% of obese adults age 20 and over reported being told by their provider that they were overweight. Obese Blacks and Mexican Americans^{xxii} were less likely to be informed than obese non-Hispanic Whites; obese persons with less than a high school education were less likely to be informed than obese persons with any college education.
 - Only 37% of overweight children and teens ages 2-19 reported being told by their provider that they were overweight. Disparities were not observed.
 - Only 58% of obese adults reported being given counseling about exercise. Among obese adults, counseling was reported less often by Hispanics compared with non-Hispanic Whites; by poor, near poor, and middle income persons compared with high income persons; and by persons with a high school education or less compared with persons with any college education.
- **Asthma management.** Supplemental measures from the 2003 National Asthma Survey, coordinated by the National Heart, Lung and Blood Institute at the National Institutes of Health, have been included in the 2006 NHDR.
 - The National Asthma Education and Prevention Program develops and disseminates science-based guidelines for the diagnosis and management of asthma. It recognizes assessment and monitoring, controlling factors contributing to symptom exacerbation, pharmacotherapy, and education for partnership in care as four essential components of asthma management. However, considerable variation was observed. Among persons with current asthma, only 70% were taught to recognize early signs of an attack, 49% were told how to change their environment, 40% were given a controller medication, and 27% were given an asthma management plan.
 - Compared to persons with any college education, persons with less education were less likely to report receiving information about assessing their asthma and controlling environmental triggers.
 - Blacks were less likely than Whites to receive controller medications.
- **Hospice care.** New supplemental measures of hospice care from the National Hospice and Palliative Care Organization's Family Evaluation of Hospice Care survey are included in this year's report.^{xxiii}
 - Only 6% of families reported that hospice providers did not provide the right amount of medication for pain. However, rates were higher among Blacks and APIs compared with Whites and among Hispanics compared with non-Hispanic Whites.

^{xxii} This data source collects data for Mexican Americans rather than Hispanics.

^{xxiii} This survey provides unique insight into end-of-life care and captures information about a large proportion of hospice patients but is limited by non-random data collection and a response rate of about 40%. In addition, race and ethnicity were not reported by large numbers of respondents.

Highlights

- Only 5% of families reported that hospice providers gave care inconsistent with stated end-of-life wishes. However, rates were higher among Blacks, APIs, and AI/ANs compared with Whites; among Hispanics compared with non-Hispanic Whites; and among persons with a high school education or less compared with persons with any college education.
- **Patient safety.** The patient safety section has been redesigned this year to accommodate the availability of a new measure from the Centers for Medicare & Medicaid Services (CMS) Medicare Patient Safety Monitoring System and another adopted by the Hospital Quality Alliance (HQA) from the CMS Quality Improvement Organization program.
 - Postoperative complications^{xxiv} occur at a rate of 6 per 100 Medicare patients having surgery. Rates were higher among Blacks compared with Whites.
 - Timing of prophylactic antibiotics for surgery is appropriate 58% of the time. Blacks, AI/ANs, and Hispanics were less likely than non-Hispanic Whites to receive prophylactic antibiotics at the correct times.
 - Although rates of inpatient death following complications of care are falling, they remained higher among APIs compared with non-Hispanic Whites.
 - About 10% of inpatients receiving anticoagulant or hypoglycemic medications experienced complications. Blacks were more likely than Whites to experience complications from hypoglycemic medications.
- **Patient centeredness in hospital care.** Supplemental measures from the CAHPS[®] Hospital Survey have also been included for the first time this year.
 - Only 6% of hospitalized patients reported communication problems with doctors and 7% reported communication problems with nurses.
 - However, 26% of hospitalized patients reported problems with communications about medications and 21% reported problems with discharge information.
- **Workforce diversity.** New supplemental measures of the health care provider population by race and ethnicity from the U.S. Census and Community Tracking Study have been added.
 - Whites and Asians are overrepresented in the U.S. physician population. Whites comprise 69% of the U.S. population and 74% of the physician population; Asians comprise 3.6% of the U.S. population and 15% of the physician population.^{xxv}
 - Hispanics, Blacks, Native Hawaiians and Other Pacific Islanders (NHOPIs), and AI/ANs are underrepresented in the U.S. physician population, composing 12.6%, 12.1%, 0.1% and 0.7% of the U.S. population and 5%, 4.5%, 0.03%, and 0.2% of the physician population, respectively.
- **Hispanic subpopulations.** Analyses by Hispanic subpopulation have been added to the NHDR to begin to shed additional light on disparities among the highly heterogeneous U.S. Hispanic population.
 - Among Hispanic subpopulations, Mexicans reported the lowest rates of advice to quit smoking (42.4%) and the highest rates of delayed care for illness or injury (24.1%) and uninsurance (31.1%) of all Hispanic subpopulations. Central or South Americans reported the highest rates of patient-provider communication problems (18%).

^{xxiv} Complications following surgery include pneumonia, bladder infection, and blood clots in the legs.

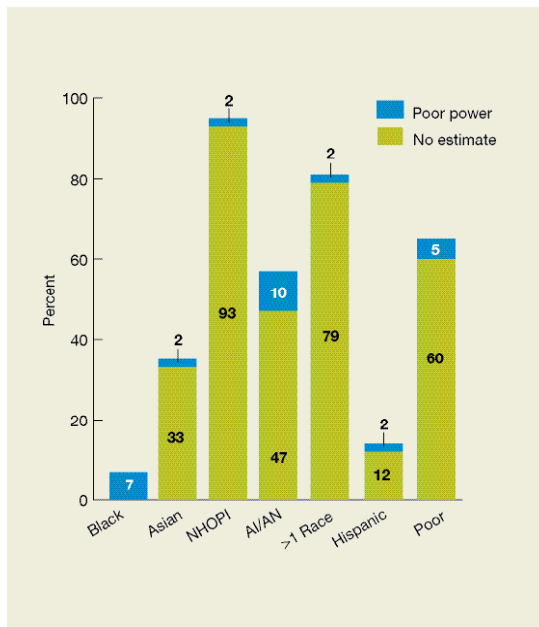
^{xxv} Note that physician estimates include both physicians born in the United States as well as physicians who immigrated into the United States.

- **Language assistance.** A new supplemental measure of adults with limited English proficiency with and without a usual source of care that offers language assistance from the Medical Expenditure Panel Survey has been added to this year's report.
 - Nearly half—47%—of individuals with limited English proficiency reported that they do not have a usual source of care. An additional 47% of individuals reported having a usual source of care that offers language assistance.
 - Only 6% of individuals with limited English proficiency reported having a usual source of care that does not offer language assistance.
- **Uninsurance.** Analyses of health care by health insurance status and income category are also included in the 2006 NHDR (see the section focusing on uninsurance in Chapter 4, Priority Populations).
 - For the total population and for every income group, the proportions of adults who reported receiving recommended colorectal cancer screening or a dental visit were lower for uninsured (21.8% and 18.7%, respectively) compared with privately insured persons (49.2% and 51.8%, respectively).
 - Being uninsured has a large negative impact on almost all aspects of health care quality and access. In fact, among adults, the negative effects of being uninsured are typically larger than the effects of race, ethnicity, income, and education. Multivariate analyses suggest that uninsurance is an important mediator of racial, ethnic, and socioeconomic disparities, although race, ethnicity, and socioeconomic position often have independent effects as well.

Unresolved Information Needs

The expanded capability of Federal data sources has allowed more reliable estimates to be made for more populations. However, considerable gaps remain. Information gaps can relate to insufficient data to produce reliable estimates or, when estimates are possible, to inadequate power to detect large differences.^{xxvi}

Figure H.5. Core quality measures with estimation or statistical power problems for members of selected racial and ethnic groups



No estimate = Data cannot provide an estimate for group that meets report criteria for reliability.

Poor power = Data can provide reliable estimate for group but statistical power is insufficient to detect a 20% difference relative to reference group.

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

Note: Data presented are the most recent data available.

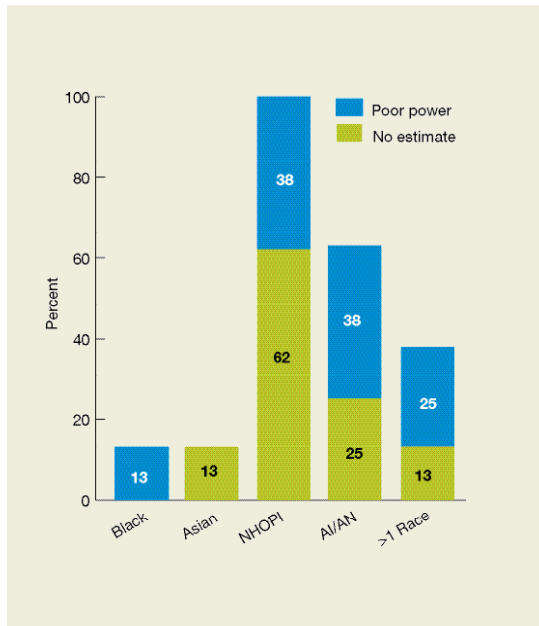
For example, of the core measures of quality, statistically reliable estimates were not possible for:

- Most measures for Native Hawaiians or Other Pacific Islanders and persons of more than one race (Figure H.5).
- About half of quality measures for American Indians or Alaska Natives.
- About a third of quality measures for Asians.
- About two-thirds of quality measures for the poor.

Power issues were also a problem, particularly for American Indians or Alaska Natives, in core measures of access. Data collection that focuses on specific groups may be needed to yield reliable information about these populations.

^{xxvi} “Statistical power” refers to the ability of a test to detect an effect of a given size and is strongly influenced by the sample size of the measurement taken.

Figure H.6. Core access measures with estimation or statistical power problems for members of selected racial groups



No estimate = Data cannot provide an estimate for group that meets report criteria for reliability.

Poor power = Data can provide reliable estimate for group but statistical power is insufficient to detect a 20% difference relative to reference group.

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

Note: Data presented are the most recent data available.

Of the core measures of access, statistically reliable estimates were not possible for:

- Most measures for Native Hawaiians or Other Pacific Islanders (Figure H.6).
- A quarter of measures for American Indians or Alaska Natives.

Power was insufficient to detect a 20% difference relative to Whites for:

- Over a third of access measures for Native Hawaiians or Other Pacific Islanders and American Indians or Alaska Natives.
- A quarter of access measures for persons of more than one race.

Estimation and power were not problems for Hispanics and the poor, so data are not presented for these groups.

Moving Forward: National Standards, Neighborhood Solutions

The NHDR continues to be the broadest annual examination of disparities in health care ever undertaken in the United States. As support for reducing disparities continues to grow, the ability to monitor and track improvements in disparities is becoming critical. In this 2006 report, the information infrastructure built in previous reports to track the Nation's progress toward the elimination of disparities in health care continues to mature. Multiple years of data are available to assess the direction of change across a large number of measures of health care quality and access.

As mandated by Congress, the NHDR concentrates on the national view of health care disparities. It is descriptive and not prescriptive about how to eliminate disparities. It defines national standards for the measurement of disparities in health care quality and access and provides national baselines needed for tracking progress toward eliminating these disparities.

However, neighborhood solutions are the key for achieving the elimination of health care disparities. Although some barriers to care, such as lack of insurance, affect numerous communities, many causes of disparities and priorities for addressing them vary across the country. Successfully addressing these disparities will require focused community-based projects that are supported by detailed local data. The methods and measures used in the reports are made available online in hopes that communities and providers will apply them to their own data. Communities that make this investment may use NHDR findings as annual national benchmarks against which to compare their progress.

To further support community-based approaches to reduce health disparities that affect racial, ethnic, and underserved populations, AHRQ has developed a variety of information products derived in part from data gathered for the annual production of the NHQR and NHDR. These products seek to translate disparities information for use by State and local health policymakers and include:

- **State Snapshots.** This interactive Web-based tool, produced by AHRQ annually using data from the NHRQ and NHDR, is designed to help State officials and their public- and private-sector partners understand health care quality and disparities in their State, including strengths, weaknesses, and opportunities for improvements. The State Snapshots provide State-specific information on health care quality measures for each State using user-friendly graphs and customized tables.^{xxvii}
- **Diabetes Care Quality Improvement: A Resource Guide for State Action.** Designed in partnership with the Council of State Governments for State elected leaders, executive branch officials, and other nongovernmental State and local health care leaders, this *Resource Guide* provides background information on why States should consider diabetes as a priority for State action, presents analysis of State and national data and measures of diabetes quality and disparities, and gives guidance for developing a State quality improvement plan. A companion interactive *Workbook* presents review exercises for State leaders on the key skills and lessons from the *Resource Guide* to use in making the case for diabetes care quality improvement, learning from improvement efforts already underway, measuring diabetes quality and disparities, and implementing diabetes care quality improvement plans using a State-led quality improvement framework.^{xxviii}
- **Asthma Care Quality Improvement: A Resource Guide for State Action.** Like the diabetes resources, this *Resource Guide* and its companion *Workbook* provide information about asthma quality and disparities and present exercises to hone skills useful for developing a State asthma quality improvement plan.^{xxix}

^{xxvii} Readers should consult the AHRQ Web site (www.ahrq.gov) for announcement of availability of the State Snapshots.

^{xxviii} Available at: <http://ahrq.gov/qual/diabqualoc.htm>.

^{xxix} Available at: <http://www.ahrq.gov/qual/asthmaqual.htm>.

For policymakers who are ready to make changes to reduce disparities, AHRQ supports community partnerships that engage public and private stakeholders to improve the quality of care for people with diabetes and asthma, to develop quality improvement action plans, and to evaluate innovative implementations of State and community efforts to improve quality and disparities. These partnerships seek to go beyond research to actively address problems with quality and disparities. They include:

- **National Health Plan Learning Collaborative to Reduce Disparities and Improve Quality.** This partnership with nine of America's foremost health plans (Aetna, CIGNA, Harvard Pilgrim Health Care, HealthPartners, Highmark Inc., Kaiser Permanente, Molina Healthcare, UnitedHealth Group, and WellPoint, Inc.) is testing ways to improve the collection and analysis of data on race and ethnicity, matching these data to existing quality measures in the Health Plan Employer Data and Information Set (HEDIS®), and developing quality improvement interventions that close the gaps in care. Lessons learned by plans in the collaborative will be shared with other health plans so that they too can improve the care they provide.
- **Aim setting and State plans for quality improvement.** This partnership with five States (Maine, Rhode Island, Massachusetts, West Virginia, and Arkansas), reviews the State Snapshots in the context of the needs of these States to develop new tools that help States use data for quality improvement.
- **Improving diabetes care in communities.** This partnership with three of the Nation's leading business coalitions (Greater Detroit Area Health Council, MidAtlantic Business Group on Health, and Memphis Business Group on Health) supports local communities in their efforts to reduce the rate of obesity and other risk factors that can lead to diabetes and its complications and work together to ensure that people with diabetes receive appropriate health care services. Each of the coalitions has convened stakeholders—including businesses, providers, health plans, insurers, consumers, and academics—to set priorities in their efforts to improve diabetes care, reduce disparities, and develop solutions that fit within the community's needs and capabilities.
- **Diabetes disparities reduction in the Hispanic population.** This partnership with community providers in two States with large Hispanic populations supports the development of interventions to improve the quality of care for Hispanics with diabetes through care management and patient empowerment.
- **Decreasing disparities in pediatric asthma.** This partnership with coalitions in six States (Arizona, Maryland, Michigan, New Jersey, Oregon, and Rhode Island), focuses on developing action plans to improve disparities in pediatric asthma by addressing cultural competency; using data to target need, coordinate resources, and inform policy decisions; and increasing access and improving the quality of care for underserved populations.

Prevention and elimination of health care disparities for the Nation will result from coordinated actions at Federal, State, and local levels to extend the benefits of regional and community successes nationwide. 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.” 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 National Healthcare Disparities Report (NHDR) was designed and produced by AHRQ, with support from the Department of Health and Human Services (HHS) and private-sector partners, to respond to this legislative mandate.

The first National Healthcare Disparities Report (NHDR), released in 2003, was a comprehensive national overview of disparities in health care among racial, ethnic, and socioeconomicⁱ groups in the general U.S. population and within priority populations. The 2004 NHDR initiated a second critical goal of the report series—tracking the Nation’s progress toward the elimination of health care disparities. The 2005 NHDR introduced a set of core measures, a variety of new compositeⁱⁱ measures, and methods for tracking changes in disparities that allow for the identification of specific disparities that are shrinking and disparities that are widening.

This 2006 NHDR continues the improvement of data, measures, and methods used to meet these goals. New databases and measures have been added to provide a more comprehensive assessment of quality and disparities in the Nation. Methods for quantifying changes in health care over time and changes in disparities have been refined. In addition, new composite measures are tracked that make information about quality and disparities easier to comprehend. The 2006 NHDR continues to focus on a subset of core measures that comprise the most important and scientifically supported measures in the full NHDR measure set. Finally, as in previous NHDRs, references have been systematically updated (that is, annual reports and other regularly released publications have been updated as appropriate, and a wide breadth of peer-reviewed journals and electronically published articles have been searched for inclusion as references).

The NHDR supports HHS Secretary Mike Leavitt’s 500-Day Plan to fulfill the President’s vision of a healthier America, specifically in the areas of eliminating inequalities in health care and better transparency of health care quality information. As in previous years, the 2006 NHDR was planned and written by AHRQ staff with the support of AHRQ’s National Advisory Council and the Interagency Work Group for the NHDR, which includes representatives from every operating division of the Department of Health and Human Services. In addition, ad hoc groups were convened to address specific issues such as the creation of composite measures and the refinement of definitions of persons with disabilities.

ⁱ Socioeconomic disparities include differences in education and income levels.

ⁱⁱ Composite measures provide readers with a summarized picture of some aspect of health care by combining information from multiple component measures. For example, the NHDR composite measure for “complications following surgery” includes measures for persons who develop pneumonia, bladder infection, and blood clots in the legs following surgery.

How This Report Is Organized

The basic structure of the 2006 NHDR is unchanged from the 2005 NHDR and consists of the following:

- **Highlights** summarizes key themes from the 2006 report.
- **Chapter 1: Introduction and Methods** documents the organization, data sources, and methods used in the 2006 report and describes major changes from previous reports.
- **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 the National Healthcare Quality Report (NHQR) except when data to examine disparities are unavailable. Sections cover four components of health care quality: effectiveness, patient safety, timeliness, and patient centeredness.
- **Chapter 3: Access to Health Care** examines disparities in access to health care in the general U.S. population. Sections cover two components of health care access: barriers and facilitators to health 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
 - Elderly
 - Low income groups
 - Residents of rural areas
 - Women
 - Individuals with special health care needs
 - Children

Appendixes are available online (www.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 (i.e., household income, education, insurance, and/or area income).
 - Socioeconomic tables are stratified by age, gender, residence location, race, and ethnicity.

Changes in the 2006 NHDR

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 each year. Improvements include changes to report format, changes to the measure set, addition of new data sources, expanded analyses to include Hispanic subpopulations and uninsurance, and a summary of disparities.

Refinements to Report Format

The 2006 NHDR and its companion NHQR continue to be formatted as chartbooks. Although needed to assess health care in America comprehensively, the large number of measures tracked in the reports may sometimes be confusing and overwhelming for users. Hence, the 2006 reports continue to focus on a smaller subset of core measures. Other modifications have also been made to make the information in the reports easier to understand.

Core measures. For the 2005 reports, the Interagency Work Group was convened to select a group of measures from the full measure sets on which the reports would present findings each year. In 2006, the work group made additional changes to the core measure set. For some topics, the group favored alternating sets of core measures. These measures relate to cancer prevention and childhood preventive services. Alternating measures are listed in Table 1.1.

Table 1.1. Alternating core measures

Reported in the 2006 NHDR and NHQR:	Reported in 2005 NHDR and NHQR*:
● Colorectal cancer screening	● Breast cancer screening
● Late stage colorectal cancers	● Late stage breast cancers
● Colorectal cancer mortality	● Breast cancer mortality
● Children who received advice about diet	● Children who received advice about exercise
● Children who had a vision check	● Children who had dental care

*The measures listed in this column will be reported again in the 2007 reports.

The core measures of patient safety also underwent modifications. Several measures included in last year's report were not available this year. New composite measures were developed to summarize information across several individual patient safety measures (described below). Other new measures became available that cover important aspects of patient safety. The combination of these changes yielded this year's patient safety core measures:

- Timing of antibiotics to prevent postoperative wound infection composite measure adopted by the Hospital Quality Alliance (HQA) from the Centers for Medicare & Medicaid Services (CMS) Quality Improvement Organization (QIO) program.
- Postoperative complications composite measure from the Medicare Patient Safety Monitoring System (MPSMS).
- Complications of central venous catheter composite measure from the MPSMS.
- Deaths following complications of care from the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases disparities analysis file.
- Inappropriate medication use among the elderly from the Medical Expenditure Panel Survey (MEPS).

Chapter 1. Introduction and Methods

All core measures fall into two categories: process measures, which track receipt of medical services, and outcome measures, which in part reflect the results of medical care (Table 1.2). Both types of measures are not reported for all conditions due to data limitations. For example, data on HIV care are suboptimal; hence, no HIV process measures are included as core measures. In addition, not all core measures are included in trending analysis because 2 or more years of data were not available.

Presentation. Each section in the 2006 report begins with a description of the importance of the section’s topic in a standardized format. New this year is an assessment of the cost effectiveness of different clinical preventive services. These estimates come from a recent review by the National Commission on Prevention Priorities.¹ Cost effectiveness is measured as the average net cost of each quality adjusted life year (QALY)ⁱⁱⁱ that is saved by a particular health intervention. A lower cost per QALY saved indicates a greater degree of cost effectiveness while beneficial preventive services that fully cover their costs are labeled as cost saving.

After introductory text, chart figures and accompanying findings highlight a small number of measures relevant to this topic. When data are available, these charts typically show contrasts by:

- Race—Blacks, Asians,^{iv} Native Hawaiians or Other Pacific Islanders (NHOPIs), American Indians or Alaska Natives (AI/ANs), and people of more than one race compared with Whites.
- Ethnicity—Hispanics compared with non-Hispanic Whites.^v
- Income—Poor, near poor, and middle income people compared with high income people.^{vi}
- Education—People with less than a high school education and high school graduates compared with people with any college education.

Almost all core measures and composite measures have multiple years of data, so figures typically illustrate trends over time. When data support stratified analyses, a figure showing racial and ethnic differences stratified by SES is often included. For some measures with supporting data, regression models were run and used to help interpret bivariate and stratified results. In addition, figures showing odds ratios adjusted for age, gender, race, ethnicity, income, education, insurance, and residence location are presented for two measures.^{vii} Figures include a note about the reference group for population-based measures and the denominator for measures based on services or events.

ⁱⁱⁱ QALY is a measure of survival adjusted for its value: 1 year in perfect health is equal to 1.0 QALY, and a year in poor health would be something less than 1.0.

^{iv} “Asian” includes “Asian or Pacific Islander” (API) when information is not collected separately for each group.

^v Not all data sources used in the NHDR collect data by race and ethnicity separately (i.e., allowing for comparisons of Blacks with Whites and Hispanics with non-Hispanic Whites). When this is the case, comparisons are made by combined racial/ethnic categories (i.e., comparing non-Hispanic Blacks and Hispanics with non-Hispanic Whites).

^{vi} 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.

^{vii} The measures are obese adults given advice about exercise and individuals having a usual primary care provider.

Chapter 1. Introduction and Methods

Table 1.2. Core process and outcome measures (measures that include data for all racial and ethnic groups and that are included in the summary analyses in the Highlights to this report are in *italics*)

Section	Process Measures	Outcome Measures
Effectiveness - Cancer	<ul style="list-style-type: none"> Persons age 50 and over who ever had a flexible colonoscopy, sigmoidoscopy, or proctoscopy or fecal occult blood test in past 2 years 	<ul style="list-style-type: none"> Colorectal cancers diagnosed as regional or distant staged cancers Cancer deaths per 100,000 persons per year for most common cancers- colorectal cancer
Effectiveness - Diabetes	<ul style="list-style-type: none"> Adults age 40 and over with diabetes had hemoglobin A1c test, eye and foot exam in past year 	<ul style="list-style-type: none"> Hospital admissions for lower extremity amputation in patients with diabetes
Effectiveness - End Stage Renal Disease	<ul style="list-style-type: none"> Dialysis patients registered on waiting list for transplantation 	<ul style="list-style-type: none"> Hemodialysis patients with adequate dialysis
Effectiveness - Heart Disease	<ul style="list-style-type: none"> Recommended hospital care received by Medicare patients with acute myocardial infarction Recommended hospital care received by Medicare patients with heart failure Smokers receiving advice to quit smoking Adults age 18 and over who were obese who were given advice about exercise 	<ul style="list-style-type: none"> Acute myocardial infarction mortality
Effectiveness - HIV and AIDS		<ul style="list-style-type: none"> New AIDS cases per 100,000 population (age 13 and over)
Effectiveness - Maternal and Child Health	<ul style="list-style-type: none"> Pregnant women receiving prenatal care in first trimester Children 19-35 months who received all recommended vaccines Adolescents (age 13-15) reported to have received 3 or more doses of hepatitis B vaccine Children whose parents or guardians ever received advice from doctor or health professional about healthy eating Children ages 3-6 who ever received a vision check 	<ul style="list-style-type: none"> Infant mortality per 1,000 live births, birthweight <1500 grams Hospital admissions for pediatric gastroenteritis per 100,000 population less than 18 years of age
Effectiveness - Mental Health and Substance Abuse	<ul style="list-style-type: none"> Adults age 18 and over with past year major depressive episode who received treatment for the depression in the past year Persons age 12 or older who needed treatment for any illicit drug use and who received such treatment at a specialty facility in the past year 	<ul style="list-style-type: none"> Deaths due to suicide per 100,000 population Patients receiving substance abuse treatment who complete treatment

Chapter 1. Introduction and Methods

Table 1.2. Core process and outcome measures (measures that include data for all racial and ethnic groups and that are included in the summary analyses in the Highlights to this report are in *italics*) (continued)

Section	Process Measures	Outcome Measures
Effectiveness - Respiratory Diseases	<ul style="list-style-type: none"> Persons age 65 and over who ever received pneumococcal vaccination Recommended hospital care received by Medicare patients with pneumonia Visits where antibiotic was prescribed for diagnosis of a common cold, children 	<ul style="list-style-type: none"> TB patients that complete a curative course of treatment within 12 months of initiation Hospital admissions for pediatric asthma per 100,000 population under age 18
Effectiveness - Nursing Home, Home Health, and Hospice Care	<ul style="list-style-type: none"> Nursing home residents who were physically restrained 	<ul style="list-style-type: none"> High-risk nursing home residents who have pressure sores Short-stay nursing home residents with pressure sores Home health episodes showing ambulation/locomotion improvement Home health episodes with acute care hospitalization
Patient Safety	<ul style="list-style-type: none"> Appropriate timing of surgical infection prophylaxis Elderly who had at least one prescription that is potentially inappropriate 	<ul style="list-style-type: none"> Postoperative pneumonia, urinary tract infection, and/or venous thromboembolic events Adverse events associated with central venous catheters Deaths following complications of care
Timeliness		<ul style="list-style-type: none"> Adults who report that they can get care for illness/injury as soon as they wanted Patients who left emergency department without being seen
Patient Centeredness	<ul style="list-style-type: none"> Adults whose health providers listened carefully, explained things clearly, respected what they had to say, and spent enough time with them Children whose parents or guardians report that their child's health providers listened carefully, explained things clearly, respected what they had to say, and spent enough time with them 	

As in last year's report, findings presented in the text meet report criteria for importance^{viii}; comparisons not discussed in text 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 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. To facilitate linkage to other Federal reporting initiatives, this report indicates where NHDR measures are also tracked in Healthy People 2010.

^{viii}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.

Addition of New Data Sources

NHDR data sources include surveys of individuals and health care facilities and extract from surveillance, vital statistics, and health care organization data systems. Table 1.3 lists all data sources and includes five new data sources. Standardized suppression criteria were applied to all databases to support reliable estimates.^{ix} New data added this year come from:

- **National Asthma Survey.** This survey, sponsored by the Centers for Disease Control and Prevention (CDC) National Center for Environmental Health and conducted by the National Center for Health Statistics (NCHS) in 2003, is the most comprehensive national data set on asthma prevalence and asthma care. It examines the health, socioeconomic, behavioral, and environmental predictors that relate to control of asthma. Because it is not an ongoing survey, findings are presented in this year's report only.
- **National Hospice and Palliative Care Organization's Family Evaluation of Hospice Care.** This survey examines the quality of hospice care for patients and their family members.² Family respondents report how well hospices respect patient wishes, communicate about illness, control symptoms, support dying on one's own terms, and provide family emotional support. The survey is administered by about 800 hospices each year, and about 120,000 completed surveys are returned each year for an overall response rate of about 40%. Participation is voluntary, although participating hospices span the Nation, they are not nationally representative. Demographic information is often incomplete. Despite these limitations, this survey is the most comprehensive source of information about hospice care.
- **CAHPS® Hospital Survey.** This survey, developed by CMS and AHRQ, captures information about patients' experiences of care when hospitalized.³ In 2005, 254 hospitals across the United States volunteered to use this survey. In total, completed surveys were received from 84,779 respondents; the average response rate was 44%. Although it is not nationally representative, the sample of hospitals and respondents is comparable to the national distribution of hospitals registered with the American Hospital Association.
- **U.S. Census.** Data from the 2000 Census of Population are included this year to provide information about the physician workforce.
- **Center for Studying Health System Change Community Tracking Study Physician Survey.** Data from this periodic survey of physicians in direct patient care is used to assess trends in the physician workforce over time.

^{ix}Estimates based on sample size fewer than 30 or with relative standard error greater than 30% are considered unreliable and suppressed. Databases with more conservative suppression criteria are allowed to retain them.

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Table 1.3. Databases used in the 2006 reports (new databases in *italics*)

<p>Surveys collected from populations:</p> <ul style="list-style-type: none"> • AHRQ, Medical Expenditure Panel Survey (MEPS), 1999-2003 • <i>CAHPS® Hospital Survey, 2005</i> • CDC, Behavioral Risk Factor Surveillance System (BRFSS), 2001-2004 • <i>CDC-NCHS, National Asthma Survey, 2003</i> • CDC-NCHS, National Health and Nutrition Examination Survey (NHANES), 1999-2002 • CDC-NCHS, National Health Interview Survey (NHIS), 1998-2004 • CDC-NCHS/National Immunization Program, National Immunization Survey (NIS), 1998-2004 • CMS, Medicare Current Beneficiary Survey (MCBS), 1998-2002 • Health Resources and Services Administration, Healthy Schools Healthy Communities User Visit Survey, 2003 • <i>National Hospice and Palliative Care Organization, Family Evaluation of Hospice Care, 2005</i> • Substance Abuse and Mental Health Services Administration (SAMHSA), National Survey on Drug Use and Health (NSDUH), 2002-2004 • <i>U.S. Census Bureau, U.S. Census of Population, 2000</i>
<p>Data collected from samples of health care facilities and providers:</p> <ul style="list-style-type: none"> • <i>Center for Studying Health System Change, Community Tracking Study Physician Survey, 1998-2005</i> • CDC-NCHS, National Ambulatory Medical Care Survey (NAMCS), 1997-2003 • CDC-NCHS, National Hospital Ambulatory Medical Care Survey-Outpatient Department (NHAMCS-OPD), 1997-2003 • CDC-NCHS, National Hospital Ambulatory Medical Care Survey-Emergency Department (NHAMCS-ED), 1997-2003 • CDC-NCHS, National Hospital Discharge Survey (NHDS), 1998-2004 • CMS, End Stage Renal Disease Clinical Performance Measures Project (ESRD CPMP), 2001-2004
<p>Data extracted from data systems of health care organizations:</p> <ul style="list-style-type: none"> • AHRQ, Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases disparities analysis file,* 2001-2003 • CMS, Hospital Compare, 2005 • CMS, Medicare Patient Safety Monitoring System, 2002-2004 • CMS, Home Health Outcomes and Assessment Information Set (OASIS), 2002-2004 • CMS, Nursing Home Minimum Data Set, 2002-2004 • CMS, Quality Improvement Organization (QIO) program, Hospital Quality Alliance (HQA) measures, 2000-2004 • HIV Research Network data (HIVRN), 2001-2003 • Indian Health Service, National Patient Information Reporting System (NPIRS), 2002-2004 • National committee for Quality Assurance, Health Plan Employer Data and Information Set (HEDIS), 2001-2005 • National Institutes of Health, United States Renal Data System (USRDS), 1998-2003 • SAMHSA, Treatment Episode Data Set (TEDS), 2002-2003
<p>Data from surveillance and vital statistics systems:</p> <ul style="list-style-type: none"> • CDC, National Program of Cancer Registries (NPCR), 2002-2003 • CDC-National Center for HIV, STD, and TB Prevention, HIV/AIDS Surveillance System, 2000-2004 • CDC-National Center for HIV, STD, and TB Prevention, TB Surveillance System, 1999-2002 • CDC-NCHS, National Vital Statistics System (NVSS), 1999-2003 • NIH, Surveillance, Epidemiology, and End Results (SEER) program, 1992-2003

* 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.

Changes to the Measure Set

New measures. The measure sets used in the 2006 NHDR and NHQR have been improved in several ways. First, a handful of measures were modified to reflect more current standards of care. Second, age adjustment^x for a number of measures was updated. For example, to enhance the comparability of measures of diabetes care from MEPS, the Behavioral Risk Factor Surveillance System (BRFSS), and the National Health and Nutrition Examination Survey (NHANES), these measures now apply the same age adjustment methodology among persons age 40 and over with diabetes.^{xi} Finally, a number of new measures were added to fill identified gaps, including:

- Four measures of care for obesity from MEPS and NHANES:
 - Obese adults age 20 and over who were told by their provider that they were overweight (NHANES).
 - Overweight children and teens ages 2-19 who were told by their provider that they were overweight (NHANES).
 - Obese adults who were given counseling from their provider about exercise (MEPS).^{xii}
 - Obese adults who were given counseling from their provider about diet (MEPS).
- Two measures of hospice care from the National Hospice and Palliative Care Organization's Family Evaluation of Hospice Care survey:
 - Hospice patients who did not receive the right amount of medicine for pain.
 - Hospice patients who received care inconsistent with their stated end-of-life wishes.
- Two measures of patient safety, one from the Medicare Patient Safety Monitoring System and one adopted by the Hospital Quality Alliance (HQA) from the CMS Quality Improvement Organization program:
 - Medication-related adverse drug events (MPSMS).
 - Timing of antibiotics to prevent postoperative wound infection (HQA).^{xii}
- Four measures of patient centeredness of hospital care from the CAHPS[®] Hospital Survey:
 - Communication with doctors in the hospital.
 - Communication with nurses in the hospital.
 - Communication about medications in the hospital.
 - Discharge information from the hospital.
- Two measure of workforce diversity from the U.S. Census 2000 and the Center for Studying Health System Change Community Tracking Study Physician Survey:
 - U.S. physicians and surgeons by race and ethnicity (U.S. Census 2000).
 - U.S. physicians in direct patient care by race and ethnicity (Community Tracking Study Physician Survey).

^x Age-adjusted measures are labeled as such. All other measures are not age adjusted.

^{xi} Prior to 2006, these measures tracked persons age 18 and over.

^{xii} This is a new core measure.

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- One measure of language assistance from MEPS:
 - Adults with limited English proficiency with and without a usual source of care who offers language assistance (MEPS).
- As noted earlier, the 2006 reports also include measures of asthma care from the National Asthma Survey.^{xiii} The four measures include persons with current asthma who were:
 - Taught to recognize early signs of an asthma attack.
 - Told how to change their environment.
 - Given an asthma controller medication.
 - Given an asthma management plan.

Measure revisions were proposed and reviewed in meetings of the Interagency Work Group for the NHDR, which includes representation from across HHS.

Composite measures. Composite measures provide readers with a summarized picture of some aspect of health care by combining information from multiple component measures. Policymakers and others have voiced their support for composite measures because they can be used to facilitate understanding of information from many individual measures. The effort to develop new composites is ongoing; and this year, a number of new composite measures were added. Composite measures now make up about 20% of the core measures. New composite measures included in the 2006 reports and the individual component measures they aggregate are shown in Table 1.4. Future reports will include more composite measures.

When possible, an appropriateness model is used to create composite measures. In this model, the denominator is the number of patients who should receive the services included in the composite, and the numerator is the number of patients who receive all of these services. The composite measure is presented as the percentage of patients who receive all services recommended to them. Because no partial credit is given for incomplete care, this model is sometimes referred to as an “all-or-none” approach. The appropriateness model is attractive to patients, who naturally desire to receive every appropriate service.⁴ One example of this model is the diabetes composite, in which a patient who receives only one or two of the three services would not be counted as having received the recommended care.

Sometimes, insufficient data are available to apply an appropriateness model. In these instances, an opportunities model developed by Qualidigm⁵ and used in the CMS Premier Hospital Quality Incentive Demonstration⁶ and for public reporting by the Rhode Island Department of Health⁷ is used. The model assumes that each patient needs and has the opportunity to receive one or more processes of care but that not all patients need the same care. The denominator for an opportunities model composite is the sum of these opportunities to receive appropriate care across a panel of process measures. The numerator is the sum of the appropriate care that is actually delivered. The composite measure is typically presented as the proportion of appropriate care that is delivered.

^{xiii} Because this is not a periodic survey, the four measures from this survey will not be permanently added to the measure set.

For example, recommended hospital care for heart failure includes evaluation of left ventricular ejection fraction and ACE inhibitor for patients with left ventricular systolic dysfunction. This represents two opportunities for providing appropriate care. The number of patients who should have an evaluation of left ventricular ejection fraction is added to the number of patients who should receive an ACE inhibitor to calculate the total number of opportunities for providing appropriate care. The number of patients who actually receive an evaluation of left ventricular ejection fraction is added to the number of patients who actually receive an ACE inhibitor to calculate the number of opportunities for providing care for which appropriate care was actually delivered. The composite is created by dividing the number of opportunities for care for which appropriate care was actually delivered by the total number of opportunities for care.

Measures from the CAHPS[®] (Consumer Assessment of Healthcare Providers and Systems⁸) surveys have their own method for computing composite measures that has been in use for many years. These composite measures average individual components of patient experiences of care. These composite measures are typically presented as the proportion of respondents who reported that providers sometimes or never, usually, or always performed well.

Two new composite measures relate to rates of complications of hospital care—postoperative complications and complications of central venous catheters. For these complication rate composites, an additive model is used, which sums together individual complication rates. Thus, for these composites, the numerator is the sum of individual complications and the denominator is the number of patients at risk for these complications. The composite rates are presented as the overall rate of complications. The postoperative complications composite is a good example of this type of composite measure; if 50 patients had a total of 15 complications between them (regardless of their distribution), the composite score would be 30%.

Expanded Analyses

Trends in health care quality and access. As in previous NHDRs, the 2006 report uses the earliest and most recent available NHDR data estimates for each measure to calculate average annual rate of change for the general U.S. population and for each racial, ethnic, and socioeconomic group. Consistent with *Health, United States*, the geometric rate of change, which assumes the same rate each year between the two time periods, has been calculated for the 2006 NHDR and NHQR.^{xiv}

Two criteria are applied to determine whether a significant trend exists:

- First, the difference between the oldest and most recent estimates must be statistically significant with $\alpha=0.05$.
- Second, the magnitude of average annual rate of change must be at least 1% per year, when the measures are framed as a favorable outcome or as an adverse outcome.

Only changes over time that meet these two criteria are discussed in the 2006 reports.

^{xiv} The geometric rate of change assumes that a measure increases or decreases at the same rate during each year between two time periods. It is calculated using the following formula: $[(V_y/V_z)^{1/N-1}] \times 100$, where V_y is the most recent year's value, V_z is the most distant year's value, and N is the number of years in the interval.

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Table 1.4. Composite measures in the 2006 NHQR and NHDR (new measures *in italics*)

Composite measure	Individual measures forming composite	Model
Receipt of three recommended diabetic services*	<ul style="list-style-type: none"> Adults aged 40 and older with diagnosed diabetes who received at least one HbA1c test Adults aged 40 and older with diagnosed diabetes who received at least one retinal eye exam Adults aged 40 and older with diagnosed diabetes who received at least one foot exam 	Appropriateness
Childhood immunization	<ul style="list-style-type: none"> Children age 19-35 months who received at least 4 doses of diphtheria-tetanus-acellular pertussis (DTaP) Children age 19-35 months who received at least 3 doses of polio Children age 19-35 months who received at least 1 dose of measles-mumps-rubella (MMR) Children age 19-35 months who received at least 3 doses of Haemophilus influenza B (Hib) Children age 19-35 months who received at least 3 doses of hepatitis B antigens 	Appropriateness
Recommended hospital care for heart attack	<ul style="list-style-type: none"> Receipt of aspirin within 24 hours of hospitalization Receipt of aspirin upon discharge Receipt of beta-blocker within 24 hours of hospitalization Receipt of beta-blocker upon discharge Receipt of ACE inhibitor for left ventricular systolic dysfunction Receipt of counseling about smoking cessation among smokers 	Opportunities
Recommended hospital care for heart failure	<ul style="list-style-type: none"> Receipt of evaluation of left ventricular ejection fraction Receipt of ACE inhibitor for left ventricular systolic dysfunction 	Opportunities
Recommended hospital care for pneumonia	<ul style="list-style-type: none"> Receipt of initial antibiotics within 4 hours Receipt of appropriate antibiotics Receipt of culture before antibiotics Receipt of influenza screening or vaccination Receipt of pneumococcal screening or vaccination 	Opportunities
<i>Timing of antibiotics to prevent postoperative wound infection</i>	<ul style="list-style-type: none"> Antibiotics started within 1 hour of surgery Antibiotics stopped 24 hours after surgery 	Opportunities
Patient-provider communication problems	<ul style="list-style-type: none"> Provider sometimes or never listened carefully to you Provider sometimes or never explained things clearly to you Provider sometimes or never showed respect for what you had to say Provider sometimes or never spent enough time with you 	CAHPS®
<i>Communication with doctors in the hospital</i>	<ul style="list-style-type: none"> Doctors sometimes or never treated you with courtesy and respect Doctors sometimes or never listened carefully to you Doctors sometimes or never explained things in a way you could understand 	CAHPS®
<i>Communication with nurses in the hospital</i>	<ul style="list-style-type: none"> Nurses sometimes or never treated you with courtesy and respect Nurses sometimes or never listened carefully to you Nurses sometimes or never explained things in a way you could understand 	CAHPS®

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Table 1.4. Composite measures in the 2006 NHQR and NHDR (new measures *in italics*)

Composite measure	Individual measures forming composite	Model
<i>Communication about medications in the hospital</i>	<ul style="list-style-type: none"> Hospital staff sometimes or never told you what a new medicine was for Hospital staff sometimes or never described possible side effects of a new medicine in a way you could understand 	CAHPS®
<i>Discharge information from the hospital</i>	<ul style="list-style-type: none"> Hospital staff talked with you about whether you would have the help you needed when you left the hospital Hospital staff provided information in writing about what symptoms or health problems to look out for after you left the hospital 	CAHPS®
<i>Postoperative complications</i>	<ul style="list-style-type: none"> Postoperative pneumonia Postoperative bladder infection Postoperative blood clot 	Additive
<i>Complications of central venous catheters</i>	<ul style="list-style-type: none"> Bloodstream infection due to central venous catheter Mechanical problem due to central venous catheter 	Additive

* This composite measure was modified between the 2004 and 2005 reports. Starting with the 2005 composite, two tests, flu vaccination and lipid profile, were omitted due to differences in the manner in which they were collected. The current composite measure on diabetes care focuses on the receipt of three processes for which the best data are available: HbA1c testing, retinal eye examination, and foot examination in the past year. Starting in 2006, the target age group for this measure changed from age 18 and older to age 40 and older.

One additional constraint relates to trends among specific racial and ethnic groups. Some Federal databases completed transition by 2003 (as required) to the new Federal standards for racial and ethnic data during years covered by the NHDR. These new standards created two separate racial categories: “Asian” and “Native Hawaiian or Other Pacific Islander.” In addition, individuals could report more than one race, which significantly affected estimates for the “American Indian or Alaska Native” category. In contrast, effects on estimates for Whites, Blacks, and Hispanics were proportionately much smaller. Consequently, the 2006 NHDR shows shorter trends (i.e., fewer years of data) for groups directly or significantly affected by the new standards such as Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple race individuals.

Hispanic subpopulations. As with all U.S. populations, racial and ethnic minority groups that are the focus of the NHDR can be highly heterogeneous. Data are typically not available to examine different racial and ethnic groups in greater detail. One exception relates to Hispanic subpopulations for which increasing amounts of data are available. The 2006 NHDR shows information from MEPS related to health care differentiating Hispanics of Mexican, Central or South American, Puerto Rican, and Cuban descent. These analyses are presented in the section on racial and ethnic minorities in Chapter 4, Priority Populations.

Uninsurance. Lack of health insurance is widely recognized as a risk factor for poorer quality of health care and worse access to health care. Previous reports have included analyses of uninsured compared with privately insured individuals but did not bring these findings together into a specific section of the reports. This year, a focus on disparities related to insurance status is introduced. These analyses are presented in the section on low income groups in Chapter 4, Priority Populations.

Summary of Disparities

In the 2006 NHDR, efforts to summarize disparities have been further refined.

Quantifying disparities. In the Highlights and in Chapter 4, Priority Populations, the extent of disparities across the core measures is summarized for Blacks, Hispanics, Asians, NHOPIs, AI/ANs, and the poor. Racial, ethnic, and socioeconomic groups are compared with a designated reference group for each core measure; each group could receive care that is worse than, about the same as, or better than the reference group. For each group, the percentages of measures for which the group received worse care, similar care, or better care were calculated. Health care utilization measures are difficult to interpret and were excluded when summarizing disparities in access to care.^{xv} In Chapter 4, Priority Populations, which presents information on each population separately, all core measures are used when summarizing disparities for each group. However, in the Highlights, where multiple groups are presented side by side, only core measures with estimates for all racial and ethnic groups are used to facilitate comparisons across the groups. An exception is made for income comparisons of quality measures because much less information is available for these groups.

As in the 2005 NHDR, rates relative to standard reference groups are used to quantify the magnitude of disparities and to identify the largest disparities faced by specific groups. For each group, the group rate was divided by the reference group rate to calculate the relative rate for each core measure. The median relative rate across core measures is presented in Chapter 4 as another way of summarizing the magnitude of disparities in quality and access; the relative rates are also presented to identify potential areas for improvement.

Trends in disparities. The method for summarizing trends in disparities introduced in the 2005 NHDR is improved in the 2006 NHDR. For each core measure, racial, ethnic, and socioeconomic groups are compared with a designated reference group at different points in time. Consistent with Healthy People 2010, disparities are measures in relative terms as the percent difference between each group and a reference group; changes in disparity are measured by subtracting the percent difference from the reference group at the baseline year from the percent difference from the reference group at the most recent year. The change in each disparity is then divided by the number of years between the baseline and most recent estimate to calculate change in disparity per year. Thus, in determining change:

- Core measures for which the relative differences are changing less than 1% per year are identified as staying the same.
- Core measures for which the relative differences are becoming smaller at a rate of more than 1% per year are identified as improving disparities.
- Core measures for which the relative differences are becoming larger at a rate of more than 1% per year are identified as worsening disparities.
- Changes of greater than 5% per year are also differentiated from changes of between 1% and 5% per year in some figures.

^{xv} Interpreting health care utilization data is more complex than analyzing data on patient perceptions of access to care. Along with 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. For these reasons, measures of health care utilization are excluded from summaries of access to health care.

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In Chapter 4, Priority Populations, which presents information on each population separately, all core measures are used when summarizing trends in disparities for each group. However, in the Highlights where multiple groups are presented side by side, only core measures with estimates for all racial and ethnic groups over time are used to facilitate comparisons across the groups. As noted above, an exception is made for income comparisons of quality measures because much less information is available for these groups.

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Chapter 2. Quality of Health Care

As better understanding of health and sickness has 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, extensive disparities in health care related to race, ethnicity, and socioeconomic status have been demonstrated by a substantial body of public health, social science, and health services research and confirmed by previous releases of the National Healthcare Disparities Report.

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:²

- **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.

Health care quality is measured in several ways including:

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

How This Chapter Is Organized

This chapter presents new information about disparities in the quality of health care in America. The measures used here are the same as those used in the National Healthcare Quality Report (NHQR), and this chapter is constructed to mirror sections in the NHQR—effectiveness, patient safety, timeliness, and patient centeredness. Due to constraints on the length of this report, only a subset of the core measures is presented. Effectiveness of care is presented in Chapter 2 under eight clinical condition or care setting areas: cancer; diabetes; end stage renal disease (ESRD); heart disease; HIV and AIDS; mental health and substance abuse; respiratory diseases; and nursing home, home health, and hospice care. Maternal and child health is discussed in Chapter 4, Priority Populations.

As in previous NHDRs, this chapter's discussion on quality of care focuses on disparities in quality related to race, ethnicity, and socioeconomic status in the general U.S. population. Disparities in quality of care within specific priority populations are presented in Chapter 4. This chapter also presents analyses of changes over time by race, ethnicity, and socioeconomic status, as well as some stratified analyses.

Finally, new composite measures are introduced in this year's NHDR, including timing of antibiotics to prevent postoperative wound infection, communication with doctors in the hospital, communication with nurses in the hospital, communication about medications in the hospital, discharge information from the hospital, postoperative complications, and complications of central venous catheters. For composite details, see Chapter 1, Introduction and Methods.

Categorization of Effectiveness Measures by Health Care Need

In the effectiveness section of this chapter, measures are organized into several categories as related to the patient's need for preventive care, treatment of acute illness, and chronic disease management. There is sizable overlap among these categories, and some measures may be considered to belong in more than one category. Outcome measures are particularly difficult to categorize when prevention, treatment, and management all play important roles. Nevertheless, for the purposes of this report, measures are placed into categories that best fit the general descriptions below:

- **Prevention**—Caring for healthy people is an important component of health care. Educating people about healthy behaviors can help to postpone and avoid illness and disease. Additionally, detecting health problems at an early stage increases the chances of effectively treating them, often reducing suffering and expenditures.
- **Treatment**—Even when preventive care is ideally implemented, it cannot entirely avert the need for acute care. Delivering optimal treatments for acute illness can help reduce the consequences of illness and promote the best recovery possible.
- **Management**—Some diseases, such as diabetes and end stage renal disease, are chronic, which means they cannot simply be treated once; they must be managed across a lifetime. Management of chronic disease often involves lifestyle changes and regular contact with a provider to monitor the status of the disease. For patients, effective management of chronic disease can mean the difference between normal, healthy living and frequent medical problems.

Note that findings for women and children, which parallel those presented in the NHQR for maternal and child health, are presented in the sections on women and children in Chapter 4. Measures presented in effectiveness fall within the three components of health care need as listed below. (For findings related to all core measures of effectiveness, see Tables 2.1a and 2.1b.)

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Section	Measure
Prevention:	
Cancer (colorectal)	Screening for colorectal cancer
Heart disease	Counseling about overweight*
Heart disease	Counseling about exercise
Respiratory diseases	Pneumococcal vaccination
Maternal and child health (women)	Screening for colorectal cancer
Maternal and child health (women)	Prenatal care/maternal care
Maternal and child health (children)	Vaccinations
Maternal and child health (children)	Vision care
Maternal and child health (children)	Counseling about overweight*/healthy eating
Treatment:	
Heart disease	Recommended hospital care for heart failure
Mental health and substance abuse	Receipt of treatment for depression
Mental health and substance abuse	Treatment for illicit drug use
Respiratory diseases	Recommended hospital care for pneumonia
Nursing home, home health, and hospice care	Improved walking or moving
Nursing home, home health, and hospice care	Hospitalization of home care patients
Maternal and child health (women)	Recommended hospital care for heart attack
Maternal and child health (children)	Hospital admissions for gastroenteritis
Management:	
Diabetes	Receipt of recommended services for diabetes
Diabetes	Hemoglobin, cholesterol, blood pressure control*
End stage renal disease (ESRD)	Adequacy of hemodialysis
End stage renal disease (ESRD)	Registration for transplantation
HIV and AIDS	New AIDS cases
HIV and AIDS	PCP and MAC prophylaxis*
Respiratory diseases	Management of asthma for long-term control* ⁱ
Nursing home, home health, and hospice care	Use of physical restraints
Nursing home, home health, and hospice care	Presence of pressure sores
Nursing home, home health, and hospice care	Hospice care* ⁱⁱ
Maternal and child health (women)	New AIDS cases
Maternal and child health (children)	Hospital admissions for asthma*

* Supplemental measure

ⁱ This year's report includes four supplemental measures of asthma management from the National Asthma Survey as follows: counseling persons with asthma about recognizing an attack, counseling persons with asthma about changing their environment, use of a controller medication, and receipt of an asthma management plan.

ⁱⁱ This year's report includes two supplemental measures of hospice care from the National Hospice and Palliative Care Organization Family Evaluation of Hospice Care: hospice patients who did not receive the right amount of medicine for pain and hospice patients who did not receive end-of-life care consistent with their stated wishes.

Effectiveness

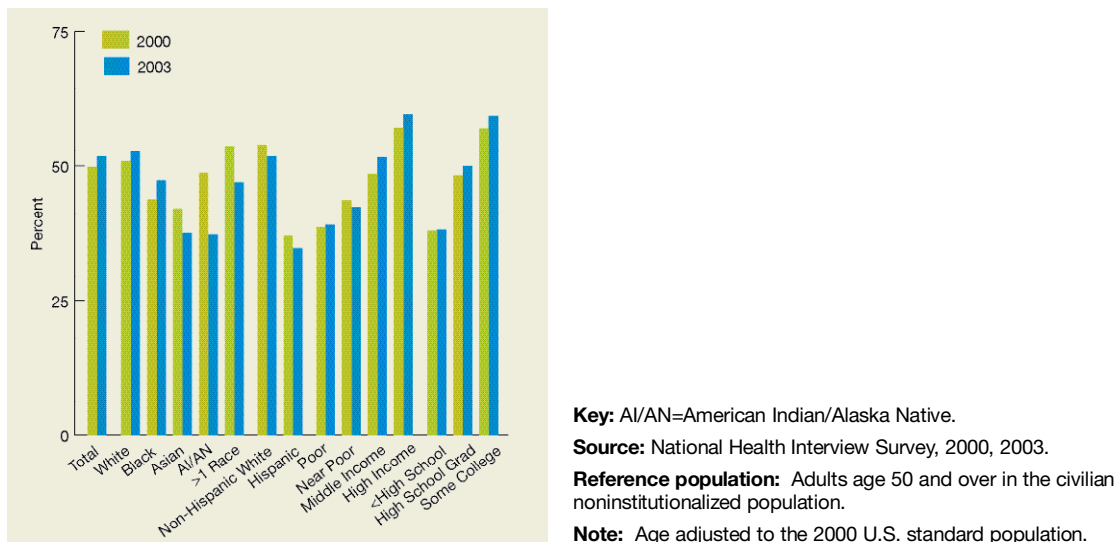
Cancer

Number of deaths (2006 est.)	564,830 ³
Cause of death rank (2003)	2nd ⁴
Number of Americans that have been diagnosed with cancer (2002 est.)	10,100,000 ³
New cases of cancer (2006 est.)	1,399,790 ³
New cases of colorectal cancer (2006 est.)	148,610 ³
Total cost ⁱⁱⁱ (2006)	\$206.3 billion ⁵
Direct costs ^{iv} (2006)	\$78.2 billion ⁵
Cost effectiveness ^v of colorectal cancer screening	\$0-\$14,000/QALY ⁶
Cost effectiveness of cervical cancer screening	\$14,000-\$35,000/QALY ⁶

Prevention: Screening for Colorectal Cancer

Ensuring that all populations have access to appropriate cancer screening services is a core element of reducing cancer health disparities.⁷ This year the NHDR focuses on colorectal cancer; findings for breast cancer are found in the 2005 NHDR. Screening for colorectal cancer—including fecal occult blood testing, sigmoidoscopy, colonoscopy, and proctoscopy—is an effective way of reducing new cases of late stage disease and mortality caused by this cancer.

Figure 2.1. Adults age 50 and over who report having ever received a sigmoidoscopy, colonoscopy, or proctoscopy or who report fecal occult blood test within the past 2 years by race, ethnicity, income, and education, 2000-2003



ⁱⁱⁱTotal cost is composed of the cost of medical care itself (direct cost) and the economic costs of morbidity and mortality (indirect cost).

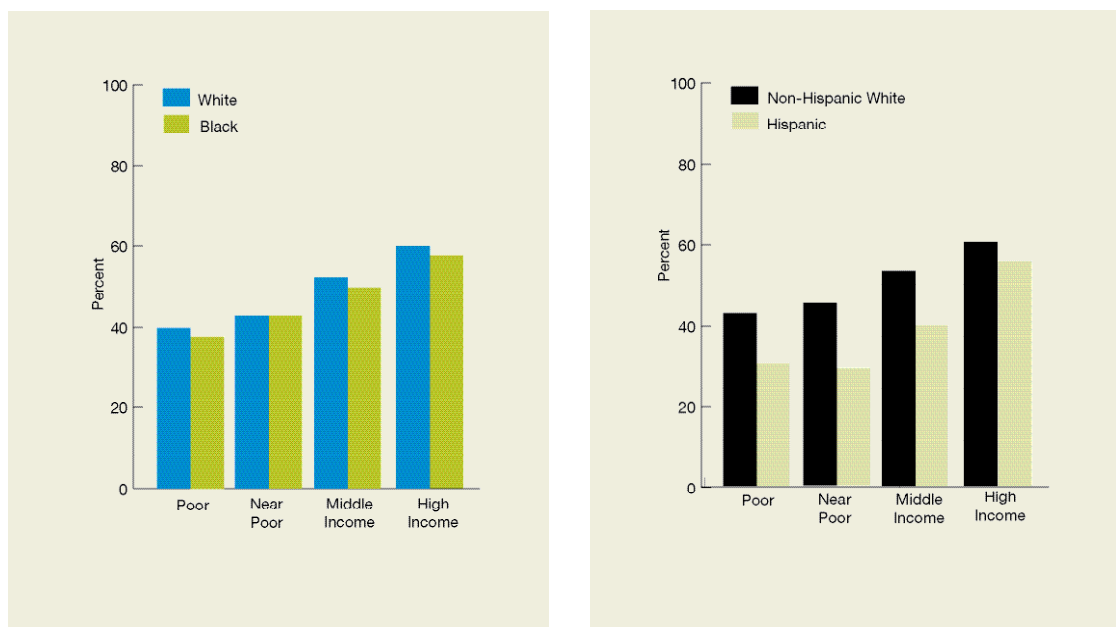
^{iv}Direct costs are defined as “personal health care expenditures for hospital and nursing home care, drugs, home care, and physician and other professional services.”⁵

^vCost effectiveness is measured here by the average net cost of each quality adjusted life year (QALY) that is saved by the provision of a particular health intervention. QALYs are a measure of a year of life adjusted for its value: 1 year in perfect health is equal to 1.0 QALY, and a year in poor health would be something less than 1.0. A lower cost per QALY saved indicates a greater degree of cost effectiveness.

- In both 2000 and 2003, the proportion of adults age 50 and over who had received recommended colorectal cancer screening was significantly lower among Blacks and Asians compared with Whites; among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income persons than among high income persons; and among persons with a high school education or less compared with persons with any college education (Figure 2.1).
- From 2000 to 2003, the proportion of adults age 50 and over who had received recommended colorectal cancer screenings increased significantly for the total population, Whites, non-Hispanic Whites, middle income persons, high income persons, and persons with any college education.

Racial and ethnic minorities are disproportionately of lower socioeconomic status.^{vi,8} To distinguish the effects of race, ethnicity, income, and education on cancer screening, this measure is stratified by income and education level.

Figure 2.2. Adults age 50 and over who reported having ever received a sigmoidoscopy, colonoscopy, or proctoscopy, or a fecal occult blood test within the past 2 years by race (left) and ethnicity (right), stratified by income, 2003

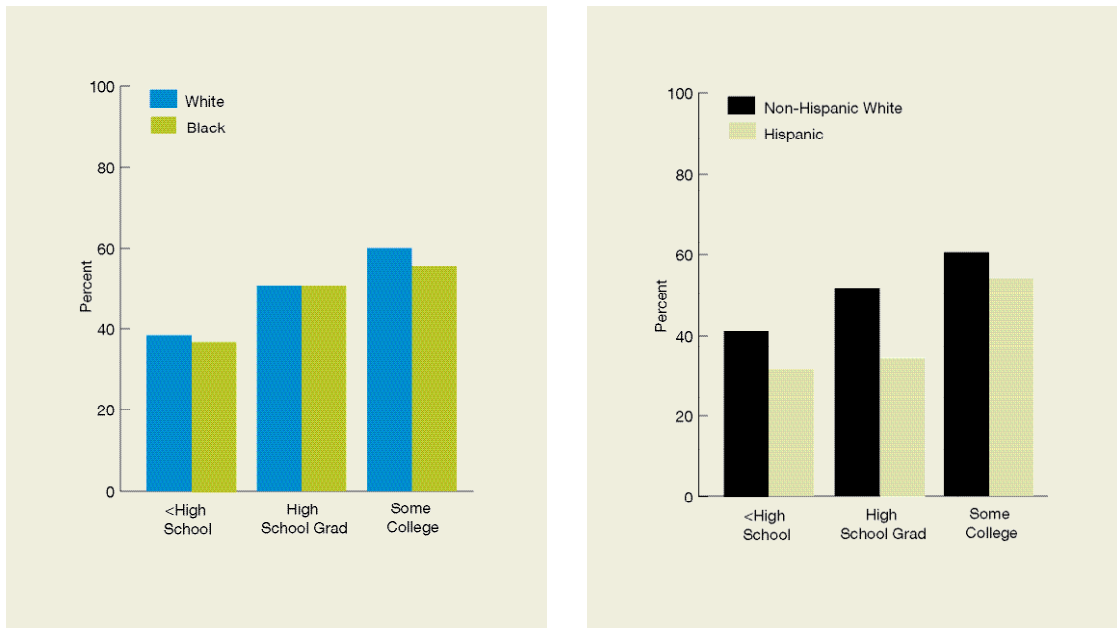


Source: National Health Interview Survey, 2003.

Reference population: Adults age 50 and over in the civilian noninstitutionalized population.

^{vi} As described in Chapter 1, Introduction and Methods, income and educational attainment are used to measure socioeconomic status in the NHDR.

Figure 2.3. Adults age 50 and over who reported having ever received a sigmoidoscopy, colonoscopy, or proctoscopy, or a fecal occult blood test within the past 2 years by race (left) and ethnicity (right), stratified by education, 2003



Source: National Health Interview Survey, 2003.

Reference population: Adults age 50 and over in the civilian noninstitutionalized population.

- Racial and ethnic differences in receipt of recommended colorectal screening vary with income and education level.
- After controlling for income, significant differences between Blacks and Whites are eliminated. Differences between high income Hispanics and non-Hispanic Whites are also eliminated, although differences for all other income groups persist (Figure 2.2).
- After controlling for education, significant differences between Blacks and Whites are eliminated. Differences between Hispanics with at least some college education and respective non-Hispanic Whites are also eliminated, although differences for all other education groups persist (Figure 2.3).

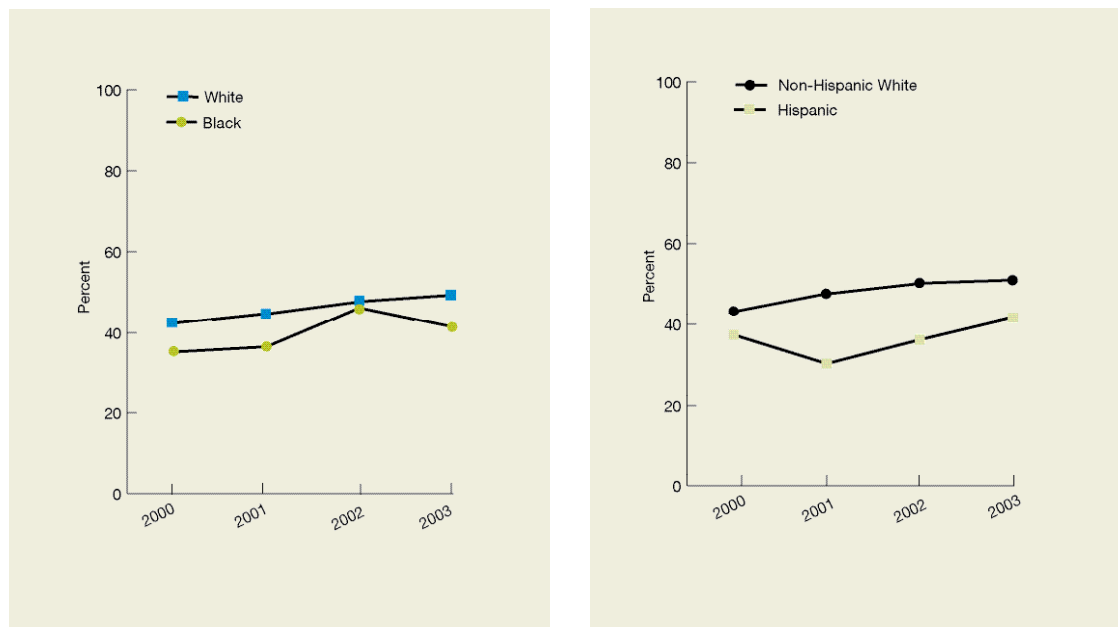
Diabetes

Number of deaths (2003)	73,965 ⁴
Cause of death rank (2003)	6th ⁴
Total number of Americans with diabetes (2005)	20,800,000 ⁹
New cases (age 20 and over, 2005).	1,500,000 ⁹
Total cost (2002).	\$132 billion ¹⁰
Direct medical costs (2002)	\$92 billion ¹⁰

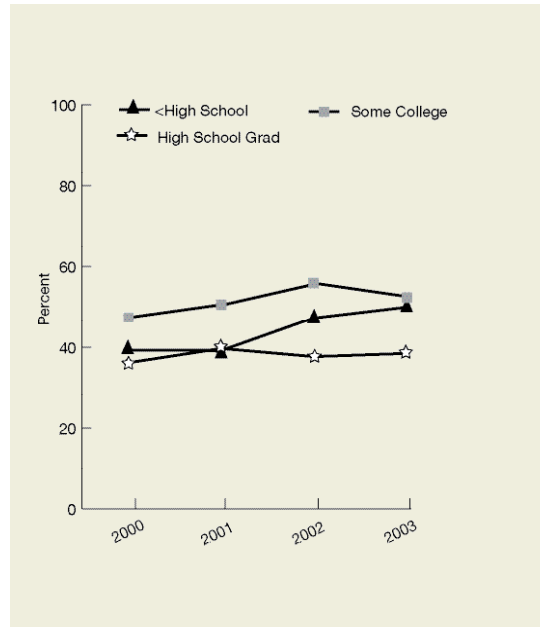
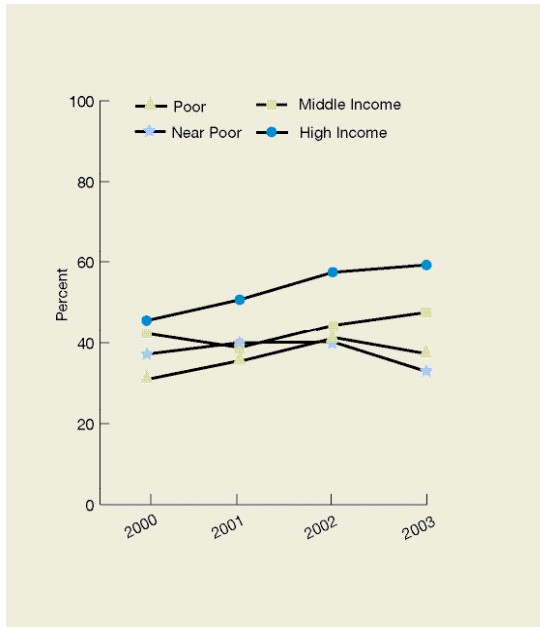
Management: Receipt of Recommended Services for Diabetes

Effective management of diabetes includes HbA1c^{vii} testing, eye examination, and foot examination in the past year, as well as appropriate influenza immunization and lipid management.^{11, 12, 13}

Figure 2.4. Adults age 40 and over with diabetes who had three recommended services for diabetes in the past year, by race (this page, left), ethnicity (this page, right), family income (next page, left), and education (next page, right), 2000-2003



^{vii} HbA1c is glycosylated hemoglobin and provides information about control of blood sugar levels.



Source: Medical Expenditure Panel Survey, 2000-2003.

Reference population: Civilian, noninstitutionalized population of adults age 40 and older.

Note: Recommended services for diabetes are: (1) HBA1c testing, (2) retinal eye examination, and (3) foot examination in past year. Data include persons with both type 1 and type 2 diabetes. Rate is age adjusted to the 2000 standard population.

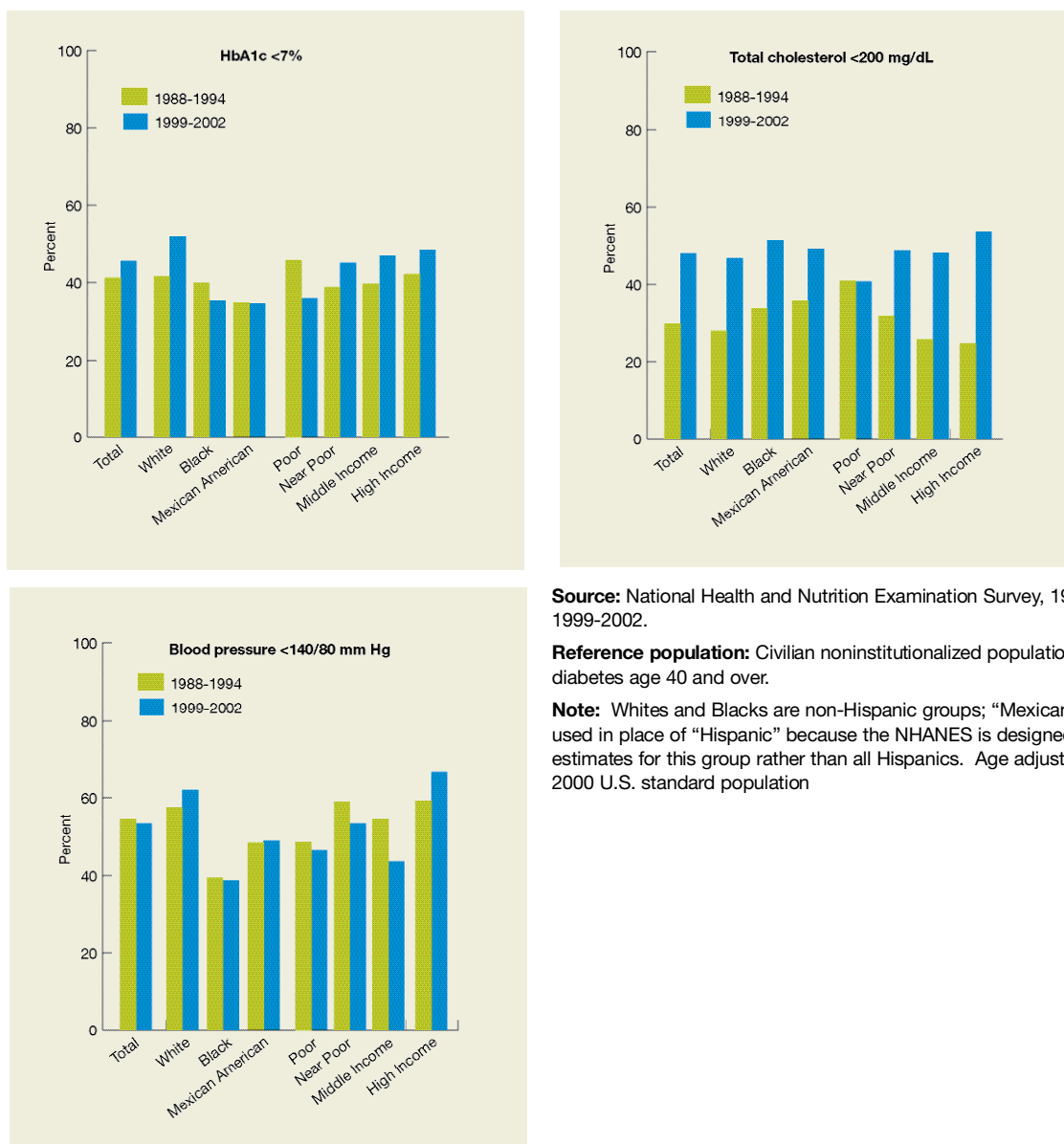
- In 2001, 2002, and 2003, the proportion of adults age 40 and over with diabetes who received three recommended services was significantly lower among Hispanics compared with non-Hispanic Whites (Figure 2.4).^{viii}
- In all 4 years, the proportion of adults age 40 and over with diabetes who received three recommended services was significantly lower among poor compared with high income adults.
- In 2002 and 2003, the proportion of adults age 40 and over with diabetes who received three recommended services was significantly lower among near poor and middle income adults compared with high income adults.
- In 3 of the 4 years, the proportion of adults age 40 and over with diabetes who received three recommended services was significantly lower among adults with a high school education or less compared with adults with any college education.
- In 2003, less than 35% of poor adults, less than 40% of near poor adults and almost 50% of adults age 40 and over with diabetes received the three recommended services compared with 60% of high income adults with diabetes.
- From 2000 to 2003, the proportion of adults age 40 and over with diabetes who received three recommended services increased significantly for the total U.S. population, Whites, non-Hispanic Whites, high income adults, and adults with a high school education. Although the 2002 and 2003 data show a decrease for Blacks, the poor, near poor, and persons with some college education, the trend is not statistically significant.

^{viii} For diabetes care findings for AI/ANs, see text on the focus on Indian Health Service facilities in Chapter 4, Priority Populations.

Management: Hemoglobin, Cholesterol, and Blood Pressure Under Control

People with diagnosed diabetes often have other cardiovascular risk factors such as high blood pressure and high cholesterol. The combination of these conditions with diabetes increases the likelihood of complications from diabetes, such as heart disease and stroke. Therefore, in addition to controlling blood sugar levels, diabetes management often includes treating high blood pressure and high cholesterol. HbA1c testing determines the average blood sugar level over 2-3 months and provides information about control of blood sugar levels. Checking blood pressure and cholesterol levels is also needed to assess control of these risk factors.^{ix}

Figure 2.5. Adults age 40 and over with diagnosed diabetes with HbA1c (top left), total cholesterol (top right), and blood pressure (bottom left) under control, by race/ethnicity and income, 1988-1994 and 1999-2002



Source: National Health and Nutrition Examination Survey, 1988-1994 and 1999-2002.

Reference population: Civilian noninstitutionalized population with diabetes age 40 and over.

Note: Whites and Blacks are non-Hispanic groups; “Mexican American” is used in place of “Hispanic” because the NHANES is designed to provide estimates for this group rather than all Hispanics. Age adjusted to the 2000 U.S. standard population

^{ix} Blood pressure control guidelines were updated in 2005. Previously, having a blood pressure reading of <140/90 mm Hg was considered under control. For this measure, the new threshold of <140/80 mm Hg has been applied to historical data for the sake of consistency and comparability.

- In 1999-2002, only 45.5% of adults with diagnosed diabetes had their HbA1c under optimal control (<7.0%), and the proportion was significantly lower among Blacks and Mexican Americans compared with Whites. No significant changes were observed in the proportion of adults with diagnosed diabetes with their HbA1c under control between the 1988-1994 and 1999-2002 time periods (Figure 2.5).
- In 1999-2002, only 48.1% of adults with diagnosed diabetes had their total cholesterol under control (<200 mg/dL). In 1988-1994, poor adults were significantly more likely than high income adults to have their cholesterol under control, but in 1999-2002 this disparity was eliminated. From 1988-1994 to 1999-2002, the proportion of adults with diagnosed diabetes who had their cholesterol under control increased significantly for all populations except poor adults.
- In 1999-2002, only 53.4% of adults with diagnosed diabetes had their blood pressure under control (<140/80 mm Hg based on average of three measurements). In 1999-2002, the proportion was significantly lower among Blacks and Mexican Americans compared with Whites and among poor and middle income adults compared with high income adults. In 1988-1994, the proportion was significantly lower only among Blacks compared with Whites. From 1988-1994 to 1999-2002, the proportion of adults with diagnosed diabetes who had their blood pressure under control did not change significantly for any group.

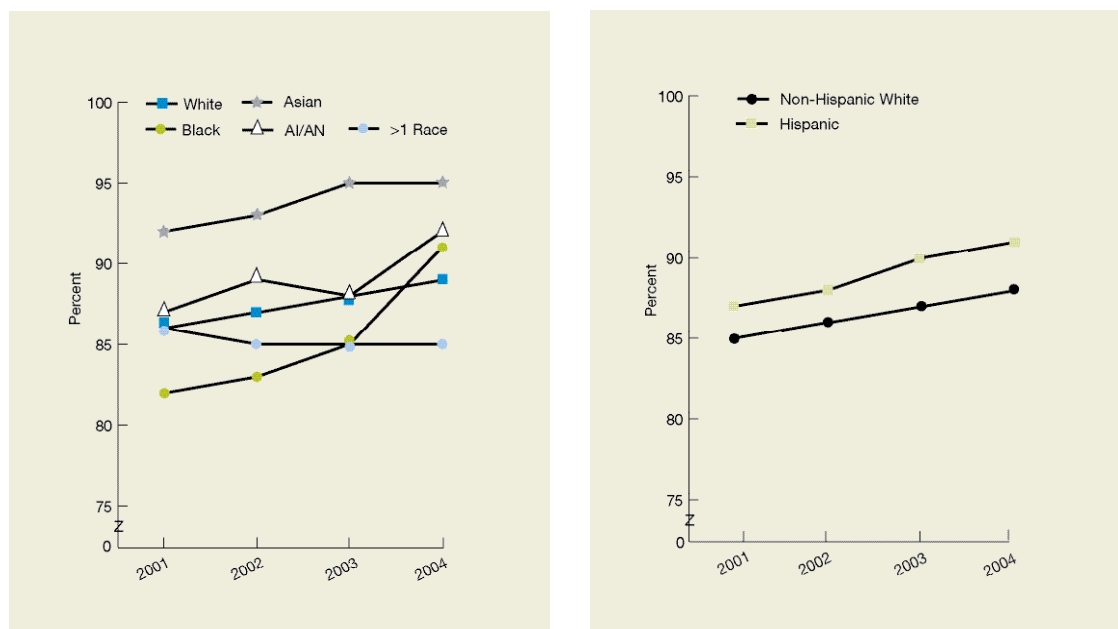
End Stage Renal Disease (ESRD)

Total ESRD deaths (2003)	82,588 ¹⁴
Total cases (2003)	452,957 ¹⁴
New cases (2003)	102,567 ¹⁴
Total ESRD program expenditures (2003)	\$27.3 billion ¹⁴

Management: Adequacy of Hemodialysis

End stage renal disease is failure of the kidneys to filter waste products from the body, necessitating dialysis.¹⁵ Adequacy of dialysis is important to the 70% of ESRD patients on dialysis.

Figure 2.6. Hemodialysis patients age 18 and over with adequate dialysis (urea reduction ratio 65% or higher), by race (left) and ethnicity (right), 2001-2004



Key: AI/AN=American Indian or Alaska Native.

Source: ESRD Clinical Performance Measures Project, 2001-2004.

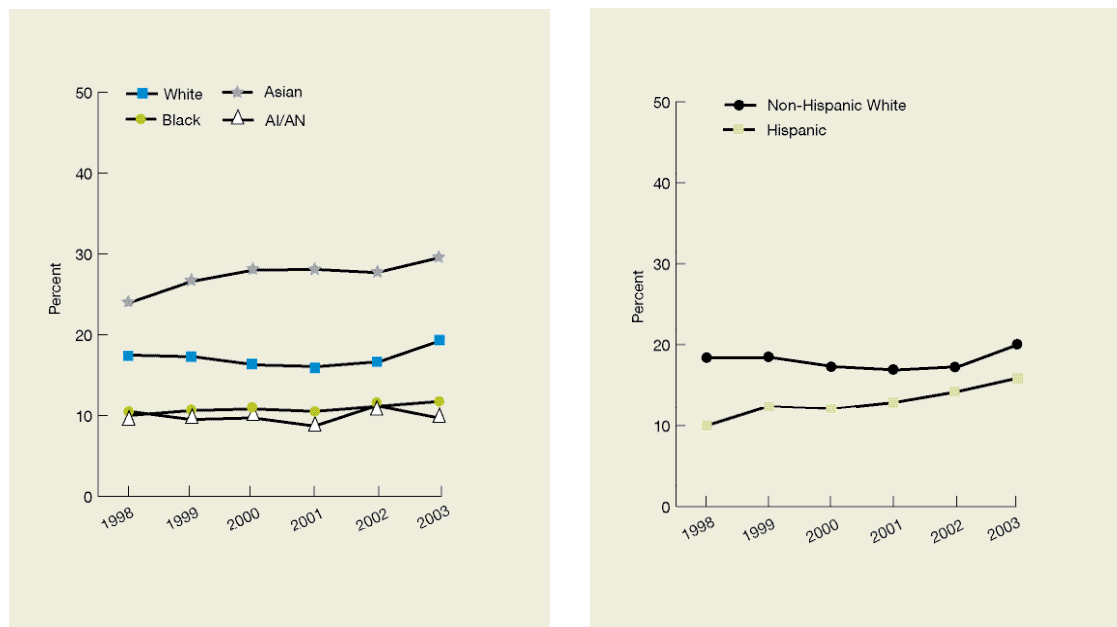
Reference population: ESRD hemodialysis patients age 18 and over.

- In all 4 years, the proportion of adult hemodialysis patients who received adequate dialysis was significantly lower among Blacks and higher among Asians compared with Whites. (Figure 2.6).
- In 2003 and 2004, the proportion of adult hemodialysis patients who received adequate dialysis was significantly higher among Hispanics compared with non-Hispanic Whites.
- The proportion of adult hemodialysis patients who received adequate dialysis improved significantly from 2001 to 2004 for the total population of hemodialysis patients (data not shown), Whites, Blacks, non-Hispanic Whites, and Hispanics.

Management: Registration for Transplantation

Kidney transplantation often allows persons with ESRD to continue a lifestyle most similar to that which they had before their kidney failure.¹⁶ It is important that persons with ESRD are registered on the waiting list for kidney transplantation to increase the likelihood of transplantation. However, there are many more people on the waiting list for transplantation than people who receive transplantation; thus, being on the waiting list does not ensure one will receive a transplant.¹⁷

Figure 2.7. Dialysis patients under age 70 registered on the waiting list for transplantation, by race (left) and ethnicity (right), 1998-2003



Key: AI/AN=American Indian or Alaska Native.

Source: U.S. Renal Data System, 1998-2003.

Reference population: ESRD hemodialysis patients and peritoneal dialysis patients age 0-70.

- In all 6 years, the proportion of dialysis patients registered for transplantation was significantly lower among Blacks and AI/ANs and higher among Asians compared with Whites (Figure 2.7).
- In all 6 years, the proportion of dialysis patients registered for transplantation was significantly lower among Hispanics compared with non-Hispanic Whites.
- From 1998 to 2003, the proportion of dialysis patients registered for transplantation improved significantly among Whites, Blacks, Asians, non-Hispanic Whites, and Hispanics, but no group achieved the Healthy People 2010 target of 66%.

Heart Disease

Number of deaths (2003)	684,462 ⁴
Cause of death rank (2003)	1st ⁴
Number of cases of coronary heart disease each year	13,200,000 ¹⁸
Number of cases of heart failure each year	5,000,000 ¹⁸
Number of cases of high blood pressure each year	65,000,000 ¹⁸
Number of heart attacks each year	7,200,000 ¹⁸
Number of new cases of congestive heart failure each year	550,000 ¹⁸
Total cost of cardiovascular disease (2006 est.)	\$403.0 billion ⁵
Total cost of congestive heart failure (2006 est.)	\$29.6 billion ¹⁸
Direct medical costs of cardiovascular disease (2005 est.)	\$257.6 billion ⁵
Cost effectiveness of hypertension screening	\$14,000-\$35,000/QALY ⁶
Cost effectiveness of aspirin chemoprophylaxis	cost savings ^{x 6}

Prevention: Counseling Obese Adults About Overweight

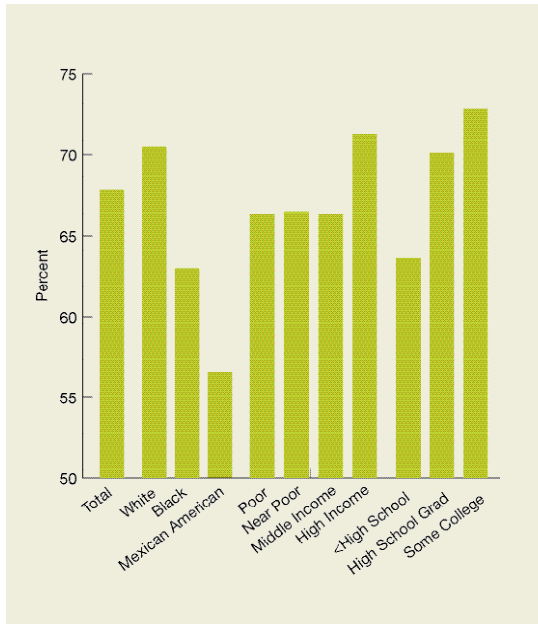
This year, new measures related to overweight and obesity are presented in the NHDR. In this section, measures for counseling obese adults about overweight and exercise are presented. In Chapter 4, Priority Populations, a measure for counseling children about overweight is presented in the section on children.

Over 32% of adults age 20 and older in the United States are obese,^{xi,19} putting them at increased risk for many chronic, deadly conditions such as hypertension, cancer, diabetes, and coronary heart disease.²⁰ Reducing obesity is a major objective in preventing heart disease and stroke.²¹ Although physician guidelines recommend that health care providers screen all adult patients for obesity,²² obesity remains underdiagnosed among U.S. adults.²³ The health care system has a central role to play in helping people become aware of the risks of obesity when they are overweight and suggesting strategies for reducing these risks.

^x Unlike other interventions which often involve greater costs for health benefits, this intervention actually results in net cost savings to society.

^{xi} Obesity is defined as having a body mass index (BMI) of 30 or higher. It is noteworthy that BMI incorporates both a person's weight and height in determining if he or she is overweight or obese.

Figure 2.8. Obese adults (body mass index of 30 or higher) age 20 and over who were told by a doctor or health professional that they were overweight by race/ethnicity, income, and education, 1999-2002



Source: National Health and Nutrition Examination Survey, 1999-2002

Reference population: Civilian noninstitutionalized population age 20 and over.

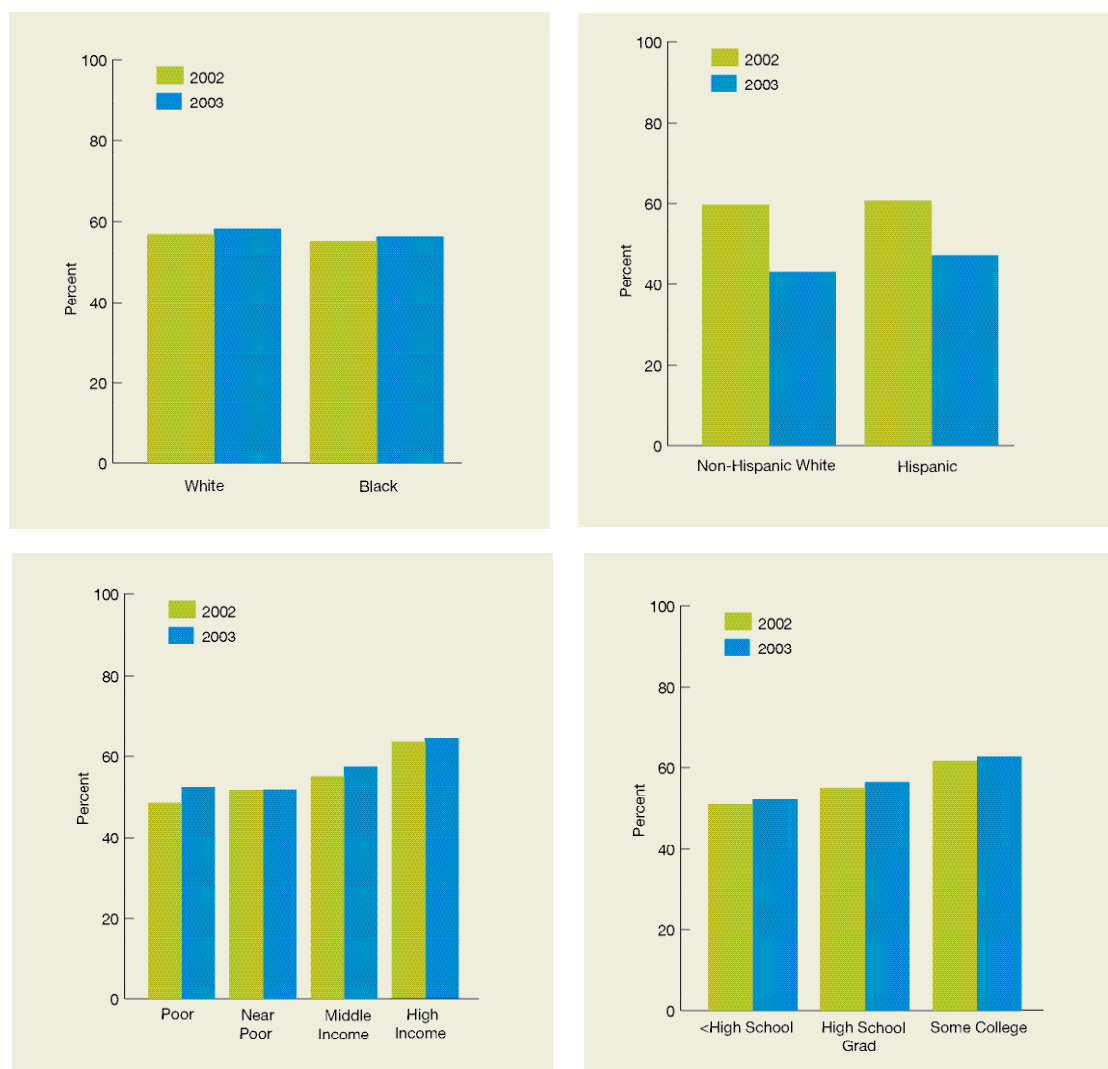
Note: Whites and Blacks are non-Hispanic populations. Education groups are for adults age 25 and over only. Rates other than the total are age adjusted to the 2000 standard population.

- Over two-thirds (67.8%) of obese adults were told by a doctor or health professional that they were overweight (Figure 2.8).
- The proportion of obese adults who were told by a doctor or health professional that they were overweight was significantly lower among Blacks and Mexican Americans compared with Whites; and among adults with less than a high school education compared with adults with any college education.

Prevention: Counseling Obese Adults About Exercise

Exercise counseling within the clinical setting is an important component of effective weight loss interventions.²² Regular exercise aids in weight loss and blood pressure control efforts, reducing the risk of heart disease, stroke, diabetes, and other diseases.

Figure 2.9. Obese adults (body mass index of 30 or higher) who were given advice about exercise by race (top left), ethnicity (top right), income (bottom left), and education (bottom right), 2002 and 2003



Key: AI/AN=American Indian or Alaska Native.

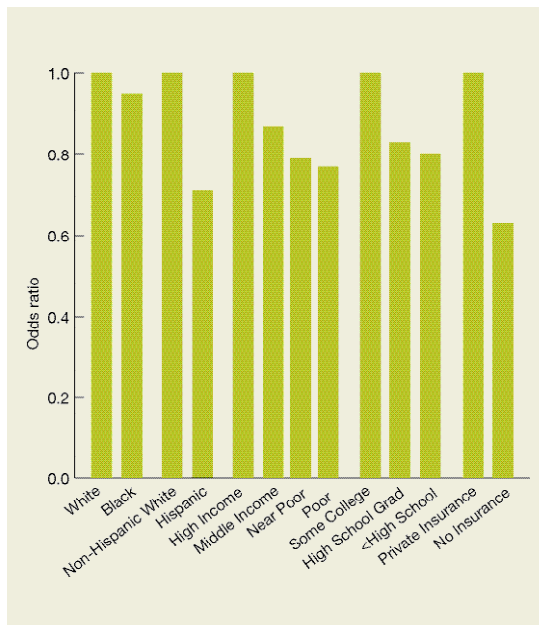
Source: Medical Expenditure Panel Survey, 2002 and 2003.

Reference population: Civilian noninstitutionalized population age 18 and over.

- In both years, the proportion of obese adults who were given advice about exercise was significantly lower among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income adults compared with high income adults; and among adults with a high school education or less compared with adults with any college education (Figure 2.9).
- From 2002 to 2003, the proportion of adults who were obese who were given advice about exercises did not change significantly for any group.

Each year, multivariate analyses are conducted in support of the NHDR to identify the independent effects of race, ethnicity, and socioeconomic status on quality of health care. Past reports have listed some of these findings. This year, the NHDR presents the results of a multivariate model for one measure: obese adults who were given advice about exercise. Adjusted odds ratios are shown to quantify the relative magnitude of disparities after controlling for a number of confounding factors.

Figure 2.10. Obese adults (body mass index of 30 or higher) who were given advice about exercise: Adjusted odds ratios, 2002 and 2003



Source: Medical Expenditure Panel Survey, 2002 and 2003.

Reference population: Obese civilian noninstitutionalized population ages 18-64.

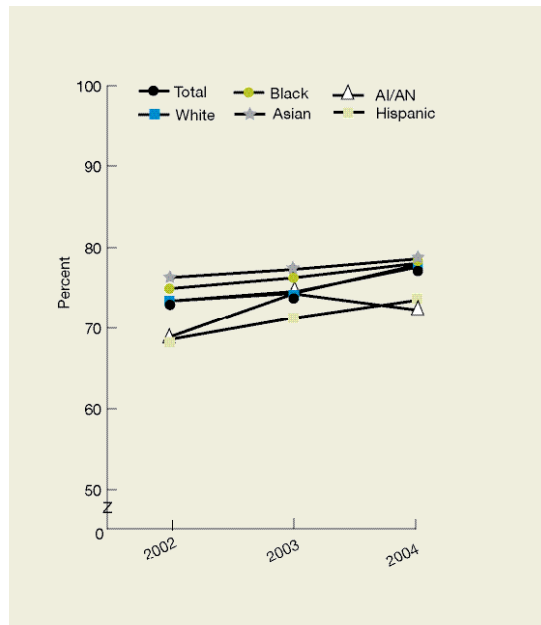
Note: Adjusted odds ratios are calculated from logistic regression models controlling for race, ethnicity, income, education, insurance, age, gender, and residence location. White, non-Hispanic White, high income, some college, and private insurance are reference groups with odds ratio=1; odds ratios <1 indicate that group is less likely to receive service than reference group. For example, compared with obese adults with private insurance, the chances that obese adults with no insurance were given advice about exercise is 0.63 after controlling for other factors. Another way to state this is that obese adults with no insurance are 37% less likely than obese adults with private insurance to receive advice about exercise.

- In multivariate models controlling for race, ethnicity, income, education, insurance, age, gender, and residence location, Hispanics were 29% less likely than non-Hispanic Whites, poor individuals were 23% less likely than high income individuals, individuals with less than a high school education were 20% less likely than individuals with some college education, and individuals with no health insurance were 37% less likely than individuals with private insurance to receive advice about exercise when obese (Figure 2.10).

Treatment: Recommended Hospital Care for Heart Failure

Recommended hospital care for heart failure includes evaluation of the left ventricular ejection fraction and receipt of an ACE inhibitor for the left ventricular systolic dysfunction.

Figure 2.11. Recommended hospital care received by Medicare patients with heart failure, by race/ethnicity, 2002-2004



Key: AI/AN=American Indian or Alaska Native.

Source: Medicare Quality Improvement Organization program, 2002-2004.

Denominator: Medicare beneficiaries hospitalized for heart failure, all ages.

Note: Whites, Blacks, AI/ANs, and Asians are non-Hispanic groups. Composite incorporates the following measures: (1) receipt of evaluation of left ventricular ejection fraction, and (2) receipt of ACE inhibitor for left ventricular systolic dysfunction. Composite is calculated by averaging the percentage of the population that received each of the two incorporated components of care. For further details on composite measures, see Chapter 1, Introduction and Methods.

- From 2002 to 2004, the overall percentage of Medicare patients with heart failure who received recommended hospital care improved from 73.4% to 77.7% (Figure 2.11).
- In 2002 and 2004, this percentage was significantly lower among Hispanics compared with Whites. In 2004 the percentage was also significantly lower among AI/ANs compared with Whites.
- From 2002 to 2004, the percentage of Medicare patients with heart failure who received recommended hospital care improved significantly for the total population and among Whites, Blacks, and Hispanics.

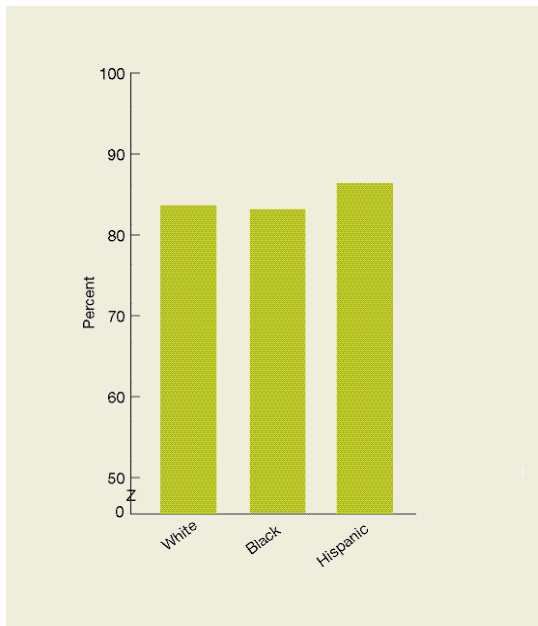
HIV and AIDS

Number of AIDS deaths (2004)	15,798 ²⁴
Number of persons in the U.S. living with HIV (2003 est.)	1,039,000-1,185,000 ²⁵
Number of persons living in the U.S. with AIDS (2004)	415,193 ²⁴
New cases of HIV annually (2003 est.)	approximately 40,000 ²⁵
New AIDS cases (2004 est.)	42,514 ²⁴
Federal spending on HIV/AIDS care (fiscal year 2004).	\$11.6 billion ²⁶

Management: PCP and MAC Prophylaxis

Management of chronic HIV disease includes 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. Although program data are collected from all Ryan White CARE Act grantees,²⁷ the aggregate nature of the data make it difficult to assess the quality of care provided by Ryan White CARE Act providers. Without adequate treatment, as HIV disease progresses, CD4 cell counts fall and patients become increasingly susceptible to opportunistic infections. When CD4 cell counts fall below 200, medicine to prevent development of *Pneumocystis pneumonia* (PCP) is routinely recommended; when CD4 cell counts fall below 50, medicine to prevent development of disseminated *Mycobacterium avium* complex (MAC) infection is routinely recommended.²⁸

Figure 2.12. HIV patients with CD4 cell count <200 who received PCP prophylaxis in the past year, by race/ethnicity, 2003



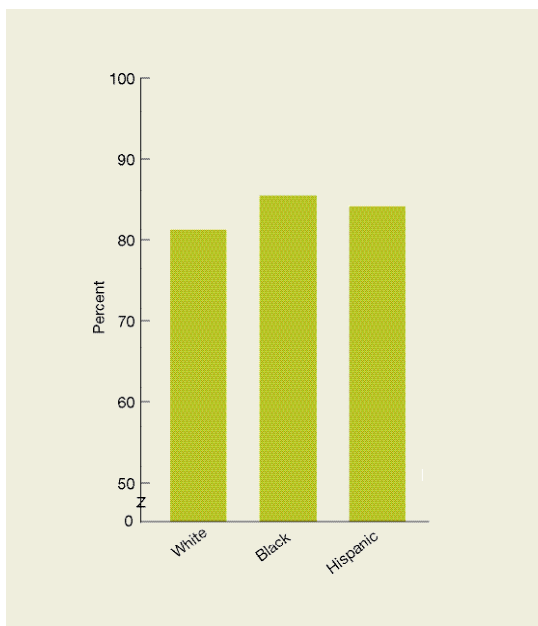
Source: HIV Research Network, 2003.

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

Note: Whites and Blacks are non-Hispanic populations.

- The proportion of HIV patients with CD4 cell count <200 who received PCP prophylaxis did not differ significantly by race/ethnicity (Figure 2.12).

Figure 2.13. HIV patients with CD4 cell count <50 who received MAC prophylaxis in the past year, by race/ethnicity, 2003



Source: HIV Research Network, 2003.

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

Note: Whites and Blacks are non-Hispanic populations.

- The proportion of HIV patients with CD4 cell count <50 who received MAC prophylaxis did not differ significantly by race/ethnicity (Figure 2.13).

Management: New AIDS Cases

Currently, existing comprehensive data on HIV infection rates across the Nation are lacking; however, early and appropriate treatment of HIV disease can delay progression to AIDS. Improved management of chronic HIV disease has likely contributed to declines in new AIDS cases. For example, as the use of highly active antiretroviral therapy (HAART) to treat HIV infection became widespread in the mid-1990s, rates of new AIDS cases declined.^{29,30}

Figure 2.14. New AIDS cases per 100,000 population age 13 and over, by race/ethnicity, 1998-2004



- From 1998 to 2004, the overall rate of new AIDS cases declined from 18.0 to 17.1 cases per 100,000 persons (Figure 2.14).
- From 1998 to 2004, the rate of new AIDS cases fell from 80.7 to 72.1 per 100,000 among non-Hispanic Blacks, from 31.3 to 25.0 per 100,000 among Hispanics, and from 8.2 to 7.1 per 100,000 among non-Hispanic Whites.
- In 2004, the rate of new AIDS cases among Blacks was more than 10 times as high and the rate among Hispanics was over 3 times as high as the rate among Whites.
- No group has accomplished the Healthy People 2010 target of 1.0 new AIDS case per 100,000 population.

Mental Health and Substance Abuse

Cause of death rank – suicide (2003)	11th ⁴
Alcohol-related motor vehicle deaths (2004)	16,694 ³¹
Students grades 9-12 who have seriously considered suicide (2005)	16.9% ³²
People 12 or older with alcohol and/or illicit drug dependence or abuse (2004)	22,506,000 ³³
People 18 or older with diagnosable mental disorder (2004)	21,417,000 ³³
Adults with co-occurring diagnosable mental disorder and substance dependence or abuse (2004)	4,600,000 ³³
Youth ages 12-17 with a major depressive episode during the past year	2,225,000 (9.0 %) ³⁴
Adults 18 and older with a major depressive episode during the past year	17,100,000 (8.0%) ³⁵
Lifetime prevalence of major depressive disorder	9.5% ³⁶
Lifetime prevalence of dysthymic disorder	6.1% ³⁶
People with any mental disorder in past year, U.S. (2001-2003)	28.1% ³⁷
People with anxiety disorders, U.S. (2001-2003)	18.7% ³⁷
People with mood disorders, U.S. (2001-2003)	9.7% ³⁷
People with impulse-control disorders, U.S. (2001-2003)	10.4% ³⁷
People with substance abuse disorders, U.S. (2001-2003)	7.2% ³⁷
Direct medical expenditures for substance abuse and mental disorders (2001 est.)	\$104 billion ³⁸
Cost effectiveness of problem drinking screening and brief counseling	\$14,000-\$35,000/QALY ⁶

In a cross-national survey among adults in 14 countries conducted from 2001-2003, the United States had the highest rate with any mental disorders including substance abuse.^{xii, 39} The proportion of those with any mental disorders was 26%. The 12-month prevalence of anxiety disorders in the United States is 18%; mood disorders, 10%; impulse-control disorder, 7%; and any substance disorder is 4%. Mental health and substance abuse treatment quality improvement programs have been shown to improve outcomes and reduce costs.³⁷

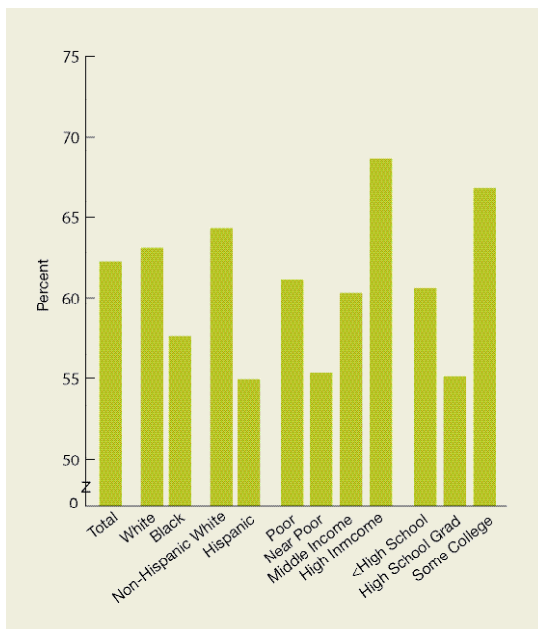
Suicide is often the result of untreated depression, and may be prevented when its warning signs are detected and treated. However, cultural, religious, or social stigma in certain population groups prevents the acknowledgment of the condition and hinders seeking care for depression, suicidal ideation, and related conditions.^{40, 41, 42} As a result, suicides are often underreported. Suicide rates should be used cautiously as a measure of differences in access to quality care among population groups, especially among racial and ethnic groups.^{43, 44}

^{xii} Readers should note that, to some extent, this finding may be attributable to different rates of screening and diagnosis for different countries.

Treatment: Receipt of Treatment for Depression

Treatment for depression is an effective way to reduce the chances of future major depressive episodes. However, cost of care, societal stigma, and fragmented organization of services represent significant barriers to treatment for depression.⁴⁵

Figure 2.15. Adults with a major depressive episode in the past year who received treatment for depression in the past year, 2004



Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2004.

Reference population: U.S. population age 18 and older who had a major depressive episode in the past year.

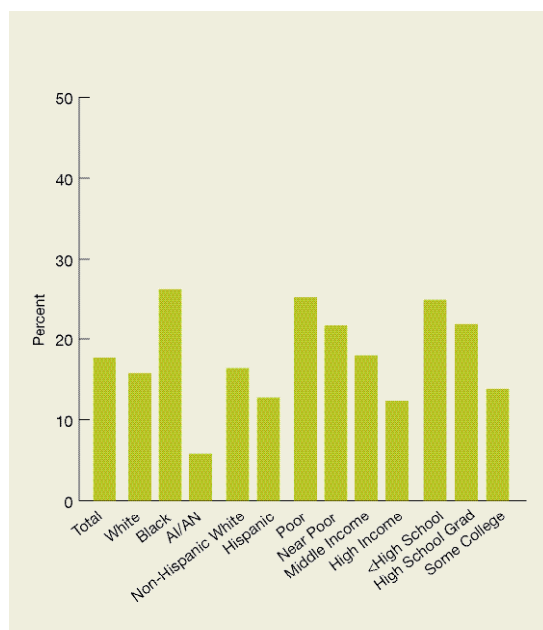
Note: Major depressive episode is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of the symptoms for depression as described in the 4th edition of the *Diagnostic and Statistical Manual of Mental Health Disorders (DSM-IV)*.

- The proportion of adults with a major depressive episode in the past year who received treatment for depression in the past year was significantly lower among adults with a high school education compared with adults with any college education and among near poor compared with high income adults (Figure 2.15).

Treatment: Treatment for Illicit Drug Use

Illicit drug^{xiii} use is a medical problem that can have a direct toxic effect on a number of body organs as well as exacerbate numerous health and mental health conditions. Treatment for illicit drug use at a specialty facility is an effective way to reduce the chances of future illicit drug use.

Figure 2.16. Persons age 12 and over who needed treatment for illicit drug use and received it at a specialty facility in the past year, 2002-2004



Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2004.

Reference population: U.S. population age 12 and over who needed treatment for illicit drug use in the past year.

Note: Estimates by education were only available for persons age 18 and over. *Received illicit drug treatment at a specialty facility* refers to treatment received at a hospital (inpatient), a rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop drug use, or for medical problems associated with drug use. Respondents were classified as needing treatment for an illicit drug problem if they met at least one of the three criteria during the past year: (1) dependent on any illicit drug; (2) abuse of any illicit drug; or (3) received treatment for an illicit drug problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).

- The proportion of persons age 12 and over who needed treatment for illicit drug use and received it at a specialty facility in the past year was significantly higher among Blacks compared with Whites; among poor and near poor persons compared with high income persons; and among persons with a high school education or less compared with persons with any college education (Figure 2.16).
- The proportion of persons age 12 and over who needed treatment for illicit drug use and received it at a specialty facility in the past year was significantly lower among AI/ANs compared with Whites.
- Only Blacks and persons with less than a high school education achieved the Healthy People 2010 target of 24% of persons age 12 and over who needed treatment for illicit drug use actually receiving such treatment.

^{xiii} Illicit drugs included in this measure are marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type psychotherapeutic (non-medical use) drugs.

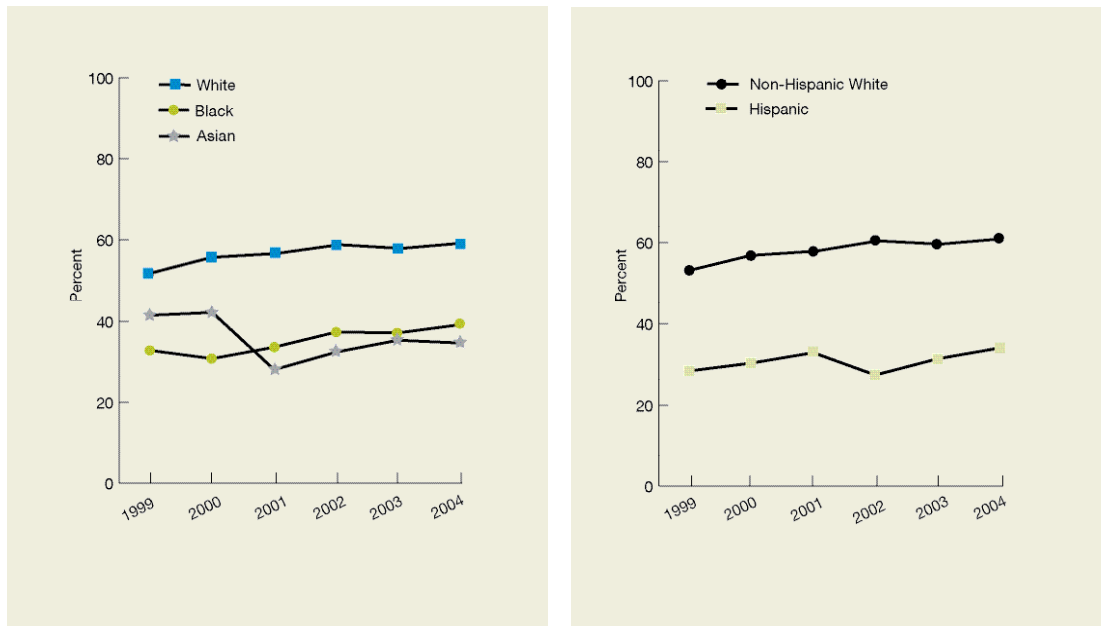
Respiratory Diseases

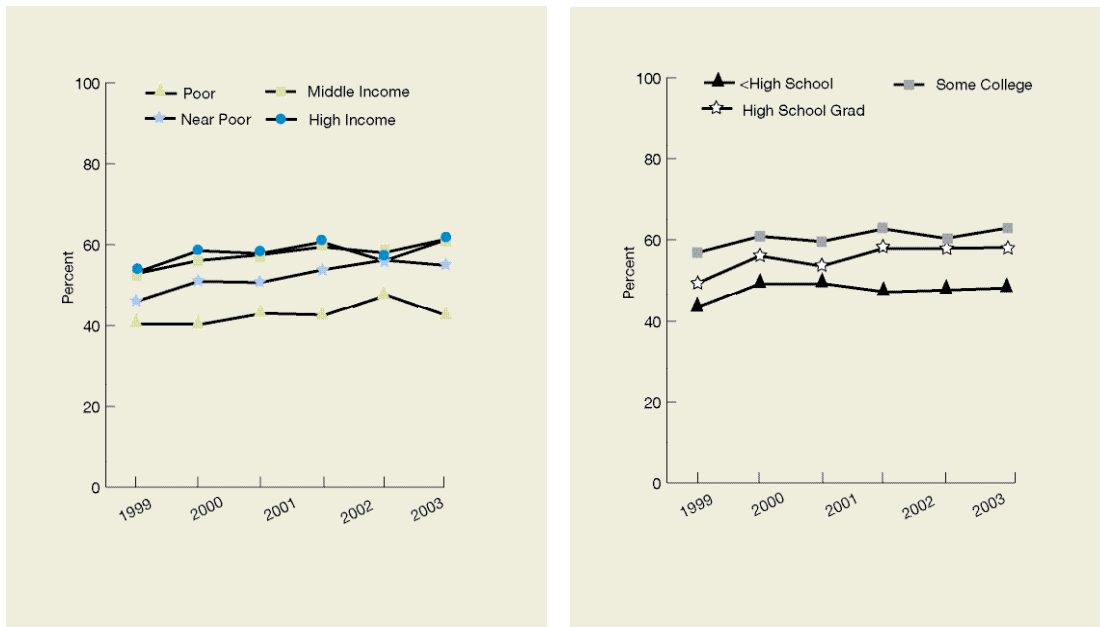
Number of deaths due to lung diseases (2001)	231,545 ⁴⁶
Number of deaths, influenza and pneumonia combined (2003)	64,847 ⁴
Cause of death rank, influenza and pneumonia combined (2003).	7th ⁴
People 18 or over with an asthma attack in past 12 months, U.S. (2003).	13,623,000 ⁴⁷
People under 18 with an asthma attack in past 12 months, U.S. (2003).	3,975,000 ⁴⁸
Annual number of cases of the common cold in the U.S. (est)	>1 billion ⁴⁹
Annual number of pneumonia cases due to <i>Streptococcus pneumoniae</i>	4,800,000 ⁵⁰
Total cost of lung diseases (2006 est.)	\$144.2 billion ⁵
Direct medical costs of lung diseases (2006 est.)	\$87.0 billion ⁵
Total approximate cost of upper respiratory infections (annual)	\$40 billion ⁵¹
Total cost of asthma (2004)	\$27.6 billion ⁴⁶
Direct medical costs of asthma (2004).	\$11.5 billion ⁴⁶
Cost effectiveness of tobacco use screening and brief intervention	cost savings ⁶
Cost effectiveness of influenza immunization.	\$0-\$14,000/QALY ⁶
Cost effectiveness of pneumococcal immunization	cost savings ⁶

Prevention: Pneumococcal Vaccination

Vaccination is an effective strategy for reducing illness, death, and disparities associated with pneumococcal disease and influenza.^{52, 53}

Figure 2.17. Adults age 65 and over who ever had pneumococcal vaccination, by race (this page, left), ethnicity (this page, right), income (next page, left), and education (next page, right), 1999-2004





Source: National Health Interview Survey, 1999-2003.

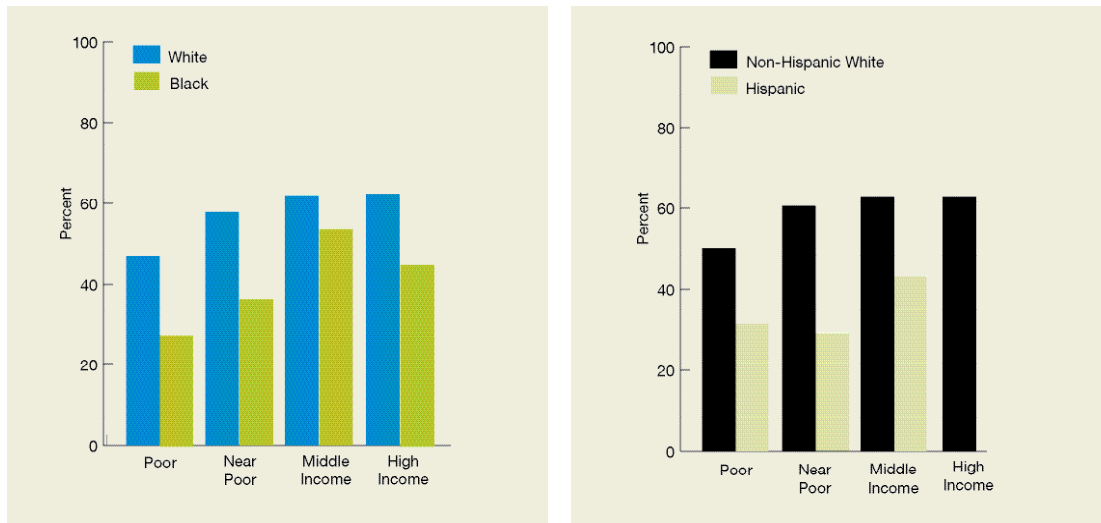
Reference population: Civilian noninstitutionalized population age 65 and over.

Note: Age adjusted to the 2000 standard population.

- In all 6 years, the proportion of adults age 65 and over who ever had pneumococcal vaccine was significantly lower among Blacks compared with Whites; Hispanics compared with non-Hispanic Whites; poor compared with high income elderly; and elderly with less than a high school education compared with elderly with any college education (Figure 2.17).
- In 5 of the 6 years, rates were also significantly lower among Asians compared with Whites; near poor compared with high income elderly; and high school graduates compared with elderly who had any college education.
- From 1999 to 2004, the overall proportion of adults age 65 and over with pneumococcal vaccine (data not shown) improved significantly, from 49.9% to 57.0%. Improvements were observed among Whites, non-Hispanic Whites, near poor, middle income, and high income persons, and all education groups.
- No group achieved the Healthy People 2010 target of 90% of adults age 65 and over having received pneumococcal vaccination.

Racial and ethnic minorities are disproportionately of lower socioeconomic status. To distinguish the effects of race, ethnicity, income, and education on pneumococcal vaccination, this measure is stratified by income and education level.

Figure 2.18. Adults age 65 and over who ever had pneumococcal vaccination, by race (left) and ethnicity (right), stratified by income, 2004

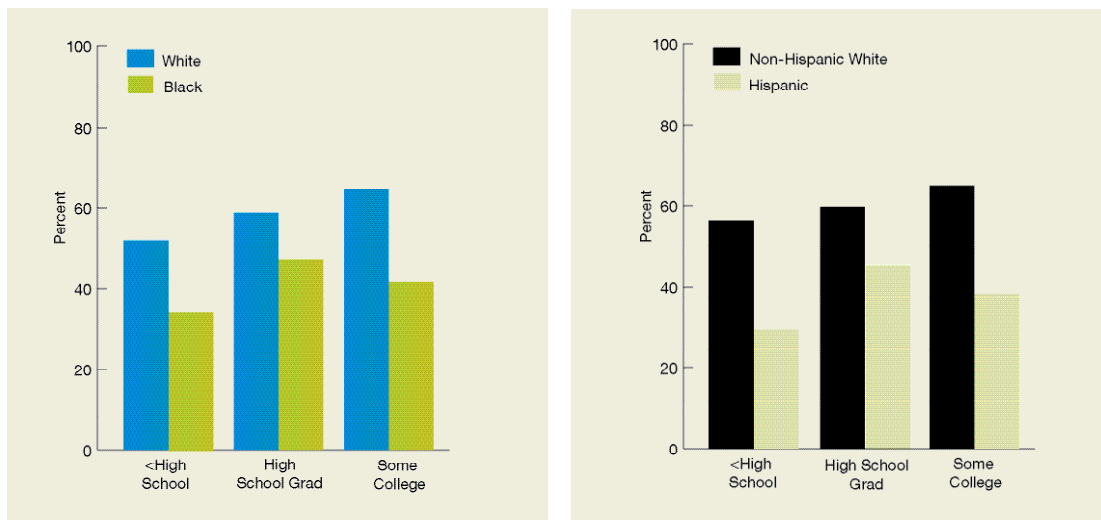


Source: National Health Interview Survey, 2004.

Reference population: Civilian noninstitutionalized population age 65 and older.

Note: Age adjusted to the 2000 standard population. Estimates are not available for high income Hispanics.

Figure 2.19. Adults age 65 and over who ever had pneumococcal vaccination, by race (left) and ethnicity (right), stratified by education, 2004



Source: National Health Interview Survey, 2004.

Reference population: Civilian noninstitutionalized population age 65 and older.

Note: Age adjusted to the 2000 standard population.

- Poor, near poor, and Blacks of every education level were significantly less likely than respective Whites to report pneumococcal vaccination (Figures 2.18 and 2.19).
- Hispanics of every income and education level were significantly less likely than respective non-Hispanic Whites to report pneumococcal vaccination.

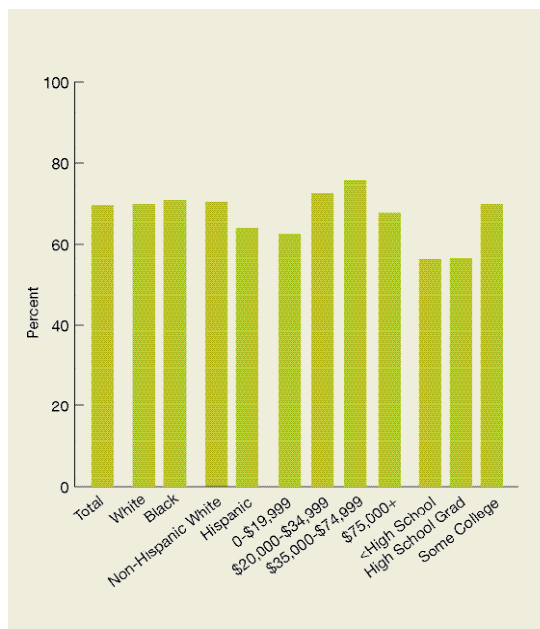
Management: Asthma Management for Long-Term Control

Improving quality of care for people with asthma can reduce the occurrence of asthma attacks and avoidable hospitalizations. The National Asthma Education and Prevention Program (NAEPP), coordinated by the National Heart, Lung and Blood Institute, develops and disseminates science-based guidelines for the diagnosis and management of asthma.⁵⁴ These recommendations are built around four essential components of asthma management critical for effective long-term control of asthma: assessment and monitoring, controlling factors contributing to symptom exacerbation, pharmacotherapy, and education for partnership in care.⁵⁵

The National Asthma Survey in 2003, sponsored by the CDC National Center for Environmental Health and conducted by the National Center for Health Statistics, is the most comprehensive national data set on asthma prevalence and asthma care. It examines the health, socioeconomic, behavioral, and environmental predictors that relate to better control of asthma.

Counseling persons with asthma about recognizing an attack. Patient self-assessment is one of the primary methods for monitoring asthma. Patients should be trained to recognize symptom patterns indicating inadequate asthma control and the need for additional therapy.

Figure 2.20. Persons with current asthma who reported they were taught to recognize early signs of an attack, by race, ethnicity, income, and education, 2003



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Asthma Survey, 2003.

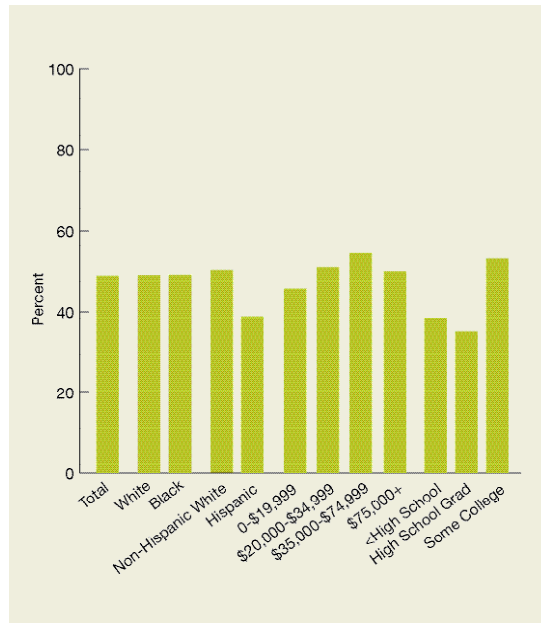
Reference population: Civilian noninstitutionalized population with asthma, all ages. Education groups are for adults age 25 and over only.

Note: Numerical income categories are used in place of the NHDR's usual descriptive categories because that is how data are collected for this measure.

- The percentage of those with current asthma who reported they were taught to recognize early signs of an attack was 69.7% (Figure 2.20).
- High school graduates with current asthma were significantly less likely to report that they were taught to recognize early signs of an attack compared with people with at least some college education. No other significant differences were observed.

Counseling persons with asthma about changing their environment. Environmental tobacco smoke, dust mites, cockroaches, and animal allergens can trigger asthma exacerbations in sensitized persons. Ways of controlling environmental triggers and reducing exposure to environmental allergens and irritants should be discussed with asthma patients.

Figure 2.21. Persons with current asthma who reported they were told how to change their environment to help control their asthma, by race, ethnicity, income, and education, 2003



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Asthma Survey, 2003.

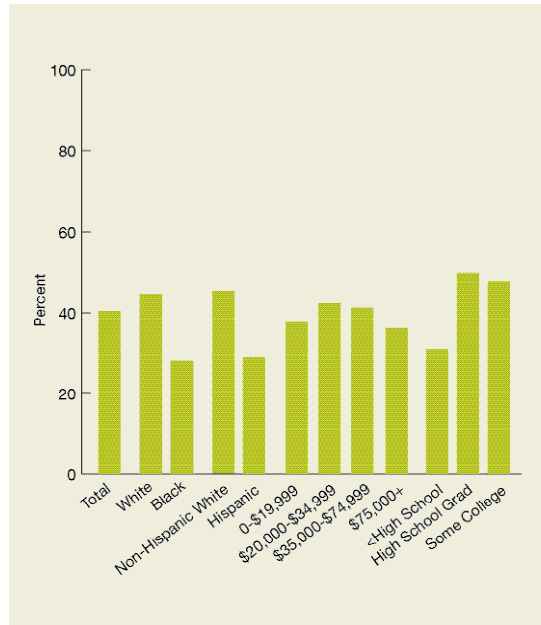
Reference population: Civilian noninstitutionalized population with asthma, all ages. Education groups are for adults age 25 and over only.

Note: Numerical income categories are used in place of the NHDR's usual descriptive categories because that is how data are collected for this measure.

- Nearly half (48.8%) of persons with current asthma reported they were told how to change their environment to help control their asthma (Figure 2.21).
- Persons with a high school education or less with current asthma were significantly less likely than persons with at least some college education to report they were told how to change their environment to help control their asthma. No other significant differences were observed.

Use of a controller medication. Daily long-term control medication is necessary to prevent exacerbations and chronic symptoms for all patients with persistent asthma. Appropriate controller medications for people with mild persistent asthma^{xiv}, ⁵⁵, ⁵⁶ include inhaled corticosteroids, cromolyn, nedocromil, theophylline, or leukotriene modifiers.⁵⁷

Figure 2.22. Persons with current asthma who reported using a controller medication in the past 3 months, by race, ethnicity, income, and education, 2003



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Asthma Survey, 2003.

Reference population: Civilian noninstitutionalized population with asthma, all ages. Education groups are for adults age 25 and over only.

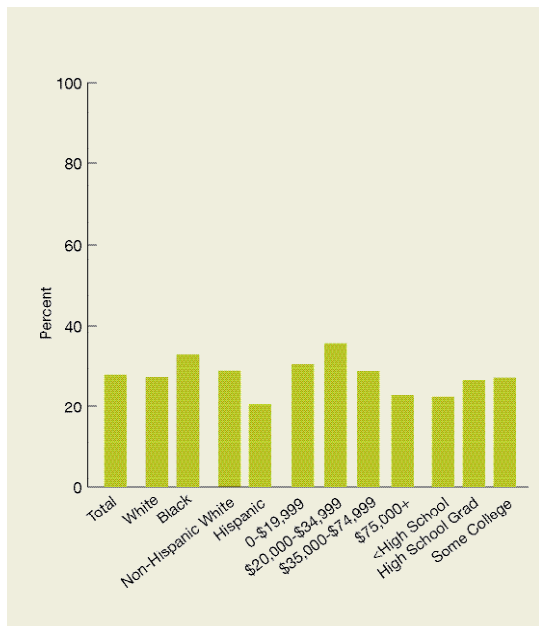
Note: Numerical income categories are used instead of the NHDR's usual descriptive categories because that is how data are collected for this measure.

- The percentage of persons with current asthma who reported using a controller medication in the past 3 months was 40.4% (Figure 2.22).
- Blacks with current asthma were significantly less likely than Whites to report using a controller medication in the past 3 months. No other significant differences were observed.

^{xiv} “Mild persistent asthma” refers to people who experience asthma symptoms more than 2 days per week, more than 2 nights per month, and other clinical indicators.

Receipt of an asthma management plan. Providers should develop a written plan as part of educating patients regarding self management, especially for patients with moderate or severe persistent asthma and those with a history of severe exacerbation.

Figure 2.23. Persons with current asthma who reported they received an asthma management plan, by race, ethnicity, income, and education, 2003



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Asthma Survey, 2003.

Reference population: Civilian noninstitutionalized population with asthma, all ages. Education groups are for adults age 25 and over only.

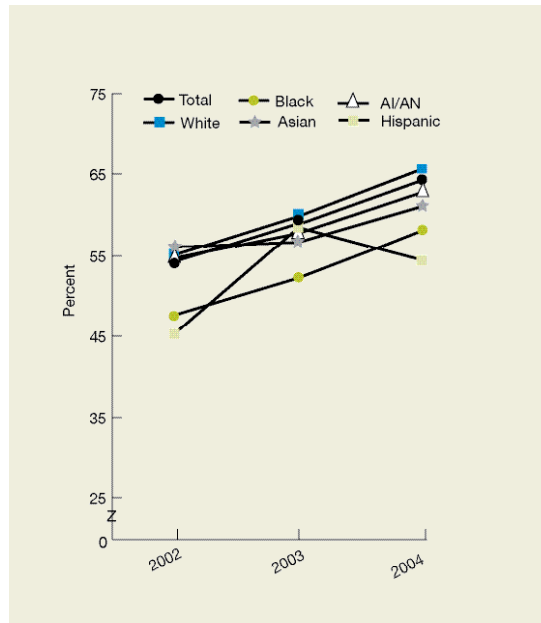
Note: Numerical income categories are used instead of the NHDR's usual descriptive categories because that is how data are collected for this measure.

- Only 27.7% of persons with current asthma reported receiving an asthma management plan (Figure 2.23).
- There were no significant differences by race, ethnicity, income, or education in reported receipt of an asthma management plan. No other significant differences were observed.

Treatment: Recommended Hospital Care for Pneumonia

Approximately 5 million cases of pneumonia occur annually and result in nearly 55 million days of restricted activity, 31.5 million bed days, and 1.3 million hospitalizations each year.⁵⁸ The Centers for Medicare & Medicaid Services tracks a set of measures for quality of pneumonia care for hospitalized patients from the CMS Quality Improvement Organization (QIO) program which has been adopted by the Hospital Quality Alliance (HQA).

Figure 2.24. Recommended hospital care received by Medicare patients with pneumonia, by race/ethnicity, 2002-2004



Key: Al/AN=American Indian or Alaska Native.

Source: Quality Improvement Organization program, 2002-2004.

Denominator: Medicare beneficiaries with pneumonia who are hospitalized, all ages.

Note: Whites, Blacks, Asians, and Al/ANs are non-Hispanic groups. Composite includes the following five measures: (1) receipt of antibiotics within 4 hours, (2) receipt of appropriate antibiotics, (3) receipt of blood culture before antibiotics, (4) receipt of influenza screening (i.e., person is assessed as to whether he or she would be a good candidate for vaccination) or vaccination, and (5) receipt of pneumococcal screening or vaccination. Composite is calculated by averaging the percentage of opportunities for care in which the patient received all five incorporated components of care. For further details on composite measures, see Chapter 1, Introduction and Methods.

- From 2002 to 2004, the overall percentage of Medicare patients with pneumonia who received recommended hospital care^{xv} improved significantly from 54.3% to 64.4% (Figure 2.24).
- In all 3 years, this percentage was significantly lower among Blacks and Hispanics compared with Whites. In 2004 the percentage was also significantly lower among Asians compared with Whites.
- From 2002 to 2004, the percentage of Medicare patients with pneumonia who received recommended hospital care improved significantly for the total population and among all racial/ethnic groups.

^{xv} “Recommended hospital care” is a composite of five separate measures (see Note to Figure 2.24 above for a list of these measures). For further details on composite measures, see Chapter 1, Introduction and Methods.

Nursing Home, Home Health, and Hospice Care

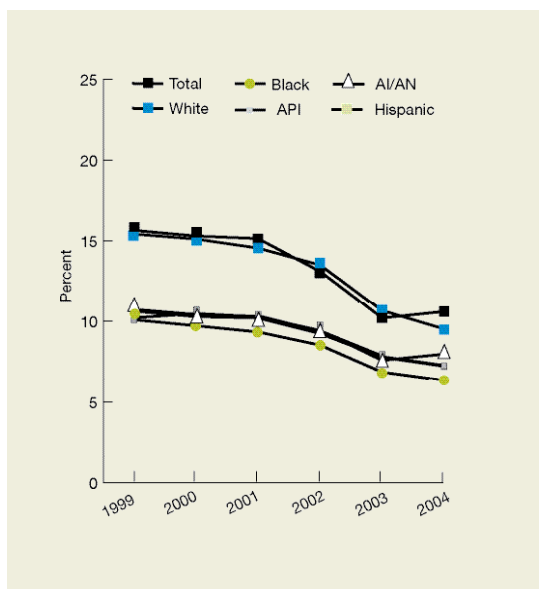
Number of nursing home residents (1999)	1,600,000 ⁵⁹
Number of home health patients (2000)	1,460,800 ⁶⁰
Number of current hospice care patients (2000)	105,500 ⁶¹
Discharges from nursing homes (1998-1999)	2,500,000 ⁵⁹
Discharges from home health agencies (2000)	7,800,100 ⁶⁰
Discharges from hospice care (2000)	621,000 ⁶¹
Total cost of nursing home services (2003)	≥\$110.8 billion ⁶²
Total cost of home health services (2003)	\$40 billion ⁶²
Annual national expenditures for hospice care for decedents (1992-1996)	\$1.232 billion ⁶³
Percent of health care expenditures for hospice care in last 6 months of life	74% ⁶³

This section highlights two core measures of nursing home quality of care—use of physical restraints and presence of pressure sores—and two measures of home health care quality—improvement in walking or moving around and episodes with acute care hospitalization.

Management: Use of Physical Restraints Among Nursing Home Residents

While restraining nursing home residents is sometimes a component of keeping residents safe and well cared for, residents who are restrained daily can become weak, lose their ability to go to the bathroom by themselves, and develop pressure sores or other medical complications. Restraints should be used only when they are necessary as part of the medical treatment.

Figure 2.25. Long-stay nursing home residents who were physically restrained by race/ethnicity, 1999-2004



Key: API=Asian or Pacific Islander; AI/AN=American Indian or Alaska Native.

Source: CMS Minimum Data Set, 1999-2004. Data are from the third quarter of each calendar year.

Denominator: Long-stay nursing home residents, all ages.

Note: White, Black, API, and AI/AN are non-Hispanic groups. Long-stay residents are persons in an extended/permanent nursing home stay.

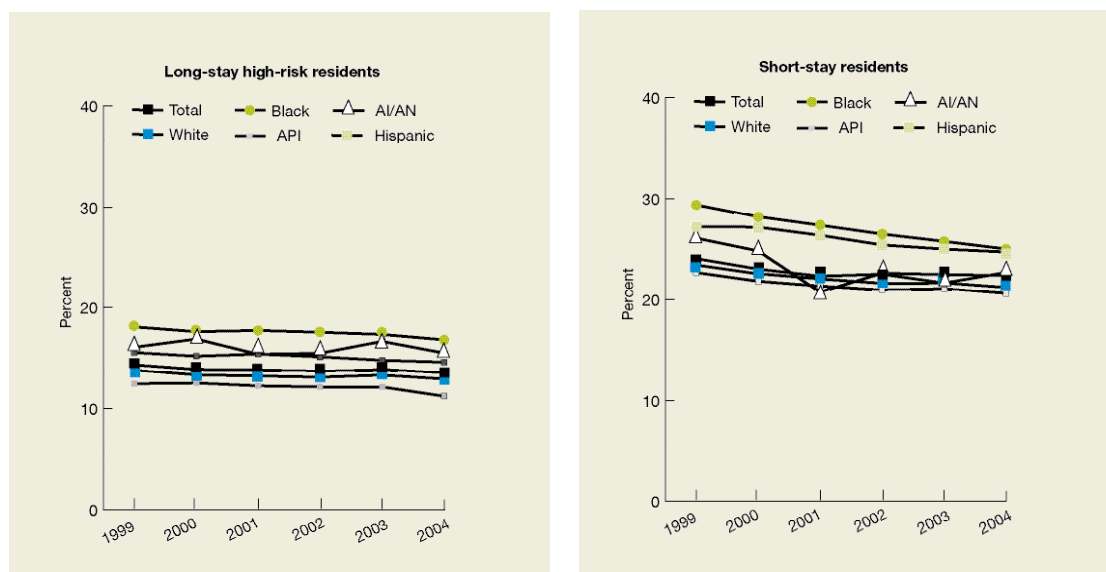
- In all 6 years, the proportion of residents who were physically restrained was significantly higher among APIs and Hispanics compared with Whites (Figure 2.25).
- In 2003 and 2004, the proportion of residents who were physically restrained was significantly lower among Blacks compared with Whites; and in 2004, the proportion was significantly higher among AI/ANs compared with Whites.

- From 1999 to 2004, the proportion of residents who were physically restrained fell from 10.7% to 7.3%. Significant improvements were observed in the use of restraints among all racial/ethnic groups.

Management: Presence of Pressure Sores Among Nursing Home Residents

A pressure ulcer, or pressure sore, is an area of broken-down skin caused by sitting or lying in one position for an extended period of time. Residents should be assessed by nursing home staff for presence or risk of developing pressure sores. Nursing homes can help to prevent or heal pressure sores by keeping residents clean and dry and by changing their position frequently or helping them move around, making sure residents get proper nutrition, and using soft padding to reduce pressure on the skin. However, some residents may get pressure sores even when a nursing home provides good preventive care.

Figure 2.26. Long-stay high-risk nursing home residents (left) and short-stay residents (right) who developed pressure sores, by race/ethnicity, 1999-2004



Key: API=Asian or Pacific Islander; AI/AN=American Indian or Alaska Native.

Source: CMS Minimum Data Set, 1999-2004. Data for long-stay residents are from the third quarter of each calendar year. Data for short-stay residents are full calendar year estimates.

Denominator: Long-stay nursing home residents (left), and short-stay nursing home residents (right).

Note: White, Black, API, and AI/AN are non-Hispanic groups. Long-stay residents are persons in an extended/permanent nursing home stay. Short-stay residents are persons needing skilled nursing care or rehabilitation services following a hospital stay but who are expected to return home.

- In all 6 years, the proportion of long-stay high-risk^{xvi} residents who developed pressure sores was significantly higher among Blacks, AI/ANs, and Hispanics compared with Whites (Figure 2.26). In 2004 the proportion of residents who developed pressure sores was significantly lower among APIs compared with Whites.
- From 1999 to 2004, the proportion of long-stay high-risk residents who developed pressure sores fell from 14.3% to 13.5%. Significant improvements were observed among Whites, Blacks, APIs, and Hispanics, but the proportion did not change significantly for AI/ANs.

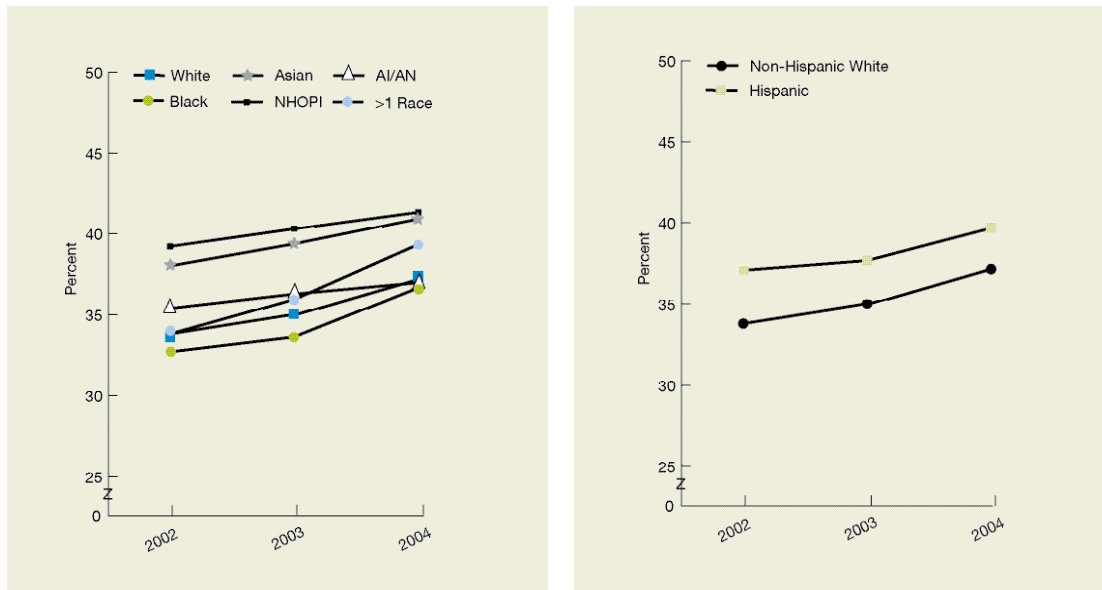
^{xvi} *High-risk* residents are those who are in a coma, who do not get or absorb the nutrients they need, or who cannot move or change position on their own. Conversely, *low-risk* residents can be active, can change positions, and are getting and absorbing the nutrients they need.

- In all 6 years, the proportion of short-stay residents who had pressure sores was significantly higher among Blacks and Hispanics compared with Whites. In 2004, the proportion was significantly higher among APIs compared with Whites.
- In 1999, the proportion was also significantly higher among AI/ANs compared with Whites, but in the latter years this disparity was eliminated.
- From 1999 to 2004, the proportion of short-stay residents who had pressure sores decreased significantly for the total population and among all racial/ethnic groups.

Treatment: Improvement by Home Health Patients in Walking or Moving Around

How well a patient improves in ability level while getting home health care is a reflection of the provider’s quality of service, the patient’s level of cooperation, and the patient’s available support system. Improved ambulation, i.e., getting better at walking or using a wheel chair, is a measure of improved outcomes.^{xvii}

Figure 2.27. Home health care episodes with patients who get better at walking or moving around, by race (left) and ethnicity (right), 2002-2004



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

Source: CMS Outcome and Assessment Information Set, 2002-2004.

Denominator: Patients with home health care episodes.

Note: An episode is the time during which a patient is under the direct care of a home health agency. It starts with the beginning/resumption of care and finishes when the patient is discharged from home health care or transferred to an inpatient facility. Some patients have multiple episodes in a year.

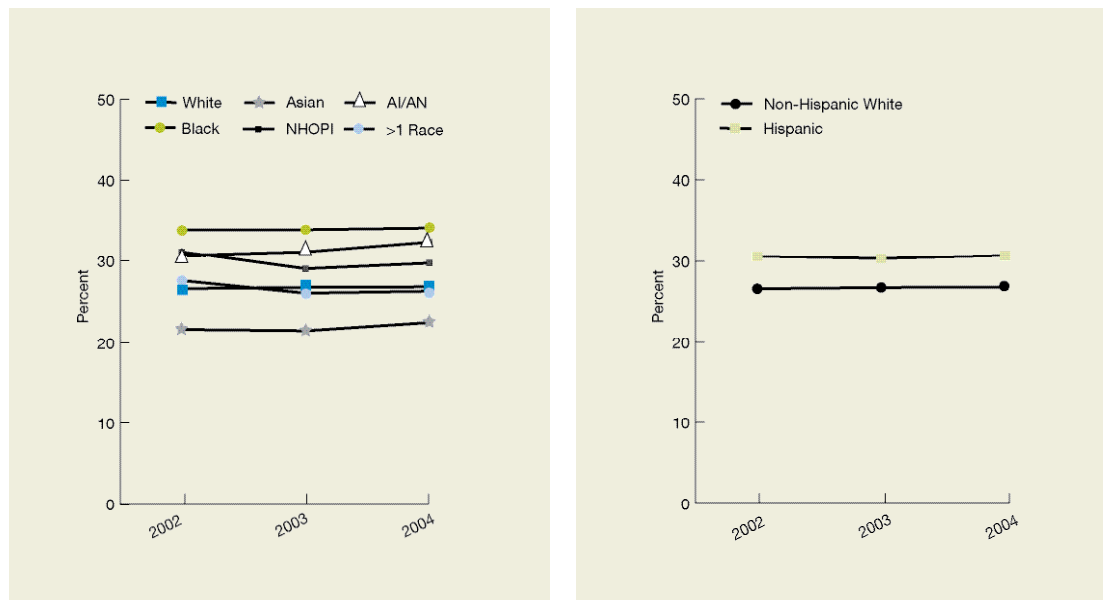
- In all 3 years, the proportion of home health care patients who got better at walking and moving around was significantly higher among NHOPIs compared with Whites (Figure 2.27).
- In 2002 and 2003, the proportion was also significantly higher among Asians compared with Whites, but in 2004 this disparity was eliminated.
- From 2002 to 2004, the proportion of home health care patients who got better at walking and moving around improved significantly for the total population (data not shown), Whites, Blacks, Asians, AI/ANs, multiple race persons, non-Hispanic Whites, and Hispanics.

^{xvii} In cases of patients with some neurological conditions, such as progressive multiple sclerosis or Parkinson’s disease, ambulation may not improve even when the nursing home or home health service provides good care.

Treatment: Acute Care Hospitalization of Home Health Patients

Improvement in the acute care hospitalization outcome is demonstrated by a decrease in the percentage of patients who had to be admitted to the hospital; lower percentages are the desirable outcome. However, patients may need to go into the hospital while they are getting care; and, in some instances, this may not be avoidable even with good home health care. Acute care hospitalization may be avoided if the home health staff adequately checks the patient's health condition at each visit to detect problems early.

Figure 2.28. Home health care episodes with patients who were admitted to the hospital, by race (left) and ethnicity (right), 2002-2004



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

Source: CMS Outcome and Assessment Information Set, 2002-2004.

Denominator: Patients with home health care episodes.

Note: An episode is the time during which a patient is under the direct care of a home health agency. It starts with the beginning/resumption of care and finishes when the patient is discharged from home health care or transferred to an inpatient facility. Some patients have multiple episodes in a year.

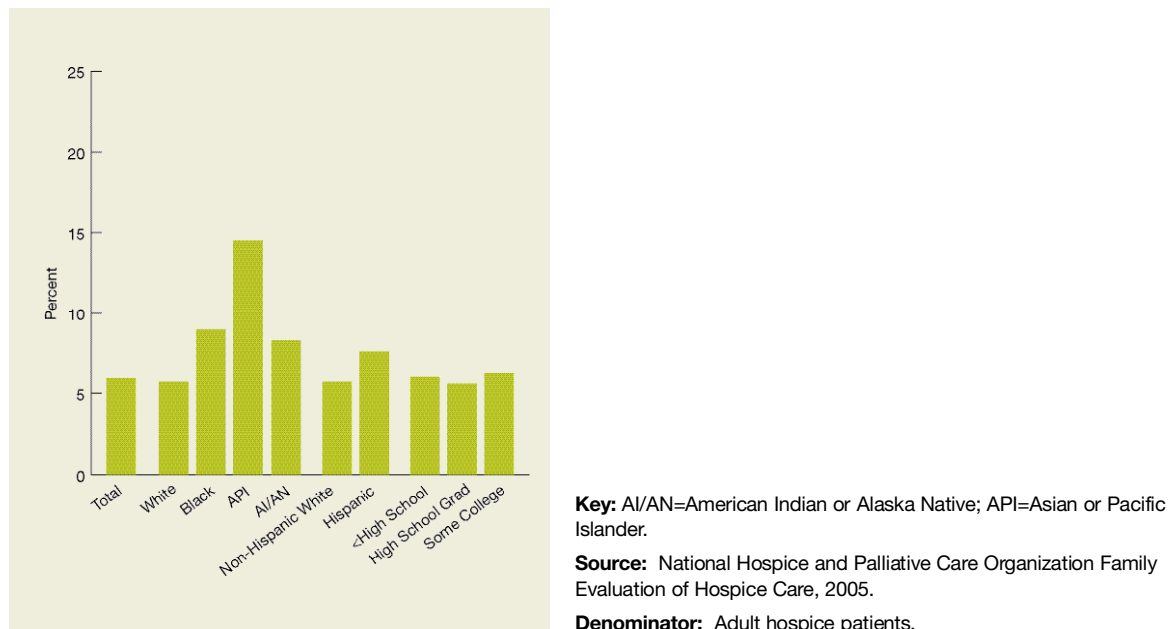
- In all 3 years, the proportion of home health care patients who were admitted to the hospital was significantly higher among Blacks and AI/ANs and significantly lower among Asians compared with Whites; the proportion was significantly higher among Hispanics compared with non-Hispanic Whites (Figure 2.28).
- In 2002 and 2004, multiple race persons were also significantly more likely than Whites to be hospitalized.
- From 2002 to 2004, the proportion of home health care patients who were admitted to the hospital increased significantly for Asians and AI/ANs.

Management: Hospice Care

Hospice care is generally delivered at the end of life to patients with a terminal illness or condition requiring comprehensive medical care; it also includes psychosocial and spiritual support for the patient and family. The goal of end-of-life care is to achieve a “good death” defined by the IOM as one that is “free from avoidable distress and suffering for patients, families, and caregivers; in general accord with the patient’s and families’ wishes; and reasonably consistent with clinical, cultural, and ethical standards.”⁶⁴ The National Hospice and Palliative Care Organization’s Family Evaluation of Hospice Care survey examines the quality of hospice care for patients and their family members. Family respondents report how well hospices respect patient wishes, communicate about illness, control symptoms, support dying on one’s own terms, and provide family emotional support.^{xviii, 65}

Pain management. Addressing the comfort aspects of care, such as relief from pain, fatigue, and nausea, is an important component of hospice care.^{xix}

Figure 2.29. Hospice patients who did not receive the right amount of medicine for pain, by race, ethnicity, and education, 2005



- The proportion of hospice patients whose families reported that they did not receive the right amount of medicine for pain was 5.9% in 2005 (Figure 2.29).

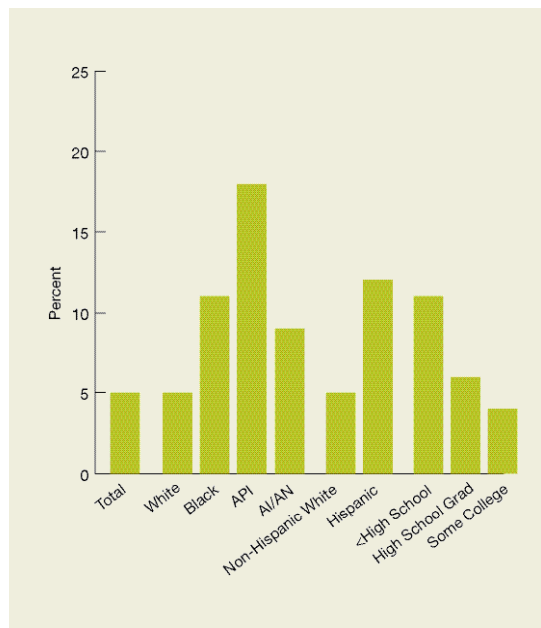
^{xviii} This survey provides unique insight into end-of-life care and captures information about a large proportion of hospice patients but is limited by non-random data collection and a response rate of about 40%. In addition, race and ethnicity were not reported by large numbers of respondents. These limitations should be considered when interpreting these findings.

^{xix} This measure is based on responses from a family member of the deceased. In interpreting it, it should be noted that family members may or may not be able to determine whether the right amount of medicine for pain was administered.

- The percentage of hospice patients who did not receive the right amount of medicine for pain was significantly higher among Blacks and APIs compared with Whites and among Hispanics compared with non-Hispanic Whites.

End-of-life care. End-of-life care should respect a patient's stated end-of-life wishes. This includes shared communication and decisionmaking between providers, patients, and family members and respect of cultural beliefs.

Figure 2.30. Hospice patients who received care inconsistent with their stated end-of-life wishes, by race, ethnicity, and education, 2005



Key: AI/AN=American Indian or Alaska Native; API=Asian or Pacific Islander.

Source: National Hospice and Palliative Care Organization Family Evaluation of Hospice Care, 2005.

Denominator: Adult hospice patients.

- The overall proportion of hospice patients whose families reported that they did not receive end-of-life care consistent with their stated wishes was 5% in 2005 (Figure 2.30).
- The percentage of patients who did not receive care consistent with their stated end-of-life wishes was significantly higher among Blacks, APIs, and AI/ANs compared with Whites and among Hispanics compared with non-Hispanic Whites. This percentage was also significantly higher among hospice patients with less than a high school education and high school graduates compared with those that had any college education.

Patient Safety

Number of Americans that die each year from medical errors (1999 est)	44,000-98,000 ⁶⁶
Number of Americans that die in the hospital each year due to 18 types of medical injuries (2000 est)	at least 32,000 ⁶⁷
Rate of adverse drug reactions in hospital admissions.	2.0%-6.7% ^{68, 69, 70, 71}
Rate of adverse drug events among Medicare beneficiaries in ambulatory settings.	50 per 1,000 person-years
Percentage of serious, life-threatening, or fatal events deemed preventable	40%
Cost (in lost income, disability, and health care costs) attributable to medical errors (1999 est)	\$29 billion ⁶⁶
Groups with higher rates of some safety events	racial minorities ^{72, 73}

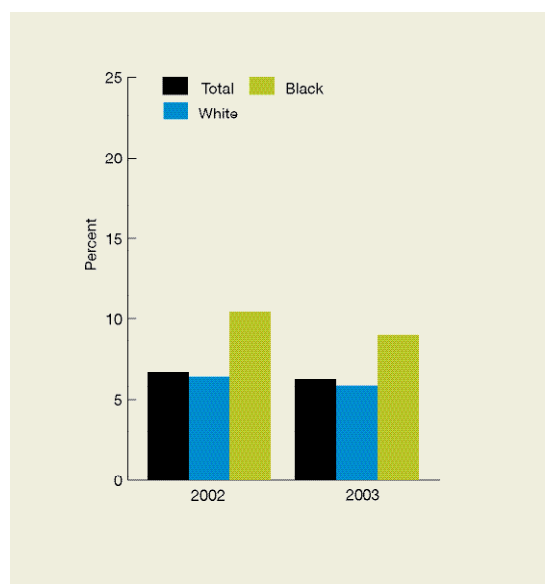
This section highlights six measures of patient safety in three areas: postoperative complications, other complications of hospital care, and complications of medications. (For findings related to all core measures of patient safety, see Table 2.2a.)

Postoperative Complications

Adverse health events can occur during episodes of care, especially during and right after surgery. Although some of the events may be related to a patient’s underlying condition, many of them can be avoided if adequate care is provided.

Postoperative care composite. Patients are vulnerable to experiencing a variety of complications soon after they undergo surgery. Complications may include, but are not limited to, pneumonia, bladder infection, and blood clots in the legs.

Figure 2.31. Surgical patients with postoperative care complications, by race, 2003 and 2004



Source: Centers for Medicare & Medicaid Services, Medicare Patient Safety Monitoring System, 2003-2004.

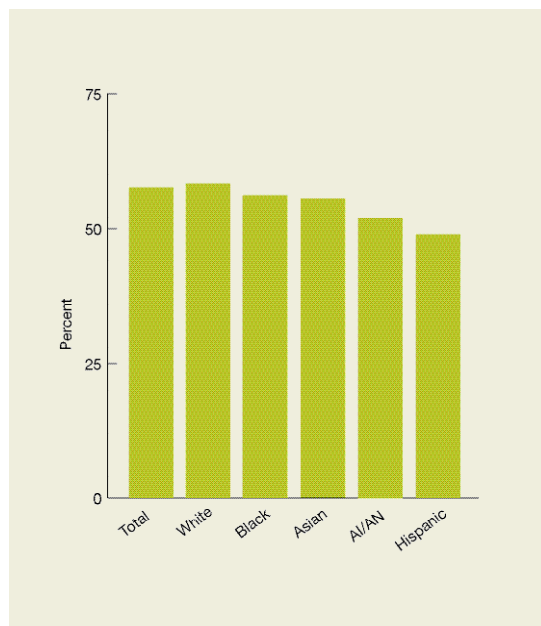
Denominator: Hospitalized Medicare patients having surgery, all ages.

Note: Postoperative care complications included in this composite are postoperative pneumonia, urinary tract infection, and venous thromboembolic event (blood clot in the leg).

- In both years, Black surgical patients had significantly higher rates of postoperative complications compared with White patients (Figure 2.31).
- From 2003 to 2004, rates of postoperative complications did not change significantly overall or for either racial group.

Postoperative wound infections. Infections acquired during hospital care (nosocomial infections) are among the most serious safety concerns. A common hospital-acquired infection is a wound infection following surgery. Hospitals can reduce the risk of wound infection after surgery by making sure patients get the right antibiotics at the right time on the day of their surgery. Research shows that surgery patients who get antibiotics within the hour before their operation are less likely to get wound infections; getting an antibiotic earlier, or after surgery begins, is not as effective. However, taking these antibiotics for more than 24 hours after routine surgery is usually not necessary and can increase the risk of side effects such as stomach aches, serious types of diarrhea, and antibiotic resistance. Among adult Medicare patients having surgery, the NHDR tracks a composite of two measures: receipt of antibiotics within 1 hour prior to surgical incision and discontinuation of antibiotics within 24 hours after end of surgery.

Figure 2.32. Appropriate timing of antibiotics received among adult surgical Medicare patients, by race/ethnicity, 2004



Key: AI/AN=American Indian or Alaska Native.

Source: Medicare Quality Improvement Organization Program, 2004.

Denominator: Medicare patients age 18 and over having surgery.

Note: Whites, Blacks, Asians, and AI/ANs are non-Hispanic groups.

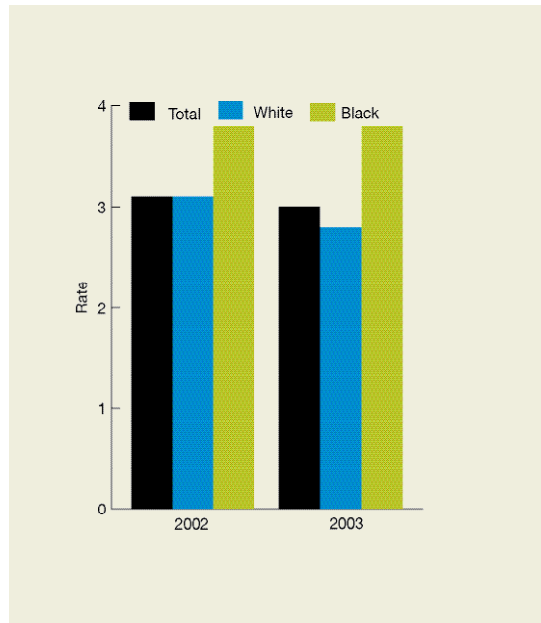
- In 2004, overall timing of antibiotics for adult Medicare patients having surgery was appropriate 57.7% of the time. Appropriately timed antibiotics were provided significantly less often to Blacks, AI/ANs, and Hispanics compared with Whites (Figure 2.32).

Other Complications of Hospital Care

Types of care delivered in hospitals, in addition to surgery, can place patients at risk for injury or death.

Adverse events associated with central venous catheters. Patients who require a central venous catheter to be inserted into the great vessels of their heart tend to be severely ill. However, the procedure itself can result in a number of infectious and non-infectious complications.

Figure 2.33. Central venous catheter complications, by race, 2003 and 2004



Source: Medicare Patient Safety Monitoring System, 2003 and 2004.

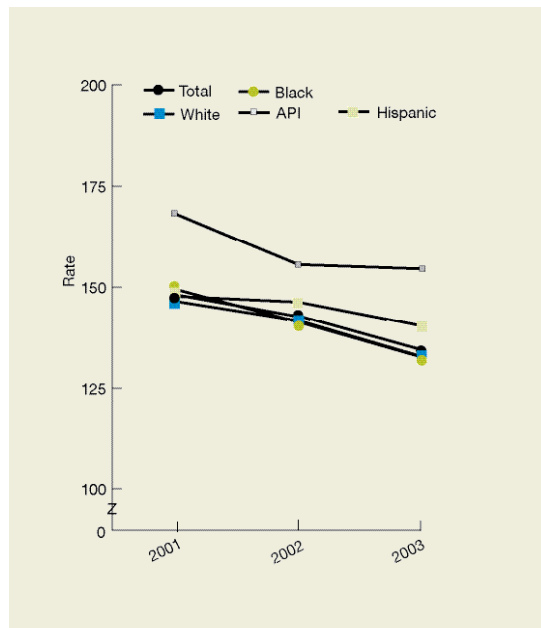
Denominator: Hospitalized Medicare patients with central venous catheter placement, all ages.

Note: Central venous catheter complications included in this composite are bloodstream infection and mechanical adverse events.

- No significant racial disparities in rates of central venous catheter complications among Medicare patients were observed (Figure 2.33).
- From 2003 to 2004, the rate of central venous catheter complications did not change significantly overall or for either racial group.

Deaths following complications of care. Many complications that arise during hospital stays cannot be prevented. However, rapid identification and aggressive treatment of complications may prevent these complications from leading to death. This indicator, also called “failure to rescue,” tracks deaths among patients whose hospitalizations are complicated by pneumonia, thromboembolic event, sepsis, acute renal failure, shock, cardiac arrest, and gastrointestinal bleeding or acute ulcer.

Figure 2.34. Deaths per 1,000 patients following complications of care by race/ethnicity, 2001-2003



Key: API=Asian or Pacific Islander.

Source: HUCP State Inpatient Databases disparities analysis file, 2001-2003.

Denominator: Patients less than 75 years old from U.S. community hospitals whose hospitalization is complicated by pneumonia, thromboembolic event, sepsis, acute renal failure, shock, cardiac arrest, and gastrointestinal bleeding or acute ulcer.

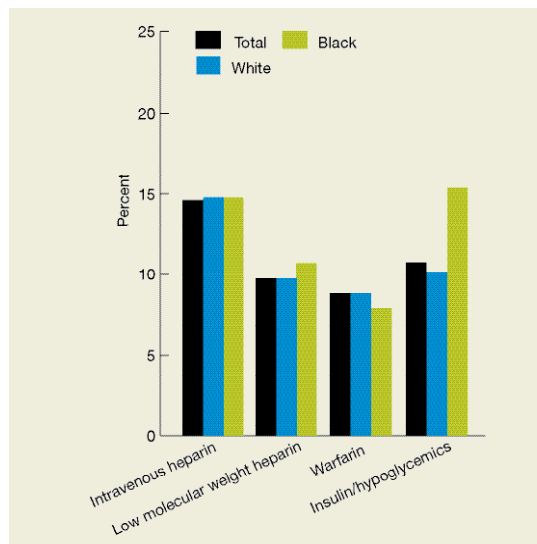
- In all 3 years, the rates of in-hospital deaths following complications of care were significantly higher among APIs compared with Whites (Figure 2.34).
- From 2001 to 2003, the rates of in-hospital deaths following complications of care decreased significantly overall and for all racial groups.

Complications of Medications

Complications of medication are common safety problems. Some adverse drug events may be related to misuse of medication but others are not. However, prescribing medications that are inappropriate for a specific population may increase the risk of adverse drug events.

Adverse drug events in the hospital. Some medications used in hospitals can cause serious complications. The Medicare Patient Safety Monitoring System tracks a number of adverse drug events including serious bleeding associated with intravenous heparin, low molecular weight heparin, or warfarin and hypoglycemia associated with insulin or oral hypoglycemics.

Figure 2.35. Medication-related adverse drug events among Medicare inpatients, by race, 2004



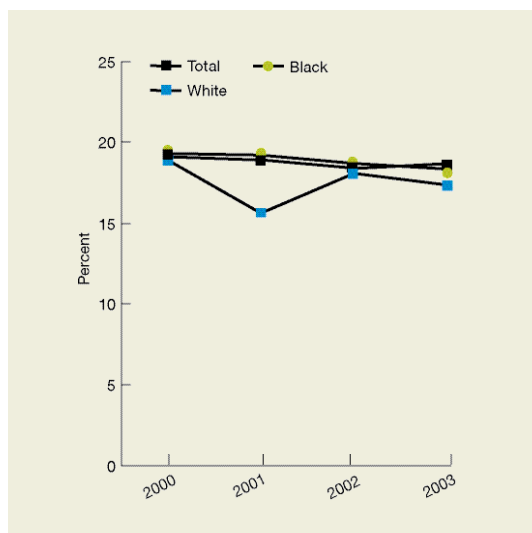
Source: Centers for Medicare & Medicaid Services, Medicare Patient Safety Monitoring System, 2004.

Denominator: Random sample of Medicare medical records, all ages.

- In 2004, adverse drug events in the hospital related to some frequently used medications were not uncommon.
- Hospitalized Black Medicare beneficiaries were significantly more likely to have adverse drug events associated with insulin or oral hypoglycemics than White Medicare beneficiaries (Figure 2.35).

Inappropriate medication use among the elderly. Some drugs that are appropriate for some patients are considered potentially harmful for elderly patients but nevertheless are prescribed to them.^{xx, 74}

Figure 2.36. Inappropriate medication use by the elderly, 2000-2003



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000-2003.

Reference population: Civilian noninstitutionalized population age 65 and over.

- There were no statistically significant differences in rates of inappropriate medication use among elderly Blacks and Whites (Figure 2.36).
- From 2000 to 2003, rates of inappropriate medication use did not change significantly for any population.

^{xx} Drugs that should always be avoided for elderly patients include barbiturates, flurazepam, meprobamate, chlorpropamide, meperidine, pentazocine, trimethobenzamide, belladonna alkaloids, dicyclomine, hyoscyamine, and propantheline. Drugs that should often be avoided for elderly patients include carisoprodol, chlorzoxazone, cyclobenzaprine, metaxalone, methocarbamol, amitriptyline, chlordiazepoxide, diazepam, doxepin, indomethacin, dipyridamole, ticlopidine, methyl dopa, reserpine, disopyramide, oxybutynin, chlorpheniramine, cyproheptadine, diphenhydramine, hydroxyzine, promethazine, and propoxyphene.

Timeliness

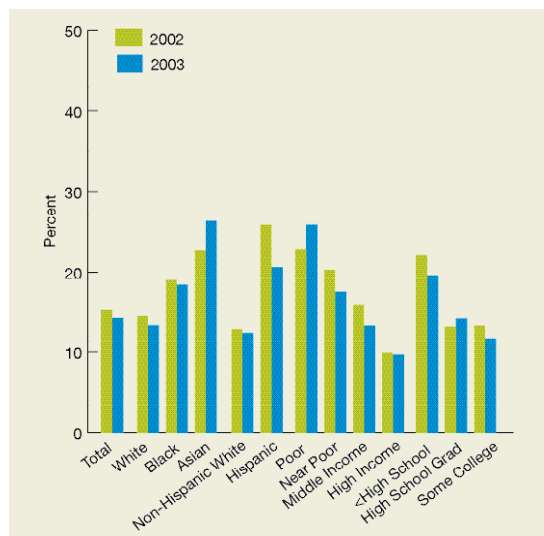
Timeliness is the health care system's capacity to provide care quickly after a need is recognized. For patients, lack of timeliness can result in emotional distress, physical harm, and financial consequences.^{75, 76} For example, stroke patients' mortality and long-term disability are largely influenced by the timeliness of therapy.^{77, 78} Timely delivery of appropriate care can also help reduce mortality and morbidity for chronic conditions such as chronic kidney disease,⁷⁹ and timely antibiotic treatments are associated with improved clinical outcomes.⁸⁰ Timely delivery of childhood immunizations helps maximize protection from vaccine-preventable diseases while minimizing risks to the child and reducing the chance of disease outbreaks.⁸¹

Early care for comorbid conditions has been shown to reduce hospitalization rates and costs for Medicare beneficiaries.⁸² Some research suggests that, over the course of 30 years, the costs of treating diabetic complications can approach \$50,000 per patient.⁸³ Early care for complications in patients with diabetes can reduce overall costs of the disease.⁸⁴ Timely outpatient care can reduce admissions for pediatric asthma, which account for \$1,257 million in total hospitalization charges annually.⁸⁵ Measures of timeliness highlighted in this section include getting care for illness or injury as soon as wanted and emergency department visits where the patient left without being seen. (For findings related to all core measures of timeliness, see Tables 2.3a and 2.3b.)

Getting Care for Illness or Injury As Soon As Wanted

The ability of patients to receive illness and injury care in a timely fashion is a key element in a patient-focused health care system.

Figure 2.37. Adults age 18 and over who reported sometimes or never getting care for illness or injury as soon as wanted in the past year, by race, ethnicity, income, and education, 2002-2003



Source: Medical Expenditure Panel Survey, 2002 and 2003.

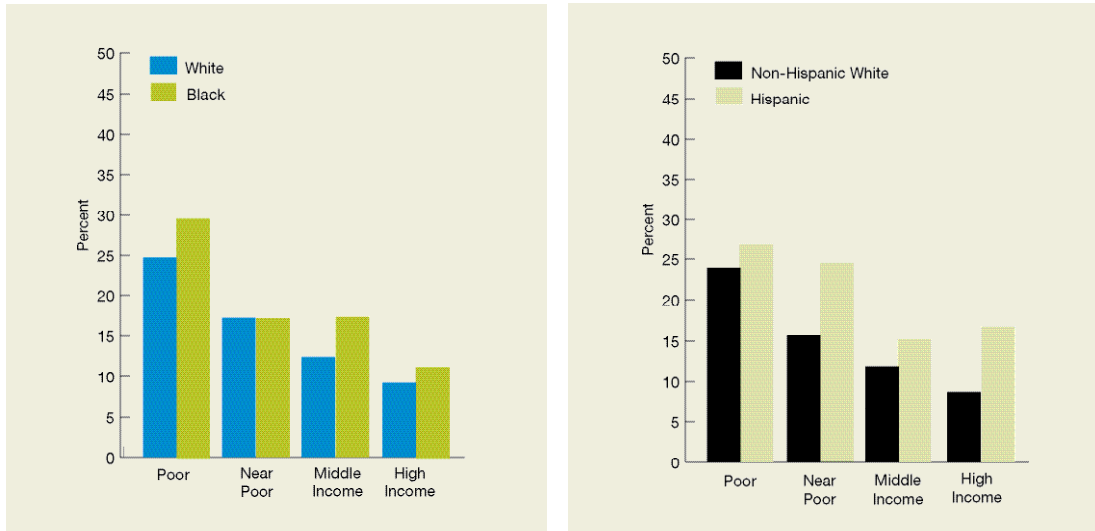
Reference population: Civilian noninstitutionalized population age 18 and older.

- In both years, the proportion of adults who reported sometimes or never getting care for illness or injury as soon as wanted was significantly higher among Blacks compared with Whites; among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income individuals compared with high income individuals; and among persons with less than a high school education compared with persons with some college. In 2002, the proportion was also significantly higher among Asians compared with Whites, but in 2003, the difference between Asians and Whites was eliminated (Figure 2.37).

- From 2002 to 2003, the proportion of adults who reported sometimes or never getting care for illness or injury as soon as wanted decreased significantly for the total population and among Whites, non-Hispanic Whites, high income individuals, and persons with at least some college education.

Racial and ethnic minorities are disproportionately of lower socioeconomic status. To distinguish the effects of race, ethnicity, income, and education on timeliness of primary care, this measure is stratified by income and education level.

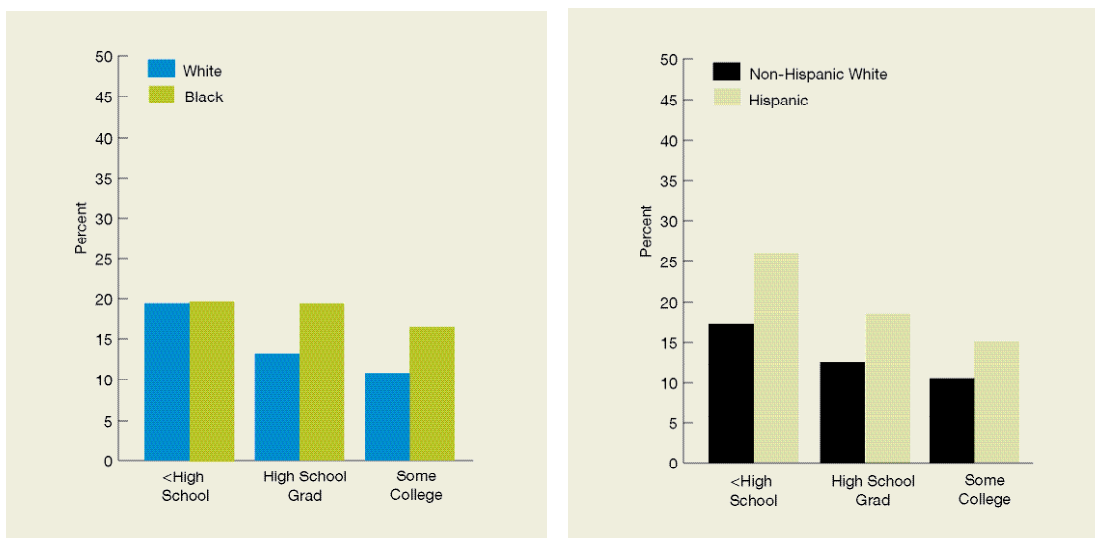
Figure 2.38. Adults who reported sometimes or never getting care for illness or injury as soon as wanted in the past year, by race (left) and ethnicity (right), stratified by income, 2003



Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population age 18 and older.

Figure 2.39. Adults who reported sometimes or never getting care for illness or injury as soon as wanted in the past year, by race (left) and ethnicity (right), stratified by education, 2003



Source: Medical Expenditure Panel Survey, 2003.

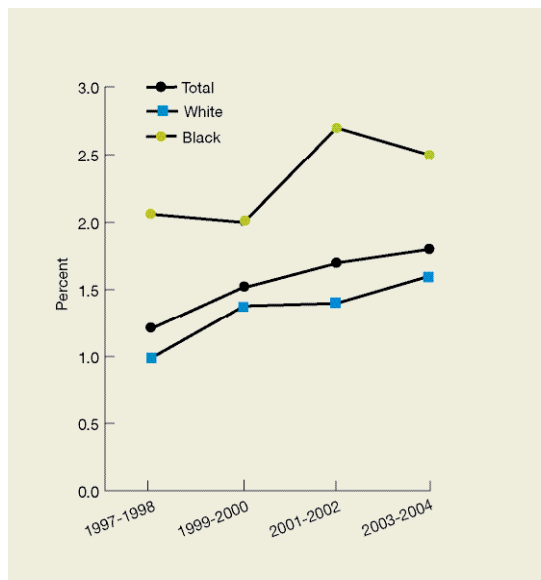
Reference population: Civilian noninstitutionalized population age 18 and older.

- Socioeconomic status explains some but not all of the ethnic differences in timeliness of primary care.
- After stratification by income and education, near poor and high income Hispanics and Hispanics with a high school education or less were still significantly more likely than respective non-Hispanic Whites to report problems getting care for illness or injury as soon as they wanted (Figures 2.38 and 2.39). In contrast, all Black-White differences were not significant.

Emergency Department Visits Where Patient Left Without Being Seen

In 2001, patients who had an emergency department (ED) visit in the United States spent an average of 3.2 hours waiting to be seen.⁸⁶ This may reflect the 20% increase in ED visit volumes over the past 10 years, as the number of ED facilities has decreased by 15%.⁸⁶ There are many reasons that a patient seeking care in an emergency department may leave without being seen, but long waits tend to exacerbate this problem.

Figure 2.40. Emergency department visits in which patient left without being seen, by race, 1997-2004



Source: National Hospital Ambulatory Medical Care Survey, 1997-2004.

Denominator: Visits by patients (of all ages) to the EDs of non-Federal, short-stay, and general hospitals, exclusive of military, and Department of Veterans Affairs hospitals.

- In all time periods, Blacks were significantly more likely to leave before being seen compared with Whites (Figure 2.40).
- Between the 1997-1998 and 2003-2004 time periods, the overall proportion of emergency department visits in which the patient left before being seen increased significantly from 1.2% to 1.8%. A significant increase was also seen among Whites.

Patient Centeredness

The Institute of Medicine identifies patient centeredness as a core component of quality health care.² Patient centeredness is defined as: “[H]ealth care that establishes a partnership among practitioners, patients, and their families (when appropriate) to ensure that decisions respect patients’ wants, needs, and preferences and that patients have the education and support they need to make decisions and participate in their own care.”⁸⁷ Patient centeredness “encompasses qualities of compassion, empathy, and responsiveness to the need, values, and expressed preferences of the individual patient.”⁸⁸

Patient centered care is supported by good patient-provider communication so that patients’ needs and wants are understood and addressed and patients understand and participate in their own care.^{87, 89, 90, 91} This style of care has been shown to improve patients’ health and health care.^{89, 90, 92, 93, 94} Unfortunately, there are barriers to good communication: about a third of Americans are suboptimally “health literate,”^{95, 96} which means they lack the “capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”⁹⁷ They receive less preventive care,⁹⁸ and have poorer understanding of their conditions and care,^{95, 99, 100} higher use of emergency and inpatient services, higher rates of rehospitalization,^{101, 102} lower adherence to medications,¹⁰¹ and lower participation in medical decisionmaking.¹⁰³ Low health literacy costs an estimated \$29 billion to \$69 billion per year.¹⁰⁴ Providers also differ in communication proficiency, including varied listening skills and views of symptoms and treatment effectiveness, compared with their patients’ views.¹⁰⁵

Patient centeredness has been shown to reduce both underuse and overuse of medical services¹⁰⁶ and can reduce strains on system resources or save money by reducing the number of diagnostic tests and referrals.⁹² Additional factors influencing patient centeredness and patient-provider communication include language barriers, racial/ethnic concordance between the patient and provider, effects of disabilities on patients’ health care experiences, and providers’ cultural competency. Efforts to improve these possible impediments to patient centeredness are underway. For example, the Office of Minority Health, part of the U.S. Department of Health and Human Services, has developed a set of Cultural Competency Curriculum Modules which aim to equip providers with cultural and linguistic competencies to help eliminate disparities.^{xxi, 107}

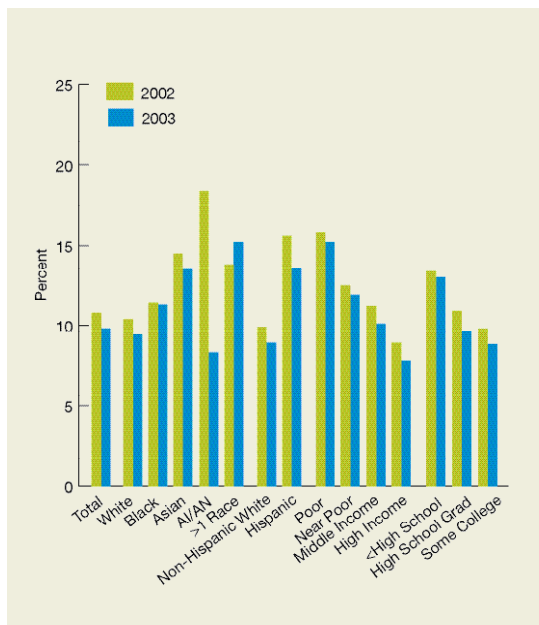
The NHDR includes one core measure of patient centeredness—a composite measure on the patient experience of care. In addition, because having a diverse workforce of health care providers may be an important component of patient-centered health care for many patients, this year’s report includes two new supplemental measures of workforce diversity—race/ethnicity of the Nation’s physician workforce and race/ethnicity of the physicians who spent at least half of the work week in direct patient care—and one supplemental measure on patient-provider communication in the hospital.

^{xxi} This online program (available at www.thinkculturalhealth.org) is accredited for 9 Continuing Medical Education credits for physicians and 10.8 and 0.9 Continuing Education Units for nurses and pharmacists, respectively.

Patient Experience of Care

Using methods developed for the CAHPS® (Consumer Assessment of Healthcare Providers and Systems¹⁰⁸) survey, the NHDR uses a composite measure which combines four measures of the patient experience of care into a single core measure—providers who sometimes or never listen carefully, explain things clearly, respect what patients say, and spend enough time with patients. (For findings related to all core measures of patient centeredness, see Tables 2.3a and 2.3b.)

Figure 2.41. Adults whose health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, and spent enough time with them, by race, ethnicity, income, and education, 2002 and 2003



Key: AI/AN=American Indian or Alaska Native.

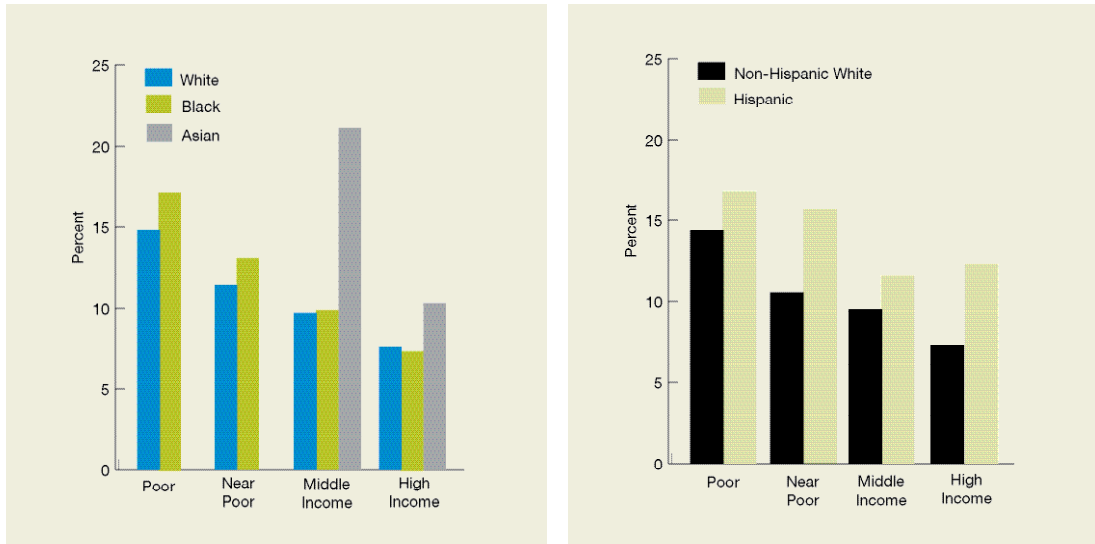
Source: Medical Expenditure Panel Survey, 2002 and 2003.

Denominator: Civilian noninstitutionalized population age 18 and older.

- In both years, the proportion of adults whose health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, or spent enough time with them was significantly higher among Asians compared with Whites; among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income individuals compared with high income individuals; and among persons with less than a high school education compared with persons with some college education (Figure 2.41).
- In 2002, the proportion was also significantly higher among AI/ANs compared with Whites, but in 2003, this difference was eliminated. In 2003, the proportion was significantly higher among Blacks compared with Whites.
- From 2002 to 2003, the proportion of adults whose health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, or spent enough time with them improved significantly for the total population and among Whites, non-Hispanic Whites, high income individuals, and persons with a high school education or more.

Racial and ethnic minorities are disproportionately of lower socioeconomic status. To distinguish the effects of race, ethnicity, income, and education on patient-provider communication, this measure is stratified by income and education level.

Figure 2.42. Adults whose health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, and spent enough time with them by race (left) and ethnicity (right), stratified by income, 2003

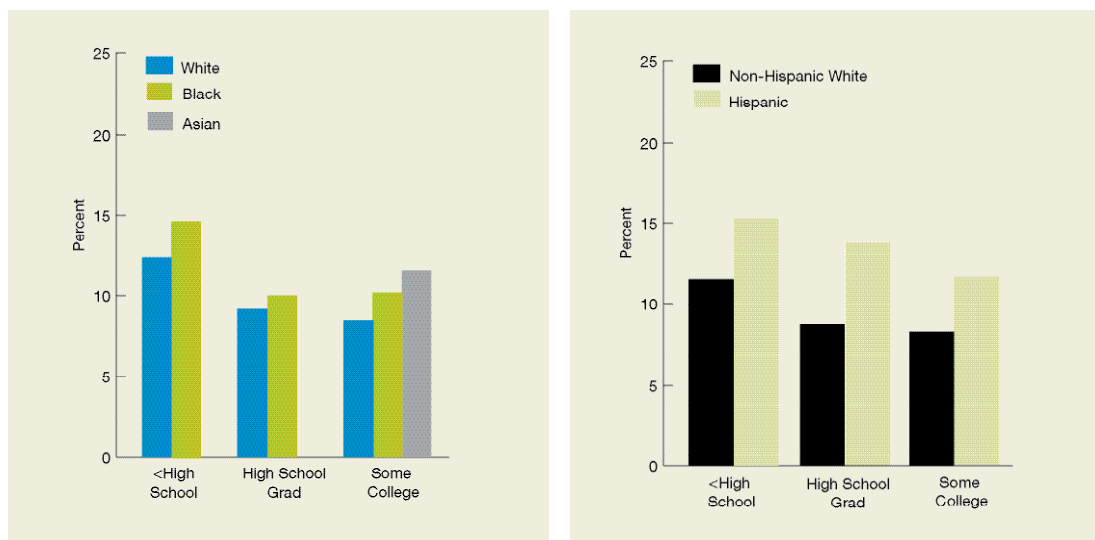


Source: Medical Expenditure Panel Survey, 2003.

Denominator: Civilian noninstitutionalized population age 18 and older.

Note: Sample sizes were too small to provide estimates for poor and near poor Asians.

Figure 2.43. Adults whose health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, and spent enough time with them by race (left) and ethnicity (right) stratified by education, 2003



Source: Medical Expenditure Panel Survey, 2003.

Denominator: Civilian noninstitutionalized population age 18 and older.

Note: Sample sizes were too small to provide estimates for Asians with less than a high school education and high school graduates. The seemingly large difference between middle income Asians and Whites is not statistically significant due to small sample sizes.

- Socioeconomic status explains some but not all of the racial and ethnic differences in patient-provider communication.
- Within income and education levels, there are no significant disparities by race.
- Hispanics of every income and education level, with the exception of poor and middle income Hispanics, are significantly more likely than respective non-Hispanic Whites to report poor communication with their providers (Figures 2.42 and 2.43).

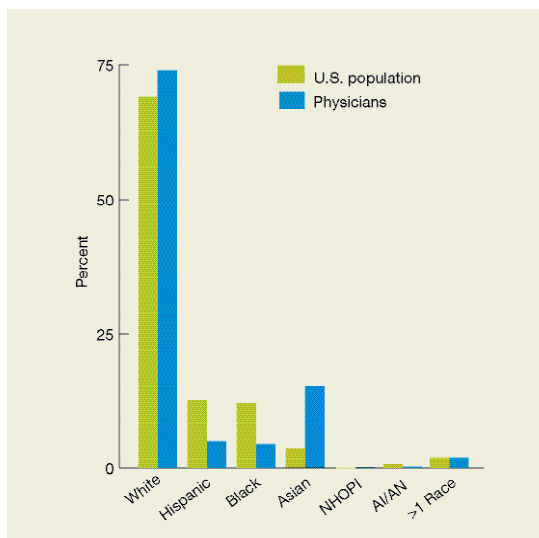
Workforce Diversity

Health care workforce diversity is considered to be important in health care research, education, administration, and policy to provide both role models and to shape a health care system that meets the needs of all individuals. Diversity not only increases the opportunities for race- and language-concordant physician visits but also has the potential to improve cultural competence at the system, organizational, and provider levels through appropriate program design and policies, organizational commitment to culturally competent care, and cross-cultural education of colleagues.¹⁰⁹ Below are presented measures of physician diversity; subsequent reports will focus on registered nurses and licensed practical nurses.

Diversity of Physician Workforce

Racial and ethnic minority groups accounted for 70% of the total population growth in the decade between 1988 and 1998. By 2030, 40% of Americans will belong to a racial or ethnic minority group. Minority physicians are more likely than their White colleagues to practice in underserved minority communities.^{110, 111}

Figure 2.44. Race/ethnicity of U.S. physicians and surgeons versus the U.S. population, 2000



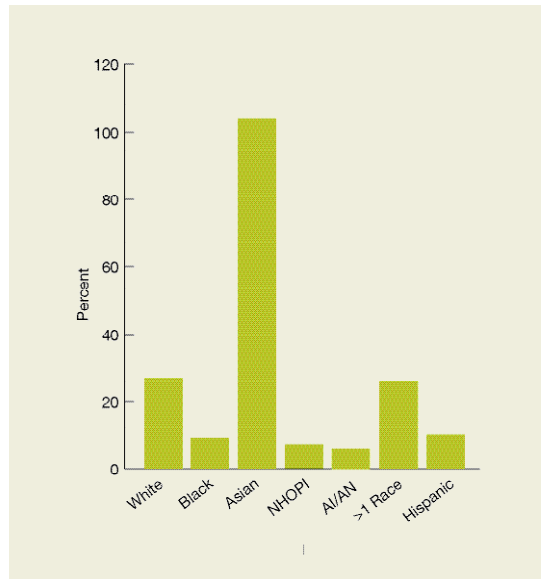
Key: NHOPI = Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native.

Source: U.S. Census 2000 and Census 2000 Equal Employment Opportunity tabulations.

Note: White, Black, Asian, NHOPI, AI/AN, and >1 race are non-Hispanic groups.

- In 2000, about three-quarters of U.S. physicians were White (Figure 2.44).
- Relative to the U.S. population, Hispanic, Black, NHOPI, and AI/AN individuals were underrepresented in the physician workforce, while Whites and Asians were overrepresented. Although the Asian physician workforce includes many international medical graduates from India, Pakistan, and the Philippines, not all Asian subgroups are overrepresented.

Figure 2.45. Physicians per 100,000 population by race/ethnicity, 2000



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

Source: U.S. Census 2000.

Note: Hispanics include all races. Racial groups are non-Hispanic.

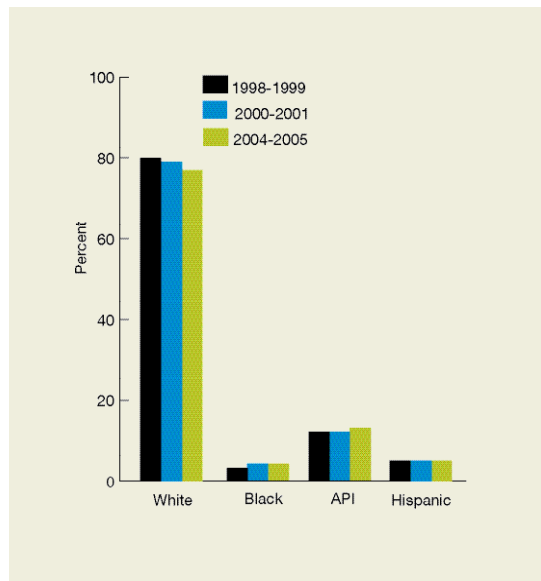
- In 2000, there were 104 Asian^{xxii} physicians per 100,000 Asians and 27 White physicians per 100,000 Whites. Other races and Hispanics had only a third to a fifth as many physicians per 100,000 residents of the same race or ethnicity as Whites (Figure 2.45).
- These data are for all physicians, including those who work in research, education, administration, and elsewhere. All of these physicians, therefore, are not available to see patients in clinical practice.

Race/Ethnicity of Physician Workforce in Direct Patient Care

Research has shown that Blacks and Hispanics often seek care from physicians of their own race or ethnicity because of personal preference and language, not just because of geographic convenience.¹¹² Racial and ethnic concordance leads to increases in participatory visits, patient satisfaction, and reports of receipt of preventive care.^{113, 114}

^{xxii}The racial designation of “Asian” includes many different ethnicities, some of which may be overrepresented in the physician workforce while others may be underrepresented.

Figure 2.46. Active U.S. physicians in direct patient care, by race/ethnicity, 1998-1999, 2000-2001, and 2004-2005



Key: API=Asian or Pacific Islander.

Source: Community Tracking Study Physician Survey, 1998-1999, 2000-2001, 2004-2005.

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

Reference population: Active, non-Federal, office-based and hospital-based physicians who spent at least 20 hours a week in direct patient care, all ages.

- Over time, the proportion of active physicians (i.e., excluding those not providing clinical care or working fewer than 20 hours per week) who were White declined from 80% in 1998-1999 to 77% in 2004-2005 (Figure 2.46). A significant change was not observed for other racial/ethnic groups.

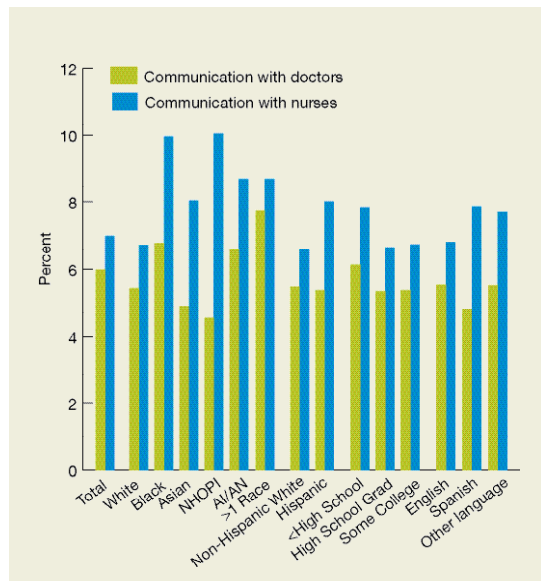
Focus on Patient Centeredness in Hospitals

When patients are admitted to a hospital, they often have limited control over many aspects of their lives. The need for effective patient-provider communication is nowhere greater than in the hospital to ensure that medical decisions are consistent with the patient's needs and preferences. In addition, patients can help providers avoid problems with medications and problems that may arise after they are discharged from the hospital.

To begin to capture information about patient perceptions of care when they are hospitalized, the Centers for Medicare & Medicaid Services and the Agency for Healthcare Research and Quality partnered to develop a standardized instrument, the CAHPS[®] Hospital Survey (H-CAHPS). In 2005, 254 hospitals across the United States volunteered to use this survey. In total, 84,779 completed surveys were received from respondents with an average response rate of 44%. Although it is not nationally representative, the sample of hospitals and respondents is comparable to the national distribution of hospitals registered with the American Hospital Association.¹¹⁵

The 2006 NHDR presents two composite measures from H-CAHPS in order to summarize the quality of communication that hospital patients experience during their stay. "Communication with doctors" summarizes responses to three questions, examining how often patients were treated with courtesy and respect by their doctors, how often doctors listened carefully, and how often doctors explained things in a way that patients were able to understand. "Communication with nurses" combines the same three questions in relation to nurses.

Figure 2.47. Hospital patients who reported sometimes or never having good communications with doctors and with nurses by race, education, and language, 2005



Key: NH/OP1 = Native Hawaiian or Other Pacific Islander; AI/AN = American Indian or Alaska Native.

Source: Agency for Healthcare Research and Quality, CAHPS® Hospital Survey, 2005.

Reference population: Hospital patients, all ages.

- In 2005, 6% of hospital patients reported sometimes or never having had good communication with their doctors during their stay and 7% reported sometimes or never having had good communication with their nurse during their stay (Figure 2.47).
- Communication problems with both doctors and nurses were more likely to be reported by Blacks and multiple race individuals compared with Whites and by individuals with less than a high school education compared with individuals with any college education.
- Hispanics and individuals who mainly speak Spanish at home were more likely to report communication problems with nurses but not with doctors compared with non-Hispanic Whites and individuals who mainly speak English at home, respectively.

Chapter 2. Quality of Health Care

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

Core Report Measure	Racial Difference ⁱ				Ethnic Difference ⁱⁱ	
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Cancer						
Adults age 50 and over who received recommended colorectal screening ⁱⁱⁱ	↓	↓		=	=	↓
Rate of colorectal cancers diagnosed at late stage ^{iv}	↓		↑	↑		↑
Cancer deaths per 100,000 population per year for colorectal cancer ^v	↓		↑	↑		↑
Diabetes						
Adults with diabetes who had hemoglobin A1c measurement, retinal eye exam, and foot exam in the past year ^{vi}	=					↓
Hospital admissions for lower extremity amputations in patients with diabetes per 1,000 population ^{vii}	↓					
End Stage Renal Disease						
Hemodialysis patients with urea reduction ratio 65% or higher ^{viii}	↓	↑		=	=	↑
Dialysis patients registered on the waiting list for transplantation ^{ix}	↓		↑	↓		↓
Heart Disease						
Adults who were obese given advice about exercise	=					↓
Current smokers age 18 and over receiving advice to quit smoking ^{vi}	=		↓			↓
Hospital care for heart attack patients ^x	↓		↓	=		↓
Deaths per 1,000 adult admissions with acute myocardial infarction (heart attack) ^{xi}	=		=			=
Hospital care for heart failure patients ^x	=		=	↓		↓

ⁱ Compared with Whites.

ⁱⁱ Compared with non-Hispanic Whites.

ⁱⁱⁱ Source: National Health Interview Survey, 2003.

^{iv} Source: Surveillance, Epidemiology, and End Results Program, 2003. This source does not provide rate estimates for Asians and NHOPIs separately but in aggregate as Asian and Pacific Islander. This source did not collect information for >1 race.

^v Source: National Vital Statistics System-Mortality, 2003. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian and Pacific Islander. This source did not collect information for >1 race.

^{vi} Source: Medical Expenditure Panel Survey, 2003.

^{vii} Source: National Hospital Discharge Survey, 2002-2004. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.

^{viii} Source: CMS End Stage Renal Disease Clinical Performance Measures Project, 2004.

^{ix} U.S. Renal Data System, 2003. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian and Pacific Islander. This source did not collect information for >1 race.

^x Source: CMS Quality Improvement Organization Program, 2004. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and Pacific Islander, American Indian and Alaska Native. These contrasts compare each group with non-Hispanic Whites.

^{xi} Source: HCUP State Inpatient Databases disparities analysis file, 2003. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and 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.

Chapter 2. Quality of Health Care

Table 2.1a. Racial and Ethnic Differences in Effectiveness of Care (continued)

Core Report Measure	Racial Difference ⁱ				Ethnic Difference ⁱⁱ	
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
HIV and AIDS						
HIV patients with CD4 <200 who receive PCP prophylaxis ⁱⁱⁱ	=					=
New AIDS cases per 100,000 population 13 and over ^{iv}	↓	↑		↓		↓
Maternal and Child Health						
Pregnant women receiving prenatal care in first trimester ^v	↓	=	=	↓		↓
In infant mortality per 1,000 live births, birthweight <1,500 grams ^v	↓	=		=		=
Children 19-35 months who received all recommended vaccines ^{vi}	↓	=		=	↓	↓
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine ^{vii}	=					=
Hospital admissions for pediatric gastroenteritis per 100,000 population ^{viii}	=	=				↓
Children 2-17 with advice about healthy eating ^{ix}	=					↓
Children 2-17 with a vision check ^{ix}	=					=

ⁱ Compared with Whites.

ⁱⁱ Compared with non-Hispanic Whites.

ⁱⁱⁱ Source: HIV Research Network, 2003. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and Pacific Islander, American Indian and Alaska Native. These contrasts compare each group with non-Hispanic Whites.

^{iv} Source: Centers for Disease Control and Prevention, 2004. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and Pacific Islander, American Indian and Alaska Native. These contrasts compare each group with non-Hispanic Whites.

^v Source: National Vital Statistics System-Natality, 2003. This source did not collect information for >1 race.

^{vi} Source: National Immunization Survey, 2004.

^{vii} Source: National Health Interview Survey, 2004.

^{viii} Source: HCUP State Inpatient Databases disparities analysis file, 2003. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and Pacific Islander. These contrasts compare each group with non-Hispanic Whites.

^{ix} Source: Medical Expenditure Panel Survey, 2003.

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

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.

Chapter 2. Quality of Health Care

Table 2.1a. Racial and Ethnic Differences in Effectiveness of Care (continued)

Core Report Measure	Racial Difference ⁱ					Ethnic Difference ⁱⁱ
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Mental Health and Substance Abuse						
Adults with major depressive episode in the past year who received treatment for the depression in the past year ⁱⁱⁱ	=					=
Suicide deaths per 100,000 population ^{iv}	↑		↑	↑		↑
People age 12 and over who needed treatment for substance abuse who received such treatment ⁱⁱⁱ	↑			↓		=
People age 12 and over who received substance abuse treatment who completed treatment course ^v	↓					
Respiratory Diseases						
People 65 and over who ever received pneumococcal vaccination ^{vi}	↓	↓	=	=		↓
Hospital care for pneumonia patients ^{vii}	↓		↓	=		↓
Rate antibiotics prescribed at visits with a diagnosis of common cold per 10,000 population ^{viii}	=					
Tuberculosis patients who complete course of treatment within 12 months of treatment initiation ^{ix}	=		=	↓		↓
Hospital admissions for asthma per 100,000 population under 18 ^x	↓		=			↓

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, 2004.

^{iv} Source: National Vital Statistics System-Mortality, 2003. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian and Pacific Islander. This source did not collect information for >1 race.

^v Source: Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set, 2003.

^{vi} Source: National Health Interview Survey, 2004.

^{vii} Source: CMS Quality Improvement Organization program, 2004. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and Pacific Islander, American Indian and Alaska Native. These contrasts compare each group with non-Hispanic Whites.

^{viii} Source: National Ambulatory Medical Care Survey/National Hospital Ambulatory Medical Care Survey, 2003-2004. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.

^{ix} Source: CDC National TB Surveillance System, 2002. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian and Pacific Islander. This source did not collect information for >1 race.

^x Source: HCUP State Inpatient Databases disparities analysis file, 2003. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and 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.

Chapter 2. Quality of Health Care Quality of Health Care

Table 2.1a. Racial and Ethnic Differences in Effectiveness of Care (continued)

Core Report Measure	Racial Difference ⁱ					Ethnic Difference ⁱⁱ
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Nursing Home, Home Health, and Hospice Care						
Long-stay nursing home residents who were physically restrained ⁱⁱⁱ	↑		↓	↓		↓
High-risk long-stay nursing home residents with pressure sores ⁱⁱⁱ	↓		↑	↓		↓
Short-stay nursing home residents who have pressure sores ⁱⁱⁱ	↓		↓	=		↓
Home health care patients who get better at walking or moving around ^{iv}	=	=	↑	=	=	=
Home health care patients who had to be admitted to the hospital ^{iv}	↓	↑	=	↓	↓	↓

ⁱ Compared with Whites.

ⁱⁱ Compared with non-Hispanic Whites.

ⁱⁱⁱ Source: CMS Minimum Data Set, 2004. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and Pacific Islander. Contrasts compare each group with non-Hispanic Whites.

^{iv} Source: CMS Outcome and Assessment Information Set, 2004.

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

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.

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

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Table 2.1b. Socioeconomic Differences in Effectiveness of Care

Core Report Measure	Income Difference ⁱ			Educational Difference ⁱⁱ		Insurance Difference ⁱⁱⁱ
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Cancer						
Adults age 50 and over who received recommended colorectal screening ^{iv}	↓	↓	↓	↓	↓	↓
Cancer deaths per 100,000 population per year for colorectal cancer ^v				↓	↓	
Diabetes						
Adults with diabetes who had hemoglobin A1c measurement, retinal eye exam, and foot exam in the past year ^{vi}	↓	↓	↓	=	=	
Heart Disease						
Adults who were obese given advice about exercise ^{vi}	↓	↓	↓	↓	↓	↓
Current smokers age 18 and over receiving advice to quit smoking ^{vi}	=	=	=	=	=	↓
Maternal and Child Health						
Pregnant women receiving prenatal care in first trimester ^{vii}				↓	↓	
Infant mortality per 1,000 live births, birthweight <1,500 grams ^{vii}				↓	↓	
Children 19-35 months who received all recommended vaccines ^{viii}	↓	↓	↓			
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine ^{iv}	=	=	=			↓
Children 2-17 with advice about healthy eating ^{vi}	↓	↓	↓			↓
Children 2-17 with a vision check ^{vi}	=	↓	=			↓

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, 2003.

^v Source: National Vital Statistics System-Mortality, 2003. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian and Pacific Islander. This source did not collect information for >1 race.

^{vi} Source: Medical Expenditure Panel Survey, 2003.

^{vii} Source: National Vital Statistics System-Nativity, 2003. This source did not collect information for >1 race.

^{viii} Source: National Immunization Survey, 2004.

Key: HS=high school.

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Table 2.1b. Socioeconomic Differences in Effectiveness of Care (continued)

Core Report Measure	Income Difference ⁱ			Educational Difference ⁱⁱ		Insurance Difference ⁱⁱⁱ
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Mental Health and Substance Abuse						
Adults with a major depressive episode in the past year who received treatment for the depression in the past year ^{iv}	=	↓	=	=	↓	
Suicide deaths per 100,000 population ^v				↓	↓	
People age 12 and over who needed treatment for substance abuse who received such treatment ^{iv}	↑	↑	=	↑	=	
Patients receiving substance abuse treatment who completed treatment ^{vi}				↓	=	
Respiratory Diseases						
Persons 65 and over who ever received pneumococcal vaccination ^{vii}	↓	↓	=	↓	↓	

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: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2004.

^v Source: National Vital Statistics System-Mortality, 2003. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian and Pacific Islander. This source did not collect information for >1 race.

^{vi} Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set, 2003.

^{vii} Source: National Health Interview Survey, 2004.

Key: HS=high school.

Key to Symbols Used in Quality of Health Care Tables:

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

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Table 2.2a. Racial and Ethnic Differences in Patient Safety

Core Report Measure	Racial Difference ⁱ					Ethnic Difference ⁱⁱ
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Postoperative Complications						
Composite of postoperative pneumonia, urinary tract infection, and venous thromboembolic events ⁱⁱⁱ	↓					
Postoperative hip fractures per 1,000 surgical discharges age 18 and over ^{iv}	=					=
Other Complications of Hospital Care						
Composite of bloodstream infections and mechanical complications ⁱⁱⁱ	=					
Iatrogenic pneumothorax per 1,000 relevant discharges ^{iv}	=					↑
Deaths following complications of care ^{iv}	=		↓			↓
Complications of Medications						
Elderly with inappropriate medications ^v	=					↑

ⁱ Compared with Whites.

ⁱⁱ Compared with non-Hispanic Whites.

ⁱⁱⁱ Source: Medicare Patient Safety Monitoring System, 2004.

^{iv} Source: HCUP State Inpatient Databases disparities analysis file, 2003. This source categorizes race/ethnicity information as a single item: non-Hispanic White, non-Hispanic Black, Hispanic, Asian and Pacific Islander. These contrasts compare each group with non-Hispanic Whites.

^v Source: Medical Expenditure Panel Survey, 2003. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian and 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 Quality of Health Care Tables:

= Group and comparison group receive about same quality of health care or have similar outcomes.

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

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Table 2.3a. Racial and Ethnic Differences in Timeliness and Patient Centeredness

Core Report Measure	Racial Difference ⁱ					Ethnic Difference ⁱⁱ
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Timeliness						
Adults who sometimes or never can get care for illness or injury as soon as wanted ⁱⁱⁱ	↓	=				↓
Emergency department visits in which the patient left without being seen ^{iv}	↓					
Patient Centeredness						
Adults whose health providers sometimes or never listened carefully, explained things, showed respect, and spent enough time with them ⁱⁱⁱ	↓	↓		=	↓	↓
Children whose health providers sometimes or never listened carefully, explained things, showed respect, and spent enough time with them ⁱⁱⁱ	=	↓			=	=

ⁱ Compared with Whites.

ⁱⁱ Compared with non-Hispanic Whites.

ⁱⁱⁱ Source: Medical Expenditure Panel Survey, 2003. This source did not collect information for >1 race.

^{iv} Source: National Hospital Ambulatory Medical Care Survey – Emergency Department, 2003-2004. Missing rates preclude analysis by ethnicity. Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native.

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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Table 2.3b. Socioeconomic Differences in Timeliness and Patient Centeredness

Core Report Measure	Income Difference ⁱ			Educational Difference ⁱⁱ		Insurance Difference ⁱⁱⁱ
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Timeliness						
Adults who sometimes or never can get care for illness or injury as soon as wanted ^{iv}	↓	↓	↓	↓	=	↓
Emergency department visits in which the patient left without being seen ^v						↓
Patient Centeredness						
Adults whose health providers sometimes or never listened carefully, explained things, showed respect, and spent enough time with them ^{iv}	↓	↓	↓	↓	=	↓
Children whose health providers sometimes or never listened carefully, explained things, showed respect, and spent enough time with them ^{iv}	↓	↓	↓			=

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, 2003. This source did not collect information for >1 race.

^v Source: National Hospital Ambulatory Medical Care Survey – Emergency Department, 2003-2004. Missing rates preclude analysis by ethnicity.
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.

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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 services difficult. As demonstrated by extensive research and confirmed in previous National Healthcare Disparities Reports, racial and ethnic minorities and persons of low socioeconomic statusⁱ are disproportionately represented among those with access problems. Poor access to health care comes at both a personal and societal cost: for example, if persons do not receive vaccinations they may become ill and spread disease to others, increasing the burden of disease for society overall, in addition to the burden borne individually.

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:

- Gaining entry into the health care system.
- Getting access to sites of care where patients can receive needed services.
- Finding providers who meet the needs of individual patients and with whom patients can develop a relationship based on mutual communication and trust.²

Health care access is measured in several ways including:

- Structural measures of the presence or absence of specific resources that facilitate health care, such as having health insurance or a usual source of care.
- Assessments by patients of how easily they are able to gain access to 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 two sections:

- **Facilitators and barriers to health care**—such as measures of health insurance coverage, having a usual source of care and primary care provider, and patient perceptions of need.
- **Health care utilization**—such as measures of receipt of dental care, emergency care, potentially avoidable admissions, mental health care, and substance abuse treatment.

Information about patient-provider communication is found in the section on patient centeredness in Chapter 2, Quality of Health Care. As in previous NHDRs, 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 and patient-provider communication within specific priority populations are discussed in Chapter 4, Priority Populations. Analyses of changes over time and stratified analyses are also presented within this chapter.

ⁱ As described in Chapter 1, Introduction and Methods, income and educational attainment are used to measure socioeconomic status in the NHDR.

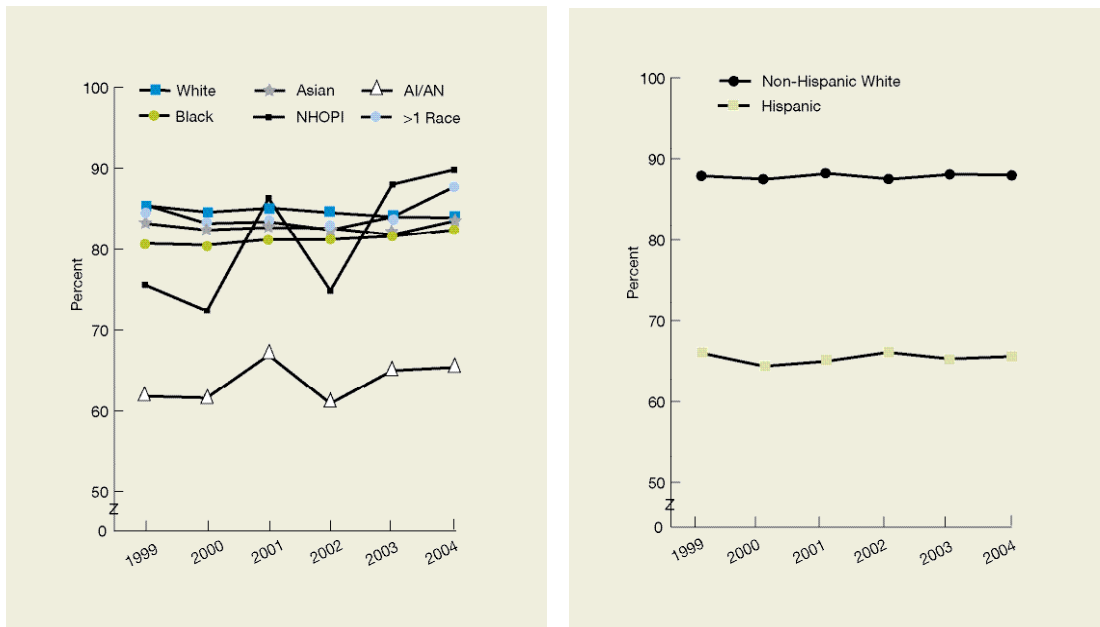
Facilitators and Barriers to Health Care

Facilitators and barriers to health care discussed in this section include health insurance, having a usual source of care (including having a usual source of ongoing care and a usual primary care provider), and patient perceptions of need. (See Tables 3.1a and 3.1b for a summary of findings related to all core measures on facilitators and barriers to health care.)

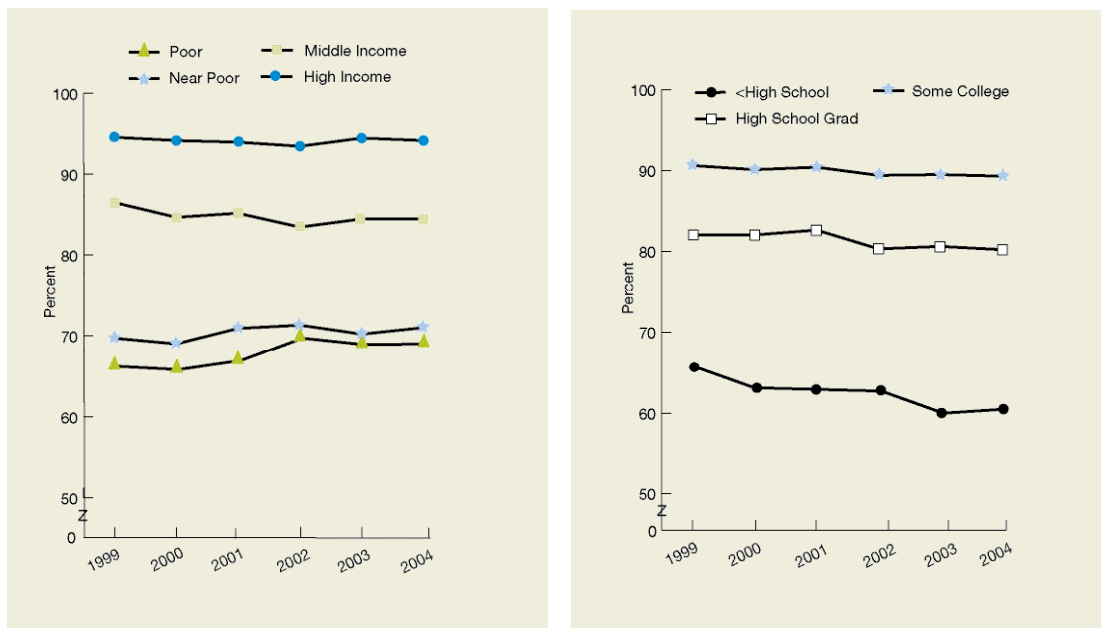
Health Insurance

Health insurance facilitates entry into the health care system. The uninsured are more likely to die early³ and have poor health status⁴; the costs of early death and poor health among the uninsured total \$65 billion to \$130 billion.³ The financial burden of uninsurance is also great for uninsured individuals; almost 50% of personal bankruptcy filings are due to medical expenses.⁵ The uninsured report more problems getting care, are diagnosed at later disease stages, and get less therapeutic care.^{5, 6} They are sicker when hospitalized and more likely to die during their stay.⁶

Figure 3.1. Persons under age 65 with health insurance, by race (this page, left), ethnicity (this page, right), income (next page, left), and education (next page, right), 1999-2004



Chapter 3. Access to Health Care



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

Source: National Health Interview Survey, 1999-2004.

Reference population: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons under age 65. Analyses by education performed for civilian noninstitutionalized persons age 25-64.

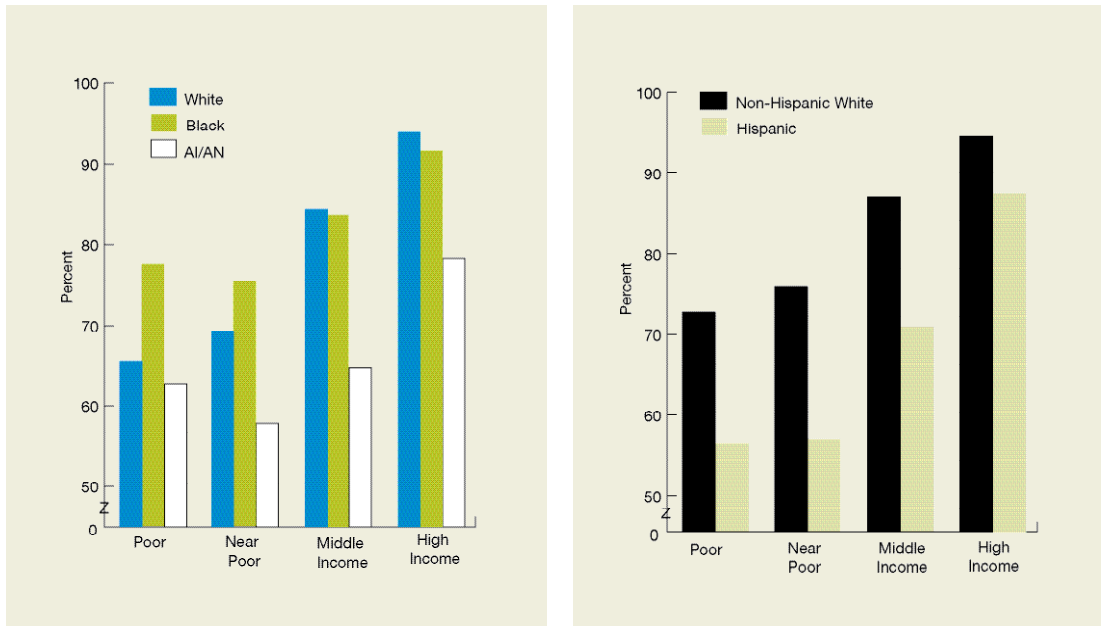
Note: NHIS respondents are asked about health insurance coverage at the time of interview; respondents are considered uninsured if they lack private health insurance, public assistance, Medicare, Medicaid, a State-sponsored health plan, other government-sponsored programs, a military health plan, or if their only coverage is through the Indian Health Service.

- In all 6 years, the proportion of persons with insurance was significantly lower among AI/ANs compared with Whites; among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income persons compared with high income persons; and among persons with a high school education or less compared with persons with some college (Figure 3.1).
- From 1999 to 2003, the proportion of persons with insurance was significantly lower among Blacks compared with Whites, but in 2004 this disparity had been eliminated.
- From 1999 to 2004, rates of insurance decreased significantly for Whites, middle income persons, and persons of every education level, while rates increased significantly for Blacks and the poor.

Racial and ethnic minorities are disproportionately of lower socioeconomic status.⁷ To distinguish the effects of race, ethnicity, income, and education on health insurance coverage, this measure is stratified by income and education level.

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Figure 3.2. Persons under age 65 with health insurance by race (left) and ethnicity (right), stratified by income, 2004



Key: AI/AN=American Indian or Alaska Native.

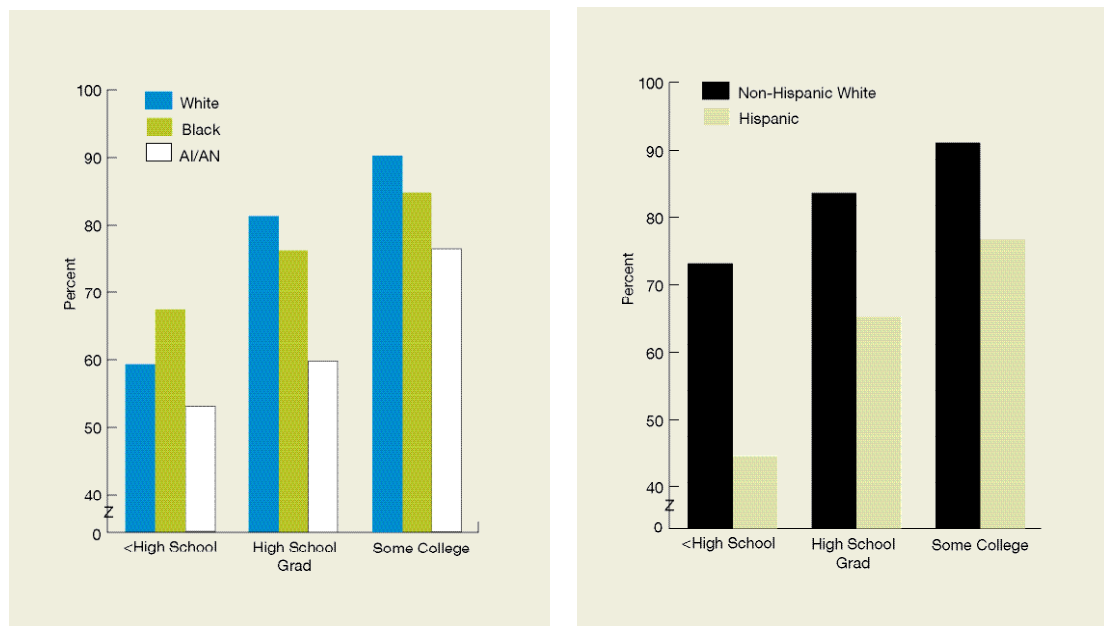
Source: National Health Interview Survey, 2004.

Reference population: Civilian noninstitutionalized persons under age 65.

Note: NHIS respondents are asked about health insurance coverage at the time of interview; respondents are considered uninsured if they lack private health insurance, public assistance, Medicare, Medicaid, a State-sponsored health plan, other government-sponsored programs, a military health plan, or if their only coverage is through the Indian Health Service.

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Figure 3.3. Persons under age 65 with health insurance by race (left) and ethnicity (right), stratified by education, 2004



Key: AI/AN=American Indian or Alaska Native.

Source: National Health Interview Survey, 2004.

Reference population: Civilian noninstitutionalized persons age 25-64.

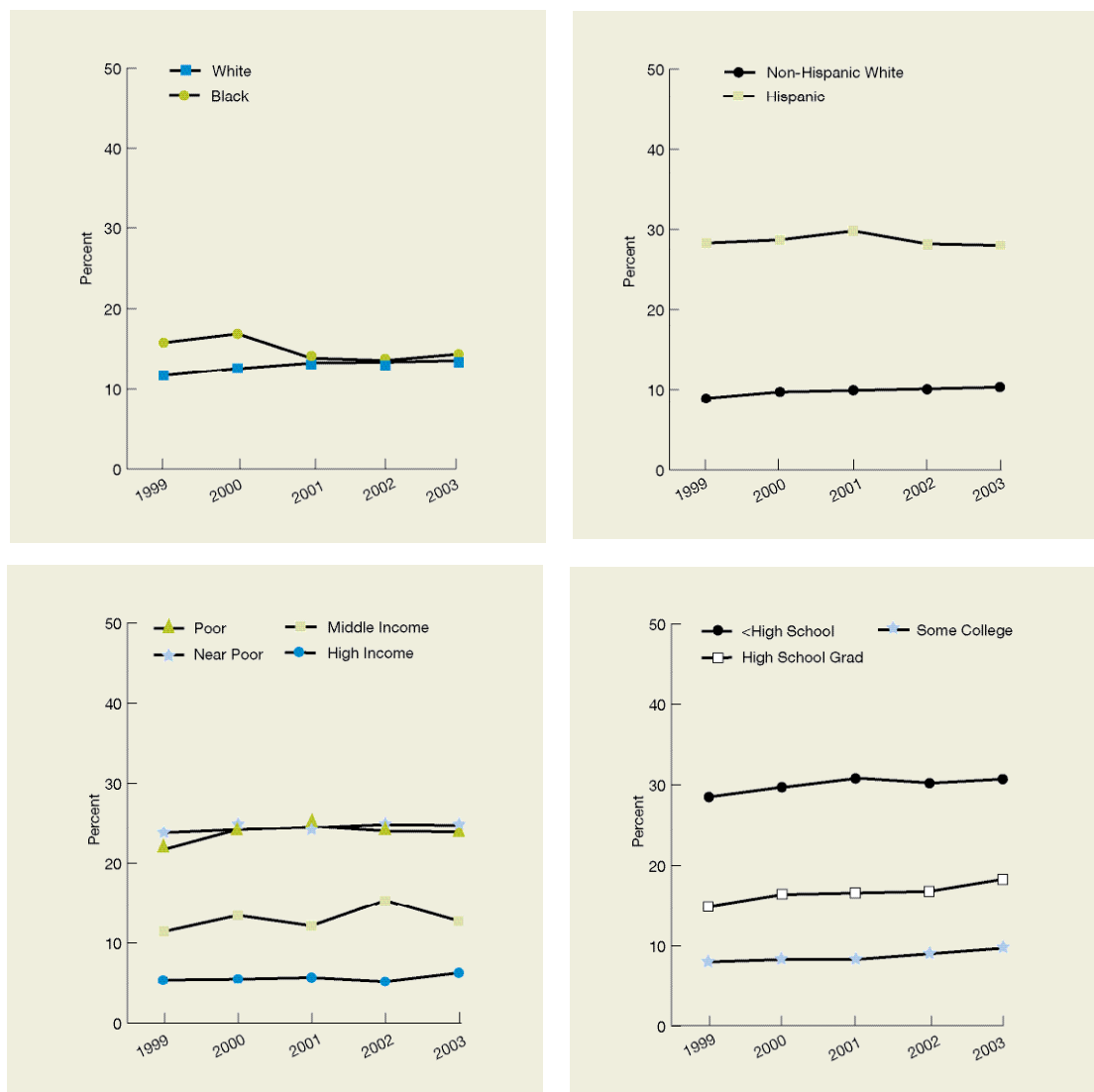
Note: NHIS respondents are asked about health insurance coverage at the time of interview; respondents are considered uninsured if they lack private health insurance, public assistance, Medicare, Medicaid, a State-sponsored health plan, other government-sponsored programs, a military health plan, or if their only coverage is through the Indian Health Service.

- Socioeconomic status explains some but not all of the differences in rates of insurance among persons under age 65 by race and ethnicity (Figures 3.2 and 3.3).
- Hispanics of every income and education level were significantly less likely than respective non-Hispanic Whites to have health insurance.
- Poor and near poor Blacks were significantly more likely than respective Whites to have health insurance, while middle income AI/ANs and high income Blacks and AI/ANs were significantly less likely to have health insurance.
- Blacks with less than a high school education were significantly more likely than respective Whites to have health insurance while Blacks and AI/ANs with a high school education or any college education were significantly less likely to have health insurance.
- No group achieved the Healthy People 2010 target of 100% of Americans with health insurance.

Because uninsured persons often postpone seeking care, have difficulty obtaining care when they ultimately seek it, and must bear the full brunt of health care costs, prolonged periods of uninsurance can have a particularly serious impact on a person's health and stability. Over time, the cumulative consequences of being uninsured compound, resulting in a population at particular risk for suboptimal health care and health status.

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Figure 3.4. Persons under age 65 uninsured all year by race (top left), ethnicity (top right), income (bottom left), and education (bottom right), 1999-2003



Source: Medical Expenditure Panel Survey, 1999-2003.

Reference population: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons under age 65. Analyses by education performed for civilian noninstitutionalized persons age 18-64.

Note: In 2002 and 2003, survey respondents could report more than one race. Racial categories shown here for 2002 and 2003 exclude multiple race individuals and hence are not directly comparable to earlier years. Estimates for racial groups other than Whites and Blacks are significantly affected by this change and are not shown here.

- In all 5 years, the proportion of persons uninsured all year was significantly higher among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income persons compared with high income persons; and among persons with a high school education or less compared with persons with some college (Figure 3.4).
- The proportion of persons uninsured all year was significantly higher among Blacks compared with Whites in 1999 and 2000. In 2001, 2002, and 2003 this disparity was eliminated.
- From 1999 to 2003, rates of uninsurance for the whole year rose significantly among Whites, high school graduates, and persons with at least some college education.

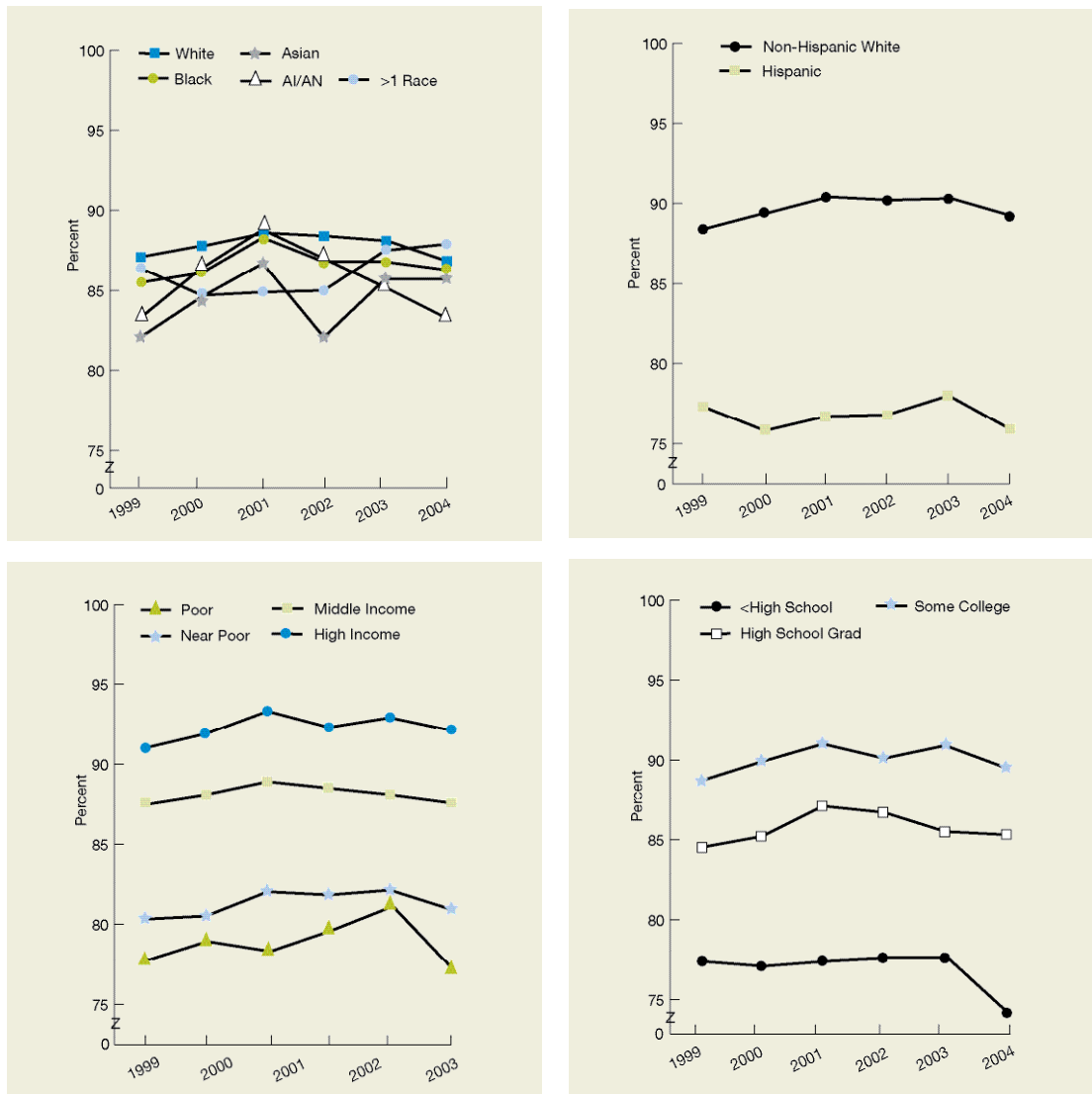
Usual Source of Care

Persons with a usual source of care (a facility where one regularly receives care) experience improved health outcomes and reduced disparities⁸ and costs,⁹ yet over 40 million Americans do not have a specific source of ongoing care.¹⁰

Specific Source of Ongoing Care

Higher costs, poorer outcomes, and greater disparities are observed among individuals without a usual source of care.¹¹

Figure 3.5. Persons with a specific source of ongoing care by race (top left), ethnicity (top right), income (bottom left), and education (bottom right), 1999-2004



Key: AI/AN=American Indian or Alaska Native.

Source: National Health Interview Survey, 1999-2004.

Reference population: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons of all ages. Analyses by education performed for civilian noninstitutionalized persons age 25 and over.

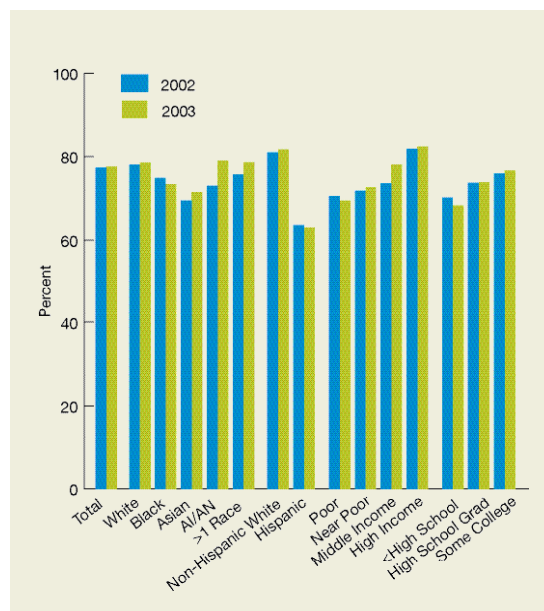
Note: Measure is age adjusted.

- In all 6 years, the proportion of persons with a specific source of ongoing care was significantly lower among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income persons compared with high income persons; and among persons with a high school education or less compared with persons with at least some college (Figure 3.5).
- In all years except 2001 and 2004, the proportion of persons with a specific source of ongoing care was significantly lower among Asians and Blacks compared with Whites.
- From 1999 to 2004, the proportion of persons with a source of ongoing care improved significantly among non-Hispanic Whites and high income persons while it fell significantly among persons with less than a high school education.
- No group achieved the Healthy People 2010 target of 96% of Americans with a specific source of ongoing care.

Usual Primary Care Provider

Having a usual primary care provider (a doctor or nurse from whom one regularly receives care) is associated with patients' greater trust in their provider¹² and with good patient-provider communication which, in turn, increases the likelihood that patients receive appropriate care.¹³ By learning about patients' diverse health care needs over time, a usual primary care provider can coordinate care (e.g., visits to specialists) that best meets patient needs.¹⁴ Indeed, having a usual primary care provider correlates with receipt of higher quality care.^{15, 16}

Figure 3.6. Persons who have a usual primary care provider by race, ethnicity, income, and education, 2002 and 2003



Key: AI/AN=American Indian or Alaska Native.

Source: Medical Expenditure Panel Survey, 2002 and 2003.

Reference population: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons of all ages. Analyses by education performed for civilian noninstitutionalized persons age 18 and over.

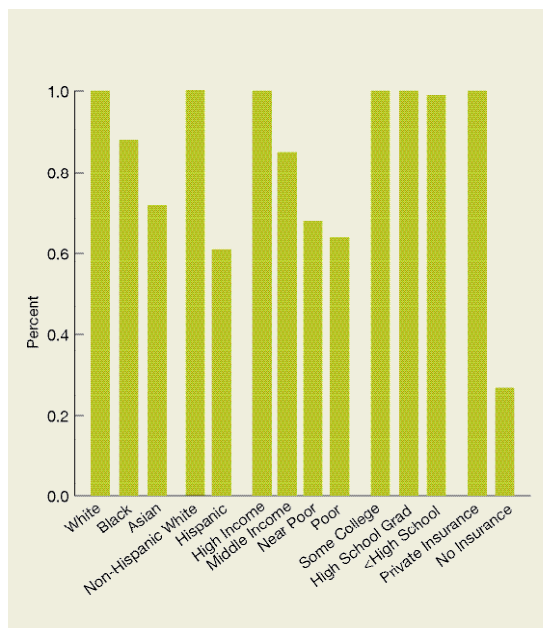
Note: A usual primary care provider is defined as the source of care that a person usually goes to for new health problems, preventive health care, and referrals to other health professionals. Data are age adjusted.

- In both years, the proportion of persons with a usual primary care provider was significantly lower among Blacks and Asians compared with Whites; among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income persons compared with high income persons; and among persons with less than a high school education compared with persons with some college education (Figure 3.6).
- No group achieved the Healthy People 2010 target of 85% of Americans with a usual primary care provider.

Chapter 3. Access to Health Care

Each year, multivariate analyses are conducted in support of the NHDR to identify the independent effects of race, ethnicity, and socioeconomic status on access to health care. Past reports have listed some of these findings. This year, the NHDR presents the results of a multivariate model for one measure: persons who have a usual primary care provider. Adjusted odds ratios are shown to quantify the relative magnitude of disparities after controlling for a number of confounding factors.

Figure 3.7. Persons who have a usual primary care provider: Adjusted odds ratios, 2002 and 2003



Source: Medical Expenditure Panel Survey, 2002 and 2003.

Reference population: Civilian noninstitutionalized population ages 18-64.

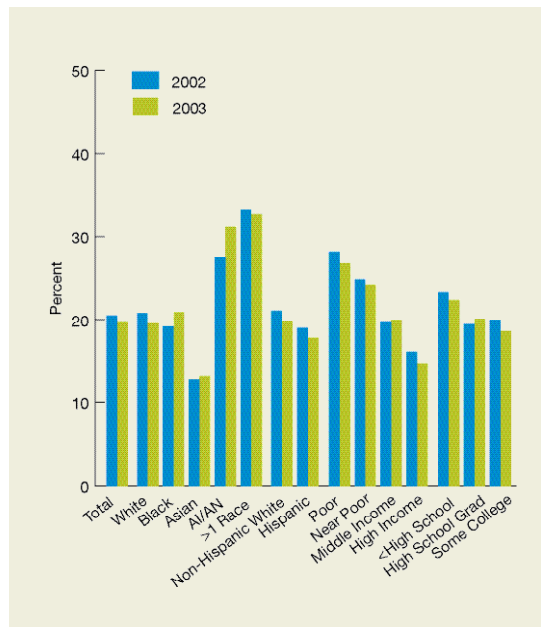
Note: Adjusted odds ratios are calculated from logistic regression models controlling for race, ethnicity, income, education, age, gender, insurance, and residence location. White, non-Hispanic White, high income, and some college are reference groups with odds ratio=1; odds ratios <1 indicate that group is less likely to receive service than the reference group. For example, compared with individuals with private insurance, the chances that an individual with no insurance has a usual primary care provider is 0.27 after controlling for other factors. Another way to state this is that individuals with no insurance are 73% less likely than individuals with private insurance to have a usual primary care provider.

- In multivariate models controlling for race, ethnicity, income, education, age, gender, insurance, and residence location, Blacks were 12% and Asians were 28% less likely than Whites, Hispanics were 39% less likely than non-Hispanic Whites, poor individuals were 36% less likely than high income individuals, and individuals with no health insurance were 73% less likely than individuals with private insurance to have a usual primary care provider (Figure 3.7).

Patient Perceptions of Need

Patient perceptions of need include perceived difficulties or delays in obtaining care and problems getting care as soon as it is wanted. Although 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 3.8. Families in which a member was unable to receive or delayed in receiving needed medical care, dental care, or prescription medicines, by race, ethnicity, income, and education, 2002 and 2003



Key: AI/AN=American Indian or Alaska Native.

Source: Medical Expenditure Panel Survey, 2002 and 2003.

Denominator: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons, all ages. Analyses by education performed for civilian noninstitutionalized persons age 18 and over.

- In both years, the proportion of families in which a member was unable to receive or delayed in receiving needed medical care, dental care, or prescription medicines was significantly higher among families headed by multiple race individuals compared with White individuals; among poor, near poor, and middle income families compared with high income families; and among families headed by individuals with less than a high school education compared with individuals with some college education. In both years, the proportion was significantly lower among families headed by Asians than among families headed by Whites (Figure 3.8).
- From 2002 to 2003, significant changes were not observed for any group.

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. Landmark reports on disparities have relied on measures of health care utilization,^{17, 18} and these data demonstrate some of the largest differences in care among diverse groups. More recent efforts to inform health care delivery continue to include measures of health care utilization.¹⁹

Interpreting health care utilization data is more complex than analyzing data on patient perceptions of access to care. Along with 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. Therefore, the key to symbols used in Tables 3.2a and 3.2b, which summarize findings on all core measures related to health care utilization, is different from that used for Tables 3.1a and 3.1b. Rather than indicating better or worse access compared with the comparison group, symbols on the utilization tables simply identify the amount of care received by racial or ethnic minority 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 persons in hospice settings.²⁰ About 70% of the civilian noninstitutionalized population visit a medical provider's office or outpatient department, about 60% receive a prescription medicine, and about 40% visit a dental provider each year.²¹

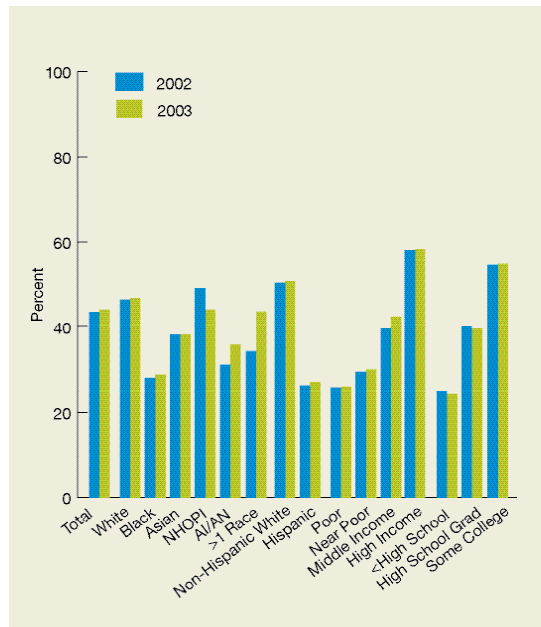
National health expenditures totaled \$1.8 trillion in fiscal year 2004, nearly doubling those of a decade earlier, in 1994.²² Health expenditures among the civilian noninstitutionalized population in America are extremely concentrated, with 5% of the population accounting for 55% of outlays.²³ In addition, 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.²⁴

Previous NHDRs reported that different racial, ethnic, and socioeconomic 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 socioeconomic status individuals tended to have lower use of routine care and outpatient mental health care and higher use of emergency departments, hospitals, and home health care. This year, findings related to dental care, emergency department visits, potentially avoidable admissions, and mental health care and substance abuse treatment are highlighted.

Dental Visits

Regular dental visits promote prevention, early diagnosis, and optimal treatment of oral diseases and conditions. Failure to visit the dentist can result in delayed diagnosis, overall compromised health, and, occasionally, even death.²⁵

Figure 3.9. Persons with a dental visit in the past year by race, ethnicity, income, and education, 2002 and 2003



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

Source: Medical Expenditure Panel Survey, 2002 and 2003.

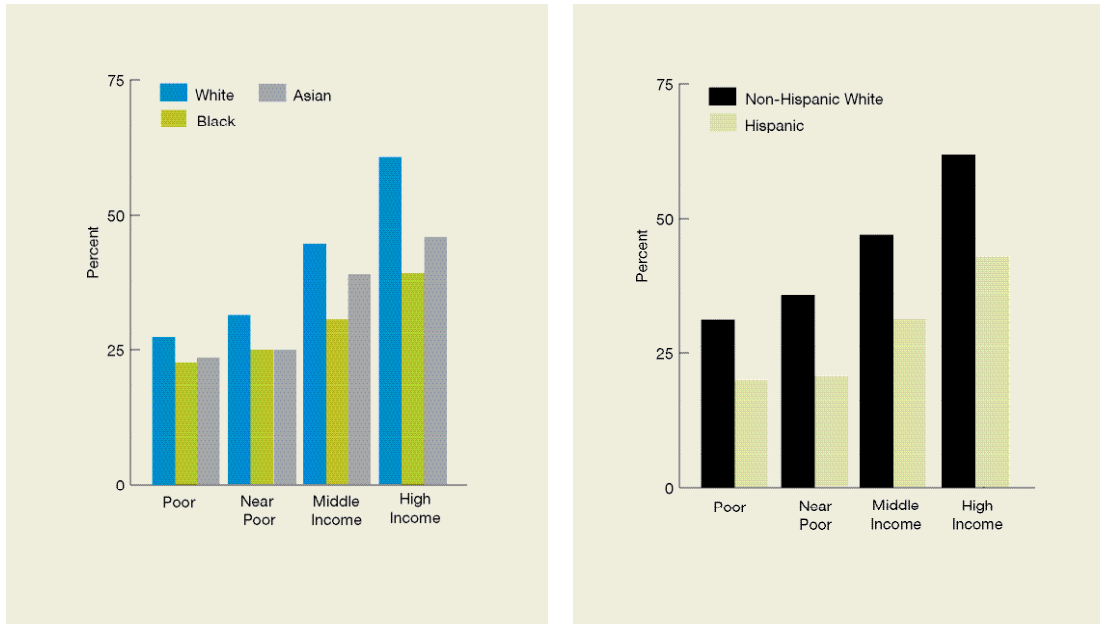
Reference population: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons, all ages. Analyses by education performed for civilian noninstitutionalized persons age 18 and over.

- In both years, the proportion of persons with a dental visit in the past year was significantly lower among Blacks, Asians, and AI/ANs compared with Whites; among Hispanics compared with non-Hispanic Whites; among poor, near poor, and middle income persons compared with high income persons; and among persons with a high school education or less compared with persons with at least some college. In 2002, the proportion was also significantly lower among persons of multiple races compared with Whites, but in 2003 this difference was eliminated (Figure 3.9).
- From 2002 to 2003, the proportion of persons with a dental visit in the past year increased significantly for persons of multiple races.
- Only high income persons met the Healthy People 2010 target of 56% of persons with a dental visit in the past year.

Chapter 3. Access to Health Care

To distinguish the effects of race, ethnicity, and socioeconomic status on health care utilization and to identify populations at greatest risk for barriers to health care utilization, this measure is stratified by income and education level.

Figure 3.10. Persons with a dental visit in the past year by race (left) and ethnicity (right), stratified by income, 2003



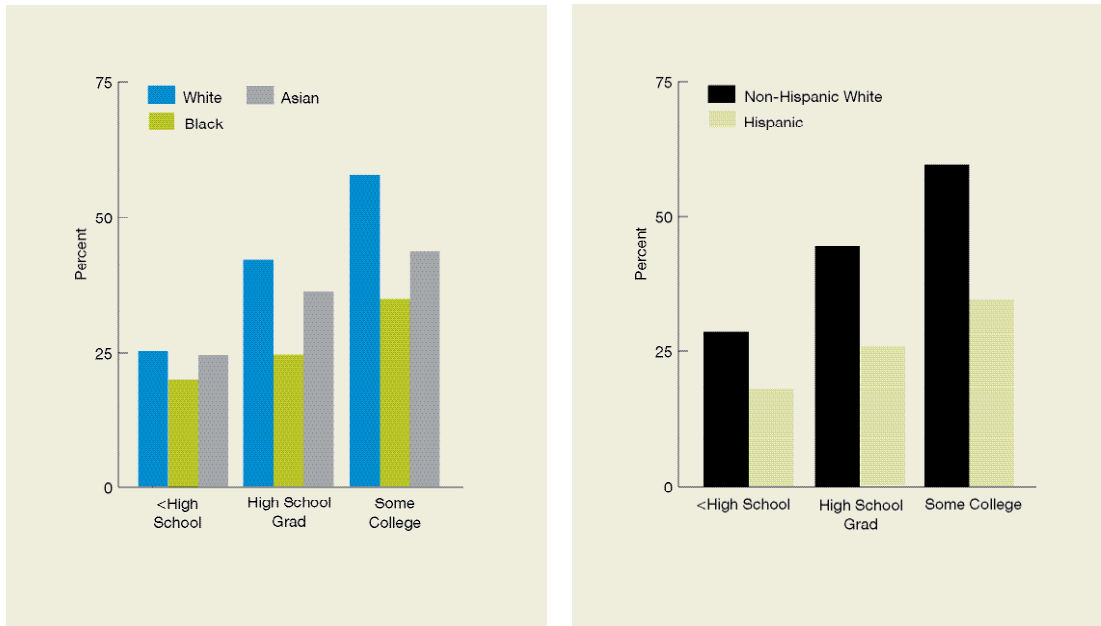
Key: AI/AN=American Indian or Alaska Native.

Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population, all ages.

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Figure 3.11. Persons with a dental visit in the past year by race (left) and ethnicity (right), stratified by education, 2003



Key: AI/AN=American Indian or Alaska Native.

Source: Medical Expenditure Panel Survey, 2003.

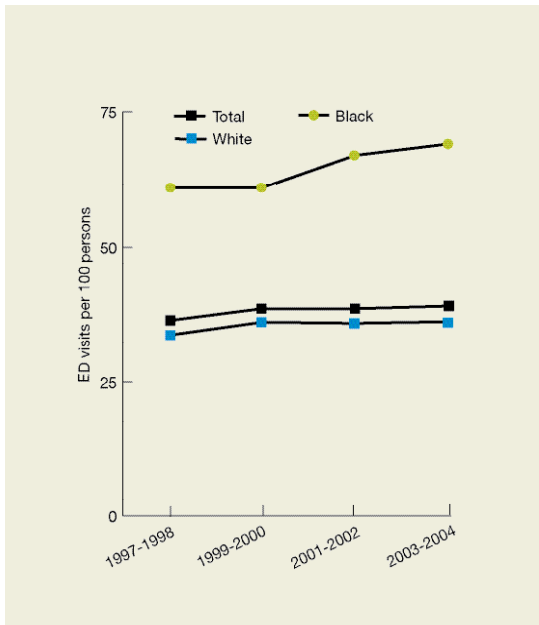
Reference population: Civilian noninstitutionalized persons age 18 and over.

- Socioeconomic status explains some but not all of the racial and ethnic differences in rates of dental visits (Figures 3.10 and 3.11).
- Hispanics of every income and education level are significantly less likely than respective non-Hispanic Whites to have had a dental visit.
- Blacks of every income and education level and high income Asians and Asians with at least some college are significantly less likely than respective Whites to have had a dental visit.

Emergency Department Visits

Without good access to health care, persons sometimes resort to using the emergency department when care is needed. A high rate of emergency department visits may suggest that a population lacks access to preventive and routine care and other avenues of treatment. Delaying care until care is urgent often results in poorer health outcomes and increased health care costs.

Figure 3.12. Emergency department visits per 100 population by race, 1997-2004



Source: National Hospital Ambulatory Medical Care Survey, 1997-2004.

Denominator: Civilian noninstitutionalized population, all ages.

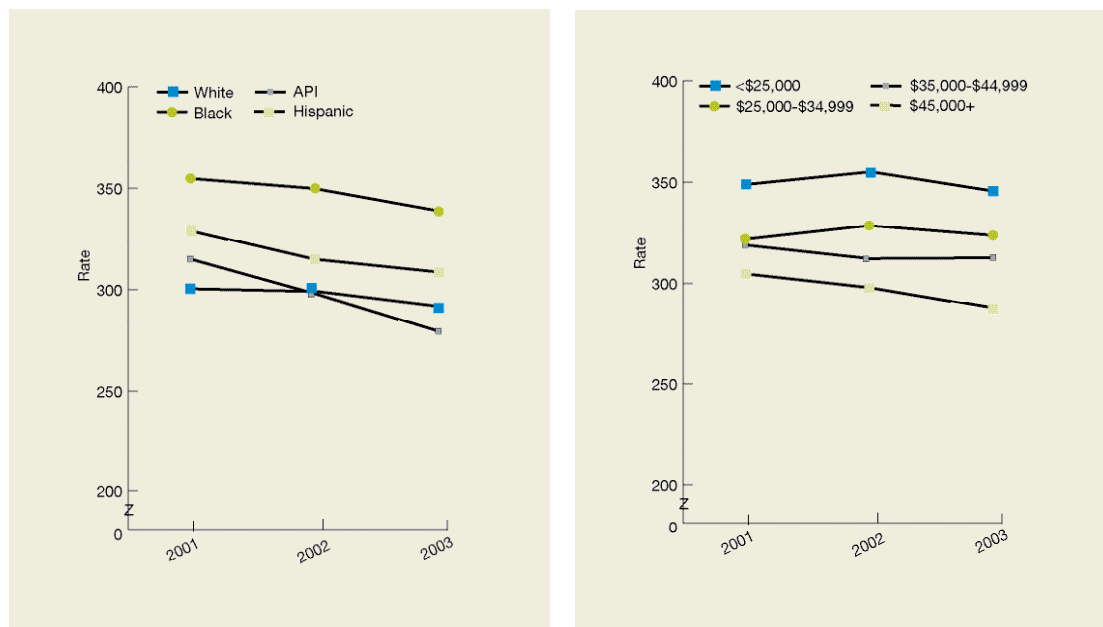
- In all years, rates of emergency department visits were significantly higher among Blacks compared with Whites (Figure 3.12).
- Over the 1997-1998 to 2003-2004 time periods, the rate of emergency department visits did not change significantly overall or for Blacks or Whites.

Potentially Avoidable Admissions

Potentially avoidable admissions are hospitalizations that might have been averted by good 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. Though not all admissions for these conditions can be avoided, rates in populations tend to vary with access to primary care.²⁶ For example, better access to care should facilitate the diagnosis of appendicitis before rupture occurs.

Data for perforated appendix presented here 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 23 States that have 64% of U.S. hospital discharges. These 23 States participate in HCUP and have relatively complete race and ethnicity data.

Figure 3.13. Perforated appendix per 1,000 admissions with appendicitis by race/ethnicity (left) and area income (median income of ZIP Code of residence) (right), 2001-2003



Key: API=Asian or Pacific Islander.

Source: HCUP State Inpatient Databases disparities analysis file, 2001-2003.

Denominator: Patients hospitalized with appendicitis, all ages.

Note: White, Black, and API are non-Hispanic groups. Numerical income categories are used instead of the NHDR's usual descriptive categories because that is how data are collected for this measure.

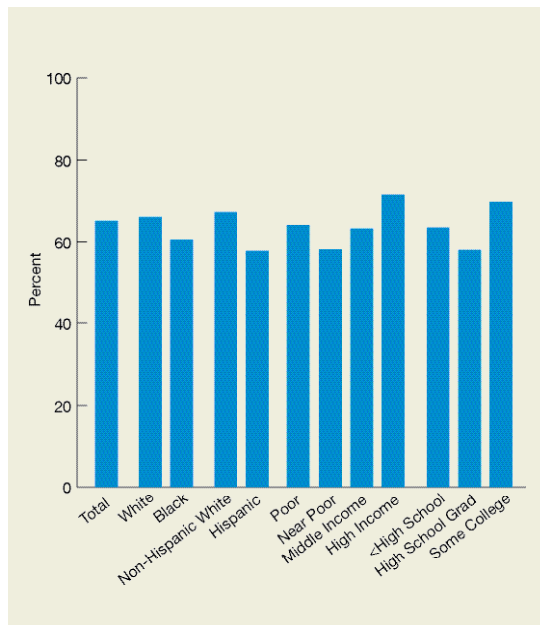
- In all 3 years, the rate of perforated appendix was significantly higher among Blacks compared with Whites and among residents of ZIP Codes with median income <\$25,000 compared with residents of ZIP Codes with income \$45,000 and over (Figure 3.13).
- From 2001 to 2003, the rate of perforated appendix decreased significantly for Whites, APIs, Hispanics, and residents of high income ZIP Codes, but did not change significantly for Blacks and residents of lower income ZIP Codes.

Mental Health Care and Substance Abuse Treatment

Mental Health Care

In 2004, 8% of adults, or about 17 million persons, reported having experienced at least one major depressive episode during the past year.²⁷ Although the prevalence of mental disorders for racial and ethnic minorities in the United States is similar to that for Whites,²⁸ minorities have less access to mental health care and are less likely to receive needed services.²⁹ These differences may reflect, in part, variation in preferences and cultural attitudes toward mental health.

Figure 3.14. Adults who received mental health treatment/counseling in the past year by race, ethnicity, income, and education, 2003 and 2004



Key: AI/AN=American Indian or Alaska Native.

Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2003 and 2004.

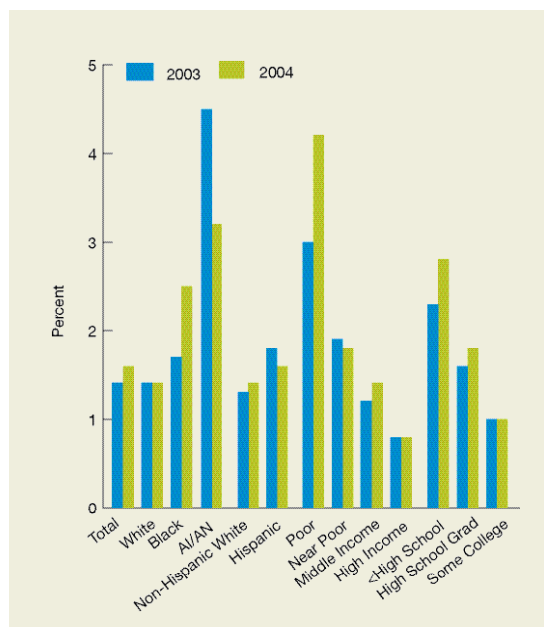
Reference population: U.S. population age 18 and older.

- In both years, the proportion of persons who received mental health treatment/counseling was lower among Blacks and Asians compared with Whites; among Hispanics compared with non-Hispanic Whites; and among persons with a high school education or less compared with persons with at least some college (Figure 3.14).
- In both years, the proportion of persons who received mental health treatment was higher among poor persons compared with high income persons.
- In 2003, the proportion of persons who received mental health treatment was lower among AI/ANs compared with Whites and among middle income persons compared with high income persons, but these differences were not statistically significant in 2004.
- From 2003 to 2004, the proportion of persons who received mental health treatment did not change significantly for any group.

Substance Abuse Treatment

In 2004, about 16.7 million Americans age 12 and older acknowledged being heavy alcohol drinkers and about 55 million acknowledged having had a recent binge drinking episode.³⁰ About 19.1 million persons age 12 and older were illicit drug users and about 70.3 million reported recent use of a tobacco product.³⁰ 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.³⁰ Racial, ethnic, and socioeconomic differences in substance abuse treatment³⁰ are observed which may, in part, reflect variation in preferences and cultural attitudes toward mental health and substance abuse.

Figure 3.15. Persons age 12 or older who received any illicit drug or alcohol abuse treatment in the past year, by race, ethnicity, income, and education, 2003 and 2004



Key: AI/AN=American Indian or Alaska Native.

Source: SAMHSA National Survey on Drug Use and Health, 2003 and 2004.

Reference population: U.S. population age 12 and older.

Note: The figure reflects both prevalence and treatment; prevalence likely has an effect on racial/ethnic differences in treatment.

- In both years, the proportion of persons age 12 or older who received any illicit drug or alcohol abuse treatment was significantly greater among poor, near poor, and middle income persons compared with high income persons and among persons with a high school education or less compared with persons with any college education (Figure 3.15).
- In 2003 the proportion was also significantly greater among AI/ANs compared with Whites, but this difference was not statistically significant in 2004. In 2004 the proportion was significantly greater among Blacks compared with Whites, although in 2003 this disparity was not observed.
- From 2003 to 2004, the proportion of persons age 12 or older who received any illicit drug or alcohol abuse treatment increased significantly among Blacks and poor persons and did not change significantly for any other group.

Chapter 3. Access to Health Care

Table 3.1a. Racial and Ethnic Differences in Facilitators and Barriers to Health Care

Core Report Measure	Racial Difference ⁱ					Ethnic Difference ⁱⁱ
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
Health Insurance Coverage						
Persons under 65 with health insurance ⁱⁱⁱ	=	=	=	↓	=	↓
Persons uninsured all year ^{iv}	=	=		=	=	↓
Usual Source of Care						
Persons who have a specific source of ongoing care ⁱⁱⁱ	=	=	=	=	=	↓
Persons who have a usual primary care provider ^{iv}	↓	↓	=	=	=	↓
Patient Perceptions of Need						
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 ^{iv}	↓					↓

ⁱ Compared with Whites.

ⁱⁱ Compared with non-Hispanic Whites.

ⁱⁱⁱ Source: National Health Interview Survey, 2004.

^{iv} Source: Medical Expenditure Panel Survey, 2003.

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.

Chapter 3. Access to Health Care

Table 3.1b. Socioeconomic Differences in Facilitators and Barriers to Health Care

Core Report Measure	Income Difference ⁱ			Educational Difference ⁱⁱ		Insurance Difference ⁱⁱⁱ
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Health Insurance Coverage						
Persons under 65 with health insurance ^{iv}	↓	↓	↓	↓	↓	
Persons uninsured all year ^v	↓	↓	↓	↓	↓	
Usual Source of Care						
Persons who have a specific source of ongoing care ^v	↓	↓	↓	↓	↓	↓
Persons who have a usual primary care provider ^v	↓	↓	↓	↓	=	↓
Patient Perceptions of Need						
Families that experience difficulties or delays in obtaining health care or do not receive needed care ^v	↓	↓	↓	↓	=	↓
Families that experience difficulties or delays due to financial or insurance reasons ^v	↓	↓	↓	↓	↓	↓

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, 2004.

^v Source: Medical Expenditure Panel Survey, 2003.

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.

Chapter 3. Access to Health Care

Table 3.2a. Racial and Ethnic Differences in Health Care Utilization

Core Report Measure	Racial Difference ⁱ					Ethnic Difference ⁱⁱ
	Black	Asian	NHOPI	AI/AN	>1 Race	Hispanic
General Medical Care						
Persons with a dental visit in the past year ⁱⁱⁱ	↓	↓	=	↓	=	↓
Emergency department visits per 100 population ^{iv}	↑	↓	=	↓	↓	
Avoidable Admissions						
Admissions for perforated appendix per 1,000 admissions with appendicitis ^v	↑		=			=
Mental Health Care and Substance Abuse Treatment						
Adults who received mental health treatment or counseling in the past year ^{vi}	=					=
People age 12 and older who received illicit drug or alcohol abuse treatment in the past year ^{vi}	↑			=		=

ⁱ Compared with Whites.

ⁱⁱ Compared with non-Hispanic Whites.

ⁱⁱⁱ Source: Medical Expenditure Panel Survey, 2003.

^{iv} Source: National Hospital Ambulatory Medical Care Survey – Emergency Department, 2003-2004. Missing rates preclude analysis by ethnicity.

^v Source: HCUP SID disparities analysis file, 2003. 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.

^{vi} Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2004.

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

Key to Symbols Used in Health Care Utilization 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.

Chapter 3. Access to Health Care

Table 3.2b. Socioeconomic Differences in Health Care Utilization

Core Report Measure	Income Difference ⁱ			Educational Difference ⁱⁱ		Insurance Difference ⁱⁱⁱ
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
General Medical Care						
Persons with a dental visit in the past year ^{iv}	↓	↓	↓	↓	↓	↓
Mental Health Care and Substance Abuse Treatment						
Adults who received mental health treatment or counseling in the past year ^v	=	↓	=	=	↓	
Persons age 12 and older who received illicit drug or alcohol abuse treatment in the past year ^v	↑	↑	↑	↑	↑	

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: Medical Expenditure Panel Survey, 2003.

^v Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2004. Insurance disparities were not analyzed.

Key: HS=high school.

Key to Symbols Used in Health Care Utilization 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 the world’s finest health care delivery systems. However, as demonstrated in previous NHDRs, some Americans do not have full access to the best quality health care.

To examine the issue of disparities in health care, Congress directed 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.” Although the emphasis is on disparities related to race, ethnicity, and socioeconomic status, 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 children from low and high income families. This approach may help policymakers to understand the impact of racial, ethnic, and socioeconomic differences on specific populations and target quality improvement programs toward 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.

AHRQ’s Priority Populations

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

- Minority groups
- Low income 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 socioeconomic status, 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 and changes in disparities over time. To present this greater detail, these sections highlight a small number of measures. Measures for each priority population were selected with the assistance of members of the Interagency Work Group and AHRQ experts for particular populations. For smaller priority populations, measure selection was often driven by available sample sizes. When possible, measures were selected to encompass multiple components of health care need, such as preventive services, treatment of acute illness, management of chronic disease, and access to health care. 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 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. Census 2000 counted over 36 million Blacks or African Americans (12.9% of the U.S. population); over 35 million Hispanics or Latinos who live in the United States (12.5%) and another 3.8 million who live in the Commonwealth of Puerto Rico¹; almost 12 million Asians (4.2%)²; 874,000 Native Hawaiians and Other Pacific Islanders (0.3%)³; and over 2 million American Indians and Alaska Natives (0.7%), of whom 38% reside on Federal trust lands.⁴ Racial and ethnic minorities are more likely than non-Hispanic Whites to be poor or near poor.⁵ In addition, Hispanics, Blacks, and some Asian subgroups are less likely than non-Hispanic Whites to have a high school education.⁶

As with all U.S. subpopulations, racial and ethnic minority populations presented in the NHDR often comprise diverse subgroups. For example, the Asian and Pacific Islander classification represents individuals originating from more than 100 different countries and territories. Approximately 6% of Blacks are foreign-born adding to the diversity already present among U.S.-born African Americans. American Indian populations encompass numerous tribal nations. Hispanics comprise large numbers of recent immigrants and long-term residents from 20 Spanish-speaking countries across the Americas and Spain. Increases in Hispanic subpopulations together with the aging of the younger Hispanic population overall present a timely opportunity to focus on health care and health care disparities for Hispanics.⁷

In previous chapters of the 2006 NHDR, health care differences by racialⁱ and ethnicⁱⁱ categories as defined by the Office of Management and Budget and used by the U.S. Census Bureau are described.⁸ In this section, quality of and access to health care for each minority group is summarized. 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. Access measures focus on facilitators and barriers to health care and exclude health care utilization measures.

In addition, changes in differences related to race and ethnicity over time are examined in this section. For each core report measure, racial, ethnic, and socioeconomic groups are compared with a designated comparison group at different points in time. Consistent with Healthy People 2010, disparities are measured in relative terms as the percent difference between each group and a comparison group; changes in disparity are measured by subtracting the percent difference from the comparison group at the baseline year from the percent difference from the comparison group at the most recent year. The change in each disparity is then divided by the number of years between the baseline and most recent estimate to calculate change in disparity per year. Core report measures for which the relative differences are changing less than 1% per year are identified as staying the same. Core report measures for which the relative differences are becoming smaller at a rate of more than 1% per year are identified as improving disparities. Core report measures for which the relative differences are becoming larger at a rate of more than 1% per year are identified as worsening disparities. Changes of greater than 5% per year are also differentiated from changes of between 1% and 5% per year in some figures.

ⁱ Races include: Black or African American, Asian, Native Hawaiian or Other Pacific Islander, American Indian and Alaska Native, White, and persons of multiple races.

ⁱⁱ Ethnicity differentiates Hispanics and non-Hispanics. Among non-Hispanics, this report identifies non-Hispanic Whites and non-Hispanic Blacks.

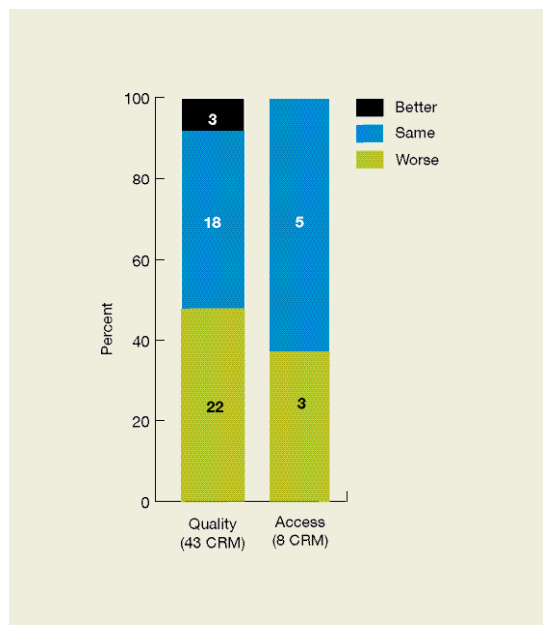
As in previous NHDRs, this section includes information on programs and issues that may affect racial and ethnic disparities. The assessment of disparities faced by American Indians and Alaska Natives includes information on the approximately 45% of American Indians and Alaska Natives who obtain care from Indian Health Service (IHS) facilities.

In interpreting findings for racial and ethnic minorities, readers should note that considerable gaps in information for some racial and ethnic minorities exist, which limit the NHDR's ability to identify the current state of disparities for some groups. Gaps can relate to insufficient data to produce reliable estimates or, when estimates are possible, to inadequate power to detect large differences. For example, of core report measures of quality, it is rarely possible to provide estimates for Native Hawaiians or Other Pacific Islanders and persons of more than one race. For Asians, only about two-thirds of core report measures of quality support analyses; and for American Indians and Alaska Natives, only about half of these same measures support analyses. The Highlights section of this report presents a more detailed description of current data limitations and ways in which data are gradually improving.

Blacks or African Americans

Previous NHDRs showed that Blacks had poorer quality of care and worse access to care than Whites for many measures tracked in the reports. Findings based on 43 core report measures of quality and 8 core report measures of facilitators and barriers to health care are shown below.

Figure 4.1. Blacks compared with Whites on measures of quality and access



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.

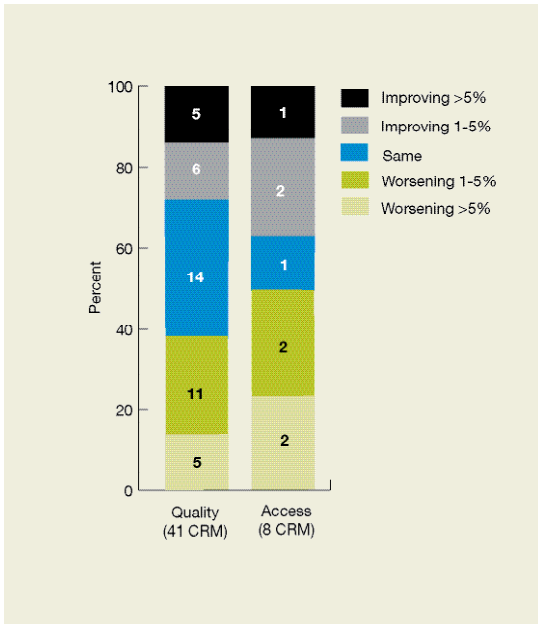
CRM= core report measures.

Note: Data presented are the most recent available.

- For 22 of the 43 core report measures of quality, Blacks had poorer quality of care than Whites (Figure 4.1). Black-White differences ranged from Blacks being over 10 times as likely as Whites to be diagnosed with AIDSⁱⁱⁱ to Blacks being 56% less likely than Whites to commit suicide. The median difference over all 43 core report measures was 16% (Blacks 16% more likely to receive poorer quality care than Whites).
- For 3 of the 8 core report measures of access, Blacks had significantly worse access to care than Whites. Differences ranged from Blacks being 35% more likely than Whites to have communication problems with their children's providers to Blacks being 4% less likely than Whites to have a specific source of ongoing care. The median difference over all 8 core report measures was 15% (Blacks 15% more likely to have worse access to care than Whites).

ⁱⁱⁱ Although differences in developing AIDS do not necessarily translate into differences in quality of care, early and appropriate treatment of HIV disease can delay progression to AIDS.

Figure 4.2. Change in Black-White disparities over time



Improving >5% = Black-White difference becoming smaller at rate greater than 5% per year.

Improving 1-5% = Black-White difference becoming smaller at rate between 1% and 5% per year.

Same = Black-White difference not changing.

Worsening 1-5% = Black-White difference becoming larger at rate between 1% and 5% per year.

Worsening >5% = Black-White difference becoming larger at rate greater than 5% per year.

CRM= core report measures.

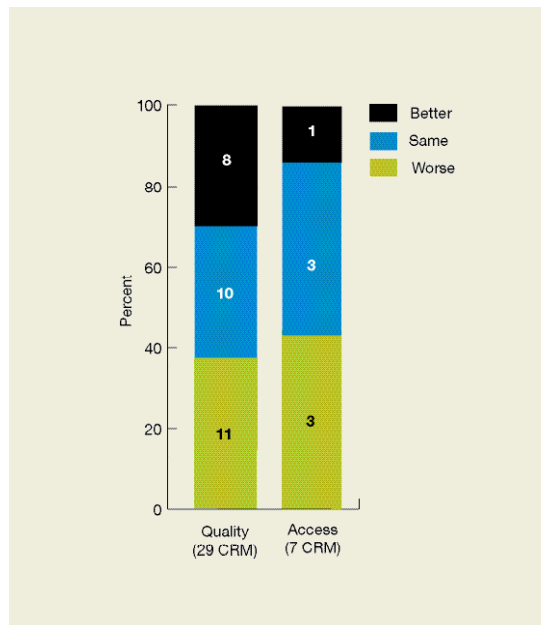
Note: The most recent and oldest years of data available are compared. Only 41 core report measures of quality could be tracked over time for Blacks and Whites.

- Of core report measures of quality that could be tracked over time for Blacks and Whites, Black-White differences became smaller for 11 measures and larger for 16 measures (Figure 4.2). For 14 measures, Black-White differences did not change over time.
- Of core report measures of access that could be tracked over time for Blacks and Whites, Black-White differences became smaller for 3 measures and larger for 4 measures. For 1 measure, the Black-White difference did not change over time.

Asians

Previous NHDRs showed that Asians had similar or better quality of care than Whites but worse access to care than Whites for many measures tracked in the reports. Findings based on 29 core report measures of quality and 7 core report measures of facilitators and barriers to health care that support estimates for either Asians or Asians and Pacific Islanders in aggregate are shown below.

Figure 4.3. Asians compared with Whites on measures of quality and access



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.

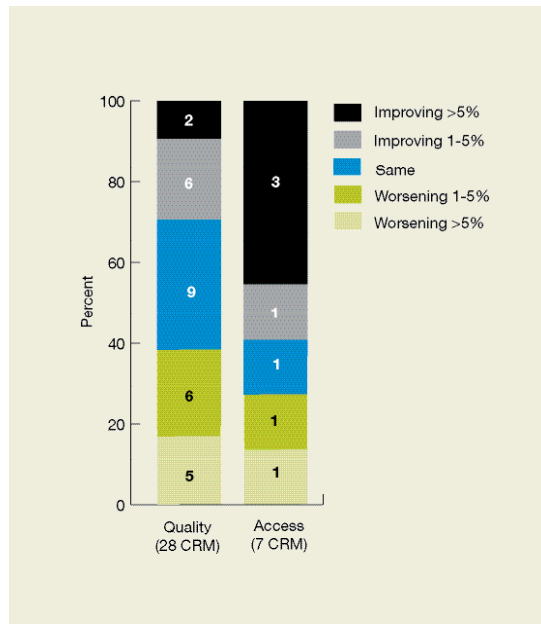
Worse = Asians receive poorer quality of care or have worse access to care than Whites.

CRM = core report measures.

Note: Data presented are the most recent available.

- For 11 of the 29 core report measures of quality, Asians had significantly poorer quality of care than Whites, while for 8 measures, Asians had significantly better quality of care than Whites (Figure 4.5). The median difference over all 29 core report measures was -2% (Asians 2% less likely to receive poorer quality care than Whites).
- For 3 of the 7 core report measures of access, Asians had significantly worse access to care than Whites. Asian-White differences ranged from Asian parents being 2.3 times as likely as Whites to report communication problems with their child's providers to Asians being 32% less likely to report difficulties or delays getting care. The median difference over all 7 core report measures was 8% (Asians 8% more likely to have worse access to care than Whites).

Figure 4.4. Change in Asian-White disparities over time



Improving >5% = Asian-White difference becoming smaller at rate greater than 5% per year.

Improving 1-5% = Asian-White difference becoming smaller at rate between 1% and 5% per year.

Same = Asian-White difference not changing.

Worsening 1-5% = Asian-White difference becoming larger at rate between 1% and 5% per year.

Worsening >5% = Asian-White difference becoming larger at rate greater than 5% per year.

CRM= core report measures.

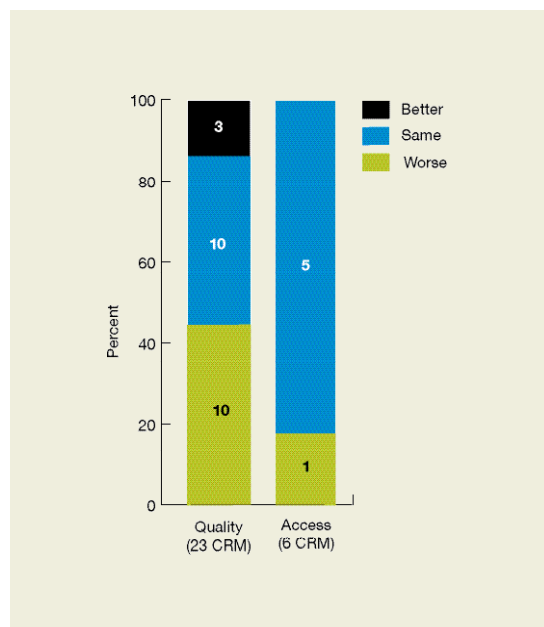
Note: The most recent and oldest years of data available are compared. Only 28 core report measures of quality could be tracked over time for Asians and Whites.

- Of core report measures of quality that could be tracked over time for Asians and Whites, Asian-White differences became smaller for 8 measures but larger for 11 measures (Figure 4.6). For 9 measures, Asian-White differences did not change over time.
- Of core report measures of access that could be tracked over time for Asians and Whites, Asian-White differences became smaller for 4 measures but larger for 2 measures. For 1 measure, the Asian-White difference did not change over time.

American Indians and Alaska Natives

Previous NHDRs showed that American Indians and Alaska Natives (AI/ANs) had poorer quality of care and worse access to care than Whites for many measures tracked in the reports. Findings based on 23 core report measures of quality and 6 core report measures of access are shown below.

Figure 4.5. AI/ANs compared with Whites on measures of quality and access



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.

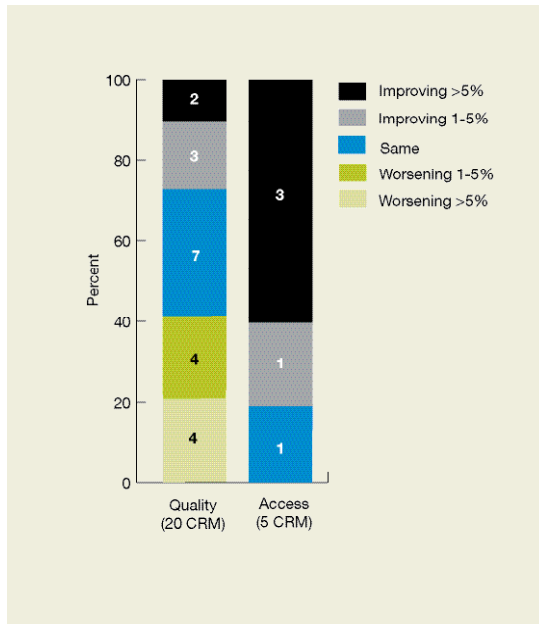
Worse = AI/ANs receive poorer quality of care or have worse access to care than Whites.

CRM= core report measures.

Note: Data presented are the most recent available.

- Only about half of the core report measures supported estimates of quality for AI/ANs.
- For 10 of the 23 core report measures of quality, AI/ANs had significantly poorer quality of care than Whites (Figure 4.5). AI/AN-White differences ranged from AI/ANs being twice as likely as Whites to lack early prenatal care to AI/ANs being 37% less likely to die from colorectal cancer. The median difference over all 23 core report measures was 12% (AI/ANs 12% more likely to receive poorer quality care than Whites).
- For 1 of the 6 core report measures of access, AI/ANs had significantly worse access to care than Whites. AI/AN-White differences ranged from AI/ANs under age 65 being over twice as likely as Whites to lack health insurance to AI/ANs being 12% less likely than Whites to report communication problems. The median difference over all 6 core report measures was 40% (AI/ANs 40% more likely to have worse access than Whites).

Figure 4.6. Change in AI/AN-White disparities over time



Improving >5% = AI/AN-White difference becoming smaller at rate greater than 5% per year.

Improving 1-5% = AI/AN-White difference becoming smaller at rate between 1% and 5% per year.

Same = AI/AN-White difference not changing.

Worsening 1-5% = AI/AN-White difference becoming larger at rate between 1% and 5% per year.

Worsening >5% = AI/AN-White difference becoming larger at rate greater than 5% per year.

CRM= core report measures.

Note: The most recent and oldest years of data available are compared. Only 20 core report measures of quality and 5 core report measures of access could be tracked over time for AI/ANs and Whites.

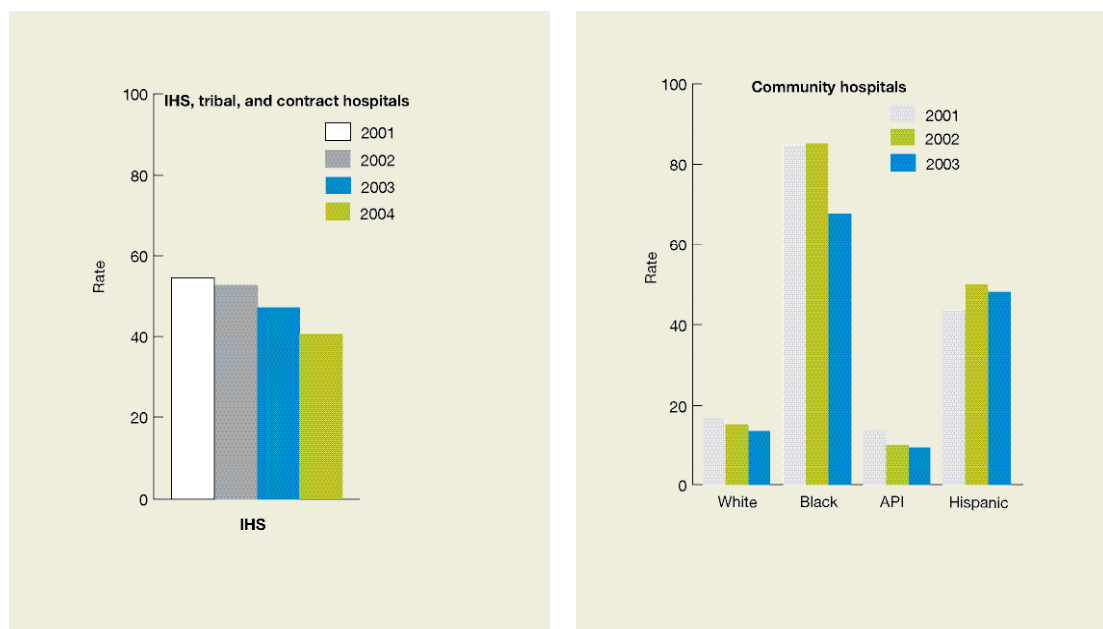
- Less than half of the core report measures supported estimates for changing disparities for AI/ANs.
- Of core report measures of quality that could be tracked over time for AI/ANs and Whites, AI/AN-White differences became smaller for 5 measures but larger for 8 measures (Figure 4.6). For 7 measures, AI/AN-White differences did not change over time.
- Of core report measures of access that could be tracked over time for AI/ANs and Whites, AI/AN-White differences became smaller for 4 measures. For 1 measure, the AI/AN-White difference did not change over time.

Focus on Persons Receiving Care in Indian Health Service Facilities

Forty-five percent of American Indians and Alaska Natives nationwide rely on the Indian Health Service to provide access to health care.⁹ Due to low numbers and lack of data, information about AI/AN hospitalizations is difficult to obtain in most Federal and State hospital utilization data sources. The NHDR addresses this gap by examining utilization data from IHS, tribal, and contract hospitals for two quality measures focusing on treatment: hospitalizations for uncontrolled diabetes per 100,000 population and hospitalizations for perforated appendix per 1,000 admissions.

Treatment: diabetes related hospitalizations. Diabetes is one of the leading causes of morbidity and mortality among AI/AN populations, and its prevention and control are a major focus of the IHS Director's Chronic Disease Initiative as well as the IHS Health Promotion/Disease Prevention Initiative. As an indication of the success of these initiatives, the hospitalization rate for short- and long-term complications due to diabetes has decreased 15.6% since 1997.

Figure 4.7. Hospitalizations for uncontrolled diabetes per 100,000 population age 18 and older, by race/ethnicity, in IHS, tribal, and contract hospitals, 2001-2004 (left), and community hospitals, 2001-2003 (right)



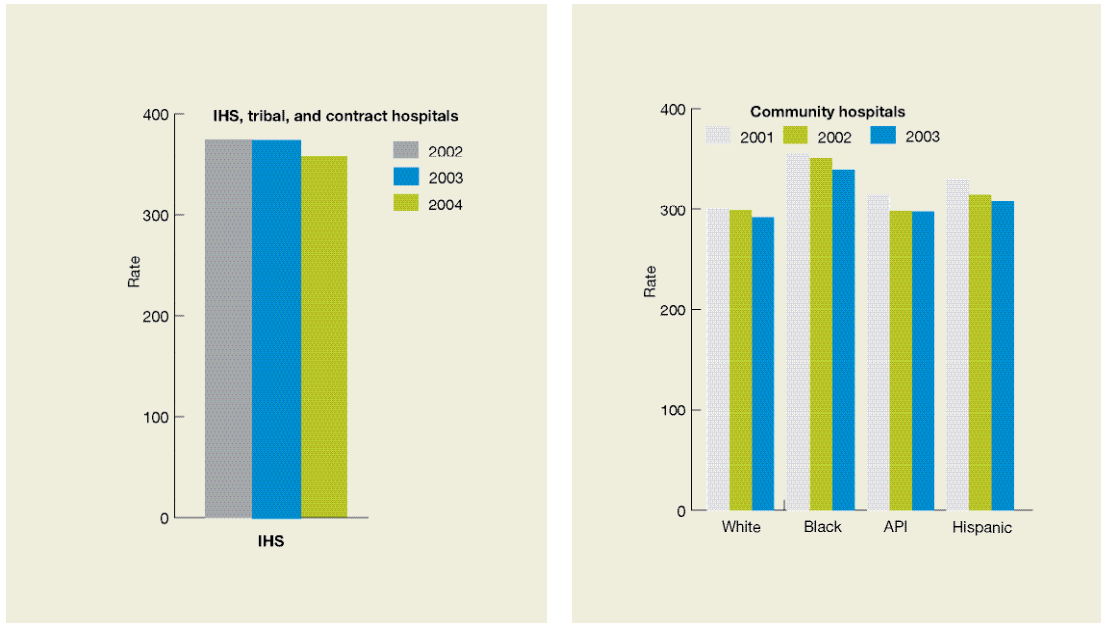
Source: IHS, tribal, and contract hospitals: National Patient Information Reporting System, 2001-2004; community hospitals: HCUP State Inpatient Databases disparities analysis file, 2001-2003.

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

- Between 2001 and 2004, hospitalizations for uncontrolled diabetes among AI/ANs 18 years and older in IHS, tribal, and contract hospitals declined 15% from 54.6 to 40.5 per 100,000 population in IHS service areas (Figure 4.7, left).
- In comparison, national community hospital rates were significantly higher among Blacks (67.5 per 100,000) and Hispanics (48.2) than among non-Hispanic Whites (13.5) in 2003 (Figure 4.7, right). From 2001 to 2003, national community hospital rates decreased significantly overall and for Whites and Blacks.

Treatment: hospitalizations for perforated appendix. Addressing barriers of access to health care is a large part of the overall IHS goal which strives to assure that comprehensive, culturally acceptable personal and public health services are available and accessible to American Indian and Alaska Native persons. For the 811,744 AI/ANs living in American Indian and Alaska Native tribal areas (2000) where the climate can be inhospitable, the roads impassable, and transportation scarce, health care facilities can be far from accessible.¹⁰ Perforated appendix hospitalization rates illustrate the continuing efforts to achieve comprehensive care accessible to all AI/ANs.

Figure 4.8. Hospitalizations for perforated appendix per 1,000 admissions with appendicitis, by race/ethnicity, in IHS, tribal, and contract hospitals, 2002-2004 (left), and community hospitals, 2001-2003 (right)



Source: IHS, tribal, and contract hospitals: IHS National Patient Information Reporting System, 2002-2004; community hospitals: HCUP State Inpatient Databases disparities analysis file, 2001-2003.

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

- Between 2002 and 2004, hospitalizations for perforated appendix among AI/ANs in IHS, tribal, and contract hospitals declined from 376 to 358 per 1,000 admissions with appendicitis in IHS service areas (Figure 4.8, left).
- In comparison, hospitalizations in community hospitals in 2003 were significantly higher among Blacks (339 per 1,000 admissions) and Hispanics (309) compared with Whites (292) (Figure 4.8, right). From 2001 to 2003, rates in community hospitals decreased significantly overall and for Whites, APIs, and Hispanics.

Native Hawaiians and Other Pacific Islanders

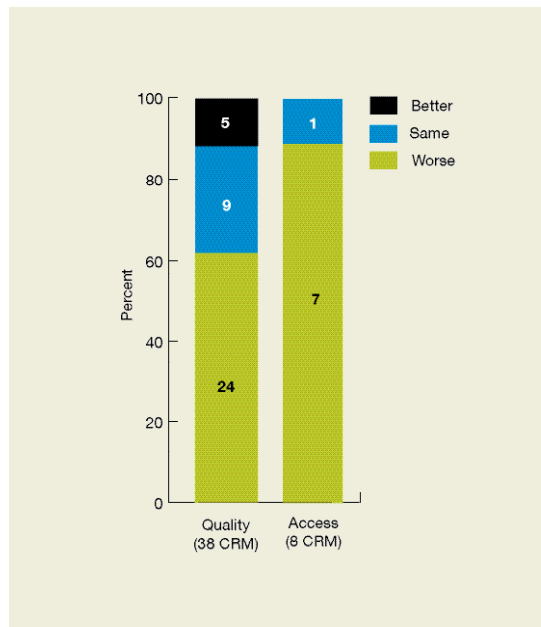
The ability to assess disparities among Native Hawaiians and Other Pacific Islanders (NHOPIs) for the NHDR has been hampered by two main issues. First, the NHOPI racial category is relatively new to Federal data collection. Prior to 1997, NHOPIs were classified as part of the Asian and Pacific Islander 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.⁸ Federal agencies had until 2003 to be fully compliant with these standards. Because earlier NHDRs report predominantly on data collected before 2003, 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 previous NHDRs, estimates for the NHOPI population could be generated for only about 5 NHDR core measures. However, problems persist. In this NHDR, of the 42 core report measures of quality, estimates for NHOPIs could be made for only 3—1 measure from the National Health Interview Survey and 2 measures from the CMS Home Health Care Outcome and Assessment Information Set. Of the 8 core report measures of access, estimates for NHOPIs could be made for only 3—persons with health insurance and persons with a source of ongoing care from the National Health Interview Survey and persons with a primary care provider from the Medical Expenditure Panel Survey. A lack of quality data on this population prohibits the NHDR from detailing disparities for this group. As more data become available, this information will be included in future reports.

Hispanics or Latinos

Previous NHDRs showed that Hispanics had poorer quality of care and worse access to care than non-Hispanic Whites for many measures tracked in the reports. Findings based on 38 core report measures of quality and 8 core report measures of access to health care that support estimates for Hispanics are shown below.

Figure 4.9. Hispanics compared with non-Hispanic Whites on measures of quality and access



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.

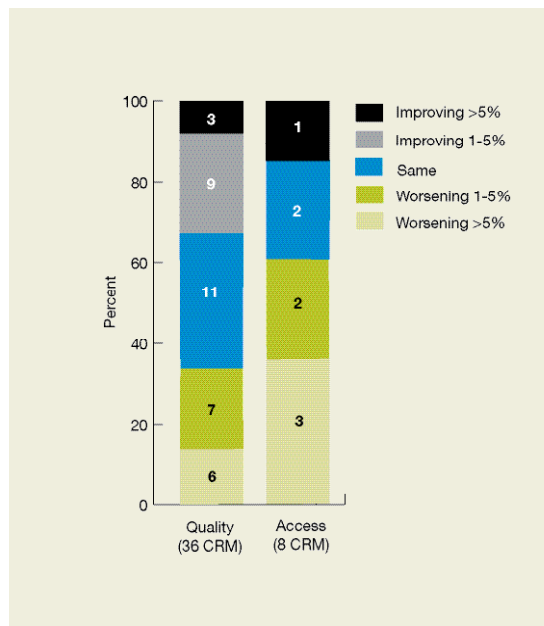
Worse = Hispanics receive poorer quality of care or have worse access to care than non-Hispanic Whites.

CRM= core report measures.

Note: Data presented are the most recent available.

- For 24 of the 38 core report measures of quality, Hispanics had poorer quality of care than non-Hispanic Whites (Figure 4.9). Differences ranged from Hispanics being over 3.5 times as likely to be diagnosed with AIDS to Hispanics being 56% less likely to commit suicide. The median difference over all 38 core report measures was 20% (Hispanics 20% more likely to receive poorer quality care than non-Hispanic Whites).
- For 7 of the 8 core report measures of access, Hispanics had worse access to care than non-Hispanic Whites. Differences ranged from Hispanics under age 65 being 2.9 times as likely to lack health insurance to Hispanics being 10% less likely to report difficulties or delays getting care. The median difference over all 8 core report measures was 88% (Hispanics 88% more likely to have worse access than non-Hispanic Whites).

Figure 4.10. Change in Hispanic–non-Hispanic White disparities over time



Improving >5% = Hispanic–non-Hispanic White difference becoming smaller at rate greater than 5% per year.

Improving 1-5% = Hispanic–non-Hispanic White difference becoming smaller at rate between 1% and 5% per year.

Same = Hispanic–non-Hispanic White difference not changing.

Worsening 1-5% = Hispanic–non-Hispanic White difference becoming larger at rate between 1% and 5% per year.

Worsening >5% = Hispanic–non-Hispanic White difference becoming larger at rate greater than 5% per year.

CRM= core report measures.

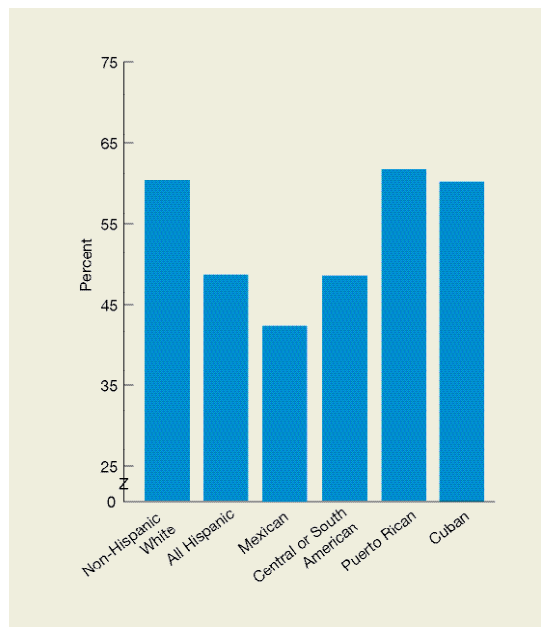
Note: The most recent and oldest years of data available are compared. Only 36 core report measures of quality could be tracked over time for Hispanics and non-Hispanic Whites.

- Of core report measures of quality that could be tracked over time for Hispanics and non-Hispanic Whites, Hispanic–non-Hispanic White differences became smaller for 12 measures but larger for 13 measures (Figure 4.10). For 11 measures, Hispanic–non-Hispanic White differences did not change over time.
- Of core report measures of access that could be tracked over time for Hispanics and non-Hispanic Whites, Hispanic–non-Hispanic White differences became smaller for 1 measure but larger for 5 measures. For 2 measures, Hispanic–non-Hispanic White differences did not change over time.

Focus on Hispanic Subpopulations

The Hispanic population in the United States is highly heterogeneous. Almost 60% are of Mexican origin, making it the largest Hispanic subpopulation in the country. People originating from Puerto Rico, Central America, and South America are the next largest subgroups. Among Hispanics, variation in access to and quality of health care has been observed related to country of origin. Findings are presented below on differences among different Hispanic subpopulations in three quality measures focusing on prevention, timeliness, and patient centeredness—advice to quit smoking, care for illness or injury as soon as wanted, and the patient experience of care, respectively—and one access measure—uninsurance.

Figure 4.11. Adult smokers receiving advice to quit smoking, by ethnicity and country of origin, 2003

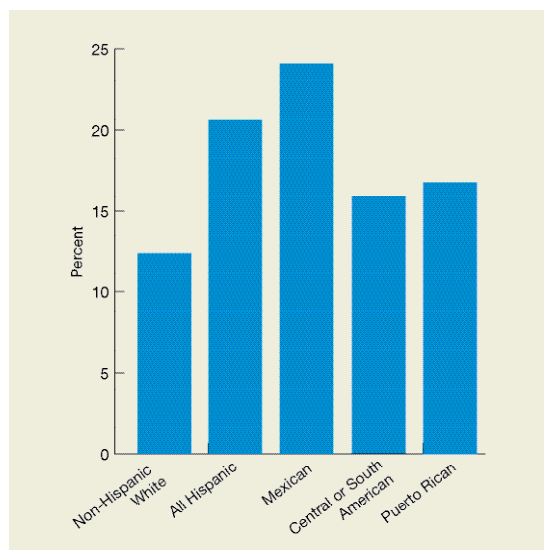


Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized smokers age 18 and over.

- The percentage of adult smokers receiving advice to quit smoking is significantly lower among all Hispanics compared with non-Hispanic Whites (Figure 4.11).
- Among Hispanic subpopulations, Mexicans have the lowest rates of advice to quit smoking, and their rate is significantly lower compared with non-Hispanic Whites.

Figure 4.12. Adults who sometimes or never get care for illness or injury as soon as wanted, by ethnicity and country of origin, 2003

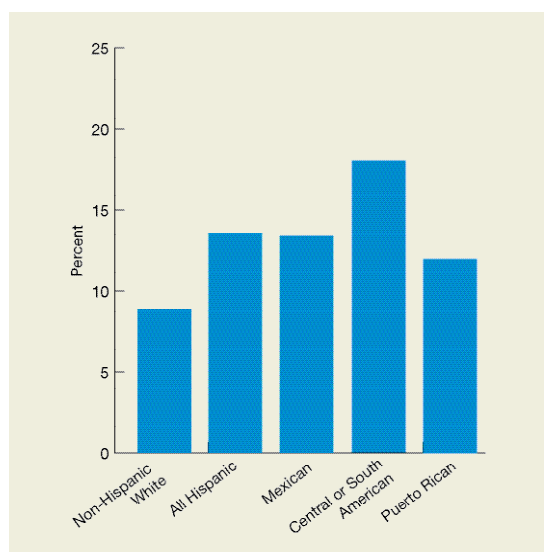


Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population age 18 and over.

- The percentage of adults who sometimes or never get care for illness or injury as soon as wanted is significantly higher among all Hispanics compared with non-Hispanic Whites (Figure 4.12).
- Among Hispanic subpopulations, Mexicans have the highest rates, and their rate is significantly higher compared with non-Hispanic Whites.

Figure 4.13. Adults whose providers sometimes or never listened carefully, explained things clearly, showed respect for what they had to say, and spent enough time with them, by ethnicity and country of origin, 2003

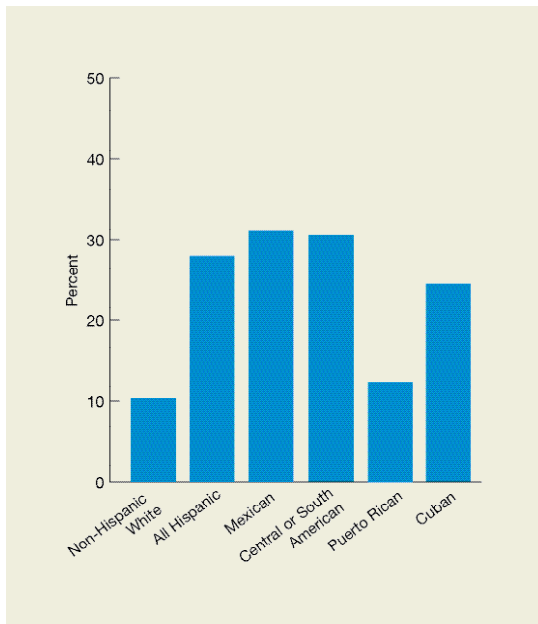


Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population age 18 and over.

- The percentage of adults whose providers sometimes or never listened carefully, explained things clearly, showed respect for what they had to say, and spent enough time with them is significantly higher among all Hispanics compared with non-Hispanic Whites (Figure 4.13).
- Among Hispanic subpopulations, Central or South Americans have the highest rates of poor communication, and their rate and the rate among Mexicans are significantly higher compared with non-Hispanic Whites.

Figure 4.14. People under age 65 uninsured all year, by ethnicity and country of origin, 2003



Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population under age 65.

- The percentage of people under age 65 uninsured all year is significantly higher among all Hispanics compared with non-Hispanic Whites (Figure 4.14).
- Among Hispanic subpopulations, Mexicans have the highest rates of uninsurance. The rates for Mexicans, Central or South Americans, and Cubans are significantly higher compared with rates for non-Hispanic Whites.

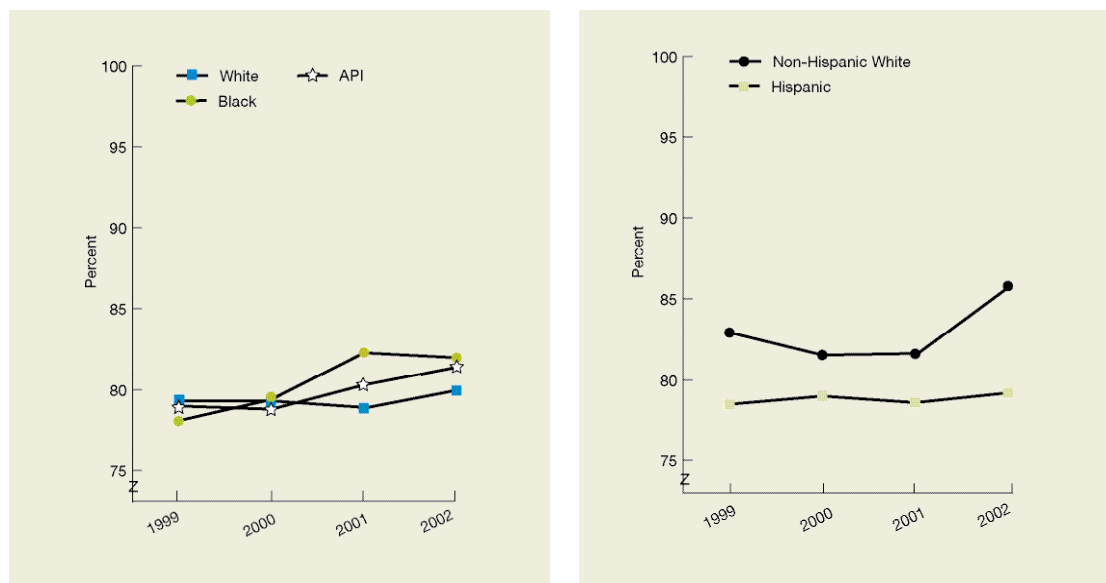
Focus on Recent Immigrants and Limited English-Proficient Populations

Recent Immigrants

Immigrants often encounter barriers to high quality health care. About 30 million persons living in the United States in 2000 were born outside the United States, up from 20 million in 1990. Asians and Hispanics are much more likely to be foreign-born. About 70% of Asians and 40% of Hispanics in the United States are foreign-born compared with 6% of Whites and Blacks.¹¹ This section identifies differences in one quality measure focusing on treatment—completion of tuberculosis therapy—and one measure of access to care—persons with a usual source of care—for Americans born outside of the United States.

Treatment: completion of tuberculosis therapy. Certain diseases are concentrated among Americans born in other countries. For example, more than half of tuberculosis cases in the Nation are among foreign-born individuals, and the case rate among foreign-born individuals is more than 8 times higher than among individuals born in the United States. The percentage of cases of tuberculosis among U.S.-born individuals is decreasing while the percentage of cases among foreign-born individuals is increasing.¹² Adherence to recommended treatments is important for reducing drug resistant tuberculosis and leads to completion of therapy within 12 months of diagnosis.

Figure 4.15. Completion of therapy for tuberculosis within 12 months of being diagnosed among persons born outside the United States, by race (left) and ethnicity (right), 1999-2002



Key: API=Asian or Pacific Islander.

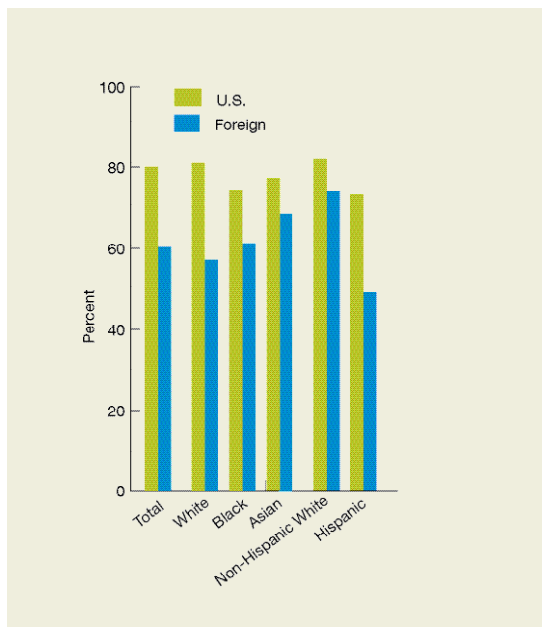
Source: Centers for Disease Control and Prevention, National Tuberculosis Surveillance System, 1999-2002.

Reference population: Foreign-born U.S. resident population with verified tuberculosis, all ages.

- In 1999 and 2002, the proportion of persons who completed therapy for tuberculosis within 12 months of being diagnosed was significantly lower among foreign-born Hispanics compared with foreign-born non-Hispanic Whites (Figure 4.15).
- In 2001, the proportion was significantly higher among foreign-born Blacks compared with foreign-born Whites, but in 2002 this disparity was eliminated.
- From 1999 to 2002, the proportion of persons who completed therapy for tuberculosis within 12 months of being diagnosed increased significantly for the overall foreign-born U.S. population and for foreign-born APIs but did not change significantly for any other group.

Access to care: usual source of care. The patient-primary care provider relationship is built upon mutual respect, trust, and understanding. Being born outside the United States may influence whether patients are able to build such relationships due to cultural, language, or other factors.

Figure 4.16. Persons who have a usual primary care provider, by race and ethnicity, stratified by place of birth, 2003



Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population age 18 and over.

- The overall proportion of adults with a usual source of care was significantly lower among foreign-born persons compared with individuals born in the United States (Figure 4.16).
- Compared with U.S.-born Whites, the proportion of adults with a usual source of care was significantly lower among Whites, Blacks, and Asians born outside the United States as well as Blacks born in the United States.
- Compared with U.S.-born non-Hispanic Whites, the proportion of adults with a usual source of care was significantly lower among Hispanics born outside the United States as well as Hispanics born in the United States.

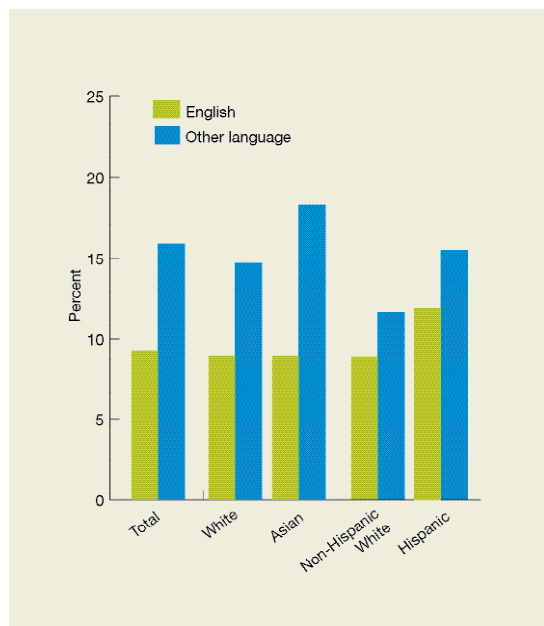
Language Spoken at Home

Quality health care requires that patients and providers communicate effectively. The ability of providers and patients to communicate clearly with one another can be compromised if they do not speak the same language. Quality may suffer if patients with limited English proficiency are unable to express their care needs to providers who speak English only or who do not have an interpreter's assistance.

Limited English proficiency is a barrier to quality health care for many Americans. About 47 million Americans, or 18% of the population, spoke a language other than English at home in 2000, up from 32 million in 1990. Of these individuals, 28 million (about 11% of the population) spoke Spanish, 10 million (about 4% of the population) spoke another Indo-European language, and 7 million (about 3% of the population) spoke an Asian or Pacific Islander language at home. Almost half of persons who spoke a foreign language at home reported not speaking English very well.¹³ A study of health plan members and use of interpreters showed that the use of interpreters reduced disparities for Hispanic and API members (28% and 21%, respectively).¹⁴ Findings are presented below on differences in one quality measure focusing on patient centeredness—the patient experience of care—and one access measure—uninsurance—between persons who speak English at home and those who speak some other language at home.

Patient centeredness: patient experience of care. Communication problems between the patient and provider can lead to lower patient adherence to medications and decreased participation in medical decisionmaking. Language problems can also exacerbate cultural differences that impair the delivery of quality health care.

Figure 4.17. Adults whose health providers sometimes or never listened carefully, explained things, showed respect, and spent enough time with them, by race and ethnicity, stratified by language spoken at home, 2003



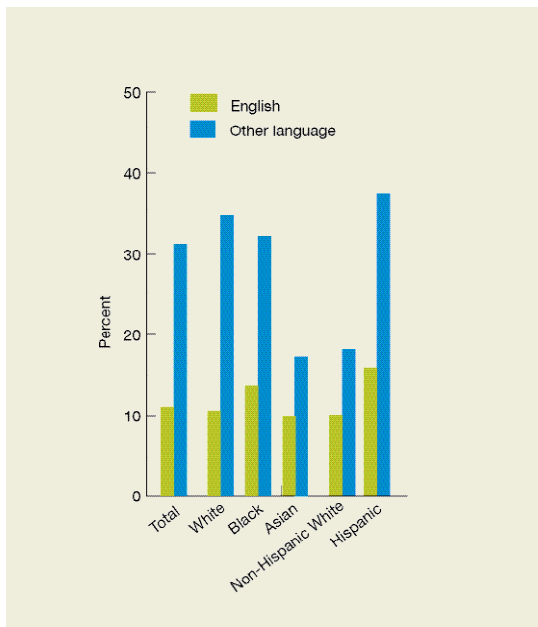
Source: Medical Expenditure Panel Survey, 2003.

Denominator: Civilian noninstitutionalized population age 18 and over.

- The overall proportion of adults whose health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, or spent enough time with them was significantly higher among individuals who speak a foreign language at home compared with individuals who speak English at home (Figure 4.17).
- Compared with Whites who speak English at home, the proportion of adults with communication problems was significantly higher among Whites and Asians who speak some other language at home.
- Compared with non-Hispanic Whites who speak English at home, the proportion of adults with communication problems was significantly higher among Hispanics who speak some other language at home as well as Hispanics who speak English at home.

Access to care: uninsurance. Persons who speak a language other than English at home may have less access to resources, such as health insurance, that facilitate getting needed health care.

Figure 4.18. Adults under age 65 uninsured all year, by race and ethnicity, stratified by language spoken at home, 2003



Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population ages 18-64.

- The overall proportion of adults under age 65 uninsured all year was significantly higher among individuals who speak a foreign language at home compared with individuals who speak English at home (Figure 4.18).
- Compared with Whites who speak English at home, the proportion of persons uninsured all year was significantly higher among Whites, Blacks, and Asians who speak some other language at home as well as Blacks who speak English at home.
- Compared with non-Hispanic Whites who speak English at home, the proportion of persons uninsured all year was significantly higher among Hispanics who speak some other language at home as well as Hispanics who speak English at home.

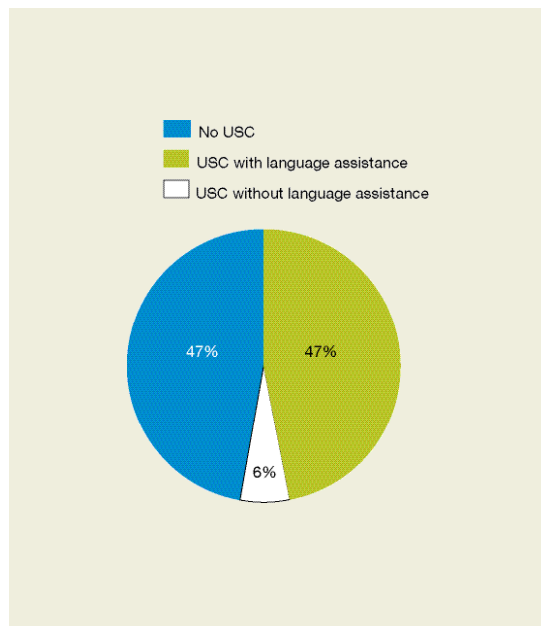
Language Assistance

Clear communication is an important component of effective health care delivery. It is vital for providers to understand patients' health care needs and for patients to understand providers' diagnoses and treatment recommendations. Communication barriers can relate to language, culture, and health literacy.

For persons with limited English proficiency, having language assistance is of particular importance. Persons with limited English proficiency may choose a usual source of care in part based on language concordance; thus, not having a language-concordant provider may limit or discourage some patients from establishing a usual source of care.

This year's NHDR includes a supplemental measure of access: provision of language assistance by the usual source of care. Language assistance includes bilingual clinicians, trained medical interpreters, and bilingual receptionists and other informal interpreters.

Figure 4.19. Adults with limited English proficiency with and without a usual source of care who offers language assistance, 2003



Key: USC = usual source of care.

Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population age 18 and over.

Note: Language assistance includes bilingual clinicians, trained medical interpreters, and informal interpreters (e.g., bilingual receptionists).

- A large proportion of individuals with limited English proficiency do not have a usual source of care—47% (Figure 4.19).
- Another 47% of individuals with limited English proficiency have a usual source of care that offers language assistance.
- Only 6% of individuals with limited English proficiency have a usual source of care that does not offer language assistance.

Low Income Groups

The poor are defined as persons 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.^{iv,15} After falling for nearly a decade, the numbers of poor persons in America rose from 31.6 million in 2000 to 37.0 million in 2005, and the poverty rate increased from 11.3% to 12.6% over the same period.

Poverty varies by race and ethnicity. In 2005, 25% of Blacks, 22% of Hispanics, 11% of Asians, and 8% of Whites were poor.¹⁶ Persons with low incomes often experience worse health and are more likely to die prematurely.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. In this section, disparities in quality of and access to health care for poor^v compared with high income^{vi} individuals are summarized. For each core report measure, poorer persons can have health care that is worse than, about the same as, or better than health care received by high income persons. Only relative differences of at least 10% that are statistically significant with $\alpha=0.05$ are discussed in this report. Access measures focus on facilitators and barriers to health care and exclude health care utilization measures.

In addition, changes in differences related to income over time are examined. For each core report measure, racial, ethnic, and socioeconomic groups are compared with a designated comparison group at different points in time. Consistent with Healthy People 2010, disparities are measured in relative terms as the percent difference between each group and a comparison group; changes in disparity are measured by subtracting the percent difference from the comparison group at the baseline year from the percent difference from the comparison group at the most recent year. The change in each disparity is then divided by the number of years between the baseline and most recent estimate to calculate change in disparity per year. Core report measures for which the relative differences are changing less than 1% per year are identified as staying the same. Core report measures for which the relative differences are becoming smaller at a rate of more than 1% per year are identified as improving disparities. Core report measures for which the relative differences are becoming larger at a rate of more than 1% per year are identified as worsening disparities. Changes of greater than 5% per year are also differentiated from changes of between 1% and 5% per year in some figures.

^{iv} For example, in 2005 the Federal poverty threshold for a family of 2 adults and 2 children was \$19,806.

^v Household income less than Federal poverty thresholds.

^{vi} Household income 400% of Federal poverty thresholds and higher.

As in previous NHDRs, this section includes information on programs that may affect low income groups. This year's report includes three quality measures relating to prevention—screening for colorectal cancer and counseling of overweight adults and children^{vii}—and one access measure—dental care—of special relevance to the uninsured. Also included in this section are three access measures focusing on dental care for children served by school-based health centers.^{viii}

Figure 4.20. Poor compared with high income individuals on measures of quality and access

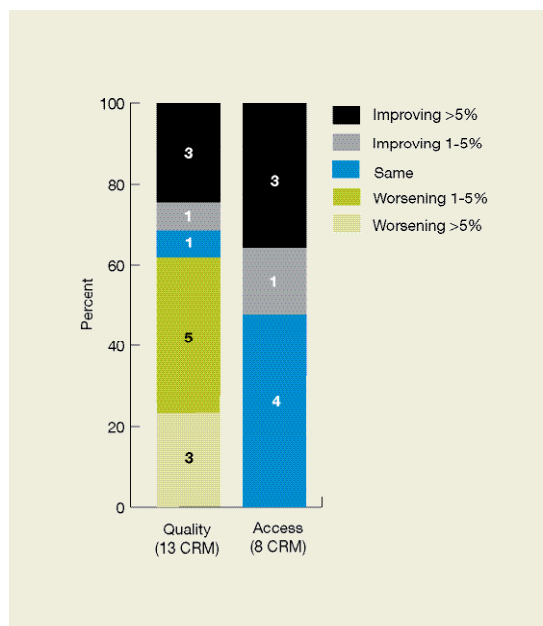


- Less than half of the core report measures supported estimates of quality for the poor.
- For 12 of the 18 core report measures of quality with income data, the poor had significantly poorer quality of care than high income individuals (Figure 4.20). Differences ranged from poor children being over three times as likely as high income children to be hospitalized for asthma to poor individuals being 15% less likely to lack needed substance abuse treatment. The median difference was 48% (poor individuals 48% more likely to receive poorer quality care than high income individuals).
- For all 8 core report measures of access, the poor had significantly worse access to care than high income individuals. Differences ranged from the poor under age 65 being over five times as likely as high income individuals to lack health insurance to the poor being 73% more likely to lack a primary care provider. The median difference was 2.4 (poor individuals 2.4 times as likely to have worse access as high income individuals).

^{vii}Includes one measure for adults—counseling obese adults about exercise—and one measure for children—counseling about healthy eating.

^{viii}Includes these measures of dental care for children served by school-based health centers: children who saw or talked with a dentist, health centers that recommended or referred children to another place for dental care, and children that needed but could not access dental care.

Figure 4.21. Change in poor-high income disparities over time



Improving >5% = Poor-high income difference becoming smaller at rate greater than 5% per year.

Improving 1-5% = Poor-high income difference becoming smaller at rate between 1% and 5% per year.

Same = Poor-high income difference not changing.

Worsening 1-5% = Poor-high income difference becoming larger at rate between 1% and 5% per year.

Worsening >5% = Poor-high income difference becoming larger at rate greater than 5% per year.

CRM = core report measures.

Note: The most recent and oldest years of data available are compared. Only 13 core report measures of quality could be tracked over time for poor and high income individuals.

- Less than half of the core report measures supported estimates of changing disparities in quality for the poor.
- Of core report measures of quality that could be tracked over time for poor and high income individuals, poor-high income differences became smaller for 4 measures but larger for 8 measures (Figure 4.21). For 1 measure, the poor-high income difference did not change over time.
- Of core report measures of access that could be tracked over time for poor and high income individuals, poor-high income differences became smaller for 4 measures and larger for 4 measures.

Focus on Uninsurance

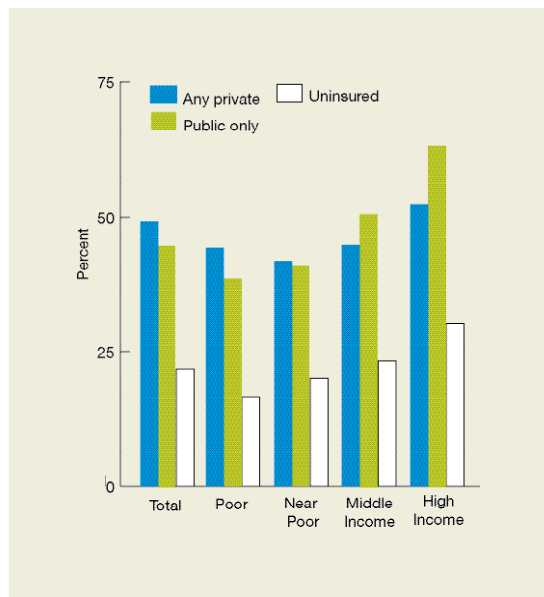
Low-paying jobs are less likely to include health insurance, and the cost of health insurance makes low income individuals less likely to be able to afford insurance. This puts low income individuals at a heightened risk for being uninsured. Compared to insured persons, the uninsured report more problems getting care and are diagnosed at later disease stages.^{19, 20} They report poorer health status²¹ are sicker when hospitalized, and are more likely to die during their hospital stay.²⁰ Uninsured persons often avoid non-urgent care such as preventive screenings, have difficulty obtaining care when they ultimately seek it, and must bear the full brunt of health care costs. In addition, prolonged periods of uninsurance can have a particularly serious influence on a person's health and stability.

Three quality measures relating to prevention—colorectal cancer screening, counseling obese adults about exercise, and counseling children about healthy eating—and one access measure—dental care—of particular relevance to the uninsured are highlighted below.

Quality of Health Care

Prevention: screening for colorectal cancer. 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 4.22. Adults age 50 and over who received recommended colorectal screening by income, stratified by insurance status, 2003



Source: National Health Interview Survey, 2003.

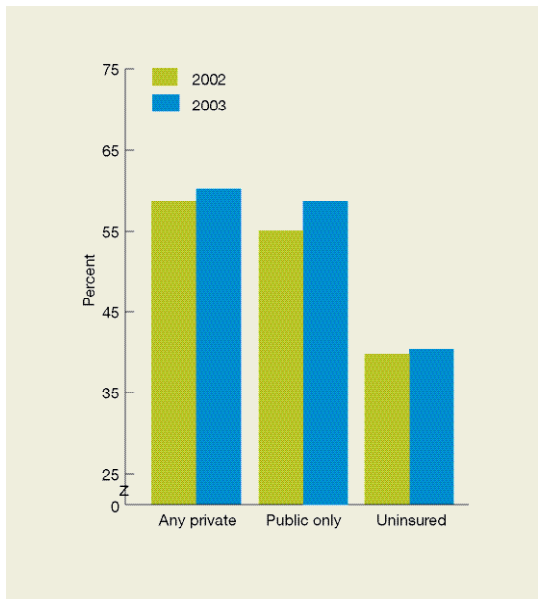
Reference population: Adults age 50 and over in the civilian noninstitutionalized population.

Note: Fecal occult blood testing is recommended every 2 years for adults age 50 and over; sigmoidoscopy is recommended as a one-time screening for adults age 50 and over.

- The proportion of adults age 50 and over who had received recommended colorectal cancer screening was significantly lower for uninsured compared with privately insured persons for the total population and for every income group (Figure 4.22). The proportion was also significantly lower for the total population of publicly insured compared with privately insured persons.
- Compared with privately insured high income persons, the proportion of adults age 50 and over who had received recommended colorectal cancer screening was significantly lower among uninsured poor, near poor, and middle income persons; among publicly insured poor and near poor persons; and among privately insured near poor and middle income persons.

Prevention: counseling obese adults about exercise. Regular exercise aids in weight loss and blood pressure control, reducing the risk of heart disease, stroke, diabetes, and other diseases.

Figure 4.23. Obese adults given advice about exercise by their doctor or other health provider, by insurance status, 2002 and 2003



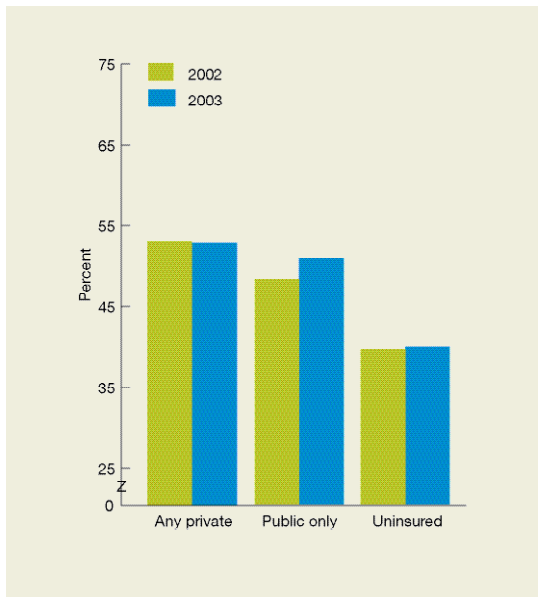
Source: Medical Expenditure Panel Survey, 2002 and 2003.

Reference population: Civilian noninstitutionalized population age 18 and over.

- In both years, the proportion of obese adults who were given advice about exercise was significantly lower among uninsured compared with privately insured persons (Figure 4.23).
- From 2002 to 2003, no significant trends were observed.

Prevention: counseling overweight children about healthy eating. Counseling about healthy eating can play an important role in helping children to lose excess weight and establish healthy lifestyle behaviors.

Figure 4.24. Overweight children ages 2-19 whose parents/guardians reported advice from a doctor or other health provider about healthy eating, by insurance status, 2002 and 2003



Source: Medical Expenditure Panel Survey, 2002 and 2003.

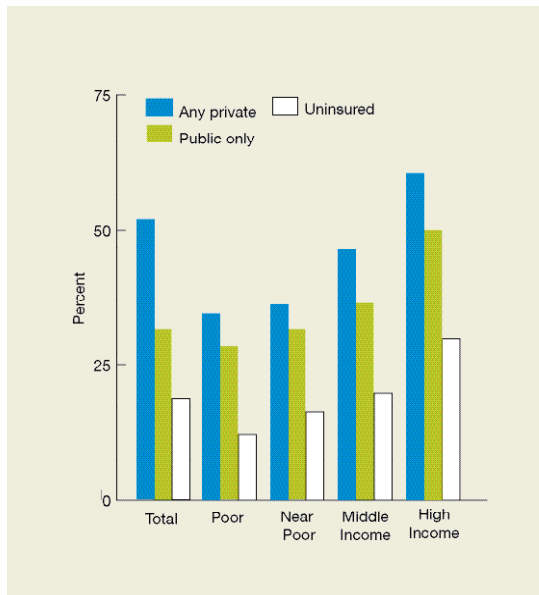
Reference population: Civilian noninstitutionalized population ages 2-19.

- In both years, the proportion of children ages 2-19 whose parents/guardians reported advice from a doctor or other health provider about healthy eating was significantly lower among uninsured and publicly insured compared with privately insured persons (Figure 4.24).
- From 2002 to 2003, no significant trends were observed.

Access to Health Care

Dental care. Regular dental visits promote prevention, early diagnosis, and optimal treatment of oral diseases and conditions.

Figure 4.25. Persons with a dental visit in the past year, by income, stratified by insurance status, 2003



Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population, all ages.

- The proportion of persons with a dental visit in the past year was significantly lower among uninsured compared with privately insured persons in the total population and in every income group (Figure 4.25).
- For the total population and for near poor and middle income persons, the proportion was also significantly lower among publicly insured compared with privately insured persons.
- For persons of every insurance status, the proportion with a dental visit in the past year was significantly lower among poor, near poor, and middle income compared with high income persons.
- Only high income persons with private health insurance met the Healthy People 2010 target of 56% of persons with a dental visit in the past year.

Focus on Care of Children Served by School-Based Health Centers

Health centers have a 40-year history of providing accessible, affordable, primary, and preventive health care services to low income families. Health centers are funded under Section 330 of the Public Health Service Act, the Health Centers Consolidation Program, and are administered by the Health Resources and Services Administration (HRSA). In 2004, 914 health centers provided care to 13.1 million patients living in rural and urban medically underserved areas and populations. Health centers operate in every State, U.S. territory, and the District of Columbia. They serve clients that are primarily low income and minorities. About 60% of clients have incomes less than 100% of the Federal poverty level, and nearly three-quarters have incomes less than 200% of this level. Similarly, about 60% of clients are racial and ethnic minorities, and about a third are best served in a language other than English.

As part of the President's Health Centers Initiative, HRSA expects newly funded grantees to provide oral health services on site or through referrals. Additionally, HRSA has provided funding opportunities for existing health centers to: (1) establish new oral health services at sites that lack on-site access, or (2) establish new satellite sites to provide oral health services to a population that has lacked access to these services. In fiscal year 2004, more than 2,133 oral health care full-time equivalent dentists and dental hygienists provided oral health care to over 2.1 million health center users. As part of the 2003 Healthy Schools Healthy Communities User Visit Survey, HRSA collected data on the quality of care received by 781 school-aged children served by school-based health centers.^{ix} While disparities remain, school-based health centers perform as well as or better than providers outside of health centers in the delivery of accessible, high quality, primary, and preventive oral health care to low income and underserved children.

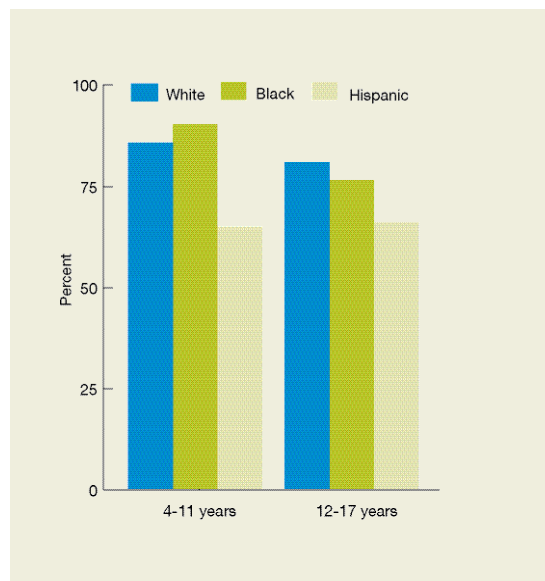
This section identifies differences in three measures of access to dental care for school-aged children served by health centers—children who saw or talked with a dentist, health centers that recommended or referred children to another place for dental care, and children that needed but could not access dental care.

^{ix} The Healthy Schools Healthy Communities (HSHC) Section 330 of the Public Health Service Act does not include authorization for the HSHC program. Effective fiscal year 2006, HRSA no longer identifies HSHC as a separate health center program or category/type of health center; however, there will continue to be recognition of school-aged children as an underserved population served by health centers. All organizations receiving section 330 funding specifically to support a HSHC program must comply with the requirements of section 330(e), Community Health Center Program.

Access to Health Care

Dental care. Regular dental care, especially good oral habits formed early in life, can promote good health over a lifetime and help prevent other diseases.

Figure 4.26. Children ages 4-17 who saw or talked with a dentist in the past year, by race/ethnicity, 2003



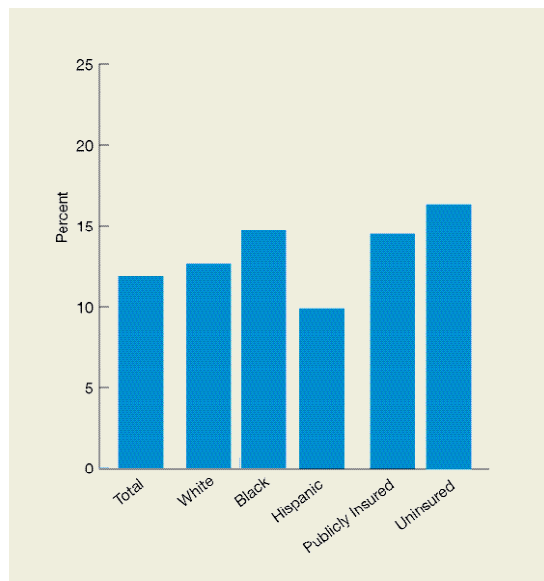
Source: Health Resources and Services Administration, Healthy Schools Healthy Communities User Visit Survey, 2003.

Reference population: Children ages 4-17 years served by a school-based health center.

Note: Whites and Blacks are non-Hispanic groups.

- For both age groups, Hispanic children served by a school-based health center were significantly less likely than White children to have seen or talked with a dentist in the past year (Figure 4.26). Other disparities by race/ethnicity were not observed.
- Among Black children, those ages 4-11 were significantly more likely than those ages 12-17 to have seen or talked with a dentist in the past year. Other disparities by age group were not observed.

Figure 4.27. Children ages 4-17 who were recommended or referred by a school-based health center to another place for dental care, by race/ethnicity and insurance status, 2003



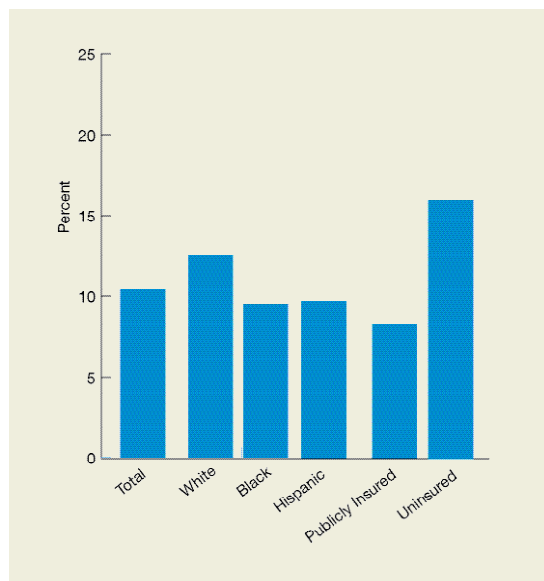
Source: Health Resources and Services Administration, Healthy Schools Healthy Communities User Visit Survey, 2003.

Reference population: Children ages 4-17 years served by a school-based health center.

Note: Whites and Blacks are non-Hispanic groups.

- About 12% of children served by a school-based health center were recommended or referred to another place for dental care (Figure 4.27).
- Disparities by race/ethnicity and by insurance status were not observed.

Figure 4.28. Children ages 4-17 who needed but could not access dental care in the past 6 months, by race/ethnicity and insurance status, 2003



Source: Health Resources and Services Administration, Healthy Schools Healthy Communities User Visit Survey, 2003.

Reference population: Children ages 4-17 served by a school-based health center.

Note: Whites and Blacks are non-Hispanic groups.

- About 10% of children served by a school-based health center who needed dental care in the past 6 months did not receive it (Figure 4.28).
- Disparities by race/ethnicity were not observed.

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.²² By 2050, it is projected that just under half of females in the United States will be members of racial or ethnic minority groups.²³ 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 1.²⁴ Poverty disproportionately affects women; almost 13.9% of women lived in households with incomes below the Federal poverty level in 2004.²⁵

Women in the United States have a life expectancy 5 years longer than men²⁶ and lower age-adjusted death rates than men for 13 of the 15 leading causes of death.²⁷ However, women are more likely than men to report having arthritis, asthma,²⁸ and serious mental illness.²⁹ There is significant variation in health status and health-related behaviors for women of different races and ethnicities.³⁰ In general, gender differences in quality of care are small.

Many measures of relevance to women are tracked in the NHDR. Findings presented here highlight four quality measures and one access measure of particular importance to women:

Component of health care need:

Prevention
Treatment
Management
Access to care

Measure:

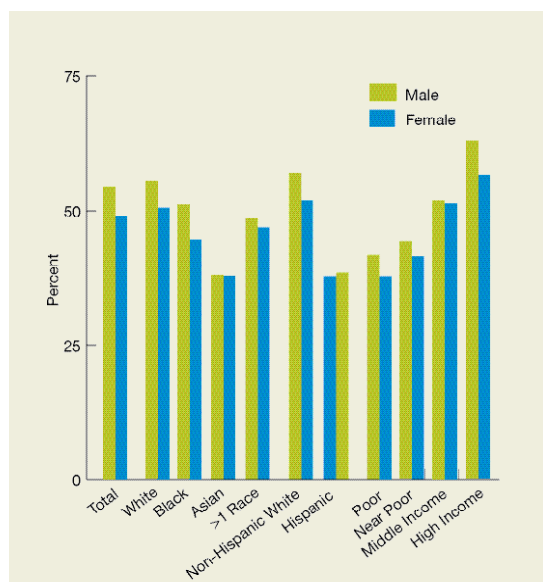
Colorectal cancer screening, prenatal care/maternal health
Recommended care for heart attack
New AIDS cases
Usual source of care

Quality of Health Care

Prevention: Screening for Colorectal Cancer

Ensuring that all populations have access to appropriate cancer screening services is a core element of reducing cancer health disparities.³¹ 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 4.29. Adults age 50 and over who received recommended colorectal screening, by race, ethnicity, income, and gender, 2003



Key: AI/AN=American Indian/Alaska Native.

Source: National Health Interview Survey, 2003.

Reference population: Adults age 50 and over in the civilian noninstitutionalized population.

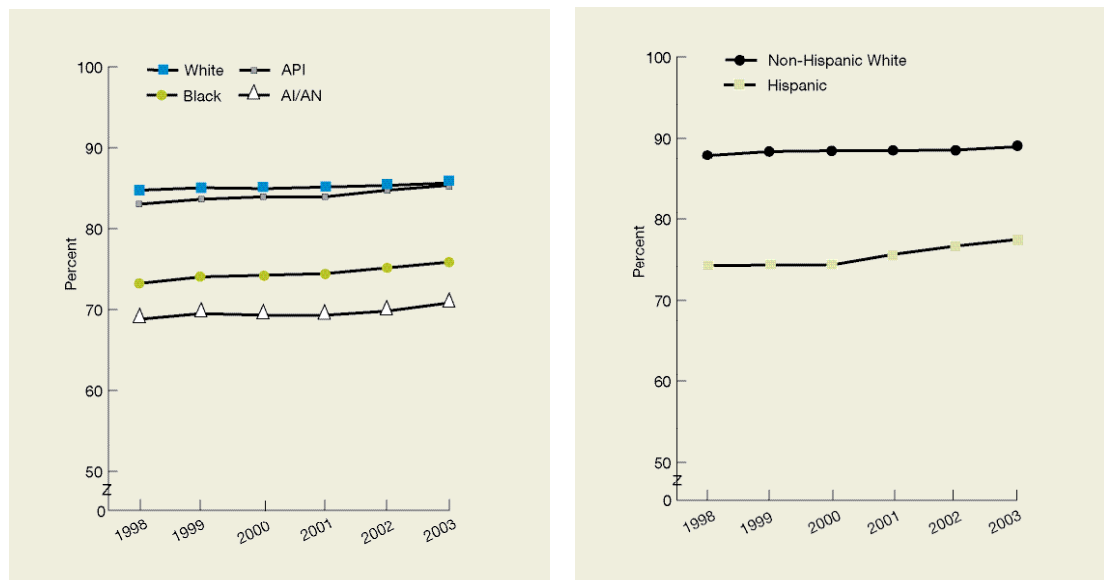
Note: Fecal occult blood testing is recommended every 2 years for adults age 50 and over; sigmoidoscopy is recommended as a one-time screening for adults age 50 and over.

- For the total population, females were significantly less likely to have received a recommended colorectal cancer screening compared with males (Figure 4.29).
- Black and Asian females were significantly less likely than White females; Hispanic females were significantly less likely than non-Hispanic White females; and poor, near poor, and middle income females were significantly less likely than high income females to have received a recommended colorectal cancer screening.
- Within racial, ethnic, and income groups, White, Black, non-Hispanic White, and high income females were significantly less likely than respective males to have received a recommended colorectal cancer screening.

Prevention: Prenatal Care/Maternal Health

Childbirth and reproductive care are the most common reasons for women of childbearing age to use health care; and with more than 11,000 births each day in the United States, childbirth is the most common reason for hospital admission.³² Given that birth outcomes may have lifetime effects, good prenatal care has the potential to affect the future health and health care needs of the Nation.³³ It is recommended that women begin receiving prenatal care in the first trimester of pregnancy.

Figure 4.30. Mothers with prenatal care in the first trimester by race (top left), ethnicity (top right), and education (bottom left), 1998-2003



Key: API = Asian or Pacific Islander; AI/AN = American Indian or Alaska Native.

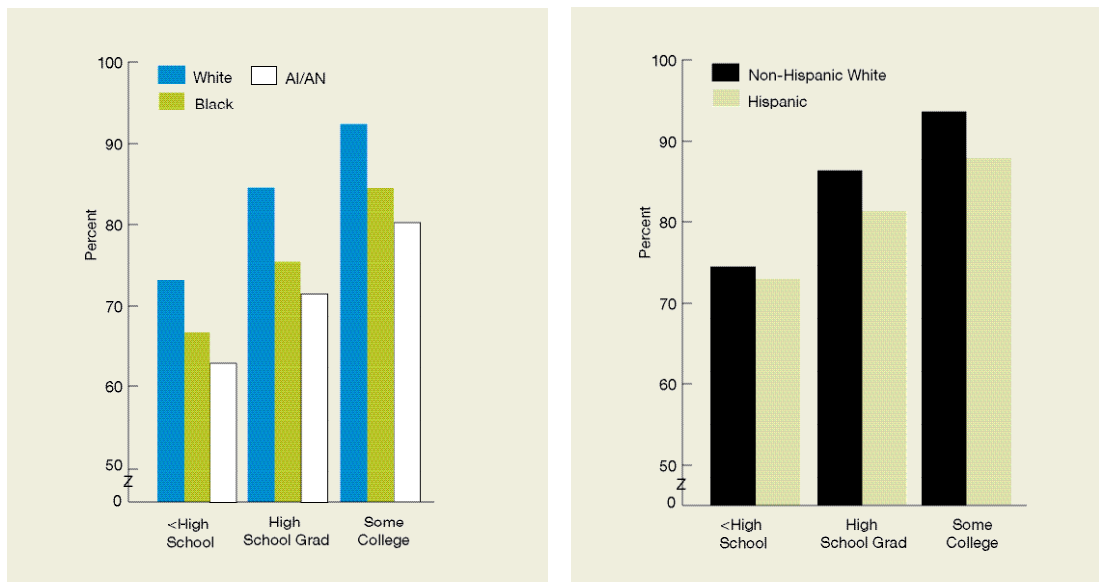
Source: National Vital Statistics System - Natality, 1998-2003.

Reference population: Women with live births.

- In all 6 years, the proportion of women who initiated prenatal care in the first trimester was significantly lower among Black and AI/AN women compared with White women; among Hispanic compared with non-Hispanic White women; and among women with a high school education or less compared with women with any college education (Figure 4.30). In 1998 the proportion was also significantly lower among API compared with White women; but in all other years, this disparity was not observed.
- Between 1998 and 2003, rates of mothers initiating prenatal care in the first trimester did not change significantly for any group.
- Only persons with any college education achieved the Healthy People 2010 target of 90% of pregnant women receiving prenatal care in the first trimester.

Information about income is not typically collected on birth certificates, so education is commonly used as a proxy for socioeconomic status. Racial and ethnic minorities are disproportionately of lower socioeconomic status than Whites.³⁴ To distinguish the effects of race, ethnicity, and education on quality of health care, this measure is stratified by level of education.

Figure 4.31. Mothers with prenatal care in the first trimester by race (left) and ethnicity (right), stratified by education, 2001



Key: AI/AN=American Indian or Alaska Native.

Source: National Vital Statistics System - Natality, 2001.

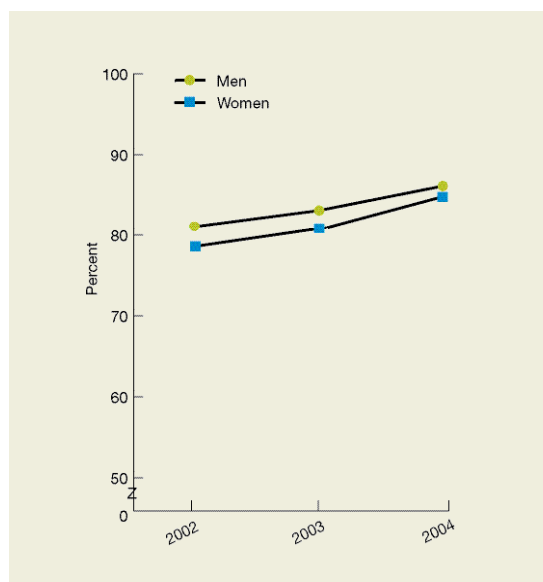
Reference population: Women with live births.

- 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 tended to persist among women with similar education (Figure 4.31).
- Only college educated Whites and non-Hispanic Whites achieved the Healthy People 2010 target of 90% of mothers receiving prenatal care in the first trimester.

Treatment: Recommended Hospital Care for Heart Attack

Each year, about half a million women die of cardiovascular disease. Among these, 250,000 die of heart attacks.³⁵ Although heart disease is the leading cause of death among both women and men, sex differences in cardiovascular care have been demonstrated and may relate to sex 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 substance abuse.³⁶ After a first heart attack, women are less likely than men to receive cardiac rehabilitation³⁷ and are more likely to die.³⁸

Figure 4.32. Recommended hospital care received by Medicare patients with heart attack by gender, 2002-2003



Source: Centers for Medicare & Medicaid Services, Medicare Quality Improvement Organization program, 2002-2004.

Denominator: Medicare beneficiaries hospitalized for heart attack.

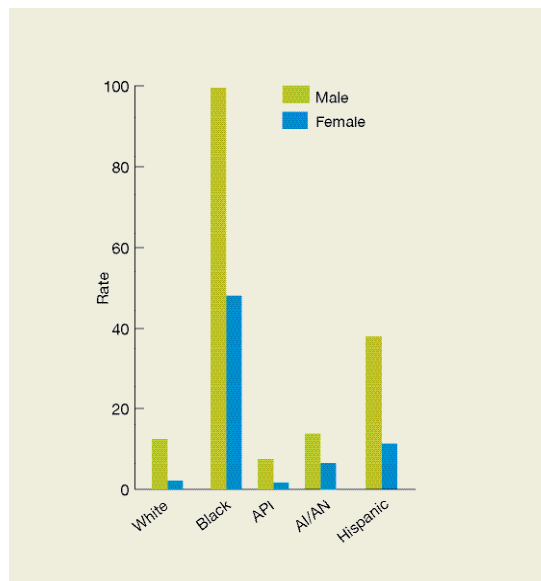
Note: Composite is calculated by averaging the percentage of the population that received each of the six incorporated components of care. See Chapter 1, Introduction and Methods, for composite details.

- In 2002 and 2003, the percentage of Medicare patients with heart attack receiving recommended hospital care was significantly lower among females compared with males (Figure 4.32). In 2004, this disparity was eliminated.
- From 2002 to 2004, the percentage of Medicare patients with heart attack receiving recommended hospital care increased significantly for both females and males.

Management: New AIDS Cases

Although differences in developing AIDS does not necessarily translate into differences in quality of care, early and appropriate treatment of HIV disease can delay progression to AIDS. Improved management of chronic HIV disease has likely contributed to declines in new AIDS cases.

Figure 4.33. Number of new AIDS cases per 100,000 population age 13 and over, by race/ethnicity, stratified by gender, 2004



Key: API=Asian or Pacific Islander; AI/AN=American Indian or Alaska Native.

Source: HIV/AIDS Reporting System, 2004.

Reference population: U.S. population age 13 and over.

Note: The source categorizes race/ethnicity as a single item. White=non-Hispanic White; Black=non-Hispanic Black.

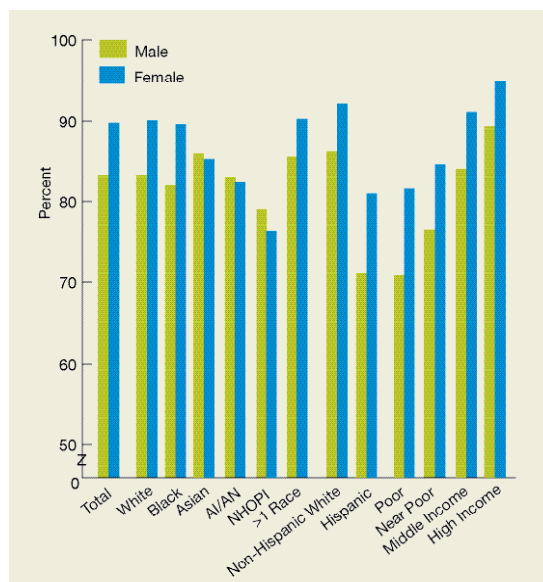
- For all populations, the rate of new AIDS cases for males is more than double that for females (Figure 4.33).
- Among males, the rate of new AIDS cases for Hispanics is more than triple that for Whites, and the rate for Blacks is more than 8 times that for Whites.
- Among females, the rate of new AIDS cases for Hispanics is more than 5 times that for Whites, the rate for AI/ANs is more than triple that for Whites, and the rate for Blacks is more than 22 times that for Whites.
- No group has accomplished the Healthy People 2010 target of 1.0 new AIDS case per 100,000 population.

Access to Health Care

Usual Source of Care

Higher costs, poorer outcomes, and greater disparities are observed among individuals without a usual source of care.³⁹

Figure 4.34. Persons with a specific source of ongoing care by race, ethnicity, and income, stratified by gender, 2004



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

Source: National Health Interview Survey, 2004.

Reference Population: Civilian noninstitutionalized population, all ages.

Notes: Measure is age adjusted to the 2000 standard population.

- The proportion of females with a specific source of ongoing care was significantly higher than the proportion of males for the total U.S. population; it was also significantly higher for White, Black, non-Hispanic White, and Hispanic females and females of all income levels (Figure 4.34) compared with their male counterparts.
- For both males and females, the proportion of persons with a source of ongoing care was significantly lower among Hispanics compared with non-Hispanic Whites and among poor, near poor, and middle income persons compared with high income persons.
- For females, the proportion with a source of ongoing care was significantly lower among Asians and AI/ANs compared with Whites, and among Hispanics compared with non-Hispanic Whites. Significant differences by race were not observed among males.

Children

Children comprise 26% of the U.S. population, or 72.3 million people.⁴⁰ Racial and ethnic minorities account for almost 40% of all children.⁴¹ In 2003, 17% of children lived in families with incomes below the Federal poverty level.¹

In 2003, Black children and AI/AN children had death rates about 1.5 to 2 times higher than White children. Black infants were more than twice as likely as White infants to die during their first year. Life expectancy at birth was 78 years for White children and 72.8 years for Black children, a difference of about 6%.⁴²

Many measures of relevance to children are tracked in the NHDR. Findings presented here highlight seven quality measures and two access measures of particular importance to children:

Component of health care need:	Measure:
Prevention	Vaccinations, counseling about overweight/healthy eating, vision care
Treatment	Hospital admissions for pediatric gastroenteritis
Management	Hospital admissions for pediatric asthma
Timeliness	Care for illness or injury as soon as wanted
Patient centeredness	Patient experience of care
Access to care	Health insurance, mental health care

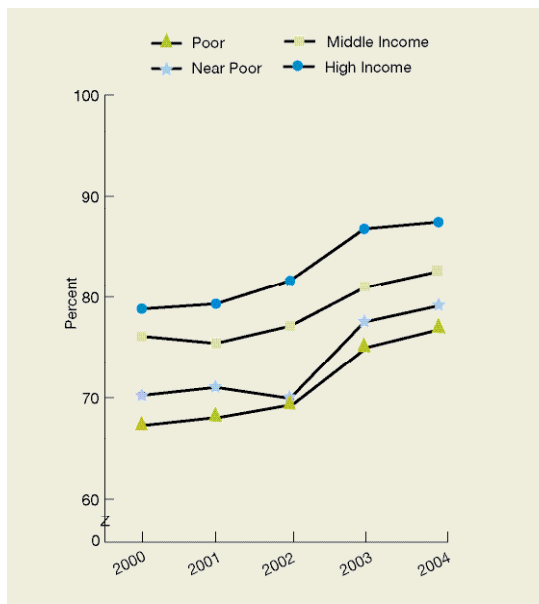
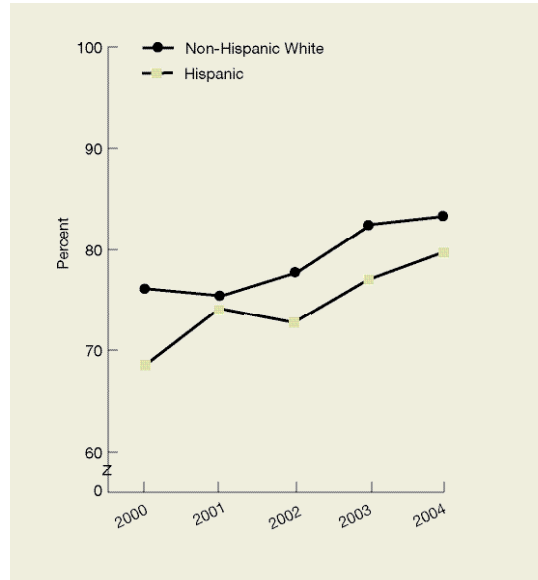
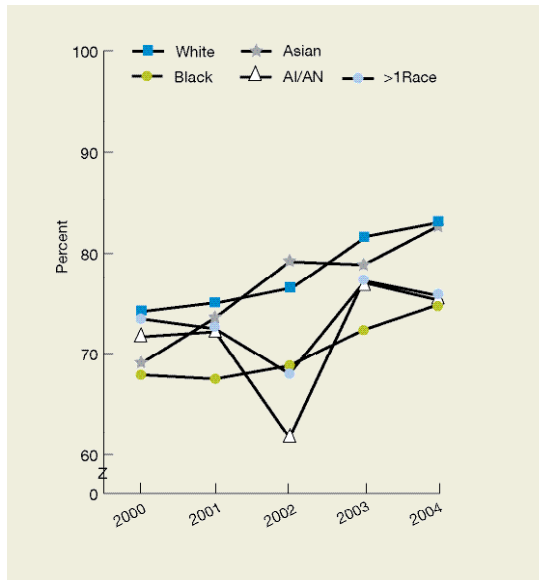
In addition, the final section of this chapter, which discusses individuals with special health care needs, includes findings related to children with special health care needs.

Quality of Health Care

Prevention: Vaccinations

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

Figure 4.35. Children age 19-35 months who received all recommended vaccines by race (top left), ethnicity (top right), and income (bottom left), 2000-2004



Key: AI/AN = American Indian or Alaska Native.

Source: National Immunization Survey, 2000-2004.

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

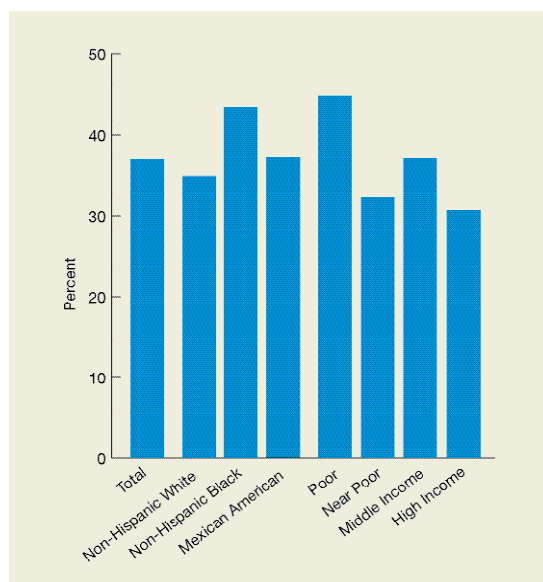
Note: Recommended vaccines for children 19-35 months include 4 doses of diphtheria, tetanus, and pertussis vaccine; 3 doses of polio vaccine; 1 dose of measles, mumps and rubella vaccine; 3 doses of *H. influenzae* type B vaccine; and 3 doses of hepatitis B vaccine.

- In all 5 years, the proportion of children who received all recommended vaccines was significantly 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 4.35).
- Between 2000 and 2004, receipt of all recommended vaccines improved significantly among White, Black, Asian, and Hispanic children and among children from every income level.
- Only White, Asian, non-Hispanic White, middle income, and high income children achieved the Healthy People 2010 goal of 80% of children receiving all recommended vaccines (Figure 4.35).

Prevention: Counseling About Overweight

Childhood overweight poses a risk for other health problems and influences adult obesity. Lack of awareness is a key problem. Addressing childhood overweight begins with measuring the height and weight of all children and counseling those who are overweight.

Figure 4.36. Overweight children and adolescents ages 2-19 that were told by a doctor or health professional that they were overweight, 1999-2002



Source: National Health and Nutrition Examination Survey, 1999-2002.

Reference population: Overweight civilian noninstitutionalized population ages 2-19.

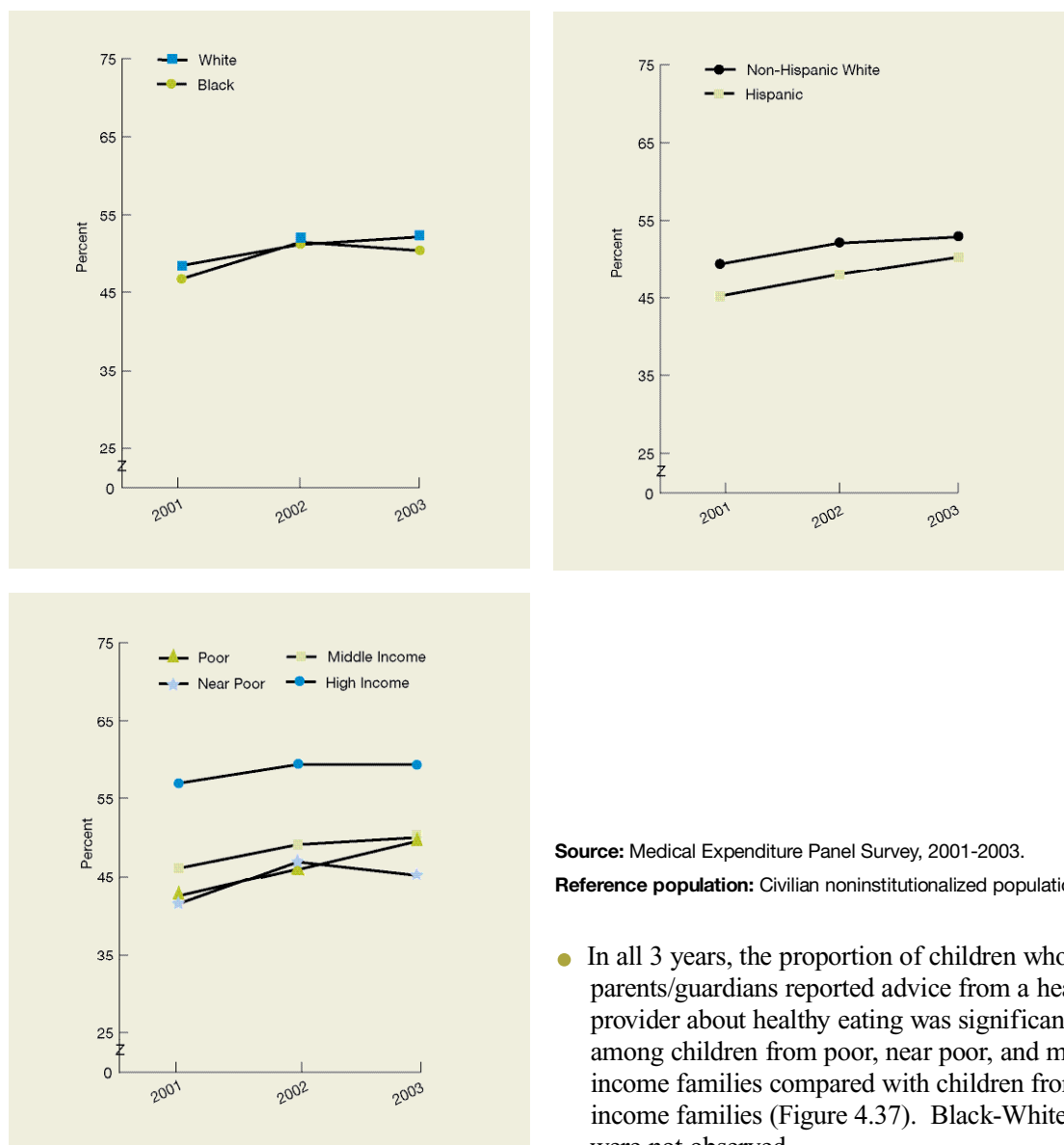
Note: “Mexican Americans” are shown in place of Hispanics because this is how data are collected by the data source.

- In sum, 37.0% of children ages 2 to 19 that are overweight have been told by a health care provider that they are overweight (Figure 4.36).
- No statistically significant differences between populations are observed, although this may be due to small sample size.

Prevention: Counseling About Healthy Eating

Unhealthy eating and lack of physical activity contribute to overweight in children. Routine promotion of healthy eating among children is widely recommended and may help to form eating habits that will last into adulthood, thereby influencing better long-term health.

Figure 4.37. Children ages 2-17 whose parents/guardians reported advice from a doctor or other health provider about healthy eating by race (top left), ethnicity (top right), and income (bottom left), 2001-2003



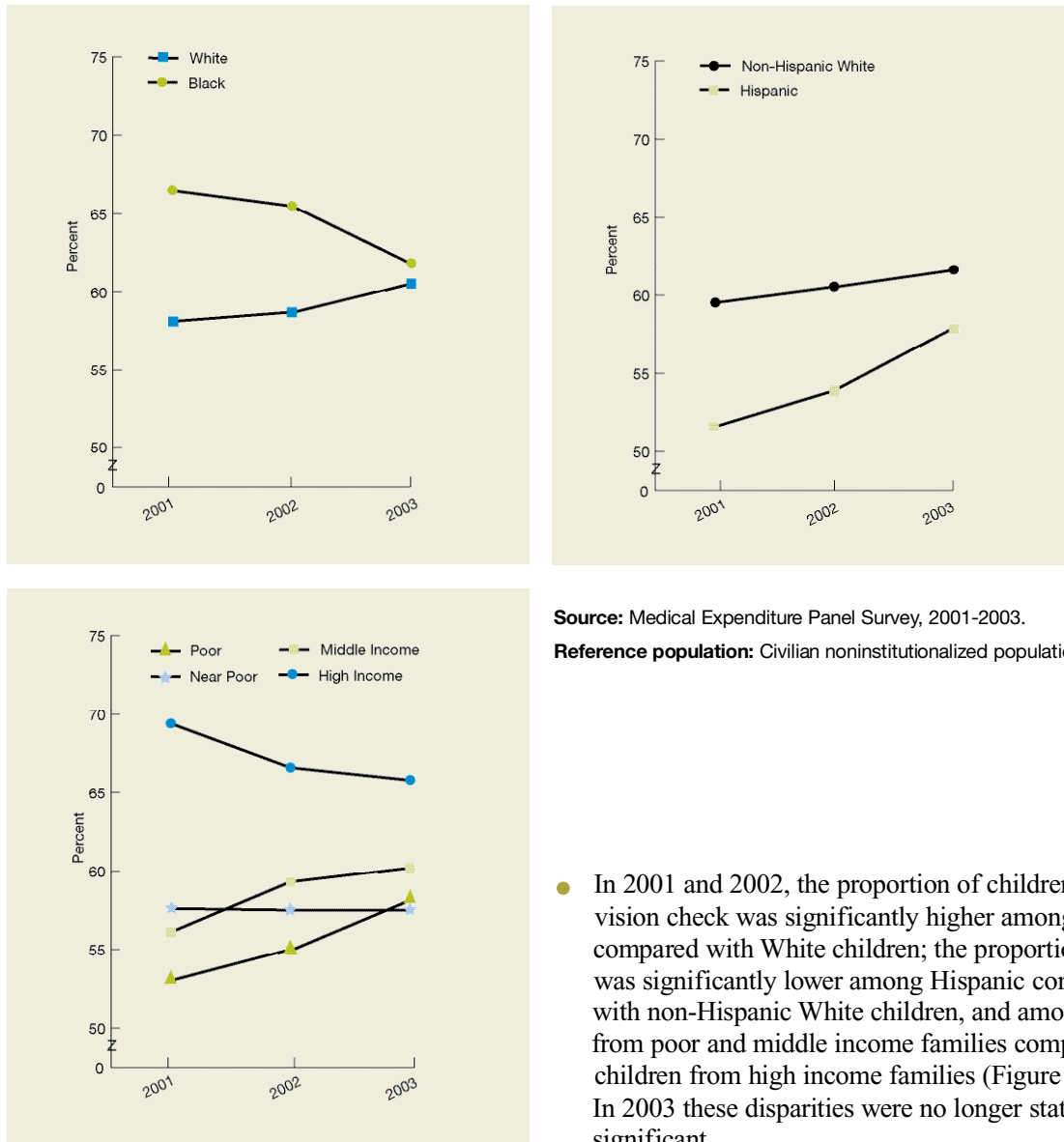
Source: Medical Expenditure Panel Survey, 2001-2003.
Reference population: Civilian noninstitutionalized population ages 2-17.

- In all 3 years, the proportion of children whose parents/guardians reported advice from a health provider about healthy eating was significantly lower among children from poor, near poor, and middle income families compared with children from high income families (Figure 4.37). Black-White disparities were not observed.
- In 2002 the proportion was also significantly lower among Hispanics compared with non-Hispanic Whites, but in 2003 this disparity was eliminated.
- From 2001 to 2003, the proportion of children getting advice about healthy eating increased significantly for the total population (data not shown) and among Whites, Hispanics, and the poor.

Prevention: Vision Care

Vision checks for children can help to detect eye problems early and, in some cases, improve the chances that corrective treatments will be prescribed and successful.

Figure 4.38. Children ages 3-6 with a vision check, by race (top left), ethnicity (top right), and family income (bottom left), 2001-2003



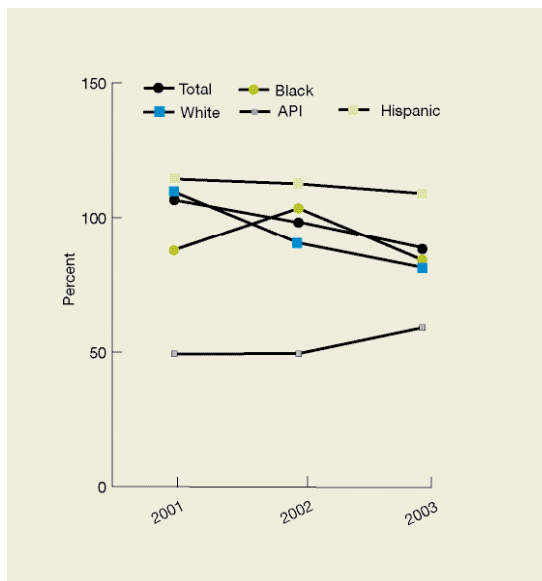
Source: Medical Expenditure Panel Survey, 2001-2003.
Reference population: Civilian noninstitutionalized population ages 3-6.

- In 2001 and 2002, the proportion of children with a vision check was significantly higher among Black compared with White children; the proportion was significantly lower among Hispanic compared with non-Hispanic White children, and among children from poor and middle income families compared with children from high income families (Figure 4.38). In 2003 these disparities were no longer statistically significant.
- From 2001 to 2003, the rate among Black children appeared to decline. However, changes in the proportion of children with a vision check were not statistically significant for any group due to small sample sizes.
- In all 3 years, the proportion of children with a vision check was significantly lower among children from near poor compared with high income families.

Treatment: Hospital Admissions for Pediatric Gastroenteritis

Pediatric gastroenteritis can develop into a life-threatening condition due to dehydration, especially among infants. Proper outpatient treatment of gastroenteritis may prevent hospitalization, and lower hospitalization rates may reflect access to better quality care.

Figure 4.39. Hospital admissions for gastroenteritis per 100,000 population age 0-17 by race/ethnicity, 2001-2003



Key: API=Asian or Pacific Islander.

Source: HCUP State Inpatient Databases disparities analysis file, 2001-2003.

Denominator: Children ages 0-17.

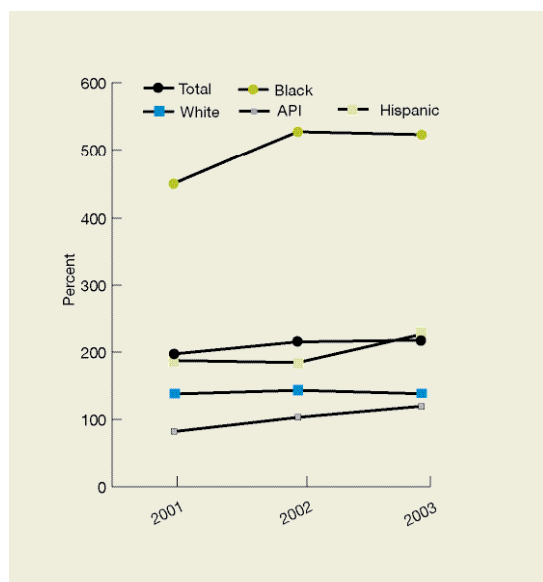
Note: White, Black, and API are non-Hispanic groups.

- In both 2001 and 2002, admissions for pediatric gastroenteritis were significantly lower among API children compared with White children; by 2003, this difference was no longer statistically significant (Figure 4.39).
- In 2003, admissions were significantly higher among Hispanic children compared with White children.
- From 2001 to 2003, admissions for pediatric gastroenteritis declined significantly for the total population and Whites and did not change significantly for any other group.

Management: Hospital Admissions for Pediatric Asthma

A disproportionate number of children have asthma. The prevalence rate for children age 0-17 is 83 per 1,000 while the prevalence rate for adults age 18 and older is 68 per 1,000.⁴³ Emergency room visit rates for asthma are highest among children age 0-4 (62 per 10,000 population). Proper outpatient treatment of asthma may prevent hospitalization, and lower hospitalization rates may reflect access to better quality care.^x

Figure 4.40. Pediatric asthma admission rate per 100,000 population, by race/ethnicity, 2001-2003



Key: API=Asian or Pacific Islander.

Source: HCUP State Inpatient Databases disparities analysis file, 2001-2003.

Denominator: Children ages 0-17.

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

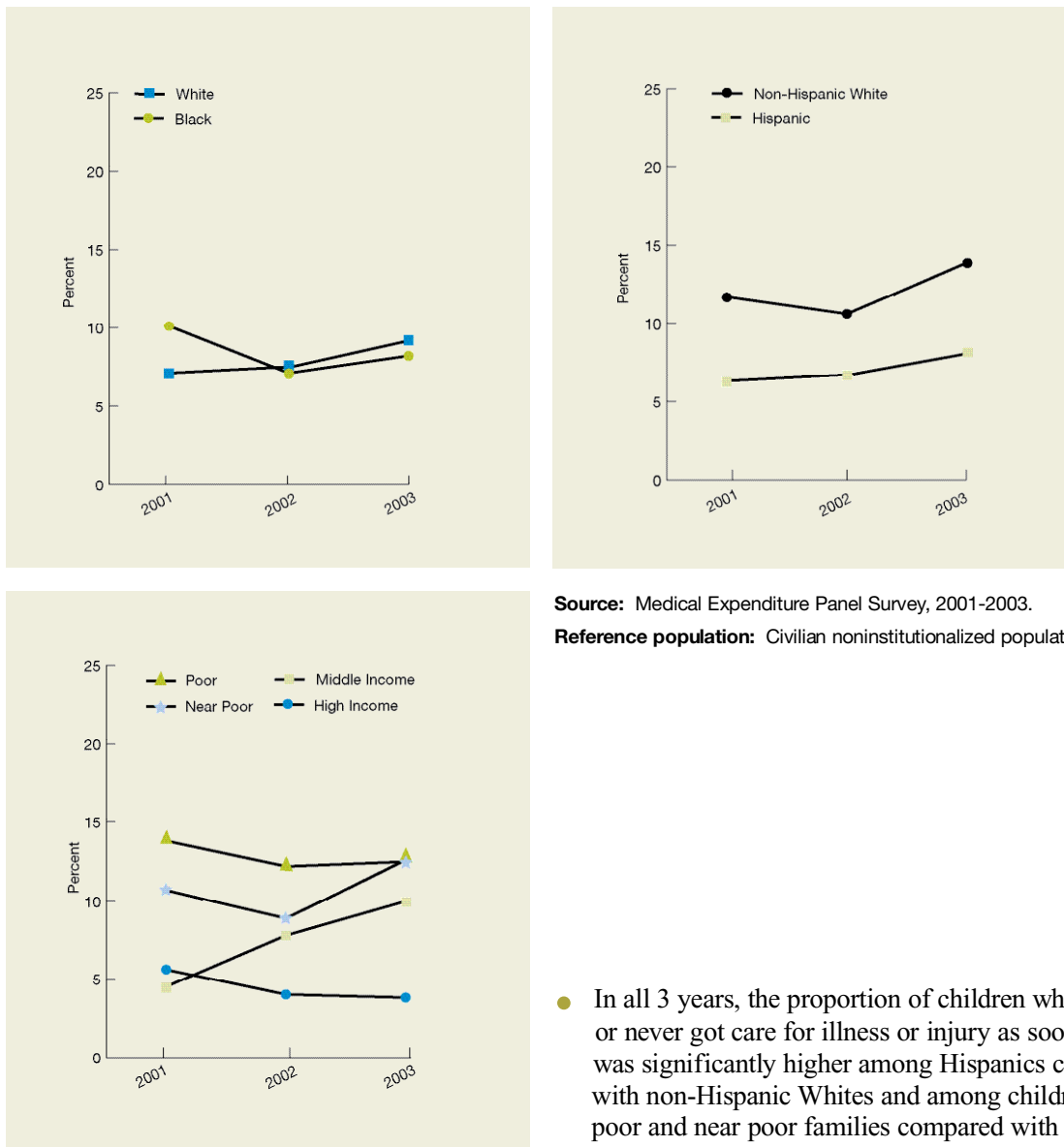
- In 2001 and 2002 the rate of asthma admissions was significantly higher among Black children and significantly lower among API children compared with White children (Figure 4.40).
- In 2003 the rate was significantly higher among Black and Hispanic children compared with White children, but the difference between API and White children had been eliminated.
- From 2001 to 2003, the rate of pediatric asthma admissions did not change significantly for any group.
- No population achieved the Healthy People 2010 target of 17.3 pediatric asthma admissions per 10,000 population ages 0-17.

^x It should be noted that higher rates of pediatric asthma hospital admissions among Blacks compared with Whites may be partially attributable to higher asthma prevalence in Blacks.

Timeliness: Care for Illness or Injury As Soon As Wanted

Children often need care for illness or injury. Timely receipt of health care can prevent disease complications, alleviate discomfort, and reduce child and parental anxiety.

Figure 4.41. Children whose parents or guardians reported that their child sometimes or never got care for illness or injury as soon as wanted in the past year, by race (top left), ethnicity (top right), and income (bottom left), 2001-2003



Source: Medical Expenditure Panel Survey, 2001-2003.

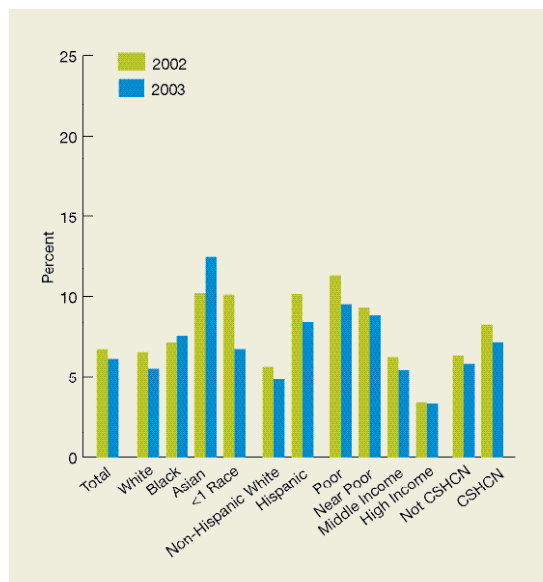
Reference population: Civilian noninstitutionalized population ages 0-17.

- In all 3 years, the proportion of children who sometimes or never got care for illness or injury as soon as wanted was significantly higher among Hispanics compared with non-Hispanic Whites and among children from poor and near poor families compared with children from high income families (Figure 4.41).
- In 2002 and 2003 the proportion was also significantly higher among children from middle income families compared with children from high income families.
- From 2001 to 2003, the proportion of children who sometimes or never got care for illness or injury as soon as wanted increased significantly for Whites and children from middle income families and did not change significantly for any other group.

Patient Centeredness: Patient Experience of Care

Patient centeredness “encompasses qualities of compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient.”⁴⁴ Patient centered care is supported by good patient-provider communication so that patients’ needs and wants are understood and addressed and patients understand and participate in their own care.^{45, 46, 47, 48} Childhood presents a unique opportunity to promote health through preventive and routine care, identify health problems early, and establish healthy lifestyle behaviors. Communication in children’s health care can pose a particular challenge as children are often less able to express their health care needs and preferences, and a third party (i.e., a parent or guardian) is involved in communication and decisionmaking. Optimal communication in children’s health care can therefore have a significant impact on receipt of high quality care and subsequent health status. This is especially true for children with special health care needs (CSHCN).

Figure 4.42. Children less than 18 years of age whose parents or guardians reported that their child’s health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, and spent enough time with them, by race, ethnicity, income, and special health care needs, 2002 and 2003



Key: CSHCN = children with special health care needs.

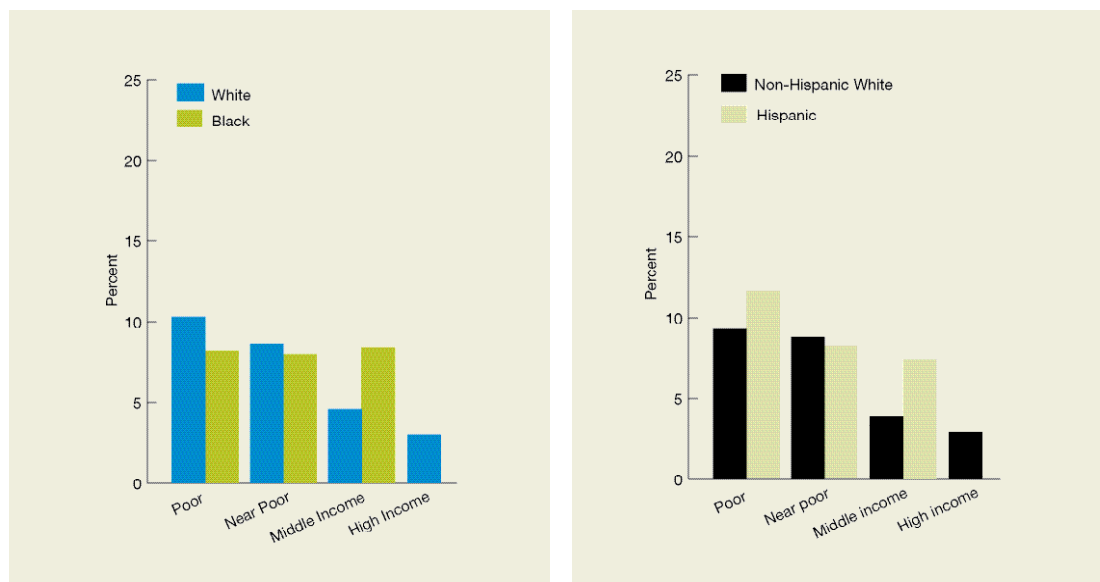
Source: Medical Expenditure Panel Survey, 2002 and 2003.

Denominator: Civilian noninstitutionalized population ages 0-17.

- In both years, the proportion of children whose parents or guardians reported that their child’s health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, or spent enough time with them was significantly higher among Hispanics compared with non-Hispanic Whites and among poor, near poor, and middle income persons compared with high income persons (Figure 4.42).
- In 2002 the proportion of children whose parents or guardians reported poor communication was significantly higher among children with special health care needs compared with children without special health care needs; in 2003, this difference was eliminated.
- From 2002 to 2003, the proportion of children whose parents or guardians reported poor communication decreased significantly among Whites and non-Hispanic Whites.

Racial and ethnic minorities are disproportionately of lower socioeconomic status.³⁴ To distinguish the effects of race, ethnicity, and income on patient-provider communication in children's care, this measure is stratified by income.

Figure 4.43. Children less than 18 years of age whose parents or guardians reported that their child's health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, and spent enough time with them by race (left) and ethnicity (right), stratified by income, 2003



Source: Medical Expenditure Panel Survey, 2003.

Denominator: Civilian noninstitutionalized population ages 0-17.

Note: Sample sizes were too small to provide estimates for Blacks and Hispanics with high incomes.

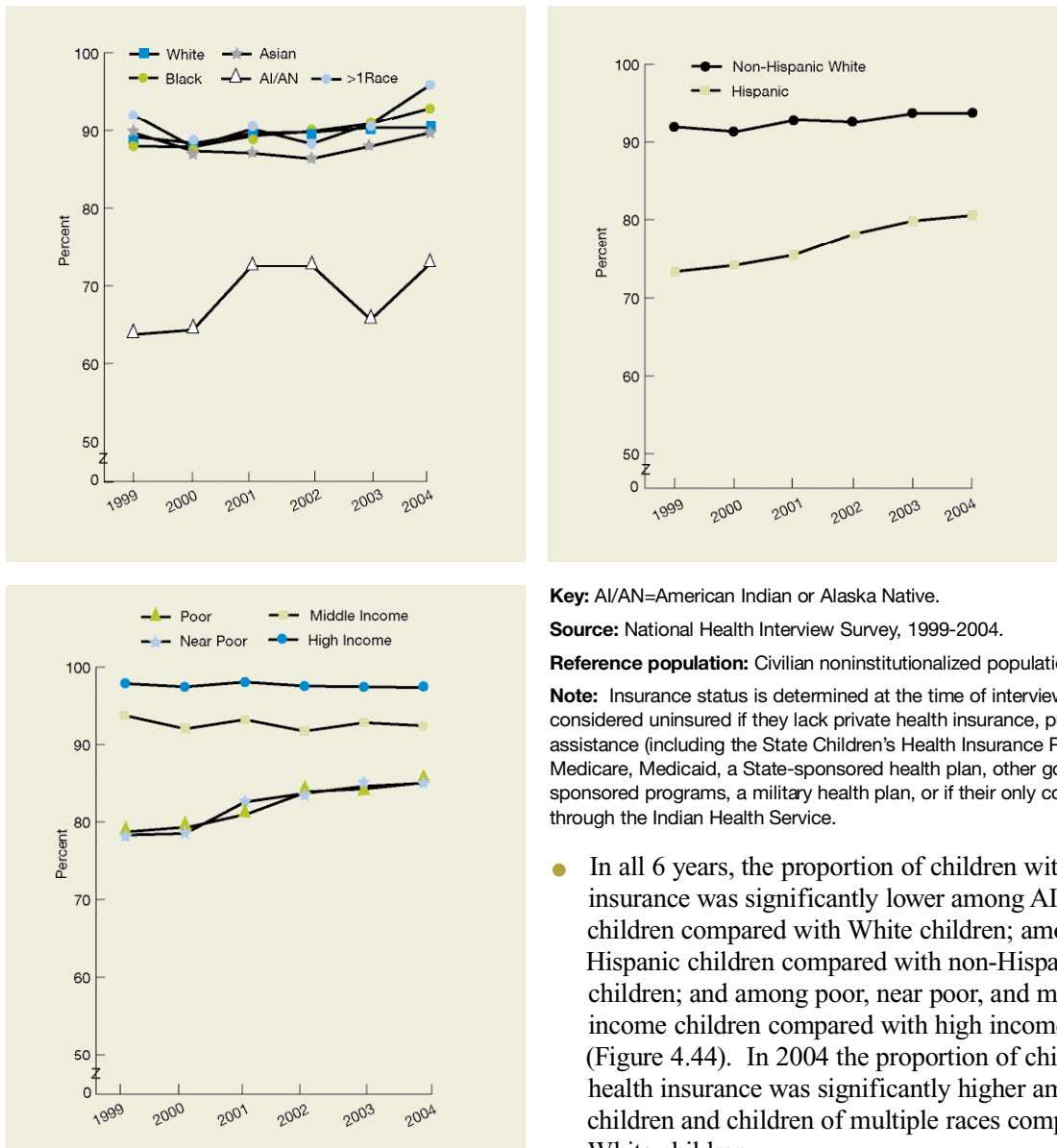
- Income explains some but not all of the differences in patient-provider communication among different ethnicities.
- Parents or guardians of middle income Hispanic children were significantly more likely than parents or guardians of middle income non-Hispanic White children to report poor patient-provider communication (Figure 4.43).

Access to Health Care

Health Insurance

Insurance coverage is among the most important factors in access to health care. Special efforts have been made to provide insurance coverage to children.⁴⁹

Figure 4.44. Children age 0-17 with health insurance, by race (top left), ethnicity (top right), and family income (bottom left), 1999-2004

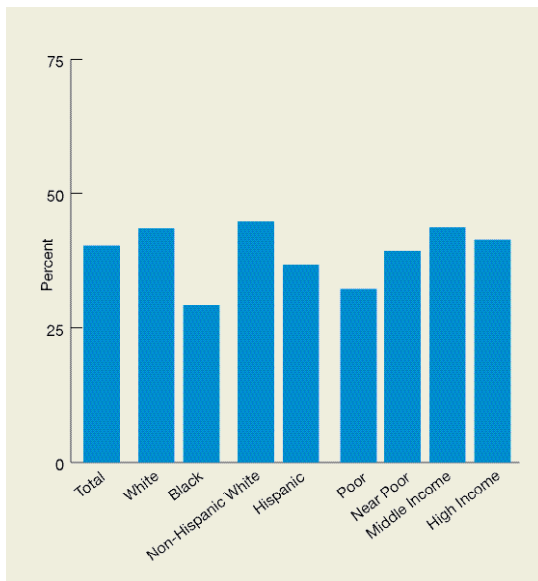


- In all 6 years, the proportion of children with health insurance was significantly lower among AI/AN children compared with White children; among Hispanic children compared with non-Hispanic White children; and among poor, near poor, and middle income children compared with high income children (Figure 4.44). In 2004 the proportion of children with health insurance was significantly higher among Black children and children of multiple races compared with White children.
- From 1999 to 2004, the overall rate of health insurance among children improved from 88.1% to 90.8%. Significant improvements were observed among White, Black, multiple race, non-Hispanic White, and Hispanic children, and among children from poor and near poor families. This may reflect the implementation of the State Children's Health Insurance Program (SCHIP) in 1998.

Mental Health Care

The prevalence of mental disorders for racial and ethnic minorities in the United States is similar to that for Whites,⁵⁰ but minorities have less access to mental health care and are less likely to receive needed services.⁵¹ These differences may reflect, in part, variation in preferences and cultural attitudes toward mental health and mental health care.

Figure 4.45. Children ages 12-17 with a major depressive episode in the past year who received treatment in the past year by race, ethnicity, and family income, 2004



Source: SAMHSA National Survey on Drug Use and Health, 2004.

Reference population: U.S. population ages 12-17 with a major depressive episode in the past year.

- The proportion of children ages 12-17 with a major depressive episode who received treatment for depression in the past year was significantly lower among Blacks compared with Whites; among Hispanics compared with non-Hispanic Whites; and among children from poor families compared with children from high income families (Figure 4.45).

Elderly

Over 35 million persons age 65 and over reside in the United States, accounting for 1 in every 8 Americans. Further, the proportion of the population that is over age 65 is swiftly increasing: by the year 2030, the elderly population is projected to more than double to 71.5 million. The past century has seen significant increases in life expectancy, and 65-year-olds today can expect to live an additional 18.1 years. Nonetheless, the elderly face greater health care difficulties than younger populations. In 2003, 38.6% of noninstitutionalized older persons assessed their health as excellent or very good compared with two-thirds of persons ages 18-64, and the majority of older persons have at least one chronic condition.

Older women outnumber older men by nearly a third. Members of minority groups are projected to represent over one-quarter of the elderly in 2030, up from about 16% in 2000. About 3.6 million elderly lived below the poverty level in 2002, corresponding to a poverty rate of over 10%. Another 2.2 million, or more than 6% of the elderly, were classified as near poor, with incomes between 100% and 125% of the Federal poverty level.⁵²

The Medicare program provides core health insurance to nearly all elderly Americans and reduces many financial barriers to acute and postacute care services. The Medicare Prescription Drug Improvement and Modernization Act of 2003 adds new prescription drug and preventive benefits to Medicare and provides extra financial help to persons with low incomes. Consequently, differences in access to and quality of health care tend to be smaller among Medicare beneficiaries than among younger populations.

Surveys of the general population often do not include enough elderly to examine racial, ethnic, or socioeconomic differences in health care. Consequently, the NHDR relies upon data from the Medicare Current Beneficiary Survey to examine disparities in access to and quality of care. Findings presented here highlight two quality measures and one access measure of particular importance to the elderly:

Component of health care need:

Prevention
Access to care

Measure:

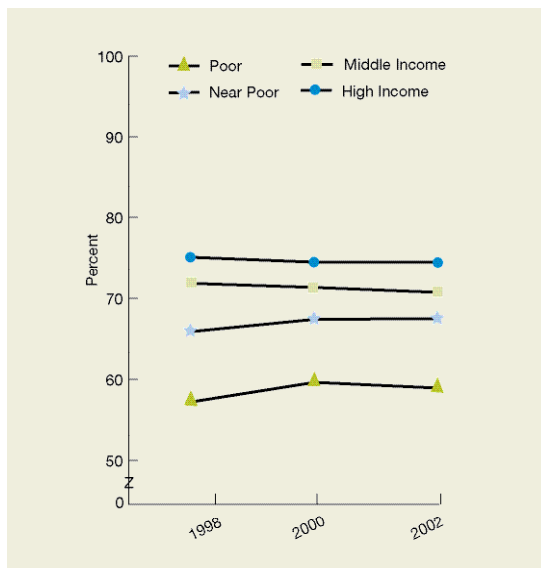
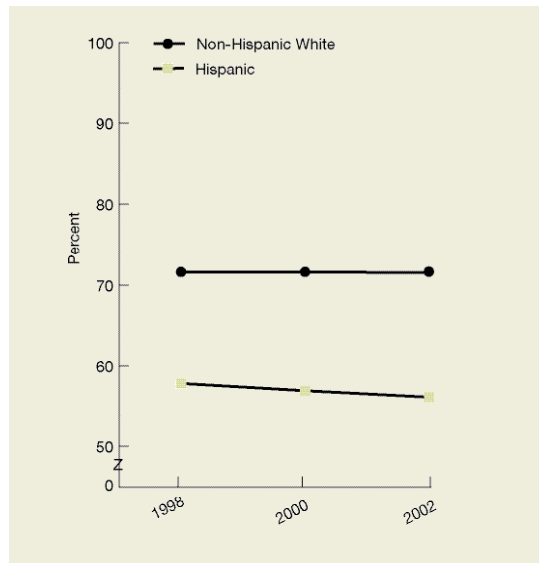
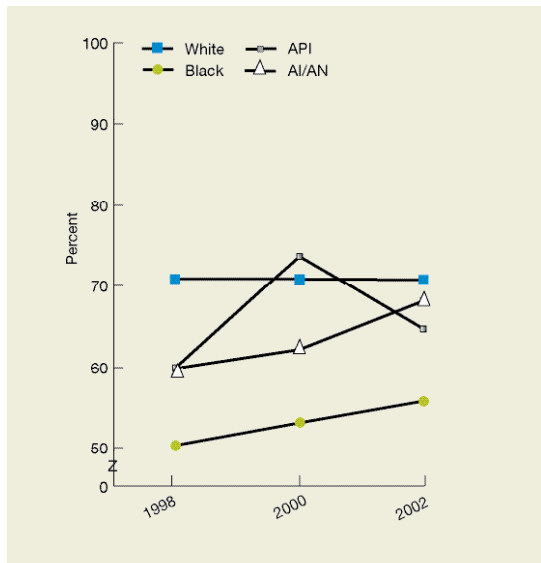
Influenza vaccination, vision care
Delayed care due to cost

Quality of Health Care

Prevention: Influenza Vaccination

Influenza is responsible for significant morbidity and decreased productivity during outbreaks. Elderly persons are at increased risk for complications from influenza infections. Vaccination is an effective strategy to reduce illness and deaths due to influenza, and annual influenza vaccination of all elderly individuals is recommended by the U.S. Preventive Services Task Force and the Centers for Disease Control and Prevention.

Figure 4.46. Elderly Medicare beneficiaries with influenza vaccination in the past year by race (top left), ethnicity (top right), and income (bottom left), 1998, 2000, and 2002



Key: AI/AN=American Indian or Alaska Native; API=Asian or Pacific Islander.

Source: Medicare Current Beneficiary Survey, 1998, 2000, 2002.

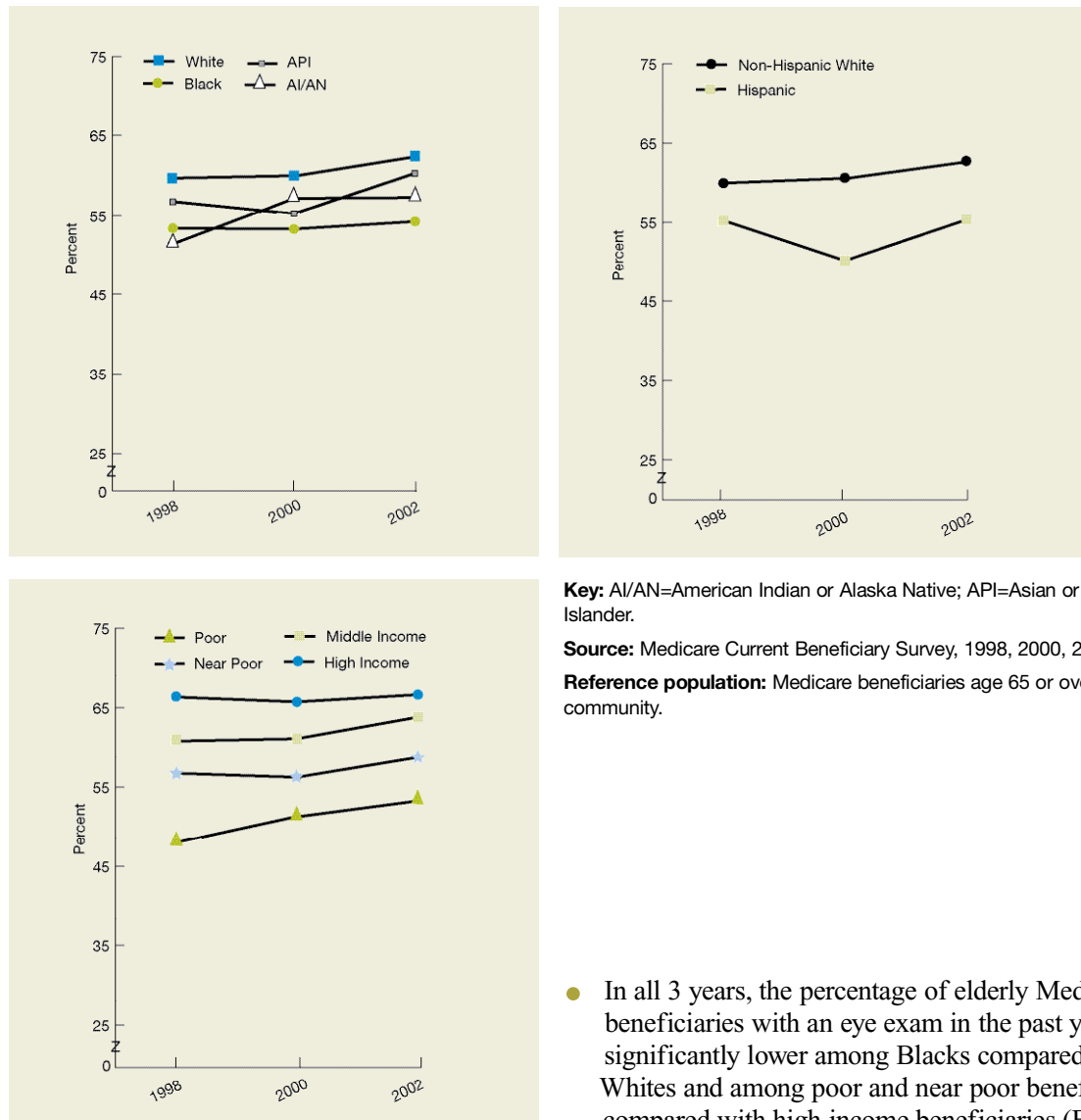
Reference population: Medicare beneficiaries age 65 or over living in the community.

- In all 3 years, the percentage of elderly Medicare beneficiaries with influenza vaccination in the past year was significantly lower among Blacks compared with Whites; among Hispanics compared with non-Hispanic Whites; and among poor, near poor, and middle income beneficiaries compared with high income beneficiaries (Figure 4.46). In 1998, the percentage was also significantly lower among APIs compared with Whites.
- From 1998 to 2002, the percentage improved among Blacks but did not change significantly for any other population group.
- In 2002, the Healthy People 2010 target of 90% of elderly Americans with influenza vaccination was not achieved by any population group.

Prevention: Vision Care

Visual impairment is a common and potentially serious problem among older people. Personal safety may be compromised as risks of falls and car accidents are increased. Because eye problems are often not recognized by the elderly, the U.S. Preventive Services Task Force recommends routine vision screening.

Figure 4.47. Elderly Medicare beneficiaries with an eye exam in the past year by race (top left), ethnicity (top right), and income (bottom left), 1998, 2000, 2002



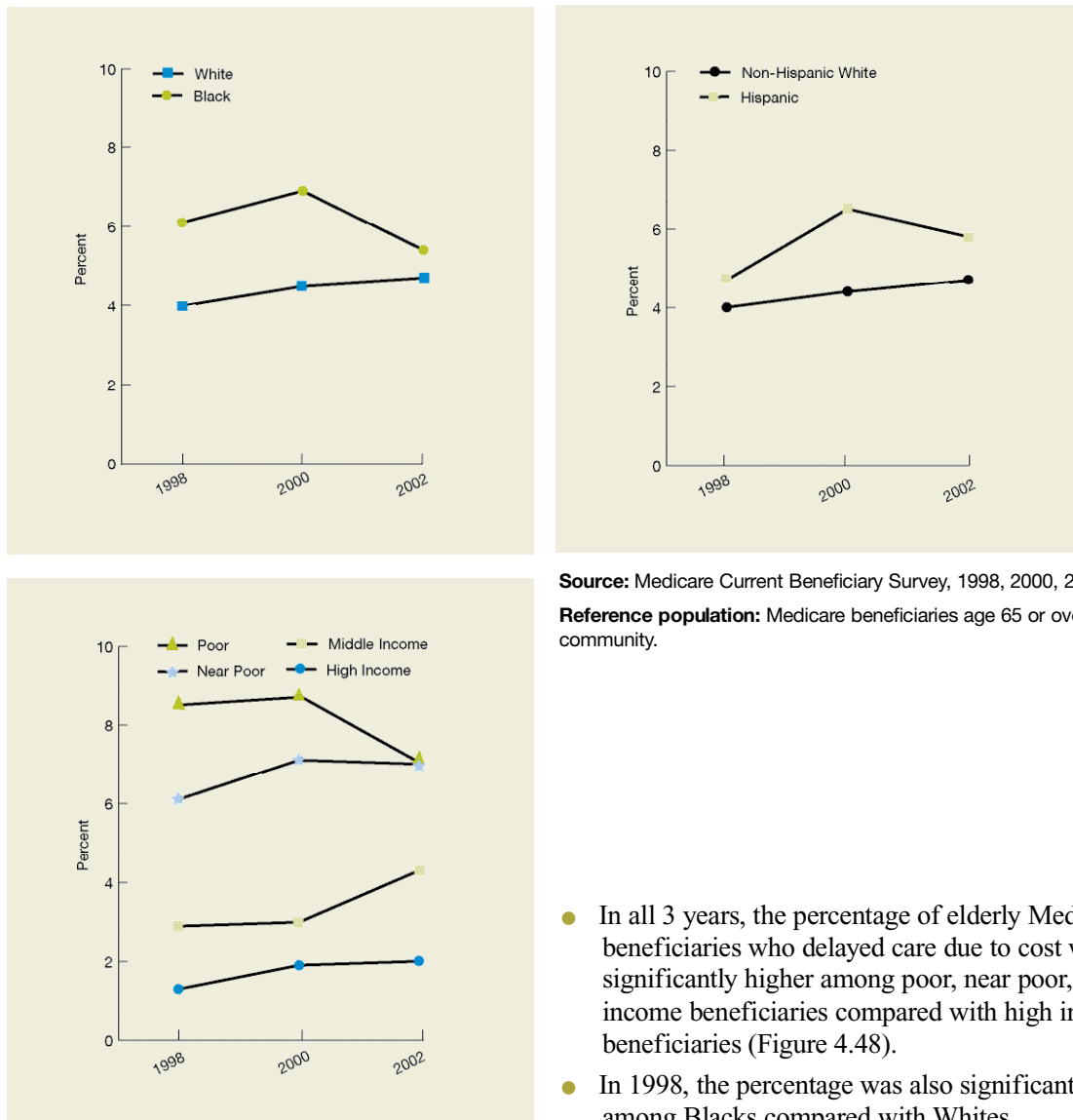
- In 2 of the 3 years, the percentage with an eye exam was also significantly lower among Hispanics compared with non-Hispanic Whites and among middle income beneficiaries compared with high income beneficiaries.
- From 1998 to 2002, the percentage of elderly Medicare beneficiaries with an eye exam within the previous year improved significantly overall and among Whites, non-Hispanic Whites, and the poor.

Access to Health Care

Delayed Care Due to Cost

Timely delivery of appropriate care has been shown to improve health care outcomes and reduce health care costs. Timely receipt of care is especially important for the elderly due to the often increased medical needs of this population. Delayed health care can lead to diagnosis at more advance disease stage and reduce opportunities for optimal treatment.^{xi}

Figure 4.48. Elderly Medicare beneficiaries who delayed health care due to cost by race (top left), ethnicity (top right), and income (bottom left), 1998, 2000, and 2002



Source: Medicare Current Beneficiary Survey, 1998, 2000, 2002.

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

- In all 3 years, the percentage of elderly Medicare beneficiaries who delayed care due to cost was significantly higher among poor, near poor, and middle income beneficiaries compared with high income beneficiaries (Figure 4.48).
- In 1998, the percentage was also significantly higher among Blacks compared with Whites.
- From 1998 to 2002, the percentage of elderly Medicare beneficiaries who delayed care due to cost rose significantly among middle income beneficiaries but did not change significantly for any other population.

^{xi}In this measure, delayed care due to cost is self-reported by patients.

Residents of Rural Areas

About 1 in 5 Americans lives in a nonmetropolitan area.⁵³ Compared with their urban counterparts, rural residents are more likely to be elderly, poor,⁵⁴ in fair or poor health, and to have chronic conditions.⁵⁴ Rural residents are less likely to receive recommended preventive services and report, on average, fewer visits to health care providers.⁵⁵

Although 20% of Americans live in rural areas,^{xii} only 9% of physicians in America practice in those settings.⁵⁶ Multiple programs help to deliver needed services in rural areas, such as the National Health Service Corps Scholarship Program, Rural Hospital Flexibility Grant Program, Small Rural Hospital Improvement Grant Program, Rural Health Outreach Grant Program, Indian Health Service, State offices of rural health, rural health clinics, and community health centers. Nurse practitioners, nurse midwives, and physician assistants also help to deliver care.

Many rural residents depend on small rural hospitals for their care. There are approximately 2,000 rural hospitals throughout the country, 1,500 of which have 50 or fewer beds. Most of these hospitals are critical access hospitals which have fewer than 25 beds. Rural hospitals largely provide primary care and chronic disease management. They face unique challenges due to their size and casemix. During the 1980's, many were forced to close because of financial losses;⁵⁷ however during the past few years, finances of small rural hospitals have improved.

Transportation needs are also pronounced among rural residents, who face longer distances to reach health care delivery sites. Of the nearly 1,000 “frontier counties”^{xiii} in the Nation, most have limited health care services and many do not have any.⁵⁸

Many measures of relevance to residents of rural areas are tracked in the NHDR. Findings presented here highlight four quality measures and one access measure of particular importance to residents of rural areas:

Component of health care need:

Prevention
Treatment
Management
Timeliness
Access to care

Measure:

Counseling children about healthy eating
Inpatient deaths from heart attack
Hospital admissions for pediatric asthma
Care for illness or injury as soon as wanted
Health insurance

^{xii} Many terms are used to refer to the continuum of geographic areas. For Census 2000, the Census Bureau's classification of “rural” consists of all territory population, and housing units located outside of urban areas and urban clusters. The Census Bureau classified as “urban” all territory, population, and housing units located within (a) core census block groups or blocks that have a population density of at least 1,000 people per square mile, and (b) surrounding census blocks that have an overall density of at least 500 people per square mile.

^{xiii} “Frontier counties” have a population density of less than 7 persons per square mile; residents travel long distances for care.

As in previous NHDRs, detailed geographic typologies have been applied to two AHRQ databases (MEPS and HCUP) to define variations in health care quality and access for a range of rural and urban locations. Federal definitions of micropolitan and noncore statistical areas (not metropolitan or micropolitan areas) published in June 2003 are used.⁵⁹ In addition, Urban Influence Codes are used to subdivide metropolitan areas into large and small metropolitan areas. Thus, categories used in this section of the NHDR may be defined as follows:

- Large metropolitan statistical area—Metropolitan area of 1 million or more inhabitants.
- Small metropolitan statistical area—Metropolitan area of fewer than 1 million inhabitants.
- Micropolitan statistical area—Urban area of at least 10,000 but fewer than 50,000 inhabitants.
- Noncore statistical area—Not metropolitan or micropolitan.

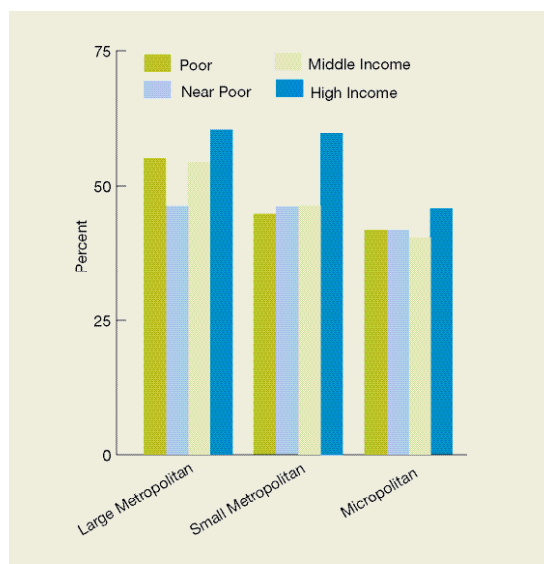
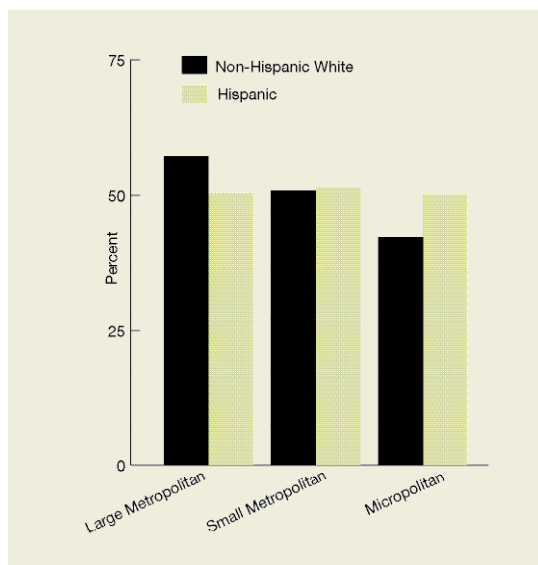
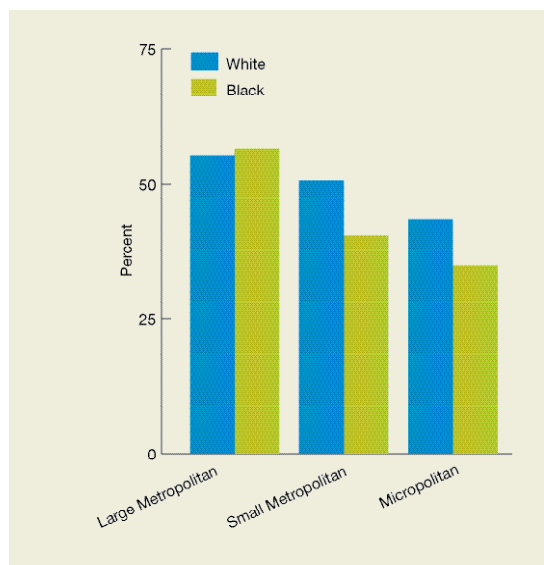
Urban-rural contrasts in this section compare residents of small metropolitan, micropolitan, and noncore statistical areas with residents of large metropolitan statistical areas. Sample sizes are often too small to provide reliable estimates for noncore statistical areas, limiting the ability to assess disparities among residents of these areas.

Quality of Health Care

Prevention: Counseling Children About Healthy Eating

Unhealthy eating contributes to overweight and obesity in childhood and an increased risk for other, chronic health problems such as diabetes and cardiovascular disease.

Figure 4.49. Children ages 2-17 whose parents/guardians reported advice from a doctor or other health provider about healthy eating by race (top left), ethnicity (top right), and income (bottom left), stratified by geographic location, 2003



Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population ages 2-17.

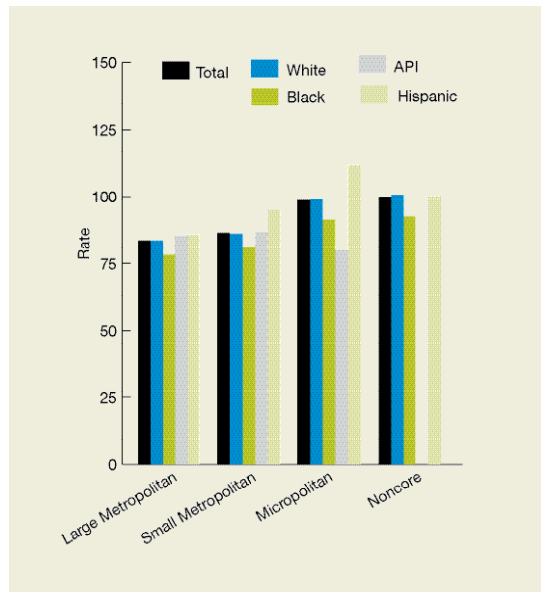
Note: Large metropolitan=metropolitan area ≥ 1 million inhabitants; small metropolitan=metropolitan area < 1 million inhabitants; micropolitan=urban area $> 10,000$ and $< 50,000$ inhabitants.

- Among children living in large metropolitan areas, the proportion of children whose parents/guardians reported advice from a health provider about healthy eating was significantly lower among Hispanics compared with non-Hispanic Whites and among those from near poor compared with those from high income families (Figure 4.49).
- Among children living in small metropolitan areas, the proportion of children whose parents/guardians reported advice from a health provider about healthy eating was significantly lower among Blacks compared with Whites and among those from poor, near poor, and middle income families compared with those from high income families
- Among children living in micropolitan areas, significant racial disparities were not observed.

Treatment: Inpatient Deaths From Heart Attack

Heart disease is the leading cause of death for both men and women in the United States, responsible for almost 700,000 deaths in 2002. About 1.2 million heart attacks occur each year. Data on inpatient hospital deaths for patients who are admitted for a heart attack (acute myocardial infarction, or AMI) are presented. To distinguish the effects of race/ethnicity on the AMI inhospital mortality rate within urban and rural areas, racial/ethnic data are stratified by urban and rural location of patient residence.

Figure 4.50. Deaths per 1,000 adult admissions with heart attack as principal diagnosis by race/ethnicity and geographic location, 2003



Key: API=Asian or Pacific Islander.

Source: HCUP State Inpatient Databases disparities analysis file, 2003.

Denominator: Adults age 18 and older hospitalized for heart attack in community hospitals.

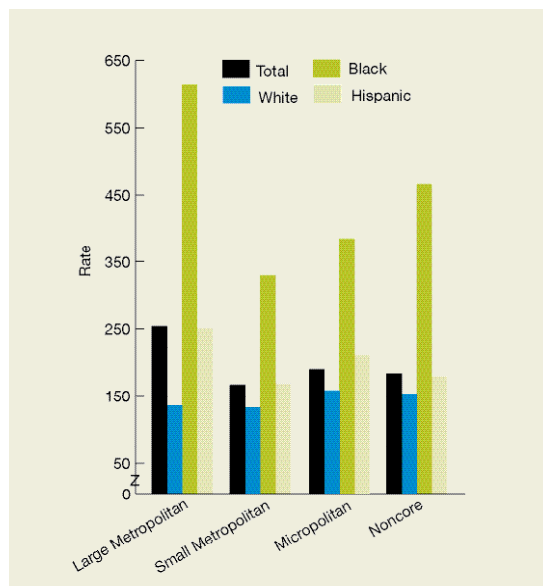
Note: White, Black, and API are non-Hispanic groups. Sample sizes were too small to provide estimates for API residents of noncore areas. Large metropolitan = metropolitan area >1 million inhabitants; small metropolitan = metropolitan area <1 million inhabitants; micropolitan = urban area >10,000 and <50,000 inhabitants; noncore = not metropolitan or micropolitan.

- The overall AMI mortality rate was significantly higher among persons from noncore, micropolitan, and small metropolitan areas compared with persons from large metropolitan areas (Figure 4.50).
- Within type of urban and rural areas, the rate of AMI mortality was significantly lower among Blacks from large metropolitan areas and significantly higher among APIs from small metropolitan areas compared with respective Whites.
- From 2001 to 2003, the rate of AMI mortality decreased significantly for persons from large metropolitan areas (from 93.5 to 83.5 deaths per 1,000 admissions), small metropolitan areas (from 100.3 to 86.4), micropolitan areas (from 105.5 to 98.6), and noncore areas (from 109.6 to 99.9) (data not shown).

Management: Hospital Admissions for Pediatric Asthma

In 2002, over 30 million Americans had been diagnosed with asthma during their lifetime, and over 4,000 Americans died from asthma.⁶⁰ A disproportionate number of children have asthma. Geographic location can affect asthma rates; inner city children may be more likely to be exposed to some environmental asthma triggers, such as cockroach antigens and air pollutants. To distinguish the effects of race/ethnicity on pediatric asthma admissions within urban and rural areas, racial/ethnic data are stratified by urban and rural location.

Figure 4.51. Pediatric asthma admissions per 100,000 population by race/ethnicity and geographic location, 2003



Source: HCUP State Inpatient Databases disparities analysis file, 2003.

Denominator: Children ages 0-17.

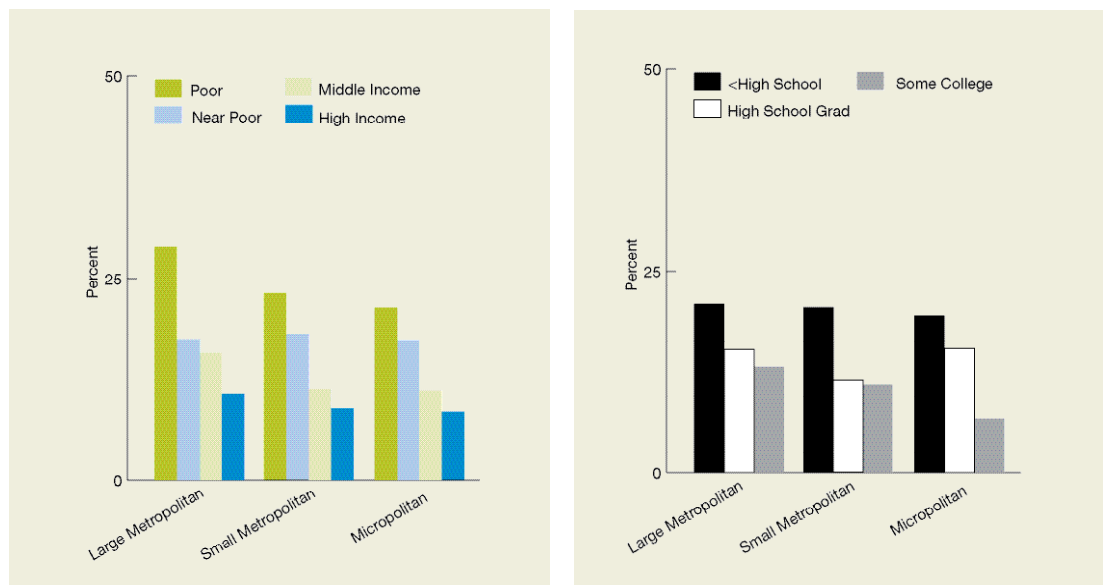
Note: White and Black are non-Hispanic groups. Large metropolitan = metropolitan area ≥ 1 million inhabitants; small metropolitan = metropolitan area < 1 million inhabitants; micropolitan = urban area $> 10,000$ and $< 50,000$ inhabitants; noncore = not metropolitan or micropolitan.

- The total rate of pediatric asthma admissions was significantly lower for persons from every area compared with persons from large metropolitan areas (Figure 4.51).
- Within type of urban and rural areas, the rate of pediatric asthma admissions was significantly higher among Blacks from large metropolitan, small metropolitan, micropolitan, and noncore areas compared with respective Whites and among Hispanics from large metropolitan areas compared with respective Whites.
- From 2001 to 2003, the rate of pediatric asthma admissions did not change significantly for persons from any type of urban or rural areas (i.e., for persons from large metropolitan areas, the rate changed from 226.5 to 254.1 admissions per 100,000 population; for small metropolitan areas, the rate changed from 156.5 to 166.8; for micropolitan areas, the rate changed from 180.2 to 189.5; for noncore areas, the rate changed from 177.1 to 182.8 admissions per 100,000 population) (data not shown).

Timeliness: Care for Illness or Injury As Soon As Wanted

Timely delivery of appropriate care has been shown to improve health care outcomes and reduce health care costs. Furthermore, when patients need or want care, having access to that care improves their health care experience, which may further promote health.

Figure 4.52. Adults who sometimes or never get care for illness or injury as soon as wanted by income (left) and education (right), stratified by geographic location, 2003



Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population.

Note: Large metropolitan=metropolitan areas ≥ 1 million inhabitants; small metropolitan=metropolitan areas < 1 million inhabitants; micropolitan=urban area $> 10,000$ and $< 50,000$ inhabitants.

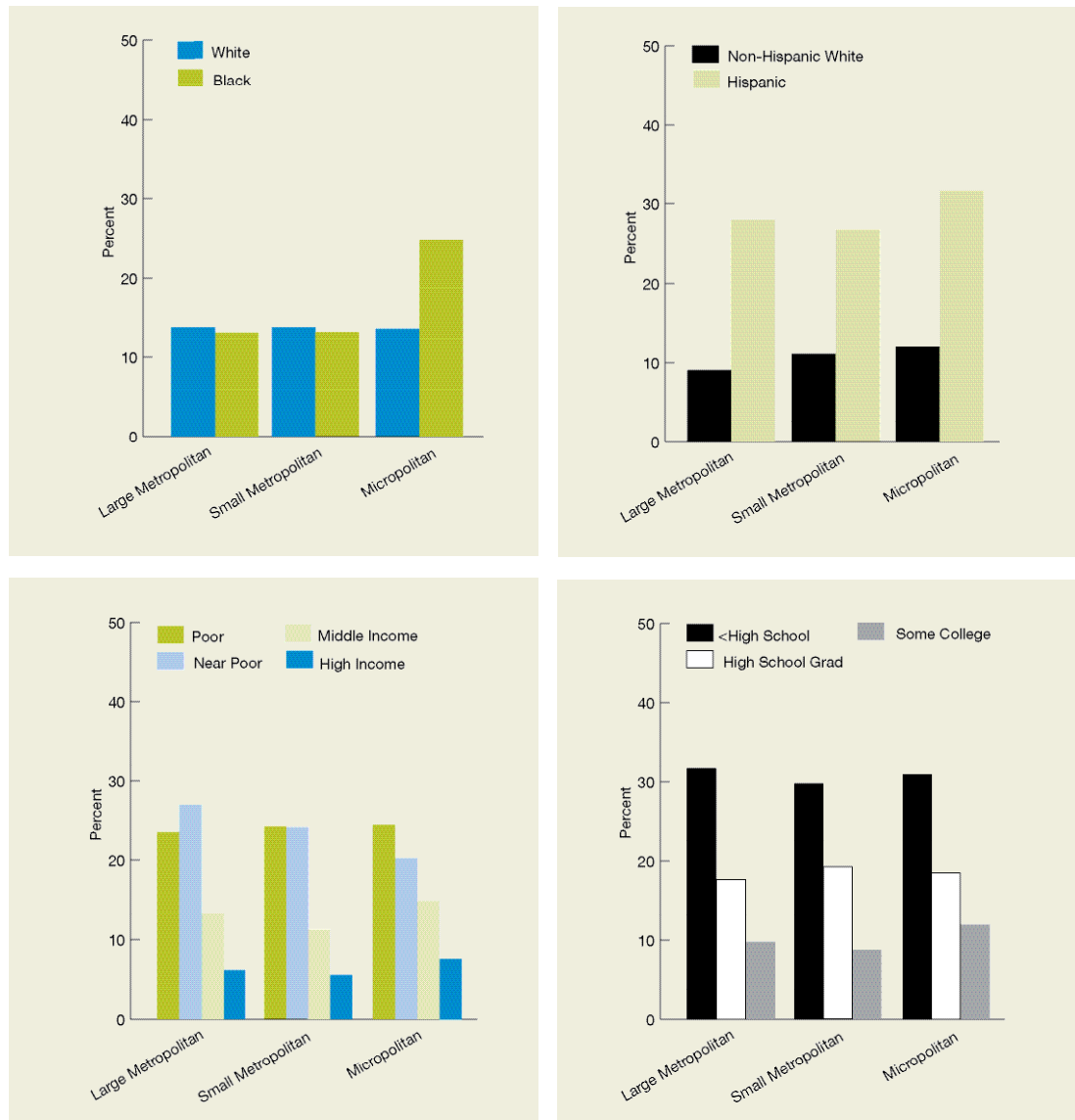
- Across all geographic areas, the proportion of persons who sometimes or never get care for illness or injury as soon as wanted did not differ significantly among patients from small metropolitan (13.2%) or micropolitan (13.0%) areas compared with patients from large metropolitan (15.4%) areas.
- Across the total U.S. population, poor, near poor, and middle income persons significantly more often than high income persons reported that they sometimes or never got care for illness or injury as soon as they wanted; and persons with less than a high school education more often than persons with at least some college reported that they sometimes or never got care for illness or injury as soon as they wanted (Figure 4.52).
- Within each geographic area, disparities persisted for poor and near poor persons and persons with less than a high school education from every urban and rural area.
- Middle income persons from large metropolitan areas also reported that they sometimes or never got care as soon as they wanted significantly more often than high income persons.
- Persons with a high school education from micropolitan areas similarly reported that they sometimes or never got care as soon as they wanted significantly more often than respective persons with some college.

Access to Health Care

Health Insurance

Access to health care is a prerequisite to receipt of care, yet many Americans still face barriers to care. Data for prolonged periods of uninsurance are presented.

Figure 4.53. Adults under age 65 uninsured all year by race (top left), ethnicity (top right), income (bottom left), and education (bottom right), stratified by geographic location, 2003



Source: Medical Expenditure Panel Survey, 2003.

Reference population: Civilian noninstitutionalized population age 18 and over.

Note: Large metropolitan = metropolitan area ≥ 1 million inhabitants; small metropolitan = metropolitan area < 1 million inhabitants; micropolitan = urban area $> 10,000$ and $< 50,000$ inhabitants.

- Across all geographic areas, the proportion of adults under age 65 uninsured all year did not differ significantly among patients from small metropolitan (13.2%) and micropolitan (15.0%) areas compared with patients from large metropolitan (13.7%) areas (Figure 4.53).
- Across the total U.S. population, the percentage of uninsured was significantly higher among Hispanics compared with non-Hispanic Whites.
- Within each geographic area, Hispanics were significantly more likely than non-Hispanic Whites to be uninsured.
- Blacks from micropolitan areas were also significantly more likely than Whites to be uninsured, although this disparity was not observed for Blacks from small or large metropolitan areas.
- Across the total U.S. population, the percentage of uninsured was significantly higher among poor, near poor, and middle income adults compared with high income adults and among adults with a high school education or less compared with adults with at least some college.
- Within each geographic area, poor, near poor, and middle income adults were significantly more likely than high income adults to be uninsured, and adults with a high school education or less were significantly more likely to be uninsured than adults with some college.

Individuals With Special Health Care Needs

Individuals with special health care needs include individuals with disabilities, individuals who utilize nursing home and home health care or end-of-life health care, and children with special health care needs (CSHCN).

Many measures of relevance to individuals with special health care needs are tracked in the NHDR. As in the 2005 report, data on quality and access are presented for younger and elderly Medicare beneficiaries with disabilities and for CSHCN, as follows:

Elderly Medicare Beneficiaries With Disabilities

Component of health care need:

Prevention

Access to care

Measure:

Mammography

Delayed care due to cost

Younger Medicare Beneficiaries With Disabilities

Component of health care need:

Prevention

Measure:

Dental care

Children With Special Health Care Needs

Component of health care need:

Timeliness

Patient centeredness

Measure:

Care for illness or injury as soon as wanted

Patient experience of care

Additionally, findings for persons who utilize nursing home care are presented in the section on nursing home, home health, and hospice care in Chapter 2, Quality of Health Care.

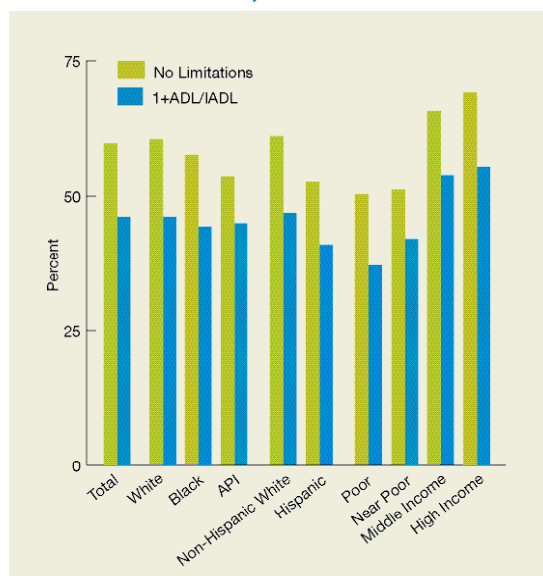
Elderly Medicare Beneficiaries With Disabilities

Several ways of defining and measuring disability exist. Two of the more common approaches are to identify functional activity limitations or to identify those meeting the eligibility criteria for a program that addresses disability, such as Social Security Disability Insurance (SSDI). A particular challenge in reporting on racial, ethnic, and socioeconomic differences related to disability is that many data collections do not capture disability and, when collected, do not have adequate sample sizes to examine racial, ethnic, and socioeconomic differences. This section uses data from the Medicare Current Beneficiary Survey to examine disparities in quality and access faced by Medicare beneficiaries age 65 and over who report problems with activities of daily living (ADLs) or instrumental activities of daily living (IADLs). About 42% of elderly Medicare beneficiaries, or 14 million people, have one or more ADLs or IADLs. Analyses of trends in disability and functioning among older adults indicate improvements in the last decade, with the prevalence of disability declining during the 1990s.⁶¹

Prevention: Mammography

Screening mammography is an effective way to discover breast cancer before a patient has symptoms and to reduce late stage cancer and mortality caused by this disease. It is recommended by the U.S. Preventive Services Task Force for all women age 40 and over.

Figure 4.54. Elderly Medicare beneficiaries with mammogram in the last year by race, ethnicity, income, and functional status, 2002



Key: API=Asian or Pacific Islander; ADL=activity of daily living; IADL=instrumental activity of daily living.

Source: Medicare Current Beneficiary Survey, 2002.

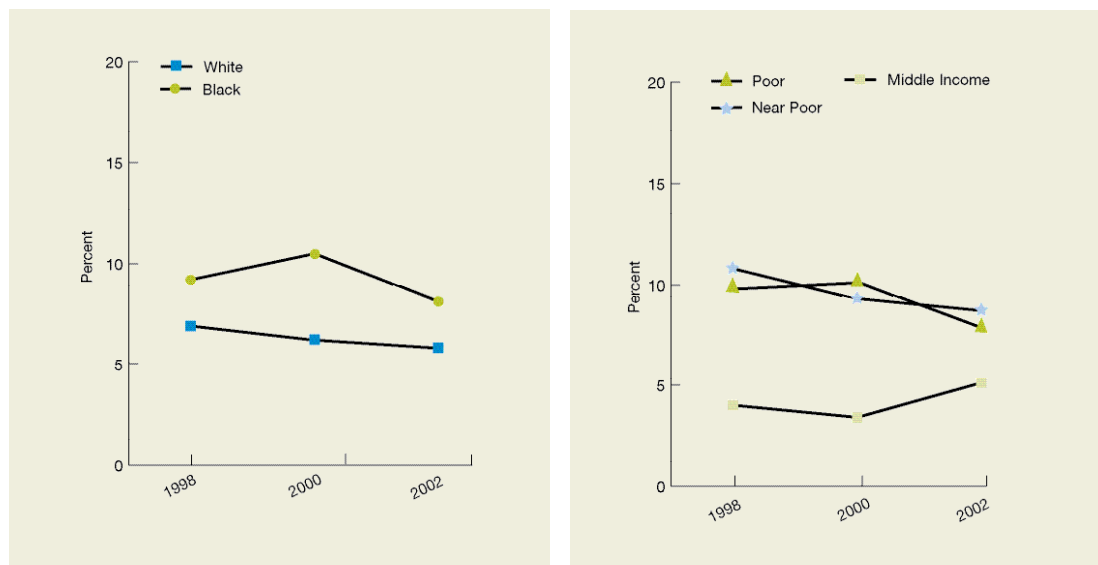
Reference population: Medicare beneficiaries age 65 or over living in the community.

- The percentage of elderly Medicare beneficiaries with a mammogram in the last year was significantly lower among individuals with functional limitations compared with those without limitations overall and for all population groups except APIs (Figure 4.54).
- Among beneficiaries with functional limitations, the percentage with a mammogram was significantly lower among poor and near poor beneficiaries compared with high income beneficiaries.
- Among beneficiaries without limitations, the percentage with a mammogram was significantly lower among Hispanics compared with non-Hispanic Whites and among poor and near poor beneficiaries compared with high income beneficiaries.
- In 2002, the Healthy People 2010 target of 70% of elderly women with a mammogram in the last year was not achieved by any population.

Access to Health Care: Delayed Care Due to Cost

Timely delivery of appropriate care has been shown to improve health care outcomes and reduce health care costs. Timely receipt of care is especially important for the elderly with disabilities due to the often increased medical needs of this population. Delayed health care can lead to diagnosis at a more advanced disease stage and reduce opportunities for optimal treatment.

Figure 4.55. Elderly Medicare beneficiaries with functional limitations who delayed health care due to cost by race (left) and income (right), 1998, 2000, and 2002



Source: Medicare Current Beneficiary Survey, 1998, 2000, and 2002.

Reference population: Medicare beneficiaries age 65 or over with one or more ADL or IADL limitations living in the community.

Note: Sample sizes are too small to provide data for high income persons. Therefore, these analyses by income compare poor and near poor persons with middle income persons.

- Overall, the percentage of elderly Medicare beneficiaries who delayed care due to cost was significantly higher among beneficiaries with functional limitations compared with those without functional limitations in all 3 years.
- In all 3 years, the percentage of elderly Medicare beneficiaries with functional limitations who delayed care due to cost was significantly higher among near poor beneficiaries compared with middle income beneficiaries (Figure 4.55). In 1998 and 2000, the percentage was also significantly higher among poor beneficiaries compared with middle income beneficiaries.
- From 1998 to 2002, the percentage of elderly Medicare beneficiaries with functional limitations who delayed care due to cost did not change significantly for any population.

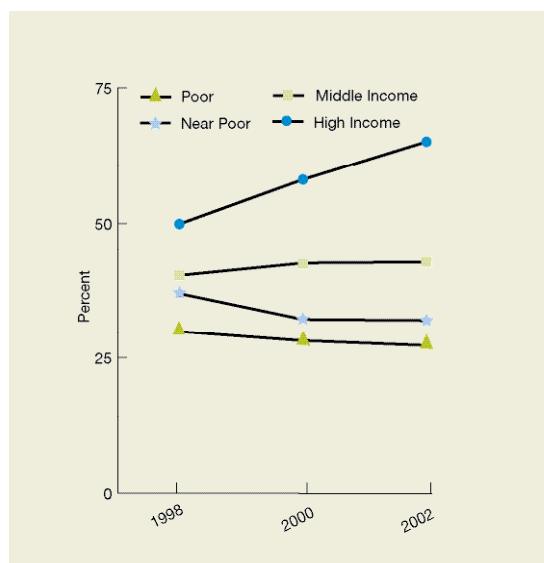
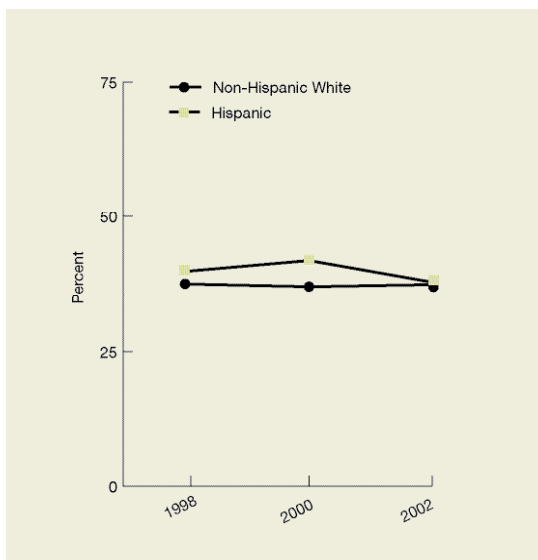
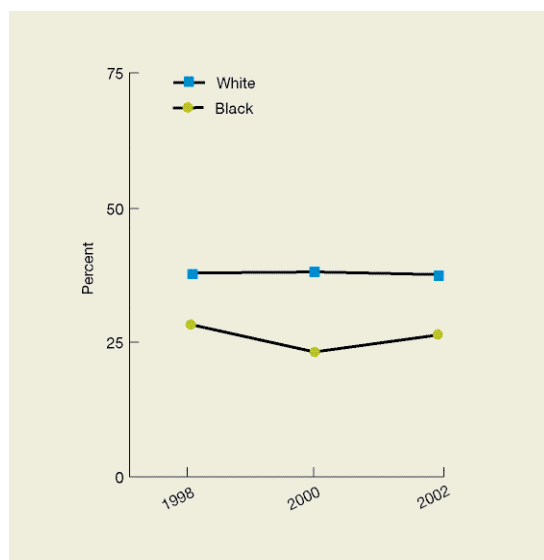
Younger Medicare Beneficiaries With Disabilities

About 5.6 million beneficiaries under age 65 qualified for Medicare in 2001, and that number is expected to grow to more than 9 million by 2020.⁶² This section uses data from the Medicare Current Beneficiary Survey to examine disparities faced by Medicare beneficiaries under age 65, most of whom qualify for Medicare on the basis of SSDI disability.

Prevention: Dental Care

Regular dental visits promote prevention, early diagnosis, and optimal treatment of oral diseases. Failure to visit a dentist can result in delayed diagnosis and overall compromised health.

4.56. Medicare beneficiaries under age 65 with dental care in the past year by race (top left), ethnicity (top right), and income (bottom left), 1998, 2000, and 2002



Source: Medicare Current Beneficiary Survey, 1998, 2000, and 2002.

Reference population: Medicare beneficiaries ages 0-64 living in the community.

- In all 3 years, the percentage Medicare beneficiaries under age 65 who reported receiving dental care in the past year was significantly lower among Blacks compared with Whites and among poor and near poor beneficiaries compared with high income beneficiaries (Figure 4.56).
- In 2000 and 2002, the percentage with dental care was also significantly lower among middle income beneficiaries compared with high income beneficiaries.
- From 1998 to 2002, the percentage of Medicare beneficiaries under age 65 who reported receiving dental care in the past year did not change significantly for any population.
- Among Medicare beneficiaries under age 65, only high

income individuals reached the Healthy People 2010 target of 56% of persons with a dental visit.

Children With Special Health Care Needs

Studying access to and quality of care for children with chronic conditions is difficult due to the low prevalence of most conditions in children.⁶³ From 12% to 23% of children have been identified as having a special health care need^{64, 65}—i.e., a chronic condition with a functional limitation or other consequence.⁶³ Among the most highly prevalent chronic conditions of childhood in 2002 were asthma (12% of children ages 0-17), respiratory allergies (12%), learning disabilities (8% of children ages 3-17), and attention-deficit hyperactivity disorder (7% of children ages 3-17).⁶⁶

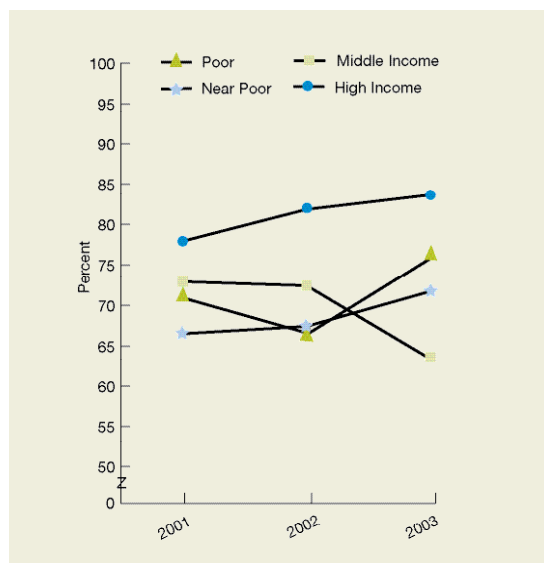
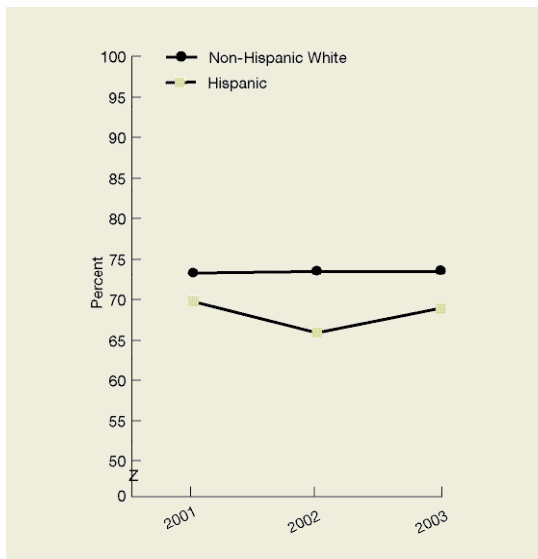
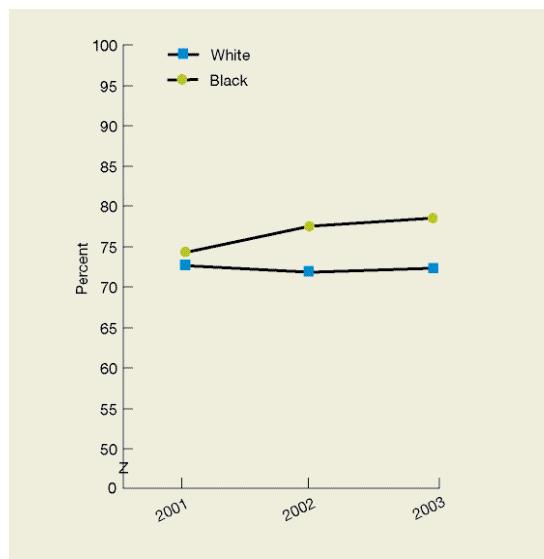
By definition, children with special health care needs are children who require more medical care because they are less healthy. As a result of requiring more medical care, CSHCN have higher medical expenses, on average, than other children.^{63, 67} For more than 1 in 5 CSHCN, costs of care caused financial problems for their families.⁶⁵ 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 in 2001.⁶⁵

Having higher health care needs makes CSHCN susceptible to access, cost, quality, and coverage weaknesses in the health care system. 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.⁶⁸

Timeliness: Care for Illness or Injury As Soon As Wanted

Timely delivery of appropriate care has been shown to improve health care outcomes and reduce health care costs, which may be particularly important for CSHCN.

Figure 4.57. Among children with special health care needs who need care right away, those who can always get care for illness or injury as soon as wanted, by race (top left), ethnicity (top right), and family income (bottom left), 2001-2003



Source: Medical Expenditure Panel Survey, 2001-2003.
Reference population: Civilian noninstitutionalized population.

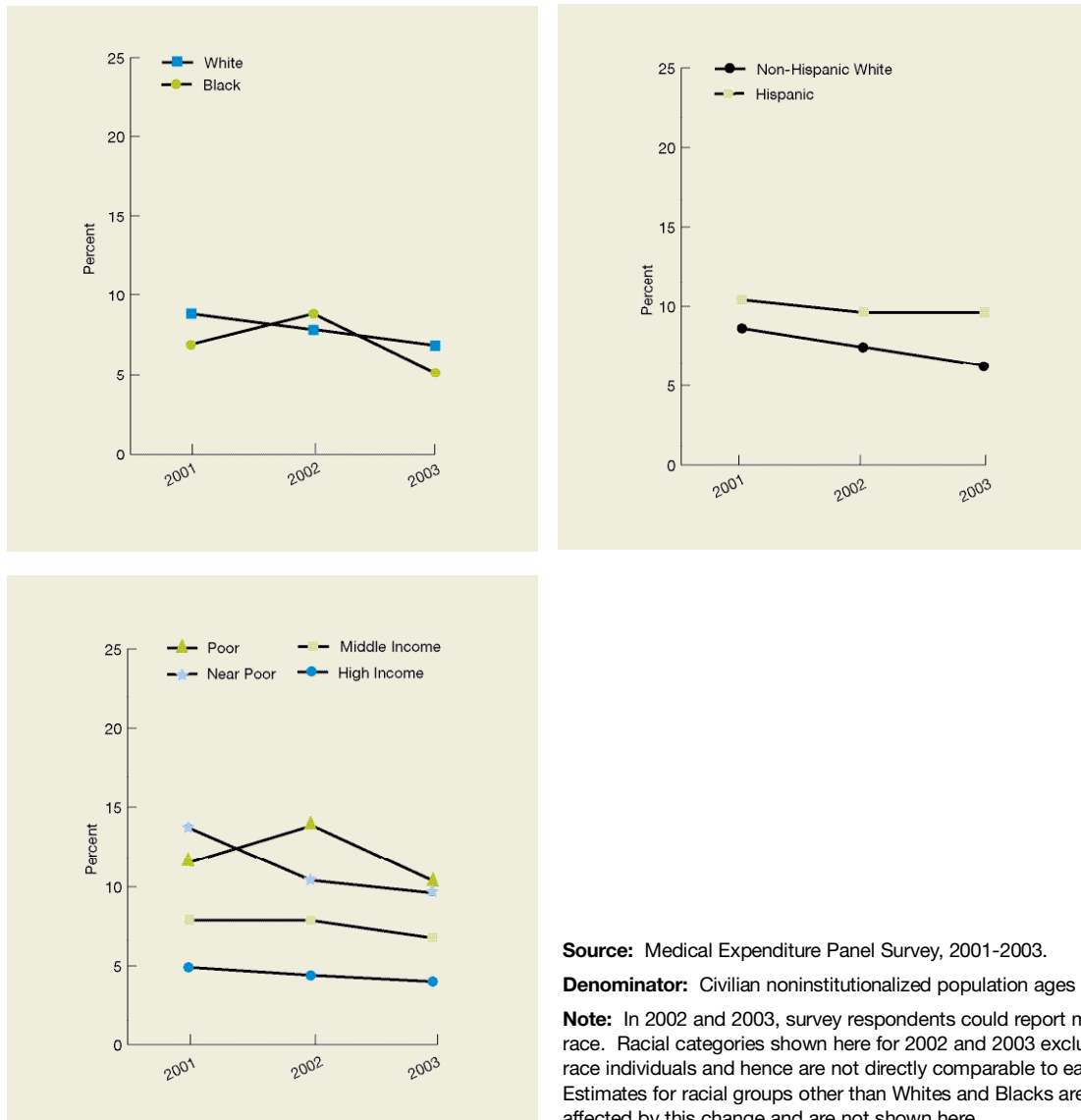
- In 2001 and 2002, the proportion of children who could always get care for illness or injury as soon as wanted was significantly lower among children with special health care needs (72.9% in 2001 and 72.7% in 2002) compared with children without special needs (78.7% in 2001 and 79.5% in 2002). In 2003, this disparity was no longer significant (73.1% for CSHCN; 77.9% for children without special needs).

- In 2003, the proportion of children with special health care needs who could always get care for illness or injury as soon as wanted was significantly lower among children from near poor and middle income families compared with children from high income families (Figure 4.57). Racial and ethnic differences were not significant.
- From 2001 to 2003, the proportion of children with special health care needs who could always get care for illness or injury as soon as wanted did not change significantly for any racial, ethnic, or income group.

Patient Centeredness: Patient Experience of Care

Patient centered health care requires good communication to ensure that a patient’s needs and preferences are best met. For CSHCN, good communication with the child’s parent/guardian is especially important to ensure their more complex and greater health care needs are optimally addressed.

Figure 4.58. Children with special health care needs whose parents/guardians reported that their child’s health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, and spent enough time with them, by race (top left), ethnicity (top right), and family income (bottom left), 2001-2003



- In 2001 and 2002, parents/guardians of children with special health care needs were significantly more likely to report that their child’s health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, or spent enough time with them (8.5% in 2001 and 8.2% in 2002) compared with parents of children without special health care needs (6.4% in 2001 and 6.3% in 2002).

- In 2003 this disparity was eliminated (7.1% for children with special health care needs; 5.8% for children without special health care needs).
- In all 3 years, children with special health care needs in poor and near poor families were significantly more likely to report communication problems compared with those in high income families (Figure 4.58).
- In 2003, Hispanic and middle income children with special health care needs were significantly more likely than non-Hispanic White and high income children with special health care needs, respectively, to report communication problems.
- From 2001 to 2003, the proportion of children with special health care needs whose parents/guardians reported that their child's health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, or spent enough time with them did not change significantly or for any racial, ethnic, or income group.

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List of Core Measures

Core Measures, Data Sources, and Availability for Select Groups

Measure	Data source	Black	Hispanic	Asian or API	AI/AN	Poor
Quality						
Colorectal cancer incidence per 100,000 men and women age 50 and over diagnosed at advanced stage	SEER	✓	✓	✓	✓	
Deaths per 100,000 persons due to colorectal cancer	NVSS-M	✓	✓	✓	✓	
Adults age 40 and over with diabetes who had all three exams in last year: hemoglobin A1c test, retinal eye examination, and foot examination	MEPS	✓	✓			✓
Hospital admissions for lower extremity amputations in patients with diabetes	NHDS	✓				
Dialysis patients registered on the waiting list for transplantation	USRDS	✓	✓	✓	✓	
Hemodialysis patients with adequate dialysis	ESRD CPMP	✓	✓	✓	✓	
Smokers receiving advice to quit smoking	MEPS	✓	✓			✓
Obese adults who were given advice about exercise	MEPS	✓	✓			✓
Hospital care for heart attack patients	QIO	✓	✓	✓	✓	
Hospital care for acute heart failure patients	QIO	✓	✓	✓	✓	
Deaths per 1,000 adult admissions with acute myocardial infarction	HCUP	✓	✓	✓		✓
New AIDS cases among persons ages 13 and over	CDC AIDS Surveillance	✓	✓	✓	✓	
Pregnant women receiving prenatal care in first trimester	NVSS-N	✓	✓	✓	✓	
Infant mortality per 1,000 live births, birthweight <1,500 grams	NVSS-N	✓	✓	✓	✓	
Children 19-35 months who received all recommended vaccinations	NIS	✓	✓	✓	✓	✓
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	NHIS	✓	✓			✓
Admissions for pediatric gastroenteritis per 100,000 population age less than 18 years	HCUP	✓	✓	✓		✓

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

List of Core Measures

Core Measures, Data Sources, and Availability for Select Groups (continued)

Measure	Data source	Black	Hispanic	Asian or API	AI/AN	Poor
Children age 2-17 who received advice about healthy eating from a doctor or other health provider	MEPS	✓	✓	✓		✓
Children age 3-6 whose vision was checked by a doctor or other health provider	MEPS	✓	✓			✓
Deaths due to suicide per 100,000 persons	NVSS-N	✓	✓	✓	✓	
Adults with past year major depressive episode who received treatment for depression	NSDUH	✓	✓			✓
Persons age 12 and over who needed treatment for any illicit drug use and who received such treatment at a specialty facility	NSDUH	✓	✓		✓	✓
Persons receiving substance abuse treatment who completed the treatment course	TEDS	✓	✓			
People 65 and over who ever received pneumococcal vaccination	NHIS	✓	✓	✓	✓	✓
Hospital care for pneumonia patients	QIO	✓	✓	✓	✓	
Antibiotics prescribed at visits with a diagnosis of common cold per 10,000 population	NAMCS-NHAMCS	✓				
Admissions for pediatric asthma per 100,000 population age less than 18 years	HCUP	✓	✓	✓		✓
Tuberculosis (TB) patients who complete a curative course of treatment within 12 months of initiation of treatment	CDC TB Surveillance	✓	✓	✓	✓	
Long-stay nursing home residents who were physically restrained	MDS	✓	✓	✓	✓	
High-risk long-stay nursing home residents who have pressure sores	MDS	✓	✓	✓	✓	
Short-stay nursing home residents who have pressure sores	MDS	✓	✓	✓	✓	
Home health care patients who get better at walking or moving around	OASIS	✓	✓	✓	✓	
Home health care patients who had to be admitted to the hospital	OASIS	✓	✓	✓	✓	

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

List of Core Measures

Core Measures, Data Sources, and Availability for Select Groups (continued)

Measure	Data source	Black	Hispanic	Asian or API	AI/AN	Poor
Surgical patients with postoperative pneumonia, urinary tract infection, and/or venous thromboembolic event	MPSMS	✓				
Surgical patients with appropriate timing of prophylactic antibiotics	QIO	✓	✓	✓	✓	
Patients receiving central venous catheters with bloodstream infection and/or mechanical adverse event	MPSMS	✓				
Deaths per 1,000 discharges among patients with select complications of care	HCUP	✓	✓	✓		
Elderly with at least one prescription for a potentially inappropriate medication	MEPS	✓	✓			✓
Adults who can sometimes or never get care for illness or injury as soon as wanted	MEPS	✓	✓	✓		✓
Emergency department visits in which patient left before being seen	NHAMCS	✓				
Adults whose health providers sometimes or never listen carefully, explain things, show respect, and spend enough time with them	MEPS	✓	✓	✓	✓	✓
Children whose health providers sometimes or never listen carefully, explain things, show respect, and spend enough time with them	MEPS	✓	✓	✓		✓
Access						
People under 65 with health insurance	NHIS	✓	✓	✓	✓	✓
People uninsured all year	MEPS	✓	✓	✓	✓	✓
People who have a specific source of ongoing care	NHIS	✓	✓	✓	✓	✓
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	✓	✓			✓

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

List of Core Measures

Key to Data Sources:

ESRD CPMP = End Stage Renal Disease Clinical Performance Measures Project

HCUP = Healthcare Cost and Utilization Project

MDS = Minimum Data Set

MEPS = Medical Expenditure Panel Survey

MPSMS = Medicare Patient Safety Monitoring System

NAMCS = National Ambulatory Medical Care Survey

NHAMCS = National Hospital Ambulatory Medical Care Survey

NHDS = National Hospital Discharge Survey

NHIS = National Health Interview Survey

NIS = National Immunization Survey

NSDUH = National Survey on Drug Use and Health

NVSS-M = National Vital Statistics System, Mortality

NVSS-N = National Vital Statistics System, Natality

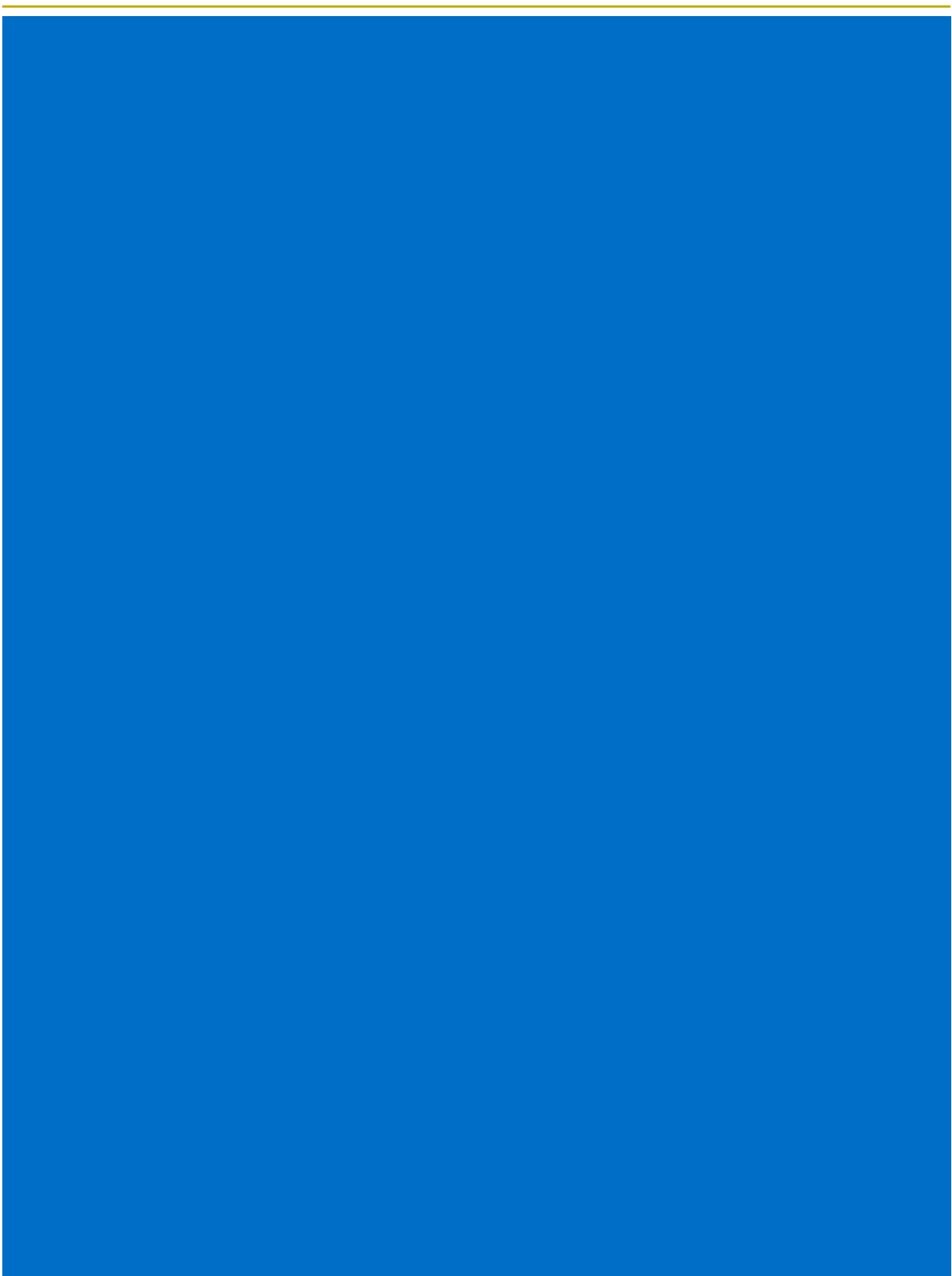
OASIS = Outcome and Assessment Information Set

QIO = Quality Improvement Organization Program

SEER = Surveillance, Epidemiology, and End Results Program

TEDS = Treatment Episode Data Set

USRDS = United States Renal Data System



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Health and Human Services**

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AHRQ Publication No. 07-0012
December 2006