National Healthcare Disparities Report

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National Healthcare Disparities Report

2007

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2007 National Healthcare Disparities Report—At A Glance

The National Healthcare Disparities Report (NHDR) describes the quality of and access to care for multiple subgroups across the United States, and also represents a source of information for tracking the Nation's progress over time. The observed disparities vary by condition and population.

Overall, disparities in quality and access for minority groups and poor populations have not been reduced since the first NHDR. Based on 2000 and 2001 data compared with this year's 2004 and 2005 data (depending on the data source), the number of measures on which disparities have gotten significantly worse or have remained unchanged since the first NHDR is higher than the number of measures on which they have gotten significantly better for Blacks, Hispanics, American Indians and Alaska Natives, Asians, and poor populations.

While some of the biggest disparities in quality remain, progress has been made in reducing disparities. Some examples of disparities that have been reduced include:

- The disparity between Black and White hemodialysis patients with adequate dialysis was eliminated in 2005.
- The disparity between Asians and Whites who had a usual primary care provider was eliminated in 2004.
- The disparity between Hispanics and non-Hispanic Whites and between people living in poor communities and people living in high income communities for hospital admissions for perforated appendix was eliminated in 2004.
- Significant improvements were observed in childhood vaccinations for most priority populations.

This year, the NHDR also reports on the biggest disparities in quality documented over the years where there has not been improvement:

- Blacks had a rate of new AIDS cases 10 times higher than Whites.
- Asian adults age 65 and over were 50% more likely than Whites to lack immunization against pneumonia.
- American Indians and Alaska Natives were twice as likely to lack prenatal care in the first trimester as Whites.
- Hispanics had a rate of new AIDS cases over 3.5 times higher than that of non-Hispanic Whites.
- Poor children were over 28% more likely than high income children to experience poor communication with their health care providers.

The relationship between access to care and quality of care is complex. The 2007 NHDR shows that the uninsured face greater challenges than the insured in getting access to high quality health care. Moreover, based on analyses of a set of core quality measures, the factor most consistently related to better quality is whether a patient is insured.

Key Themes and Highlights From the National Healthcare Disparities Report

This 2007 report is the fifth National Healthcare Disparities Report (NHDR). It is produced by the Agency for Healthcare Research and Quality (AHRQ) on behalf of the U.S. Department of Health and Human Services (HHS) and in collaboration with an HHS-wide Interagency Work Group. The NHDR provides a comprehensive national overview of disparities in health care among racial, ethnic, and socioeconomic[i] groups in the general U.S. population and within specific priority populations,[ii] and it tracks the progress of activities to reduce disparities. The NHDR tracks disparities related to the quality of and access to health care.

This fifth report attempts to answer the following question: Are we getting better at addressing disparities in the quality of and access to health care for priority populations in America? To do this, the report examines a set of 42 measures of quality and 8 measures of access. For each measure, the 2007 NHDR attempts to present a snapshot of the gaps between each racial, ethnic, and socioeconomic priority group and a comparison group. More importantly, where gaps exist, this report attempts to systematically discuss whether these gaps are getting bigger or smaller.

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—facilitators[iii] 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.

In the 2007 NHDR, three key themes emerge:

- Overall, disparities in health care quality and access are not getting smaller.
- Progress is being made, but many of the biggest gaps in quality and access have not been reduced.
- The problem of persistent uninsurance is a major barrier to reducing disparities.

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[i] Socioeconomic differences include differences in education and income levels.

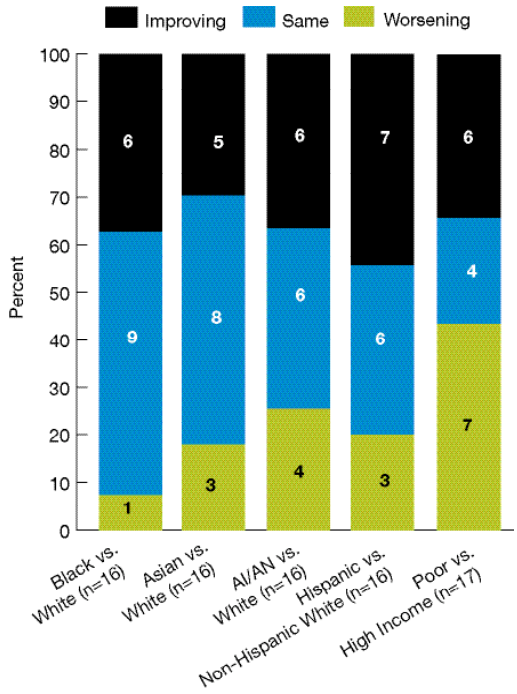
[ii] Priority populations specified by the Healthcare Research and Quality Act of 1999 include racial and ethnic populations, low income, women, children, elderly, individuals with special health care needs, and residents of rural and urban areas.

[iii] 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.

Overall, Disparities in Health Care Are Not Getting Smaller

The 2007 NHDR finds that, across all core measures and for all priority groups, the number of measures of quality and access where disparities[iv] exist grew larger between 2000-2001 and 2004-2005. To quantify the prevalence of disparities across the core measures tracked in the 2007 report, racial and ethnic minority groups and socioeconomic groups are compared with an appropriate reference group[v] for each core measure.[vi] Each group could receive care that is poorer than, about the same as, or better than the reference group.

Figure H.1. Change in disparities in core quality measures over time for members of selected groups compared with reference group from 2000-2001 to 2004-2005



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

Same = Population-reference group difference changing at less than 1% per year.

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. Data presented are the most recent data available. Measures presented here for racial and ethnic minority groups are a subset of the core measures set that has data for all groups. Some measures for the poor are different from the measures used for racial and ethnic groups.

To facilitate comparisons across racial and ethnic groups, this year's report focuses on 16 of the 42 core measures of quality and 6 core measures of access that support reliable estimates for all groups, including Whites, Blacks,[vii] Asians,[viii] American Indians and Alaska Natives (AI/ANs), and Hispanics. (Core measures

[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] 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.

[vi] For a list of all core measures and the core measures included in these summary analyses, see Chapter 1, Introduction and Methods.

[vii] The NHDR officially uses the term "Blacks or African Americans" in accordance with the U.S. Office of Management and Budget. However, the text of the NHDR often refers simply to "Blacks."

[viii] "Asian" includes Asian or Pacific Islander when information is not collected separately for each group.

that did not have estimates for one or more groups due to data reliability or availability are not included in this summary analysis.) Comparisons by income group focus on 17 core measures of quality and 6 core measures of access that support reliable estimates by income.[ix] For this analysis of trends, for each core measure, racial and ethnic minority groups and socioeconomic groups are compared with a designated reference group at different points in time (Figure H.1).[x] Significant trends in disparities are identified using the following method:

- 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.
- Core measures for which the relative differences are becoming larger at a rate of more than 1% per year are identified as worsening.

Figure H.1 shows that:

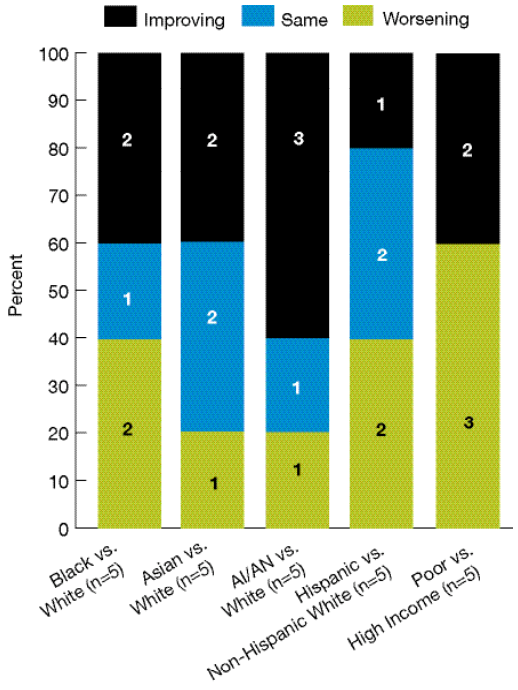
- Some disparities are getting smaller. For Hispanics, just under half of disparities in quality of care are improving. For Blacks, AI/ANs, and poor populations, over one-third of disparities in quality are lessening.
- At the same time, for Blacks, Asians, AI/ANs, and poor populations, over 60% of disparities in quality are not getting smaller. For Hispanics, 56% of disparities in quality are not getting smaller.

Getting into the health care system and receiving appropriate health care in a timely fashion is a key factor in determining whether health care services are effective. Many Americans enjoy good access to primary and hospital care, but for many priority populations, barriers exist to getting needed health care. Reducing disparities can improve overall quality. All population groups should receive comparable quality of care. Figure H.2 is a summary of trends in the core measures of access with data available for all racial and ethnic groups. For each core measure, racial and ethnic minority groups and socioeconomic groups are compared with a designated reference group at different points in time.

[ix] Readers will note that findings in the 2007 Highlights suggest a snapshot of disparities similar to that shown in the 2006 report. Specifically, in the 2006 NHDR, a uniform set of quality measures and access measures is analyzed for all racial, ethnic, and income groups. However, four of the core measures with data available for all groups were changed this past year due to new calculation methods. Therefore, it is not possible to compare these measures over time. For a list of measures that changed between the 2006 and 2007 reports and the methods for determining statistical differences, see Chapter 1, Introduction and Methods.

[x] Consistent with Healthy People 2010, disparities are measured in relative terms as the percentage difference between each group and a reference group; changes are measured by subtracting the percentage difference 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.

Figure H.2. Change in disparities in core access measures over time for members of selected racial/ethnic and income groups compared with reference group from 2000-2001 to 2004-2005*



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

Same = Population-reference group difference changing at less than 1% per year.

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. Data presented are the most recent data available.

*The most recent year data for AI/ANs is 2003.

- For AI/ANs, 60% of the core measures that can be tracked over time are improving.
- For Blacks, Asians, Hispanics, and poor populations, at least half of the core measures used to track access are not improving.
- For Hispanics, 80% of core access measures have either remained unchanged or gotten worse.
- For Blacks, 60% of core access measures have either remained unchanged or gotten worse.

Progress Is Being Made, but Many of the Biggest Gaps in Quality Have Not Been Reduced

In publishing the NHDR, it is hoped that the data can be used to identify the most important gaps in care as well as improvements for priority populations. Such data would allow targeting of resources and efforts to improve care and narrow the gaps in care for racial and ethnic minorities and poor populations. Some selected improvements in preventive care, chronic care management, and access to care have led to the elimination of disparities for some priority populations. At the same time, many of the largest disparities have not changed significantly.

A summary of improvements in disparities among the core measures in the report is presented in Table H.1. A relative rate is a ratio that compares one group with the reference group. (Whites are used as the reference group to compare with racial/ethnic minorities, and high income is used to compare with low income.)

Table H.1 Relative rates for core measures that showed reduction in disparities for selected groups over time, 2000-2001 to 2004-2005[a]

Group	Measure	Relative rate[b] for earliest year in NHDR	Relative rate[b] for most recent year in NHDR
Black compared with White	Hemodialysis patients with adequate dialysis (urea reduction ratio 65% or greater)*	1.29	1.08
	New AIDS cases per 100,000 population age 13 and over	10.4	10.0
	Children 19-35 months who received all recommended vaccines	1.31	1.14
Asian compared with White	Persons who have a usual primary care provider*	1.40	1.13
	Children 19-35 months who received all recommended vaccines	1.21	1.12
	Tuberculosis patients who completed a curative course of treatment within 12 months of initiation of treatment	1.09	.97
AI/AN compared with White	High-risk short-stay nursing home residents who developed pressure sores	1.15	1.06
	High-risk long-stay nursing home residents who developed pressure sores	1.17	1.07
Hispanic compared with Non-Hispanic White	Adult perforated appendix per 1,000 admissions with appendicitis*	1.06	1.01
	Adults who can sometimes or never get care for illness or injury as soon as wanted	2.00	1.62
	Children 19-35 months who received all recommended vaccines	1.28	1.18
	New AIDS cases per 100,000 population age 13 and over	3.64	3.52
	Pregnant women receiving prenatal care in first trimester	2.12	2.03
Poor compared with High income	Adult perforated appendix per 1,000 admissions with appendicitis*	3.47	1.10
	Persons under age 65 with health insurance	6.15	4.86

Key: Relative rate >1.0 means the priority population group rate was worse than the reference group. Relative rate 1.0 means the priority population group rate is the same as the reference group. Relative rate <1.0 means the priority population group rate was better than the reference group.

[a] Measures selected from core measure set if findings met two criteria: (1) if the gap between the minority group and reference group decreased as indicated by a decrease in relative rate from earliest year to most recent year and (2) if the difference between the priority population group estimate for the most recent year and the earliest year was statistically significant and improved by at least 1% per year (see Methods section in Chapter 1 on criteria for reporting change over time).

[b] Relative rates are used to quantify the magnitude of disparities between the priority population and reference group. The relative rate for each group is calculated by dividing the group rate by the reference group rate.

* No disparity between selected group and reference group was reported in the most recent year for this measure since the most recent year estimate was not statistically different from the White estimate.

Overall, four of the core measures showed disparities getting smaller and have been eliminated:

- From 2001 to 2005, the proportion of Black hemodialysis patients with adequate dialysis improved (from 82% to 87%; in 2005 this rate was not statistically different from Whites), and the gap between Blacks and Whites decreased (from a relative rate of 1.29 to 1.08).
- From 2002 to 2004, the proportion of Asians with a usual primary care provider improved (from 69.3% to 75.2%), and the gap between Asians and Whites in having a usual primary care provider decreased (from a relative rate of 1.40 to 1.13).
- From 2001 to 2004, the proportion of Hispanics who had a hospital admission for perforated appendix decreased (from 322.4 per 1,000 admissions to 291.8 per 1,000 admissions), and the gap between Hispanics and non-Hispanic Whites decreased (from a relative rate of 1.06 to 1.01).
- From 2001 to 2004, the proportion of people living in poor communities who had a hospital admission for perforated appendix decreased (from 344.2 per 1,000 admissions to 307.7 per 1,000 admissions), and the gap between poor and high income decreased (from 3.47 to 1.10).

Other improvements among core measures include:

- Children who received recommended vaccines among Blacks, Asians, and Hispanics.
- New AIDS cases for Blacks and Hispanics.
- Tuberculosis treatment for foreign-born Asians.
- Nursing home residents who developed pressure sores for AI/ANs.
- Adults who can sometimes or never get care as soon as wanted and prenatal care for pregnant women for Hispanics.
- For the poor, people under age 65 with health insurance.

These findings show there has been some progress in decreasing disparities. Each racial and ethnic group showed improvements in some areas. However, not all improvements closed the gap between these groups and reference groups.

In 2005, the NHDR reported on the biggest gaps that existed in health care quality in America for Blacks, Asians, AI/ANs, Hispanics, and poor populations. As a reference to examine whether progress has been made in addressing disparities, this year's NHDR presents the same analysis using the most currently available data. The "biggest gaps" are defined as those quality measures with the largest relative rates between Whites and racial and ethnic minorities and between high income and poor individuals. This analysis is presented in Table H.2.

Table H.2. Three largest disparities in quality of health care for selected groups: measure and rate relative to reference group, 2005 NHDR versus 2007 NHDR (Measures that have the largest gaps in both the 2005 and 2007 NHDR are in *italics*.)

Group	2005 NHDR Measure	2005 NHDR Relative rate	2007 NHDR Measure	2007 NHDR Relative rate
Black	*New AIDS cases per 100,000 population age 13 and over*	*10.4*	*New AIDS cases per 100,000 population age 13 and over*	*10.0*
	Hospital admissions for pediatric asthma per 100,000 population ages 2-17	*4.0*	*Hospital admissions for pediatric asthma per 100,000 population ages 2-17*	*3.8*
	Percent of patients who left the emergency department without being seen	1.9	Hospital admissions for lower extremity amputations in patients with diabetes per 100,000 population	3.8
Asian	Persons age 18 or older with serious mental illness who did not receive mental health treatment or counseling in the past year	1.6	Composite: Adults who reported poor communication with health providers	1.6
	Adults who can sometimes or never get care for illness or injury as soon as wanted	1.6	Long-stay nursing home residents who were physically restrained	1.5
	Adults age 65 and over who did not ever receive pneumococcal vaccination	*1.5*	*Adults age 65 and over who did not ever receive pneumococcal vaccination*	*1.5*
AI/ANs	*Women not receiving prenatal care in the first trimester*	*2.1*	*Women not receiving prenatal care in the first trimester*	*2.1*
	Composite: Adults who reported poor communication with health providers	*1.8*	*Composite: Adults who reported poor communication with health providers*	*1.8*
	Children ages 2-17 with no advice about physical activity	1.3	Women age 40 and over who reported they did not have a mammogram within the past 2 years	1.8
Hispanic	*New AIDS cases per 100,000 population age 13 and over*	*3.7*	*New AIDS cases per 100,000 population age 13 and over*	*3.5*
	Adults who can sometimes or never get care for illness or injury as soon as wanted	2.0	Hospital admissions for lower extremity amputations in patients with diabetes per 100,000 population	2.9
	Composite: Children whose parents reported poor communication with their health providers	1.8	Women not receiving prenatal care in the first trimester	2.0

Table H.2. Three largest disparities in quality of health care for selected groups: measure and rate relative to reference group, 2005 NHDR versus 2007 NHDR (Measures that have the largest gaps in both the 2005 and 2007 NHDR are in *italics*.) (continued)

Group	2005 NHDR Measure	2005 NHDR Relative rate	2007 NHDR Measure	2007 NHDR Relative rate
Poor	*Composite: Children whose parents reported poor communication with their health providers*	*3.3*	*Composite: Children whose parents reported poor communication with their health providers*	*3.0*
	Adults who can sometimes or never get care for illness or injury as soon as wanted	*2.3*	*Adults who can sometimes or never get care for illness or injury as soon as wanted*	*2.4*
	Children ages 2-17 who did not have a dental visit	2.0	Women age 40 and over who reported they did not have a mammogram within the past 2 years	2.1

Note: Relative rate is used to compare one group with its reference group. It is calculated by dividing the group's estimate by the reference group's estimate. For example, the relative rate of new AIDS cases for Blacks compared with Whites is 10.0 in the 2007 NHDR. This means that Blacks have a rate that is 10 times higher than Whites for this measure.

Most of the largest gaps reported in 2005 remain the largest gaps in this year's NHDR. The two largest gaps reported in 2005 remain among the largest gaps in the 2007 NHDR:

- For Blacks, large disparities remain in new AIDS cases despite significant decreases. The proportion of new AIDS cases was 10 times higher for Blacks than Whites. Black children have also consistently had the greatest proportion of children with asthma hospitalizations. The proportion of Black children who were hospitalized due to asthma was almost four times higher than White children.
- For Asians, disparities remain in preventive care for pneumonia. Asians age 65 and over were more likely than Whites to lack immunization against the pneumonia virus.
- For AI/ANs, disparities remain in prenatal care. AI/AN women were twice as likely to lack prenatal care as White women. Also, AI/AN adults continued to be more likely than Whites to report poor communication with their health providers.
- For Hispanics, large disparities also remain in new AIDS cases despite significant decreases. The proportion of new AIDS cases was over three times higher for Hispanics than for non-Hispanic Whites.
- For the poor, disparities remain in communication with health providers. The proportion of children whose parents reported communication problems with their health providers was three times higher for poor children than for high income children. Poor adults were also twice as likely to not get timely care for an illness or injury.

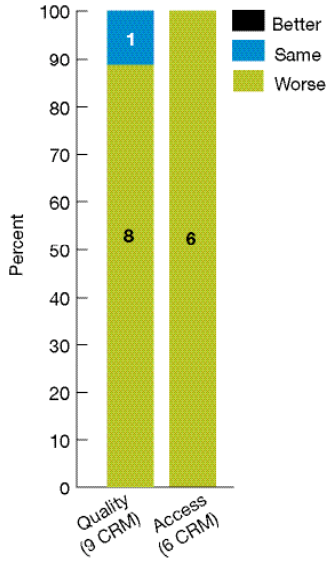
Uninsurance Is a Major Barrier to Reducing Disparities

The growing rate of uninsurance in America has been the subject of considerable examination during the past 10 years in both the popular press and academic literature. AHRQ's Medical Expenditure Panel Survey publishes data on uninsurance rates in America. In 2004, 14% of persons under age 65 were uninsured for the whole year. This figure is even higher for racial and ethnic minorities. Among people under age 65, 14% of non-Hispanic Whites were uninsured for the whole year, but the figure climbs to 29% for Hispanics, 15% for non-Hispanic Blacks, and 12% for Asians. Uninsurance can lead to the lack of a usual source of health care and delayed care for necessary services. Hispanics and Blacks both report lower rates of having a usual source of care and higher rates of delaying necessary care than Whites.

The 2007 NHDR examines the growing problem of uninsurance in America, with particular emphasis on its impact on quality in terms of both processes and outcomes of care. Uninsured individuals are compared with individuals who have some private health insurance on nine core quality measures and six core access measures.

In addition, many risk factors for poor quality (poverty, race/ethnicity, gender, education, and geography) are related. To account for these multiple relationships, the 2007 NHDR summarizes the results of multiple regression analyses that examined the independent effect of uninsurance after controlling for these other factors. Figure H.3 compares the core measures of access and quality for uninsured individuals and individuals with private insurance.

Figure H.3. Uninsured compared with individuals with some private insurance on measures of quality and access in the most recent data year, 2004-2005



Better = Population received better quality of care or had better access to care than the reference group.

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

Worse = Population received poorer quality of care or had worse access to care than reference group.

Key: CRM = core report measures. Core access measures include measures such as insurance status, source of ongoing care and primary care, and delayed care.

Note: The measures included here are a subset of the core measure set that has data available by insurance status. Individuals with public insurance are not included in this summary.

- Uninsured individuals do worse than privately insured individuals on almost 90% of quality measures.
- Uninsured individuals do worse than privately insured individuals on all access measures.

Measures with the largest disparities for uninsured individuals compared with privately insured individuals are presented in Table H.3.

Table H.3. Core measures with the largest disparities between uninsured and privately insured individuals

Measures with largest disparities	Relative rate
Access	
Persons who have a specific source of ongoing care, 2005	6.03
Persons without a usual source of care who indicate a financial or insurance reason for not having a source of care, 2004	4.10
Persons who have a usual primary care provider, 2004	6.03
Quality	
Adults who can sometimes or never get care for illness or injury as soon as wanted, 2004	2.89
Women age 40 and over who reported they did not have a mammogram within the past 2 years, 2005	2.39
Composite: Children whose parents reported poor communication with their health providers, 2004	2.32

Note: The relative rate is used to compare one group with its reference group. It is calculated by dividing the group's estimate by the reference group's estimate.

Compared with insured persons:

- Uninsured individuals are about six times as likely to lack a usual source of care and four times as likely to be without a usual source of care for financial reasons.
- Uninsured individuals are nearly three times as likely to not get care as soon as wanted for illness or injury, over twice as likely to not have a mammogram (for women over 40), and over twice as likely to have communication problems with their child's provider.

A number of priority populations have high rates of uninsurance. To examine the independent effect of uninsurance on disparities in quality and access, analyses were performed on a subset of 12 measures[xi] for which uninsurance and risk factors could be analyzed concurrently. Multiple regression analyses were conducted, examining race, ethnicity, income, age, gender, education, and geography (urban versus rural status), as well as insurance status.

[xi] The criteria for selecting these 12 measures were that data were available on a full range of patient-level factors such as those listed above. The measures are: (1) diabetes composite with three recommended services; (2) adult smokers age 18 and over given advice to quit smoking; (3) obese adults age 18 and over given advice about exercise; (4) children ages 2-17 given advice about healthy eating; (5) children ages 3-6 with a vision check; (6) adults who sometimes or never get care for illness or injury as soon as wanted; (7) children who sometimes or never get care for illness or injury as soon as wanted; (8) adult patient centeredness composite with four sometimes/never responses; (9) child patient centeredness composite with four sometimes/never responses; (10) people under age 65 uninsured all year; (11) people with a usual primary care provider; and (12) adults with a dental visit in the past year. A description of the methods for these analyses can be found in Chapter 1, Introduction and Methods.

- Being uninsured has a large negative impact on the quality of health care individuals receive. Measures for multivariate analyses were selected from the Medical Expenditure Panel Survey. Even accounting for a full range of other important risk factors such as race, ethnicity, and income, being uninsured was the most important risk factor in six out of seven measures for poor quality health care.
- For two measures for children, the uninsured do as well as or better than privately insured individuals: the percentages of children whose parents stated that they were able to get access to care for illness or injury as soon as wanted and who reported poor communication with their health providers.
- Two examples of these multivariate analyses are presented in this year's NHDR: percentage of obese adults who received counseling about exercise (in the Heart Disease section in Chapter 2, Effectiveness) and percentage of people with a usual source of primary care (in Chapter 3, Access).

While insurance status is an important factor in improving disparities and quality of care, it remains important to consider its interaction with many other risk factors that contribute to poor quality of care, including poverty, race/ethnicity, gender, education, and geography. Disparities exist across racial and ethnic groups not only among uninsured individuals but also among those with health insurance.

Moving Forward

Since its initial publication in 2003, the NHDR has provided a broad and detailed examination of disparities for at-risk priority populations in U.S. health care. The ability to monitor and track improvements in disparities is critical. Growing interest in public reporting for quality improvement activities continues to improve not only the quality of data but also the quality of care provided.

This 2007 report summarizes the many areas where little to no progress has been achieved at reducing disparities. However, it also highlights progress that is being made in key conditions that disproportionately affect priority populations. Many factors contribute to disparities in health care quality and access, and it is a major challenge to address them. Yet a number of promising programs at AHRQ and other agencies in HHS are doing just that.

The **Federal Collaboration on Health Disparities Research** (FCHDR) was developed by the Centers for Disease Control and Prevention in collaboration with the Office of Public Health and Science's Office of Minority Health and co-sponsored by AHRQ to identify and support research priorities for cross-agency collaboration to hasten the elimination of health disparities. This collaboration is led by the HHS Health Disparities Council and the Interagency Committee on Disability Research of the Department of Education. Identifying priority research topics on health disparities was one of FCHDR's primary outcomes in 2006. Through FCHDR, Federal partners have formed subject matter expert work groups around four initial research topic areas for collaboration: obesity, built environment (which includes homes, schools, workplaces, parks and recreation areas, business areas, transportation systems, etc.), mental health care, and comorbidities. These priorities represent opportunities for Federal agencies and other partners to collaborate on innovative research.

The **Health Disparities Roundtable** was convened in 2006 under co-sponsorship by the Office of Minority Health and AHRQ and also in partnership with the Institute of Medicine. The purpose of the IOM roundtable is to generate action and engage interested parties from academia, industry, government, philanthropy, the corporate sector, and the community to reduce racial and ethnic health disparities. It fills an important role in

being a focus for public-private partnership on research and policy discussions to address topics such as the following:

- Effective cultural competency techniques and cross-cultural education in health care settings.
- Strategies to expand and strengthen research to develop effective treatments for those diseases that disproportionately affect minority populations, as well as research that focuses on the complex interactions of biological and social factors as determinants of health.
- Educational strategies to end health disparities.
- Developing and promoting effective strategies to increase minority representation in medicine and health professions.
- Understanding the causes of health and health care disparities and best solutions.

The **Disparity Reducing Advances Project** is a multiyear, multistakeholder project co-sponsored by AHRQ and others, including the Centers for Disease Control and Prevention, the National Cancer Institute, the American Cancer Society, a Florida hospital agency, the Robert Wood Johnson Foundation, and the University of Texas Medical Branch. This project will identify the most promising strategies for bringing health gains to poor and underserved populations and accelerating the development and deployment of these strategies to reduce health care disparities.

The **Think Cultural Health Web site** (http://www.thinkculturalhealth.org) is sponsored by the Office of Minority Health. The Web site offers the latest resources and tools to promote cultural competency in health care. Users can access free online courses accredited for continuing education credit as well as supplementary tools to help providers and organizations promote respectful, understandable, and effective care to an increasingly diverse patient population. This Web site provides access to online courses such as "A Physician's Practical Guide to Culturally Competent Care" and "Culturally Competent Nursing Care," as well as interactive tools such as the "Health Care Language Services Implementation Guide."

The **AHRQ National Health Plan Collaborative**, which has 10 participating health plans with a total of 87 million enrollees, is co-funded by the Robert Wood Johnson Foundation to identify and implement approaches to reduce racial and ethnic disparities and improve quality among health plan enrollees. In Phase II of the collaborative, three task forces are addressing primary data collection and language access and are building the business case for reducing disparities. The collaborative builds on the continued interest of health plans in reducing disparities and improving health care for minorities.

The **AHRQ Learning Partnership to Decrease Disparities in Pediatric Asthma** selected six States (Arizona, Maryland, Michigan, New Jersey, Oregon, and Rhode Island) to participate in this project. Through technical assistance and tools (such as geographic information system mapping and an asthma return-on-investment calculator) provided by AHRQ, States identified several areas of need, including identifying disparities by geographic area, making the case to State governments for further action on asthma disparities, and addressing cultural competency issues. The partnership has resulted in tools, resources, and strategies created by States in partnership with AHRQ. These will be shared widely with other States that may have similar issues related to pediatric asthma disparities.

The **AHRQ Hispanic Diabetes Disparities Learning Network in Rural and Urban Community Health Clinics** focused on decreasing disparities in diabetes in adult Hispanics. Community health centers in two areas were targeted to document the differing challenges that may occur in urban versus rural settings: the greater Washington, DC, metropolitan area and rural Colorado. The learning network helped clinics begin process improvement on an important component of the chronic care model, improving patient self-management.

An HHS pilot project, **Improving Hispanic Elders' Health: Community Partnerships for Evidence-Based Solutions**, is bringing together teams of local leaders from communities with large numbers of Hispanic elders to review the latest research findings, examine promising practices, and develop local plans for addressing one or more health disparities. AHRQ, the Administration on Aging, the Centers for Disease Control and Prevention, the Centers for Medicare & Medicaid Services, and the Health Resources and Services Administration are collaborating to assist local communities in developing more coordinated strategies for improving the health and well-being of Hispanic elders. The project encourages broader use of preventive services under Medicare and emphasizes the importance of working across organizational boundaries to link aging services providers, medical care providers, Hispanic community organizations, and public health agencies. Eight communities have been selected to participate in this pilot project: Chicago, Illinois; Houston, Texas; Los Angeles, California; McAllen, Texas; Miami, Florida; New York, New York; San Antonio, Texas; and San Diego, California.

These are only a few of the many activities at AHRQ that address the challenges in reducing health care disparities. There are many other contributions from other HHS agencies that address disparities in health services delivery, health care finance, and clinical research, in addition to both Federal and State efforts to expand access. What they have in common are the focus on multiple stakeholders and the need for tailored solutions depending on the particular disparities issue and the populations involved. With the publication of this fifth NHDR, AHRQ stands ready to contribute to efforts like those above to encourage and support the development of national, State, tribal, and "neighborhood" solutions using national data and benchmarks in disparities. We hope that the progress and gaps outlined in this fifth NHDR will help catalyze improvement efforts over the next 5 years.

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 NHDR, released in 2003, was a comprehensive national overview of disparities in health care among racial, ethnic, and socioeconomic[i] groups in the general U.S. population and within priority populations. This 2007 NHDR represents the fifth release of this report. It continues to focus on a subset of core measures that make up the most important and scientifically supported measures in the full NHDR measure set. More specifically, it attempts to go beyond previous NHDRs by clearly reporting on trends in health care disparities and the degree to which health care disparities for racial/ethnic minorities and poor populations have lessened.

This chapter summarizes the methodological approaches taken by AHRQ in producing the 2007 NHDR. Issues related to changes in measures, additional data sources, and modifications to presentation format are summarized below. Material that is new in this year's report is specifically highlighted and includes:

- A new section on Asian subpopulations and expanded material on Hispanic subpopulations.
- New supplemental measures on HIV testing.
- New supplemental measures on health literacy.
- Expanded focus on individuals with disabilities.
- Trend analyses that focus on how disparities between groups have changed over time.

As in previous years, the 2007 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 HHS operating component. In addition, a subgroup on disabilities was convened to address issues surrounding the continued refinement of definitions of persons with disabilities and the presentation of data on quality of and access to care for adults with disabilities.

[i] Socioeconomic disparities include differences in education and income levels.

How This Report Is Organized

The basic structure of the 2007 NHDR includes the following chapters:

- **Highlights** summarizes key themes and highlights from the 2007 report.
- **Chapter 1: Introduction and Methods** documents the organization, data sources, and methods used in the 2007 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.
  - Low income groups.
  - Women.
  - Children.
  - Elderly.
  - Residents of rural areas.
  - Individuals with disabilities and special health care needs.

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 selected databases analyzed for the NHDR.
- **Appendix C: Measure Specifications** provides information about how to generate each measure analyzed for the NHDR. It includes 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 measures highlighted in the report text as well as other measures that were examined but not included in the text. A few measures cannot support detailed tables and are not included in the appendix.[ii] 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.

[ii] NHDR data can now be accessed through NHDRnet, an online tool that provides Internet users with an opportunity to specify dimensions of analysis and produce data tables. NHDRnet is available through the AHRQ Web site at http://nhdrnet.ahrq.gov/nhdr/jsp/nhdr.jsp.

Presentation of the Measure Set

Core and Composite Measures

Core measures. For the 2005 NHDR and NHQR, 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, which relate to cancer prevention and childhood preventive services, are listed in Table 1.1.

Table 1.1. Alternating core measures

Reported in 2006 NHDR and NHQR*	Reported in 2007 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 healthy eating	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 2008 reports.

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 are not available.

Composite measures. Policymakers and others have voiced their support for composite measures because they can be used to facilitate understanding of information from many different measures. The effort to develop new composites is ongoing, and in 2006, a number of new composite measures were added.[iii] Composite measures, which now make up about 20% of the core measures, are listed in Table 1.3.

Composite measures in the NHDR and NHQR are created based on two different models—appropriateness model or opportunities model. When possible, an appropriateness model is used to create composite measures. It is sometimes referred to as the "all-or-none" approach because it is calculated based on the number of patients who received all appropriate services. 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.

In cases where insufficient data are available to apply an appropriateness model, an opportunities model may be applied. The opportunities model assumes that each patient needs and has the opportunity to receive one or more processes of care but not all patients need the same care. Composite measures that use this model summarize the proportion of appropriate care that is delivered. The denominator for an opportunities model composite is the sum of opportunities to receive appropriate care across a panel of process measures. The numerator is the sum of the appropriate services that are actually delivered. The composite measure of recommended hospital care for heart attack is an example where this model is applied. The total number of

[iii] See Chapter 1, Introduction and Methods, in the 2006 NHQR for more detailed information about these and other methods that are used to calculate composite measures used in the reports.

patients who actually receive treatments represented by individual components of the composite measure (e.g., aspirin therapy within 24 hours, beta blocker within 24 hours, smoking cessation counseling) is divided by the sum of all of these opportunities to receive appropriate care.

Presentation. The 2007 NHDR and its companion NHQR continue to be formatted as chartbooks. The 2007 reports have been improved to show charts and data in a more readable format and to provide more concise summaries of the findings in each chart.

Each section in the 2007 report begins with a description of the importance of the section's topic in a standardized format. After introductory text, chart figures and accompanying findings highlight a small number of core 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 and 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 included. These data are summarized in bullet format. Figures include a note about the reference group for population-based measures and the denominator for measures based on services or events.

For some measures with supporting data, regression models were run and used to help interpret bivariate and stratified results. (These are discussed in more detail below.)[vii]

New this year is an attempt to characterize whether gaps between priority populations and the reference group are growing larger, getting smaller, or have not changed. This is done as part of the effort by HHS and AHRQ to provide information on where the Nation is—and is not—making progress in reducing disparities in health care.

As in last year's report, findings presented in the text meet report criteria for importance;[viii] comparisons not discussed in the 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.

[iv] "Asian" includes "Asian or Pacific Islander" 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 income 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.

[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.

In addition, effectiveness measures for each condition or care setting area are organized further into categories that reflect the patient's need for preventive care, treatment of acute illness, and management of chronic conditions. Further detail on each of these categories and the measures included can be found in Chapter 2, Quality of Health Care.

Trends in health care quality and access. As in previous NHDRs, the 2007 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*,[1] the geometric rate of change, which assumes the same rate each year between the two time periods, has been calculated for the 2007 NHDR and NHQR.[ix]

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 2007 reports. They are categorized as the following:

- 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.

An additional constraint relates to trends among specific racial and ethnic groups. Different Federal databases completed transition to the new Federal standards for racial and ethnic data that were required by 2003 at different times. 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. This results in underestimates for the "American Indian and Alaska Native" category, since a large proportion of this group identify as mixed race. In contrast, effects on estimates for Whites, Blacks, and Hispanics were proportionately much smaller. Consequently, the 2007 NHDR, as in the previous year, shows shorter trends (i.e., fewer years of data) for groups directly or significantly affected by the new standards, such as Asian, NHOPI, AI/AN, and multiple-race individuals.

[ix] 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.

Bivariate and multivariate analyses. Bivariate analyses are included for some measures for which data are available to examine the interrelationship between race/ethnicity and SES in Chapter 3, Access to Health Care, as well as in the section on low income groups in Chapter 4, Priority Populations. This year, the NHDR also examines the question of the interrelationship between insurance status and income for quality of care in more depth for some selected measures through the use of bivariate analyses in Chapter 4, Priority Populations.

In multivariate models, estimates for a measure are controlled for multiple factors, including race, ethnicity, income, education, insurance, age, gender, and residence location, to show the extent to which these factors affect an outcome. In order to account for Medicare, the analyses were done separately for people under age 65 and age 65 years and over. Finally, to ensure that the findings were not biased by the sequence in which each factor was entered into the analysis, 12 separate analyses were done for each of the 12 measures. Adjusted odds ratios are shown to quantify the relative magnitude of disparities after controlling for a number of confounding factors. Two selected measures—one quality measure (obese adults given advice about exercise) and one access measure (persons who have a usual primary care provider)—were selected to conduct multivariate analyses.

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 poor populations. 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.[x] 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 income groups than for racial and ethnic groups.

Beginning with 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. Relative rates of selected core measures are presented in the Highlights section of this report.

[x] 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.

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	• *Women age 40 and over who reported they had a mammogram within the past 2 years*	• *Rate of breast cancer incidence per 100,000 women age 40 and over diagnosed at advanced stage* • *Cancer deaths per 100,000 women per year for breast cancer*
Effectiveness - Diabetes	• Composite: Adults age 40 and over with diabetes who had all 3 recommended services for diabetes in the past year (at least 1 hemoglobin A1c measurement, a retinal eye examination, and a foot examination)	• Hospital admissions for lower extremity amputation in patients with diabetes per 100,000 population
Effectiveness - End Stage Renal Disease	• *Dialysis patients registered on waiting list for transplantation*	• *Hemodialysis patients with adequate dialysis (urea reduction ratio 65% or greater)*
Effectiveness - Heart Disease	• *Composite: Patients with acute myocardial infarction (AMI) who received recommended hospital care for AMI (administered aspirin and beta blocker within 24 hours of admission, prescribed aspirin and beta blocker at discharge, and given smoking cessation counseling while hospitalized)*[a] • *Composite: Heart failure patients who received recommended hospital care for heart failure (evaluation of left ventricular ejection fraction and prescribed ACE inhibitor or ARB at discharge, if indicated, for left ventricular systolic dysfunction)* • Current smokers age 18 and over receiving advice to quit smoking • Adults who were obese who were given advice about exercise	• Acute myocardial infarction (AMI) mortality rate (number of deaths per 1,000 discharges for AMI)
Effectiveness - HIV and AIDS		• *New AIDS cases per 100,000 population age 13 and over*
Effectiveness - Maternal and Child Health	• *Pregnant women receiving prenatal care in first trimester* • *Children 19-35 months who received all recommended vaccines* • Children ages 2-17 who received advice from a doctor or other health provider about healthy eating • Children ages 2-17 who had a dental visit in the past year	• *Infant mortality per 1,000 live births, birthweight <1,500 grams* • Hospital admissions for pediatric gastroenteritis per 100,000 population ages 4 months-17 years

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 - Mental Health and Substance Abuse	• Adults age 18 and over with major depressive episode in the past year who received treatment for the depression in the past year • Persons age 12 and over who needed treatment for any illicit drug use and who received such treatment at a specialty facility in the past year	• Deaths due to suicide per 100,000 population
Effectiveness - Respiratory Diseases	• *Adults age 65 and over who ever received pneumococcal vaccination* • *Composite: Pneumonia patients who received recommended hospital care for pneumonia (had blood cultures collected beforeantibiotics administered, received the initial antibiotic dose within 4 hours of hospital arrival and consistent with current recommendations, and received screening for influenza and pneumococcal disease vaccination status and vaccination, if indicated)*[b]	• *Tuberculosis patients who complete a curative course of treatment within 12 months of initiation of treatment* • Hospital admissions for pediatric asthma per 100,000 population ages 2-17 years
Effectiveness - Nursing Home, Home Health, and Hospice Care	• *Long-stay nursing home residents who werephysically restrained*	• *High-risk long-stay nursing home residents who have pressuresores* • *Low-risk long-stay nursing home residents who have pressure sores* • *Home health care patients who get better at walking or moving around* • *Home health care patients who had to be admitted to the hospital*
Patient Safety	• *Composite: Adult Medicare patients having surgerywho received appropriate timing of antibiotics* • Percent of community-dwelling adults age 65 and over who had at least 1 prescription (from a list of 33 medications) that is potentially inappropriate for the elderly	• Composite: Adult surgery patients with postoperative complications (postoperative pneumonia, catheter-associated urinary tract infection,[c] or venous thromboembolic events) • Bloodstream infections or mechanical adverse events associated with central venous catheters • Deaths per 1,000 discharges with complications potentially resulting from care (failure to rescue)
Timeliness		• Adults who can sometimes or never get care for illness or injury as soon as wanted

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
Patient Centeredness	• *Composite: Ambulatory patients (adults) who reported poor communication with health providers (whose health providers sometimes or never listened carefully, explained things clearly, respected what they had to say, or spent enough time with them)* • Composite: Ambulatory patients (children) whose parents reported poor communication with health providers (whose health providers sometimes or never listened carefully, explained things clearly, respected what their parents had to say, or spent enough time with them)	
Access	• *Persons under age 65 with health insurance* • *Persons under age 65 who were uninsured all year* • *Persons who have a specific source of ongoing care* • *Persons who have a usual primary care provider* • *People who were unable or delayed in receiving needed medical care, dental care, or prescription medications* • *People without a usual source of care who indicate a financial or insurance reason for not having a source of care*	

[a] Use of angiotensin converting enzyme (ACE) inhibitors in patients with left ventricular systolic dysfunction was changed to also include angiotensin receptor blockers (ARBs) as an acceptable alternative.

[b] Appropriate antibiotic selection was changed to exclude patients with health-care-associated pneumonia from the denominator used in the calculation. Collection of samples for blood culture within 24 hours of hospital arrival was changed so that only those patients who were admitted to the intensive care unit within 24 hours of hospital arrival are included in the denominator.

[c] The individual measure for postoperative urinary tract infection was refined to include only patients with catheter-associated urinary tract infections.

Note: For two core measures, new data were not available for the 2007 NHDR; thus these measures are excluded from summary analyses. The measures are: (1) visits where antibiotic was prescribed for diagnosis of a common cold and (2) patients who left the emergency department without being seen.

Table 1.3. Composite measures in the 2007 NHQR and NHDR (updated measures in *italics*)

Composite measure	Individual measures forming composite
Receipt of three recommended diabetes services	• Adults age 40 and over with diabetes who had a hemoglobin A1c measurement at least once in the past year • Adults age 40 and over with diabetes who had a retinal eye examination in the past year • Adults age 40 and over with diabetes who had a foot examination in the past year
Childhood immunization	• Children 19-35 months who received 4 doses of diphtheria-pertussis-tetanus vaccine • Children 19-35 months who received at least 3 doses of polio vaccine • Children 19-35 months who received at least 1 dose of measles-mumps-rubella vaccine • Children 19-35 months who received 3 doses of Haemophilus influenzae type B vaccine • Children 19-35 months who received 3 doses of hepatitis B vaccine
Recommended hospital care for heart attack[a]	• Acute myocardial infarction (AMI) patients administered aspirin within 24 hours of admission • AMI patients with aspirin prescribed at discharge • AMI patients administered beta blocker within 24 hours of admission • AMI patients with beta blocker prescribed at discharge • AMI patients with left ventricular systolic dysfunction prescribed ACE inhibitor or ARB at discharge • Current smokers age 18 and over receiving advice to quit smoking
Recommended hospital care for heart failure[a]	• Heart failure patients who received evaluation of left ventricular ejection fraction • Heart failure patients with left ventricular systolic dysfunction prescribed ACE inhibitor or ARB at discharge
Recommended hospital care for pneumonia[b]	• Patients with pneumonia who received the initial antibiotic dose within 4 hours of hospital arrival • Patients with pneumonia who received the initial antibiotic consistent with current recommendations • Patients with pneumonia who had blood cultures collected before antibiotics were administered • Patients with pneumonia who received influenza screening or vaccination • Patients with pneumonia who received pneumococcal screening or vaccination
Timing of antibiotics to prevent postoperative wound infection	• Adult Medicare patients having surgery who receive prophylactic antibiotics within 1 hour prior to surgical incision • Adult Medicare patients having surgery who have prophylactic antibiotics discontinued within 24 hours after surgery end time
Patient experience of care	• Adults who had a doctor's office or clinic visit in the last 12 months whose providers sometimes or never listened carefully to them • Adults who had a doctor's office or clinic visit in the last 12 months whose providers sometimes or never explained things in a way they could understand • Adults who had a doctor's office or clinic visit in the last 12 months whose providers sometimes or never showed respect for what they had to say • Adults who had a doctor's office or clinic visit in the last 12 months whose providers sometimes or never spent enough time with them • Children who had a doctor's office or clinic visit in the last 12 months whose parents report that their child's providers sometimes or never listened carefully to them

Table 1.3. Composite measures in the 2007 NHQR and NHDR (updated measures in *italics*) (continued)

Composite measure	Individual measures forming composite
	• Children who had a doctor's office or clinic visit in the last 12 months whose parents report that their child's providers sometimes or never explained things in a way they could understand • Children who had a doctor's office or clinic visit in the last 12 months whose parents report that their child's providers sometimes or never showed respect for what they had to say • Children who had a doctor's office or clinic visit in the last 12 months whose parents report that their child's providers sometimes or never spent enough time with them
Postoperative complications[c]	• Adult surgery patients with postoperative pneumonia events • Adult surgery patients with catheter-associated urinary tract infection • Adult surgery patients with postoperative venous thromboembolic events
Complications of central venous catheters	• Bloodstream infections associated with central venous catheters • Mechanical adverse events associated with central venous catheters

[a] Use of angiotensin converting enzyme (ACE inhibitors in patients with left ventricular systolic dysfunction was changed to also include angiotensin receptor blockers (ARBs) as an acceptable alternative.

[b] Appropriate antibiotic selection was changed to exclude patients with health-care-associated pneumonia from the denominator used in the calculation. Collection of samples for blood culture within 24 hours of hospital arrival was changed so that only those patients who were admitted to the intensive care unit within 24 hours of hospital arrival are included in the denominator.

[c] The individual measure for postoperative urinary tract infection was refined to include only patients with catheter-associated urinary tract infections.

Changes to the Measure Set

The measure sets used in the 2007 NHDR and NHQR have been improved in several ways. A handful of measures were modified to reflect changing standards of care or improved information about care. Although no additional core measures were added, some supplemental measures are being presented in the reports for the first time in 2007.

Modifications of existing composite measures. The changes applied to existing measures this year were for individual component measures that make up composite measures. The changes affect the comparability of data over time to varying degrees for each measure. This year the following core composite measures of effectiveness and patient safety underwent modifications:

- Recommended hospital care received by Medicare patients with acute myocardial infarction composite—The individual measure on use of angiotensin converting enzyme (ACE) inhibitors in patients with left ventricular systolic dysfunction was changed to also include angiotensin receptor blockers (ARBs) as an acceptable alternative.
- Recommended hospital care received by Medicare patients with heart failure—The individual measure on use of ACE inhibitors in patients with left ventricular systolic dysfunction was changed to also include ARBs as an acceptable alternative.
- Recommended hospital care received by Medicare patients with pneumonia—Two component measures underwent revision:
  - The individual measure of appropriate antibiotic selection for community-acquired pneumonia was changed to exclude patients with health-care-associated pneumonia from the denominator used in the calculation.

- The individual measure for the collection of samples for blood culture within 24 hours of hospital arrival was changed so that only those patients who were admitted to the intensive care unit within 24 hours of hospital arrival are included in the denominator.

- Postoperative care—The individual measure for postoperative urinary tract infection was refined to include only patients with catheter-associated urinary tract infections.

New supplemental measures. Supplemental measures are measures identified by the Interagency Work Group to provide additional information in the NHDR to fill a specific data gap in a particular topic area. Each year, the NHDR features supplemental measures in special focus sections of the report. The following new supplemental measures have been included in the 2007 NHDR to fill identified gaps:

- Three measures of HIV testing from the Centers for Disease Control and Prevention, National Center for Health Statistics (NCHS), National Survey of Family Growth (NSFG):
  - Women ages 15-44 who completed a pregnancy in the last 12 months and had an HIV test as part of prenatal care.
  - People ages 15-44 who ever had an HIV test outside of blood donation in the last 12 months.
  - People ages 15-44 with any HIV risk behaviors in the last 12 months who had an HIV test outside of blood donation in the last 12 months.
- One measure of workforce diversity from the American Community Survey (ACS) and the National Sample Survey of Registered Nurses:
  - U.S. nurses by race and ethnicity.
- One measure of health literacy from the Health Literacy Component (HLC) of the National Assessment of Adult Literacy:
  - Percent of adults in each literacy level (below basic, basic, intermediate, proficient).

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

Other Improvements in This Report

A number of improvements in the quality and accessibility of the NHDR are made each year. Improvements include the addition of new data sources, additional analyses of Asian and Hispanic subpopulations, an enhanced discussion of individuals with disabilities, and trend analyses refocused on changes over time in disparities between groups.

New Data Sources

NHDR data sources include surveys of individuals and health care facilities extracted from surveillance, vital statistics, and health care organization data systems (Table 1.4). Standardized suppression criteria were applied to all databases to support reliable estimates.[xi] New data added this year come from the following sources (in order of appearance in the NHDR):

[xi] 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 retain their own standards.

- **National Survey of Family Growth.** The NSFG gathers information on family life, marriage and divorce, pregnancy, infertility, use of contraception, and men's and women's reproductive health. Survey data are collected by NCHS and the results are used by HHS and others to plan health services and health education programs and to complete statistical studies of families, fertility, and reproductive health. Data about HIV testing prevalence from the NSFG are included in the 2007 NHDR.
- **National Sample Survey of Registered Nurses.** This survey is administered by the Bureau of Health Professions (BHP) Evaluation and Analysis Branch of the Health Resources and Services Administration (HRSA) in HHS. It examines the number, characteristics, and geographic distribution of nurses at the national and State level to ensure an adequate supply of qualified nursing personnel.
- **American Community Survey.** The ACS is used in the 2007 NHDR to provide population estimates for workforce diversity assessments. This survey is a new nationwide survey administered by the U.S. Census Bureau and is designed to provide more up-to-date information about trends in the U.S. population at the local level. The ACS collects information such as age, race, income, commute time to work, home value, veteran status, and other important data from U.S. households every year.
- **Health Literacy Component of the National Assessment of Adult Literacy.** The HLC assesses responses to health-related tasks presented in written form. The HLC tasks require familiarity with health-related words, experience with written materials, such as drug labels and health insurance forms, or knowledge of how the health care system works.
- **California Health Interview Survey (CHIS).** This telephone survey of adults, adolescents, and children from all parts of California is conducted every 2 years. Although the NHDR typically includes only data sets that can provide nationally representative estimates from its samples, the CHIS collects unique information on certain racial and ethnic minorities highly prevalent in California. In particular, the CHIS 2005, used in this year's NHDR, collected information on quality and access for Hispanic and Asian subpopulations based on a sample of more than 45,000 households. Survey data from CHIS on English proficiency and place of birth as they relate to quality outcomes and access to care are also presented in the 2007 NHDR.

Table 1.4. Databases used in the 2007 reports (new databases in *italics*)

Survey data collected from populations:

- AHRQ, Medical Expenditure Panel Survey, 2002-2004
- CAHPS® Hospital Survey, 2007
- *California Health Interview Survey, 2001-2005*
- Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System, 2001-2005
- CDC-NCHS, National Health and Nutrition Examination Survey, 1999-2004
- CDC-NCHS, National Health Interview Survey, 1998-2005
- *CDC-NCHS, National Survey of Family Growth, 2002*
- CDC-NCHS/National Immunization Program, National Immunization Survey, 1998-2005
- Centers for Medicare & Medicaid Services (CMS), Medicare Current Beneficiary Survey, 1998-2003
- *National Center for Education Statistics, National Assessment of Adult Literacy, Health Literacy Component, 2003*
- National Hospice and Palliative Care Organization, Family Evaluation of Hospice Care, 2005
- Substance Abuse and Mental Health Services Administration (SAMHSA), National Survey on Drug Use and Health, 2002-2005
- *U.S. Census Bureau, American Community Survey, 2004*

Table 1.4. Databases used in the 2007 reports (new databases in *italics*) (continued)

Data collected from samples of health care facilities and providers:

- *American Cancer Society and American College of Surgeons, National Cancer Data Base, 1999-2004*
- CDC-NCHS, National Ambulatory Medical Care Survey, 1997-2004
- CDC-NCHS, National Hospital Ambulatory Medical Care Survey-Emergency Department, 1997-2004
- CDC-NCHS, National Hospital Ambulatory Medical Care Survey-Outpatient Department, 1997-2004
- CDC-NCHS, National Hospital Discharge Survey, 1998-2005
- *CDC-NCHS National Nursing Home Survey, 2004*
- CMS, End Stage Renal Disease Clinical Performance Measures Project, 2001-2005
- *Health Resources and Services Administration-Bureau of Health Professions, National Sample Survey of Registered Nurses, 2004*

Data extracted from data systems of health care organizations:

- AHRQ, Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases disparities analysis file,* 2001-2004
- CMS, Home Health Outcomes and Assessment Information Set, 2002-2005
- CMS, Hospital Compare, 2006
- CMS, Medicare Patient Safety Monitoring System, 2003-2005
- CMS, Nursing Home Minimum Data Set, 2002-2005
- CMS, Quality Improvement Organization program, Hospital Quality Alliance measures, 2000-2004
- HIV Research Network data, 2001-2003
- Indian Health Service, National Patient Information Reporting System, 2002-2004
- National Committee for Quality Assurance, Health Plan Employer Data and Information Set (HEDIS®), 2001-2005
- National Institutes of Health (NIH), United States Renal Data System, 1998-2003
- SAMHSA, Treatment Episode Data Set , 2002-2004

Data from surveillance and vital statistics systems:

- CDC, National Program of Cancer Registries, 2000-2004
- CDC-National Center for HIV, STD, and TB Prevention, HIV/AIDS Surveillance System, 1998-2005
- CDC-National Center for HIV, STD, and TB Prevention, TB Surveillance System, 1999-2003
- CDC-NCHS, National Vital Statistics System, 1999-2004
- NIH-National Cancer Institute, Surveillance, Epidemiology, and End Results (SEER) program, 1992-2004

* 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: Arizona, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Kansas, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, and Wisconsin.

Note: Measures from the National Nursing Home Survey and the National Cancer Data Base are used only in the 2007 NHQR. For details on these surveys, see Chapter 1, Introduction and Methods, in the 2007 NHQR.

Expanded Analysis of Trends in Disparities

Starting with the 2007 NHDR, an additional dimension of trends is emphasized in the reports. In previous years the NHDR included discussion of change over time for each population from baseline to most recent data year, where available, and also reported separately on statistically significant differences between a

comparison group and reference group. The 2007 NHDR combines the discussion of change over time and differences between groups by focusing on the change over time in the gap or difference between groups. Thus, the NHDR can now show not only where disparities exist in health care quality and access to health care, but also how disparities have changed over time.

The criteria for reporting on change over time in the gap or disparity between comparison group and reference group is as follows:

- There is a statistically significant difference between the estimate for the baseline year and the most recent data year for at least one group.
- There is a statistically significant difference between a comparison group and reference group at baseline year, at most recent data year, or at both baseline year and most recent data year.

The change in the gap is reported if these criteria are met. The change is reported as increased if the absolute difference of the gap between the comparison group and reference group in the most recent data year was greater than the gap in the baseline year. The change is reported as decreased if the absolute difference in the gap between the comparison group and reference group in the most recent data year was less than the gap in the baseline year. Change is not reported if there was no change in either comparison group or reference group, if both the reference group and comparison group show significant differences between the baseline year and the most recent data year, or if data were not available for more than one data year.

No statistical test was performed for the difference from the baseline year to the most recent data year in the difference between the comparison group and reference group. Since most differences are relatively small, performing an additional statistical test would eliminate most reports of change in disparities.

The NHDR continues to report statistically significant differences between the comparison group and reference group where data are available for the most recent data year. Since the NHDR now contains estimates for several data years for most of the measures, for simplification in reporting on disparities, only the most recent data year is discussed.[xii]

Asian and Hispanic Subpopulations

As with all U.S. populations, racial and ethnic minority groups that are the focus of the NHDR are highly heterogeneous. Data are typically not available to examine different racial and ethnic groups in greater detail. The California Health Interview Survey is an exception. The 2007 NHDR features updated data from this survey for Hispanic and Asian subpopulations. The 2007 NHDR also continues to show health care information from the Medical Expenditure Panel Survey 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.

Individuals With Disabilities

The Interagency Work Group Subcommittee on Disability Statistics convened to develop a broad definition of disabilities that can be applied across different national data sources to obtain data on the quality of care for people with disabilities. For the 2007 NHDR, AHRQ is using a broad, inclusive measure of disability that is intended to be consistent with statutory definitions of disability, such as the first criterion of the 1990

[xii] For estimates from prior years, see Appendix D: Data Tables for previous releases of the NHDR.

Americans with Disabilities Act (i.e., having a physical or mental impairment that substantially limits one or more major life activities) and other Federal programs' definitions of disability. For the purpose of the NHDR, people with disabilities are those with physical, sensory, and/or mental health conditions who also have an associated decrease in functioning in such day-to-day activities as bathing, walking, doing everyday chores, and/or engaging in work or social activities. In displaying the data on disability, paired measures are shown to preserve the qualitative aspects of the data:

- Limitations in basic activities represent problems with mobility and other basic functioning at the person level.
- Limitations in complex activities represent constraints encountered when people, in interaction with their environment, attempt to participate in community life.

The use of the Subcommittee's recommendation of these paired measures of basic and complex activity limitations is conceptually similar to the way others have divided disability, and is consistent with the International Classification of Functioning, Disability and Health (ICF) separation of activities and participation domains. These two categories are not mutually exclusive; persons may have both limitations in basic activities and limitations in complex activities. Further information regarding the definition and methods can be found in the Individuals with Disabilities and Special Health Care Needs section in Chapter 4, Priority Populations.

Reference

1. National Center for Health Statistics. Health, United States, 2006. Available at http://www.cdc.gov/nchs/hus.htm. Accessed November 1, 2007.

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 information about disparities in the quality of health care in America, with a presentation of a subset of core measures. 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 in 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 of 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.

Categorization of Effectiveness Measures by Health Care Need

In the effectiveness section of this chapter, measures are organized into categories 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. For the purposes of this report, however, 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. Effectiveness measures presented in this section are organized within the categories of prevention, treatment, and management. For findings related to all core measures of effectiveness, see Tables 2.1a and 2.1b.

Section	Measure
Prevention:	
Cancer (breast)	Screening for breast cancer
Heart disease	Counseling about overweight*
Heart disease	Counseling about exercise
HIV and AIDS	HIV testing*
Respiratory diseases	Pneumococcal vaccination
Maternal and child health (women)	Screening for breast cancer
Maternal and child health (women)	Prenatal care/maternal care
Maternal and child health (children)	Vaccinations
Maternal and child health (children)	Dental 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*
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*[i]
Maternal and child health (women)	Receipt of recommended services for diabetes
Maternal and child health (women)	New AIDS cases
Maternal and child health (children)	Hospital admissions for asthma*

*Supplemental measure

[i] Two supplemental measures of hospice care are 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 (2007 est.) . . . . . 559,650[3]

Cause of death rank (2004) . . . . . 2nd[4]

Number of living Americans who have been diagnosed with cancer (2004 est.) . . . . . 10,762,214[5]

New cases of cancer (2007 est.) . . . . . 1,444,920[3]

New cases of breast cancer in women (2007 est.) . . . . . 178,480[3]

Total cost[ii] (2006) . . . . . $206.3 billion[6]

Direct costs[iii] (2006) . . . . . $78.2 billion[6]

Cost effectiveness of breast cancer screening . . . . . $35,000-$165,000[7]

Cost effectiveness[iv] of cervical cancer screening . . . . . $14,000-$35,000/QALY[7]

Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources.

Prevention: Screening for Breast Cancer

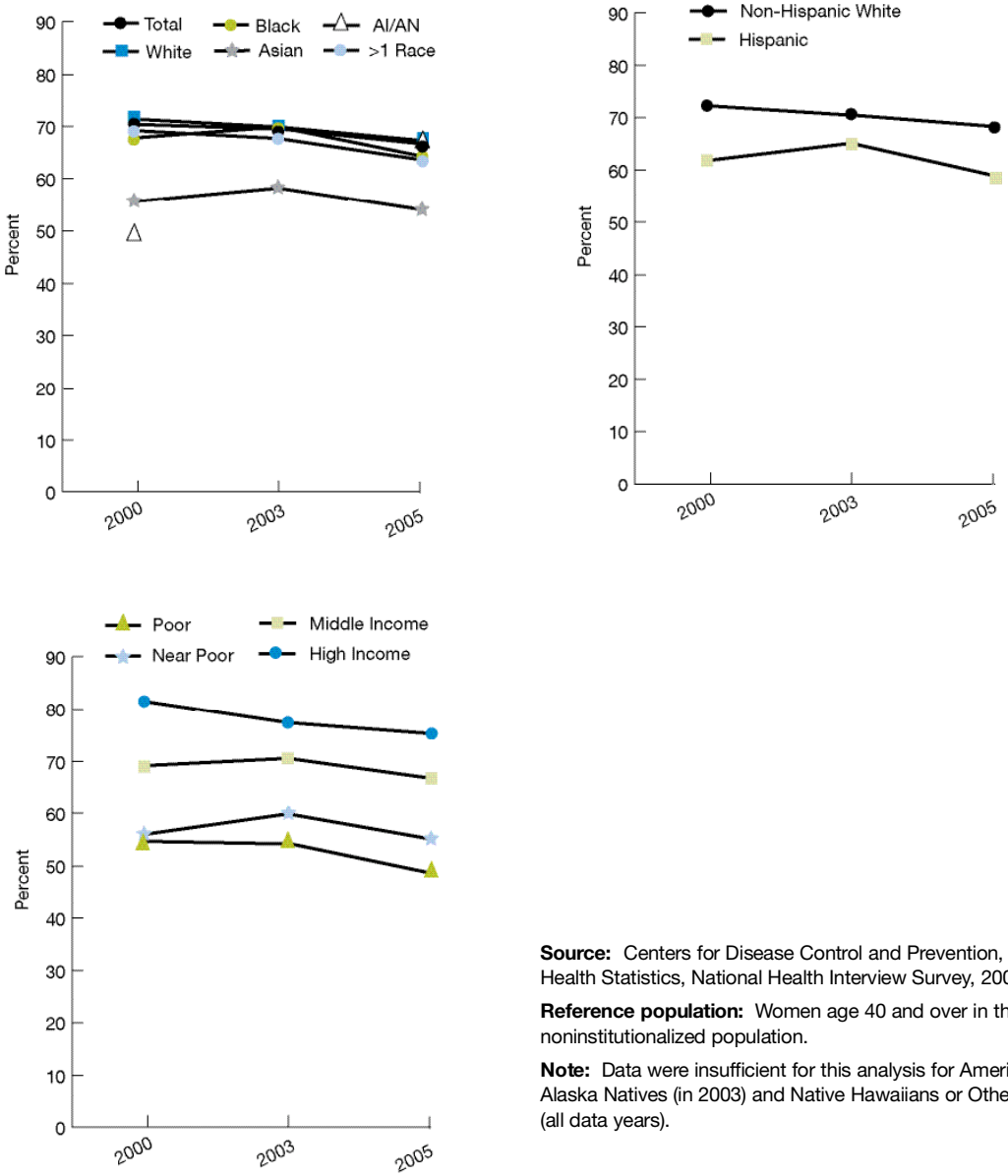
Ensuring that all populations have access to appropriate cancer screening services is a core element of reducing cancer health disparities.[8] This year the NHDR focuses on breast cancer; findings for colorectal cancer are found in the 2006 NHDR. Screening mammography is an effective way to discover breast cancer before a patient has symptoms and to reduce new cases of late stage disease and mortality caused by this cancer.[9]

[ii] Total cost is composed of the cost of medical care itself (direct cost) and the economic costs of morbidity and mortality (indirect cost).

[iii] Direct costs are defined as "personal health care expenditures for hospital and nursing home care, drugs, home care, and physician and other professional services."[6]

[iv] Cost 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 survival adjusted for its value: 1 year in perfect health is equal to 1.0 QALY, while 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. For example, the net cost for colorectal cancer screening ranges from $0 to $14,000 for each QALY saved.

Figure 2.1. Women age 40 and over who report they had a mammogram within the past 2 years, by race (top left), ethnicity (top right), and income (bottom left), 2000-2005



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2000, 2003, 2005.

Reference population: Women age 40 and over in the civilian noninstitutionalized population.

Note: Data were insufficient for this analysis for American Indians and Alaska Natives (in 2003) and Native Hawaiians or Other Pacific Islanders (all data years).

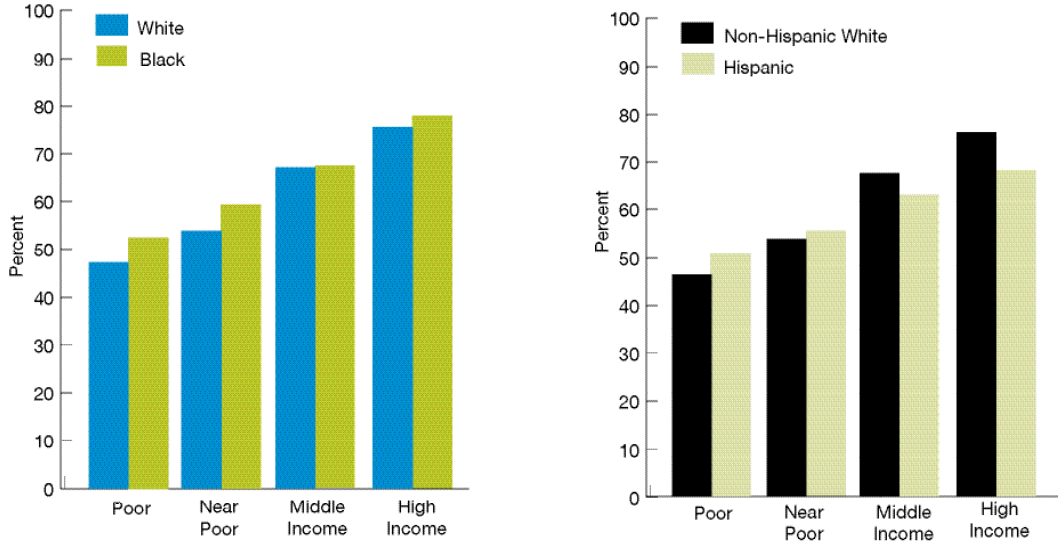
- From 2000 to 2005, the proportion of women age 40 and over who had a mammogram within the past 2 years decreased significantly, 3.8% overall (from 70.4% to 66.6%; Figure 2.1).[v]

[v] The apparent decline in mammography rates between 2000 and 2005 based on the National Health Interview Survey (NHIS) is due at least in part to a change in the skip pattern for the 2005 NHIS mammography questions in order to obtain more accurate estimates. The Medical Expenditure Panel Survey (MEPS) indicates more stable rates of mammography over the period 2000 to 2005.

- During this period, the gap between Asians and Whites decreased. However, in 2005, mammography rates remained significantly lower for Asian women than for White women (54.0% compared with 67.3%).
- The gap between Hispanics and non-Hispanic Whites in the proportion of women age 40 and over who had a mammogram within the past 2 years decreased. However, in 2005, mammography rates remained significantly lower for Hispanic women than for non-Hispanic White women (58.9% compared with 68.2%).
- The gap between poor women and high income women remained the same. In 2005, the mammography rate for poor women was about two-thirds that for high income women (48.5% compared with 75.3%).
- In 2005, the only groups to achieve the Healthy People 2010 target of 70% of women age 40 and over receiving a mammogram within the past 2 years were women with high income (75.3%), women with at least some college education (72.5%, data not shown), and women with private insurance (74.2%, data not shown).

Racial and ethnic minorities are disproportionately of lower socioeconomic status. To distinguish the effects of race, ethnicity, income, and education on cancer screening, this measure is stratified by income (Figure 2.2) and education level (Figure 2.3).

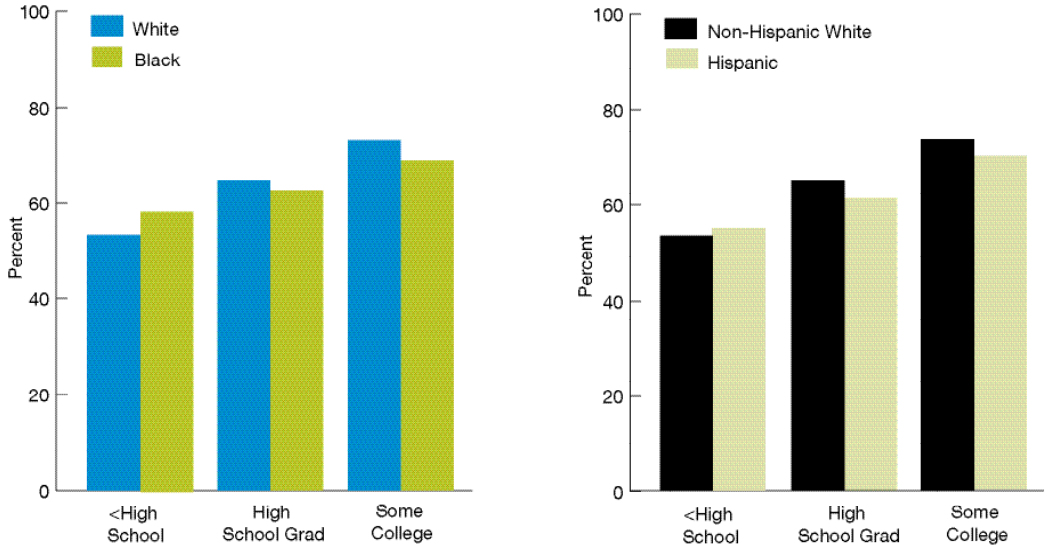
Figure 2.2. Women age 40 and over who report they had a mammogram within the past 2 years, by race (left) and ethnicity (right) stratified by income, 2005



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2005.

Reference population: Women age 40 and over in the civilian noninstitutionalized population.

Figure 2.3. Women age 40 and over who report they had a mammogram within the past 2 years, by race (left) and ethnicity (right) stratified by education, 2005



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2005.

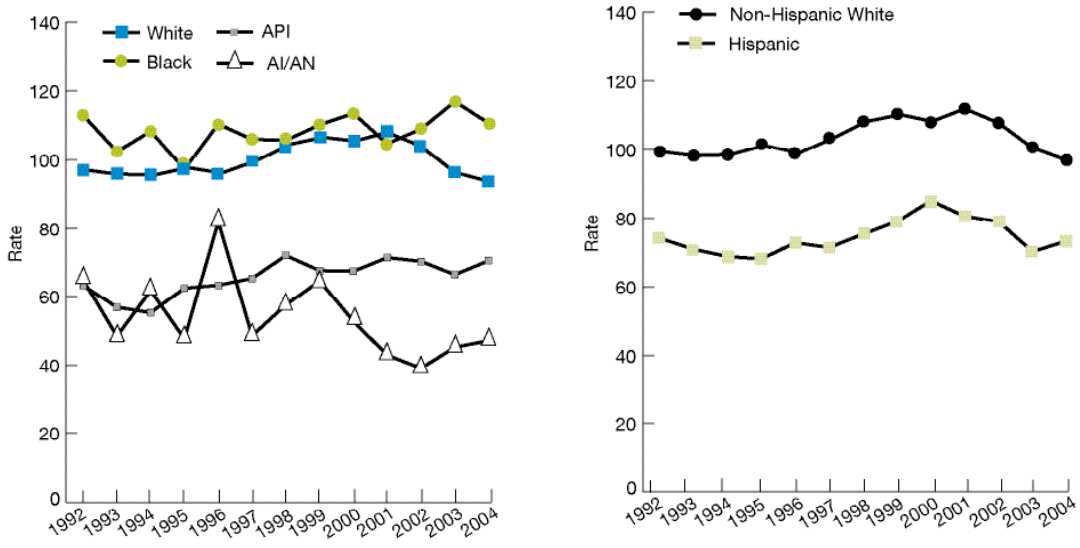
Reference population: Women age 40 and over in the civilian noninstitutionalized population.

- Both before and after controlling for income, there were no significant differences for Blacks compared with Whites or for Hispanics compared with non-Hispanic Whites in the rate of women age 40 and over who reported a mammogram in the past 2 years.
- After controlling for education, there were no significant differences for Blacks compared with Whites or for Hispanics compared with non-Hispanic Whites.
- Poor women were less likely than high income women to have had a mammogram within the past 2 years, regardless of race or ethnicity. Women with less than a high school education were less likely than women with some college to have had a mammogram, regardless of race or ethnicity.

Prevention: Advanced Stage Breast Cancer

Cancers can be diagnosed at different stages. The rate of cancers that are diagnosed at advanced stages is a measure of the effectiveness of cancer screening efforts. Differences in rates may vary across racial and ethnic groups due to differences in prevalence.

Figure 2.4. Age-adjusted rate of advanced stage (stage II or higher) breast cancer per 100,000 women age 40 and over, by race (left) and ethnicity (right), 1992-2004



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

Source: National Cancer Institute, Surveillance, Epidemiology, and End Results program, 1992-2004.

Reference population: Women age 40 and over.

- From 1992 to 2004, the gaps between APIs and Whites and between AI/ANs and Whites in the proportion of advanced stage breast cancer have remained the same (Figure 2.4). In 2004, the proportion of advanced stage breast cancer was lower for APIs and AI/ANs than for Whites (70.5 per 100,000 for APIs and 47.1 per 100,000 for AI/ANs versus 93.7 per 100,000 for Whites).
- The proportion of advanced stage breast cancer was lower for Hispanics than for non-Hispanic Whites in all data years from 1992 to 2004, and the gap between Hispanics and non-Hispanic Whites has remained the same. During this period, the proportion for non-Hispanic Whites decreased from 99.4 to 96.9 per 100,000 while the proportion for Hispanics decreased from 74.1 to 73.3 per 100,000.

Diabetes

Number of deaths (2004) . . . . . 72,815[4]

Cause of death rank (2004) . . . . . 6th[4]

Total number of Americans with diabetes (2005) . . . . . 20,800,000[10]

Number of people with diagnosed diabetes . . . . . 14,600,000[10]

Number of people with undiagnosed diabetes . . . . . 6,200,000[10]

New cases (age 20 and over, 2005) . . . . . 1,500,000[10]

Total cost (2002) . . . . . $132 billion[11]

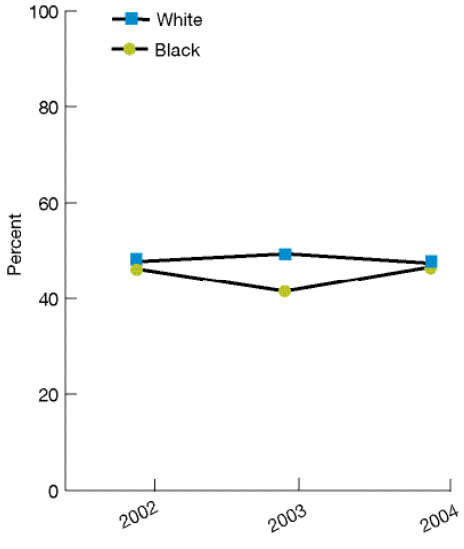
Direct medical costs (2002) . . . . . $92 billion[11]

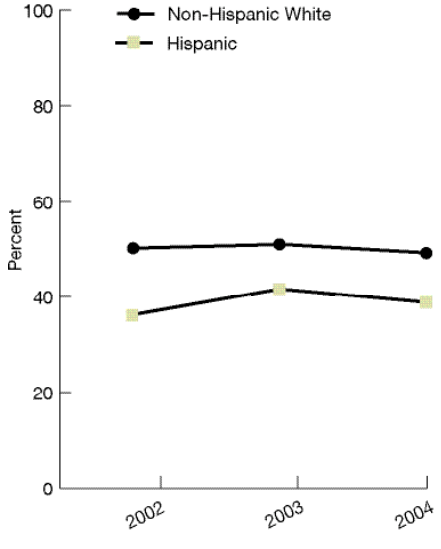
Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources.

Management: Receipt of Three Recommended Diabetes Services

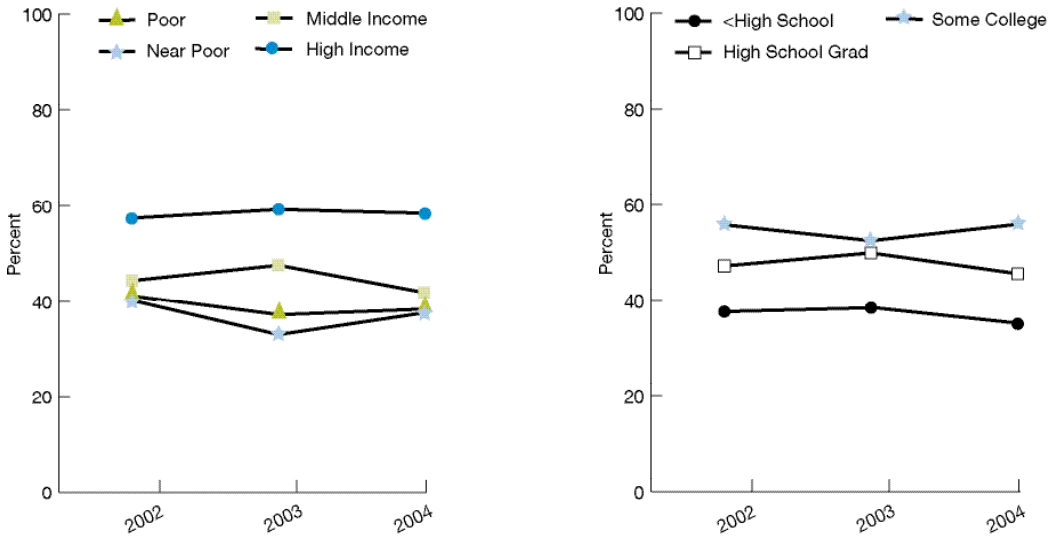
Effective management of diabetes includes HbA1c[vi] testing, eye examination, and foot examination in the past year, as well as appropriate influenza immunization and lipid management.[12, 13, 14]

Figure 2.5. 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), 2002-2004





[vi] HbA1c is glycosylated hemoglobin and its level provides information about control of blood sugar levels.



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

Reference population: Civilian noninstitutionalized population age 40 and over.

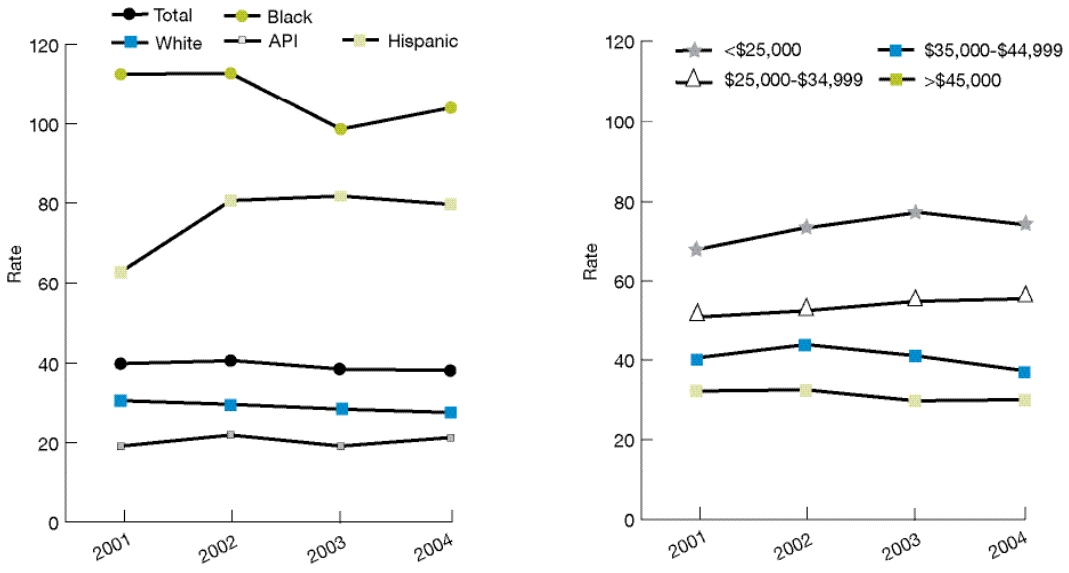
Note: Recommended services for diabetes are: (1) HbA1c testing, (2) retinal eye examination, and (3) foot examination in past year. Data include persons with both type 1 and type 2 diabetes. Rate is age adjusted to the 2000 standard population. Data were insufficient for this analysis for Native Hawaiians or Other Pacific Islanders and American Indians and Alaska Natives.

- From 2002 to 2004, there were no significant changes for Blacks and Whites in the proportion of adults age 40 and over with diabetes who received three recommended services (Figure 2.5). In 2004, there also were no significant differences between Blacks and Whites for this measure (46.7% compared with 47.4%).
- The gap between Hispanics and non-Hispanic Whites in the proportion of adults age 40 and over with diabetes who received three recommended services remained the same. In 2004, this proportion was significantly lower for Hispanics than for non-Hispanic Whites (38.8% compared with 49.2%).
- From 2002 to 2004, the gap between poor people and high income people remained the same. In 2004, this proportion was significantly lower for poor (38.4%), near poor (37.6%), and middle income people (41.9%) than for high income people (58.4%).
- The gap between people with less than a high school education and people with at least some college education remained the same. In 2004, the proportion of adults age 40 and over with diabetes who received three recommended services was lower for people with less than a high school education and high school graduates than for people with at least some college (35.2% and 45.7% compared with 55.9%).

Prevention: Lower Extremity Amputations

Although diabetes is the leading cause of lower extremity amputations, amputations can be avoided through proper care on the part of patients and providers. Hospital admissions for lower extremity amputations for patients with diagnosed diabetes reflect poorly controlled diabetes. Better management of diabetes would prevent the need for lower extremity amputations. Differences in rates may also vary across racial and ethnic groups due to differences in prevalence.

Figure 2.6. Lower extremity amputations among patients with diabetes per 100,000 adult patients age 18 and over, by race ethnicity (left), and income (right), 2004



Key: API=Asian or Pacific Islander.

Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) disparities analysis file, 2001-2004.

Note: White, Black, and API are non-Hispanic groups. The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population. Income categories are based on the median income of the ZIP Code of the patients' residence.

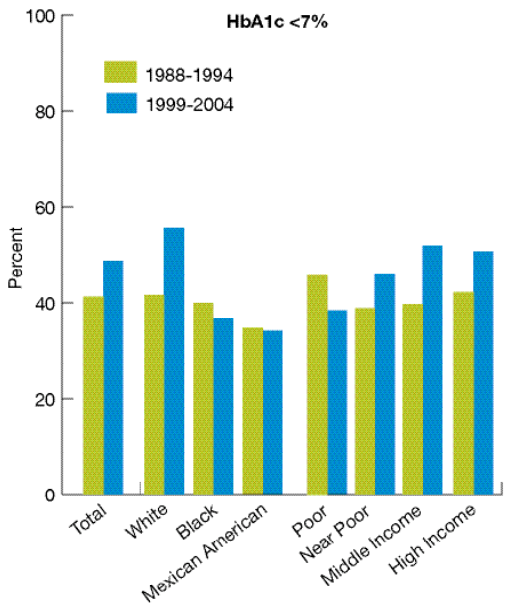
- From 2001 to 2004, the gap between Blacks and Whites in the rate of lower extremity amputations in adults with diagnosed diabetes decreased (Figure 2.6). However, in 2004, the rate remained over three times higher for Blacks than Whites (104.0 per 1,000 compared with 27.6 per 1,000).
- The gap between Hispanics and Whites in the rate of lower extremity amputations in adults with diagnosed diabetes increased. In 2004, the rate was almost three times higher for Hispanics than Whites (79.7 per 1,000 compared with 27.6 per 1,000).
- From 2001 to 2004, the gap between APIs and Whites in the rate of lower extremity amputations in adults with diagnosed diabetes decreased. In 2004, the rate was lower for APIs than Whites (21.3 per 1,000 compared with 27.6 per 1,000).
- The gap in amputations between people with under $25,000 median household income and people with median household income over $45,000 did not change. In 2004, the rate was significantly higher for people living in communities with median household income under $25,000 (73.9 per 1,000), income $25,000-$34,999 (55.3 per 1,000), and median income $35,000-$44,999 (37.3 per 1,000) compared with people with median household income over $45,000 (29.9 per 1,000).

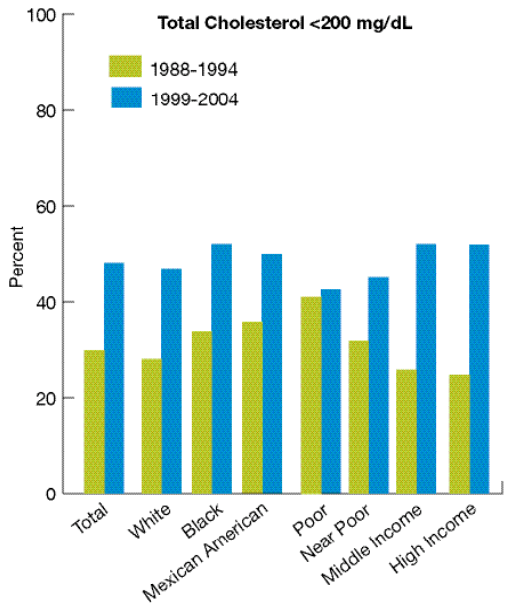
Management: Controlled Hemoglobin, Cholesterol, and Blood Pressure

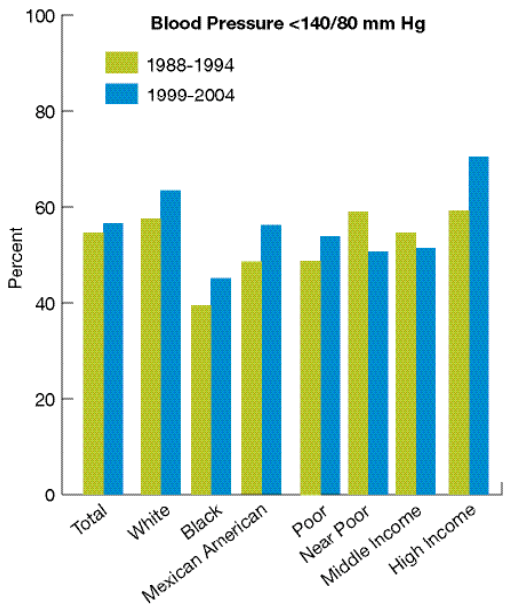
People with diagnosed diabetes often have other cardiovascular risk factors such as high blood pressure and high cholesterol. The combination of these conditions with diabetes increases the likelihood of complications from diabetes, such as heart disease and stroke. Therefore, in addition to controlling 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.[vii]

[vii] 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.

Figure 2.7. 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 1999-2004







Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey (NHANES), 1988-1994 and 1999-2004.

Reference population: Civilian noninstitutionalized population with diagnosed 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. Data were insufficient for this analysis for Native Hawaiians or Other Pacific Islanders and for American Indians and Alaska Natives.

HbA1c under control:

- From the 1988-1994 to 1999-2004 time periods, the percent of adults with diagnosed diabetes who had their HbA1c under optimal control did not change significantly (Figure 2.8). In 1999-2004, only 48.7% of adults with diagnosed diabetes had their HbA1c under optimal control.
- The gap between Blacks and Whites increased. In 1999-2004, the rate was significantly lower for Blacks than Whites (36.6% compared with 55.7%). There were no statistical differences between income groups for this measure.
- The gap between Mexican Americans and Whites increased. In 1999-2004, the rate was significantly lower for Mexican Americans than Whites (33.9% compared with 55.7%).

Total cholesterol under control:

- From the 1988-1994 to 1999-2004 time periods, the percent of adults with diagnosed diabetes who had their total cholesterol under control increased significantly. However, in 1999-2004, only 48.2% of adults with diagnosed diabetes had their total cholesterol under control.
- The gap between Blacks and Whites remained the same, and in 1999-2004, there were no statistically significant differences between racial groups.
- The gap between poor and high income persons was eliminated due to significant improvement in high income people (from 42.4% to 51.8%).

Blood pressure under control:

- From the 1988-1994 to 1999-2004 time periods, the percent of adults with diagnosed diabetes who had their blood pressure under control did not change. In 1999-2004, only 56.6% of adults with diagnosed diabetes had their blood pressure under control.
- The gap between Blacks and Whites remained the same. In 1999-2004, the rate was significantly lower for Blacks than Whites (45.0% compared with 63.4%). There was no statistical difference between Mexican Americans and Whites for this measure.
- The gap between poor people and high income people remained the same. In 1999-2004, the rate was significantly lower for poor (53.6%), near poor (50.7%), and middle income (51.3%) than high income people (70.4%).

End Stage Renal Disease (ESRD)

Total ESRD deaths (2004) . . . . . 84,252[15]

Total cases (2004) . . . . . 472,099[15]

New cases (2004) . . . . . 104,364[15]

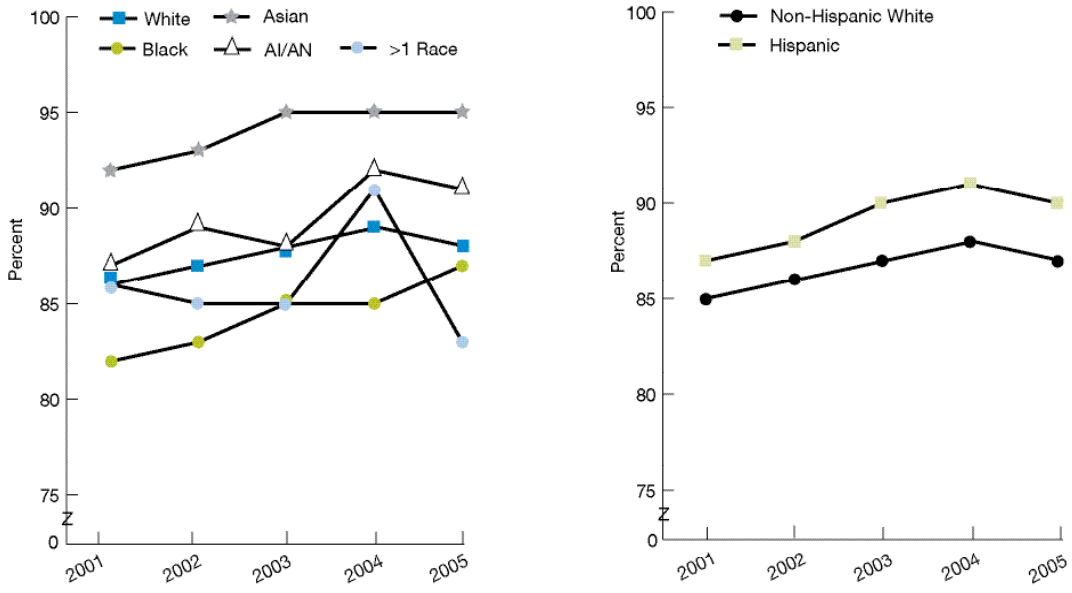
Total Medicare program expenditure for ESRD (2004). . . . . $18.4 million[15]

Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources.

Management: Patients With Adequate Hemodialysis

Dialysis removes harmful waste and excess fluid buildup in the blood that occurs when kidneys fail to function. Hemodialysis is the most common method used to treat advanced and permanent kidney failure. The adequacy of dialysis is measured by the percentage of hemodialysis patients with a urea reduction ratio (URR) equal to or greater than 65%; this measure indicates how well urea, a waste product, is eliminated by the dialysis machine.

Figure 2.8. Hemodialysis patients age 18 and over with adequate dialysis (urea reduction ratio 65% or higher), by race (left) and ethnicity (right), 2001-2005



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

Source: Centers for Medicare & Medicaid Services, End Stage Renal Disease (ESRD) Clinical Performance Measures Project, 2001-2005.

Reference population: ESRD hemodialysis patients age 18 and over.

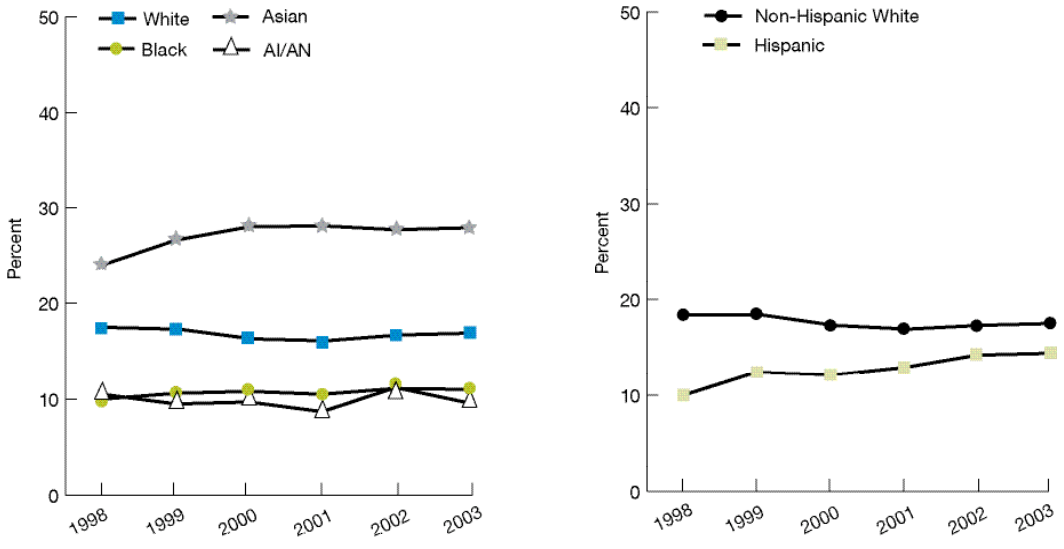
Note: Data were not available for Native Hawaiians or Other Pacific Islanders.

- From 2001 to 2005, the gap between Blacks and Whites in hemodialysis patients with adequate dialysis decreased, and it was eliminated in 2005 (87% compared with 88%; Figure 2.8).
- From 2001 to 2005, the gap between Asians and Whites remained the same. In 2005, the proportion with adequate dialysis was higher for Asians than for Whites (95% compared with 88%).
- The proportion with adequate dialysis improved for Hispanics (from 87% to 91%) and for non-Hispanic Whites (from 85% to 87%).

Management: Registration for Transplantation

Kidney transplantation often allows persons with ESRD to continue a lifestyle similar to that which they had before their kidney failure.[16] It is important that persons with ESRD be registered on the waiting list for kidney transplantation to increase the likelihood of transplantation. However, there are many more people on the waiting list than people who receive transplantation; thus, being on the waiting list does not ensure one will receive a transplant.[17] In 2004, there were 60,393 patients on the Organ Procurement and Transplantation Network (OPTN) donor kidney transplant waiting list in the United States, but only 10,228 donor kidney transplants were performed.[15]

Figure 2.9. 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: End Stage Renal Disease hemodialysis patients and peritoneal dialysis patients under age 70.

Note: Data were not available for Native Hawaiians or Other Pacific Islanders.

- From 1998 to 2003, the gap between Blacks and Whites in the proportion of dialysis patients registered for transplantation remained the same. In 2003, Blacks were less likely to be registered for transplantation than Whites (10.5% compared with 16.1%; Figure 2.9).
- The gap between AI/ANs and Whites increased. In 2003, AI/ANs were less likely to be registered for transplantation than Whites (9.6% compared with 16.9%).
- The gap between Asians and Whites registered for transplantation increased. In 2003, this proportion was higher for Asians than for Whites (27.9% compared with 16.9%).
- The gap between Hispanics and non-Hispanic Whites in the proportion registered for transplantation decreased. However, in 2003, this proportion was lower for Hispanics than for non-Hispanic Whites (14.4% compared with 17.5%).
- From 1998 to 2003, none of the groups achieved the Healthy People 2010 target of 66%.

Heart Disease

Number of deaths (2004) . . . . . 654,092[4]

Cause of death rank (2004) . . . . . 1st[4]

Number of cases of coronary heart disease (2005) . . . . . 14,088,000[18]

Number of cases of heart failure (2004). . . . . 5,200,000[19]

Number of cases of high blood pressure (2005) . . . . . 48,759,000[18]

Number of heart attacks (2004) . . . . . 7,900,000[19]

Number of new cases of heart failure (2004) . . . . . 550,000[19]

Total cost of cardiovascular disease (2006 est.) . . . . . $403.0 billion[6]

Total cost of congestive heart failure (2006 est.). . . . . $29.6 billion[18]

Direct medical costs of cardiovascular disease (2006 est.). . . . . $257.6 billion[6]

Cost effectiveness of hypertension screening. . . . . $14,000-$35,000/QALY[7]

Cost effectiveness of aspirin chemoprophylaxis . . . . . cost savings[7, viii]

Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources.

Prevention: Counseling Obese Adults About Overweight

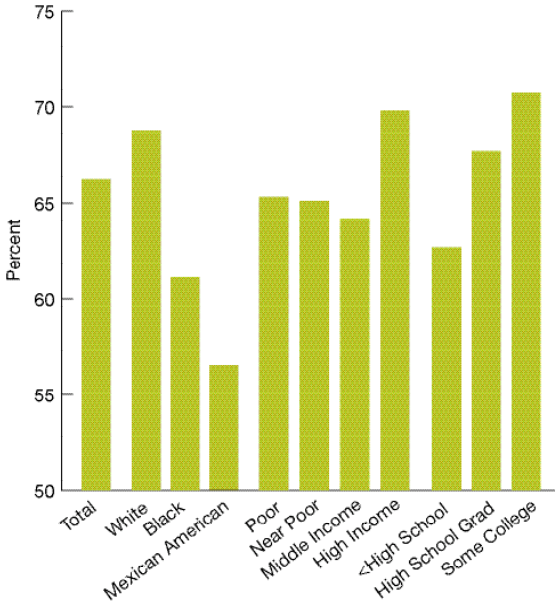
As in the 2005 report, measures related to overweight and obesity are presented in the NHDR. In this section, measures for counseling obese adults about overweight and exercise are presented. In Chapter 4, Priority Populations, a measure for counseling children about overweight is presented in the section on children.

Over 32% of adults age 20 and over in the United States are obese,[20, ix] putting them at increased risk for many chronic, deadly conditions, such as hypertension, cancer, diabetes, and coronary heart disease.[21] Reducing obesity is a major objective in preventing heart disease and stroke.[22] Although physician guidelines recommend that health care providers screen all adult patients for obesity,[23] obesity remains underdiagnosed in U.S. adults.[24] 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.

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

[ix] 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 2.10. 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, 1999-2004



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey (NHANES), 1999-2004.

Reference population: Civilian noninstitutionalized population age 20 and over.

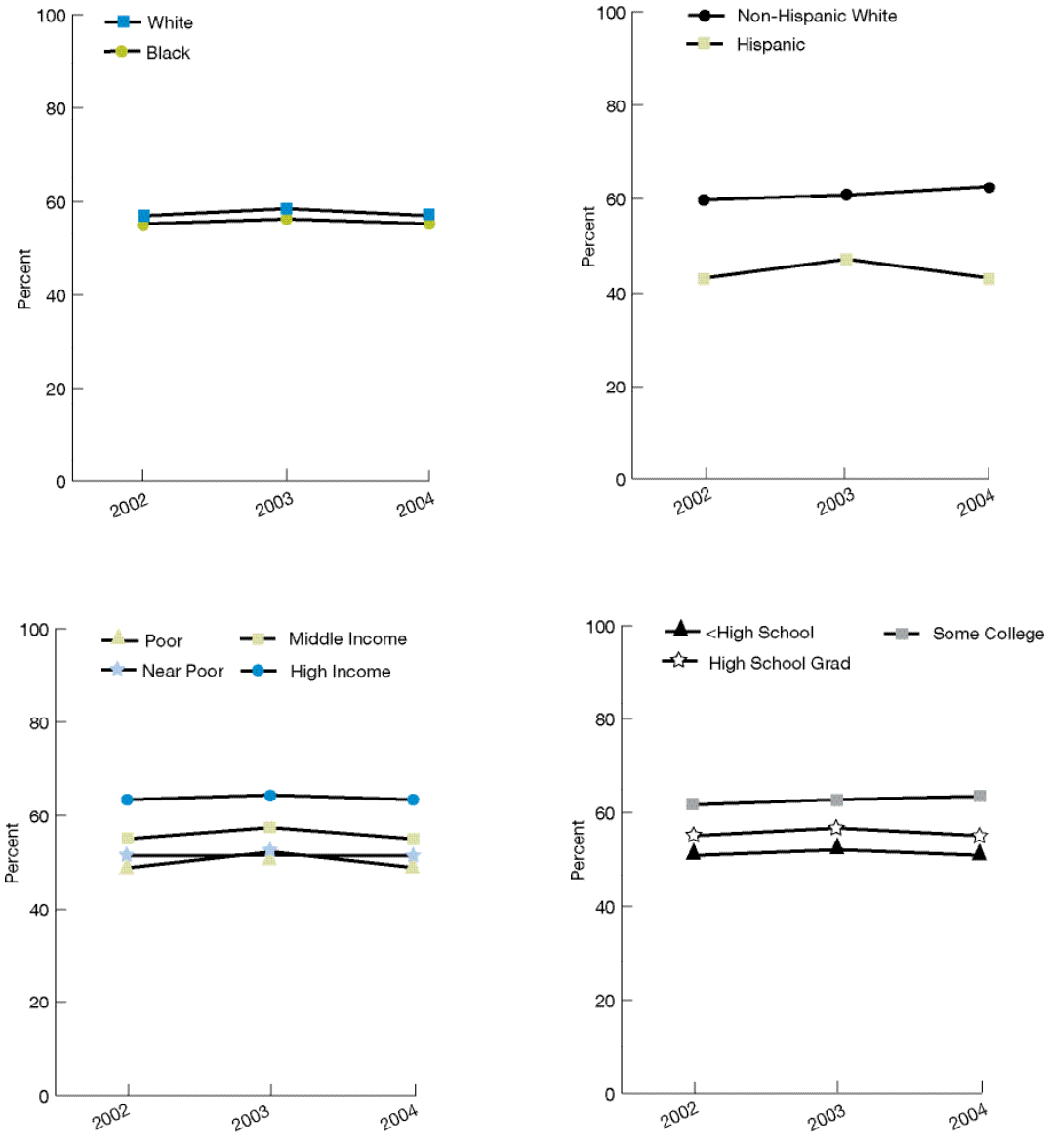
Note: Whites and Blacks are non-Hispanic populations. "Mexican American" is used in place of "Hispanic" because the NHANES is designed to provide estimates for this group rather than all Hispanics. Education groups are for adults age 25 and over only. Rates other than the total are age adjusted to the 2000 standard population. Data were not available for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- About two-thirds (66.2%) of obese adults were told by a doctor or health professional that they were overweight (Figure 2.10).
- The proportion of obese adults told that they were overweight was significantly lower for Blacks (61.1%) and Mexican Americans (56.5%) compared with Whites (68.8%); for middle income people compared with high income people (64.2% compared with 69.8%); and for adults with less than a high school education compared with adults with any college education (62.7% compared with 70.7%).

Prevention: Counseling Obese Adults About Exercise

Exercise counseling within the clinical setting is an important component of effective weight loss interventions.[23] Regular exercise aids in weight loss and blood pressure control efforts, reducing the risk of heart disease, stroke, diabetes, and other diseases.

Figure 2.11. Obese adults (body mass index of 30 or higher) age 18 and over who were given advice by a doctor or health professional about exercise, by race (top left), ethnicity (top right), income (bottom left), and education (bottom right), 2002-2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

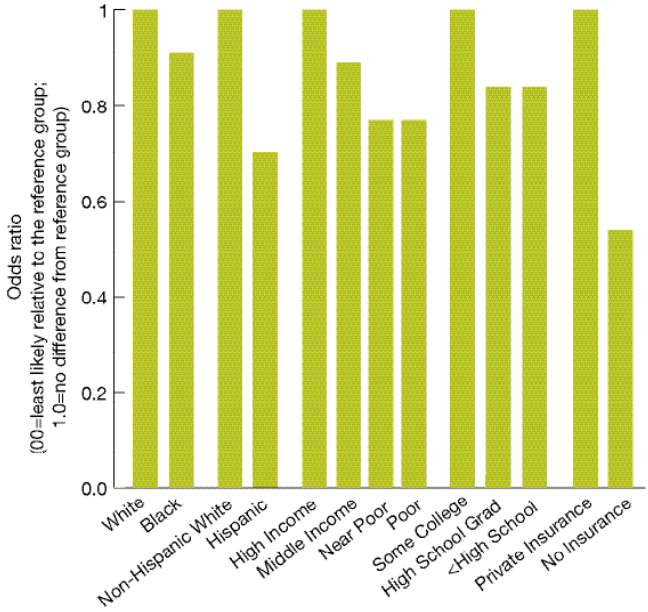
Reference population: Civilian noninstitutionalized population age 18 and over.

Note: Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- From 2002 to 2004, there were no significant changes in the proportion of obese adults who were given advice about exercise (Figure 2.11).
- During the same time period, there was no significant gap between Blacks and Whites on this measure.
- From 2002 to 2004, the gap between Hispanics and non-Hispanic Whites remained the same. In 2004, this proportion was significantly lower for Hispanics than for non-Hispanic Whites (44.7% compared with 62.6%).
- The gap between poor people and high income people remained the same. In 2004, this proportion was significantly lower for poor people compared with high income people (52.0% compared with 65.0%).
- The gap between people with less than a high school education and people with at least some college education remained the same. In 2004, the proportion of obese adults who were given advice about exercise was significantly lower for people with less than a high school education than for people with at least some college education (52.0% compared with 63.4%).

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 2.12. Obese adults (body mass index of 30 or higher) who were given advice by a doctor or health professional about exercise: Adjusted odds ratios, 2002, 2003, and 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002, 2003, and 2004.

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

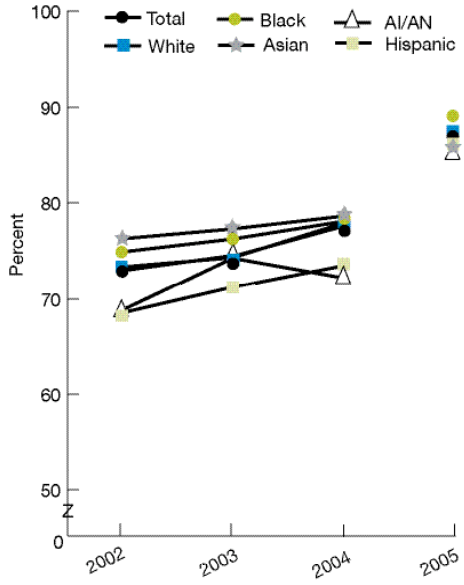
Note: Adjusted odds ratios are calculated from logistic regression models controlling for race, ethnicity, income, education, insurance, age, gender, and residence location. White, non-Hispanic White, high income, some college, and private insurance are reference groups with odds ratio=1; odds ratios <1 indicate a group is less likely to receive a service than the reference group. For example, compared with obese adults with private insurance, the odds that obese adults with no insurance were given advice about exercise is 0.54 after controlling for other factors.

- In multivariate models controlling for race, ethnicity, income, education, insurance, age, gender, and residence location, obese Hispanics had 0.70 times the odds of receiving advice about exercise compared with non-Hispanic Whites, poor individuals had 0.77 times the odds compared with high income individuals, individuals with less than a high school education had 0.84 times the odds compared with individuals with some college education, and individuals with no health insurance had 0.54 times the odds compared with individuals with private insurance to receive advice about exercise when obese (Figure 2.12).

Treatment: Receipt of Recommended Hospital Care for Heart Failure

Recommended hospital care for heart failure includes evaluation of the left ventricular ejection fraction and receipt of an Angiotensin Converting Enzyme (ACE) inhibitor for left ventricular systolic dysfunction. In 2005, the ACE inhibitor measure was modified to include receipt of angiotensin receptor blockers (ARBs) as an alternative to ACE inhibitor receipt.

Figure 2.13. Recommended hospital care received by Medicare patients with heart failure, by race/ethnicity, 2002-2004 and 2005



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

Source: Centers for Medicare & Medicaid Services, 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 Angiotensin Converting Enzyme (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. Discontinuity of the trend line between 2004 and 2005 reflects the modification of the ACE inhibitor measure in 2005 to include receipt of angiotensin receptor blockers as an acceptable alternative to ACE inhibitors and the data collection method change made in 2005 from the abstraction of randomly selected medical records for Medicare beneficiaries to the receipt of hospital self-reported data for all payer types. Data were not available for Native Hawaiians or Other Pacific Islanders.

- In 2005, the proportion of Medicare patients with heart failure who received recommended hospital care was higher for Blacks than for Whites (89.1% compared with 87.4%).
- In 2005, the proportion of Medicare patients with heart failure who received recommended hospital care was lower for AI/ANs (85.9%) and Hispanics (86.7%) compared with Whites (87.4%).
- 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% (2005 data not comparable to this time period).
- During the same time period, this percentage was significantly lower for Hispanics compared with Whites. In 2004, the percentage was also significantly lower for 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 for Whites, Blacks, and Hispanics (Figure 2.13).

HIV and AIDS

Number of AIDS deaths (2005) . . . . . 17,011[25]

Number of persons living with HIV/AIDS (2005)[x] . . . . . 475,871[25]

Number of HIV/AIDS cases (2005) . . . . . 37,367[25]

Number of AIDS cases (2005) . . . . . 41,993[25]

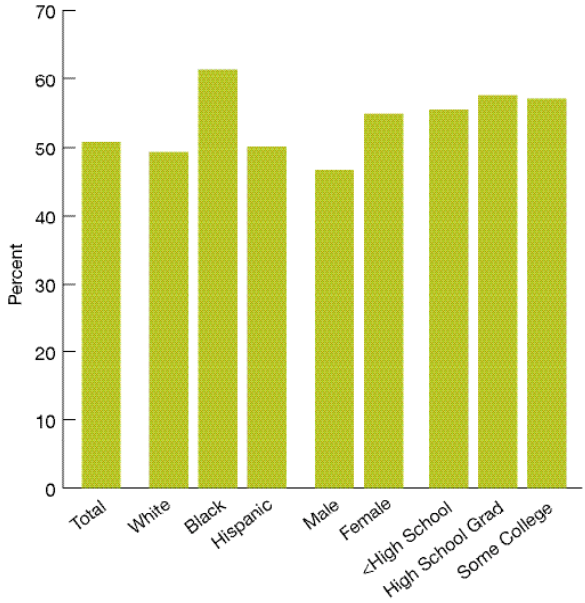
Federal spending on HIV/AIDS care (fiscal year 2006) . . . . . $17.9 billion[26]

Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources.

Prevention: HIV Testing

HIV infection is a serious health disorder that can be diagnosed before symptoms develop. HIV can be detected by reliable, inexpensive, and noninvasive screening tests. Although blood donations are routinely screened for HIV, tracking HIV testing in a health care setting helps to determine the impact of preventive care for the population. HIV-infected patients have years of life to gain if treatment is initiated early, before symptoms develop. The Centers for Disease Control and Prevention recommend routine voluntaryHIV testing as part of normal medical practice in all health care settings.[27] HIV testing is recommended for all pregnant women during prenatal care and for people with high-risk behaviors for developing HIV. (See Priority Populations chapter on women.)

Figure 2.14. People ages 15-44 who ever had an HIV test outside of blood donations, by race/ethnicity, income, and education, 2002



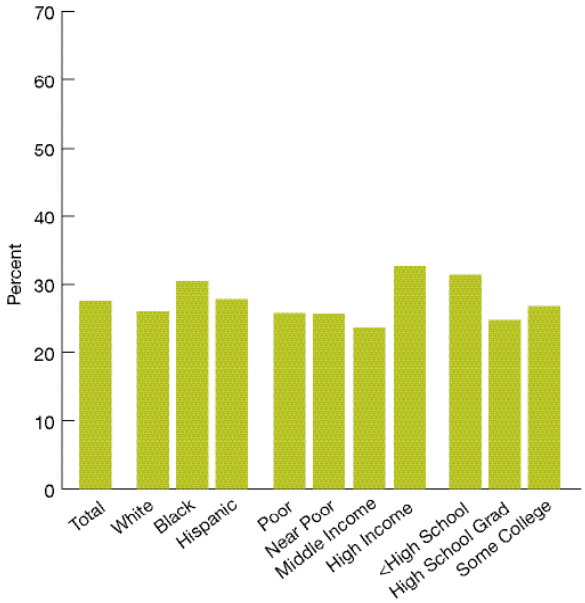
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Family Growth, 2002.

Notes: Whites and Blacks are non-Hispanic populations. Data were not available for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- In 2002, the proportion of people ages 15-44 who ever had an HIV test outside of blood donation was higher for Blacks than Whites (61.4% compared to 49.2%; Figure 2.14).
- The proportion of people ages 15-44 who ever had an HIV test outside of blood donations was lower for females than for males (46.6% compared to 54.9%).

[x] This is the estimated number of persons living with HIV/AIDS in the 33 States and dependent areas with confidential name-based HIV/AIDS infection reporting.

Figure 2.15. People ages 15-44 with any HIV risk behaviors in the last 12 months who had an HIV test outside of blood donations in the last 12 months, 2002



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Family Growth, 2002.

Note: This table is based on a composite measure of HIV risk as defined in the Centers for Disease Control and Prevention's Advance Data.[28, 29] A survey respondent was defined as having any HIV risk behavior if she/he reported any of the following in the 12 months before interview: crack cocaine or illicit intravenous drug use, five or more opposite-sex sexual partners, any same-sex partners (if male), a partner with intravenous drug use, a male partner who has had sex with males (if female), an HIV-positive partner, sex exchanged for money or drugs, or treatment for sexually transmitted disease. Whites and Blacks are non-Hispanic populations. Sample size was insufficient to calculate reliable estimates for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- There were no significant differences by race/ethnicity, income, or education in the proportion of people at risk for HIV who reported getting an HIV test during the past 12 months (Figure 2.15).

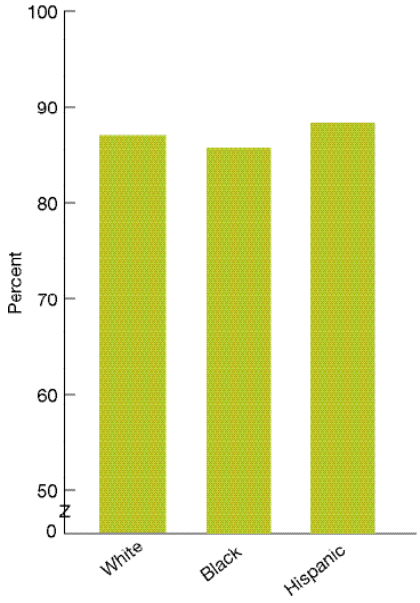
Management: PCP and MAC Prophylaxis

Management of chronic HIV disease includes outpatient and inpatient services. Because national data on HIV care are not routinely collected,[xi] HIV measures tracked in the NHDR come from the HIV Research Network, which consists of 18 medical practices across the United States that treat large numbers of HIV patients.

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.[30]

[xi] Although program data are collected from all Ryan White CARE Act grantees, the aggregate nature of the data make it difficult to assess the quality of care provided by the Ryan White HIV/AIDS Program.

Figure 2.16. HIV patients age 18 and over with CD4 cell count <200 who received PCP prophylaxis in the past year, by race/ethnicity, 2004



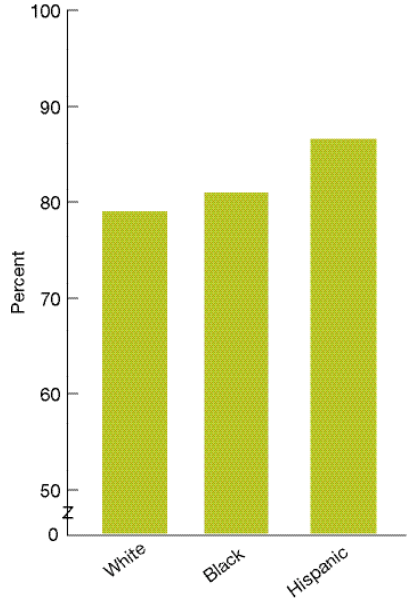
Source: HIV Research Network, 2004.

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

Note: Whites and Blacks are non-Hispanic populations. Data were not available for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- The proportion of HIV patients with CD4 cell count <200 who received PCP prophylaxis did not differ significantly by race/ethnicity (Figure 2.16).

Figure 2.17. HIV patients age 18 and over with CD4 cell count <50 who received MAC prophylaxis in the past year, by race/ethnicity, 2004



Source: HIV Research Network, 2004.

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

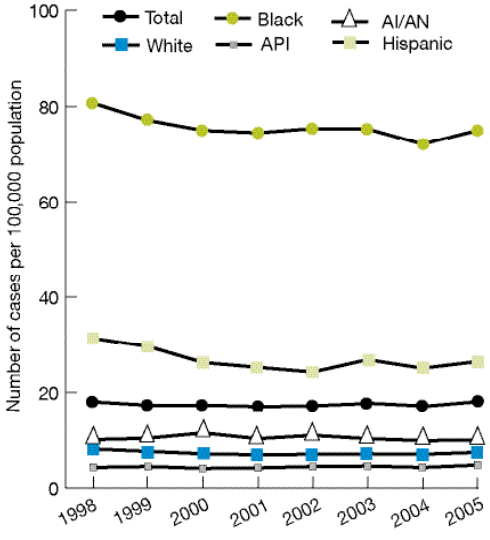
Note: Whites and Blacks are non-Hispanic populations. Data were not available for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- The proportion of HIV patients with CD4 cell count <50 who received MAC prophylaxis did not differ significantly by race/ethnicity (Figure 2.17).

Management: New AIDS Cases

Currently, 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.[31, 32]

Figure 2.18. New AIDS cases per 100,000 population age 13 and over, by race/ethnicity, 1998-2005



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

Source: Centers for Disease Control and Prevention, National Center for HIV, STD, and TB Prevention, HIV/AIDS Surveillance System, 1998-2005.

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.

- From 1998 to 2005, the overall rate of new AIDS cases remained about 18 cases per 100,000 persons (Figure 2.18).
- From 1998 to 2005, the rate of new AIDS cases decreased for Blacks (from 80.7 to 75.0 per 100,000), Hispanics (from 31.3 to 26.4 per 100,000), and Whites (from 8.2 to 7.5 per 100,000).
- In this time period, the gap between Blacks and Whites remained the same. In 2003, the rate of new AIDS cases was 10 times higher (75.0 per 100,000 compared with 7.5 per 100,000) for Blacks than for Whites.
- From 1998 to 2005, the gap between Hispanics and non-Hispanic Whites remained the same. In 2003, the rate of new AIDS cases was over 3 times higher for Hispanics than for Whites (26.4 per 100,000 compared with 7.5 per 100,000).
- There was no significant difference between AI/ANs and Whites in the proportion of new AIDS cases.
- No group has reached the Healthy People 2010 target of 1.0 new AIDS case per 100,000 population.

Mental Health and Substance Abuse

Highest cause of death rank–suicide (2004) . . . . . .11th[4]

Alcohol-related motor vehicle deaths (2005) . . . . . .16,885[33]

Students grades 9-12 who have seriously considered suicide (2005) . . . . . .16.9%[34]

People age 12 and over with alcohol and/or illicit drug dependence or abuse (2005) . . . .22.2 million (9.1%)[35]

Adults age 18 and over with serious psychological distress (2005) . . . . . .24.6 million (11.3%)[35]

Adults with serious psychological distress and substance dependence or abuse (2005) . .5.2 million (21.3%)[35]

Youths ages 12-17 with a major depressive episode during the past year (2005) . . . . . .2.2 million (8.8%)[35]

Adults age 18 and over with a major depressive episode during the past year (2005) . . . .15.8 million (7.3%)[35]

Adults with history of major depressive disorder (2005) . . . . . .30.8 million (14.2%)[35]

Adults age 18 and over with any mental disorder or substance abuse disorder in past year (2001-2003) . . . . . .28.1%[36]

Adults age 18 and over with substance abuse disorders (2001-2003) . . . . . .7.2%[36]

Total medical expenditures for substance abuse and mental disorders (2001 est.) . . . . . .$104 billion[37]

Cost effectiveness of problem drinking screening and brief counseling . . . . . .$0-$14,000/QALY[7]

Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources.

Almost one-fourth of all stays in U.S. community hospitals for patients age 18 and over—7.6 million of nearly 32 million stays—involved depression, bipolar disorder, schizophrenia, and other mental health disorders or substance-use-related disorders in 2004.[38] In a cross-national survey of adults in 14 countries conducted from 2001 to 2003, the United States had the highest rate with any mental disorders, including substance abuse.[39, xii] The proportion of people with any mental disorders or substance abuse in the United States during this time period was 28.1%.[40] The 12-month prevalence of anxiety disorders in the United States in 2004 was 18.7%; mood disorders, 9.7%; impulse-control disorder, 10.4%; and any substance disorder, 7.2%.[34, 38]

Poverty is a risk factor for poor mental health.[41] Poor people are more likely to be exposed to stressful social environments (e.g., violence and unemployment) and less likely to have social and material resources.[42, 43] Poverty disproportionately affects racial and ethnic minorities. Culturally appropriate treatment has the potential to decrease the prevalence, incidence, severity, and duration of certain mental disorders, such as depression and substance abuse. However, cost of care, societal stigma, fragmented organization of services, shame, discrimination, racism, and mistrust represent significant barriers to treatment for depression and substance abuse. One way to help meet the needs of racial and ethnic populations is to engage representatives from the community being served in the design, planning, and implementation of services.

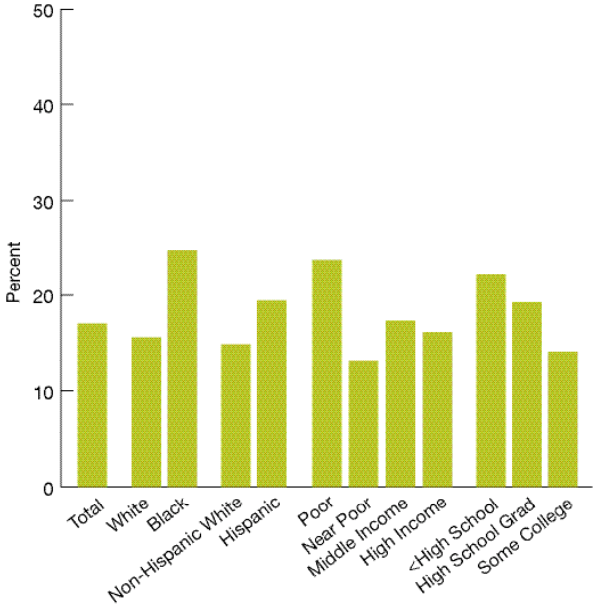
Suicide is often the result of untreated depression and may be prevented when its warning signs are detected and treated. However, social stigma and attitudes toward mental illness held by some racial and ethnic groups may prevent acknowledgment of the condition and may hinder seeking care for depression, suicidal ideation, and related conditions.[44, 45, 46] As a result, suicides are often underreported. Therefore, suicide rates should be used cautiously as a measure of differences in access to quality care for various groups, especially for racial and ethnic groups.[47, 48]

[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 Needed 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 2.19. Persons age 12 and over who needed treatment for illicit drug use and received it at a specialty facility in the past year, 2005



Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2005.

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 available only 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 the nonmedical use of prescription-type psychotherapeutic drugs 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 these 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 (drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers). Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

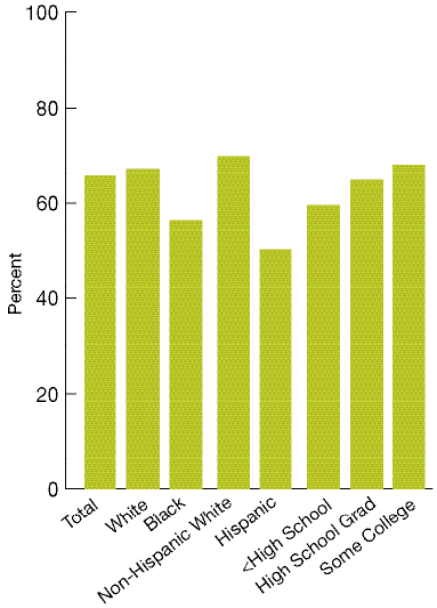
- The proportion of persons age 12 and over who needed treatment for illicit drug use and received it at a specialty facility in the past year was significantly higher for Blacks than for Whites (24.7% compared with 15.6%) and for persons with less than a high school education than for persons with any college education (22.2% compared with 14.1%; Figure 2.19).
- There were no significant trends between 2002 and 2005 for this measure (data not shown).
- In 2005, as in 2004, only Blacks 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, and prescription-type psychotherapeutic (nonmedical use) drugs.

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 are some of the significant barriers to treatment for depression.[49]

Figure 2.20. Persons age 18 and over with a major depressive episode in the past year who received treatment for depression in the past year, 2005



Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2005.

Reference population: U.S. population age 18 and over 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 described in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). *Treatment for depression* is defined as seeing or talking to a medical doctor or other professional or using prescription medication in the past year for depression. Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- 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 for Blacks than for Whites (56.4% compared with 67.2%) and lower for Hispanics than for non-Hispanic Whites (50.2% compared with 69.8%; Figure 2.20).
- 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 for people with less than a high school education than for people with some college education (59.5% compared with 68.0%).

Respiratory Diseases

Number of deaths due to lung diseases (2004) . . . . . 226,379[50]

Number of deaths, influenza and pneumonia combined (2004) . . . . . 59,664[4]

Cause of death rank, influenza and pneumonia combined (2004) . . . . . 8th[4]

People age 18 and over with an asthma attack in past 12 months (2005) . . . . . 8.4 million[51]

People under age 18 with an asthma attack in past 12 months (2005) . . . . . 3.8 million[52]

Annual number of cases of the common cold (est.) . . . . . >1 billion[53]

Number of discharges attributable to pneumonia (2003 est.) . . . . . 1.4 million[54]

Total cost of lung diseases (2006 est.) . . . . . $144.2 billion[6]

Direct medical costs of lung diseases (2006 est.) . . . . . $87 billion[6]

Total approximate cost of upper respiratory infections (annual) . . . . . $40 billion[55]

Total cost of asthma (2004) . . . . . $16.1 billion[50]

Direct medical costs of asthma (2004) . . . . . $11.5 billion[50]

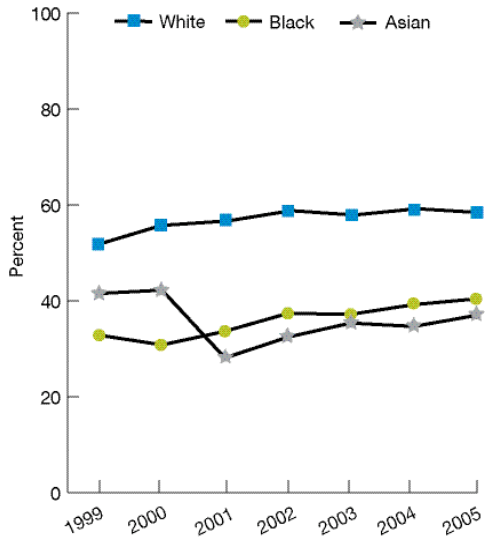
Cost effectiveness of influenza immunization . . . . . $0-$14,000/QALY[7]

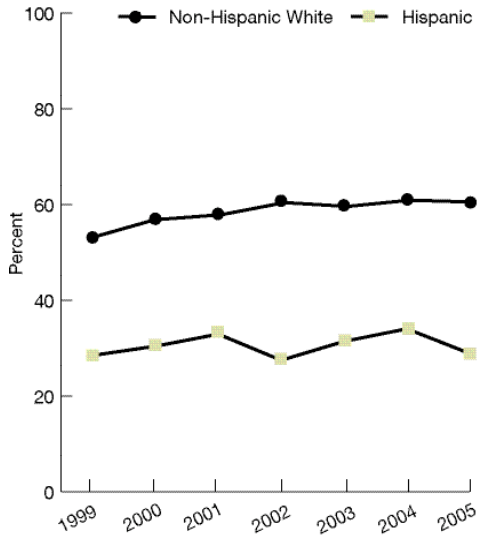
Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources.

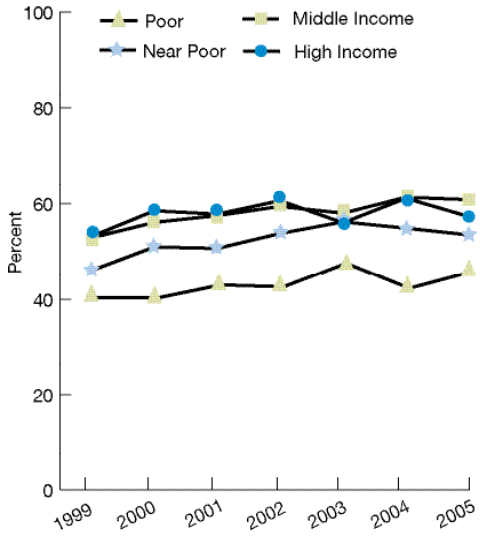
Prevention: Pneumococcal Vaccination

Vaccination is an effective strategy for reducing illness, death, and disparities associated with pneumococcal disease and influenza.[56,57]

Figure 2.21. Adults age 65 and over who ever had pneumococcal vaccination, by race (this page left), ethnicity (this page right), and income (next page), 1999-2005







Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 1999-2005.

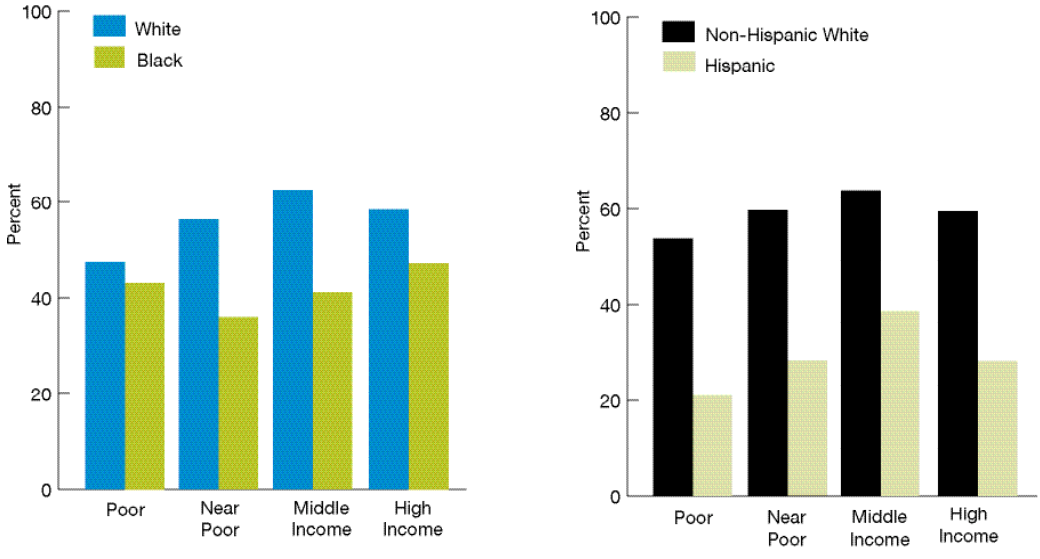
Reference population: Civilian noninstitutionalized population age 65 and over.

Note: Beginning in 2005, the data collection method changed from the abstraction of randomly selected medical records for Medicare beneficiaries to the receipt of hospital self-reported data for all payer types. Age adjusted to the 2000 standard population. Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- From 1999 to 2005, the overall proportion of adults age 65 and over who had received pneumococcal vaccine improved significantly, from 49.9% to 56.3% (data not shown). Improvements were observed for Whites, Blacks, and non-Hispanic Whites (Figure 2.21).
- The gap between Blacks and Whites remained the same. In 2005, the proportion of adults age 65 and over who ever had pneumococcal vaccine was significantly lower for Blacks than for Whites (40.4% compared with 58.4%).
- From 1999 to 2005, the gap between Hispanics and non-Hispanic Whites increased. In 2005 the proportion of Hispanic adults age 65 and over who had ever had pneumococcal vaccine was about half that of non-Hispanic Whites (29.0% compared with 60.5%).
- The gap between poor and high income people remained the same. In 2005, the proportion was significantly lower for poor elderly people than for high income elderly (45.8% versus 57.3%).
- In 2005, as in 2004, 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 2.22. Adults age 65 and over who ever had pneumococcal vaccination, by race (left) and ethnicity (right), stratified by income, 2005

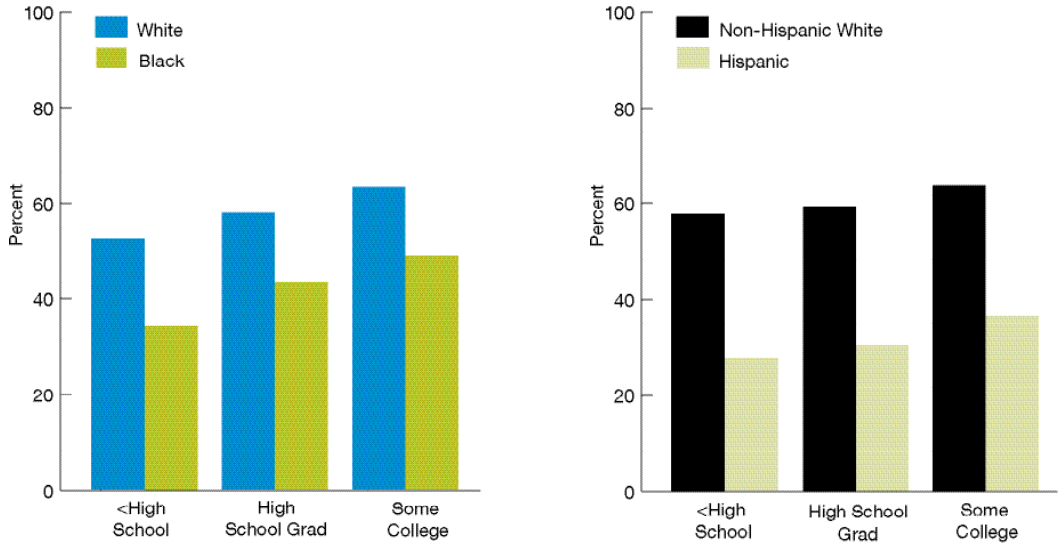


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2005.

Reference population: Civilian noninstitutionalized population age 65 and over.

Note: Age adjusted to the 2000 standard population. Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

Figure 2.23. Adults age 65 and over who ever had pneumococcal vaccination, by race (left) and ethnicity (right), stratified by education, 2005



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2005.

Reference population: Civilian noninstitutionalized population age 65 and over.

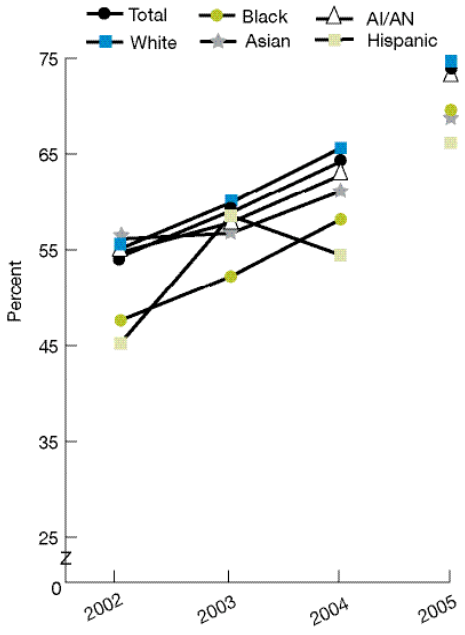
Note: Age adjusted to the 2000 standard population. Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- There were no statistically significant Black-White differences in pneumococcal vaccination in the poor and high income groups (Figure 2.22).
- With the exception of the middle income group, Hispanics at all income levels were less than half as likely as non-Hispanic Whites of the same income level to have ever had a pneumococcal vaccination.
- Blacks and Hispanics at all education levels were less likely than Whites to have ever had a pneumococcal vaccination (Figure 2.23).

Treatment: Receipt of Recommended Hospital Care for Pneumonia

The elderly are at high risk for pneumonia. The highest rate of hospitalizations for pneumonia occurs in the population 65 and over—220.4 per 10,000 population for this group in 2004, compared with 45.5 per 10,000 for the overall population.[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. This set of measures has been adopted by the Hospital Quality Alliance (HQA).

Figure 2.24. Recommended hospital care received by Medicare patients with pneumonia, by race/ethnicity, 2002-2005



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

Source: Centers for Medicare & Medicaid Services, Quality Improvement Organization program, 2002-2005.

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

Note: Whites, Blacks, Asians, and AI/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. The denominator used to calculate these measures was refined in 2005 to exclude patients with health-care-associated pneumonia. The percent of Medicare beneficiaries with blood cultures within 24 hours of hospital arrival was changed to include in the denominator only patients who were admitted to the intensive care unit within 24 hours of hospital arrival.

- In 2005 the proportion of Medicare patients with pneumonia who received recommended hospital care[xiv] was lower for Blacks (69.5%), Asians (68.7%), and Hispanics (66.2%) than for Whites (74.6%).
- From 2002 to 2004, the overall percentage of Medicare patients with pneumonia who received recommended hospital care improved significantly, from 54.3% to 64.4%.
- In all three years, from 2002 to 2004, this percentage was significantly lower for Blacks and Hispanics compared with Whites. In 2004 the percentage was also significantly lower for 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 for all racial/ethnic groups.

[xiv] "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 (2004) . . . . . 1,442,503[59]

Number of home health patients (2000) . . . . . 1,355,290[60]

Number of current hospice care patients (2000) . . . . . 105,496[61]

Discharges from nursing homes (1998-1999) . . . . . 2,500,000[59]

Discharges from home health agencies (2000) . . . . . 7,179,000[62]

Discharges from hospice care (2000) . . . . . 621,000[61]

Total cost of nursing home services (2005) . . . . . 121.9 billion[63]

Total cost of home health services (2005) . . . . . $47.5 billion[61]

Annual national expenditures for hospice care for decedents (1992-1996) . . . . . $1.232 billion[64]

Percent of health care expenditures for hospice care in last 6 months of life . . . . . 74%[64]

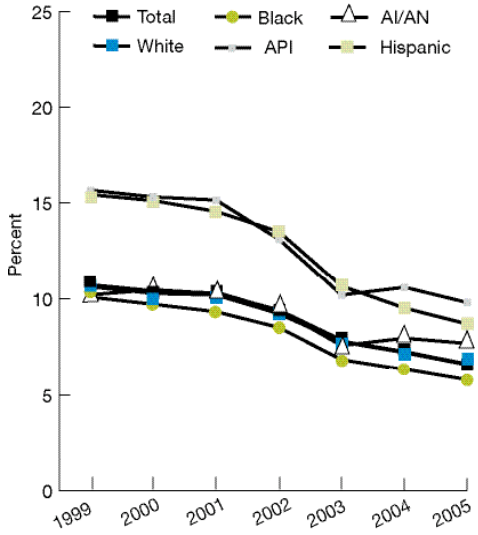
Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources. Cost estimates for nursing home and home health services include costs only for free-standing skilled nursing facilities, nursing homes, and home health agencies, and not those that are hospital based.

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. In addition, this section includes supplemental measures on management of pain in hospice care and a supplemental measure of the quality of end-of-life care.

Management: Use of Physical Restraints on Nursing Home Residents

Although 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, 1999-2005



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

Source: Centers for Medicare & Medicaid Services, Minimum Data Set, 1999-2005. Data are from the third quarter of each calendar year.

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

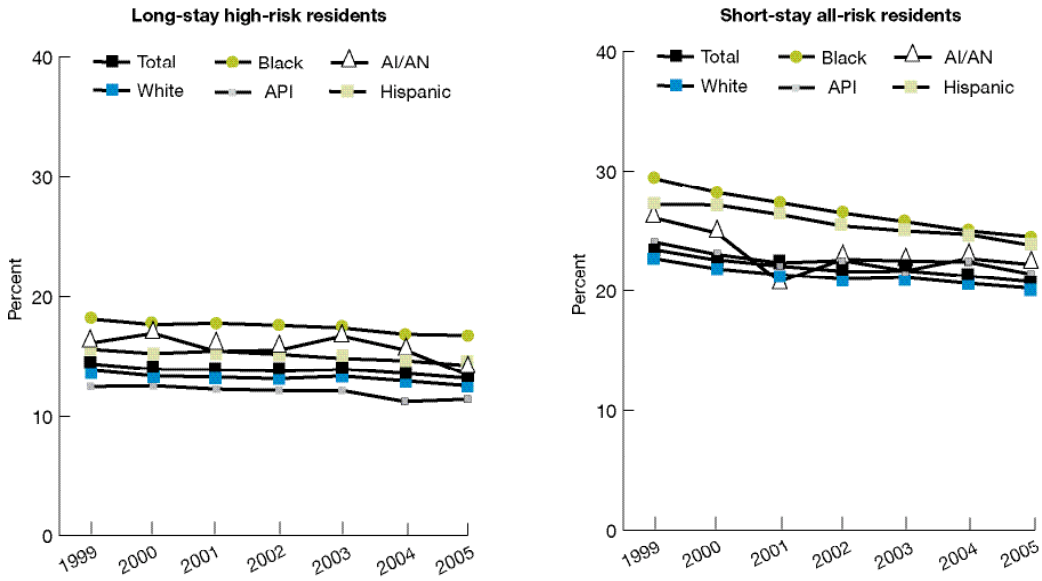
Note: White, Black, API, and AI/AN are non-Hispanic groups. Long-stay residents are persons in an extended/permanent nursing home stay.

- From 1999 to 2005, the proportion of residents who were physically restrained decreased from 10.7% to 6.6% (Figure 2.25).
- From 1999 to 2005, the gap between APIs and Whites in the proportion of residents who were physically restrained decreased. However, in 2005 the proportion of residents who were physically restrained was higher for APIs than for Whites (9.8% compared with 6.6%).
- From 1999 to 2005, the gap between Hispanics and non-Hispanic Whites decreased. However, in 2005, the proportion of residents who were physically restrained was still higher for Hispanics than for Whites (8.7% compared with 6.6%).

Management: Presence of Pressure Sores in 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 all-risk residents (right) who developed pressure sores, by race/ethnicity, 1999-2005



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

Source: Centers for Medicare & Medicaid Services, Minimum Data Set, 1999-2005. 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 expected to return home.

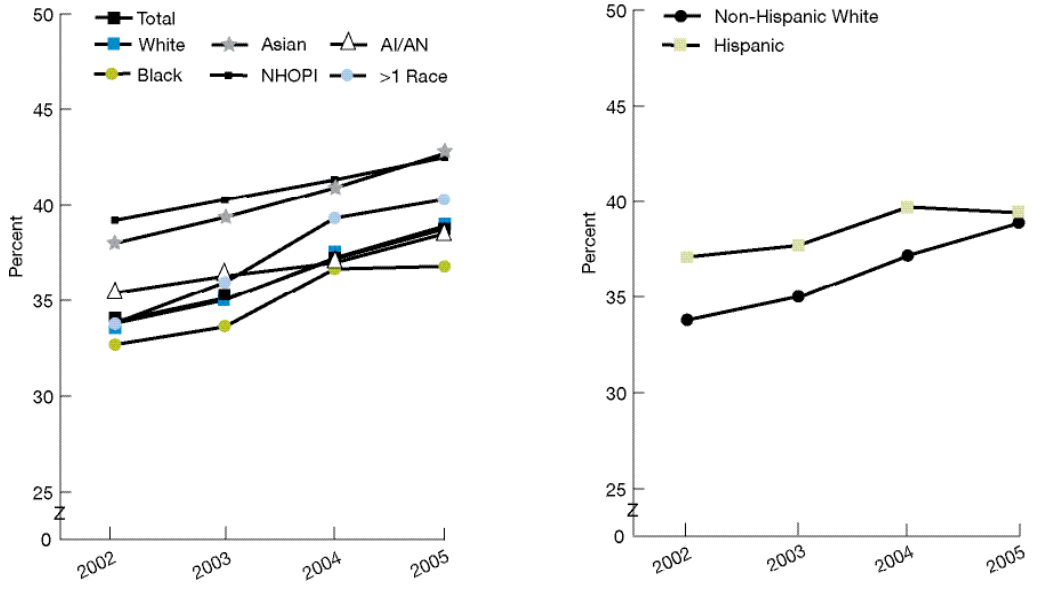
- From 1999 to 2005, the proportion of long-stay high-risk[xv] residents who developed pressure sores decreased from 14.3% to 13.1% (Figure 2.26). Significant improvements were observed for AI/ANs (16.1% to 13.4%) and Hispanics (15.6% to 14.2%).
- In 2005, the proportion of long-stay high-risk residents who developed pressure sores was significantly higher for Blacks (16.7%), AI/ANs (13.4%), and Hispanics (14.2%) than for Whites (12.5%).
- From 1999 to 2005, the proportion of short-stay residents who had pressure sores improved significantly for all groups.
- There were no significant differences among short-stay patients.

[xv] *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.

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; patient level factors such as fear of falling, mobility, etc.; and the patient's available support system. Improved ambulation, i.e., getting better at walking or using a wheelchair, is a measure of improved outcomes.[xvi]

Figure 2.27. Home health care episodes with patients who get better at walking or moving around, by race (left) and ethnicity (right), 2002-2005



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

Source: Centers for Medicare & Medicaid Services, Outcome and Assessment Information Set, 2002-2005.

Denominator: Episodes for adult nonmaternity patients receiving at least some skilled home health care.

Note: An episode is a 60-day time period 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. Data are reported only for those patients who were not already performing at the highest level of ambulation.

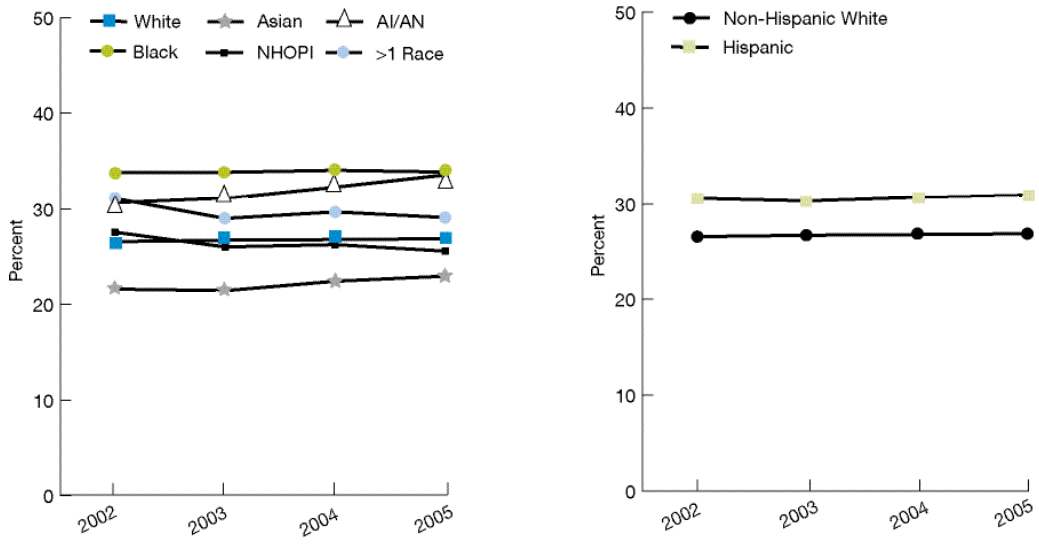
- From 2002 to 2005, the proportion of home health care patients who got better at walking and moving around improved for Whites (from 33.8% to 38.9%), NHOPIs (from 39.2% to 42.5%), AI/ANs (from 35.4% to 38.5%), multiple race persons (from 33.8% to 39.3%), and the total population (from 33.9% to 38.8%; data not shown).
- In 2005, there were no significant differences between minority groups and Whites (Figure 2.27).

[xvi] In cases of patients with some neurological conditions, such as progressive multiple sclerosis or Parkinson's disease, ambulation may not improve even when the 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. 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. 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.

Figure 2.28. Home health care episodes with patients who were admitted to the hospital, by race (left) and ethnicity (right), 2002-2005



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

Source: Centers for Medicare & Medicaid Services, Outcome and Assessment Information Set, 2002-2005.

Denominator: Episodes for adult nonmaternity patients receiving at least some skilled home health care.

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.

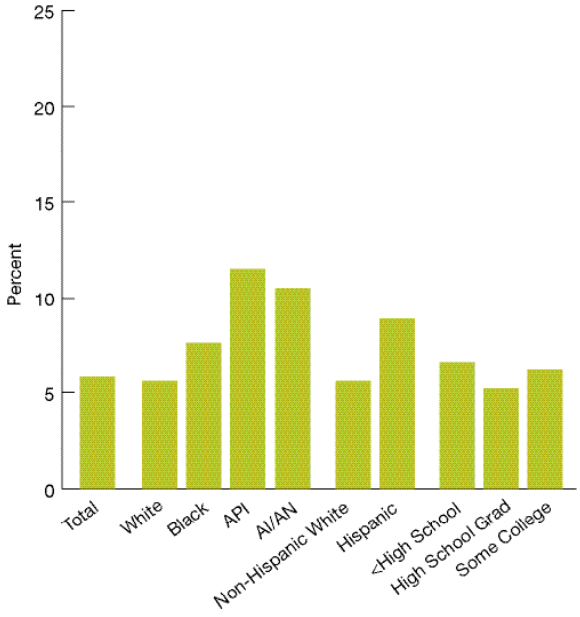
- From 2002 to 2005, the gap between Blacks and Whites in the proportion of home health care patients who were admitted to the hospital remained the same. In 2005, the proportion was higher for Blacks than for Whites (33.9% compared with 26.9%; Figure 2.28).
- The gap between AI/ANs and Whites in the proportion of home health care patients who were admitted to the hospital increased. In 2005, the proportion was higher for AI/ANs than for Whites (33.6% compared with 26.9%).
- The gap between Asians and Whites in the proportion of home health care patients who were admitted to the hospital decreased. In 2005 the proportion was lower for Asians than for Whites (23.0% compared with 26.9%).
- Over the same period, the gap between Hispanics and non-Hispanic Whites in the proportion of home health care patients who were admitted to the hospital remained the same. In 2005, the proportion was higher for Hispanics than for non-Hispanic Whites (31.0% compared with 26.9%).

Treatment: Hospice Care

Hospice care is generally delivered at the end of life to patients with a terminal illness or condition who desire palliative 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 Institute of Medicine 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."[65] The National Hospice and Palliative Care Organization's Family Evaluation of Hospice Care examines the quality of hospice care for patients and their family members.[xvii] 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.[66]

Pain management. Addressing the comfort aspects of care, such as relief from pain, fatigue, and nausea, is an important component of hospice care.[xviii]

Figure 2.29. Hospice patients who did not receive the right amount of medicine for pain, by race, ethnicity, and education, 2006



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, 2006.

Denominator: Adult hospice patients.

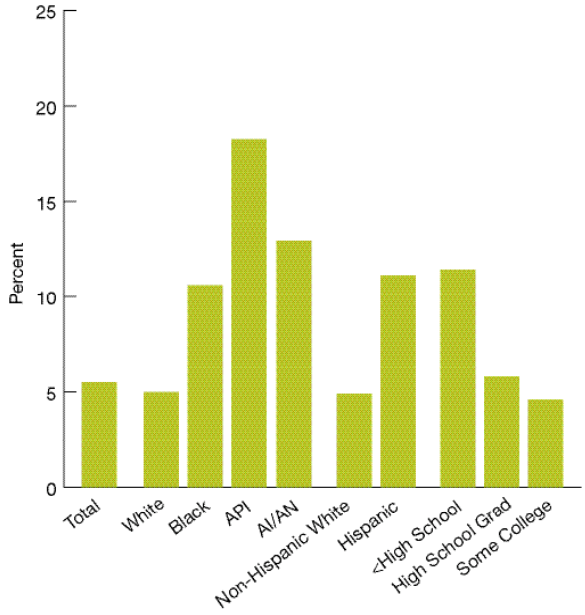
- The proportion of hospice patients whose families reported that they did not receive the right amount of medicine for pain was 5.8% in 2006 (Figure 2.29).
- The percentage of hospice patients whose families reported that they did not receive the right amount of medicine for pain was significantly higher for Blacks (7.6%), AI/ANs (10.5%), and APIs (11.5%) than for Whites (5.6%).
- The percentage of hospice patients whose families reported that they did not receive the right amount of medicine for pain was also higher for Hispanics than for non-Hispanic Whites (8.9% compared with 5.6%).

[xvii] This annual survey provides unique insight into end-of-life care and captures information about a large proportion of hospice patients but is limited by nonrandom 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.

[xviii] This measure is based on responses from a family member of the deceased. 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.

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

Figure 2.30. Hospice patients who received care inconsistent with their wishes, by race, ethnicity, and education, 2006



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, 2006.

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 wishes was 5.5% in 2006 (Figure 2.30).
- The percentage whose families reported that they did not receive care consistent with their wishes was almost two times higher for Blacks (10.6%), more than three times higher for APIs (18.3%), and more than two times higher for AI/ANs (12.9%) compared with Whites (5.5%).
- This percentage was more than two times higher for Hispanics than for non-Hispanic Whites (11.1% compared with 4.9%).
- The percentage of patients whose families reported that they did not receive care consistent with their wishes was almost three times higher for hospice patients with less than a high school education compared with those who had any college education (11.4% compared with 4.6%).

Patient Safety

Number of Americans who die each year from medical errors (1999 est.) . . . . . 44,000-98,000[67]

Number of Americans who die in the hospital each year due to 18 types of medical injuries (2000 est.) . . . . . at least 32,000[68]

Rate of adverse drug reactions during hospital admissions . . . . . 2.0%-6.7%[69, 70, 71, 72]

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.) . . . . . $17 billion-$29 billion[67]

Groups with higher rates of some adverse safety events . . . . . racial minorities[73, 74]

Note: Statistics may vary from previous years due to revised and updated source statistics or addition of new data sources.

Although patient safety is one of the six Institute of Medicine aims for the health care system, the landmark report on patient safety, *To Err Is Human*, does not mention race or ethnicity when discussing the problem of patient safety.[2] A recent review of the literature found only 9 of 323 articles on pediatric patient safety (3.1%) included race or ethnicity in the analysis. Five of the nine studies used data from the Agency for Healthcare Research and Quality's Healthcare Cost and Utilization Project.[75] This section highlights six measures of patient safety in three areas:

- Postoperative complications.
- Other complications of hospital care.
- Complications of medications.

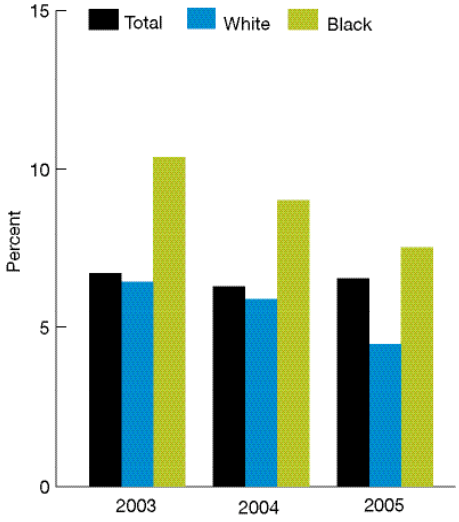
For findings related to all core measures of patient safety, see Table 2.2a.

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, urinary tract infection, and blood clots.

Figure 2.31. Medicare surgical patients with postoperative care complications, by race, 2003-2005



Source: Centers for Medicare & Medicaid Services, Medicare Patient Safety Monitoring System, 2003-2005.

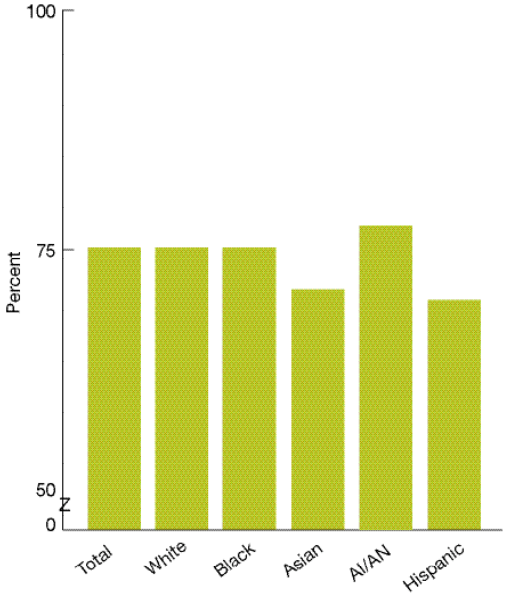
Denominator: Hospitalized Medicare patients having surgery, all ages.

Note: Postoperative care complications included in this composite are postoperative pneumonia, urinary tract infection, and venous thromboembolic event (blood clot). Note that this composite measure changed from 2004 to 2005, with the alteration of the complications of urinary tract infections being changed to catheter-associated urinary tract infections. Sensitivity analysis carried out on the composite shows that this change does not significantly alter the composite estimate. Data were unavailable for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- From 2003 to 2005, the gap between Blacks and Whites decreased (Figure 2.31). However, in 2005, Black surgical patients continued to have significantly higher rates than White patients for postoperative complications (7.51% compared with 4.48%).

Postoperative wound infections. Infections acquired during hospital stays (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. 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 by adult surgical Medicare patients, by race/ethnicity, 2005



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

Source: Centers for Medicare & Medicaid Services, Medicare Quality Improvement Organization Program, 2005.

Denominator: Medicare patients age 18 and over having surgery.

Note: Whites, Blacks, Asians, and AI/ANs are non-Hispanic groups. Data were insufficient for this analysis for Native Hawaiians or Other Pacific Islanders.

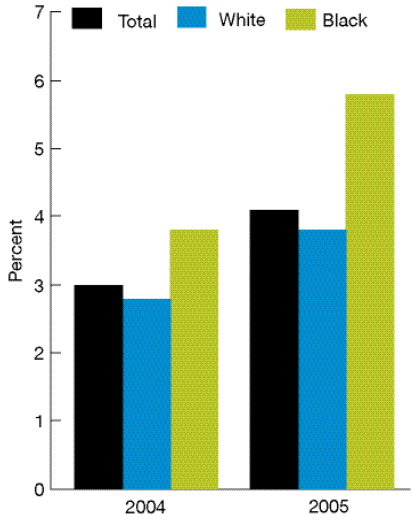
- The proportion of appropriately timed antibiotics provided to Medicare surgery patients was significantly lower for Hispanics (69.8%) and Asians (70.8%) than for Whites (75.2%; Figure 2.32). The proportion was higher for AI/ANs than Whites (77.5% compared with 75.2%). Other differences were not statistically significant.

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 among Medicare patients, by race, 2004-2005



Source: Centers for Medicare & Medicaid Services, Medicare Patient Safety Monitoring System, 2004-2005.

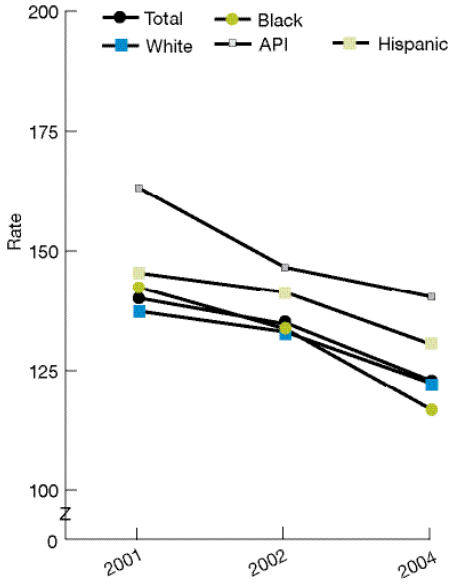
Denominator: Hospitalized Medicare patients with central venous catheter placement, all ages.

Note: Central venous catheter complications included in this composite are bloodstream infection and mechanical adverse events. Sensitivity analysis carried out on the composite shows that this change does not significantly alter the composite estimate. Data were not available for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- No significant racial disparities in rates of central venous catheter complications among Medicare patients were observed (Figure 2.33).
- From 2004 to 2005, the rate of central venous catheter complications increased significantly overall (from 3.0% to 4.1%). This increase in the composite measure was due to the significant increase in mechanical adverse events, since the rate of bloodstream infections associated with central venous catheters did not change significantly between 2004 and 2005 (data not shown).

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 ages 18-74 following complications of care, by race/ethnicity, 2001-2004



Key: API=Asian or Pacific Islander.

Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) disparities analysis file, 2001-2004.

Denominator: Patients ages 18-74 from U.S. community hospitals whose hospitalization is complicated by pneumonia, thromboembolic event, sepsis, acute renal failure, shock, cardiac arrest, or gastrointestinal bleeding or acute ulcer. The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population.

Note: Data were not available for American Indians and Alaska Natives. Data for 2003 were not available.

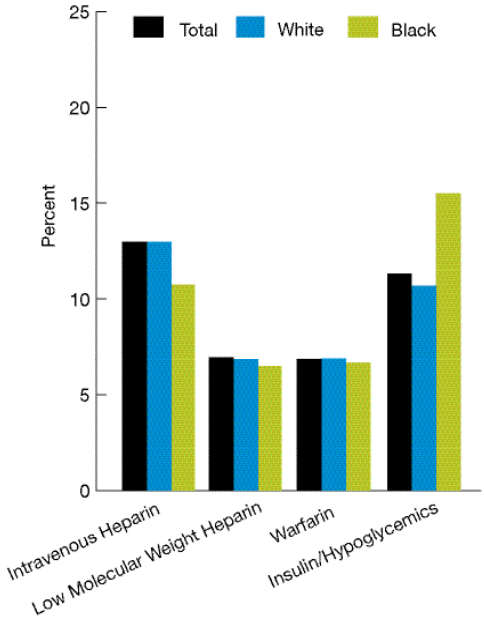
- From 2001 to 2004, there was significant improvement overall in the rates of in-hospital deaths following complications of care (from 140 per 1,000 in 2001 to 122.6 per 1,000 in 2004; Figure 2.34).
- During this period, the gap between Blacks and non-Hispanic Whites in the rates of in-hospital deaths following complications of care remained the same. In 2004, the rate was significantly lower for Blacks than for non-Hispanic Whites (116.8 per 1,000 compared with 122.3 per 1,000).
- The gap between Hispanics and non-Hispanic Whites remained the same. In 2004, there was no significant difference for Hispanics compared with non-Hispanic Whites.

Complications of Medications

Complications of medications 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 "high risk" drugs and the adverse events associated with them. Adverse drug events can include 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, 2005



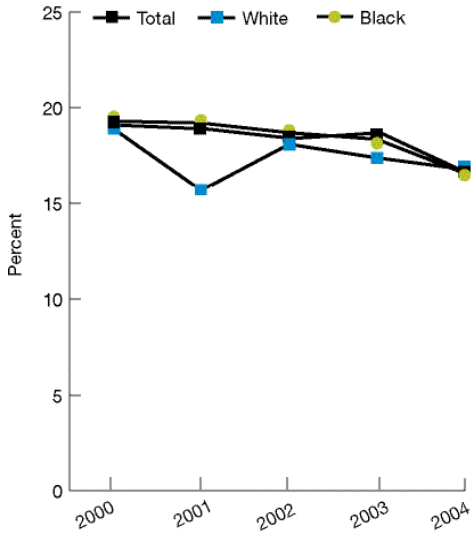
Source: Centers for Medicare & Medicaid Services, Medicare Patient Safety Monitoring System, 2005.

Denominator: Random sample of Medicare medical records of patients receiving the drug, all ages.

- In 2005, between 7% and 13% of Medicare patients experienced an adverse drug event in the hospital, depending on the type of drug (Figure 2.35).
- The percent of patients taking low molecular weight heparin who experienced an adverse drug event improved significantly for all groups between 2004 and 2005. No other improvements, however, were achieved between 2004 and 2005. (Data not shown.)
- In 2005, as in 2004, hospitalized Black Medicare beneficiaries were significantly more likely to have adverse drug events associated with insulin or oral hypoglycemics than White Medicare beneficiaries.

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.[xix, 76] Inappropriate medication use by the elderly includes drugs that should often be avoided for elderly patients.

Figure 2.36. Inappropriate medication use by the elderly, by race, 2000-2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000-2004.

Reference population: Civilian noninstitutionalized population age 65 and over.

Note: Data were insufficient for this analysis for Asians, Native Hawaiians and Other Pacific Islanders, and American Indians and Alaska Natives.

- From 2000 to 2004, there was significant improvement in the rate for Whites (from 19.3% to 16.8%) while the rate for Blacks did not change significantly. In 2004, there were no significant differences between Blacks and Whites for inappropriate medication use by the elderly (Figure 2.36).

[xix] 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, methyldopa, reserpine, disopyramide, oxybutynin, chlorpheniramine, cyproheptadine, diphenhydramine, hydroxyzine, promethazine, and propoxyphene.

Timeliness

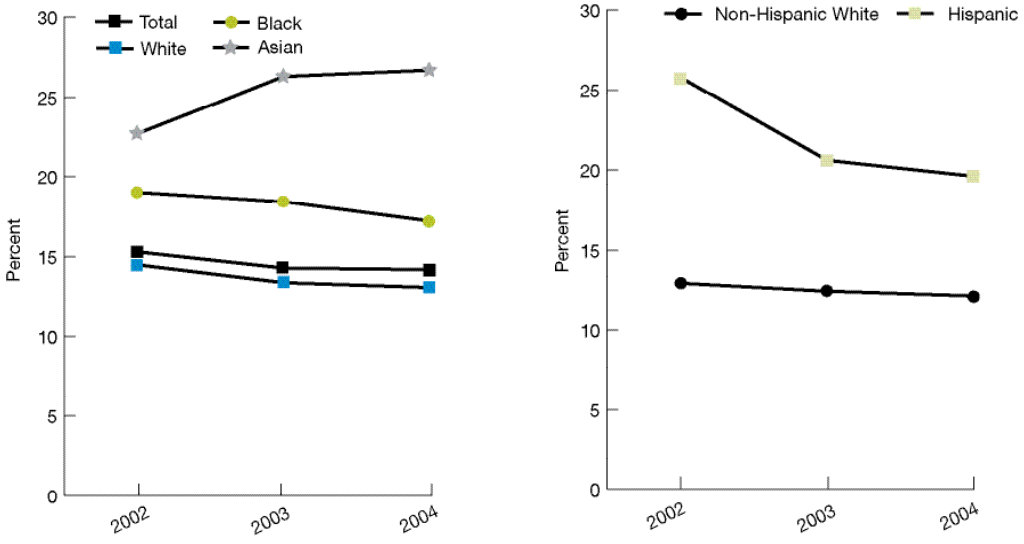
Timeliness is the health care system's capacity to provide care quickly after a need is recognized. For patients, lack of timeliness can result in emotional distress, physical harm, and financial consequences.[77,78] For example, stroke patients' mortality and long-term disability are largely influenced by the timeliness of therapy[79, 80] Timely delivery of appropriate care can also help reduce mortality and morbidity for chronic conditions such as chronic kidney disease,[81] and timely antibiotic treatments are associated with improved clinical outcomes.[82] 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.[83]

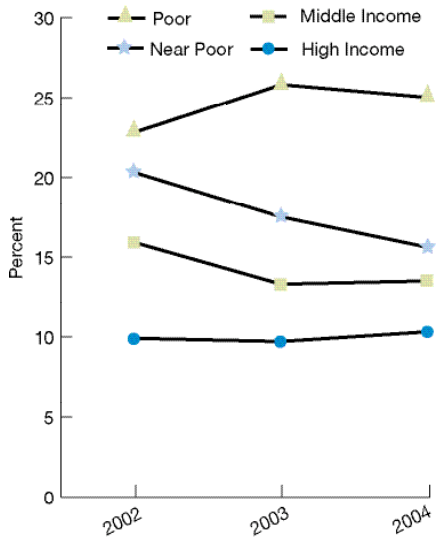
Early care for comorbid conditions has been shown to reduce hospitalization rates and costs for Medicare beneficiaries.[84] Some research suggests that, over the course of 30 years, the costs of treating diabetic complications can approach $50,000 per patient.[85] Early care for complications in patients with diabetes can reduce overall costs of the disease.[86] Timely outpatient care can reduce admissions for pediatric asthma, which account for $1.25 billion in total hospitalization charges annually.[87] The measure of timeliness highlighted in this section is getting care for illness or injury as soon as wanted. (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 centered 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 (this page left), ethnicity (this page right), and income (next page), 2002-2004





Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

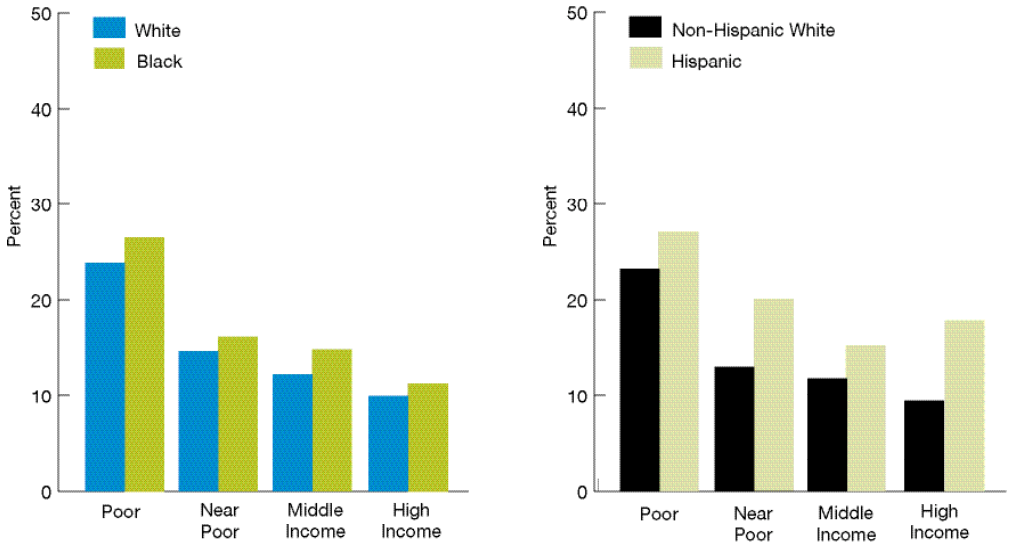
Reference population: Civilian noninstitutionalized population age 18 and over.

Note: Data were insufficient for this analysis for American Indians and Alaska Natives

- From 2002 to 2004, the gap between Asians and Whites in the proportion of adults who reported sometimes or never getting care for illness or injury as soon as wanted remained the same (Figure 2.37). In 2004, the proportion was about two times higher for Asians than for Whites (26.7% compared with 13.1%).
- The gap between Hispanics and non-Hispanic Whites in the proportion of adults who reported delayed care decreased. However, Hispanics remained more likely than non-Hispanic Whites to report sometimes or never getting care for illness or injury as soon as wanted (19.6% compared with 12.1% in 2004).
- The gap between poor and high income people remained the same on this measure. In 2004, poor adults were more than twice as likely as high income adults to report sometimes or never getting care for illness or injury as soon as wanted (25.0% compared with 10.3%).

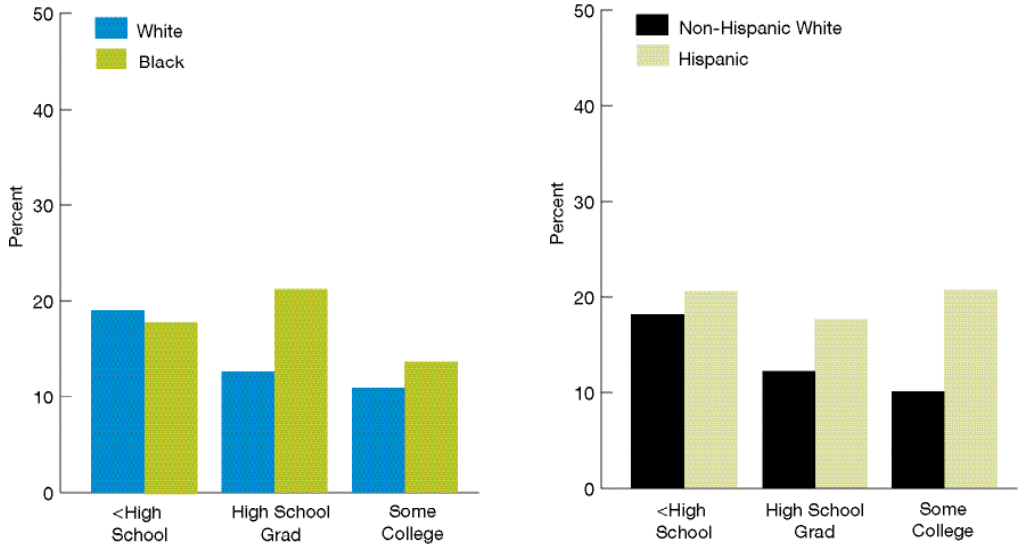
Racial and ethnic minorities are disproportionately of lower socioeconomic status. To distinguish the effects of race, ethnicity, income, and education on timeliness of primary care, this measure is stratified by income and education level.

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, 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.
Reference population: Civilian noninstitutionalized population age 18 and over.
Note: Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

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, 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Civilian noninstitutionalized population age 18 and over.

Note: Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- Socioeconomic status explains some but not all of the ethnic differences in timeliness of primary care (Figures 2.38 and 2.39).
- After stratification by income, high income Hispanics were still significantly more likely than high income non-Hispanic Whites to report problems getting care for illness or injury as soon as they wanted (17.9% compared with 9.4%).
- After stratification by education, Blacks with a high school education were still significantly more likely than Whites of the same education level to report problems getting care for illness or injury as soon as they wanted (21.2% compared with 12.6%).
- After stratification by education, among people with some college, Hispanics were twice as likely as non-Hispanic Whites to report problems getting care for illness or injury as soon as they wanted (20.6% compared with 10.1%).

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."[88] Patient centeredness "encompasses qualities of compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient."[89]

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.[88, 90, 91, 92] This style of care has been shown to improve patients' health and health care.[90, 91, 93, 94, 95] Unfortunately, there are barriers to good communication: about a third of Americans are suboptimally "health literate,"[96, 97] which means they lack the "capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions."[98] They receive less preventive care[99] and have poorer understanding of their conditions and care,[96, 100, 101] higher use of emergency and inpatient services, higher rates of rehospitalization,[102, 103] lower adherence to medications,[102] and lower participation in medical decision-making.[104] Low health literacy costs an estimated $29 billion to $69 billion per year.[105] Providers also differ in communication proficiency, including varied listening skills and views of symptoms and treatment effectiveness compared with their patients' views.[106]

Patient centeredness has been shown to reduce both underuse and overuse of medical services[107] and can reduce strains on system resources or save money by reducing the number of diagnostic tests and referrals.[93] 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 Department of Health and Human Services, has developed a set of Cultural Competency Curriculum Modules that aim to equip providers with cultural and linguistic competencies to help eliminate disparities.[xx, 108] These are based on the National Standards on Culturally and Linguistically Appropriate Services (CLAS), which are directed at health care organizations with the aim to improve the patient centeredness of care for people with limited English proficiency.

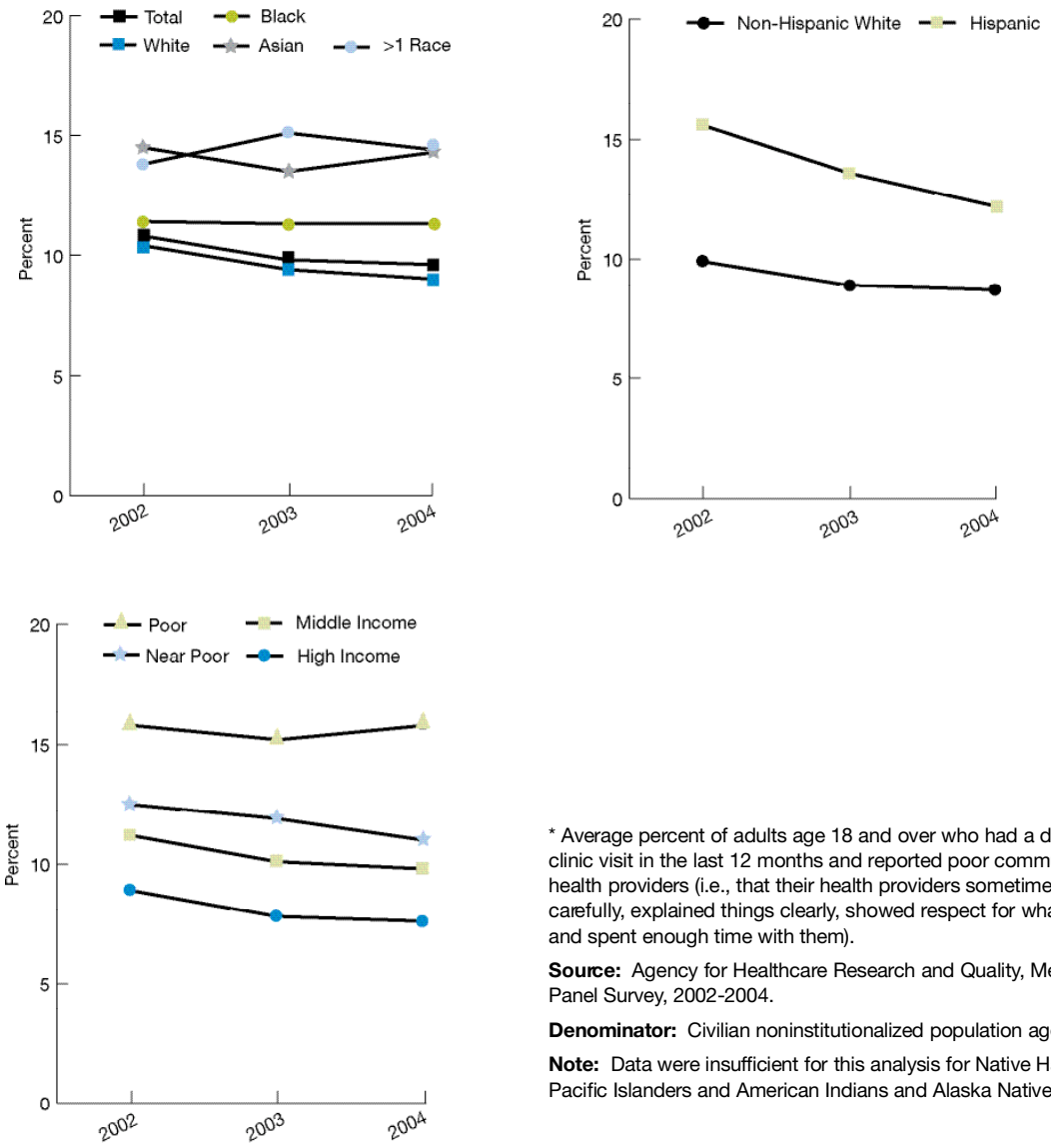
The NHDR includes one core measure of patient centeredness—a composite measure on the patient experience of care—and two new supplemental measures. Because having a diverse workforce of health care providers may be an important component of patient centered health care for many patients, this year's report includes a new supplemental measure of workforce diversity—race/ethnicity of the Nation's registered nurse (RN) workforce. A supplemental measure focusing on health literacy of U.S. adults is also presented. (For findings related to all core measures of patient centeredness, see Tables 2.3a and 2.3b.)

[xx] 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 Systems) survey,[109] the NHDR uses a composite measure that combines four measures of patient-provider communication 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.

Figure 2.40. Composite: Adult ambulatory patients who reported poor communication with health providers,* by race (top left), ethnicity (top right), and income (bottom left), 2002-2004



* Average percent of adults age 18 and over who had a doctor's office or clinic visit in the last 12 months and reported poor communication with health providers (i.e., that their health providers sometimes or never listened carefully, explained things clearly, showed respect for what they had to say, and spent enough time with them).

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

Denominator: Civilian noninstitutionalized population age 18 and over.

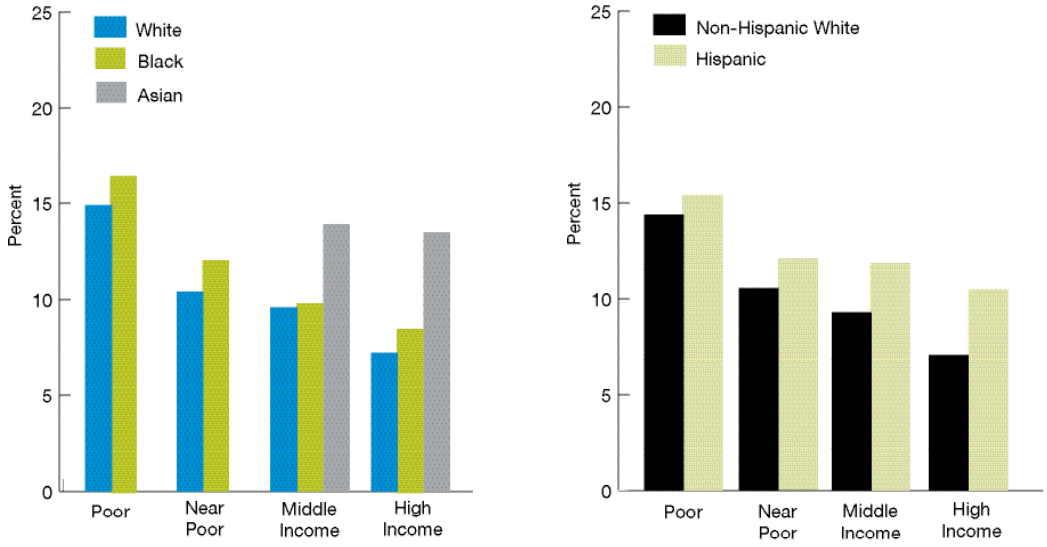
Note: Data were insufficient for this analysis for Native Hawaiians or Other Pacific Islanders and American Indians and Alaska Natives.

- From 2002 to 2004, the gap between Blacks and Whites and between Asians and Whites on this measure did not change. In 2004, Blacks and Asians were more likely than Whites to report they had poor communication with their health providers (11.3% for Blacks and 14.3% for Asians compared with 9% for Whites; Figure 2.40).

- The gap between Hispanics and non-Hispanic Whites in the proportion of adults who reported poor communication with their health providers decreased from 2002 to 2004. However in 2004, the proportion was higher for Hispanics than for non-Hispanic Whites (12.2% compared with 8.7%).
- The gap between poor and high income people increased. In 2004, the proportion of adults who reported poor communication was higher for poor people than for high income people (15.8% compared with 7.6%).

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 2.41. Composite: Adult ambulatory patients who reported poor communication with health providers,* by race (left) and ethnicity (right), stratified by income, 2004



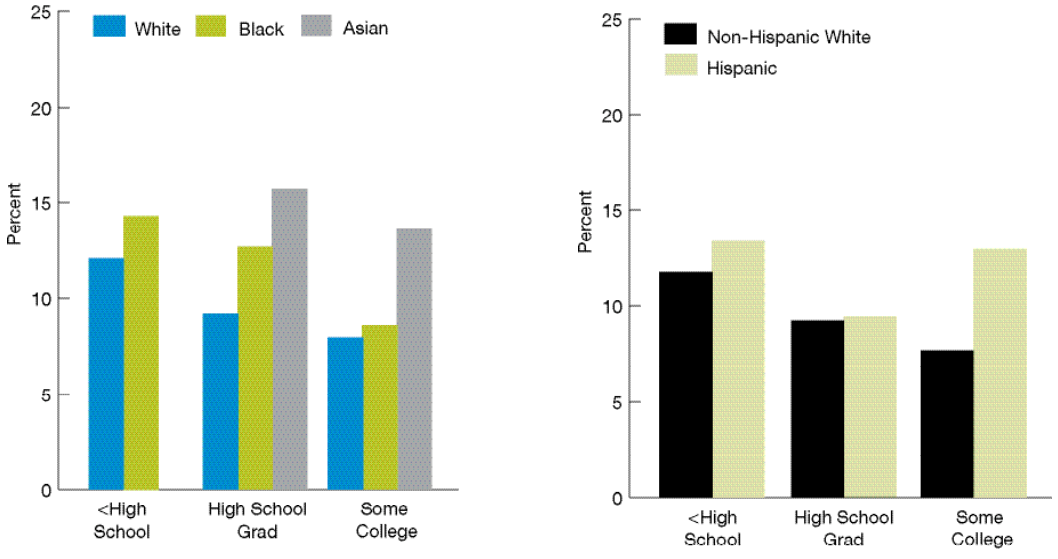
* Average percent of adults age 18 and over who had a doctor's office or clinic visit in the last 12 months and reported poor communication with health providers (i.e., that their health providers sometimes or never listened carefully, explained things clearly, showed respect for what they had to say, and spent enough time with them).

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Denominator: Civilian noninstitutionalized population age 18 and over.

Note: Sample sizes were too small to provide estimates for poor and near poor Asians. The seemingly large difference between middle income Asians and Whites is not statistically significant due to small sample sizes.

Figure 2.42. Composite: Adult ambulatory patients who reported poor communication with health providers,* by race (left) and ethnicity (right), stratified by education, 2004



* Average percent of adults age 18 and over who had a doctor's office or clinic visit in the last 12 months and reported poor communication with health providers (i.e., that their health providers sometimes or never listened carefully, explained things clearly, showed respect for what they had to say, and spent enough time with them).

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Denominator: Civilian noninstitutionalized population age 18 and over.

Note: Sample sizes were too small to provide estimates for Asians with less than a high school education and Asian high school graduates.

- Socioeconomic status explains some but not all of the racial and ethnic differences in patient-provider communication (Figures 2.41 and 2.42).
- In 2004, high income Hispanics were more likely to report they sometimes or never received patient centered care than high income non-Hispanic Whites (10.5% compared with 7.1%).
- In 2004, among high school graduates, Blacks were more likely than Whites to report having had poor communication with their health providers (12.7% compared with 9.2%).
- Among people with some college, Asians were more likely than Whites to report having had poor communication with their health providers (13.6% compared with 8.0%).
- In 2004, college-educated Hispanics were significantly more likely than college-educated non-Hispanic Whites to report having had poor communication with their health providers (13.0% compared with 7.7%).

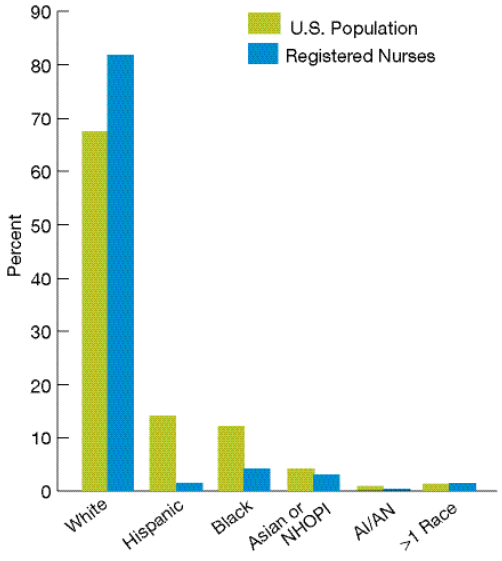
Diversity of the Registered Nurse Workforce

In 2000, over 30% of Americans identified themselves as racial or ethnic minorities, and it is estimated that half of Americans will be minorities by 2050.[110] Minority providers are more likely than their White colleagues to practice in underserved minority communities.[111, 112] Health care workforce diversity is considered to be important for health care research, education, administration, and policy both to provide 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 health care visits but also has the potential to improve cultural competency 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.[113] As such, it is an important element of a patient centered health care encounter.

Last year the NHDR presented data on physician diversity. This year the NHDR presents data on the diversity of the RN population from the National Sample Survey of Registered Nurses by comparing the percent of registered nurses with the general population in the United States. Next year the NHDR will focus on diversity in the practical nurse workforce.

The United States experienced the slowest growth in the nurse population between 1996 and 2000.[114] The adequacy of nurse supply varies geographically throughout the Nation, with a general consensus that at the national level currently a moderate shortage of RNs exists.[115] According to the National Center for Health Workforce Analysis (NCHWA) in the Bureau of Health Professions (BHPr), Health Resources and Services Administration (HRSA), the growth and aging of the population, along with the Nation's continued demand for the highest quality of care, will create a surging demand for the services of RNs over the coming two decades. At the same time, because many RNs are approaching retirement age and the nursing profession faces difficulties attracting new entrants and retaining the existing workforce, the RN supply remains flat.[115] There is also growing concern about the lack of diversity in the nursing workforce.[116]

Figure 2.43. Race/ethnicity of U.S. registered nurses versus the U.S. population, 2004[xxi]



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

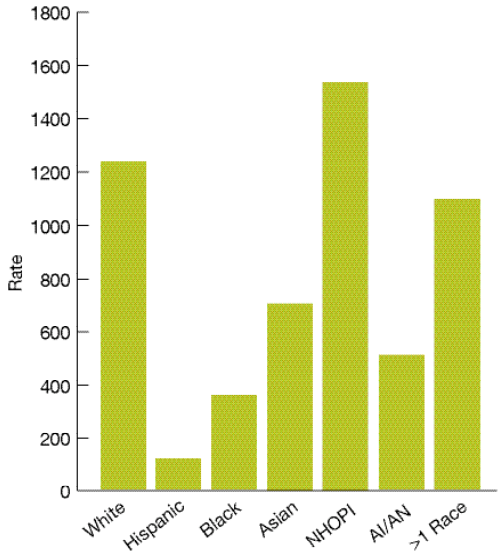
Source: National Sample Survey of Registered Nurses, 2004.

Note: All racial groups are non-Hispanic. Asian and NHOPI are combined because this is how the National Sample Survey of Registered Nurses presents the data.

- In 2004, 81.8% of registered nurses in the United States were White (Figure 2.43).
- Relative to the U.S. population, Hispanic, Black, Asian, and AI/AN individuals were underrepresented in the RN workforce while Whites were overrepresented.

[xxi] The National Sample Survey of Registered Nurses reports racial/ethnic data for respondents with *both* racial *and* ethnic data (in accordance with Office of Management and Budget recommendations). For 7.5% of respondents, race *and* ethnicity are not both known. Therefore, these individuals are not included in the data presented.

Figure 2.44. Registered nurses per 100,000 population, by race/ethnicity, 2004



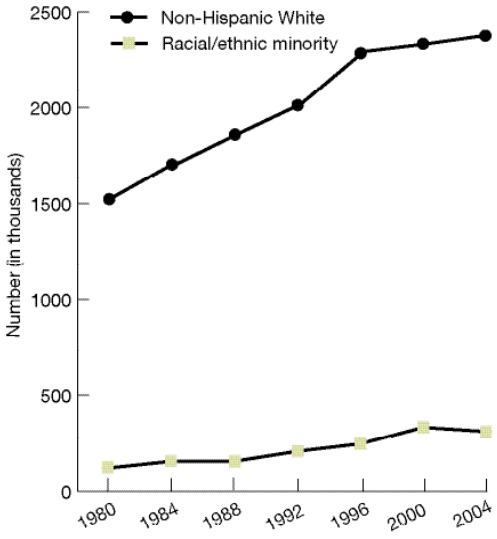
Key: AI/AN = American Indian or Alaskan Native; NHOPI = Native Hawaiian or Other Pacific Islander.

Source: National Sample Survey of Registered Nurses, 2004, for the registered nurse population by race/ethnicity; American Community Survey from the U.S. Census Bureau for the U.S. population by race/ethnicity.

Note: Hispanics include all races. Racial groups are non-Hispanic. These data are for all registered nurses, not all of whom are employed in nursing.

- In 2004, there were 1,534 NHOPI registered nurses per 100,000 NHOPIs and 1,238 White RNs per 100,000 Whites (Figure 2.44). Hispanics had the fewest RNs per 100,000 population (119 RNs per 100,000 Hispanic population), followed by Blacks (359 RNs per 100,000 Black population).

Figure 2.45. Registered nurses, by race/ethnicity, 1980-2004



Source: National Sample Survey of Registered Nurses, 2004.

Note: Prior to 2000, race and ethnicity were asked in a single question. Racial/ethnic minorities include all races other than White and all Hispanics, regardless of race.

- From 1980 to 2004, the number of racial/ethnic minority RNs increased threefold, from 119,512 to 311,177. The number of non-Hispanic White RNs increased by 56% during the same period, from 1,521,752 to 2,380,529 (Figure 2.45).
- The rate of increase of racial/ethnic minority RNs was uneven, with some 4-year periods exceeding 30% (1980-1984; 1988-1992; 1996-2000) and other periods registering a slight decrease (1984-1988, 2000-2004).
- Despite high rates of increase in the number of racial/ethnic minority RNs, the percentage of racial/ethnic minority RNs in the total RN workforce rose only from 7.3% in 1980, to 11.6% in 2004.

Focus on Health Literacy

Healthy People 2010's Objective 11-2 is to improve Americans' health literacy, defined as the capacity to obtain, process, and understand basic health information and services needed to make appropriate health care decisions.[117] In 2003, the first-ever national assessment of health literacy was conducted—the Health Literacy Component (HLC) of the National Assessment of Adult Literacy (NAAL). The HLC assesses responses to health-related tasks presented in written form. These tasks fall into three categories: clinical, prevention, and navigating the health system.

The HLC tasks require familiarity with health-related words, experience with written materials such as drug labels and health insurance forms, or knowledge of how the health care system works. The HLC did not measure the ability to obtain information from nonprint sources.

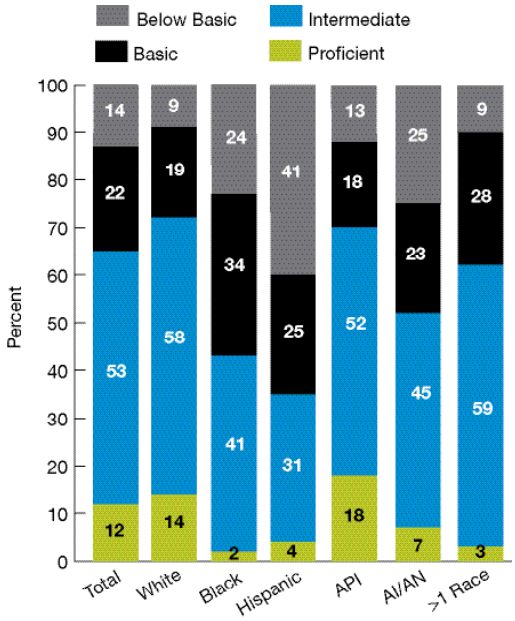
In addition to racial and ethnic differences, the elderly are less likely than younger populations to have a proficient level of health literacy. The 2003 Health Literacy Component of the NAAL showed that over one-quarter of adults age 65 and over had "below basic" health literacy.[118] There is evidence that inadequate health literacy is linked to all-cause mortality and cardiovascular mortality among the elderly.[119]

The HLC measures the English health literacy of adults in the United States. Four million adults had language barriers or cognitive or mental disabilities that prevented them from taking the NAAL, and therefore they are not included in the results presented below. The NAAL captures no information on these adults' literacy in another language.

The NAAL groups adults without language barriers into four performance levels:

- **Below basic**—This performance level indicates that a person can understand no more than the most simple and concrete skills (e.g., circle the date of a medical appointment on a hospital appointment slip). Thirty million adults were found to have below basic health literacy; 7 million of these were unable to answer the simplest of questions and were determined to be nonliterate in English.
- **Basic**—This performance level indicates that a person can perform the skills necessary for simple and everyday activities (e.g., give two reasons a person with no symptoms of a specific disease should be tested for the disease, based on information in a clearly written pamphlet). Forty-seven million adults were found to have basic health literacy.
- **Intermediate**—This performance level indicates that a person can perform the skills necessary for moderately challenging activities (e.g., identify three substances that may interact with an over-the-counter drug to cause a side effect, using the information on the over-the-counter drug label). One hundred and fourteen million adults were found to have intermediate health literacy.
- **Proficient**—This performance level indicates that a person can perform the skills necessary for more complex and challenging activities (e.g., find the information required to define a medical term by searching through a complex document) needed to manage health and prevent disease. Twenty-six million adults were found to have proficient health literacy.

Figure 2.46. Adults in each health literacy level, by race and ethnicity, 2003



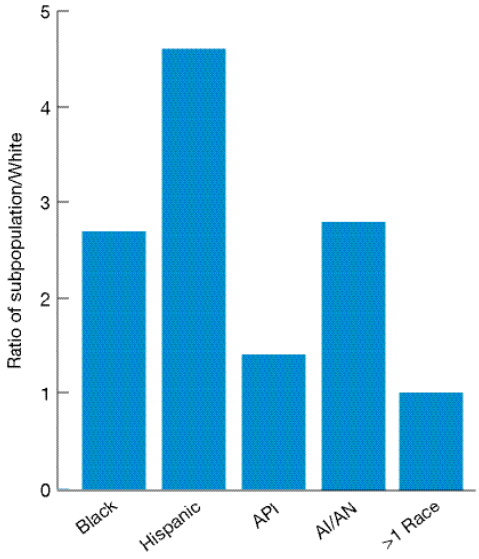
Source: National Assessment of Adult Literacy, Health Literacy Component, 2003.

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

Note: Adults are defined as people 16 years of age and over living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3% in 2003) are excluded from this figure. All adults of Hispanic origin are classified as Hispanic, regardless of race. The API category includes Native Hawaiians, Black includes African American, and Hispanic includes Latino.

- Only 12% of adults had proficient health literacy (Figure 2.46). In other words, nearly 9 in 10 adults may lack the skills needed to manage their health and prevent disease.
- Asian/Pacific Islanders and Whites were the most likely to have proficient health literacy. A very small proportion of Black, Hispanic, and AI/AN adults reached the proficient health literacy level.
- Two-thirds of Hispanic adults, over half of Black adults, and almost half of AI/AN adults did not reach the intermediate level.

Figure 2.47. Adults: Likelihood of having below basic health literacy as compared with Whites, 2003



Source: National Assessment of Adult Literacy, Health Literacy Component, 2003.

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

Note: Adults are defined as people 16 years of age and over living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3% in 2003) are excluded from this figure. All adults of Hispanic origin are classified as Hispanic, regardless of race. The API category includes Native Hawaiians, Black includes African American, and Hispanic includes Latino.

- Hispanic adults were 4.6 times more likely than White adults to have below basic health literacy (Figure 2.47).
- Black and AI/AN adults were almost three times more likely than White adults to have below basic health literacy.

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						
Women age 40 and over who received recommended breast cancer screening [iii]	=	↓		=	=	↓
Rate of breast cancer diagnosed at advanced stage[iv]	↓	↑		↑		↑
Cancer deaths per 100,000 population per year for breast cancer[v]	↓	↑		↑		↑
Diabetes						
Composite: 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 adaquate dialysis[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]	=					↓
Composite: Hospital care for heart attack patients[x]	=	=				=
Deaths per 1,000 adult admissions with acute myocardial infarction (heart attack)[xi]	↑	=				=
Composite: Hospital care for heart failure patients[x]	↑	=			↓	↓

[i] Compared with Whites. [ii] Compared with non-Hispanic Whites. [iii] Source: National Health Interview Survey, 2005.
[iv] Source: Surveillance, Epidemiology, and End Results Program, 2004. 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, 2004. 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, 2004.
[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, 2005.
[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, 2005. 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, 2004. 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.

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						
New AIDS cases per 100,000 population 13 and over[iii]	↓	↑		=		↓
Maternal and Child Health						
Pregnant women receiving prenatal care in first trimester[iv]	↓	=		=		↓
Infant mortality per 1,000 live births, birthweight <1,500 grams[iv]	↓	=		=		↓
Children 19-35 months who received all recommended vaccines[v]	=	↑		=	=	↓
Hospital admissions for pediatric gastroenteritis per 100,000 population[vi]	↑	↑				=
Children 2-17 with advice about healthy eating [vii]	=	=			=	=
Children 2-17 with untreated dental caries[viii]	↓					↓
Hospital admissions for asthma per 100,000 population under 18 [vi]	↓	=				↓

[i] Compared with Whites.

[ii] Compared with non-Hispanic Whites.

[iii] Source: Centers for Disease Control and Prevention, 2005. 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: National Vital Statistics System-Natality, 2004. This source did not collect information for >1 race.

[v] Source: National Immunization Survey, 2005.

[vi] Source: HCUP State Inpatient Databases disparities analysis file, 2004. 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.

[vii] Source: Medical Expenditure Panel Survey, 2004.

[viii] Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, 1999-2004. This source collects data for Mexican Americans, not Hispanics.

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.

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]	↑					=
Respiratory Diseases						
People 65 and over who ever received pneumococcal vaccination[v]	↓	↓				↓
Composite: Hospital care for pneumonia patients[vi]	↓	↓		=		↓
Rate antibiotics prescribed at visits with a diagnosis of common cold per 10,000 population[vii]	=					
Tuberculosis patients who complete course of treatment within 12 months of treatment initiation[viii]	↑	↑		↓		↓

[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, 2005.

[iv] Source: National Vital Statistics System-Mortality, 2004. 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: National Health Interview Survey, 2005.

[vi] Source: CMS Quality Improvement Organization program, 2005. 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.

[vii] 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.

[viii] Source: CDC National TB Surveillance 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.

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

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]	↓	↑		=		↓
Low-risk 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, 2005. 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, 2005.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native.

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

Table 2.1b. 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						
Women age 40 and over who received recommended breast cancer screening[iv]	↓	↓	↓	↓	↓	↓
Cancer deaths per 100,000 population per year for breast cancer[v]				↓	↓	
Diabetes						
Composite: 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]	↓	↓	↓			
Children 2-17 with advice about healthy eating[vi]	↓	↓	↓			↓
Children 3-6 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, 2005.

[v] Source: National Vital Statistics System-Mortality, 2004. 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, 2004.

[vii] Source: National Vital Statistics System-Natality, 2004. This source did not collect information for >1 race.

[viii] Source: National Immunization Survey, 2005.

Key: HS=high school.

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]	=	=	=	=	=	
Respiratory Diseases						
Persons 65 and over who ever received pneumococcal vaccination[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: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2005.
[v] Source: National Vital Statistics System-Mortality, 2004. 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: National Health Interview Survey, 2005.
Key: HS=high school.

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

Table 2.2a. 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: Adult surgery patients with postoperative complications[iii]	↓			=		↓
Other Complications of Hospital Care						
Composite: Bloodstream infections or mechanical complications[iii]	=					
Deaths per 1,000 discharges 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, 2005.

[iv] Source: HCUP State Inpatient Databases disparities analysis file, 2004. 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, 2004. 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.

↑ Group receives better quality of health care than the comparison group or has better outcomes.

↓ Group receives poorer quality of health care than the comparison group or has worse outcomes.

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

Table 2.3a. 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						
Composite: Adults who sometimes or never received patient centered care[iii]	↓	↓			↓	↓
Composite: Children who sometimes or never received patient centered care[iii]	=	=			=	↓

[i] Compared with Whites.
[ii] Compared with non-Hispanic Whites.
[iii] Source: Medical Expenditure Panel Survey, 2004. This source did not collect information for >1 race.
[iv] Source: National Hospital Ambulatory Medical Care Survey – Emergency Department, 2004-2005. 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.

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						
Composite: Adults who sometimes or never received patient centered care[iv]	↓	↓	↓	↓	↓	↓
Composite: Children who sometimes or never received patient centered care[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, 2004. This source did not collect information for >1 race.
[v] Source: National Hospital Ambulatory Medical Care Survey – Emergency Department, 2004-2005. 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 (NHDRs), racial and ethnic minorities and persons of low socioeconomic status (SES)[i] 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.

[i] As described in Chapter 1, Introduction and Methods, income and educational attainment are used to measure socioeconomic status in the NHDR. Unless specified, poor=below the Federal Poverty Level (FPL), near poor=100-199% of the FPL, middle=200-399% of the FPL, high=400% or more of the FPL. See measure specifications and data source descriptions for more information on income groups by data source.

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 socioeconomic status 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 in this chapter.

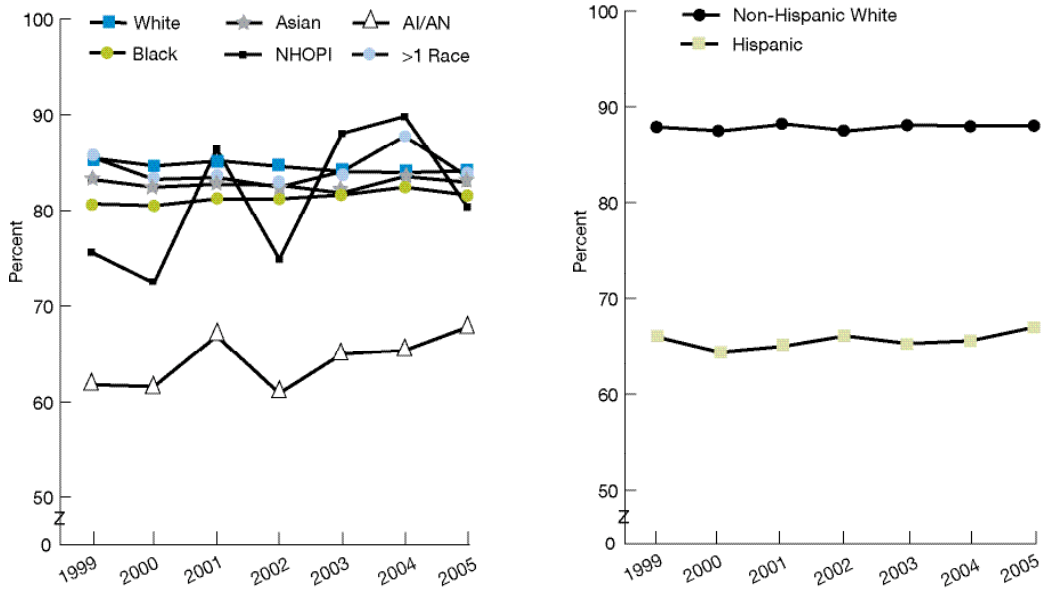
Facilitators and Barriers to Health Care

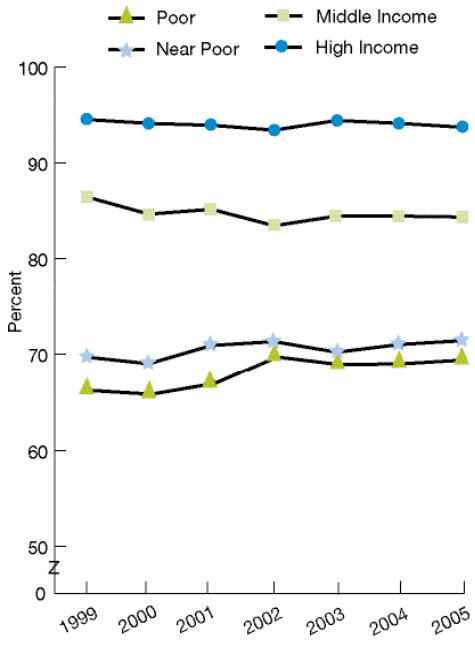
Facilitators and barriers to health care discussed in this section include health insurance, having a usual source of care (including having a usual source of ongoing care and a usual primary care provider), and patient perceptions of need. (See Tables 3.1a and 3.1b for a summary of findings related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

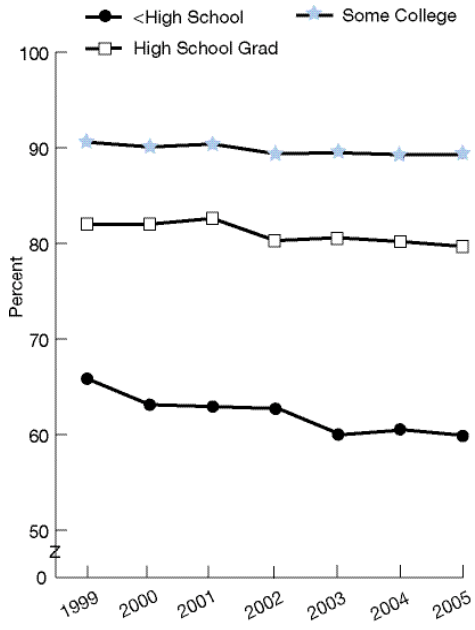
Health Insurance

Health insurance facilitates entry into the health care system. The uninsured are more likely to die early[3] and have poor health status;[4] 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), 1999-2005







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

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (NHIS), 1999-2005.

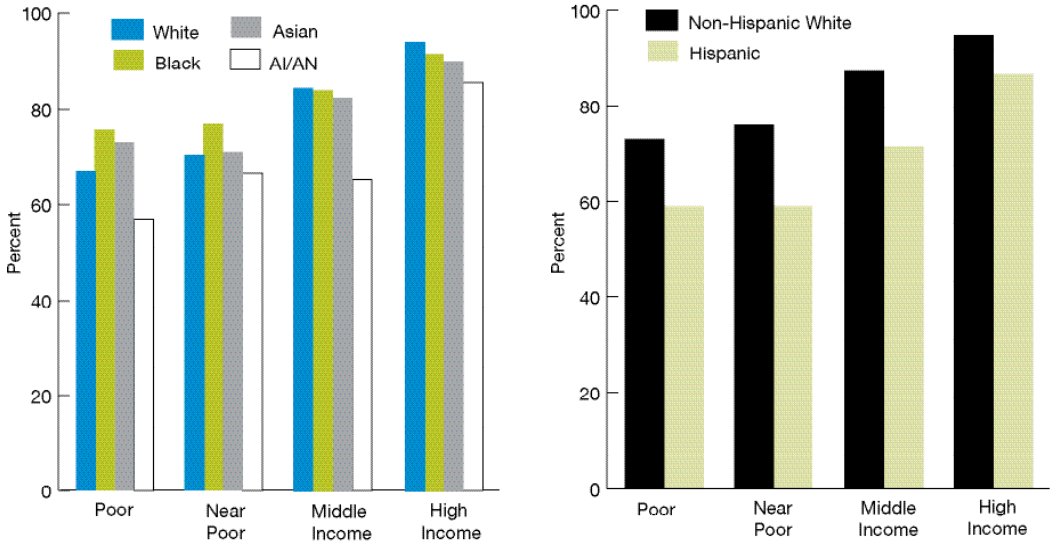
Reference population: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons under age 65. Analyses by education performed for civilian noninstitutionalized persons ages 25-64.

Note: NHIS respondents are asked about health insurance coverage at the time of interview; respondents are considered uninsured if they lack private health insurance, Medicare, Medicaid, State Children's Health Insurance Program (SCHIP), a State-sponsored health plan, other government-sponsored health plan, a military health plan, or if their only coverage is through the Indian Health Service. This measure reflects the percentage of survey respondents under age 65 who were covered by health insurance at the time of the interview.

- From 1999 to 2005, the gap between Blacks and Whites in insurance coverage remained the same (Figure 3.1). In 2005 the proportion of persons with insurance was lower for Blacks than Whites (81.6% compared with 84.1%).
- The gap between poor people and high income people increased during this period. In 2005, the proportion of persons with insurance was significantly lower for poor people than high income people (69.4% compared with 93.7%).
- The gap between people with less than a high school education and people with some college increased. In 2005, the proportion of persons with insurance was almost one-third lower for people with less than a high school education than for people with some college (59.9% compared with 89.3%).
- From 1999 to 2005, the rates of insurance worsened for Whites, high income persons, and persons of every education level. However, there were no significant changes in the rate of insurance for Blacks, Asians, American Indians and Alaska Natives (AI/ANs), non-Hispanic Whites, and Hispanics.

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

Figure 3.2. Persons under age 65 with health insurance, by race (left) and ethnicity (right), stratified by income, 2005



Key:

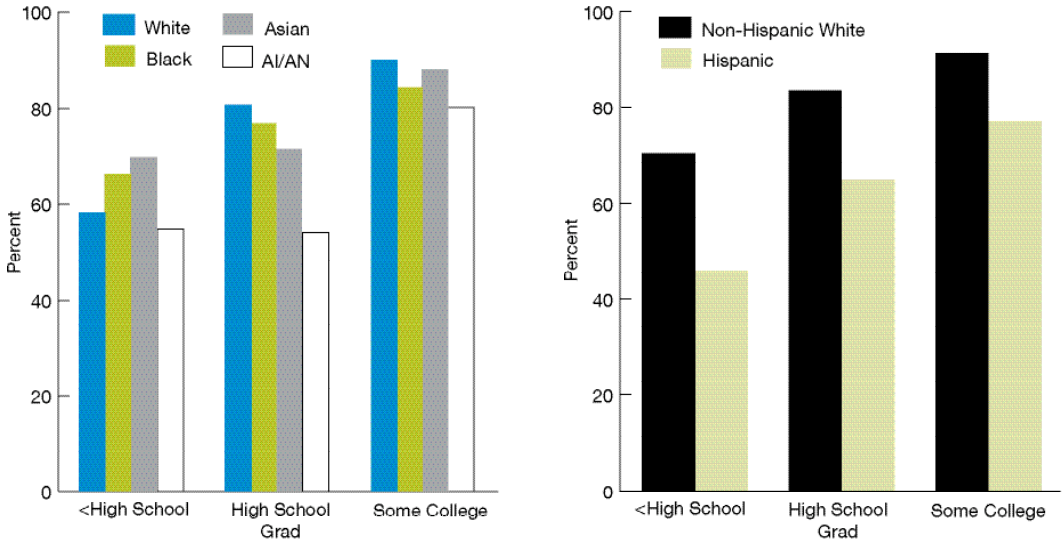
AI/AN=American Indian or Alaska Native.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (NHIS), 2005.

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, State Children's Health Insurance Program (SCHIP), a State-sponsored health plan, other government-sponsored programs, a military health plan, or if their only coverage is through the Indian Health Service. This measure reflects the percentage of survey respondents under age 65 who were covered by health insurance at the time of the interview.

Figure 3.3. Persons under age 65 with health insurance, by race (left) and ethnicity (right), stratified by education, 2005



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

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (NHIS), 2005.

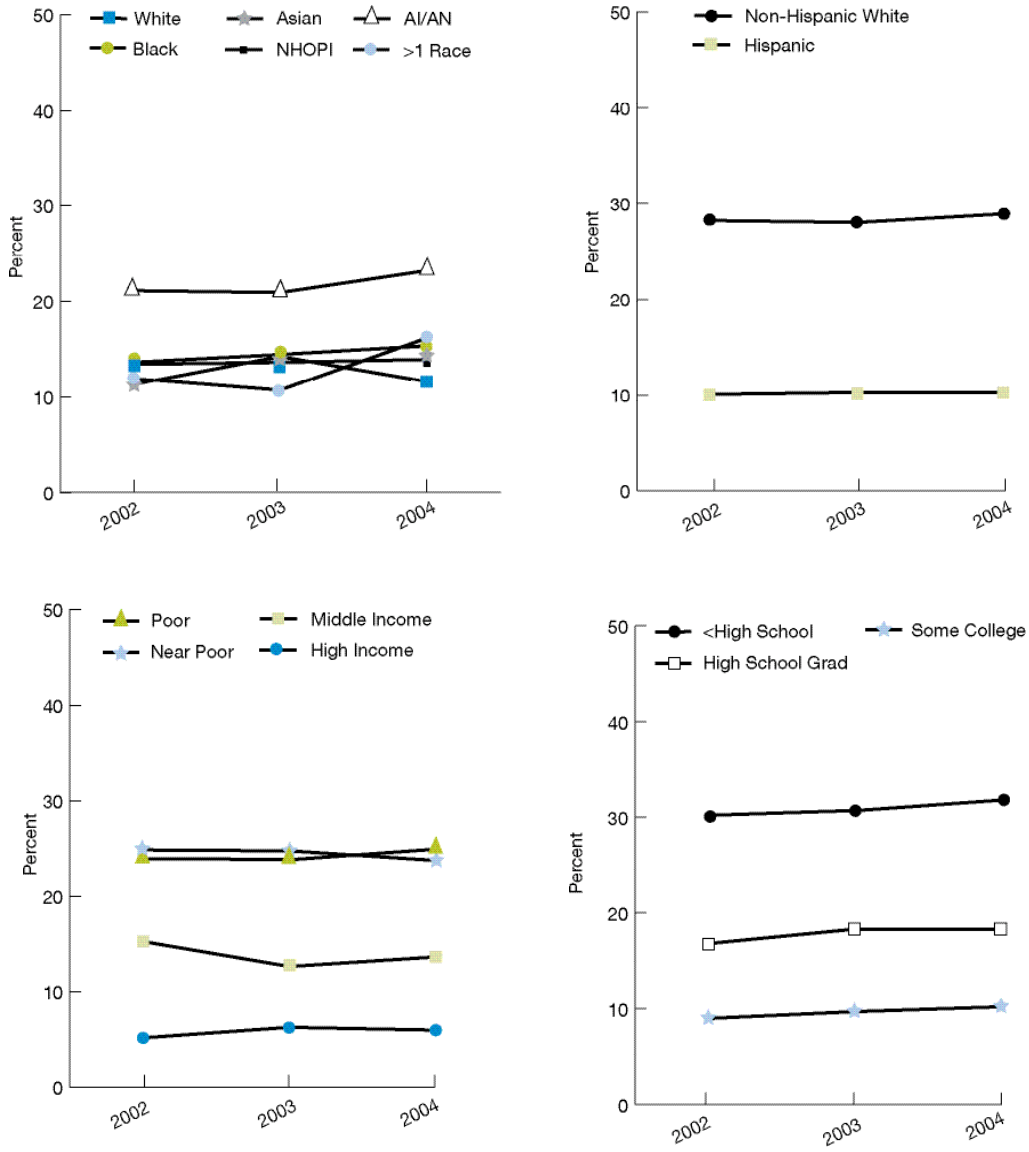
Reference population: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons under age 65. Analyses by education performed for civilian noninstitutionalized persons ages 25-64.

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, State Children's Health Insurance program (SCHIP), a State-sponsored health plan, other government-sponsored programs, a military health plan, or if their only coverage is through the Indian Health Service. This measure reflects the percentage of survey respondents under age 65 who were covered by health insurance at the time of the interview.

- SES explains some but not all of the differences in the health insurance coverage of racial and ethnic groups in persons under age 65 (Figures 3.2 and 3.3).
- Hispanics of eve ry income and education level were significantly less likely than their non-Hispanic peers to have health insurance.
- Poor and near poor Blacks (75.7% and 75.4%) were significantly more likely than poor and near poor Whites (67.1% and 70.4%) to have health insurance.
- Middle and high income AI/ANs were significantly less likely to have health insurance than middle and high income Whites (middle income—65.3% of AI/ANs versus 84.6% of Whites; high income—85.5% of AI/ANs versus 94.2% of Whites).
- Among people with less than a high school education, Blacks (66.3%) and Asians (69.8%) were significantly more likely than Whites (58.3%) to have health insurance. However, among high school graduates, Blacks (76.9%) and Asians (71.5%) were less likely than Whites (80.8%) to have health insurance.
- AI/ANs with a high school education were much less likely than Whites with a high school education to have health insurance (54.2% compared with 80.8%).
- Blacks and AI/ANs with at least some college were less likely than Whites with some college to have health insurance (84.3% and 80.2%, respectively, compared with 90.2%).
- No group has yet 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.

Figure 3.4. Persons under age 65 uninsured all year, by race (top left), ethnicity (top right), income (bottom left), and education (bottom right), 2002-2004



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

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

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

Note: Beginning in 2002, survey respondents could report more than one race. Estimates for racial groups other than Whites and Blacks are significantly affected by this change. Hence data for these groups are not directly comparable with earlier years and are not shown here. Racial categories shown here exclude multiple race individuals.

- From 2002 to 2004, the gap in uninsured persons between Blacks and Whites remained the same. However, the proportion of persons uninsured all year was still higher for Blacks than Whites in 2004 (15.3% compared with 13.9%).
- From 2002 to 2004, the gap in uninsured persons between Hispanics and non-Hispanic Whites decreased. However, the proportion of persons uninsured all year was still almost three times higher for Hispanics than for non-Hispanic Whites in 2004 (28.9% compared with 10.3%).
- From 2002 to 2004, the gap in uninsured persons between poor people and high income people remained the same. The proportion of persons uninsured all year was still over four times higher for poor people than for high income people in 2004 (25% compared with 6%).
- From 2002 to 2004, the gap in uninsured persons between people with less than a high school education and people with some college remained the same. The proportion of persons uninsured all year increased for people with some college (from 8.3% to 10.2%). However, people with less than a high school education remained over three times more likely than people with some college to be uninsured all year (31.8% compared with 10.2%).

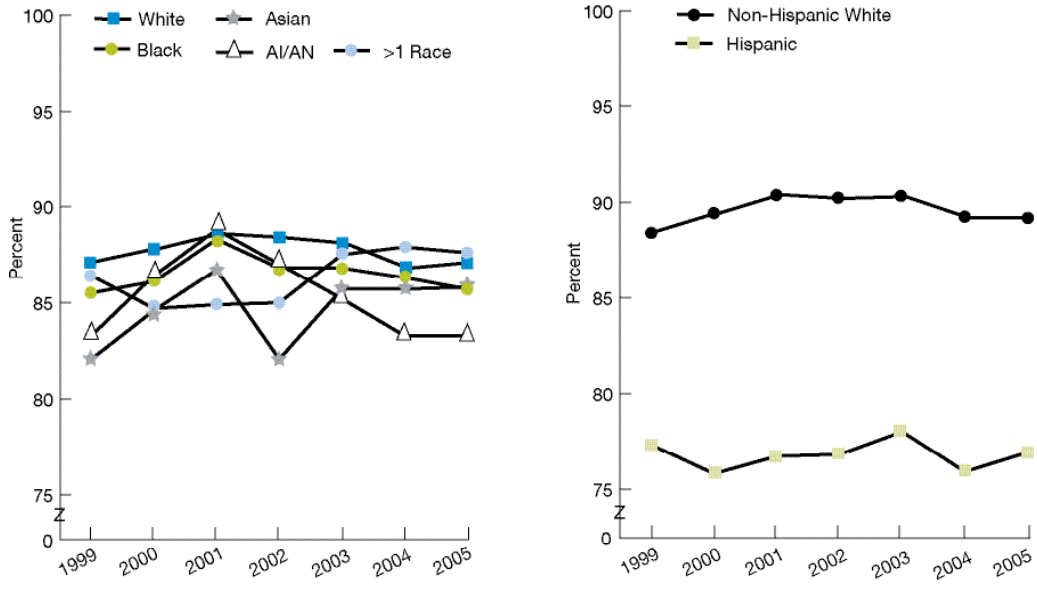
Usual Source of Care

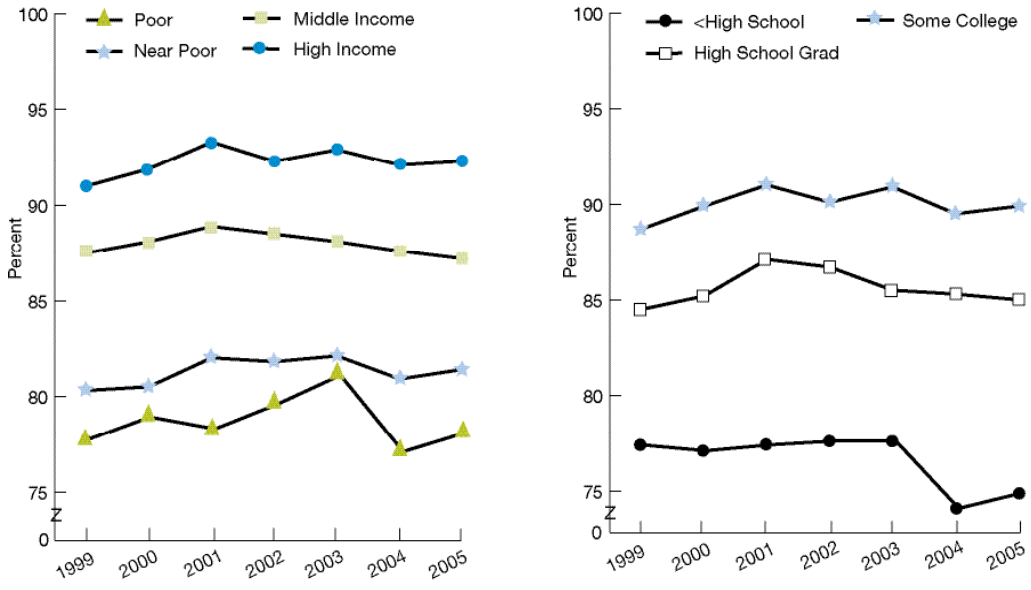
Persons with a usual source of care (a facility where one regularly receives care) experience improved health outcomes and reduced disparities (smaller differences between groups)[8] and costs,[9] yet over 40 million Americans do not have a specific source of ongoing care.[10]

Specific Source of Ongoing Care

Higher costs, poorer outcomes, and greater disparities (larger differences between groups) are observed among individuals without a usual source of care.[11]

Figure 3.5. Persons with a specific source of ongoing care, by race (this page left), ethnicity (this page right), income (next page left), and education (next page right), 1999-2005





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

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 1999-2005.

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

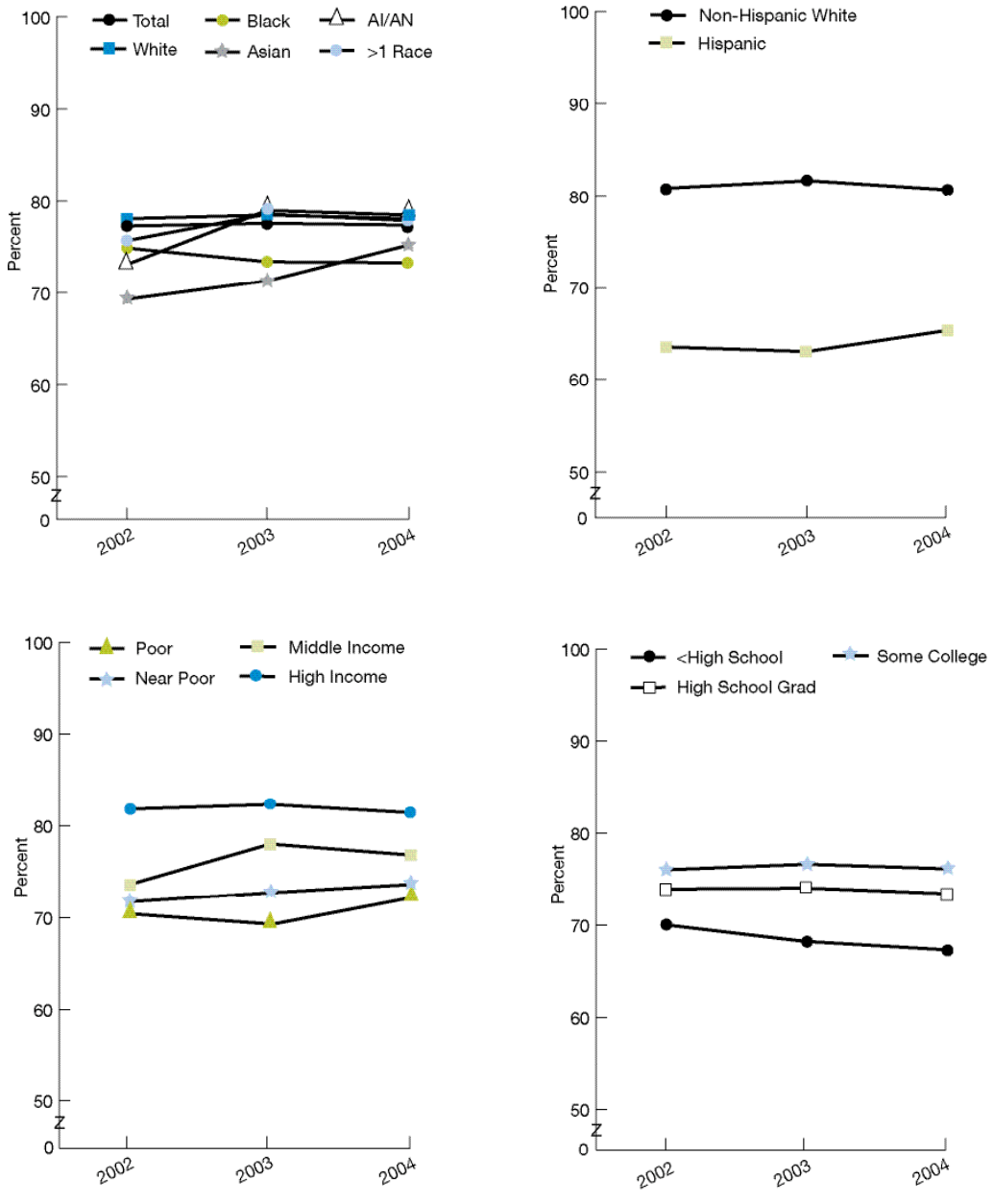
Note: Measure is age adjusted. Data were insufficient for this analysis for Native Hawaiians or Other Pacific Islanders.

- From 1999 to 2005, the gap in usual source of care between Hispanics and non-Hispanic Whites increased (Figure 3.5). In 2005, the proportion of persons with a specific source of ongoing care was significantly lower for Hispanics than for non-Hispanic Whites (76.9% compared with 89.4%).
- During this period, the gap between poor people and high income people increased. In 2005, the proportion of persons with a specific source of ongoing care was significantly lower for poor people than for high income people (78.1% compared with 92.3%).
- No group has yet 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 provider[12] 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) to better meet patients' 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 (top left), ethnicity (top right), income (bottom left), and education (bottom right), 2002-2004



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

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

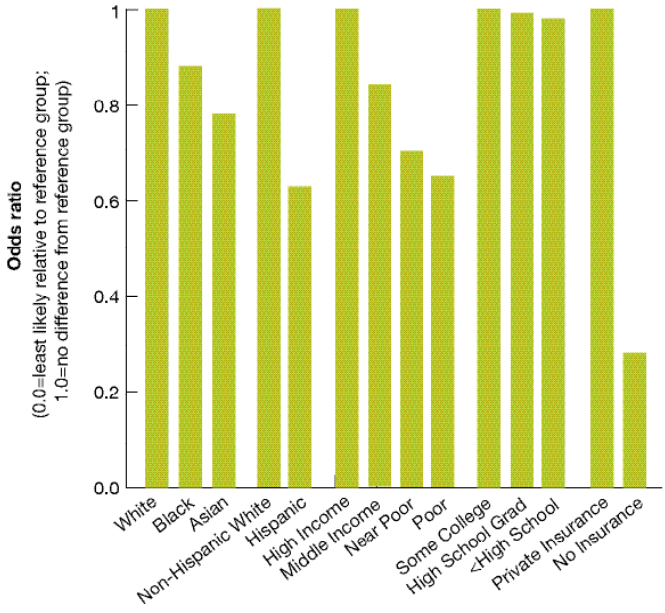
Reference population: Analyses by race, ethnicity, and income performed for civilian noninstitutionalized persons of all ages. Analyses by education performed for civilian noninstitutionalized persons age 18 and over.

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. Data were insufficient for this analysis for Native Hawaiians and Other Pacific Islanders.

- From 2002 to 2004, the gap between Asians and Whites in having a usual primary health care provider decreased, and by 2004 this disparity was eliminated (Figure 3.6). The proportion of Asians with a usual primarycare provider improved significantly (from 69.3% to 75.2%).
- The gap between Hispanics and non-Hispanic Whites remained the same. In 2004, the proportion of persons with a usual primary care provider was significantly lower for Hispanics than for non-Hispanic Whites (65.3% compared with 80.7%).
- The gap between poor people and high income people remained the same. In 2004, the proportion of persons with a usual primary care provider was significantly lower for poor people than for high income people (72.2% compared with 81.4%).
- The gap between people with less than a high school education and people with some college remained the same. In 2004, the proportion of persons with a usual primary care provider was significantly lower for people with less than a high school education than for people with some college (67.3% compared with 76.1%).
- No group has yet achieved the Healthy People 2010 target of 85% of Americans with a usual primary care provider.

Each year, multivariate analyses are conducted in support of the NHDR to identify the independent effects of race, ethnicity, and SES on access to health care. Past reports have listed some of these findings. Figure 3.7 shows the results of a multivariate model for one access 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 ages 18-64 who have a usual primary care provider: Adjusted odds ratios, 2002, 2003, and 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002, 2003, and 2004.

Reference population: Civilian noninstitutionalized population ages 18-64.

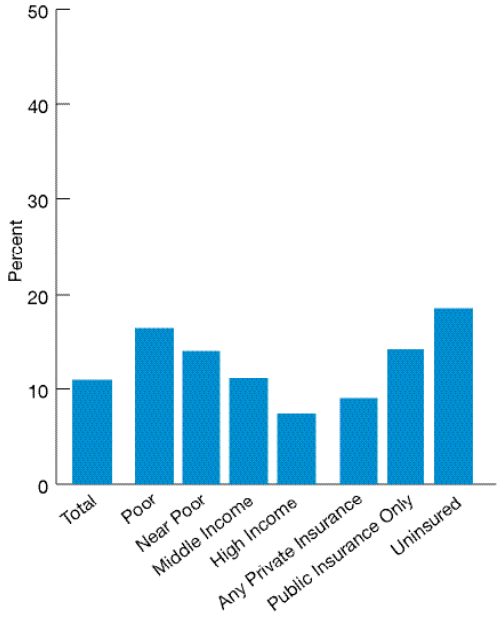
Note: Adjusted odds ratios are calculated from logistic regression models controlling for race, ethnicity, income, education, age, gender, insurance, and residence location. White, non-Hispanic White, high income, and some college are reference groups with odds ratio=1; odds ratios <1 indicate a group is less likely to receive service than the reference group. For example, compared with individuals with private insurance, individuals with no insurance had 0.28 times the odds of reporting a usual primary care provider after controlling for other factors. Data were insufficient for this analysis for Native Hawaiians or Other Pacific Islanders and for American Indians and Alaska Natives.

- For 2002-2004, in multivariate models controlling for race, ethnicity, income, education, age, gender, insurance, and residence location, compared with Whites, Blacks had 0.88 times the odds and Asians had 0.78 times the odds of having a usual primary care provider.
- In this multivariate model, compared with non-Hispanic Whites, Hispanics had 0.63 times the odds of having a usual primary care provider.
- Compared with high income individuals, poor individuals had 0.65 times the odds of having a primary care provider in this multivariate model.
- In this multivariate model, individuals with no health insurance had 0.28 times the odds of having a usual primary care provider compared with individuals with private insurance.

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. People who were unable to receive or delayed in receiving needed medical care, dental care, or prescription medicines, by income and insurance status, 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

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

- The proportion of people who were unable to receive or delayed in receiving needed medical care, dental care, or prescription medicines was significantly higher for poor (16.5%), near poor (14.1%), and middle income (11.2%) people than for high income people (7.4%; Figure 3.8).
- The proportion of people who were unable to receive or delayed in receiving needed medical care, dental care, or prescription medicines was two times higher for people with no health insurance than for people with private insurance (18.7% compared with 9.1%).

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.

In 2004, the Nation's 14 million health services workers[20] provided about 910 million office visits[21] and 662 million hospital outpatient visits[22] and treated 37 million hospitalized patients[22] and 1.4 million nursing home residents.[23] 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.[24]

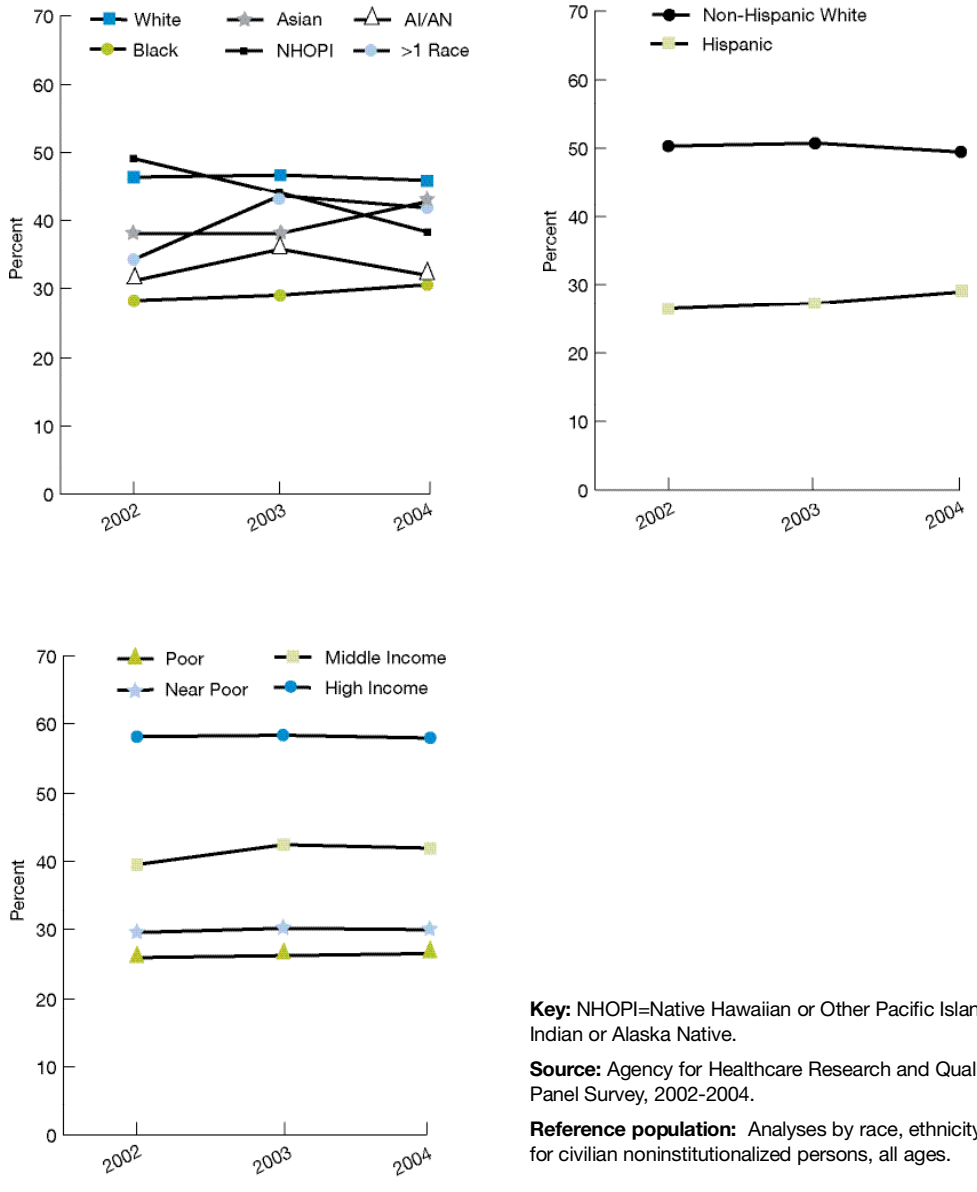
National health expenditures totaled about $2.0 trillion in fiscal year 2004, nearly doubling those of a decade earlier, in 1994.[25] Health expenditures among the civilian noninstitutionalized population in America are extremely concentrated, with 5% of the population accounting for 55% of outlays.[26] In addition, a study using earlier data estimated that as much as $420 billion a year—almost a third of all health care expenditures—are the result of poor quality care, including overuse, misuse, and waste.[27]

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 heath care. In this section, findings related to dental care, 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.[28]

Figure 3.9. Persons with a dental visit in the past year, by race (top left), ethnicity (top right), and income (bottom left), 2002-2004



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

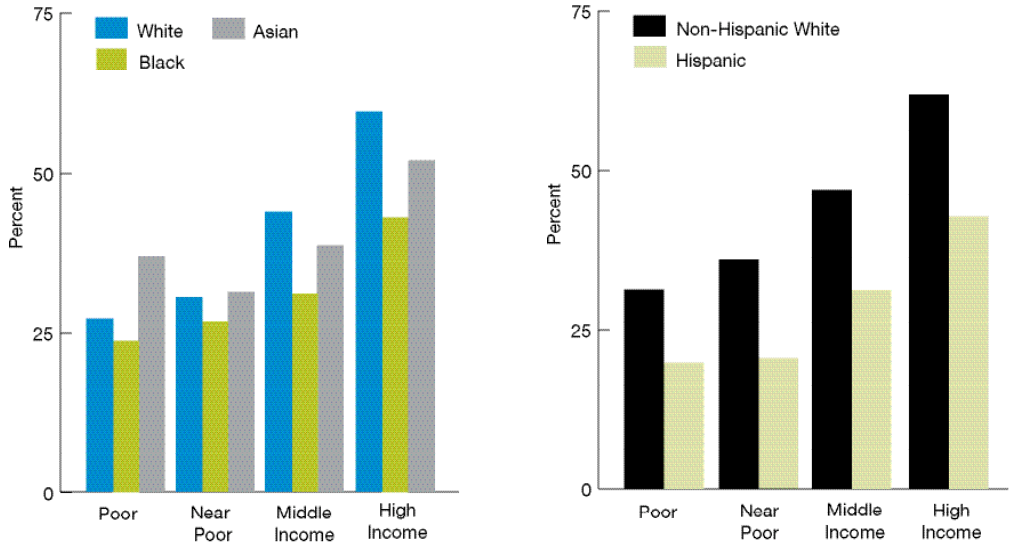
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

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

- There were no significant changes in the proportion of persons with a dental visit in the past year from 2002 to 2004 across racial, ethnic, or income categories (Figure 3.9).
- From 2002 to 2004, the gap between Blacks and Whites in the proportion of persons with a dental visit in the past year remained the same. In 2004, the proportion was significantly lower for Blacks than for Whites (30.5% compared with 45.9%).
- During the same period, the gap between Hispanics and non-Hispanic Whites remained the same. In 2004, the proportion was significantly lower for Hispanics than for non-Hispanic Whites (28.9% compared with 49.4%).
- In 2004, the gap between poor people and high income people remained the same. The proportion was significantly lower for poor (26.5%), near poor (29.9%), and middle income people (41.9%) than for high income people (57.9%).
- Only high income persons met the Healthy People 2010 target of 56% of persons with a dental visit in the past year.

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.

Figure 3.10. Persons with a dental visit in the past year, by race (left) and ethnicity (right), stratified by income, 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Civilian noninstitutionalized population, all ages.

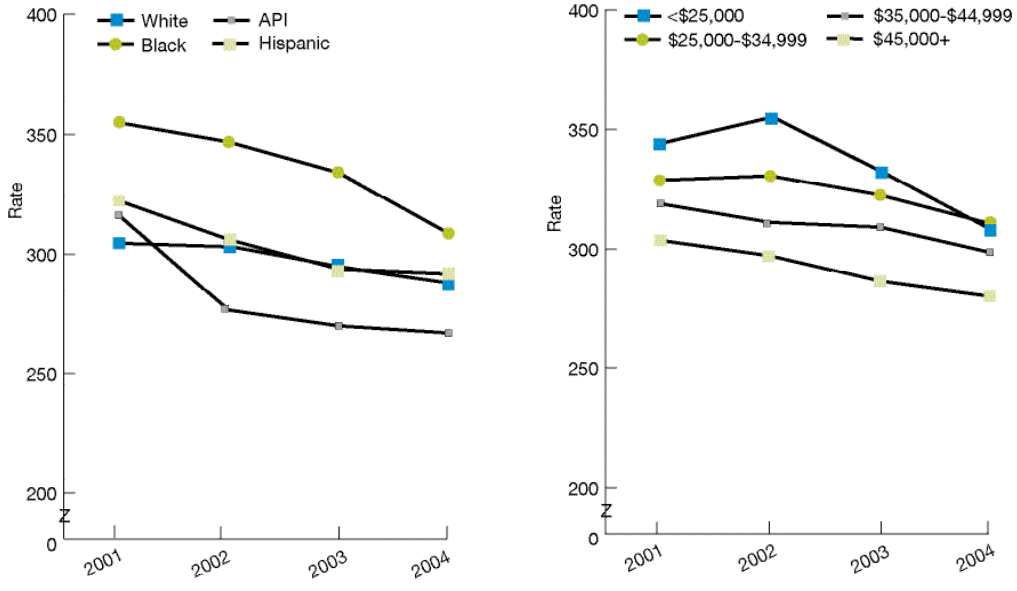
Note: Data were insufficient for this analysis for Native Hawaiians or Other Pacific Islanders and for American Indians and Alaska Natives.

- SES explains some, but not all, of the racial and ethnic differences in rates of dental visits (Figure 3.10).
- In all income categories except poor, Blacks were significantly less likely than Whites to have had a dental visit in the past year (near poor—26.7% for Blacks versus 30.5% for Whites, middle income—31.0% for Blacks versus 43.8% for Whites, and high income—42.9% for Blacks versus 59.5% for Whites).
- Hispanics in every income level were significantly less likely than non-Hispanic Whites to have had a dental visit (poor—20.2% of Hispanics versus 30.9% of non-Hispanic Whites, near poor—21.1% of Hispanics versus 34.8% of non-Hispanic Whites, middle income—31.4% of Hispanics versus 46.2% of non-Hispanic Whites, high income—49.4% of Hispanics versus 60.4% of non-Hispanic 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.[29] For example, better access to care should facilitate the diagnosis of appendicitis before rupture occurs.

Figure 3.11. Perforated appendix per 1,000 adult admissions with appendicitis, by race/ethnicity (left) and area income (median income of ZIP Code of residence) (right), 2001-2004



Key: API=Asian or Pacific Islander.

Source: Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) disparities analysis file, 2001-2004.

Denominator: Patients hospitalized with appendicitis age 18 and over.

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. Income categories are based on the median household income of the ZIP Code of the patient's residence. The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population. Data were not collected for American Indians and Alaska Natives.

- From 2001 to 2004, the gap between Blacks and Whites in the proportion of hospital admissions for perforated appendix decreased (Figure 3.11). In 2004, the rates for Blacks and Whites were not statistically different.
- During this period, the gap between Asians or Pacific Islanders (APIs) and Whites in the proportion of perforated appendix admissions changed. In 2001, the proportions for APIs and Whites were not statistically different. However, in 2004, the proportion was lower for APIs than Whites (266.8 per 1,000 compared with 287.8 per 1,000).
- The gap between Hispanics and non-Hispanic Whites decreased. In 2004, the disparity between Hispanics and Whites was eliminated (291.8 per 1,000 compared with 287.8 per 1,000).

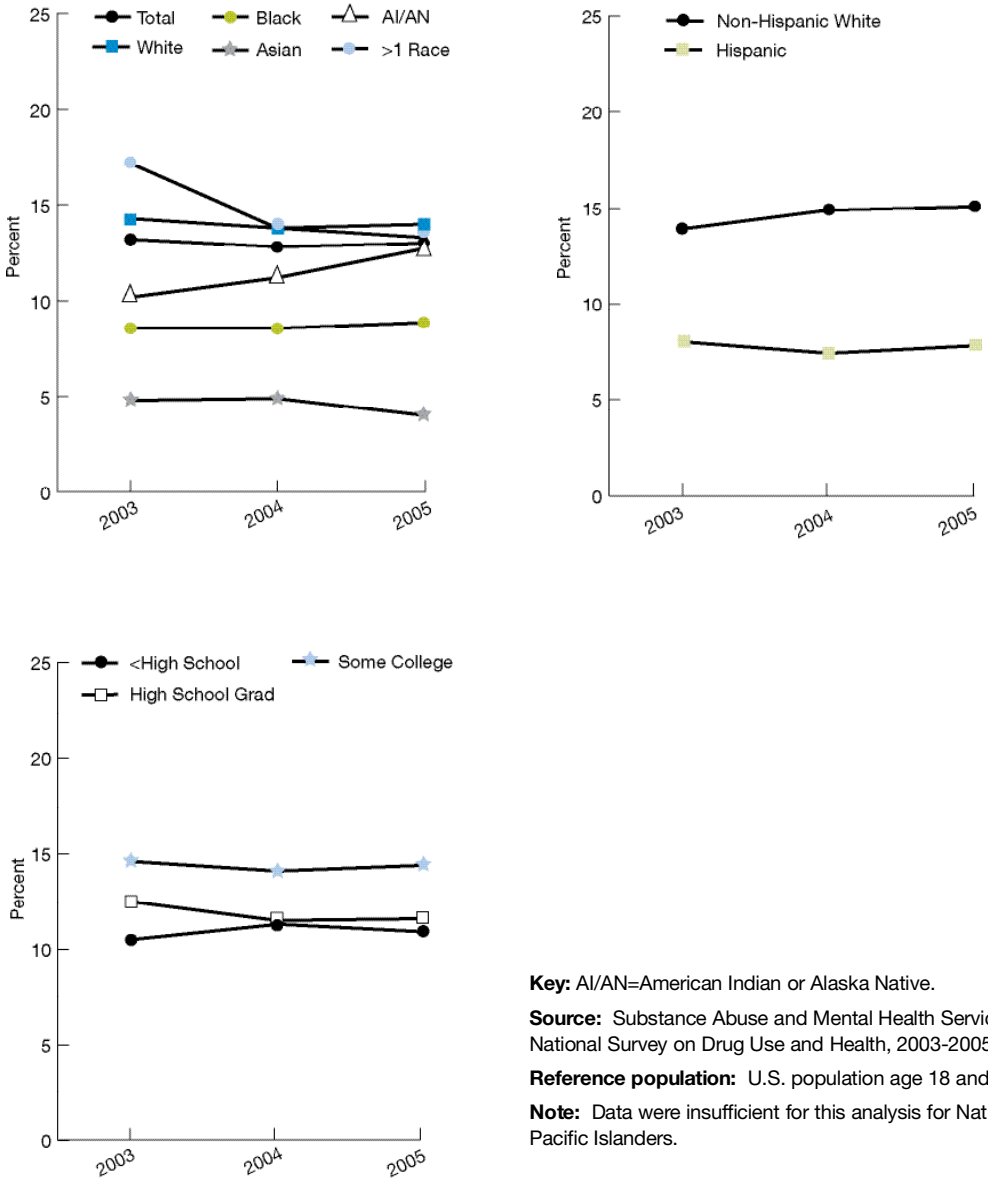
- From 2001 to 2004, the gap between people living in poor communities and those living in high income communities in the proportion of hospital admissions for perforated appendix decreased. In 2004, the disparity was eliminated; there was no statistical difference between people living in poor communities and those living in high income communities.

Mental Health Care and Substance Abuse Treatment

Mental Health Care

In 2004-2005, 7.6% of American adults, or about 16.4 million persons, reported having experienced at least one major depressive episode during the past year.[30] Although the prevalence of mental disorders for racial and ethnic minorities in the United States is similar to that for Whites,[31] minorities have less access to mental health care and are less likely to receive needed services.[32] These differences may reflect, in part, variation in preferences and cultural attitudes toward mental health.

Figure 3.12. Adults who received mental health treatment or counseling in the past year, by race (top left), ethnicity (top right), and education (bottom left), 2003-2005



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

Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2003-2005.

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

Note: Data were insufficient for this analysis for Native Hawaiians or Other Pacific Islanders.

- From 2003 to 2005, the gap between Blacks and Whites in the proportion of persons who received mental health treatment or counseling remained the same (Figure 3.12). In 2005, there was no statistically significant difference between Blacks and Whites.
- The gap between AI/ANs and Whites remained the same. (There was no statistical change for either group from 2003 to 2005.) In 2005, the proportion was lower for AI/ANs than Whites (12.7% compared with 14.0%).

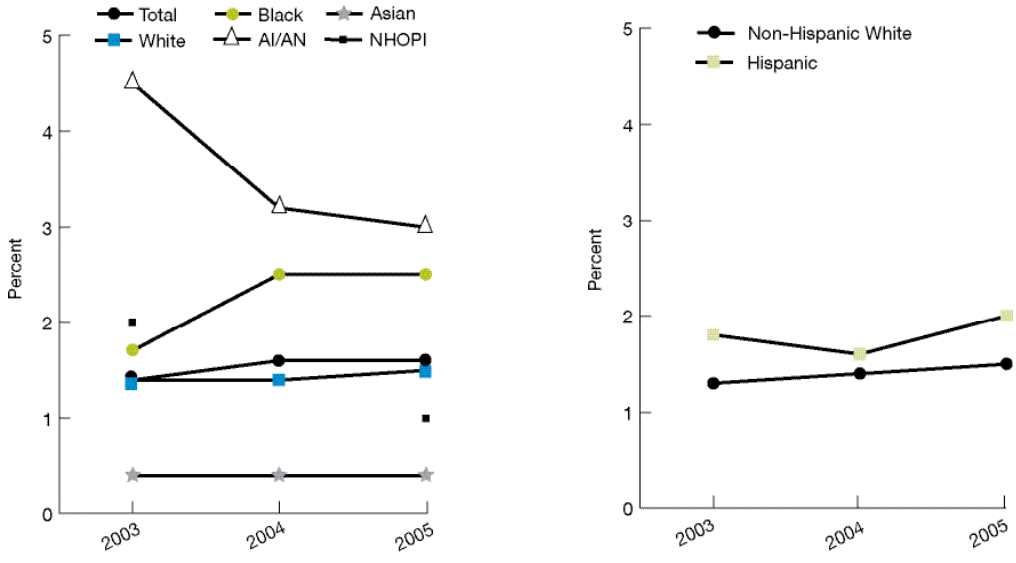
- The gap between Asians and Whites in the proportion of persons who received mental health treatment or counseling remained the same. In 2005, the proportion for Asians was less than a third that of Whites (4.0% compared with 14.0%).
- The gap between Hispanics and non-Hispanic Whites remained the same. In 2005, the proportion for Hispanics was just over half that of non-Hispanic Whites (7.8% compared with 15.1%).
- The gap in mental health services use between people with less than a high school education and people with some college education remained the same. In 2005, the proportion was lower for people with less than a high school education than for people with some college education (10.9% compared with 14.4%).

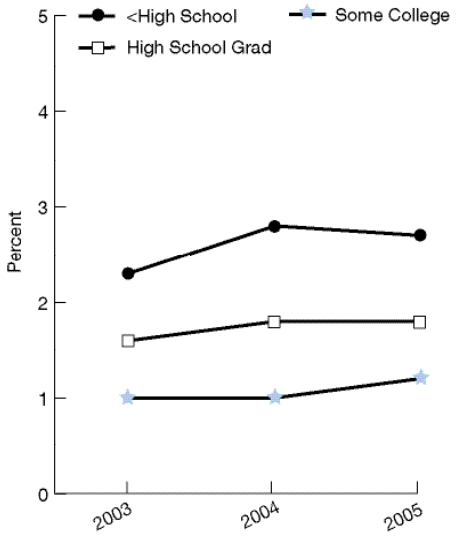
Substance Abuse Treatment

In 2005, about 16 million Americans age 12 and over acknowledged being heavy alcohol drinkers, and about 55 million acknowledged having had a recent binge drinking episode.[33] About 19.7 million persons age 12 and over were illicit drug users, and about 71.5 million reported recent use of a tobacco product.[33] In 2001, an estimated $18 billion was devoted to treatment of substance use disorders. This amount constituted 1.3% of all health care spending.[34]

Racial, ethnic, and socioeconomic differences in substance abuse treatment[32] may, in part, reflect variation in preferences and cultural attitudes toward mental health and substance abuse.

Figure 3.13. Persons age 12 and over who received any illicit drug or alcohol abuse treatment in the past year, by race (this page left), ethnicity (this page right), and education (next page), 2003-2005





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

Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2003-2005.

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

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

- From 2003 to 2005, the gap between AI/ANs and Whites in the proportion of persons age 12 and over who received any illicit drug or alcohol abuse treatment remained the same (Figure 3.13). In 2005, the proportion was two times higher for AI/ANs than for Whites (3.0% compared with 1.5%).
- During this period, the gap between Asians and Whites in the proportion of persons age 12 and over who received drug or alcohol abuse treatment remained the same. In 2005, the proportion of persons age 12 and over who received any illicit drug or alcohol abuse treatment was lower for Asians than for Whites (0.4% compared with 1.5%).
- During this period, there were no significant differences for Hispanics and non-Hispanic Whites.
- The gap between people with less than a high school education and people with some college education remained the same. In 2005, the proportion was more than two times higher for people with less than a high school education than for people with some college education (2.7% compared with 1.2%).

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						
People who experience difficulties or delays in obtaining health care or do not receive needed care[iv]	=	↑		=	↓	↑
People who 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, 2005.

[iv] Source: Medical Expenditure Panel Survey, 2004.

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

Key to Symbols Used in Access to Health Care Tables:

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

Table 3.1b. Socioeconomic Differences in 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[iv]	↓	↓	↑	↓	↓	↓
Persons who have a usual primary care provider[v]	↓	↓	↑	↓	↓	↓
Patient Perceptions of Need						
People who experience difficulties or delays in obtaining health care or do not receive needed care [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, 2005.
[v] Source: Medical Expenditure Panel Survey, 2004.
Key: HS=High school.

Key to Symbols Used in Access to Health Care Tables:

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

Table 3.2a. 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]	↓	=	=	↓	=	↓
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[v]	=	↓		=	=	=
People age 12 and older who received illicit drug or alcohol abuse treatment in the past year[v]	↑	↓		↑	=	=

i Compared with Whites.
ii Compared with non-Hispanic Whites.
iii Source: Medical Expenditure Panel Survey, 2004.
iv Source: HCUP SID disparities analysis file, 2004. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: Non-Hispanic White, Non-Hispanic Black, Hispanic, Asian or Pacific Islander. These contrasts compare each group with non-Hispanic Whites.
v Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2005.
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.

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, 2004.

[v] Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2005. 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

To examine the issue of disparities in health care, Congress directed the Agency for Healthcare Research and Quality (AHRQ) to produce an annual report to track "prevailing disparities in health care delivery as it relates to racial factors and socioeconomic factors in priority populations." 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.[i] 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 year, the National Healthcare Disparities Report (NHDR) section on low income groups is focused on examining differences in quality of care and access to care by insurance status.

The approach taken in this chapter 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.[ii]
- Low income groups.[iii]
- Women.
- Children (age 0-17).
- Elderly (age 65 and over).
- Individuals with special health care needs,[iv] 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.

[i] The congressional mandate for the NHDR also identifies populations living in inner city areas as a priority population. However, currently no data are available to support findings for this population.

[ii] Racial categories include White, Black, Asian, Native Hawaiian or Other Pacific Islander (NHOPI), American Indian or Alaska Native (AI/AN), and more than one race. Ethnic categories are Hispanic or Latino, non-Hispanic White, and non-Hispanic Black.

[iii] In the NHDR, low income refers to poor people. Thresholds for income categories—poor, near poor, middle income, and high income—vary by family size and composition and are updated annually by the U.S. Bureau of the Census. For example, in 2005 the Federal poverty threshold for a family of two adults and two children was $19,806.

[iv] Individuals with special health care needs include children with special health care needs (CSHCN). CSHCN are defined as those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally.

How This Chapter Is Organized

This chapter provides the most recent information available on racial, ethnic, and income differences in quality and access for priority populations. It is presented in the following order:

- Racial and ethnic minorities.
- Low income groups (focus on the uninsured).
- 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.

The measures discussed in this chapter follow.

Section	Measure
Blacks or African Americans	Pediatric asthma admissions
	Breast cancer screening
Asians	Breast cancer screening
	Diabetes care
	Uninsurance
	Influenza vaccinations
	Emergency department visits
American Indians and Alaska Natives	Diabetes hospitalizations
	Hospitalizations for perforated appendix
	Hospitalizations for urinary tract infection
Hispanics or Latinos	Breast cancer screening
	Diabetes care
	Uninsurance
	Emergency or urgent care for asthma
Recent Immigrants and Limited-English-Proficient Populations	Tuberculosis therapy
	Poor communication with health providers
	Uninsurance
	Breast cancer screening
	Diabetes care
	Usual source of care
Low Income Groups	Breast cancer screening
	Counseling to parents about children's healthy eating
	Counseling to obese adults about exercise
	Dental care
Women	Prenatal care/maternal health
	Recommended care for heart attack
	New AIDS cases
	HIV testing during prenatal care
	Usual source of care

(*continued*)

Section	Measure
Children	Vaccinations Counseling about overweight Counseling about healthy eating Dental care Hospital admissions for pediatric gastroenteritis Hospital admissions for pediatric asthma Care for illness or injury as soon as wanted Poor communication with health providers Health insurance Mental health care
Elderly	Influenza vaccination, dental care Delayed care due to cost
Residents of Rural Areas	Prenatal care/maternal health Inpatient deaths from heart attack Receipt of recommended services for diabetes Care for illness or injury as soon as wanted Health insurance
Individuals With Special Health Care Needs	***Adults*** Counseling obese adults about exercise Inappropriate medication use by the elderly Delayed care ***Children*** Care for illness or injury as soon as wanted Communication with health providers

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. These general measures overlook some important health care problems specific to particular populations. For example, people with disabilities may face barriers in getting access to care and experience differences in quality of care that are not captured by data because of the limitations in the survey instruments. In addition, national data may not address key health issues for specific population groups, and it is not always possible to generate reliable estimates for many smaller groups such as Native Hawaiians or Other Pacific Islanders and American Indians and Alaska Natives. 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 33% of the U.S. population identified themselves as members of racial or ethnic minority groups.[1] By 2050, it is projected that these groups will account for almost half of the U.S. population. For 2005, the U.S. Census Bureau estimated about 37.9 million Blacks or African Americans[2] (12.8% of the U.S. population);[3] over 42.7 million Hispanics or Latinos (14%);[2] almost 12.7 million Asians (4.3%); 517,600 Native Hawaiians or Other Pacific Islanders (0.2%); and over 2.9 million American Indians and Alaska Natives (1.0%), 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.[4] In addition, Hispanics, Blacks, and some Asian subgroups are less likely than non-Hispanic Whites to have a high school education.[5]

Racial and ethnic minority populations presented in the NHDR often include diverse subgroups. For example, the Asian and Pacific Islander classification represents individuals originating from more than 100 different countries and territories. According to the 2000 Census data, nearly 4% of Blacks were foreign born. Among foreign-born Blacks, about 84% were from two regions, the Caribbean and Africa, while 12% were from Central and South America.[6] American Indian populations encompass numerous tribal nations. Hispanics include large numbers of recent immigrants as well as long-term residents from 20 Spanish-speaking countries across the Americas and Spain. Increases in Hispanic subpopulations together with the aging of the Hispanic population overall, which as a group is younger than the U.S. average, present a timely opportunity to focus on health care and health care disparities for Hispanics.[7]

In previous chapters of the 2007 NHDR, health care differences by racial[v] and ethnic[vi] 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 are summarized to the extent that statistically reliable data are available for each group.[vii] 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 (Table 1.2) 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. Core report measures for which the

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

[vi] Ethnicity differentiates Hispanics and non-Hispanics. Among non-Hispanics, this report identifies non-Hispanic Whites and non-Hispanic Blacks.

[vii] Data are presented for each minority group except for persons of multiple races due to unreliable estimates for this group.

relative differences are becoming larger at a rate of more than 1% per year are identified as worsening. Changes of greater than 5% per year are also differentiated from changes of between 1% and 5% per year in some figures.

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 (AI/ANs) includes information on the approximately 45% of American Indians and Alaska Natives who obtain care from Indian Health Service (IHS) facilities and tribal facilities that receive IHS funding.

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 (NHOPIs) and persons of more than one race. For Asians, only about two-thirds of core report measures of quality support analyses; and for AI/ANs, only about half of these same measures support analyses. In addition, many data sources changed racial classifications for Asians and NHOPIs to adhere to new Federal standards in 2003. This change has further constrained the ability to perform trend analyses for these groups. Chapter 1, Introduction and Methods, and the summary section at the end of this report present more detailed descriptions of current data limitations and ways in which data are gradually improving.

Below is a summary of the percentage of measures that need improvement. This table includes only measures for which data are available for all racial and ethnic populations included in the report (except NHOPI due to data limitations from most sources). In showing differences in disparities between racial and ethnic groups, it points to the different health care issues that each group may face and, therefore, possible priority areas for each group.

Table 4.1. Percentage of core quality and access measures that need improvement for various racial/ethnic groups

Group	Reference group	Percentage of core measures not improving (n = number of measures that could be tracked)	
		Quality of care	Access to care
Black	White	• 68 (n = 38)	• 67 (n = 6)
Asian	White	• 59 (n = 27)	• 50 (n = 6)
AI/AN	White	• 65 (n = 17)	• 50 (n = 4)
Hispanic	Non-Hispanic White	• 60 (n = 35)	• 67 (n = 6)

Note: *Need improvement* is defined for quality measures as population received about the same or worse quality of care as Whites or non-Hispanic Whites; and for access measures as population had about the same or worse access to care as Whites or non-Hispanic Whites. Percentages are based on a subset of core measures that have data for these groups. Some measures include data for all ages and some are age-group specific. Refer to measure descriptions and appendix tables for more information. Baseline year and most recent year are not the same for all measures, depending on source of data.

AI/AN = American Indian or Alaska Native.

For each racial or ethnic group, Table 4.2 highlights the core measures with gaps that are increasing (i.e., getting worse) for the group compared with its reference group. Table 4.3 shows disparities in access to health care that are getting worse for selected groups.

Table 4.2. Core measures that are getting worse for group compared with reference group

Group	Preventive services	Acute illness treatment	Chronic disease management	Timeliness	Patient centeredness
Black vs. White	Rate of breast cancer incidence	Received treatment for depression in the past year	Hospital admissions for lower extremity amputations in patients with diabetes Hospital admissions for pediatric asthma		Adults with provider communication problems
Asian vs. White	Adults age 65 and over who ever received pneumococcal vaccination			Appropriate timing of antibiotics received by adult Medicare patients having surgery Illness/injury care as soon as wanted	Adults with provider communication problems
American Indian/Alaska Native vs. White		Tuberculosis patients who complete a curative course of treatment	Hemodialysis patients with appropriate urea reduction ratio Long-stay nursing home residents who were physically restrained Home health care patients who had to be admitted to the hospital		
Hispanic vs. non-Hispanic White	Obese patients age 18 and over given advice about exercise Adults age 65 and over who ever received pneumococcal vaccination	Received treatment for depression in the past year	Hospital admissions for lower extremity amputations in patients with diabetes Hospital admissions for pediatric asthma		Adults with provider communication problems Children whose parents report provider communication problems

(continued)

Table 4.2. Core measures that are getting worse for group compared with reference group (continued)

Group	Preventive services	Acute illness treatment	Chronic disease management	Timeliness	Patient centeredness
Poor vs. high income	Children ages 19-35 months who received all recommended vaccines	Hospital admissions for pediatric gastroenteritis	Adults with diabetes who had 3 major exams in past year Hospital admissions for lower extremity amputations in patients with diabetes		Adults with provider communication problems

Note: "Asian" includes "Asian or Pacific Islander" when information is not collected separately for each group. The time period for this table is the most recent and oldest years of data used in the NHDR. Measures with the highest annual percentage change in the direction of "getting worse" are shown here. A blank cell indicates that no disparity in quality of care was getting worse for the group, which could reflect lack of data or small sample sizes for some populations.

Table 4.3. Disparities in access to health care that are getting worse for selected groups

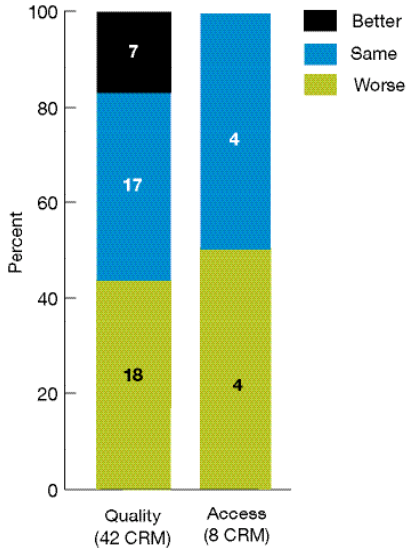
Group	Access to health care
Black vs. White	
Asian vs. White	
American Indian/Alaska Native vs. White	People under age 65 uninsured all year
Hispanic vs. non-Hispanic White	Persons who have a specific source of ongoing care
Poor vs. high income	People under age 65 uninsured all year Persons who have a specific source of ongoing care

Note: "Asian" includes "Asian or Pacific Islander" when information is not collected separately for each group. The time period for this table is the most recent and oldest years of data used in the NHDR. A blank cell indicates that no disparity in access to care was getting worse for the group, which may reflect lack of data or small sample sizes for some populations.

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 core report measures (Table 1.2) of quality and access 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.

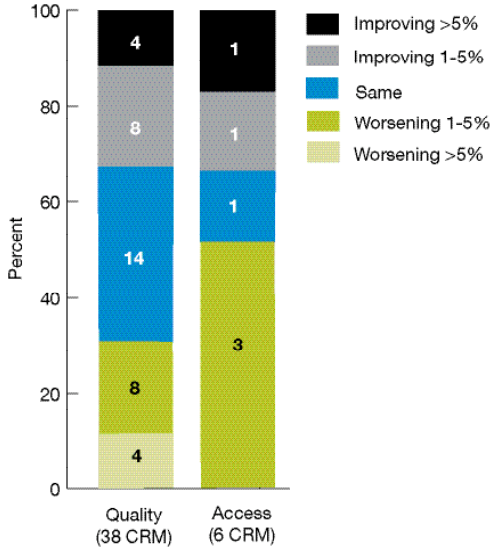
CRM = core report measures (Table 1.2).

Note: Data presented are the most recent available.

- For 18 of the 42 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 AIDS[viii] to Blacks being 15% less likely than Whites to be admitted to the hospital for pediatric gastroenteritis. The median difference over all 42 core report measures was 16%.
- For 4 of the 8 core report measures of access, Blacks had significantly worse access to care than Whites. Differences ranged from Blacks being 25% more likely than Whites to have communication problems with their providers to Blacks being 2% less likely than Whites to delay medical care due to financial reasons. The median difference over all 8 core report measures was 13%.

[viii] Although differences in developing AIDS do not necessarily translate into differences in quality of care, early and appropriate treatment of HIV infection 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 (Table 1.2).

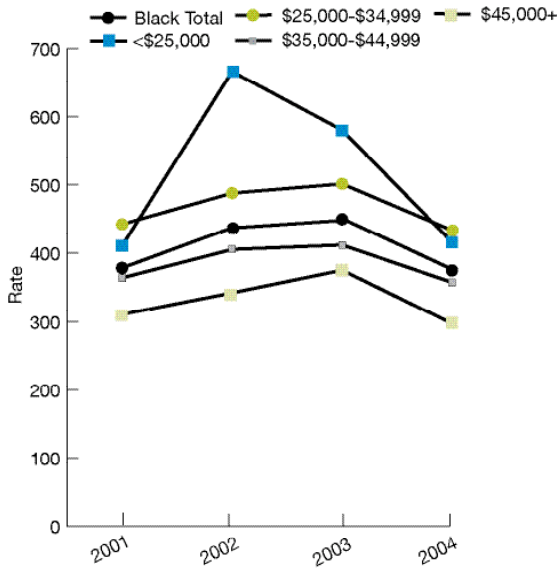
Note: The time period for this figure is the most recent and oldest years of data used in the NHDR. Only 44 core report measures could be tracked over time for Blacks.

- Of core report measures of quality that could be tracked over time for Blacks and Whites, Black-White differences became smaller for 12 measures and larger for 12 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 2 measures and larger for 3 measures. For 1 measure, the Black-White difference did not change over time.

Focus on Blacks by Income and Insurance Status

Throughout the report, differences between Blacks and Whites for each measure are discussed. Additional differences stratified by insurance status are discussed here.

Figure 4.3. Pediatric asthma admissions per 100,000 population for Blacks, by median income of patient residence, 2001-2004

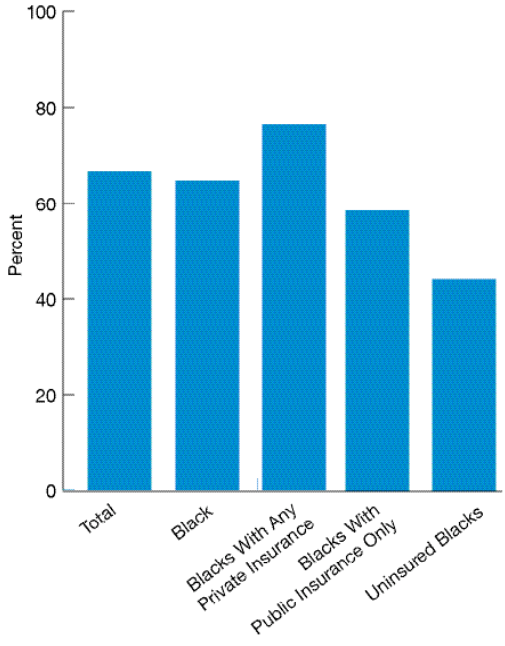


Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases (HCUP SID) disparities analysis file, 2001-2004. The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of U.S. resident population. Income categories are based on the median income of the ZIP Code of the patients' residence.

Denominator: Children ages 2-17.

- From 2001 to 2004, the gap between Black children living in poor communities and Black children living in high income communities remained the same (Figure 4.3). In 2004, the difference between these two comparison groups was not statistically significant.
- In 2004, the proportion of pediatric hospital admissions for asthma was higher for Black children in communities with median household income of $35,000-$44,999 than Black children living in high income communities (357.1 per 100,000 compared with 297.4 per 100,000).

Figure 4.4. Black women age 40 and over who reported they had a mammogram in the past 2 years, by insurance status, 2005



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

Note: Medicare is included in the Public Insurance Only category for this measure.

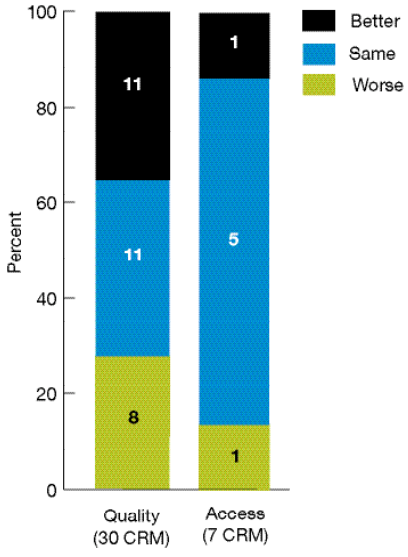
Reference population: Civilian noninstitutionalized women age 40 and over.

- In 2005, the proportion of Black women age 40 and over who reported having a mammogram in the past 2 years was lower for publicly insured than privately insured women (58.6% compared with 76.3%; Figure 4.4).
- Uninsured Black women were even less likely to have a mammogram in the past 2 years (44.2% compared with 76.3% for privately insured Black women).

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 core report measures of quality and access to health care that support estimates for either Asians or Asians and Pacific Islanders in aggregate are shown below.

Figure 4.5. 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.

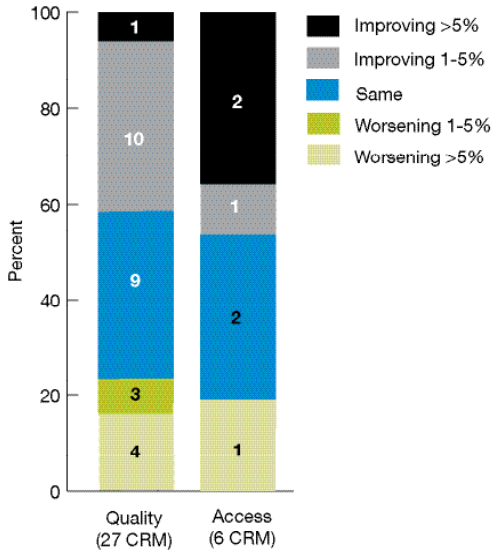
Worse = Asians receive poorer quality of care or have worse access to care than Whites.

CRM = core report measures (Table 1.2).

Note: Data presented are the most recent available.

- For 8 of the 30 core report measures of quality, Asians had significantly poorer quality of care than Whites, while for 11 measures, Asians had significantly better quality of care than Whites (Figure 4.5). The median difference over all 30 core report measures was -20%.
- For 1 of the 7 core report measures of access, Asians had significantly worse access to care than Whites. The median difference over all 7 core report measures was 16%.

Figure 4.6. 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 (Table 1.2).

Note: The time period for this figure is the most recent and oldest years of data used in the NHDR. Only 33 core report measures 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 11 measures but larger for 7 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 3 measures but larger for 1 measure. For 2 measures, the Asian-White difference did not change over time.

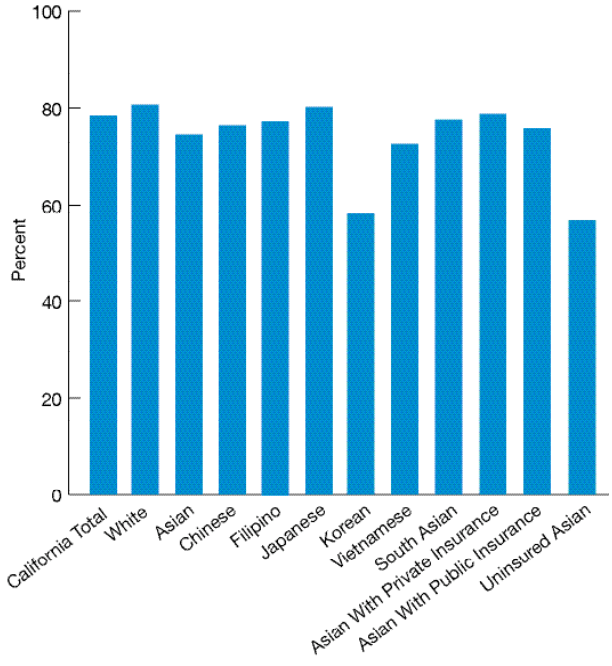
Focus on Asian Subpopulations

The Asian population in the United States is highly heterogeneous. The term "Asian" refers to people who identify their country of origin to be located in East Asia, Southeast Asia, or the Indian subcontinent (for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam).[9] Asians are approximately 4.2% of the U.S. population, or 11.9 million people. According to Census 2000 data, approximately 23% of Asians identified themselves as Chinese, 20% Filipino, 16% Asian Indian, 10% Korean, and 9.7% Japanese.[9]

Research has shown that within-category variation (that is, variation across Asian subpopulations) is sometimes as large as the differences between Asians and Whites.[10, 11] In order to show differences within racial groups, this year's NHDR includes information from the California Health Interview Survey (CHIS) on Asian subpopulations in California. This is especially important for these relatively smaller groups, as most national data sources do not have sufficient data to report data for these groups. The geographic distribution of Asian subpopulations allows such comparisons in California using the CHIS data. About 4.2 million Asians, or 14.9% of the Asian population in the United States, live in California, which has the largest proportion of Asians of all States.[9] The proportion of many Asian subpopulations residing in California is also greater than the proportion in the overall U.S. population. For example, the Vietnamese population is 1.3% of California's population compared with only 0.4% of the U.S. population, and the Filipino population is 2.7% of California's population compared with only 0.7% of the U.S. population.

Selected measures from the CHIS are presented here, including breast cancer screening, diabetes care, influenza vaccinations, uninsurance, and emergency room visits. These data show that disparities for Asians exist, not only in comparison with Whites but also within Asian subgroups (Chinese, Filipino, Japanese, Korean, Vietnamese, and South Asian) and across Asian subgroups by income and insurance status. Differences in English proficiency and place of birth are also significant. The following section shows only some of the significant disparities for these groups in California from CHIS data.

Figure 4.7. Women age 40 and over who reported they had a mammogram in the past 2 years, by race, Asian subgroup, and insurance status, California only, 2005



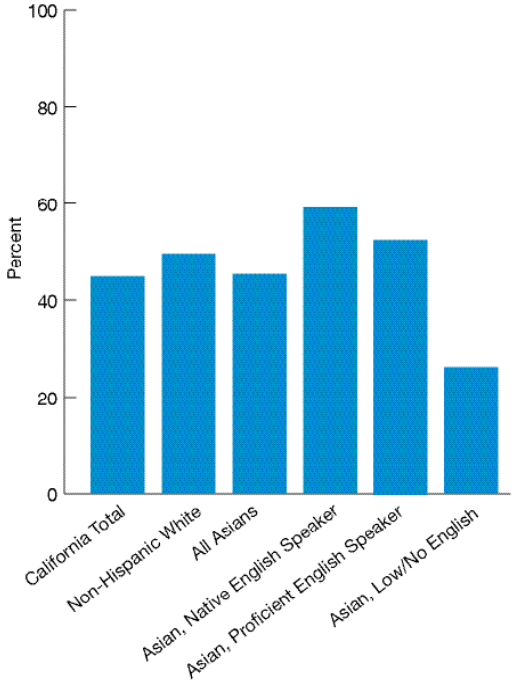
Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

Note: Public insurance includes people with Medicare and/or Medicaid coverage for this measure.

Reference population: Civilian noninstitutionalized women age 40 and over in California.

- Overall, the proportion of women in California age 40 and over who reported they had a mammogram in the past 2 years was 78.4% (Figure 4.7).
- The proportion was significantly lower for Asians than Whites (74.6% compared with 80.7%). Among Asian subpopulations, the proportion was lowest for Koreans (58.1%).
- The proportion was significantly lower for uninsured compared with privately insured Asian women (56.7% compared with 78.8%).

Figure 4.8. People age 40 and over with diabetes who had hemoglobin A1c measurement, retinal exam, and foot exam within the past year, by race and level of English proficiency, California only, 2005

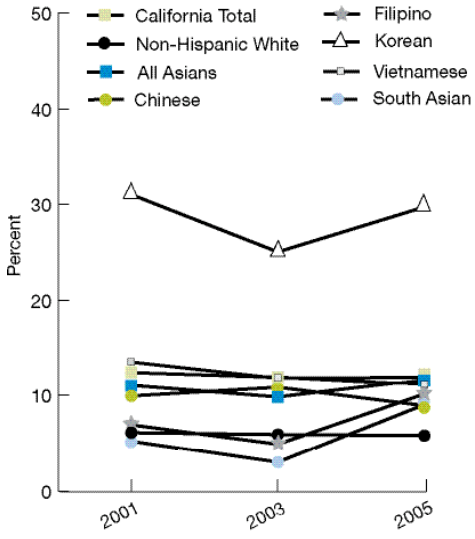


Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

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

- There were no significant differences between Asians and Whites in the proportion of Californians with diabetes who had all three recommended diabetes services, but there were significant differences among Asians by level of English proficiency (Figure 4.8).
- In 2005, the proportion of Asian adults in California with low English proficiency who received all three recommended services for diabetes was less than half that of Asian native English speakers (26.2% compared with 59.1%).
- The percentage of adults in California who received all three recommended services for diabetes overall was 44.8%.

Figure 4.9. People under age 65 uninsured all year, by race and Asian subgroup, California only, 2001, 2003, and 2005

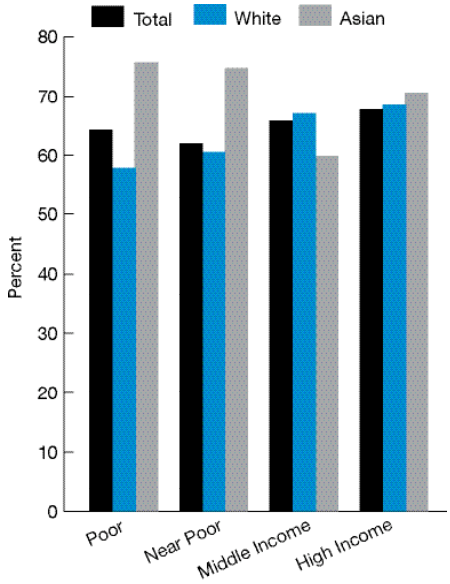


Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

Reference population: Civilian noninstitutionalized population under age 65 in California.

- While the overall proportion of Californians uninsured all year decreased from 2001 to 2005 (from 12.4% to 11.1%), there were no significant changes for any Asian subgroup during this period (Figure 4.9).
- In 2005, two times as many Asian as non-Hispanic White Californians were uninsured all year (11.6% of Asians compared with 5.8% of Whites).
- The proportion uninsured was also significantly higher for all Asian subgroups than Whites, except for South Asians. The proportion was over five times higher for Koreans than for Whites (29.7% compared with 5.8%).

Figure 4.10. Adults age 65 and over who received influenza vaccination in the past year, by race and income, California only, 2005

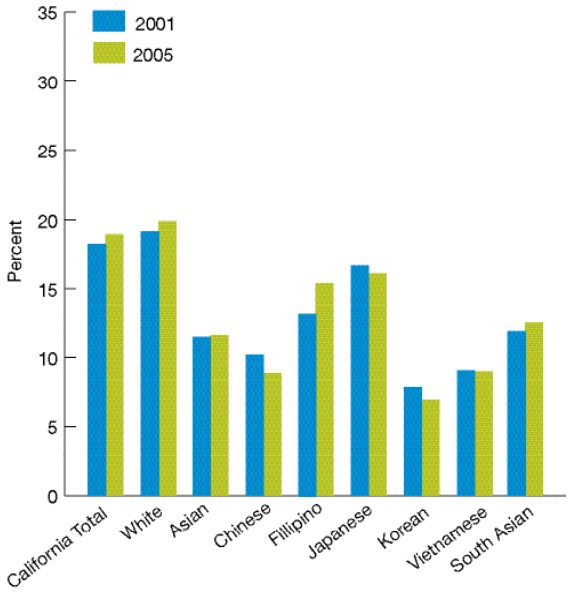


Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

Reference population: Civilian noninstitutionalized adults in California age 65 and over.

- Among poor Californians, the proportion of adults age 65 and over who received a flu shot was significantly higher for Asians than Whites (75.7% compared with 57.9%).
- Among near poor Californians, the proportion was also significantly higher for Asians than Whites (74.7% compared with 60.5%).
- There were no significant differences among middle and high income groups (Figure 4.10).

Figure 4.11. People with emergency department visit in the past year, by race and Asian subgroup, California only, 2001 and 2005



Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

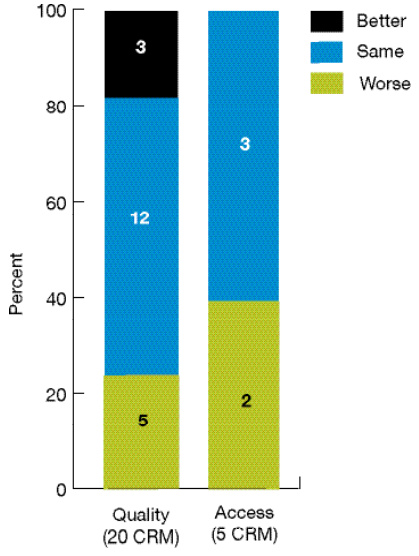
Reference population: Civilian noninstitutionalized population in California.

- The proportion of Californians with an emergency department visit in the past year increased overall, but there were no significant changes from 2001 to 2005 in the proportions for Asian subgroups (Figure 4.11).
- In 2005, the proportion was lower for Asians than Whites overall (11.6% compared with 19.9%) and for all Asian subgroups. The proportion was less than half that of Whites for Koreans (6.9%) and Vietnamese (9.0%).

American Indians and Alaska Natives

Previous NHDRs showed that American Indians and Alaska Natives had poorer quality of care and worse access to care than Whites for many measures tracked in the reports. Findings based on core report measures (Table 1.2) of quality and measures of access that support estimates for AI/ANs are shown below.

Figure 4.12. 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.

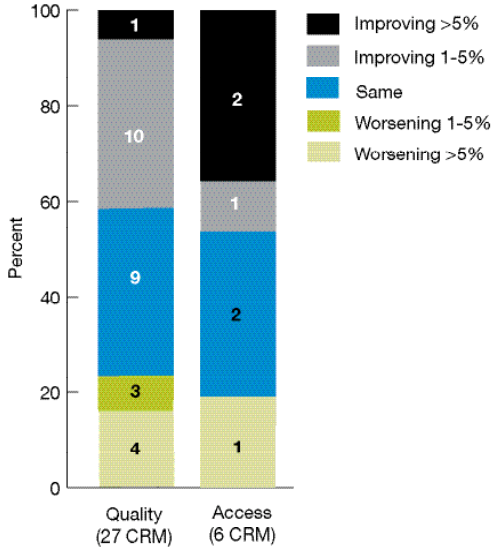
AI/AN = American Indian or Alaska Native.

CRM = core report measures (Table 1.2).

Note: Data presented are the most recent available.

- Only about half of the core report measures supported estimates of quality for AI/ANs.
- For 5 of the 20 core report measures of quality, AI/ANs had significantly poorer quality of care than Whites (Figure 4.12). AI/AN-White differences ranged from AI/ANs being more than twice as likely as Whites to lack early prenatal care to AI/ANs being only about half as likely to die from breast cancer. The median difference over all 20 core report measures was 12%.
- For 2 of the 5 core report measures of access, AI/ANs had significantly worse access to care than Whites. Differences ranged from AI/ANs under age 65 being over twice as likely as Whites to lack health insurance to AI/ANs being 25% less likely than Whites to delay receiving medical care due to financial problems. The median difference over all 5 core report measures was 30%.

Figure 4.13. 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.

AI/AN = American Indian or Alaska Native,

CRM = core report measures (Table 1.2)

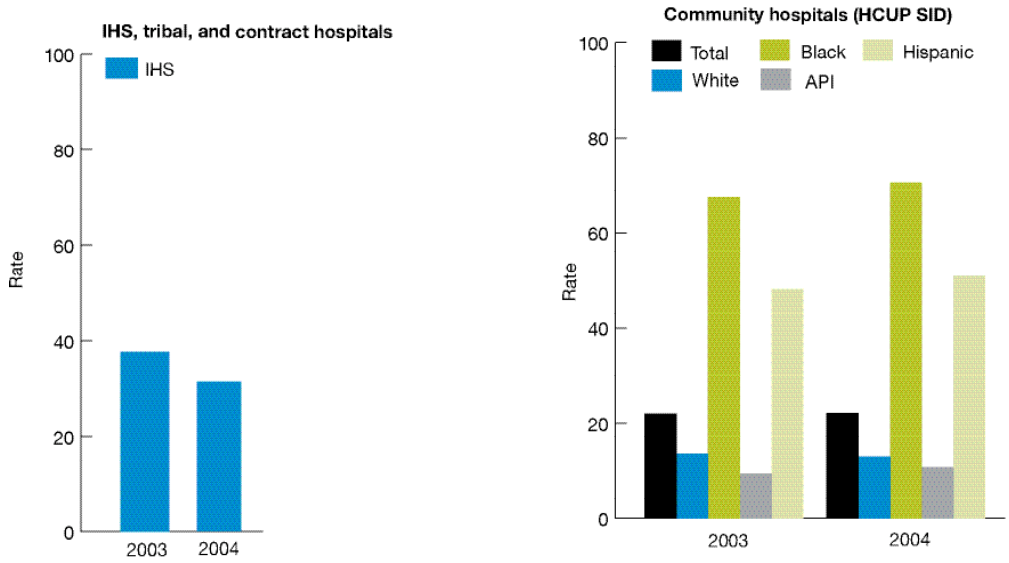
Note: The time period for this figure is the most recent and oldest years of data used in the NHDR. Only 21 core report measures could be tracked over time for AI/ANs and Whites.

- Fewer 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 six measures but larger for four measures (Figure 4.13). For seven 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 two measures but larger for one measure. For one measure, the AI/AN-White difference did not change over time.

Focus on Indian Health Service Facilities

Many AI/ANs who are members of a federally recognized tribe nationwide rely on the Indian Health Service (IHS) to provide access to health care in the counties on or near reservations where they may obtain services.[ix, 12, 13] 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 and tribal direct and contract hospitals. 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. Addressing barriers of access to health care is a large part of the overall IHS goal, which strives to ensure that comprehensive, culturally acceptable personal and public health services are available and accessible to AI/ANs.

Figure 4.14. Hospitalizations for uncontrolled diabetes per 100,000 population 18 years and over in IHS and tribal direct and contract hospitals (left) and community hospitals (right), by race/ethnicity, 2003 and 2004



Source: IHS and tribal direct and contract hospitals: IHS National Patient Information Reporting System (NPIRS); 2003-2004 community hospitals: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases (HCUP SID) disparities analysis file, 2003 and 2004.

Key: API = Asian or Pacific Islander. White, Black, and API are non-Hispanic populations.

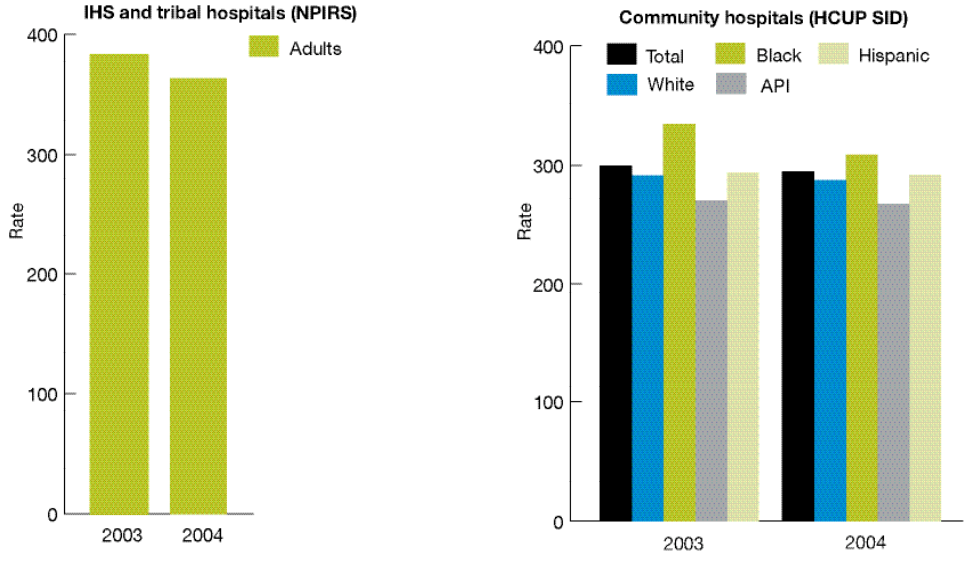
Note: The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population. Years of IHS data prior to 2003 use a denominator based on the 1990 Census. This source is not comparable with estimates following those years, which are based on 2000 Bridged Census Data. Therefore, for comparing IHS with national estimates, only 2003 and 2004 data from both data sources are presented.

- From 2003 to 2004, the proportion of hospitalizations for uncontrolled diabetes decreased for AI/ANs in IHS and tribal hospitals (from 37.8 per 100,000 to 31.4 per 100,000).
- There were no significant changes for other racial and ethnic groups in community hospitals during this period (Figure 4.14).

[ix] Of potentially eligible AI/ANs, 87% sought health care in 2001 at an IHS or tribally contracted facility, according to the most recent published IHS estimates developed by the Office of Public Health Support, Division of Program Statistics.

For the more than 538,000 AI/ANs living on reservations or other trust lands where the climate is inhospitable, the roads are often impassable, and transportation is scarce, health care facilities are far from accessible.[14] These conditions contribute to high rates of perforated appendix and urinary tract infection hospitalizations, two problems that are receiving particular attention by IHS. Perforated appendix and urinary tract infection hospitalization rates, which decreased from 2003 to 2004, are illustrative of the eff o rts underway, as well as the work that needs to continue to achieve high quality, comprehensive care that is accessible to AI/ANs.[15]

Figure 4.15. Hospitalizations for perforated appendix per 1,000 population 18 years and over with appendicitis in IHS and tribal direct and contract hospitals (left), and community hospitals (right), by race/ethnicity, 2003 and 2004



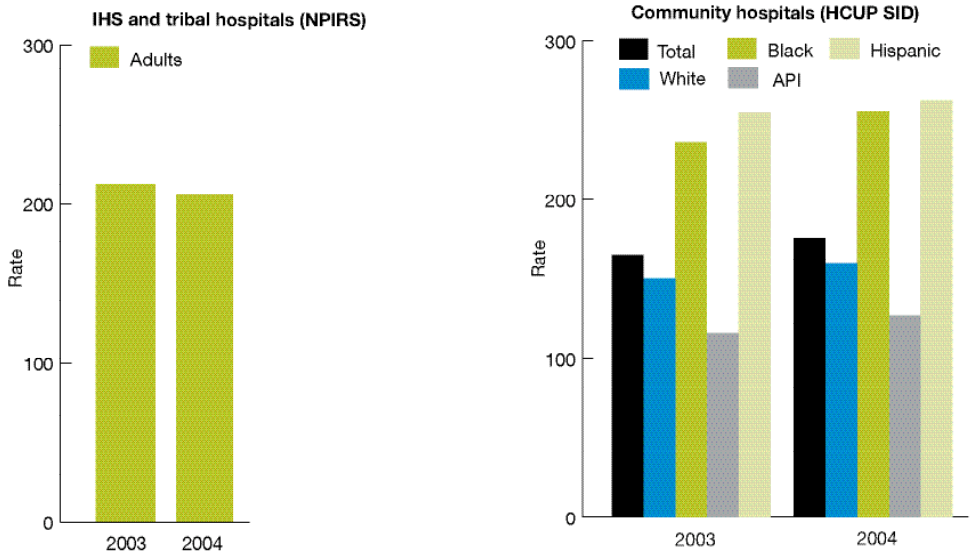
Source: IHS and tribal direct and contract hospitals: IHS National Patient Information Reporting System (NPIRS); 2003-2004 community hospitals: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases (HCUP SID) disparities analysis file, 2003 and 2004.

Key: API = Asian or Pacific Islander. White, Black, and API are non-Hispanic populations.

Note: The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population. Years of IHS data prior to 2003 use a denominator based on the 1990 Census. This source is not comparable with estimates following those years, which are based on 2000 Bridged Census Data. Therefore, for comparing IHS with national estimates, only 2003 and 2004 data from both data sources are presented.

- From 2003 to 2004, the proportion of appendicitis hospitalizations with perforated appendix decreased for AI/ANs in IHS and tribal hospitals (from 384.4 per 1,000 to 363.3 per 1,000; Figure 4.15).
- The proportion in community hospitals during this period also decreased overall (from 299.6 per 1,000 to 291.5 per 1,000), for Whites (from 294.6 per 1,000 to 287.8 per 1,000), and for Blacks (from 334.2 per 1,000 to 308.7 per 1,000).

Figure 4.16. Hospitalizations for urinary tract infection per 100,000 population 18 years and over in IHS and tribal direct and contract hospitals (left) and community hospitals (right), by race/ethnicity, 2003 and 2004



Source: IHS and tribal direct and contract hospitals: IHS National Patient Information Reporting System (NPIRS), 2003-2004; community hospitals: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases (HCUP SID) disparities analysis file, 2003 and 2004.

Key: API = Asian or Pacific Islander. White, Black, and API are non-Hispanic populations.

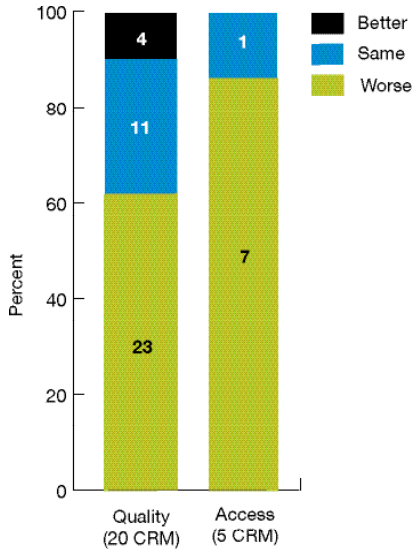
Note: The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population. Years of IHS data prior to 2003 use a denominator based on the 1990 Census. This source is not comparable with estimates following that year, which are based on 2000 Bridged Census Data. Therefore, for comparing IHS with national estimates, only 2003 and 2004 data from both data sources are presented.

- From 2003 to 2004, the proportion of hospitalizations for urinary tract infection for AI/AN adults in IHS hospitals decreased from 212.1 per 100,000 to 205.2 per 100,000 (Figure 4.16).
- In comparison, from 2003 to 2004, hospitalizations for urinary tract infection in community hospitals increased overall (from 165.3 per 100,000 to 175.7 per 100,000) and for Whites (from 150.4 per 100,000 to 159.5 per 100,000).

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 core report measures of quality and access to health care that support estimates for Hispanics are shown below.

Figure 4.17. 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.

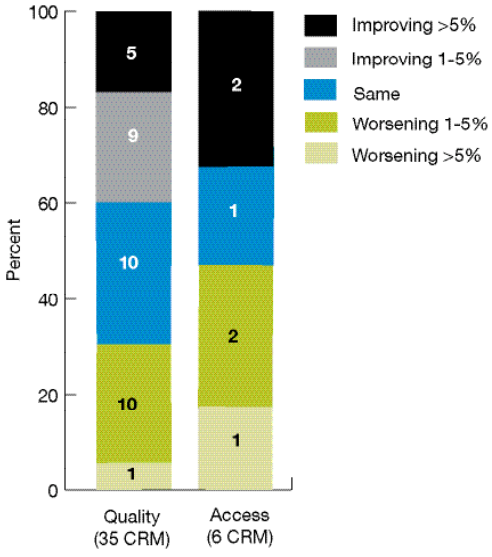
Worse = Hispanics receive poorer quality of care or have worse access to care than non-Hispanic Whites.

CRM = core report measures (Table 1.2).

Note: Data presented are the most recent available.

- For 23 of the 38 core report measures of quality, Hispanics had poorer quality of care than non-Hispanic Whites (Figure 4.17). Differences ranged from Hispanics being over 2.5 times as likely to be diagnosed with AIDS to Hispanics being 13% less likely to have adequate urea reduction for hemodialysis. The median difference over all 38 core report measures was 22%.
- 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 2.8 times as likely to lack health insurance to Hispanics being 21% less likely to report difficulties or delays getting care. The median difference over all 8 core report measures was 71%.

Figure 4.18. 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 (Table 1.2).

Note: The time period for this figure is the most recent and oldest years of data used in the NHDR. Only 41 core report measures could be tracked over time for Hispanics and non-Hispanic Whites.

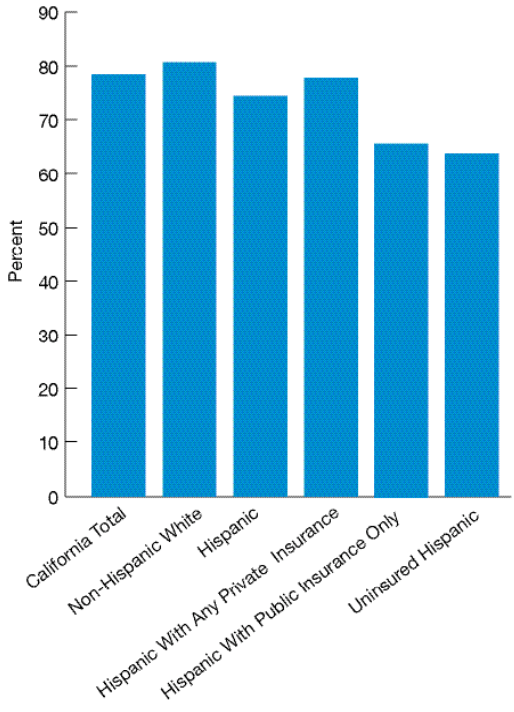
- Of core report measures of quality that could be tracked over time for Hispanics and non-Hispanic Whites, Hispanic–non-Hispanic White differences became smaller for 14 measures but larger for 11 measures (Figure 4.18). For 10 measures, Hispanic–non-Hispanic White differences did not change over time.
- 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 2 measures but larger for 3 measures. For 1 measure, 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.

The following section features selected measures from the California Health Interview Survey (CHIS). These include breast cancer screening, diabetes care, uninsurance, and emergency/urgent care visits for asthma. The CHIS is an example of a data source that can provide data for Hispanic subgroups. California's Hispanic population is nearly twice the percentage in the United States overall (6.8% in California compared with 3.6% of the U.S. population).[16] Almost 30% of the Hispanic population in the United States lives in California.[17] These data show that disparities for Hispanics in California exist, not only in comparison with non-Hispanic Whites but also within Hispanic subgroups (Mexican, Puerto Rican, Central American, and South American) and across Hispanic subgroups by income and insurance status. The following section shows only some of the significant disparities for these groups in California from CHIS data.

Figure 4.19. Women age 40 and over who reported they had a mammogram in the past 2 years, by ethnicity and insurance status, California only, 2005

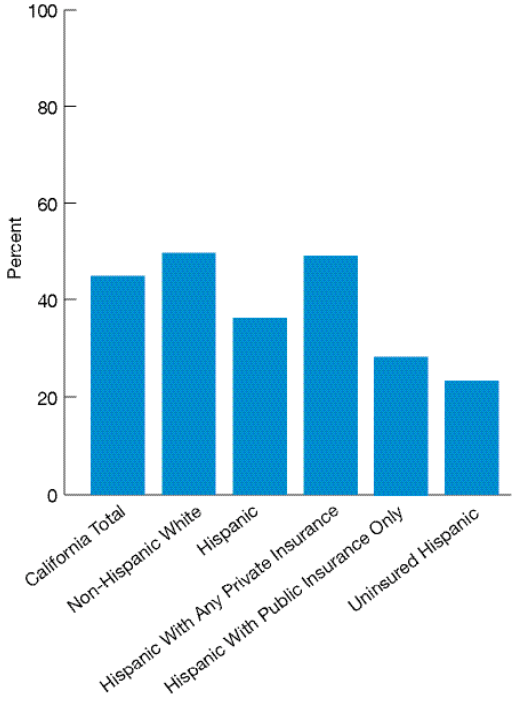


Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

Reference population: Civilian noninstitutionalized women age 40 and over in California.

- The proportion of women age 40 and over in California who had a mammogram was lower for Hispanic than non-Hispanic White women overall (74.3% compared with 80.7%; Figure 4.19).
- The proportion who reported a mammogram in the past 2 years was significantly lower for Hispanic women who were publicly insured (65.8%) and uninsured (63.8%) than for those who were privately insured (77.8%).

Figure 4.20. People age 40 and over with diabetes who had hemoglobin A1c measurement, retinal exam, and foot exam within the past year, by ethnicity and insurance status, California only, 2005

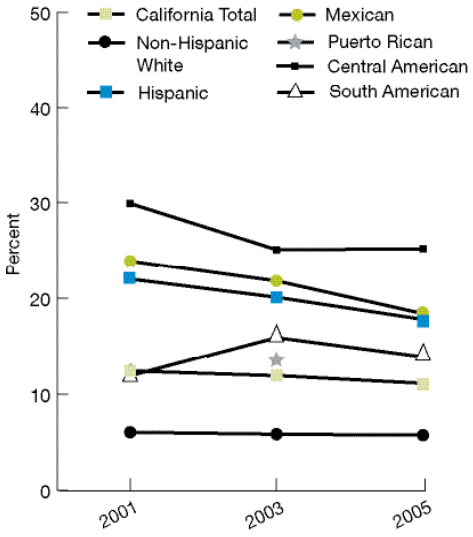


Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

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

- The proportion of Hispanic adults age 40 and over with diabetes who received all three recommended services for diabetes varied significantly by insurance status (Figure 4.20). The proportion who received all three recommended services for diabetes was significantly lower for Hispanic adults who were publicly insured (28.2%) and uninsured (23.2%) compared with those who were privately insured (48.9%).
- Overall, the proportion of Hispanic adults in California with diabetes who received all three recommended exams for diabetes care was not statistically different from the proportion for non-Hispanic Whites.

Figure 4.21. People under age 65 uninsured all year, by ethnicity and Hispanic subgroup, California only, 2001, 2003, and 2005

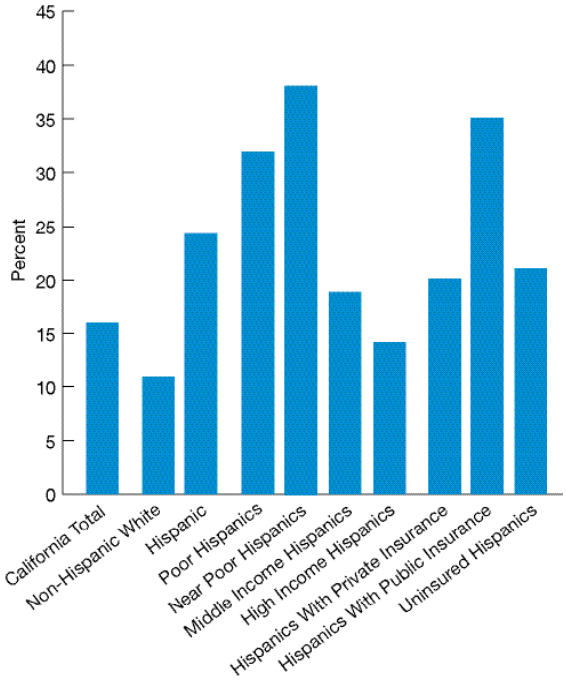


Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

Reference population: Civilian noninstitutionalized population under age 65 in California.

- From 2001 to 2005 the proportion of people in California who were uninsured all year decreased for total Hispanics (from 22.0% to 17.8%) and for Mexicans (from 23.9% to 18.4%; Figure 4.21).
- In 2005, all Hispanic subgroups had a higher proportion of people uninsured all year than non-Hispanic Whites (5.8%). The percentage for Mexicans was over three times higher (18.4%); for Central Americans, over four times higher (25.2%); and for South Americans, over two times higher (13.9%) than the proportion for non-Hispanic Whites.
- Overall, 11.1% of Californians were uninsured all year in 2005.

Figure 4.22. People with current asthma who had an emergency department or urgent care clinic visit for asthma within the past year, by ethnicity, income, and insurance status, California only, 2005



Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey

Note: Thresholds for income categories—poor, near poor, middle income, and high income—vary by family size and composition and are updated annually by the U.S. Bureau of the Census. For example, in 2005, the Federal poverty threshold for a family of two adults and two children was $19,806.

Reference population: Civilian noninstitutionalized population in California with current asthma.

- In California, the proportion of Hispanics who had an emergency department or urgent care visit for asthma was more than twice that of non-Hispanic Whites (24.3% compared with 11%; Figure 4.22).
- The proportion was significantly higher for poor (32.0%) and near poor (38.1%) Hispanics compared with high income Hispanics (14.2%).
- The proportion was also significantly higher for Hispanics who were publicly insured (35.1%) compared with those who were privately insured (20.1%).

Recent Immigrants and Limited-English-Proficient Populations

Recent Immigrants and Language Barriers

Immigrants often encounter barriers to high quality health care. About 33.3 million persons living in the United States in 2003 were born outside the United States, up from 20 million in 1990.[18] 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.[19]

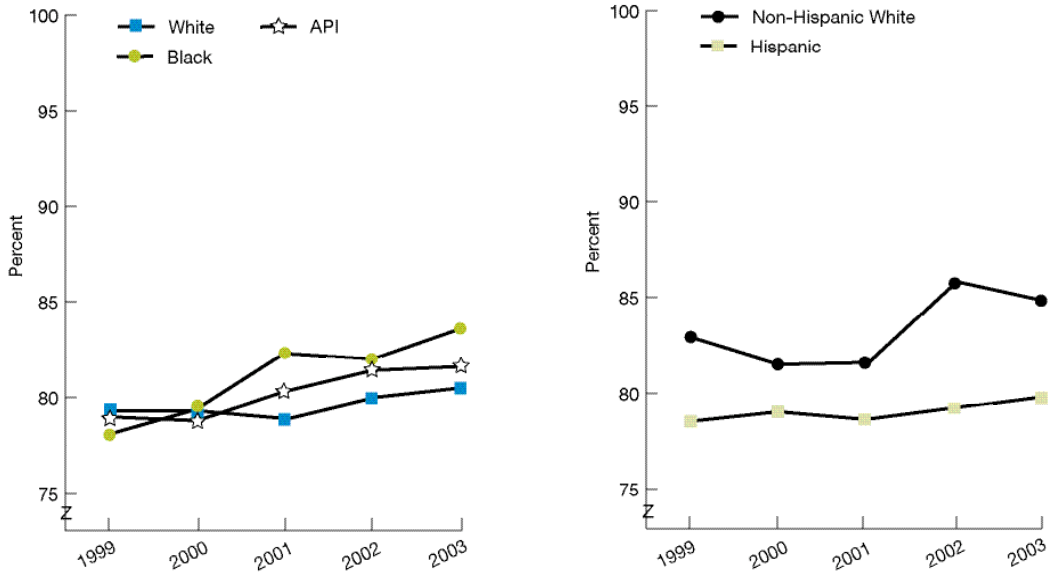
Certain diseases are concentrated among Americans born in other countries. For example, 55% of tuberculosis cases in the Nation are among foreign-born individuals,[20] and the case rate among foreign-born individuals is more than eight times higher than among individuals born in the United States.[21] The percentage of cases of tuberculosis among U.S.-born individuals is decreasing while the percentage of cases among foreign-born individuals is increasing.[22]

Quality health care requires that patients and providers communicate effectively. 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. 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. Communication problems between the patient and provider can lead to lower patient adherence to medications and decreased participation in medical decision-making, as well as exacerbate cultural differences that impair the delivery of quality health care.

Limited English proficiency is a barrier to quality health care for many Americans. About 52 million Americans, or 19.4% of the population, spoke a language other than English at home in 2000, up from 32 million in 1990. Of these individuals, 32 million (about 12% of the population) spoke Spanish, 10 million (about 4% of the population) spoke another Indo-European language, and 7.8 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.[23] 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).[24]

As in previous NHDRs, findings are presented below for several quality and access measures based on data from the National Tuberculosis Surveillance System and the Medical Expenditure Panel Survey; this year these sources are supplemented with data from the California Health Interview Survey. Information on disparities in health care quality and access for Americans born outside the United States and for Americans with limited English-speaking skills are presented for tuberculosis therapy, poor communication with health providers, uninsurance, breast cancer screening, and diabetes care.

Figure 4.23. Completion of therapy for tuberculosis within 12 months of being diagnosed among persons born outside the United States, by race (left) and ethnicity (right), 1999-2003



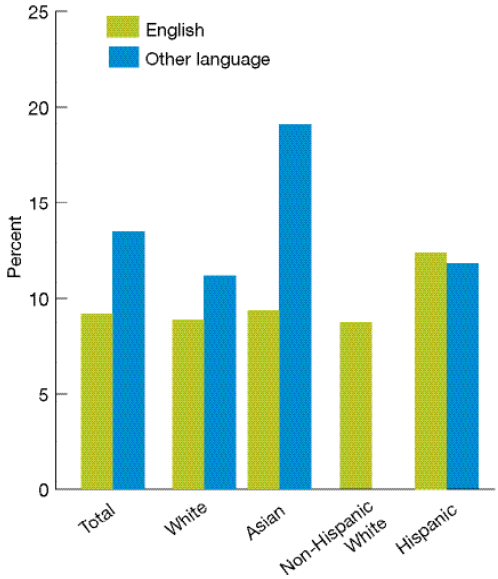
Key: API = Asian or Pacific Islander.

Source: Centers for Disease Control and Prevention, National Tuberculosis Surveillance System, 1999-2003.

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

- From 1999 to 2003, the proportion of persons who completed therapy for tuberculosis within 12 months of being diagnosed improved for foreign-born Blacks (from 78.1% to 83.6%) and foreign-born APIs (from 79.0% to 81.6%; Figure 4.23).
- In 2003, the proportion of persons who completed therapy for tuberculosis within 12 months of being diagnosed was significantly higher for foreign-born Blacks than for foreign-born Whites (83.6% compared with 80.5%).
- In 2003, the proportion of persons who completed therapy for tuberculosis within 12 months of being diagnosed was significantly lower for foreign-born Hispanics than for foreign-born non-Hispanic Whites (79.8% compared with 84.8%).

Figure 4.24. Ambulatory patients age 18 and over who reported poor communication with health providers, by race, ethnicity, and language spoken at home, 2004



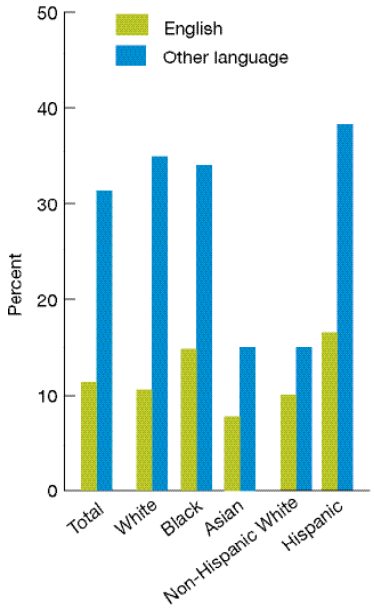
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Denominator: Civilian noninstitutionalized population age 18 and over.

Note: Average percentage of adults age 18 and over who had a doctor's office or clinic visit in the last 12 months and were reported to have had poor communication with health providers (i.e., their health providers sometimes or never listened carefully, explained things clearly, showed respect for what they had to say, or spent enough time with them). Data were insufficient for this analysis for Non-Hispanic White non-English speakers.

- The overall proportion of adults who had a doctor's office or clinic visit in the last 12 months who reported poor communication with their health provider was significantly higher for individuals who speak a foreign language at home than for individuals who speak English at home (Figure 4.24).
- The proportion of adults who reported poor communication with their health provider was significantly higher for Whites and Asians who speak some other language at home (11.2% and 19.1%, respectively) than for Whites and Asians who speak English at home (8.9% and 9.4%, respectively).

Figure 4.25. Adults under age 65 uninsured all year, by race and ethnicity, stratified by language spoken at home, 2004

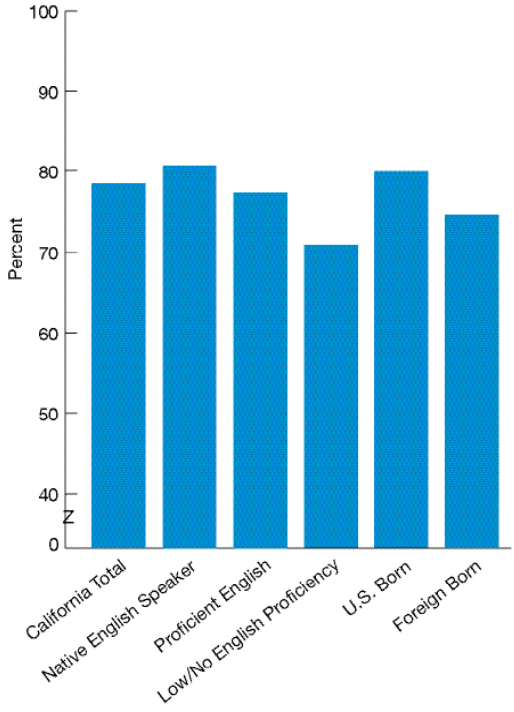


Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Civilian noninstitutionalized population ages 18-64.

- The overall proportion of adults under age 65 uninsured all year was significantly higher for individuals who speak a foreign language at home than for individuals who speak English at home (Figure 4.25).
- The proportion of persons uninsured all year was significantly higher for Whites, Blacks, and Asians who speak some other language at home than for their counterparts who speak English at home (34.9% compared with 10.7% for Whites, 34.0% compared with 14.8% for Blacks, and 15.0% compared with 7.8% for Asians).
- The proportion of persons uninsured all year was over twice as high for Hispanics who speak some other language at home than for Hispanics who speak English at home (38.2% compared with 16.5%).

Figure 4.26. Women age 40 and over who reported they had a mammogram in the past 2 years, by English proficiency and place of birth, California only, 2005

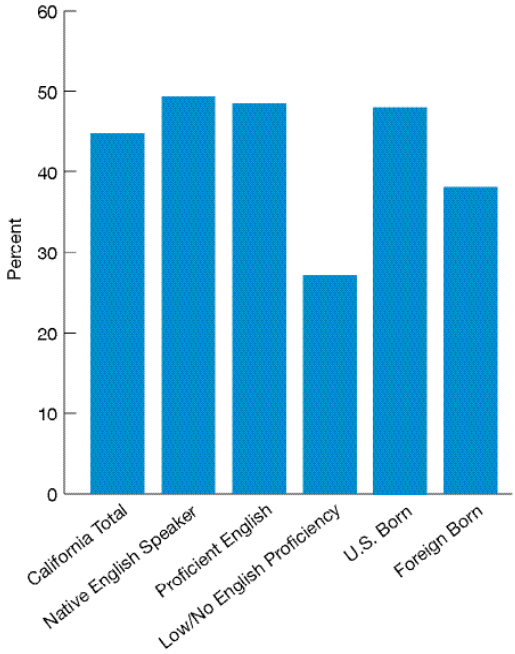


Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

Reference population: Civilian noninstitutionalized women in California age 40 and over.

- The proportion of women age 40 and over who reported a mammogram in the past 2 years was significantly lower for California non-native-English speakers, both those with proficient English (77.3%) and those with low or no English proficiency (70.9%), than for native English speakers (80.3%; Figure 4.26).
- The proportion of women age 40 and over who reported a mammogram in the past 2 years was lower for foreign-born Californians (74.6%) compared with U.S.-born Californians (80.0%).

Figure 4.27. People age 40 and over with diabetes who had hemoglobin A1c measurement, retinal exam, and foot exam in the past year, by English proficiency and place of birth, California only, 2005



Source: University of California, Los Angeles, Center for Health Policy Research, California Health Interview Survey.

Reference population: Civilian noninstitutionalized population in California age 40 and over.

- The proportion of California adults age 40 and over with diabetes who received all three recommended services for diabetes was significantly lower for people with low or no English proficiency (27.1%) than for native English speakers (49.3%; Figure 4.27).
- The proportion was also significantly lower for foreign-born Californians (38.1%) compared with U.S.-born Californians (48.1%).

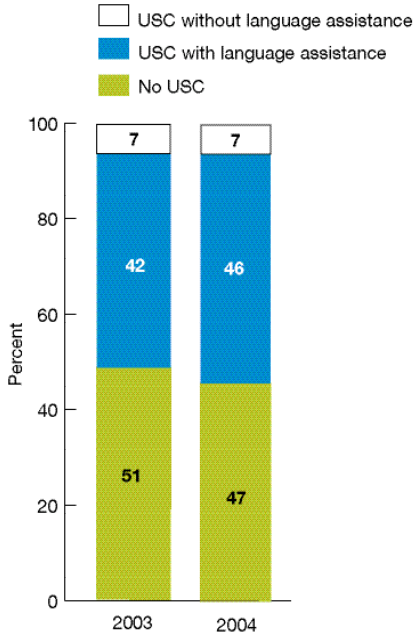
Language Assistance

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.

The 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 4.28. Adults with limited English proficiency, by whether they had a usual source of care with or without language assistance, 2003 and 2004



Key: USC = usual source of care.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2003-2004.

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).

- Approximately half (47%) of individuals with limited English proficiency did not have a usual source of care in 2004 (Figure 4.28).
- A similar proportion (46%) of individuals with limited English proficiency had a usual source of care that offered language assistance in 2004.
- Only 7% of individuals with limited English proficiency had a usual source of care that did not offer language assistance.

Low Income Groups

In this report, 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.[x, 25] After falling for nearly a decade (1990-2000), the number of poor persons in America rose from 31.6 million in 2000 to 37.0 million in 2005, and the rate of poverty increased from 11.3% to 12.6% over the same period.[26]

Poverty varies by race and ethnicity. In 2005, 25% of Blacks, 22% of Hispanics, 11% of Asians, and 8% of Whites were poor.[26] Persons with low incomes often experience worse health and are more likely to die prematurely.[27] In general, poor populations have reduced access to high quality care. While people with low incomes are more likely to be uninsured, income-related differences in quality of care that are independent of health insurance coverage have also been demonstrated.[28]

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[xi] compared with high income[xii] 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.

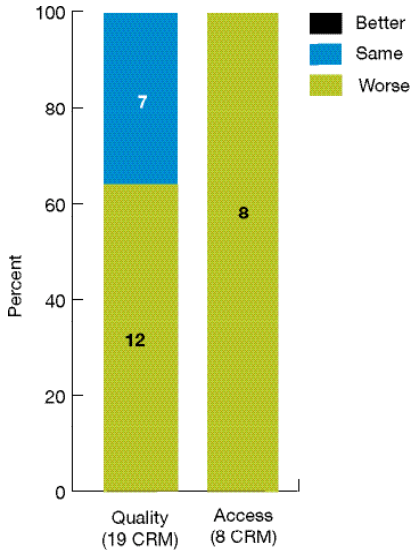
In addition, changes in differences related to income are examined over time. For each core report measure, racial, ethnic, and socioeconomic groups are compared with a designated comparison group at different points in time. Consistent with Healthy People 2010, disparities are measured in relative terms as the percentage difference between each group and a comparison group; changes in disparity are measured by subtracting the percentage difference from the comparison group at the baseline year from the percentage 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 (Table 1.2) 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. Core report measures for which the relative differences are becoming larger at a rate of more than 1% per year are identified as worsening. Changes of greater than 5% per year are also differentiated from changes of between 1% and 5% per year in some figures.

[x] For example, in 2005 the Federal poverty threshold for a family of 2 adults and 2 children was $19,806.

[xi] Household income less than Federal poverty thresholds.

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

Figure 4.29. Poor compared with high income individuals on measures of quality and access



Better = Poor receive better quality of care or have better access to care than high income individuals.

Same = Poor and high income individuals receive about the same quality of care or access to care.

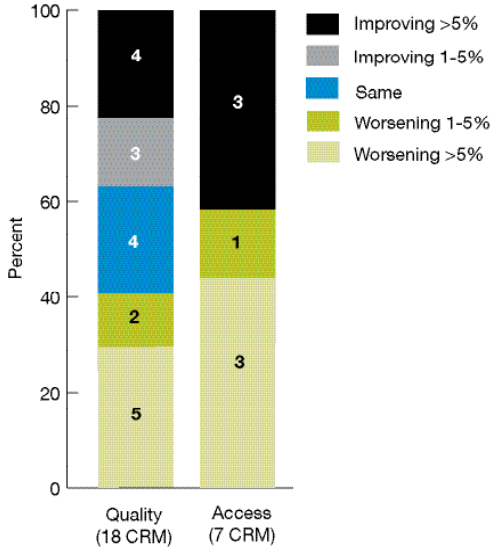
Worse = Poor receive poorer quality of care or have worse access to care than high income individuals.

CRM = core report measures (Table 1.2).

Note: Data presented are for the most recent data year available.

- Fewer than half of the core report measures supported estimates of quality for the poor.
- For 12 of the 19 core report measures of quality with income data, the poor had significantly poorer quality of care than high income individuals (Figure 4.29). Differences ranged from poor children being over three times as likely as high income children to be hospitalized for asthma to poor individuals being 25% less likely to receive recommended diabetes care. The poor did not have better quality than high income individuals for any of the 19 core report measures.
- 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 three times as likely as high income individuals to lack health insurance to the poor being 50% more likely to lack a primary care provider. The median difference was over 1.5 (poor individuals were over 1.5 times as likely to have worse access as high income individuals).

Figure 4.30. 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 (Table 1.2).

Note: The time period for this figure is the most recent and oldest years of data used in the NHDR. Only 25 core report measures of quality and access could be tracked over time for poor and high income individuals.

- Only about half of the core report measures for quality allow comparisons between poor and high income individuals over time.
- 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 six measures but became larger for seven measures (Figure 4.30). For four measures, 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 three measures and larger for four measures.

Focus on Uninsurance

Because low-paying jobs are less likely to offer health insurance as a benefit and the cost of health insurance leaves poorer individuals less likely to be able to afford it, this year's NHDR again focuses on uninsurance. Compared with insured persons, the uninsured report more problems getting care and are diagnosed at later disease stages.[29, 30] They report poorer health status,[31] are sicker when hospitalized, and are more likely to die during their hospital stay.[32] Uninsured persons often avoid non-urgent care such as preventive screenings, have difficulty obtaining care for illness or injury, and must bear the full cost of health care. In addition, prolonged periods of uninsurance can have a particularly serious influence on one's health and stability.

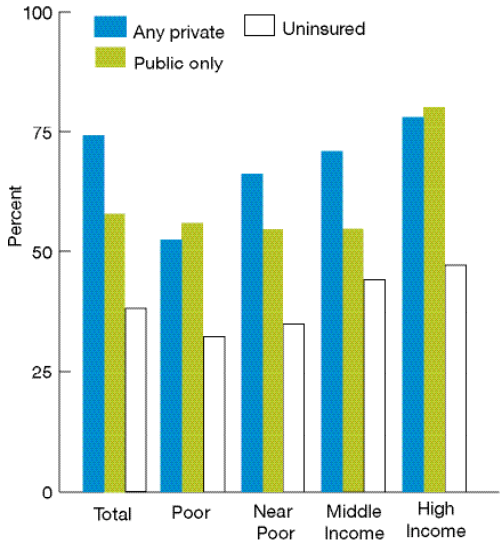
Findings presented here highlight three quality measures related to prevention (breast cancer screening, counseling parents about healthy eating in children, and counseling obese adults about exercise) and one access measure (dental care) of special relevance to the uninsured. In addition, this section presents two bivariate analyses to show data by income and insurance status.

Quality of Health Care

Prevention: Screening for Breast Cancer (Mammography)

Screening for breast cancer with mammography is an effective way to reduce new cases of late stage disease and mortality caused by this cancer.

Figure 4.31. Women age 40 and over who reported they had a mammogram within the past 2 years, by income, stratified by insurance status, 2005



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2005.

Reference population: Civilian noninstitutionalized women age 40 and over who reported a mammogram in the past 2 years.

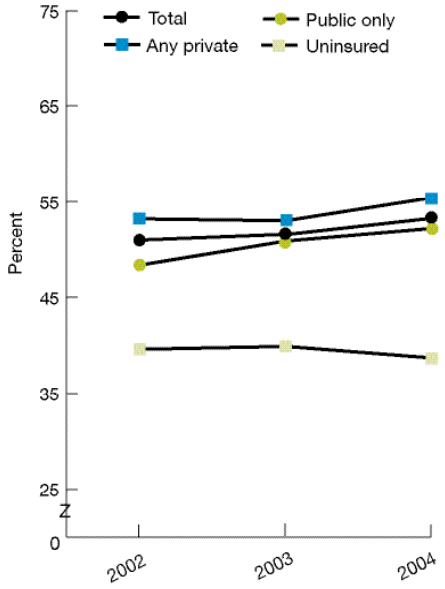
- Overall, the proportion of women age 40 and over who reported they had a mammogram within the past 2 years was significantly lower for uninsured women (38.3%) than for privately insured women (74.2%) or publicly insured women (57.9%; Figure 4.31).

- The proportion was significantly lower for poor (48.5%), near poor (55.1%), and middle income women (66.8%) than for high income women (75.3%).
- Among poor women, the proportion was significantly lower for uninsured than for privately insured women (32.3% compared with 52.6%).
- Among near poor women, the proportion was significantly lower for uninsured (34.9%) and publicly insured (54.7%) than for privately insured women (66.3%).
- Among middle income women, the proportion was significantly lower for uninsured (44.1%) and publicly insured women (54.7%) than for privately insured women (71.0%).
- Among high income women, the proportion was significantly lower for uninsured than privately insured women (41.7% compared with 78.1%).

Prevention: Counseling Parents About Healthy Eating in Children

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

Figure 4.32. Children ages 2-17 with ambulatory visit who ever received advice about healthy eating, by insurance status, 2002-2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

Reference population: Civilian noninstitutionalized population ages 2-17.

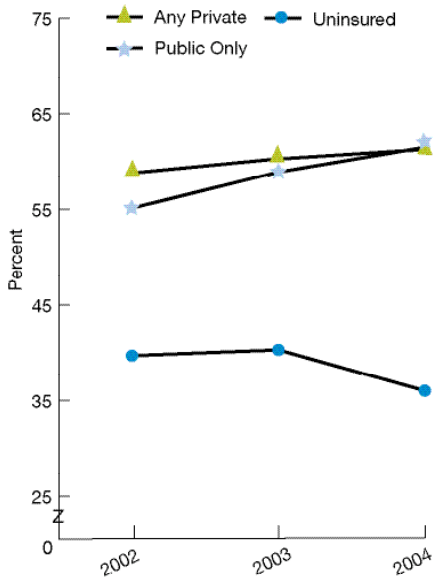
Note: Estimates were for children whose parents or guardians reported ever receiving advice from a health provider for their children about healthy eating.

- From 2002 to 2004, the gap between uninsured children and privately insured children whose parents or guardians reported advice about healthy eating remained the same. In 2004, the proportion was significantly less for uninsured children than privately insured children (38.7% compared with 55.4%; Figure 4.32).
- During this period, there was no significant difference between publicly insured and privately insured children whose parents or guardians reported advice about healthy eating.

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 4.33. Obese adults given advice about exercise by their doctor or other health provider, by insurance status, 2002-2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

Denominator: Civilian noninstitutionalized population age 18 and over.

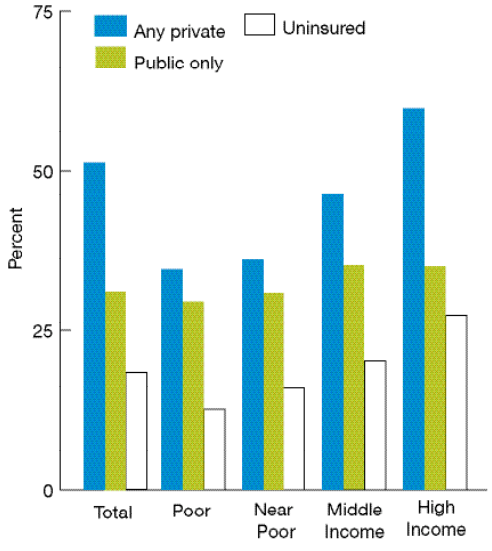
- From 2002 to 2004, the gap between uninsured and privately insured persons in the proportion of obese adults who were given advice about exercise did not change significantly (Figure 4.33).
- The gap between publicly insured persons and privately insured persons in the proportion of obese adults who were given advice about exercise decreased. In 2004, the disparity was eliminated.
- In 2004, the proportion of obese adults who were given advice about exercise was significantly lower for uninsured than for privately insured persons (36.0% compared with 61.3%).

Access to Health Care

Dental Care

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

Figure 4.34. Persons with a dental visit in the past year, by income, stratified by insurance status, 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Civilian noninstitutionalized population, all ages.

- Overall, the proportion of persons with a dental visit in the past year was significantly lower for publicly insured and uninsured persons than for privately insured persons (31% and 18.4%, respectively, compared with 51.3%; Figure 4.34).
- Among poor persons, the proportion did not differ significantly between publicly insured and privately insured persons (29.5% compared with 34.5%) but was significantly lower for uninsured persons than for privately insured persons (12.7% compared with 34.5%).
- Among near poor, middle income, and high income persons, uninsured persons were less than half as likely as privately insured persons to have had a dental visit in the past year.
- 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 (59.9%).

Women

The U.S. Census Bureau estimated 150.4 million females in the United States in 2005, 51% of the U.S. population, of whom 49 million are members of racial or ethnic minority groups.[33] By 2050, it is projected that just under half of females in the United States will be members of racial or ethnic minority groups.[34] 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.[35] Poverty disproportionately affects women; in 2005 almost 14.1% of women lived in households with incomes below the Federal poverty level.[36]

Women in the United States have a life expectancy 5.2 years longer than men[37] and lower age-adjusted death rates than men for 12 of the 15 leading causes of death.[38] However, women are more likely than men to report having arthritis, asthma,[39] and serious mental illness.[40] There is significant variation in health status and health-related behaviors for women of different races and ethnicities.[41] 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	Measure
Prevention	Prenatal care/maternal health
Treatment	Recommended care for heart attack
Management	New AIDS cases, HIV testing during prenatal care
Access to care	Usual source of care

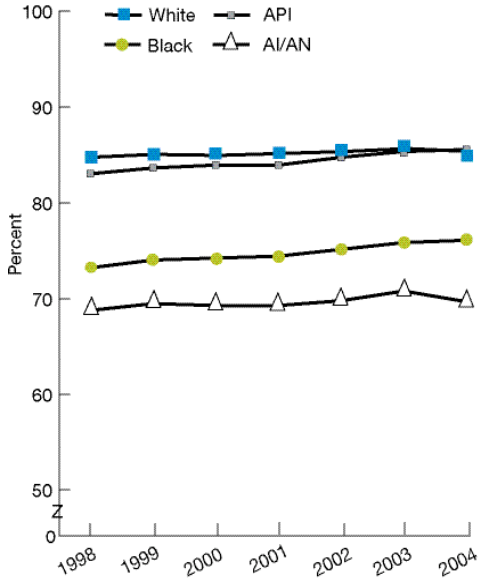
Additionally, this year the section on cancer in Chapter 2 focuses on breast cancer prevention.

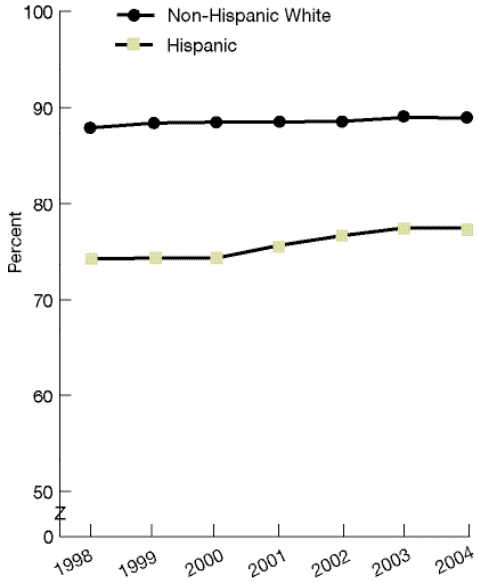
Quality of Health Care

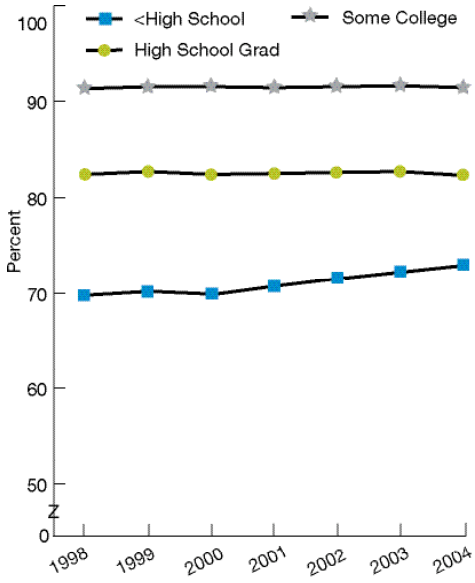
Prevention: Prenatal Care/Maternal Health

Childbirth and reproductive care are the most common reasons for women of childbearing age to use health care; with more than 11,000 births each day in the United States, childbirth is the most common reason for hospital admission.[42] 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.[43] Prenatal care is expected to maintain and improve the health of both mother and newborn during pregnancy. It is recommended that women begin receiving prenatal care in the first trimester of pregnancy.

Figure 4.35. Pregnant women with prenatal care in the first trimester, by race (this page left), ethnicity (this page right), and education (next page), 1998-2004







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

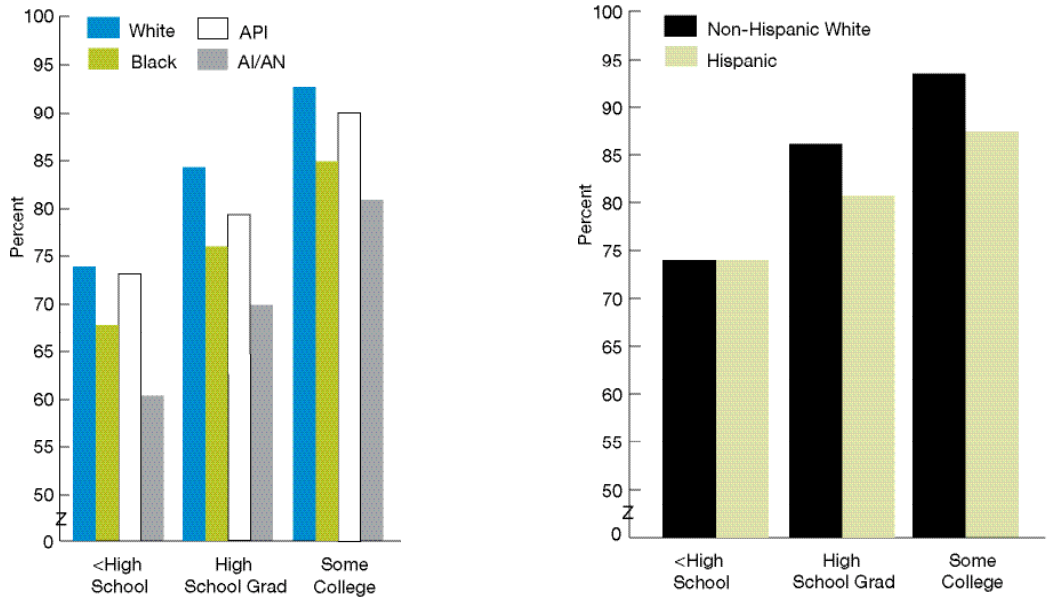
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System - Natality, 1998-2004.

Reference population: Women with live births.

- From 1998 to 2004, the gap between Blacks and Whites in the proportion of women who initiated prenatal care in the first trimester remained the same (Figure 4.35). In 2004, the proportion was significantly lower for Blacks (76.4%) and AI/ANs (69.9%) compared with Whites (85.4%).
- The gap between Hispanics and non-Hispanic Whites also remained the same during this time period. In 2004, the proportion was significantly lower for Hispanics than for non-Hispanic Whites (75.5% compared with 88.9%).
- The gap in early prenatal care between women with less than a high school education and women with any college education remained the same. In 2004, the proportion was significantly lower for women with less than a high school education (73.0%) and high school graduates (82.4%) than for women with any college education (91.5%).
- Only persons with any college education achieved the Healthy People 2010 target of 90% of pregnant women receiving prenatal care in the first trimester.

Racial and ethnic minorities are disproportionately of lower socioeconomic status than Whites.[26] Since information about income is not typically collected on birth certificates, the source of some health data, education is commonly used as a proxy for socioeconomic status. To distinguish the effects of race, ethnicity, and education on quality of health care, this measure is stratified by level of education.

Figure 4.36. Pregnant women with prenatal care in the first trimester, by race (left) and ethnicity (right), stratified by education, 2004



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

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System - Natality, 2004.

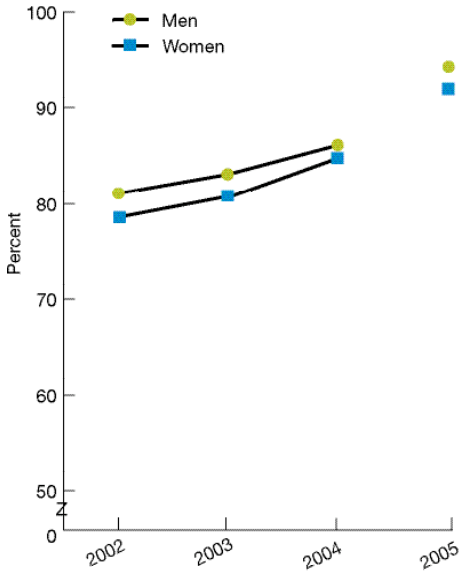
Reference population: Women with live births.

- Education explains some but not all of the differences in prenatal care among women by race and ethnicity. Overall racial and ethnic differences in early prenatal care tended to persist among women with similar education (Figure 4.36).
- Only college-educated Whites (92.7%), APIs (90.2%), and non-Hispanic Whites (93.5%) 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, almost half a million women die of cardiovascular disease. Among these, 330,500 die of heart attacks.[1] Although heart disease is the leading cause of death among both women and men, gender differences in cardiovascular care have been demonstrated and may relate to gender differences in disease presentation. Moreover, although major risk factors for cardiovascular disease can often be prevented or controlled through lifestyle changes, physicians are less likely to counsel women than men about diet, exercise, and substance abuse.[44] After a first heart attack, women are less likely than men to receive cardiac rehabilitation[45] and are more likely to die.[46]

Figure 4.37. Recommended hospital care received by Medicare patients with heart attack, by gender, 2002-2005



Source: Centers for Medicare & Medicaid Services, Medicare Quality Improvement Organization Program, 2002-2005.

Denominator: Medicare beneficiaries hospitalized for heart attack.

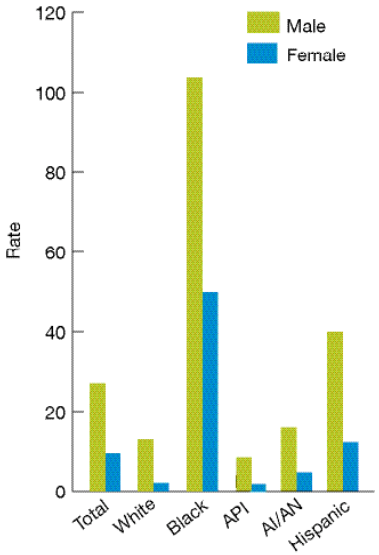
Note: Composite is calculated by averaging the percentage of the population that received each of six components of care. See Chapter 1, Introduction and Methods, for composite details. Discontinuity of the trend line between 2004 and 2005 reflects the modification of the ACE inhibitor measure in 2005 to include receipt of angiotensin receptor blockers as an acceptable alternative to ACE inhibitors and the data collection method change made in 2005 from the abstraction of randomly selected medical records for Medicare beneficiaries to the receipt of hospital self-reported data for all payer types.

- In 2005, there was no significant gender difference in receipt of recommended hospital care after a heart attack by Medicare beneficiaries (Figure 4.37).

Management: New AIDS Cases

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

Figure 4.38. Number of new AIDS cases per 100,000 population age 13 and over, by race/ethnicity, stratified by gender, 2005



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

Source: Centers for Disease Control and Prevention, HIV/AIDS Surveillance System, 2005.

Reference population: U.S. population age 13 and over.

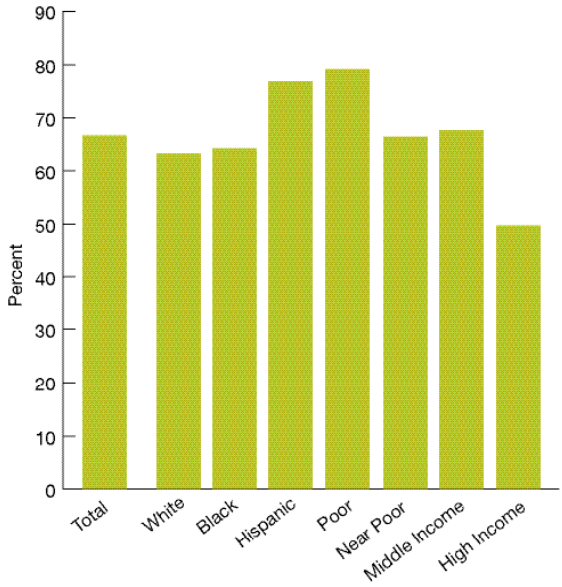
Note: The source categorizes race/ethnicity as a single item. White = non-Hispanic White; Black = non-Hispanic Black.

- For the overall U.S. population, the rate of new AIDS cases for males was nearly triple that for females (27.2 compared with 9.4 per 100,000 population; Figure 4.38).
- The rate was significantly higher for males than for females in all groups: Blacks (103.6 per 100,000 for males and 49.9 per 100,000 for females), APIs (8.2 per 100,000 for males and 1.8 per 100,000 for females), AI/ANs (15.9 per 100,000 for males and 4.4 per 100,000 for females), Hispanics (39.7 per 100,000 for males and 12.2 per 100,000 for females), and Whites (13.1 per 100,000 for males and 2.1 per 100,000 for females).
- No group has yet achieved the Healthy People 2010 target of 1.0 new AIDS case per 100,000 population.

Management: HIV Testing During Prenatal Care

Although blood donations are routinely screened for HIV, it is important to track HIV screening in a health care setting to determine the impact of preventive care on the population. HIV-infected patients have years of life to gain if treatment is initiated early, before symptoms develop. HIV testing is recommended for all pregnant women during prenatal care and for people with high-risk behaviors for developing HIV.

Figure 4.39. Women ages 15-44 who completed a pregnancy in the last 12 months and had an HIV test as part of prenatal care, by race/ethnicity and income, 2002



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Family Growth, 2002.

Reference population: Household population of women ages 15-44.

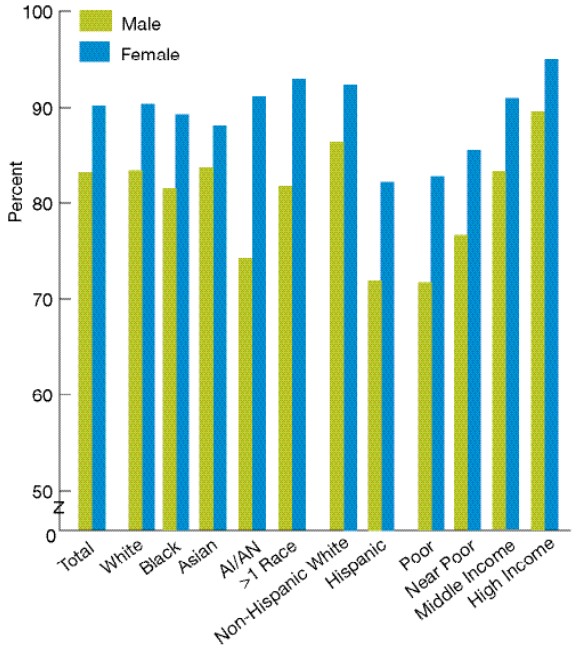
- In 2002, the proportion of pregnant women ages 15-44 who had an HIV test as part of prenatal care was higher for Hispanics than for non-Hispanic Whites (76.7% compared with 63.4%; Figure 4.39).
- In 2002, the proportion of pregnant women who had an HIV test as part of prenatal care was higher for poor (79.2%), near poor (66.5%), and middle income women (67.7%) than for high income women (49.7%).

Access to Care

Usual Source of Care

Higher costs, poorer outcomes, and greater disparities are observed among individuals without a usual source of care.[47]

Figure 4.40. Persons with a specific source of ongoing care, by race, ethnicity, and income, stratified by gender, 2005



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

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2005.

Reference population: Civilian noninstitutionalized population, all ages.

Notes: Measure is age adjusted to the 2000 standard population.

- Overall, the proportion of persons with a specific source of ongoing care was significantly higher for females than for males (90.3% compared with 83.3%).
- This proportion was also significantly higher for females than males for all racial and ethnic groups: Whites (90.5% for females compared with 83.6% for males), Blacks (89.3% for females compared with 81.5% for males), AI/ANs (91.2% for females compared with 74.3% for males), non-Hispanic Whites (92.4% for females compared with 86.4% for males), and Hispanics (82.2% for females compared with 72.0% for males; Figure 4.40).
- This proportion was significantly lower for the poor (78.1%), near poor (81.4%) and middle income (87.2%) groups than for high income groups (92.3%).

Children

Children made up 24.8%[3] of the U.S. population, or 73.5 million people, in 2005.[48] Almost 40% of all children were members of racial and ethnic minority groups,[1] and 17.6% of children lived in families with incomes below the Federal poverty level.[26]

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 78.3 years for White children[38] and 73.1 years for Black children, a difference of about 5%.[49]

Many measures relevant to children are tracked in the NHDR. Findings presented here highlight eight quality measures and two access measures of particular importance to children (for ages 2 months to 19 years, depending on the measure):

Component of health care need	Measure
Prevention	Vaccinations, counseling about overweight, counseling about healthy eating, dental 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	Poor communication with health providers
Access to care	Health insurance, mental health care

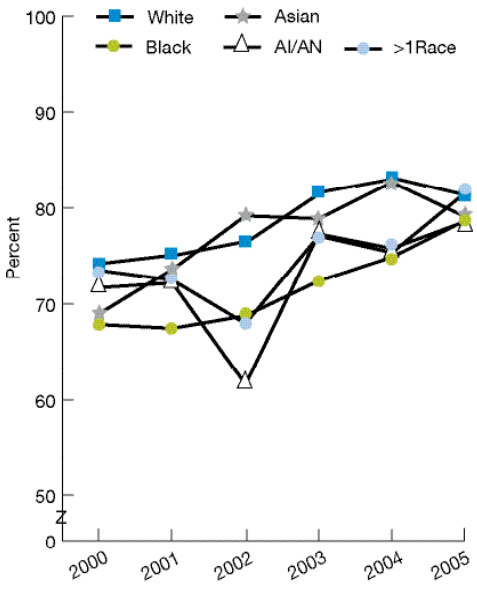
In addition, the final section of this chapter, which discusses individuals with special health care needs, includes findings related to children with special health care needs.

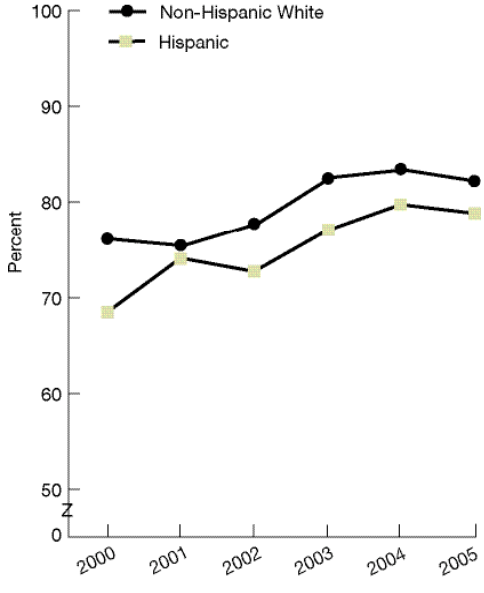
Quality of Health Care

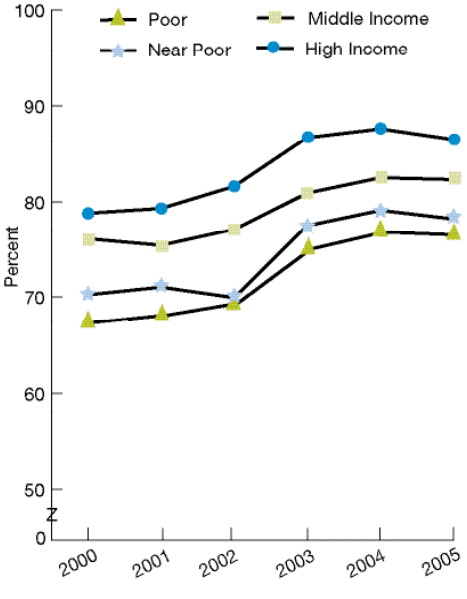
Prevention: Early Childhood Vaccinations

Childhood vaccinations protect recipients from illness and disability and protect others in the community. Vaccinations are important for reducing mortality and morbidity in populations.

Figure 4.41. Children ages 19-35 months who received all recommended vaccines, by race (top left), ethnicity (top right), and income (bottom left), 2000-2005







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

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Immunization Survey, 2000-2005.

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

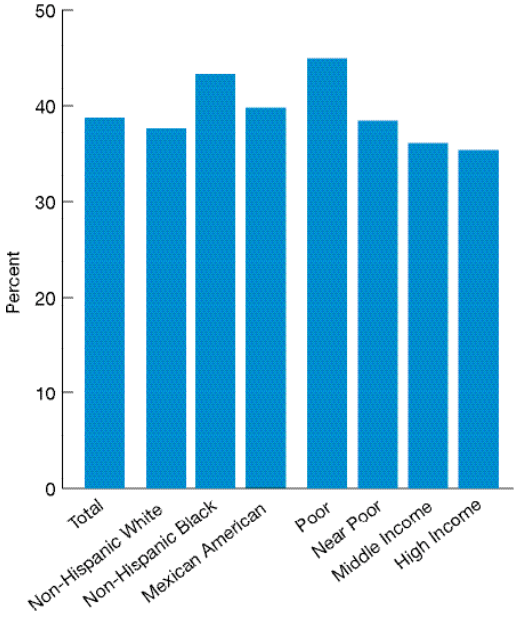
Note: Recommended vaccines for children 19-35 months are based on the Healthy People 2010 objective and do not include varicella vaccine or vaccines added to the recommended schedule after 1998 for children up to 35 months of age. Racial categories changed in 2000 and may not be comparable with those used for previous years. More information can be found in the Measure Specifications Appendix.

- From 2000 to 2005, the gap between Blacks and Whites, Asians and Whites, and children of multiple races and Whites who received all recommended vaccines decreased (Figure 4.41). In 2005, significant differences by race were not observed on this measure.
- The gap between Hispanics and non-Hispanic Whites in the proportion of children who received all recommended vaccines decreased during this time period. However, in 2005, the proportion of children who received all recommended vaccines was still lower for Hispanics than for non-Hispanic Whites (78.8% compared with 82.1%).
- The gap between children from poor families and children from high income families remained the same. In 2005, the proportion of children who received all recommended vaccines was lower for children from poor (76.5%), near poor (78.2%), and middle income families (82.3%) than for children from high income families (86.5%).
- Nationally, only vaccination coverage levels among White (81.3%), non-Hispanic White (82.1%), middle income (82.3%), and high income (86.5%) children achieved the Healthy People 2010 objective of 80% of children receiving all recommended vaccines.

Prevention: Counseling About Overweight

Childhood overweight poses a risk for health problems, including heart disease and Type 2 diabetes, and is associated with 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 4.42. Overweight children ages 2-19 who were told by a doctor or health professional that they were overweight, by race, ethnicity, and income, 1999-2004



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, 1999-2004.

Reference population: Overweight civilian noninstitutionalized population ages 2-19. Overweight is defined as persons ages 2-19 with a body mass index (BMI) greater than or equal to the 95th percentile on the BMI for age-sex-specific 2000 Centers for Disease Control and Prevention growth charts for the United States.

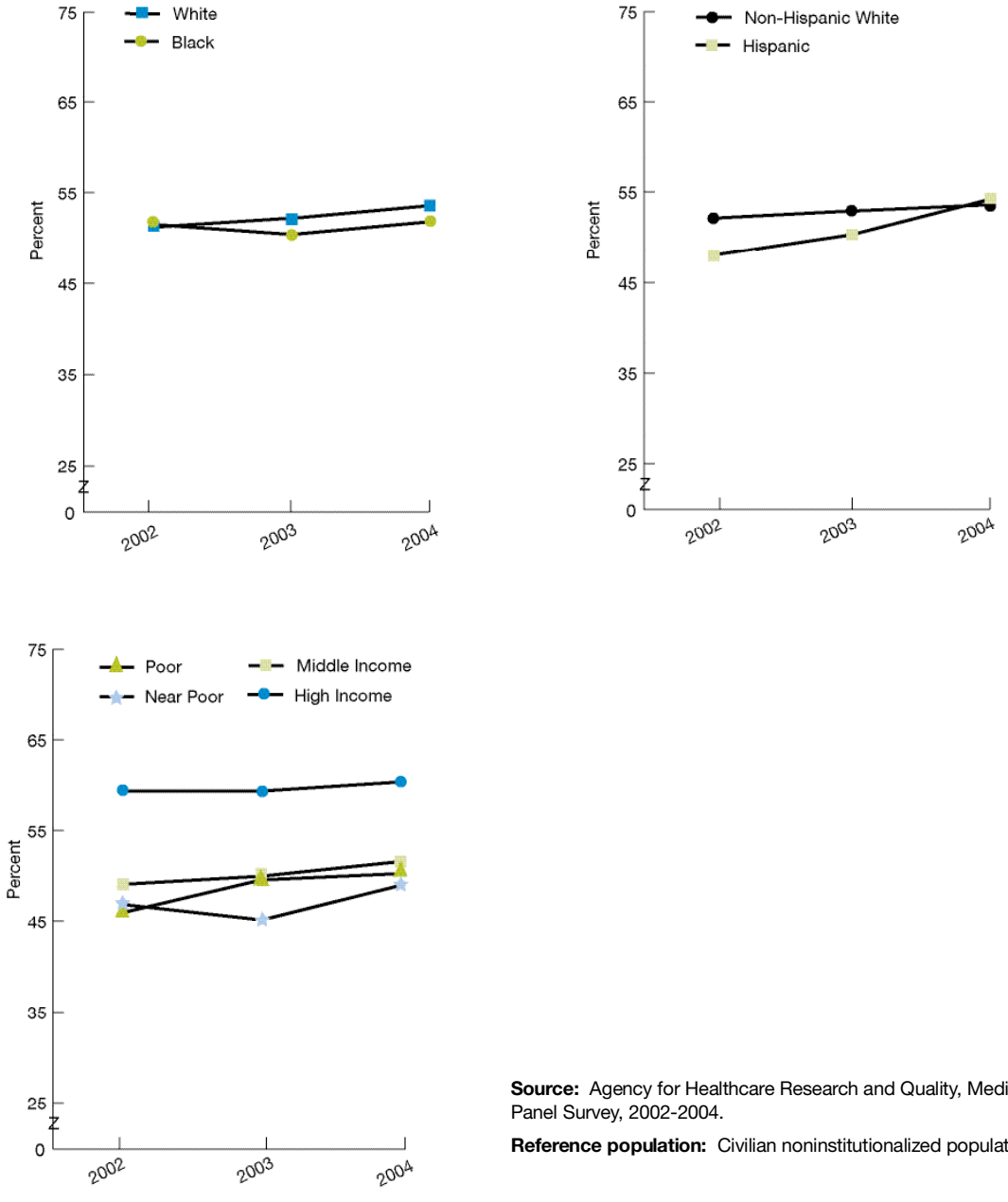
Note: Estimates were for children whose parents or guardians were told the child was overweight. "Mexican Americans" are shown in place of Hispanics because this is how data are collected by the data source.

- Overall, 38.8% of overweight children ages 2-19 or their parents or guardians were told by a health care provider that they were overweight (Figure 4.42).
- No statistically significant differences in overweight children being told by a health care provider that they were overweight were observed between any populations.
- In no group were even half of overweight children told they were overweight.

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 them develop eating habits that will last into adulthood, thereby influencing better long-term health.

Figure 4.43. Children ages 2-17 whose parents or guardians reported advice from a doctor or other health provider about healthy eating, by race (top left), ethnicity (top right), and income (bottom left), 2002-2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

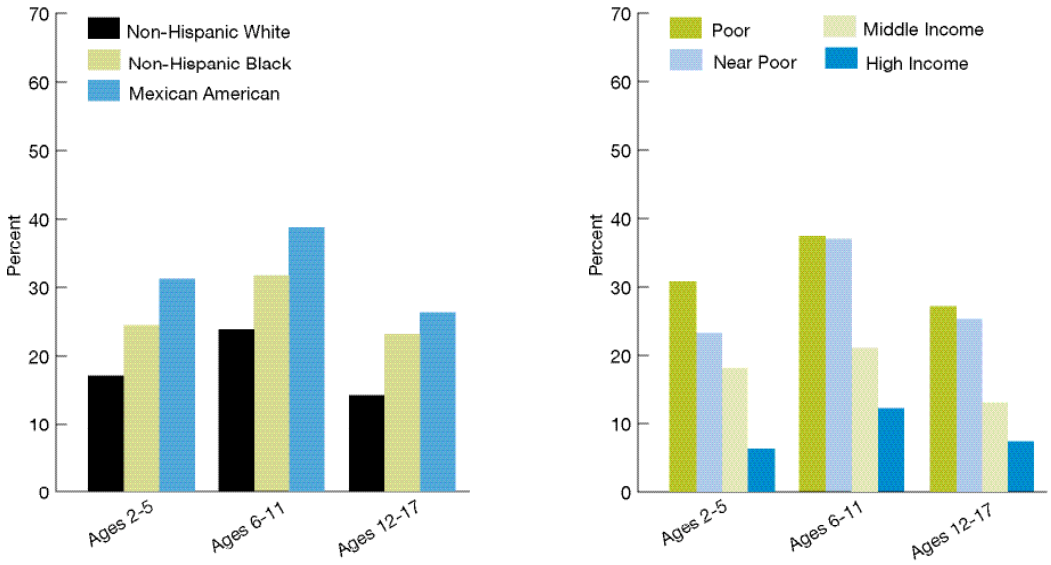
Reference population: Civilian noninstitutionalized population ages 2-17.

- From 2002 to 2004, the gap between poor and high income families in the proportion of children whose parents or guardians reported advice from a health provider about healthy eating remained the same (Figure 4.43). In 2004, the proportion of children whose parents or guardians reported advice from a health provider about healthy eating was significantly lower for children from poor (50.3%), near poor (49%), and middle income (51.6%) families than for children from high income families (60.4%).
- Significant differences by race and ethnicity were not observed.

Prevention: Dental Care

Regular dental visits promote prevention, early diagnosis, and optimal treatment of craniofacial diseases and conditions,[50] including prevention of dental caries. Healthy People 2010's goals for reductions in childhood dental caries include decreases from 18% to 11% for children ages 2-4 and from 61% to 51% for 15-year-olds, and the goals for reduction in childhood untreated decays include decreases from 16% to 9% for ages 2-4 and from 20% to 15% for 15-year-olds.[51]

Figure 4.44. Children ages 2-5, 6-11, and 12-17 with untreated dental caries, by race/ethnicity (left) and income (right), 1999-2004



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, 1999-2004.

Reference population: Civilian noninstitutionalized population ages 2-5, 6-11, and 12-17.

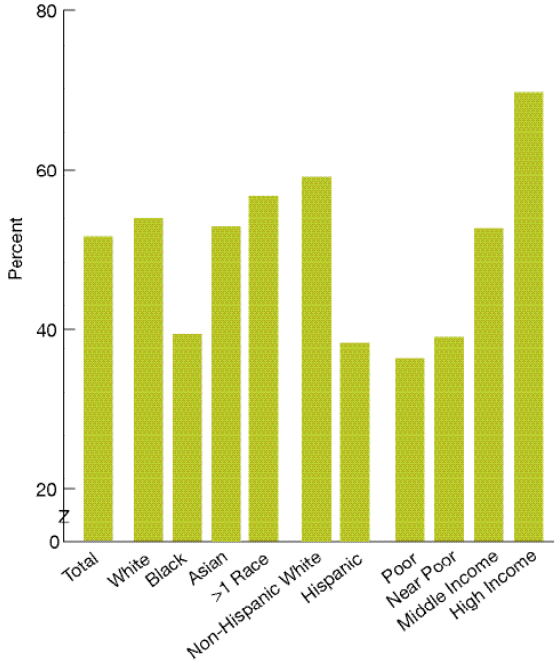
Note: In the survey, children ages 2-5 were examined for untreated dental caries in their primary teeth, children ages 6-11 were examined for both primary and permanent teeth, and children ages 13-17 were examined for dental caries in their permanent teeth. These data were collected for Mexican Americans rather than all Hispanics. Whites and Blacks are non-Hispanics. Data from 1999-2004 were pooled to get sufficient sample sizes for analyses.

- During the period 1999-2004, the proportion of children ages 2-5 with untreated dental caries was higher for Blacks (24.4%) and Mexican Americans (31.2%) than for Whites (17.0%); it also was higher for poor (30.8%), near poor (23.2%), and middle income children (18.2%) than for high income children (6.3%; Figure 4.44).

- For this time period, the proportion of children ages 6-11 with untreated dental caries was higher for Blacks (31.6%) and Mexican Americans (38.8%) than for Whites (23.7%), and it was higher for poor (37.3%), near poor (36.9%), and middle income children (21%) than for high income children (12.1%).
- The proportion of children ages 12-17 with untreated dental caries was higher for Blacks (23.1%) and Mexican Americans (26.2%) than for Whites (14.2%), and it was higher for poor (27.2%), near poor (25.4%), and middle income children (13.0%) than for high income children (7.2%).

To improve overall oral health, Healthy People 2010 also set a goal of increasing the percentage of persons age 2 and older using the oral health system annually from 44% to 56%.

Figure 4.45. Children ages 2-17 with a dental visit in the past year, by race, ethnicity, and income, 2004



Source: Agency for Healthcare Research and Quality, Medical ExpenditurePanel Survey, 2004.

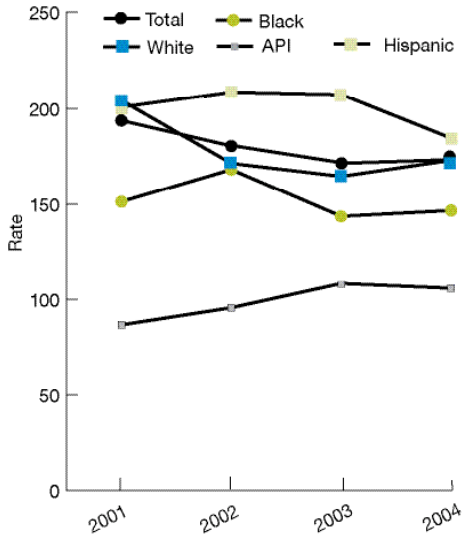
Reference population: Civilian noninstitutionalized population ages 2-17.

- In 2004, the proportion of children with a dental visit in the past year was lower for Blacks than for Whites (39.3% compared with 53.9%) and for Hispanics than for non-Hispanic Whites (38.3% compared with 59.0%).
- The proportion of children with a dental visit in the past year was also lower for poor (36.3%), near poor (39.0%), and middle income (52.6%) children compared with high income children (69.6%; Figure 4.45).

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 4.46. Hospital admissions for pediatric gastroenteritis per 100,000 population ages 4 months to 17 years, by race/ethnicity, 2001-2004



Key: API = Asian or Pacific Islander.

Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) disparities analysis file, 2001-2004. The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population.

Denominator: Children ages 4 months to 17 years.

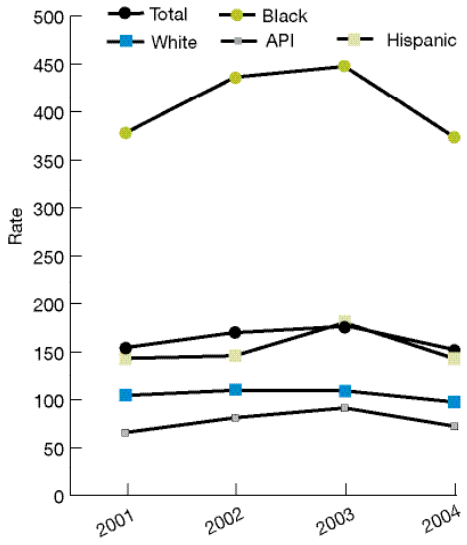
Note: White, Black, and API are non-Hispanic groups.

- From 2001 to 2004, the gap in the rate of pediatric gastroenteritis admissions between Blacks and Whites and between APIs and Whites decreased (Figure 4.46). In 2004, admissions for pediatric gastroenteritis were significantly lower for Black children (146.7 per 100,000) and API children (105.8 per 100,000) than for White children (173.1 per 100,000).

Management: Hospital Admissions for Pediatric Asthma

Children are more likely than adults to have asthma. The prevalence rate for children under age 18 is 83 per 1,000, while the prevalence rate for adults age 18 and older is 68 per 1,000.[52] Emergency room visit rates for asthma are highest among children under age 5 (62 per 10,000 population). Proper outpatient treatment of asthma may prevent hospitalization, and lower hospitalization rates may reflect access to better quality care. Differences in rates may also vary across racial and ethnic groups due to differences in prevalence.

Figure 4.47. Pediatric asthma admissions per 100,000 population ages 2-17 years, by race/ethnicity, 2001-2004



Key: API = Asian or Pacific Islander.

Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) disparities analysis file, 2001-2004. The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population.

Denominator: Children ages 2-17.

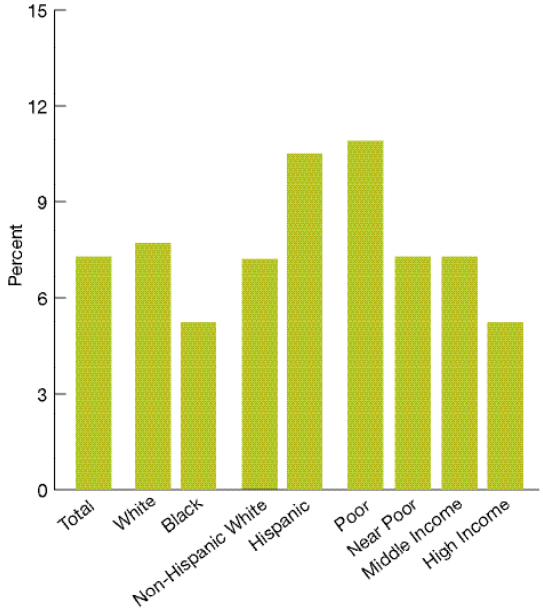
Note: White, Black, and API are non-Hispanic groups.

- From 2001 to 2004, the gap between Whites and other racial/ethnic groups in the rate of pediatric asthma admissions remained the same (Figure 4.47).
- In 2004, the rate of pediatric asthma admissions was significantly higher for Black children (373.9 per 100,000) and Hispanic children (143.7 per 100,000) than for White children (97.8 per 100,000).
- In 2004, the rate was significantly lower for API children (72.7 per 100,000) than for White children (97.8 per 100,000).
- No population has yet achieved the Healthy People 2010 target of 17.3 pediatric asthma admissions per 100,000 population ages 2-17.

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 4.48. Children under age 18 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, ethnicity, and income, 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

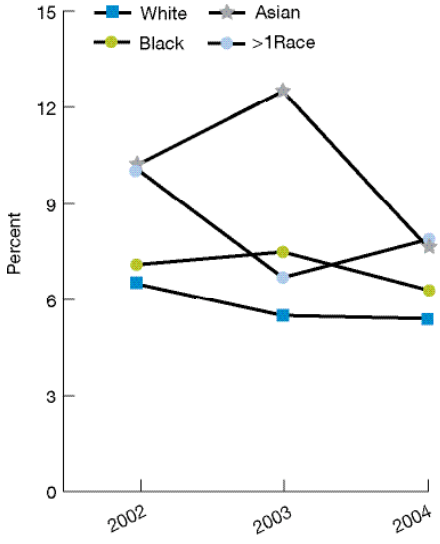
Reference population: Civilian noninstitutionalized population under age 18.

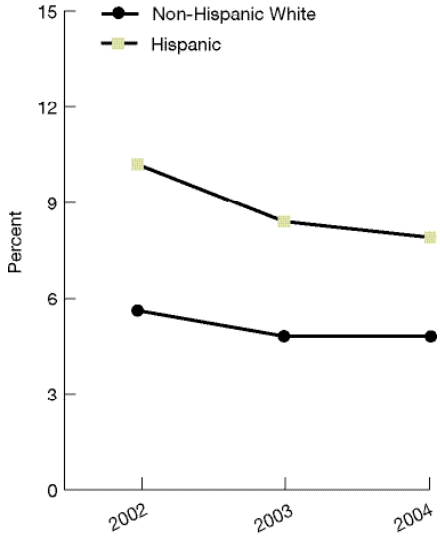
- The proportion of children who sometimes or never got care for illness or injury as soon as wanted was significantly higher for children from poor families than for children from high income families (10.9% compared with 5.2%; Figure 4.48).
- There were no significant differences observed between Blacks and Whites and between Hispanics and non-Hispanic Whites.

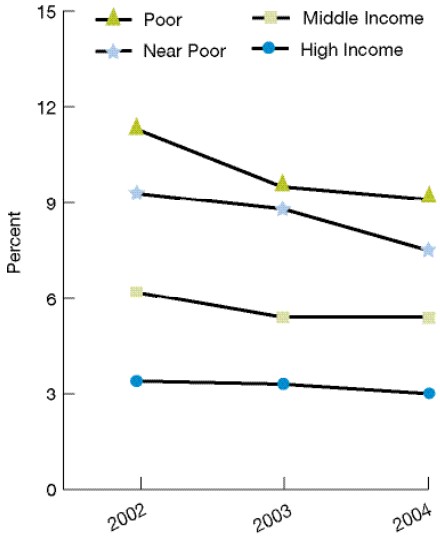
Patient Centeredness: Communication With Health Providers

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 decision-making. 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 4.49. Composite measure: Ambulatory patients (children under age 18) whose parents or guardians reported poor communication with health providers, by race (this page left), ethnicity (this page right), and family income (next page), 2002-2004







Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

Composite measure includes the following measures: Children under 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, or spent enough time with them.

Denominator: Civilian noninstitutionalized population under age 18.

Note: Average percentage of children who had a doctor's office or clinic visit in the last 12 months and were reported to have had poor communication with health providers (i.e., that their health providers sometimes or never listened carefully, explained things clearly, showed respect for what they had to say, or spent enough time with them).

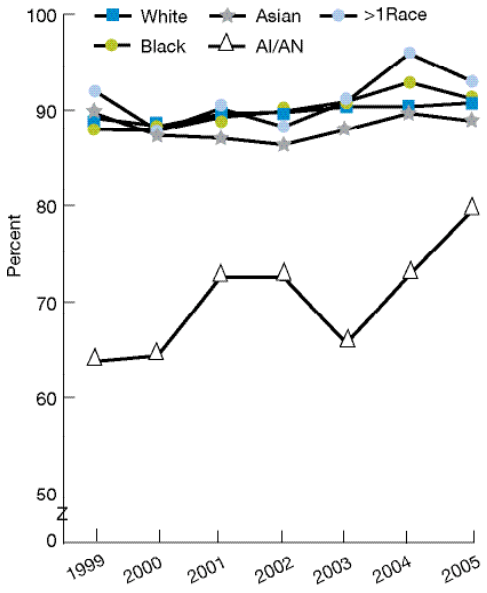
- In 2004, there were no significant differences between Blacks, Asians, and Whites in the proportion of children whose parents or guardians reported poor communication with their health providers.
- From 2002 to 2004, the gap between Hispanics and non-Hispanic Whites in the proportion of children whose parents or guardians reported poor communication with their health providers decreased (Figure 4.49). In 2004, the proportion was significantly higher for Hispanics than non-Hispanic Whites (7.9% compared with 4.8%).
- The gap between poor people and high income people in the proportion with poor communication remained the same. In 2004, the proportion was significantly higher for poor (9.1%), near poor (7.5%), and middle income (5.4%) persons than for high income persons (3.0%).

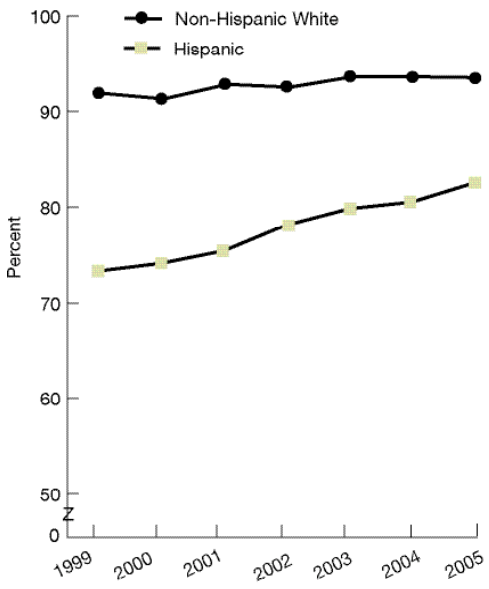
Access to Health Care

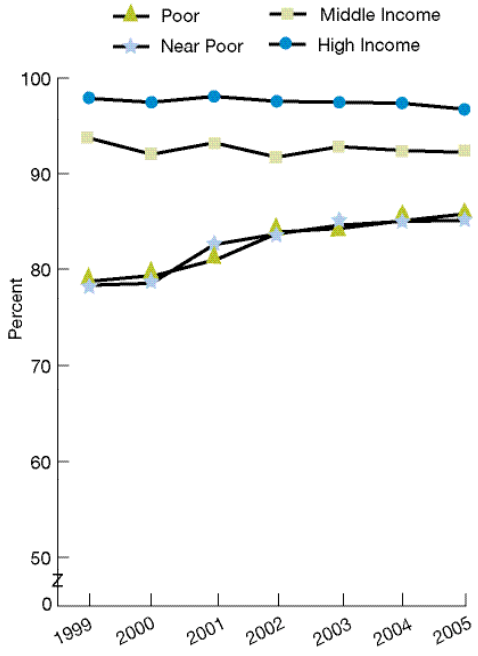
Health Insurance

Insurance coverage is among the most important factors in access to health care. Special efforts have been made to provide insurance coverage to children.[53]

Figure 4.50. Children under age 18 with health insurance, by race (top left), ethnicity (top right), and family income (bottom), 1999-2005







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

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 1999-2005.

Reference population: Civilian noninstitutionalized population under age 18.

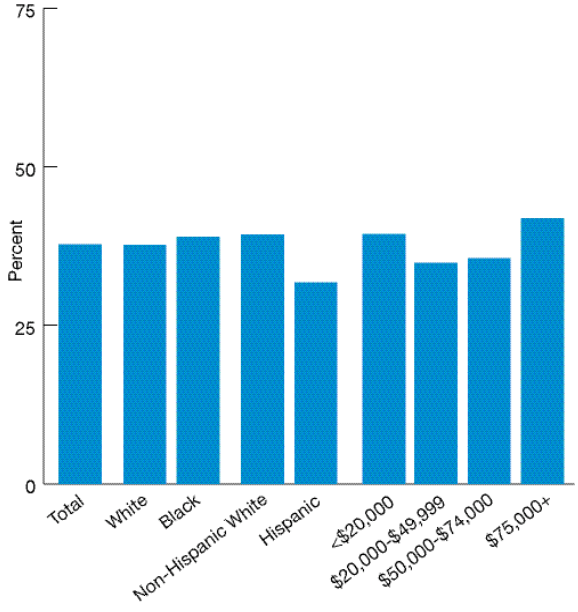
Note: Insurance status is determined at the time of interview. Children are considered uninsured if they lack private health insurance, public assistance (including the State Children's Health Insurance Program), Medicare, Medicaid, a State-sponsored health plan, other government-sponsored programs, or a military health plan, or if their only coverage is through the Indian Health Service. This measure reflects the percentage of children who were covered by health insurance at the time of the interview.

- From 1999 to 2005, the gap between AI/ANs and Whites, between Hispanics and non-Hispanic Whites, and between poor and high income people in the proportion of children with health insurance decreased (Figure 4.50).
- In 2005, the proportion of children with health insurance was significantly lower for AI/AN children than for White children (79.5% compared with 90.8%).
- In 2005, the proportion of children with health insurance was significantly lower for Hispanic children than for non-Hispanic White children (82.5% compared with 93.5%).
- In 2005, the proportion of children with health insurance was significantly lower for poor (85.7%) and near poor children (85.0%) than for high income children (96.8%).

Mental Health Care

The prevalence of mental disorders for racial and ethnic minorities in the United States is similar to that for Whites,[54] but previous research has shown evidence that minorities have less access to mental health care and are less likely to receive needed services.[55] These differences may reflect, in part, socioeconomic status and variation in preferences and cultural attitudes toward mental health and mental health care. Among children and adolescents, the most frequently diagnosed mood disorders are major depressive disorder, dysthymic disorder, and bipolar disorder.[54] Because mood disorders such as depression substantially increase the risk of suicide, suicidal behavior is a matter of serious concern for clinicians who deal with the mental health problems of children and adolescents.[54]

Figure 4.51. 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, 2005



Source: Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2005.

Note: Data for Asians, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and multiple races did not meet criteria for statistical reliability due to small sample sizes.

Reference population: U.S. population ages 12-17 with a major depressive episode in the past year.

- There were no statistically significant differences on the basis of race, ethnicity, or family income in the proportion of children ages 12-17 with a major depressive episode who received treatment for depression in the past year (Figure 4.51).
- In 2005, in no group did even half of children ages 12-17 with a major depressive episode receive treatment for depression in the past year.

Elderly

In 2005, 36.8 million persons age 65 and over lived in the United States.[56] Further, the proportion of the population over age 65 is swiftly increasing: people 65 and over represented 12.4% of the population in 2005 but are expected to grow to about 20% of the population by 2030.[57] The past century has seen significant increases in life expectancy, and 65-year-olds today can expect to live an additional 18.5 years.[1] Nonetheless, the elderly face greater health care concerns than younger populations. In 2006, 38.9% of noninstitutionalized older persons assessed their health as excellent or very good, compared with 65.1% of persons ages 18-64,[58] and the majority of older persons have at least one chronic condition.

Older women outnumber older men by over one-third.[59] Members of minority groups are projected to represent over 25% of the elderly in 2030, up from about 16% in 2000. About 3.6 million elderly lived below the poverty level in 2004, corresponding to a poverty rate of 9.8%.[59] Another 2.3 million, or more than 6.7% of the elderly, were classified as near poor, with incomes between 100% and 125% of the Federal poverty level.[59]

The Medicare program provides core health insurance to nearly all elderly Americans and reduces many financial barriers to acute and post-acute care services. The Medicare Prescription Drug Improvement and Modernization Act of 2003 has added 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:

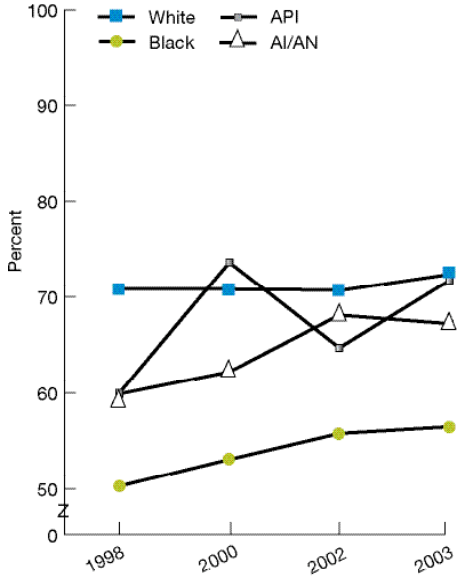
Component of health care need	Measure
Prevention	Influenza vaccination, dental care
Access to care	Delayed care due to cost

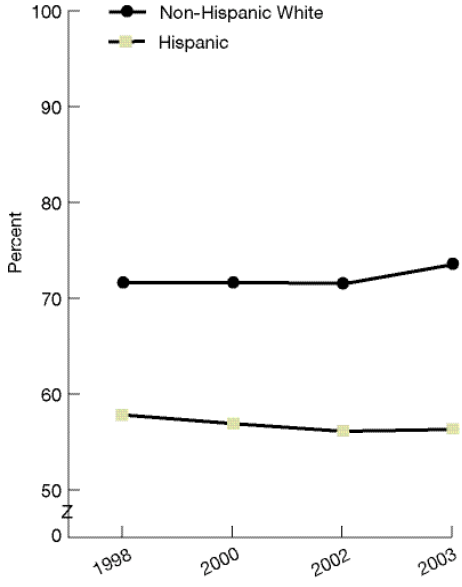
Quality of Health Care

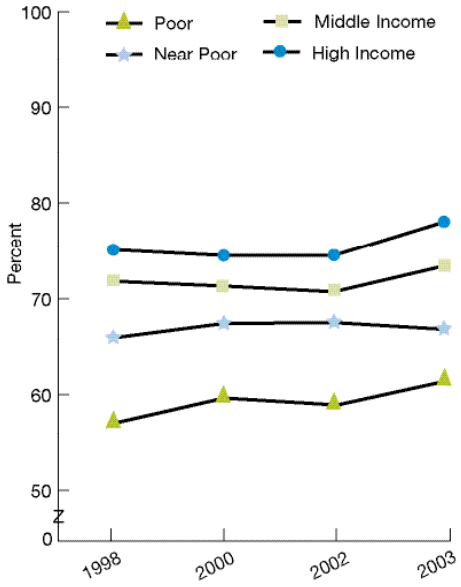
Prevention: Influenza Vaccination

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 4.52. Elderly Medicare beneficiaries with influenza vaccination in the past year by race (this page left), ethnicity (this page right), and income (next page), 1998, 2000, 2002, and 2003







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

Source: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, 1998, 2000, 2002, 2003.

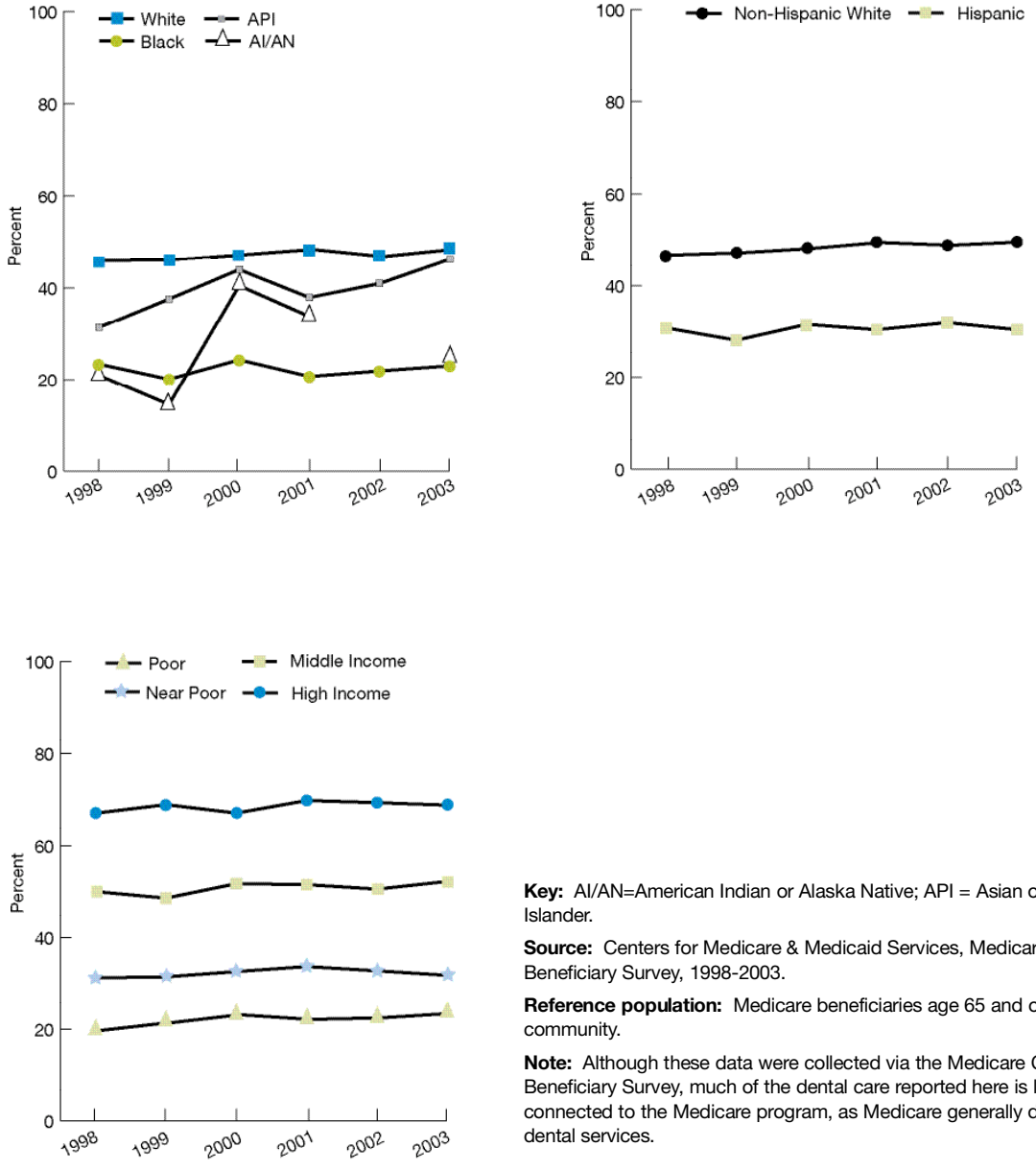
Reference population: Medicare beneficiaries age 65 and over living in the community.

- From 1998 to 2003, there were no significant changes in the proportion of elderly Medicare beneficiaries with an influenza vaccination in the past year (data not shown).
- In 2003, the proportion was significantly lower for Blacks than for Whites (56.5% compared with 72.4%; Figure 4.52).
- In 2003, the proportion was also significantly lower for Hispanics than for non-Hispanic Whites (56.3% compared with 73.5%).
- In 2003, the proportion was significantly lower for poor (61.4%), near poor (66.8%), and middle income (73.4%) beneficiaries than for high income beneficiaries (78.0%).
- In 2003, the Healthy People 2010 target of 90% of elderly Americans with influenza vaccination was not yet achieved by any population group.

Prevention: Dental Care

Regular dental visits improve prevention, early diagnosis, and optimal treatment of craniofacial diseases and conditions. Missed dental care can result in delayed diagnosis, overall compromised health, and, occasionally, even death.[60] Because dental conditions often develop across a lifetime, it is especially important for the elderly to receive regular dental care to ensure optimal treatment.

Figure 4.53. Elderly Medicare beneficiaries receiving dental care by race (top left), ethnicity (top right), and income (bottom left), 1998-2003



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

Source: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, 1998-2003.

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

Note: Although these data were collected via the Medicare Current Beneficiary Survey, much of the dental care reported here is likely not connected to the Medicare program, as Medicare generally does not cover dental services.

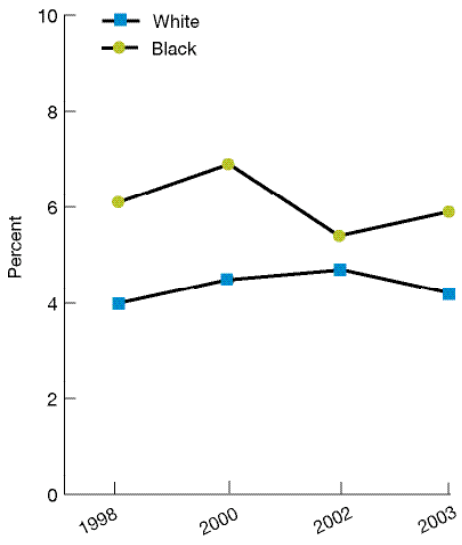
- From 1998 to 2003, the gap between Black and White elderly Medicare beneficiaries who had a dental visit remained the same. In 2003, Blacks were significantly less likely than Whites to have a dental visit (23% compared with 48.4%; Figure 4.53).
- The gap between Hispanic and non-Hispanic White elderly Medicare beneficiaries increased. In 2003, Hispanics were significantly less likely than non-Hispanic Whites to have a dental visit (30.5% compared with 49.6%).
- The gap between poor elderly Medicare beneficiaries and high income elderly Medicare beneficiaries decreased. However, in 2003, poor individuals were still less likely than high income individuals to have a dental visit (23.4% compared with 68.9%).

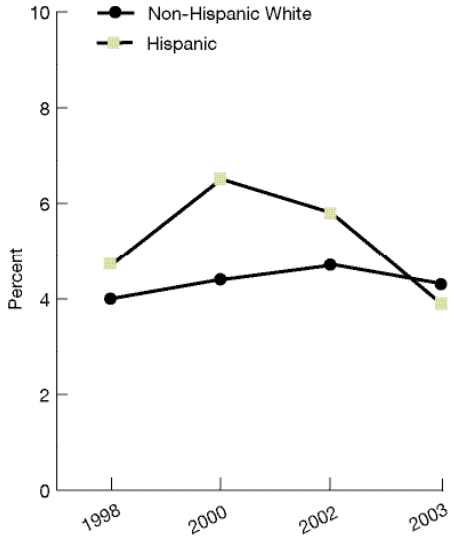
Access to Care

Delayed Care Due to Cost

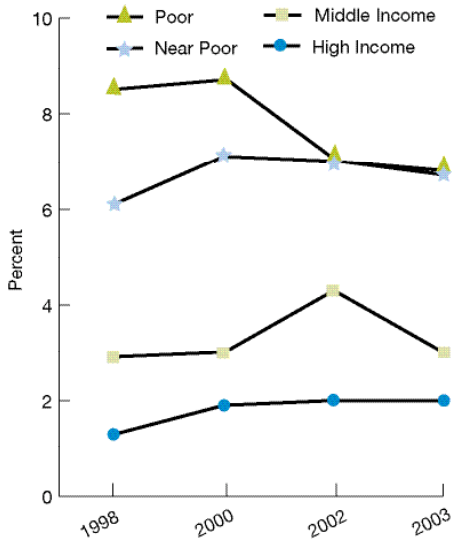
Timely delivery of appropriate care has been shown to improve health care outcomes and reduce health care costs. Timely receipt of care is especially important for the elderly due to the often increased medical needs of this population. Delayed health care can lead to diagnosis at a more advanced disease stage and reduce opportunities for optimal treatment.[xiii]

Figure 4.54. Elderly Medicare beneficiaries who delayed health care due to cost by race (this page left), ethnicity (this page right), and income (next page), 1998, 2000, 2002, and 2003





[xiii] In this measure, delayed care due to cost is self-reported by patients.



Source: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, 1998, 2000, 2002, 2003.

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

- There were no significant differences by race or ethnicity in the proportion of elderly Medicare beneficiaries who delayed health care due to cost.
- From 1998 to 2003, there were no significant changes in the gap between poor and high income people in the proportion of elderly Medicare beneficiaries who delayed care due to cost (Figure 4.54). In 2003, the percentage delaying care was significantly higher for poor (6.7%) and near poor (6.8%) beneficiaries than for high income beneficiaries (2.0%).

Residents of Rural Areas

About 1 in 5 Americans lives in a nonmetropolitan area.[61] Compared with their urban counterparts, rural residents are more likely to be elderly, poor,[62] and in fair or poor health, and to have chronic conditions.[61] Rural residents are less likely to receive recommended preventive services and report, on average, fewer visits to health care providers.[63]

Although 20% of Americans live in rural areas,[xiv] only 9% of physicians in America practice in those settings.[64] Nurse practitioners, nurse midwives, and physician assistants also help to deliver care. Multiple programs and services help to deliver needed services in rural areas, such as the National Health Service Corps Scholarship Program, Indian Health Service, State offices of rural health, rural health clinics, and community health centers. Cost-based Medicare reimbursement incentives are also available for rural health clinics, critical access hospitals, sole community hospitals, and Medicare-dependent hospitals in Health Professional Shortage areas.

Many rural residents depend on small rural hospitals for their care. There are approximately 2,000 rural hospitals throughout the country,[65] 1,500 of which have 50 or fewer beds. Most of these hospitals are critical access hospitals that have fewer than 25 beds. Rural hospitals largely provide primary care and chronic disease management. They face unique challenges due to their size and case-mix. During the 1980s, many were forced to close because of financial losses;[66] however, during the past few years, finances of small rural hospitals have improved.

Transportation needs are pronounced among rural residents, who face longer distances to reach health care delivery sites. Of the nearly 1,000 "frontier counties"[xv] in the Nation, most have limited health care services and many do not have any.[67]

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	Measure
Prevention	Prenatal care/maternal health
Treatment	Inpatient deaths from heart attack
Management	Receipt of recommended services for diabetes
Timeliness	Care for illness or injury as soon as wanted
Access to care	Health insurance

In previous NHDRs, detailed geographic typologies were applied to two AHRQ databases—the Medical Expenditure Panel Survey (MEPS) and the Healthcare Cost and Utilization Project (HCUP)—to define variations in health care quality and access for a range of rural and urban locations. This year, in addition to

[xiv] 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.

[xv] "Frontier counties" have a population density of less than 7 persons per square mile; residents travel long distances for care.

presenting data from MEPS and HCUP, the NHDR presents a measure from the National Vital Statistics System—Natality (NVSS-Natality). Federal definitions of micropolitan and noncore statistical areas (not metropolitan or micropolitan areas) published in June 2003 are used.[68] 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.

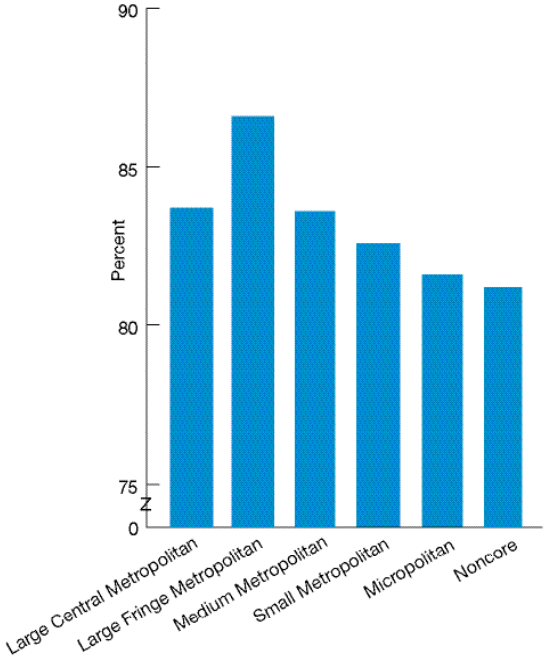
Urban-rural contrasts for measures from MEPS and HCUP compare residents of rural statistical areas (including both micropolitan and noncore statistical areas) with residents of urban statistical areas (including both large and small metropolitan statistical areas). For the measure from the NVSS-Natality, residents of rural statistical areas (including both micropolitan and noncore statistical areas) are compared with residents from more specific urban statistical areas (including large central metropolitan, large fringe metropolitan, medium metropolitan, and small metropolitan). 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: Prenatal Care/Maternal Health

Childbirth and reproductive care are the most common reasons for women of childbearing age to use health care, and childbirth is the most common reason for hospital admission.[69] It is recommended that women begin receiving prenatal care in the first trimester of pregnancy.

Figure 4.55. Pregnant women with prenatal care in the first trimester, by geographic location, 2004



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System - Natality, 2004.

Reference population: Women with live births.

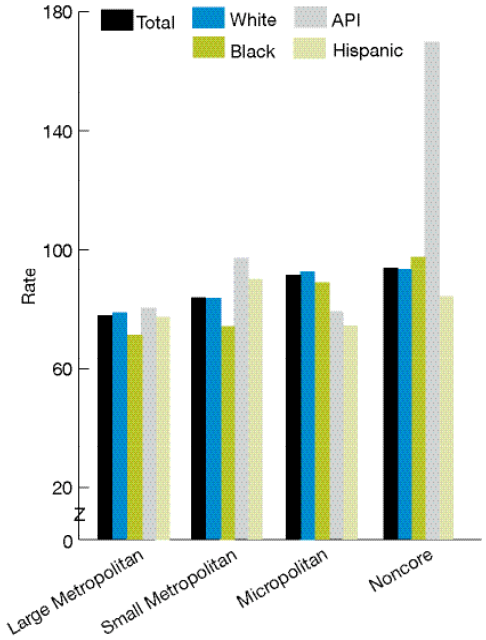
Note: Sample sizes were too small to provide estimates by race, ethnicity, income, or education. Large central metropolitan = >1 million and meets one of the following criteria: (1) contains entire population of largest principal city in the metropolitan statistical area, (2) entire population resides in the largest principal city in the metropolitan statistical area, or (3) contains at least 250,000 of the population of any principal city in the metropolitan statistical area; large fringe metropolitan = >1 million but does not qualify as large central; medium metropolitan = counties in a metropolitan statistical area of 250,000-999,999 population; small metropolitan = counties in a metropolitan statistical area of 50,000-249,999 population; micropolitan = urban area >10,000 and <50,000 inhabitants; noncore = not metropolitan or micropolitan.

- In 2004, there were no significant differences observed in the proportion of women who initiated prenatal care in the first trimester (Figure 4.55).
- No metropolitan statistical area, regardless of size, achieved the Healthy People 2010 target of 90% of pregnant women receiving prenatal care in the first trimester.

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 over 654,486 deaths in 2004.[70] About 1.2 million heart attacks occur each year.[71] 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 4.56. Deaths per 1,000 adult admissions with heart attack as principal diagnosis, by race/ethnicity and geographic location, 2004



Key: API = Asian or Pacific Islander.

Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases (HCUP SID) disparities analysis file, 2004. The HCUP SID disparities analysis file is designed to provide national estimates using weighted records from a sample of hospitals from 23 States that have 64% of the U.S. resident population.

Denominator: Adults age 18 and older hospitalized for heart attack in community hospitals.

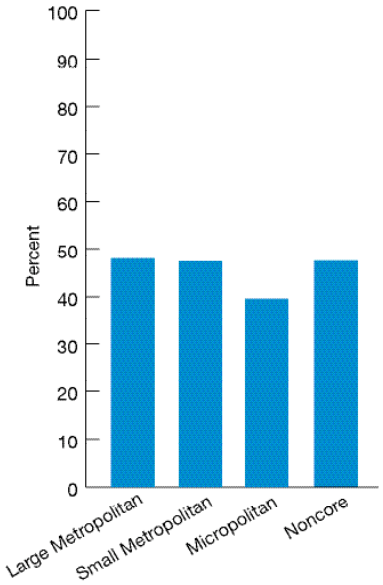
Note: White, Black, and API are non-Hispanic groups. Large metropolitan = metropolitan area >1 million inhabitants; small metropolitan = metropolitan area <1 million inhabitants; micropolitan = urban area >10,000 and <50,000 inhabitants; noncore = not metropolitan or micropolitan.

- The overall AMI mortality rate was significantly higher for persons admitted to hospitals in noncore areas (94.1 per 1,000 admissions) than for persons living in large or small metropolitan areas (78.1 per 1,000 and 83.9 per 1,000 admissions, respectively; Figure 4.56).
- The overall rate was also significantly higher for persons admitted to hospitals in micropolitan areas than for persons living in large metropolitan areas (91.5 per 1,000 compared with 78.1 per 1,000 admissions).
- In large metropolitan areas, the AMI mortality rate was lower for Blacks than for Whites (71.5 per 1,000 compared with 79.0 per 1,000).
- In small metropolitan areas, the rate was lower for Blacks (74.4 per 1,000) but higher for APIs (97.4 per 1,000) and Hispanics (90.1 per 1,000) compared with Whites (83.7 per 1,000).
- In micropolitan areas, the rate was lower for APIs (79.4 per 1,000) and for Hispanics (74.5 per 1,000) than for Whites (92.5 per 1,000).
- In noncore areas, the rate was significantly higher for APIs than for Whites (169.9 per 1,000 compared with 93.5 per 1,000).

Management: Receipt of Recommended Services for Diabetes

The NHDR presents a composite measure that tracks receipt of three recommended services for effective management of diabetes: HbA1c testing, eye examination, and foot examination in the past year.

Figure 4.57. Adults age 40 and over with diagnosed diabetes who had three recommended services for diabetes in the past year, by geographic location, 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Civilian noninstitutionalized population of adults age 40 and over.

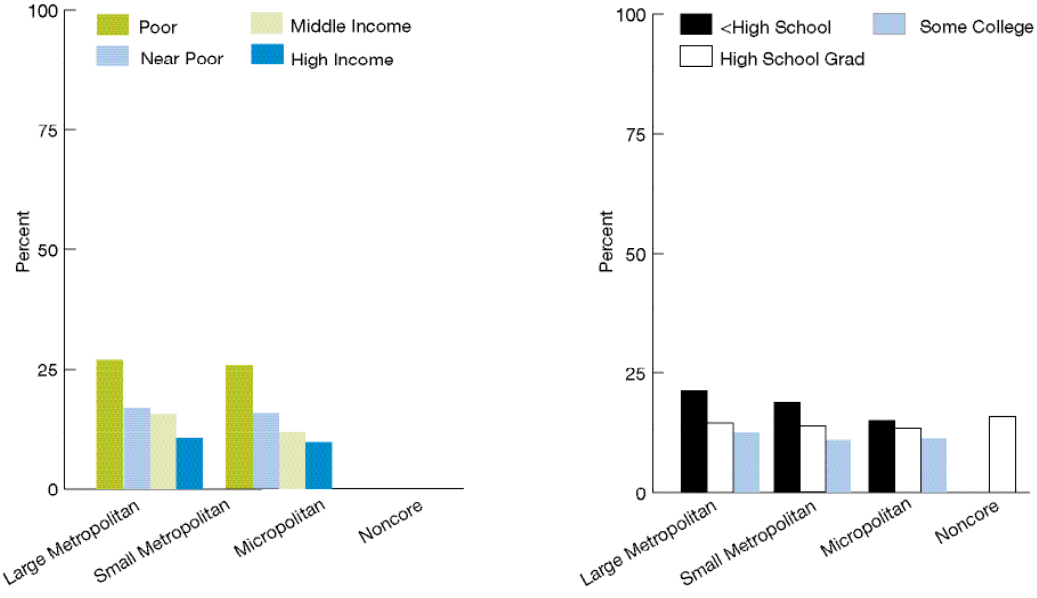
Note: Recommended services for diabetes are (1) HbA1c testing, (2) retinal eye examination, and (3) foot examination in past year. Sample sizes were too small to provide estimates by race, ethnicity, income, or education. Large metropolitan = metropolitan area >1 million inhabitants; small metropolitan = metropolitan area <1 million inhabitants; micropolitan = urban area >10,000 and <50,000 inhabitants; noncore = not metropolitan or micropolitan.

- Significant differences for persons from large and small metropolitan, micropolitan, and noncore areas were not observed in the proportion of adults age 40 and over with diabetes who received three recommended services (Figure 4.57).

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 4.58. 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, 2004



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Civilian noninstitutionalized population age 18 and over.

Note: Large metropolitan = metropolitan areas >1 million inhabitants; small metropolitan = metropolitan areas <1 million inhabitants; micropolitan = urban area >10,000 and <50,000 inhabitants; noncore = <10,000. Data are not available for income groups in noncore areas.

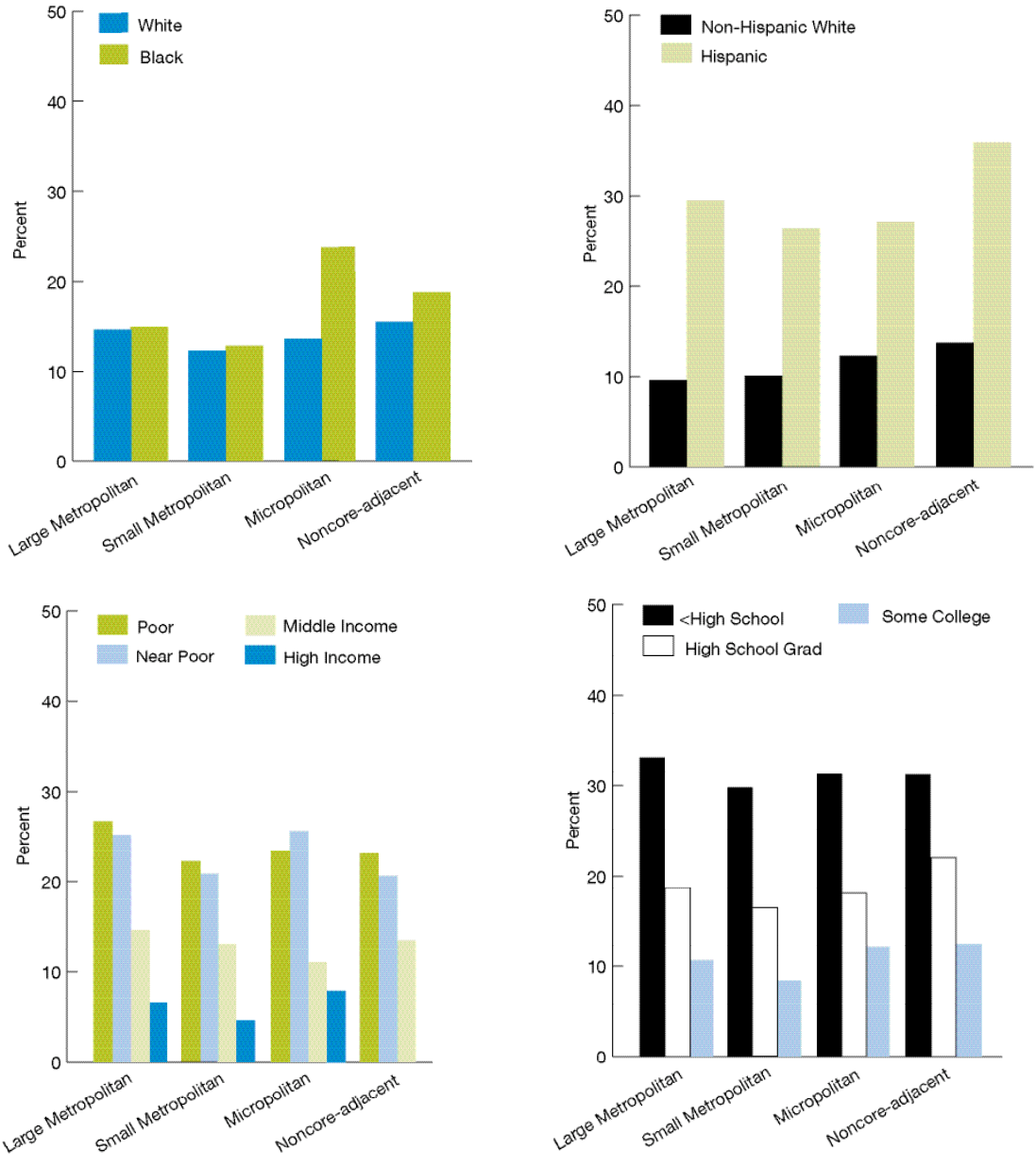
- There were no significant differences observed in the overall rate of adults who sometimes or never get care for illness or injury as soon as wanted (Figure 4.58).

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 (no insurance coverage for a full year) are presented.

Figure 4.59. 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, 2004



Notes on next page

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

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; noncore-adjacent = not metropolitan or micropolitan. Estimates for noncore-not adjacent areas and for high income persons from noncore-adjacent areas did not meet criteria for statistical reliability and are not reported here.

- There were no significant differences between persons from large metropolitan areas and persons from micropolitan or noncore-adjacent (rural) areas in the overall proportion of adults under age 65 uninsured all year (data not shown; Figure 4.59).
- The overall proportion of adults under age 65 uninsured all year was significantly higher among persons from noncore-adjacent statistical areas (15.4%) compared with persons from small metropolitan areas (12.4%; data not shown). There was no significant difference between persons from micropolitan areas compared with small metropolitan areas.
- In large metropolitan areas, the proportion uninsured was significantly higher for Hispanics compared with non-Hispanic Whites (29.5% compared with 9.6%); for poor (26.7%), near poor (25.2%), and middle income persons (14.6%) compared with high income persons (6.5%); and for persons with less than a high school education compared with persons with some college (33.1% compared with 10.6%; Figure 4.59).
- In small metropolitan areas, the proportion was significantly higher for Hispanics compared with non-Hispanic Whites (26.3% compared with 10.0%); for poor (22.2%), near poor (20.8%), and middle income persons (13.1%) compared with high income persons (4.6%); and for persons with less than a high school education compared with persons with some college (29.7% compared with 8.4%).
- In micropolitan areas, the rate was higher for Blacks compared with Whites (23.6% compared with 13.6%), for Hispanics compared with non-Hispanic Whites (27.1% compared with 12.3%), for poor (23.5%) and near poor persons (25.6%) compared with high income persons (7.9%), and for persons with less than a high school education compared with persons with some college (31.3% compared with 12%).
- In noncore-adjacent areas, the proportion was significantly higher for Hispanics compared with non-Hispanic Whites (36% compared with 13.3%) and for persons with less than a high school education compared with persons with some college (32.4% compared with 13.2%).

Individuals With Disabilities and Special Health Care Needs

Individuals with disabilities and special health care needs include persons with disabilities; persons who utilize nursing home care, home health care, or end-of-life health care; and children with special heath care needs (CSHCN). Many measures of relevance to individuals with special health care needs are tracked in the NHDR.

In this year's report, data on quality and access are presented for adults with disabilities and for CSHCN. The section on adults with disabilities uses data from the Medical Expenditure Panel Survey (MEPS) and is new for this year's report; the goal for future NHDRs is to include even more information about individuals with disabilities using MEPS and other data sources such as the National Health Interview Survey and Medicare Current Beneficiary Survey, as well as data for children with disabilities. As in previous reports, data on quality and access are presented for CSHCN.

Adults With Disabilities

Component of health care need	Measure
Prevention	Counseling obese adults about exercise
Safety	Inappropriate medication use by the elderly
Access to care	Delayed care[xvi]

Children With Special Health Care Needs

Component of health care need	Measure
Timeliness	Care for illness or injury as soon as wanted
Patient centeredness	Poor communication with health providers

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.

[xvi] This is a supplemental measure of the NHDR measure set.

Adults With Disabilities

This year, the NHDR aims to include more information about individuals with disabilities than in previous iterations of the report. In reaching this goal, AHRQ convened a disabilities subgroup of the NHQR/NHDR Interagency Work Group, with the assistance of the Interagency Subcommittee on Disability Statistics (ISDS) of the Interagency Committee on Disability Research. The charge to this group was to advise AHRQ on measures of disabilities from existent data that could track disparities in quality and access to care for individuals with disabilities for the NHDR and that would be comparable across national surveys. For this initial effort, the subgroup focused on measures for the adult population, the population for whom there were the most existing survey data.

Several ways of defining and measuring disability exist. Among the more common approaches are to identify individuals who have problems performing everyday functions such as vision, hearing, communication, self-care, mobility, learning, and behavior; have difficulty with complex activities such as working; or meet the eligibility criteria for important income maintenance or training programs (e.g., SSDI [Social Security Disability Income] or vocational rehabilitation). However, 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 collect it in the same way.

The International Classification of Functioning, Disability and Health (ICF)[72] was adopted by the disabilities subgroup as a model to guide the deliberations. Questions and response categories for three national surveys—the National Health Interview Survey, the Medical Expenditure Panel Survey, and the Medicare Current Beneficiary Survey—were carefully reviewed by the subgroup for consistencies and discrepancies in measurement of the major domains of disabilities in the ICF.

For the 2007 NHDR, AHRQ is using a broad, inclusive measure of disability that is intended to be consistent with statutory definitions of disability, such as the first criterion of the 1990 Americans with Disabilities Act (i.e., having a physical or mental impairment that substantially limits one or more major life activities[73, 74]) and other Federal program definitions of disability. For the purpose of the NHDR, people with disabilities are those with physical, sensory, and/or mental health conditions that can be associated with a decrease in functioning in such day-to-day activities as bathing, walking, doing everyday chores, and/or engaging in work or social activities.

In displaying the data on disability, paired measures are shown to preserve the qualitative aspects of the data:

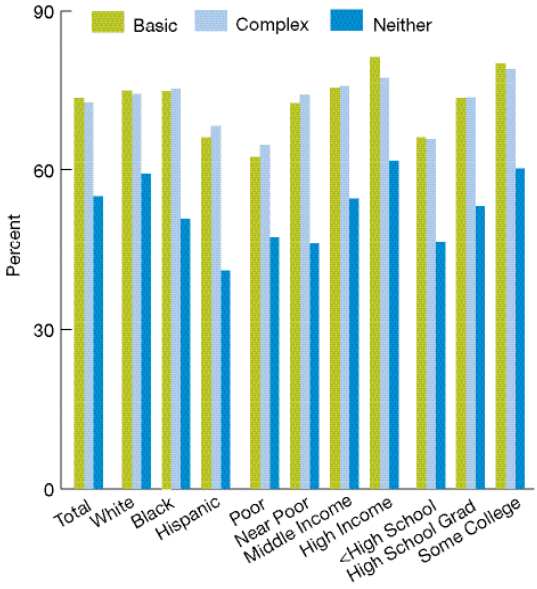
- Limitations in *basic* activities represent problems with mobility and other basic functioning at the person level.
- Limitations in *complex* activities represent limitations encountered when the person, in interaction with the environment, attempts to participate in community life.

The use of the subgroup's recommendation of these paired measures of basic and complex activity limitations is conceptually similar to the way others have divided disability[3, 75] and is consistent with the ICF separation of activities and participation domains.[1] These two categories are not mutually exclusive; persons may have limitations both in basic activities and in complex activities. For the purpose of comparisons, data on adults with and without disabilities are presented.

Prevention: Counseling Obese Adults About Exercise

Counseling obese adults about exercise is an important component of effective weight management, particularly for adults with disabilities, because adults with disabilities are more likely to be obese or overweight than other adults. An estimated 37.7% of adults with basic activity limitations and 39.7% of adults with complex activity limitations are obese, compared with 23.8% of adults with neither basic nor complex activity limitations.[76] This finding is consistent with other studies.[77,78]

Figure 4.60. Obese adults who were ever given advice by a doctor or other health professional about exercise, by race/ethnicity, income, education, and activity limitation, 2004



Key: Basic = basic activity limitation (i.e., limitation in mobility or other basic person-level functioning); complex = complex activity limitation (i.e., limitation in ability to participate in community life); neither = neither basic nor complex activity limitations.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Adults age 18 and over living in the community.

Note: Whites and Blacks are non-Hispanic groups.

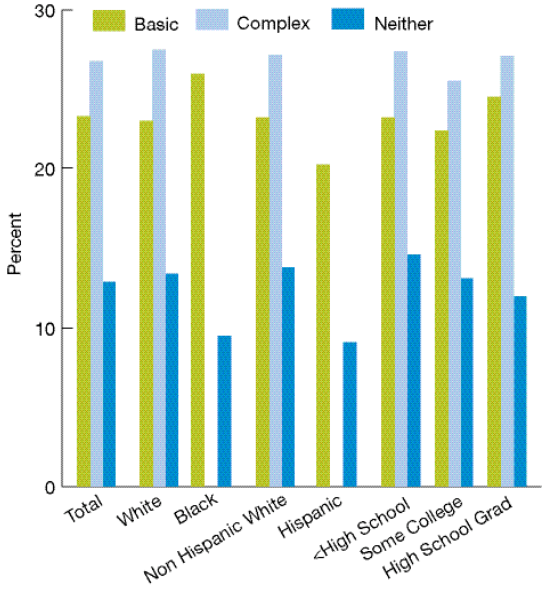
- For the total adult population, obese persons with basic and complex activity limitations were significantly more likely than obese persons with neither limitation to receive advice about exercise. Of obese adults, approximately 73.6% of those with basic activity limitations and 72.8% of those with complex activity limitations received advice about exercise, compared with 55.0% of those with neither limitations (Figure 4.60).
- For each racial, ethnic, income, and education group, obese adults with basic and complex activity limitations were significantly more likely than obese adults with neither limitation to receive advice about exercise.
- Differences between obese adults with basic activity limitations and those with complex activity limitations in the proportion receiving advice about exercise were not significant, regardless of racial/ethnic, income, or education group.
- Among obese persons with neither basic nor complex activity limitation, receiving advice about exercise was significantly less likely for Blacks and Hispanics than Whites; poor, near poor, and middle income persons than high income persons; and persons with a high school education or less than persons with some college.

- Among obese adults with basic activity limitations, poor and near poor persons were significantly less likely than high income persons, and persons with less than a high school education were significantly less likely than those with some college, to receive advice about exercise.
- Among obese persons with complex activity limitations, poor persons were significantly less likely than high income persons, and persons with less than a high school education were significantly less likely than those with some college, to receive advice about exercise.

Safety: Inappropriate Medication Use by the Elderly

Appropriate use of medications is particularly important for the elderly, since the elderly have higher use of medications than others.[79] The NHDR tracks the percentage of adults age 65 and over who had at least 1 prescription from a list of 33 medications considered usually inappropriate for this age group.

Figure 4.61. Adults age 65 and over with inappropriate medication use, by race, ethnicity, education, and activity limitation, 2004



Key: Basic = basic activity limitation (i.e., limitation in mobility or other basic person-level functioning); complex = complex activity limitation (i.e., limitation in ability to participate in community life); neither = neither basic nor complex activity limitation.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Adults age 65 and over living in the community.

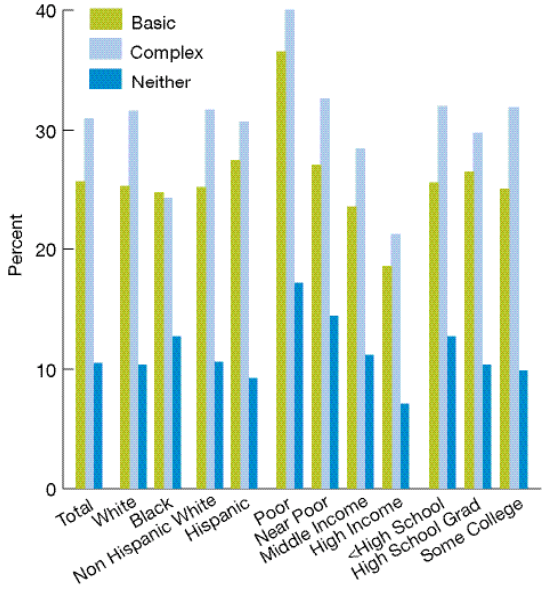
Note: Data for Blacks and Hispanics with complex activity limitations do not meet the criteria for statistical reliability, data quality, or confidentiality and therefore are not shown.

- For all adults age 65 and over, persons with basic and complex activity limitations were significantly more likely than persons with neither limitation to have used 1 of 33 inappropriate medications (Figure 4.61).
- Among adults age 65 and over, approximately 23.3% of those with basic activity limitations and 26.8% of those with complex activity limitations have used 1 of 33 inappropriate medications, compared with 12.9% of those with neither.
- For both Whites and Blacks, for non-Hispanic Whites and Hispanics, and for each education group, adults age 65 and over with basic and complex activity limitations were significantly more likely than persons with neither limitation to have used 1 of the 33 inappropriate medications.
- Among adults age 65 and over with neither basic nor complex activity limitations, non-Hispanic Whites were significantly more likely than Hispanics to have used 1 of the 33 inappropriate medications.
- Significant differences in inappropriate medication use were not observed for any of the other racial, ethnic, or education comparisons by specific activity limitation group (neither, basic, complex).

Access to Health Care: Delayed Care

Timely delivery of appropriate care has been shown to improve health care outcomes and reduce health care costs. Delayed health care can lead to diagnosis at a more advanced disease stage and reduce opportunities for optimal treatment.

Figure 4.62. Adults who were unable to receive or delayed in receiving needed medical care, dental care, or prescription medications, by race, ethnicity, income, education, and activity limitation, 2004



Key: Basic activity limitation (i.e., limitation in mobility or other basic person-level functioning); complex = complex activity limitation (i.e., limitation in ability to participate in community life); neither = neither basic nor complex activity limitation.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2004.

Reference population: Adults age 18 or over living in the community.

- For the total population, adults with basic and complex activity limitations were significantly more likely than persons with neither limitation to be unable to receive care or to delay receiving care. Of adults, 25.7% of those with basic activity limitations and 31.0% of those with complex activity limitations were unable to receive or delayed in receiving needed medical care, dental care, or prescription medicines, compared with 10.5% of those with neither limitation (Figure 4.62).
- For each racial, ethnic, income, and education group, adults with basic and complex activity limitations were significantly more likely than adults with neither limitation to be unable to receive or to delay receiving needed care.
- For Whites, adults with less than a high school education, and adults with some college, those with complex activity limitations were significantly more likely than their counterparts with basic activity limitations to not receive or to delay receiving care.
- Among adults with neither basic nor complex activity limitations, not receiving or delaying receiving care was significantly more likely for Blacks than Whites; poor, near poor, and middle income persons than high income persons; and persons with less than a high school education than those with some college.
- Among adults with basic activity limitations, poor, near poor, and middle income persons were significantly more likely than high income persons to be unable to receive or to delay receiving needed care.
- Among adults with complex activity limitations, Whites were significantly more likely than Blacks to be unable to receive or to delay receiving needed care; and poor, near poor, and middle income persons were more likely than high income persons to be unable to receive or to delay receiving needed care.

Children With Special Health Care Needs

Addressing questions on access to and quality of care for children with chronic conditions is difficult due to the low prevalence of most conditions in children.[80] According to the Medical Expenditure Panel Survey, in 2004, approximately 13.8 million children were identified as having a special health care need—i.e., a specific chronic condition with a functional limitation or other consequence. Among the most highly prevalent chronic conditions of childhood in 2005 were asthma (13% of children under age 18), upper respiratory allergies (12% of children under 18), learning disabilities (7% of children ages 3-17), and attention-deficit hyperactivity disorder (7% of children ages 3-17).[81] Other conditions that may affect children with special health care needs include depression, spina bifida, hemophilia, HIV infection, cystic fibrosis, and metabolic disorders.[82]

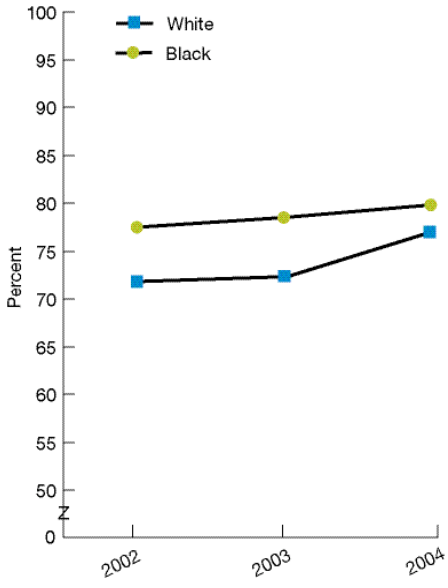
By definition, children with special health care needs (CSHCN) are children who require more medical care because they are less healthy. As a result of requiring more medical care, CSHCN have higher medical expenses, on average, than other children.[80, 83, 84] For more than 1 in 5 CSHCN, costs of care caused financial problems for their families.[85] 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.[85]

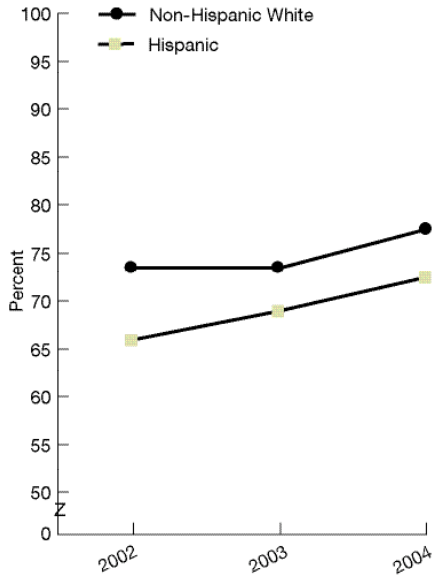
Having higher health care needs makes CSHCN susceptible to access, cost, quality, and coverage weaknesses in the health care system. Children with chronic conditions are reported by their parents to be less likely than other children to receive the full range of needed health services.[86]

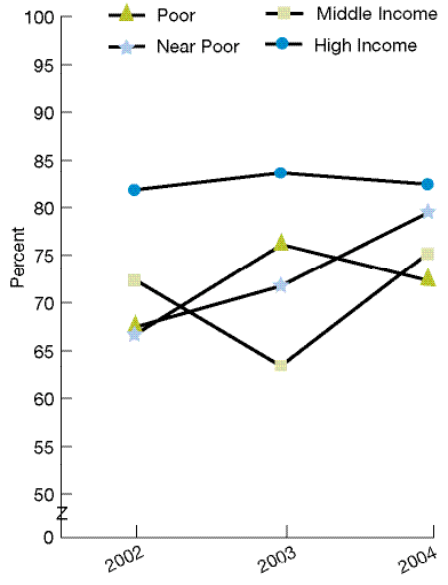
Timeliness: Care for Illness or Injury as Soon as Wanted

Timely delive ry of appropriate care has been shown to improve health care outcomes and reduce health care costs, which may be particularly important for CSHCN.

Figure 4.63. Among children with special health care needs, 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), 2002-2004







Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

Reference population: Civilian noninstitutionalized population under age 18.

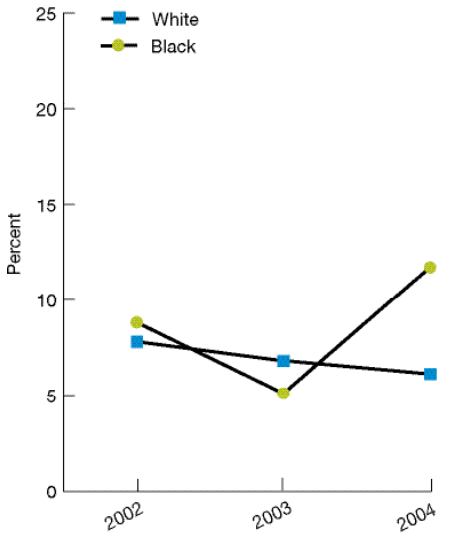
Note: Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

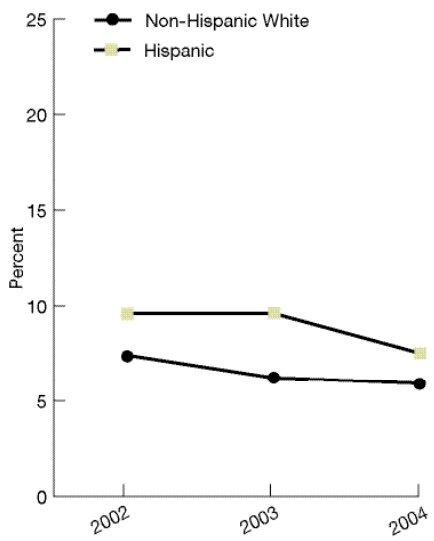
- There were no statistical differences by race or ethnicity from 2002 to 2004 (Figure 4.63).
- From 2002 to 2004, the gap between poor children and high income children in the proportion of children with special health care needs who could always get care for illness or injury as soon as wanted remained the same.
- In 2004, the proportion was significantly lower for children from poor families than for children from high income families (72.2% compared with 82.4%).
- From 2002 to 2004, the gap between near poor children and high income children decreased. In 2004, there was no significant difference between near poor children and high income children (79.4% compared with 82.4%).

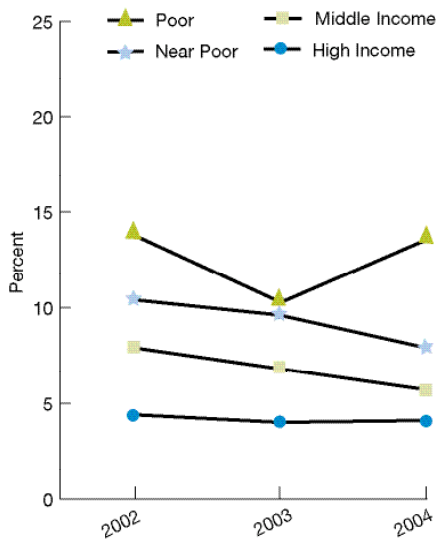
Patient Centeredness: Communication With Health Providers

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 or guardian is especially important to ensure that their more complex and greater health care needs are optimally addressed.

Figure 4.64. Ambulatory patients (children with special health care needs) whose parents or guardians reported poor communication with health providers, by race (top left), ethnicity (top right), and family income (bottom left), 2002-2004







Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2004.

Denominator: Civilian noninstitutionalized population under age 18.

Note: Average percentage of children under age 18 with special health care needs who had a doctor's office or clinic visit in the last 12 months and poor communication with health providers was reported (i.e., their health providers sometimes or never listened carefully, explained things clearly, showed respect for what they had to say, or spent enough time with them). Data were insufficient for this analysis for Asians, Native Hawaiians or Other Pacific Islanders, and American Indians and Alaska Natives.

- From 2002 to 2004, the gap between children with special health care needs and children without special health care needs in the percentage of parents or guardians who reported poor communication with their health providers remained the same (data not shown; Figure 4.64). In 2004, the proportion of parents or guardians who reported poor communication with their health providers was significantly higher for CSHCN than for children without special health care needs (7.2% compared with 5.2%; data not shown).
- In 2004, the proportion of parents or guardians of CSHCN who reported poor communication with their health providers was significantly higher for Blacks than for Whites (11.7% compared with 6.7%).
- In 2004, the percentage of parents who reported communication problems was significantly higher for CSHCN in poor (13.6%) and near poor (7.9%) families than in high income (4.1%) families.

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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						
Breast cancer incidence per 100,000 women age 50 and over diagnosed at advanced stage	SEER	✔	✔	✔	✔	
Deaths per 100,000 persons due to breast 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-I	✔	✔	✔	✔	
Children 19-35 months who received all recommended vaccinations	NIS	✔	✔	✔	✔	✔
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.

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-I	✔	✔	✔	✔	
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.

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	✔	✔	✔	✔	✔
People who experience difficulties or delays in obtaining health care or do not receive needed care	MEPS	✔	✔	✔	✔	✔
People who 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.

Key to Data Sources:

CDC = Centers for Disease Control and Prevention
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-I = National Vital Statistics System, Linked Birth-Infant Death
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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