National Healthcare Disparities Report

U.S. Department of Health and Human Services
Agency for Healthcare Research and Quality
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Contents

"Communities of color suffer disproportionately from diabetes, heart disease, HIV/AIDS, cancer, stroke and infant mortality. Eliminating these and other health disparities is a priority of HHS."

– DHHS Secretary Tommy Thompson[1]

"We need to focus on the uninsured and those who suffer from health care disparities that we so inadequately addressed in the past."
– Sen. Bill Frist (R-Tenn.), Senate majority leader on his priorities for the 108th Congress

This historic report, the first annual report on healthcare disparities, is intended to provide a balanced summary of the state of disparities in the United States. It will demonstrate that disparities exist for many Americans and improvement is possible. Rather than offer a series of snapshots of disparities from individual research studies, this report provides a comprehensive view of the scope and characteristics of differences in health care quality and access associated with patient race, ethnicity, income, education, and place of residence. To date, no report has provided extensive cross-group comparisons that could provide a national roadmap to focused efforts to reduce disparities.

Demographic trends indicate that the number of Americans who are vulnerable to suffering the effects of heath care disparities will rise over the next half century. Current data show that some ethnic minorities, as well as low-income families of whatever race or ethnicity, tend to be in poorer health than other Americans. "The evidence of the damaging health consequences of racial and ethnic disparities in health care continues to be overwhelming," says John W. Rowe, M.D., Chairman, President and CEO of Aetna[2] Gaps in income between the richest and poorest households in America are also widening. Additionally, some racial and ethnic minorities are growing at a much more rapid pace than the majority white population. Nearly 1 in 2 Americans will be a member of a racial or ethnic minority—i.e., black, Hispanic, Asian, or American Indian—by the year 2050.[3] Clearly, these trends pose a daunting challenge for policymakers and the health care system.

What Are "Health Care Disparities"?

The word "disparity" can be defined as "the condition or fact of being unequal, as in age, rank, or degree." Synonyms for disparity include *inequality*, *unlikeness*, *disproportion*, and *difference*. While disparity in health care has been closely associated with equity, there are several potential reasons for the differences observed at the individual level. For example, a patient may receive fewer medications because of differences in underlying disease processes, individual choice, systemic barriers to obtaining needed medications, or some combination of these reasons. When we observe differences in

health care for different populations, it may not be possible to clarify causal pathways directly. The purpose of this report is to describe differences in quality of and access to health care to help identify disparities in health outcomes that may be responsive to improvements in health care.

Disparities are most easily identified when there is a clear reference point for what is appropriate and reasonable to expect. While there may be uncertainty regarding many aspects of clinical care, the quality measures presented here have been developed around health care interventions for which there is sound scientific evidence of effectiveness and for which there is a professional consensus and expectation that these services would be provided to all patients. Even after consideration of variation in patients' medical conditions and severity of illness, there should be little deviation from specific quality measures associated with population.

Access to health care is a prerequisite to obtaining quality care. However, dimensions of access vary in predicting an individual's likelihood of receiving care that has been shown to improve health outcomes. For use of services, patient-reported experience of care, and structural issues such as transportation, there is limited scientific consensus regarding which measures are most responsive to system improvements. In addition, the most important factors may not be consistent across communities and populations.

This report presents a broad array of differences related to access, use, and patient experience of care by racial, ethnic, socioeconomic, and geographic groups, based on valid measures. Many of the differences presented here are large and worrisome; indeed, some will argue, quite reasonably, that they constitute evidence of disparity, irrespective of a clear relationship to health outcomes. Further evaluation of these data should prove helpful in assessing current efforts to address important disparities in access to care.

At this juncture, it may be useful to comment briefly on the complexity of the task. First, as noted above, many factors may lead to differences in health care, especially with respect to aggregate measures of use. These include different underlying rates of illness due to genetic predisposition, local environmental conditions, or lifestyle choices. There are differences in the care-seeking behavior of patients, which vary due to differing cultural beliefs, linguistic barriers, degree of trust of health care providers, or variations in the predisposition to seek timely care. In addition, the availability of care is dependent upon such factors as the ability to pay for care (directly or through insurance coverage), the location, management and delivery of health care services, clinical uncertainty, and health care practitioner beliefs, among others.

Second, there may be differing perspectives regarding the appropriate division of responsibility between the individual, the public sector, and the private sector. Third, to the extent that defining a difference establishes it as a priority for action, it is not clear that reliance upon a consistent numerical threshold is appropriate. For some measures reported here, a small differential could be critical; for others, a differential may not be

critical unless it is very large. It will be important to take into account the impact on patients of the differential.

Last, how the patient characteristics assessed in this report—race, ethnicity, income, education, place of residence, age, and others—affect quality of and access to health care are both independent and additive. This first National Healthcare Disparities Report presents descriptive information for each but does not assess which characteristics are most important for improving health care.

Why a National Healthcare Disparities Report?

Public Law 106-129, the Healthcare Research and Quality Act of 1999, directed the Agency for Healthcare Research and Quality (AHRQ) to develop two annual reports: a National Healthcare Quality Report (NHQR) and this National Healthcare Disparity Report (NHDR). The directive for this report, now contained in section 903(a)(6) of the Public Health Service Act, requires that this annual report tracks "prevailing disparities in health care delivery as they relate to racial factors and socioeconomic factors in priority populations."[4]

With guidance from the Institute of Medicine, AHRQ developed a common conceptual framework for both reports and, in fact, a focus on quality is at the heart of both reports. As the IOM noted in its report, *Guidance for the National Healthcare Disparities Report*, the "plan to make health care quality a major focus of this report…is appropriate since disparities often represent an 'inequality in quality.'"[5] The conceptual framework for the NHQR focuses on safety, effectiveness, patient centeredness, and timeliness, with equity as a cross-cutting dimension. Equity, as envisioned by the IOM, is "the provision of health care of equal quality based solely on need and clinical factors." The NHDR provides a full and comprehensive expansion of the equity dimension. Therefore, these highly linked reports are being released simultaneously and readers are urged to review both reports together to develop a more comprehensive snapshot of the performance of our health care system, its strengths, and areas that should serve as a focal point for future improvement. The performance measures underlying the two reports will be used to monitor the Nation's progress toward improved health care delivery.

This first NHDR provides a national overview of racial, ethnic, and socioeconomic disparities in health care in the general U.S. population and among "priority populations" to contribute to the public dialogue on how to improve health care delivery for all Americans. These "priority populations, are defined in AHRQ's authorizing statute (section 901 (c) of the Public Health Service Act) as encompassing both specific population groups as well as geographically-defined groups. In accordance with these guidelines, the NHDR includes data and analysis on the following: low-income groups; racial and ethnic minority groups; women; children; the elderly; individuals with special health care needs, the disabled, people in need of long-term care, people requiring end-of-life care, and place of residence (e.g., rural communities). Although other demographic

groups may also suffer from health care disparities, they are beyond the scope of this report.

It is important to note that this report is unique in providing a systematic overview of differences in health care for both racial and ethnic groups as well as by socioeconomic status. This is the first comprehensive look at differences by socioeconomic groups. Although not designed to measure the progress of any one program or policy, the data and analyses presented in the report are intended to provide a convenient and comprehensive source of information spanning a broad range of health care disparity issues.[1]

Objectives of the First Report

A vital step in the effort to eliminate health care disparities is the systematic collection and analysis of health care data. This will help policymakers and researchers discern the areas of greatest need, monitor trends over time, and identify successful programs for addressing those needs. This first NHDR builds on and seeks to complement existing work in the area of disparities, notably *Healthy People 2010* and IOM's 2002 report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare Unequal Treatment.* Yet those efforts differ from the NHDR in substantive ways.

The elimination of disparities in health is a goal of *Healthy People 2010.*[6] Since the extent to which disparities in health care contribute to overall disparities in health remains unknown, the NHDR complements HP 2010 by focusing on prevailing disparities in health care delivery. Disparities in health care can only be interpreted within the context of disparities in health. Eliminating disparities in health care is a logical method for eliminating associated disparities in health.

Unequal Treatment extensively documents health care disparities in the United States by race and ethnicity.[7] The IOM's examination finds that disparities in health care are substantial, even after accounting for characteristics typically associated with disparities, such as health insurance coverage and income. But while *Unequal Treatment* demonstrates definitively that racial and ethnic disparities in health care exist, it does not measure the magnitude of the problem from a national perspective. The report also does not address disparities in access to health care or disparities related to socioeconomic position.

In contrast, the NHDR examines national disparities in both the ability of Americans to access health care and in the quality of health care. It includes an analysis of disparities related to socioeconomic position as well as to race and ethnicity, and attempts to capture

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the relationship between race/ethnicity and socioeconomic position. The report provides baseline data from which we may be able to measure the effect of national initiatives to reduce disparities.

Key Findings

The NHDR provides seven key findings to policymakers, clinicians, health system administrators, and community leaders who seek to use this information to improve health care services for all populations:

1) **Inequality in quality persists**
2) **Disparities come at a personal and societal price**
3) **Differential access may lead to disparities in quality**
4) **Opportunities to provide preventive care are frequently missed**
5) **Knowledge of why disparities exist is limited**
6) **Improvement is possible**
7) **Data limitations hinder targeted improvement efforts**

Inequality in quality persists

This report presents the most comprehensive national picture confirms that there is significant inequality in quality in the United States. While selected research studies have documented disparities in healthcare services, these examinations were often limited to specific populations with specific conditions. By using nationally available data sets, a national view on healthcare disparities is provided.

This first report clearly demonstrates that racial, ethnic, and socioeconomic disparities are national problems that affect health care at all points in the process, at all sites of care, and for all medical conditions--in fact, disparities are pervasive in our health care system. Our conclusions bring us closer to understanding why, where, and how disparities occur-- essential knowledge for devising and targeting programs to eliminate these inequities.

While disparities in health care potentially affect all Americans and individuals from of any group, they are not uniformly distributed across populations. We are only beginning to understand the magnitude of differential burden of illness in populations with special health care needs, such as minority children and poor patients with disabling chronic illnesses. Geography can play an important mitigating role in healthcare disparities. Remote rural populations, for example, are clearly at risk for having worse access and receiving poorer quality care.

Examples from the NHDR:

- Minorities are more likely to be diagnosed with late-stage breast cancer and colorectal cancer compared with whites.
- Patients of lower socioeconomic position are less likely to receive recommended diabetic services and more likely to be hospitalized for diabetes and its complications.
- When hospitalized for acute myocardial infarction, Hispanics are less likely to receive optimal care.
- Many racial and ethnic minorities and persons of lower socioeconomic position are more likely to die from HIV. Minorities also account for a disproportionate share of new AIDS cases.
- The use of physical restraints in nursing homes is higher among Hispanics and Asian/Pacific Islanders compared with non-Hispanic whites.
- Blacks and poorer patients have higher rates of avoidable hospital admissions (i.e., hospitalizations for health conditions that, in the presence of comprehensive primary care, rarely require hospitalization).

Disparities come at a personal and societal price

Health care disparities are costly. Poorly managed care or missed diagnoses result in expensive and avoidable complications. As discussed in *Unequal Treatment:* "to the extent that minority beneficiaries of publicly funded health programs are less likely to receive high quality care, these beneficiaries—as well as the taxpayers that support public health care programs—may face higher future health care costs."[1] The personal cost of disparities can lead to significant morbidity, disability, and lost productivity at the individual level. At the societal level, distal costs follow from proximal opportunities that were missed to intervene and reduce burden of illness. For example, end-stage renal disease may result from longstanding poorly controlled diabetes. The highly morbid and highly costly condition could potentially be avoided with access to indicated services and effective management of diabetes.

Examples from the NHDR:

- Without screening, cancers may not be detected until they grow large or metastasize to distant sites and cause symptoms. Such late stage cancers are usually associated with more limited treatment options and poorer survival. Minorities and persons of lower socioeconomic status are less likely to receive cancer screening services and more likely to have late stage cancer when the disease is diagnosed.
- Persons with diabetes of lower socioeconomic position are less likely to receive recommended diabetic services and more likely to be hospitalized for diabetes and its complications.
- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive recommended immunizations for influenza and pneumococcal pneumonia, the most common type of pneumonia. Once hospitalized, some ethnic and racial minorities, as well as lower income patients, suffer worse quality of care

for pneumonia. These differential rates of vaccination and hospitalization present opportunities for provider-based and community-based interventions to reduce disparities.

Differential access may lead to disparities in quality

Access to healthcare is an important prerequisite to obtaining quality care. Some access barriers, whether perceived or actual, can result in adverse health outcomes. Patients may perceive barriers to delay seeking needed care, resulting in presentation of illness at a later, less treatable stage of illness. For example, a usual source of care can serve as a navigator to the healthcare system and an advocate to obtain needed evidence-based preventive and health care services. Of the major measures of access, the lack of health insurance has significant consequences. Avoidable hospitalizations are a good example of the link between access and disparities in quality of care. These hospitalizations may reflect, in part, the adequacy of primary care. When health care needs are not met by the primary health care system, rates of avoidable admissions may rise. In contrast, perceived problems with specialty referral do not have clear clinical consequences.

Examples from the NHDR:

- Many racial and ethnic minorities and individuals of lower socioeconomic status are less likely to have a usual source of care.
- Hispanics and people of lower socioeconomic status are more likely to report unmet health care needs
- While most of the population has health insurance, racial and ethnic minorities are less likely to report health insurance compared with whites. Lower income persons are also less likely to report insurance compared with higher income persons.
- Higher rates of avoidable admissions by blacks and lower socioeconomic position persons may be explained, in part, by lower receipt of routine care by these populations.

Opportunities to provide preventive care are frequently missed

Our healthcare system continues to emphasize care that occurs after an illness occurs, rather than preventive services that could potentially prevent the illness or reduce the burden of disease. While the NHQR documents that this is a pervasive issue for all Americans, there are significant disparities in the use of evidence-based preventive services for certain populations.   For example, while smoking remains the single most preventable cause of mortality, rates of smoking cessation counseling during hospitalization are only 40 percent. For blacks, this rate of smoking cessation counseling is only 29 %. Given the significant impact on morbidity, mortality, outcomes, and costs of care, efforts to target preventive services to populations most at risk would be a critical aspect of an improvement strategy to decrease disparities.

Examples of missed opportunities for preventive services from the NHDR:

- Blacks and persons of lower socioeconomic status tend to have higher rates of death from cancer. While rates of cancer death may reflect a variety of factors not associated with health care such as genetic disposition, diet, and lifestyle, screening and early treatment of cancers can lead to reductions in mortality.
- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive screening and treatment for cardiac risk factors. The combination of lower screening and effective treatment of risk factors, such as smoking among the uninsured, lend themselves to quality improvement initiatives that can potentially reduce heart disease disparities among populations at risk.
- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive childhood immunizations.
- Many racial and ethnic minorities and individuals of lower socioeconomic status are less likely to receive recommended immunizations for influenza and pneumococcal disease.

Knowledge of why disparities exist is limited

There are complicated interrelationships between race, ethnicity, and socioeconomic status that may result in healthcare disparities. While we may have sufficient data about racial disparities by race and ethnicity, it is difficult to tease out the individual contributions of race, income or education to these differences. For example, we found significantly lower rates of smoking cessation offered to minority patients. However, we cannot determine how much these differences are affected by different levels of patient income, education, or types of insurance. While the relationships between these factors may seem theoretical, a better understanding of the underlying factors that result in disparities could better target improvement efforts aimed at reducing disparities. Further research may help to sort out these issues for future reports.

The report cannot tell us what factors are causally related to healthcare disparities, though it does identify factors that may be related to disparities.

Examples from the NHDR include:

- Many racial and ethnic groups, as well as poor and less educated patients, are more likely to have report poor communication with their physicians.
- Many racial and ethnic minorities and poor patients report more problems with some aspects of the patient-provider relationships.
- Many racial and ethnic minorities and lower income patients report more difficult patient-provider relationships.
- Asians, Hispanics, and those of lower socioeconomic status have greater difficulty accessing health care information, including information on prescription drugs.

Improvement is possible

While the report offers a sobering view of healthcare disparities, there are some positive findings that suggest that targeted improvement efforts could significantly reduce healthcare disparities. There are some notable exceptions that demonstrate *what is possible*.

- While blacks and poor patients are more likely to present with later stage cancers with higher death rates, black women have higher screening rates for cervical cancer and no evidence of later stage cervical cancer presentation. While it would not be possible to demonstrate a causal link, the significant investment in community-based cancer screening and outreach programs for cervical cancer may be responsible for the lack of disparity.

- Quality improvement efforts have resulted in demonstrable reductions in black-white differences in hemodialysis. A targeted intervention within a quality improvement culture may offer important lessons in disparity reduction.

- Black patients are more likely to receive blood pressure monitoring without any disparity in blood pressure management. A greater perceived risk for significant cardiovascular disease among blacks may result in appropriately increased screening rates and treatment for risk factors. Directed public education campaigns about cardiac risk factors and the importance of an activated patient may play an important role in the lower observed rate of cardiac disparities among blacks.

When detailed data are available at the most actionable level, such as population subgroups, the efficiency of quality improvement efforts can be enhanced. For example, the subpopulation data from the California Health Interview Survey (CHIS) would allow more targeted prevention efforts directed at Asians over age 50 in need of colorectal cancer screening. The information on language spoken at home provides a far more precise target population – Asians who do not speak English were 20% less likely to undergo colorectal cancer screening than their English-speaking Asian counterparts. The disparities report can also serve to identify the best "performers," learn from their experiences and disseminate the lessons learned to other communities. Community-based participatory research has numerous examples of communities working to improve quality overall, while reducing healthcare disparities for vulnerable populations.

Data limitations hinder targeted improvement efforts

This report provides the most comprehensive and in-depth information on health care quality and access for priority populations available. However, because the focus of the report is national and populations of interest vary across communities, it may not be possible to extrapolate national findings to any one community.

Executive Summary

Our first report on the current state of health care disparities in the nation has relied heavily on federal data collection sources. Although many health care organizations do not routinely collect data on patient characteristics, several private initiatives are currently underway,[8] and it is clear that successful improvement efforts often occur at State and local levels. The National Healthcare Disparities Report should help to provide the impetus and tools for public and private entities that are interested in measuring and monitoring progress to eliminate disparities. While beyond the scope of this first annual report, future reports should also help to communicate successful interventions that may reduce the burden of healthcare disparities in our nation.

The report also raises important questions regarding public reporting of data by race, ethnicity, and socioeconomic status. For example, expanding current public reporting initiatives to display results stratified by patient characteristics (e.g., race, ethnicity, income, education, place of residence) has been suggested. However, given sample size constraints, public reporting is not feasible at the level of individual providers. Some studies also suggest that many patients are reluctant to report income. Should national data collection efforts include stratification by race, ethnicity, income and education? Should aggregation for public reporting be required at certain levels, such as local or regional?

Finally, though existing national data are useful to address many disparities, there are significant gaps. While improved data would help measure disparities, the field would also benefit from more robust measures that would improve our understanding of the underlying mechanisms and causal paths that result in disparities.

References

[1] "Protecting the Health of Minority Communities." U.S. Department of Health and Human Services *Fact Sheet,* dated September 24, 2002. For more information, contact the HHS Press Office at 202/690-6343.

[2] See http://www.aetna.com/foundation/health/disparity.htm.

[3] U.S. Bureau of the Census. 2000. http://www.census.gov Accessed March 15, 2001.

[4] Institute of Medicine, Committee on the National Quality Report on Health Care Delivery. *Envisioning the National Healthcare Quality Report*. 2001.Hurtado, Margarita P., Swift, Elaine K., Corrigon, Janet M., eds. Washington, DC. National Academies Press.

[5] Institute of Medicine. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare*. (2003) National Academies Press.

[6] U.S. Department of Health and Human Services, *Healthy People*, pp. 11-16.

[7] Institute of Medicine, *Unequal Treatment,* Chapter 2, The healthcare environment and its relation to disparities (pp. 29-80); Chapter 3, Assessing potential sources of racial and ethnic disparities in care: Patient- and system-level factors (pp. 125-59), Chapter 4, Assessing potential sources of racial and ethnic disparities in care in the clinical encounter (pp. 160-79).

[8] http://www.aetna.com/foundation/health/disparity.htm.

Chapter 1: Introduction

The overall health of Americans has improved dramatically nationwide over the last 100 years. Successful public health interventions and advances in technology and research have extended the average life span from about 47 years in 1900 to over 76 years in 1999.[1]   Unfortunately, not every segment of the population is benefiting equally from this progress; in fact, there are clear disparities in life span, health status, and health care use among different racial, ethnic, and socioeconomic groups within the United States.

It is also clear that there are significant differences and shifts in the use of health care services by these populations. For example, the U.S. health care system in the last 10 years has produced significant reductions in infant mortality, record-high rates of childhood vaccinations, declines in substance abuse, lower death rates from coronary and heart disease, and promising new treatments for cancer.[2] At the same time, data from numerous sources show that some racial, ethnic, socioeconomic, and geographic groups suffer disproportionately from preventable or treatable chronic conditions.

Using a broad array of data sources, this report describes the scope and characteristics of differences in health care quality and access associated with patient race, ethnicity, income, education, and place of residence. It also enhances understanding of where disparities in health care exist, emphasizes the need for greater clarity regarding the interpretation of disparities, and makes clear where data are limited for making an accurate assessment at this time.

What Are "Health Care Disparities"?

The word "disparity" can be defined as "the condition or fact of being unequal, as in age, rank, or degree." Synonyms for disparity include *inequality*, *unlikeness*, *disproportion*, and *difference*. While disparity in health care has been closely associated with equity, there are several potential reasons for the differences observed at the individual level. For example, a patient may receive fewer medications because of differences in underlying disease processes, individual choice, systemic barriers to obtaining needed medications, or some combination of these reasons. When we observe differences in health care for different populations, it may not be possible to clarify causal pathways directly. The purpose of this report is to describe differences in quality of and access to health care to help identify disparities in health outcomes that may be responsive to improvements in health care.

Disparities are most easily identified when there is a clear reference point for what is appropriate and reasonable to expect. While there may be uncertainty regarding many aspects of clinical care, the quality measures presented here have been developed around health care interventions for which there is sound scientific evidence of effectiveness and for which there is a professional consensus and expectation that these services would be provided to all patients. Even after consideration of variation in patients' medical

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conditions and severity of illness, there should be little deviation from specific quality measures by population.

Access to health care is a prerequisite to obtaining quality care. However, dimensions of access vary in predicting an individual's likelihood of receiving care that has been shown to improve health outcomes. For use of services, patient-reported experience of care, and structural issues such as transportation, there is limited scientific consensus regarding which measures are most responsive to system improvements. In addition, the most important factors may not be consistent across communities and populations.

This report presents a broad array of differences related to access, use, and patient experience of care by racial, ethnic, socioeconomic, and geographic groups, based on valid measures. Many of the differences presented here are large and worrisome; indeed, some will argue, quite reasonably, that they constitute evidence of disparity, irrespective of a clear relationship to health outcomes. Further evaluation of these data should prove helpful in assessing current efforts to address important disparities in access to care.

The task of interpreting the data and synthesizing it is complex. First, as noted above, many factors may lead to differences in health care, especially with respect to aggregate measures of use. These include different underlying rates of illness due to genetic predisposition, local environmental conditions, or lifestyle choices. There are differences in the care-seeking behavior of patients, which vary due to differing cultural beliefs, linguistic barriers, degree of trust of health care providers, or variations in the predisposition to seek timely care. In addition, the availability of care is dependent upon such factors as the ability to pay for care (directly or through insurance coverage), the location, management and delivery of health care services, clinical uncertainty, and health care practitioner beliefs, among others.

Second, there may be differing perspectives regarding the appropriate division of responsibility between the individual, the public sector, and the private sector. Third, to the extent that defining a difference establishes it as a priority for action, it is not clear that reliance upon a consistent numerical threshold is appropriate. For some measures reported here, a small differential could be critical; for others, a differential may not be critical unless it is very large. It will be important to take into account the impact on patients of the differential.

Last, how the patient characteristics assessed in this report—race, ethnicity, income, education, place of residence, age, and others—affect quality of and access to health care are both independent and additive. This first *National Healthcare Disparities Report* presents descriptive information for each but does not assess which characteristics are most important for improving health care.

Our National Goals

Inequalities in health care that affect some racial, ethnic, socioeconomic, and geographical subpopulations in the United States ultimately affect every American. From a societal perspective, we aspire to equality of opportunities for all our citizens. Persistent disparities in health care are inconsistent with our core values.

Demographic trends indicate that the number of Americans who are vulnerable to suffering the effects of heath care disparities will rise over the next half century. Current data show that some ethnic minorities, as well as low-income families of whatever race or ethnicity, tend to be in poorer health than other Americans. Gaps in income between the richest and poorest households in America are widening, with serious potential implications. Also, some racial and ethnic minorities are growing at a much more rapid pace than the majority white population. The U.S. Bureau of the Census reports that white Americans currently constitute 71% of the population, but nearly 1 in 2 Americans will be a member of a racial or ethnic minority—i.e., black, Hispanic, Asian, or American Indian—by the year 2050.[3] Clearly, these trends pose a daunting challenge for policymakers and the health care system.

Also critical, health care disparities are costly. Poorly managed care or missed diagnoses result in expensive and avoidable complications. As the Institute of Medicine (IOM) suggests in its seminal 2002 report *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare*, "to the extent that minority beneficiaries of publicly funded health programs are less likely to receive high quality care, these beneficiaries—as well as the taxpayers that support public health care programs—may face higher future health care costs."[4]

In addition to costs directly borne by taxpayers, unfortunate outcomes resulting from health care disparities may contribute to higher health insurance and malpractice premiums, both of which threaten the viability of our health care system. And, while difficult to quantify precisely, the costs of lost productivity and the indirect costs to families are doubtless very high.

For all of these reasons, the elimination of health care disparities resulting from unequal opportunities is a top public policy priority. In response to congressional and national mandate, the U.S. Department of Health and Human Services (DHHS) is undertaking a number of initiatives toward this end.

Why a National Healthcare Disparities Report?

Public Law 106-129, the Healthcare Research and Quality Act of 1999, directed the Agency for Healthcare Research and Quality (AHRQ) to develop two annual reports: a National Healthcare Quality Report (NHQR) and this National Healthcare Disparity Report (NHDR). The directive for this report, now contained in section 903(a)(6) of the

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This first NHDR provides a national overview of racial, ethnic, and socioeconomic disparities in health care in the general U.S. population and among priority populations (defined below) to contribute to the public dialog on how to improve health care delivery for all Americans. It is important to note that this report is unique in providing a systematic overview of differences in health care for both racial and ethnic groups as well as by socioeconomic status. This is the first comprehensive look at differences by socioeconomic groups. Although not designed to measure the progress of any one program or policy, the data and analyses presented in the report are intended to provide a convenient and comprehensive source of information spanning a broad range of health care disparity issues.[i]

Objectives of the First Report

A vital step in the effort to eliminate health care disparities is the systematic collection and analysis of health care data. This will help policymakers and researchers discern the areas of greatest need, monitor trends over time, and identify successful programs for addressing those needs. This first NHDR builds on and seeks to complement existing work in the area of disparities, notably *Healthy People 2010* and *Unequal Treatment*. Yet those efforts differ from the NHDR in substantive ways.

Healthy People 2010 has, as its second goal, the elimination of disparities in health.[7] In contrast, the NHDR focuses on disparities in health care, rather than disparities in health. While conceptually different, the two efforts are integrally related. Disparities in health care can only be interpreted within the context of disparities in health. Disparities in

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health help identify critical disparities in health care with which they are associated. Eliminating disparities in health care is a logical method for eliminating associated disparities in health.

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In contrast, the NHDR examines national disparities in both the ability of Americans to access health care and in the quality of health care. It includes an analysis of disparities related to socioeconomic position as well as to race and ethnicity, and attempts to capture the relationship between race/ethnicity and socioeconomic position. The report provides baseline data from which we may be able to measure the effect of national initiatives to reduce disparities.

Objectives of Future Reports

Future reports will reflect our evolving understanding of disparities in access, use, and patient experience of care. These reports will go beyond measures of health care disparities to probe the underlying causes of the differences. Race and ethnicity are associated with various disparities in health care, but the root causes are likely multifactorial and complex. Identifying them and understanding their dynamics is key to designing effective interventions.

Subsequent NHDRs will also track disparities over time, include measures unique to specific populations, and add analyses of disparities along the rural-urban continuum. Longitudinal studies will be needed to monitor the Nation's progress to the elimination of disparities. Population-specific measures are needed to understand differences within different groups more fully. To improve the validity of all these measures, AHRQ will work with public and private groups to define and standardize core elements of national and subnational surveys.

Which Groups Are Included in the Report?

The statutory mandate for this report refers to "priority populations," a term that is defined in AHRQ's authorizing statute (section 901 (c) of the Public Health Service Act) as encompassing both specific population groups as well as geographically defined groups. In accordance with these guidelines, the NHDR includes data and analysis on the following:

- Low-income groups
- Racial and ethnic minority groups
- Women
- Children
- The elderly
- Individuals with special health care needs, specifically children with special needs, the disabled, people in need of long-term care, and people requiring end-of-life care.

Rural populations are also included. Although other demographic groups may also suffer from health care disparities, they are not considered in this report.
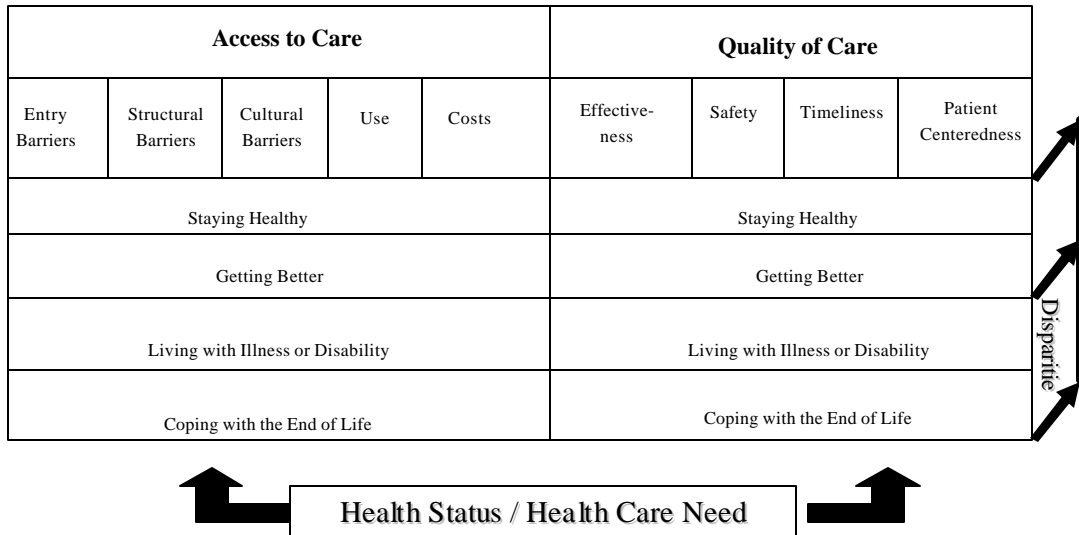
Conceptual Framework

The IOM worked with AHRQ to develop the conceptual framework for the NHDR. Through public meetings and commissioned reports from experts in the field, the IOM received input from a wide variety of stakeholders, and built on the conceptual framework it had previously prepared for the NHQR.[9] Its recommendations for the NHDR were released as the *Guidance for the National Healthcare Disparities Report* in September 2002.[10]

The NHQR's conceptual framework defines, measures, and seeks to relate components of health care quality (safety, effectiveness, patient centeredness, and timeliness) and health care needs from the consumer's perspective (staying healthy, getting better, living with illness or disability, and coping with the end of life). The NHDR conceptual framework (Figure 1) expands this model in three ways.

First, as an expansion of the equity section of the NHQR, the NHDR framework adds a third dimension to represent racial/ethnic and socioeconomic disparities. Additionally, since disparities in health care encompass far more than disparities solely in the quality of clinical encounters, the NHDR framework adds measures of access to and receipt of care. Finally, because disparities in health care are interpreted in the context of underlying disparities in health, this conceptual framework rests on a representation of disparities in health status and health care need.

Figure 1. National Healthcare Disparities Report Conceptual Framework

Access to Care					Quality of Care				
Entry Barriers	Structural Barriers	Cultural Barriers	Use	Costs	Effective-ness	Safety	Timeliness	Patient Centeredness	
Staying Healthy					Staying Healthy				
Getting Better					Getting Better				
Living with Illness or Disability					Living with Illness or Disability				
Coping with the End of Life					Coping with the End of Life				

Health Status / Health Care Need

Disparities

IOM Recommendations

The IOM's Committee on Guidance for Designing a National Healthcare Disparities Report made seven recommendations to focus analysis and discussion of the NHDR data and to guide future efforts:

1. The National Healthcare Disparities Report should present analyses of racial and ethnic disparities in health care in ways that take into account the effects of socioeconomic status.

2. AHRQ should pursue a research initiative to more accurately and meaningfully measure socioeconomic status as it relates to health care access, service utilization, and quality.

3. Access is a central aspect of health care quality. As such, the National Healthcare Disparities Report should give it prominent attention.

4. The National Healthcare Disparities Report should include measures of high utilization of certain health care services that indicate poor health care quality. It should also include measures of low utilization of certain health care services, which are more commonly used to indicate poor health care quality.

5. The National Healthcare Disparities Report should present data on disparities at the state level. It should also present data on disparities along a rural-urban continuum.

6. In the future, if AHRQ continues to rely on subnational data sources for the National Healthcare Disparities Report, it should work with public and private organizations to identify core elements and standardize these surveys.

7. AHRQ should receive adequate resources to develop data sets and measures needed for the National Healthcare Disparities Report.

Organization

The report is organized to maximize accessibility and reinforce its conceptual framework. This chapter reviews the background and rationale for the report; Chapter 2, Methods, discusses the sources, selection criteria, and limitations of the data.

The report presents racial, ethnic, and socioeconomic differences within the general population in the provision of health care in relation to quality (Chapter 3) and access (Chapter 4). Disparities in priority populations (Chapter 5) discusses disparities of health care for the designated priority groups of women, children, elderly, racial and ethnic subpopulations, rural populations, and individuals with special needs. Conclusions (Chapter 6) summarizes the scope and nature of health care disparities in the United States, discusses data issues emerging from the report, and suggests directions for the report in future years.

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Chapter 2. Methods

This chapter briefly summarizes key issues related to the methods used to generate the first NHDR. Critical components of the analysis plan that are common to all succeeding chapters are highlighted. Methods that are unique to particular issues or measures are discussed in their appropriate chapter. Detailed methods pertaining to each survey database analyzed are available in an appendix.

In general, the methodological approach of the NHDR is to examine a broad array of measures from a variety of data sources, standardize data and comparisons as much as possible, and apply uniform and rigorous thresholds for identifying significant differences. This approach allows the NHDR to present findings that are typically more comprehensive, detailed, and accurate than similar information available to health care organizations from other sources.

A key guiding principle of the NHDR is consistency with Federal guidelines and publications. Paramount among these documents is *Healthy People 2010*.[1] Like *Healthy People 2010*, the NHDR addresses a broad range of issues and populations and uses data from a large number of sources. Like *Healthy People 2010*, it seeks to standardize definitions across data sources, but allows for differences when standardization is not achievable. As much as possible, methodological consistency with *Healthy People 2010* is sought. However, this cannot always be achieved. When these methods deviate from *Healthy People 2010*, this is indicated.

Many groups participated in the development of the methods used in this report. One essential group is the Interagency Work Group for the National Healthcare Disparities Report. This group includes representatives from:

- Administration for Children and Families
- Administration on Aging
- Assistant Secretary for Health
- Assistant Secretary for Legislation
- Assistant Secretary for Planning and Evaluation
- Assistant Secretary for Public Affairs
- Centers for Disease Control and Prevention (CDC)
- CDC-National Center for Health Statistics

- Centers for Medicare & Medicaid Services
- Food and Drug Administration
- Health Resources and Services Administration
- Indian Health Service
- National Institutes of Health
- Office of Civil Rights
- Office of Minority Health
- Substance Abuse and Mental Health Services Administration

Methods

Congress directed AHRQ to produce a report on "prevailing disparities in health care delivery as they relate to racial factors and socioeconomic factors in priority populations."[2] Key methodological issues include:

- Defining racial, ethnic and socioeconomic categories
- Selecting measures of disparity in health care and appropriate data sources
- Specifying analyses of disparities
- Presenting findings

Definition of Racial, Ethnic, and Socioeconomic Categories

Racial and Ethnic Categories

Different data sources collect information on race and ethnicity in different ways. The NHDR team considered two options for categorizing race and ethnicity:

Option 1: Use racial and ethnic categories that are compliant with OMB standards for reporting Federal statistics.[3] These standards consider race and Hispanic origin to be two separate and distinct concepts. Racial categories are: white, black, Asian, Native Hawaiian or Other Pacific Islander (NHOPI), American Indian or Alaska Native (AIAN), and more than one race. All racial categories can include persons of Hispanic and non-Hispanic origin. Ethnic categories are: Hispanic or Latino, non-Hispanic white, and non-Hispanic black. Hispanics can be of any race.

Option 2: Use racial categories that could be supported by all data sources. This lowest common denominator approach would entail collapsing racial categories to accommodate the least-refined data sources.

With input from the NHDR Interagency Work Group and others, the NHDR team decided upon the former. However, because Federal data collection was not required to be compliant with OMB standards until 2003 and much data available for this report were collected in 1999 and 2000, many findings in this report use different racial and ethnic categories. Whenever data sources rely on racial and ethnic categories other than those identified by OMB, the report includes the definitions and labels that were used during its data collection process and notes differences from OMB specifications. While this creates different race and ethnicity categories for measures from different data sources, it retains more information than collapsing categories to meet a lower standard and is consistent with categories used by *Healthy People 2010*.

Socioeconomic Categories

There is no consensus about the best way to measure socioeconomic position as it relates to health care.[4] Socioeconomic position is typically measured using income or education. For example, *Healthy People 2010* categorizes persons based on their family income level relative to poverty thresholds and on their educational attainment.

Whenever feasible, the NHDR includes information on both family income and education. Education was categorized using *Healthy People 2010* categories:

- Less than high school
- High school graduate
- Any college education

Family income level relative to poverty thresholds was also categorized using *Healthy People 2010* categories, except that middle/high was divided. Specifically, the NHDR classifies income as follows:

- "Poor" means below 100% of the Federal poverty level (FPL)
- "Near poor" means 100-199% of the FPL
- "Middle income" means 200-399% of the FPL
- "High income" means 400% of the FPL or more.

Dividing the middle/high category was necessary because much of the disparities research demonstrates differences between middle and high income persons.

When income or education was not available, other proxies for socioeconomic position were sought. These include insurance status and median income of a person's ZIP Code of residence. Individual income and the median income of the area where the individual lives are highly correlated.[5] However, individual income and area income may influence health care differently. While individual income is primarily a measure of individual resources that could be applied to facilitate health care, area income may encompass other effects such as the availability of health care in the area. Hence, area income is used to measure socioeconomic position only when no other measure is available.

Selection of Measures and Data Sources

Selection of Measures

Many measures of disparity in health care exist. A major task of the NHDR team and the NHDR Interagency Work Group was to identify and select measures of disparity for the first report. While consistency of measures from year to year is highly desirable, the measures selected for inclusion in the first NHDR represent a small subset of currently available measures and are expected to evolve as the field of health care measurement itself evolves.

The selection of measures of disparity in health care to include in the first NHDR was guided by two key principles, used whenever possible:

- Measures developed through consensus processes, whereby experts convene and deliberate with the goal of producing high quality measures

- Measures consistent with Federal guidelines and publications

Because *Healthy People 2010* includes many objectives of relevance to the measurement of disparities in health care and was produced by the collaborative work of many Federal, State, and private organizations, its measures are used whenever applicable. When consensus measures are unavailable, NHDR includes measures that are commonly used by researchers in the field.

Measures followed two separate pathways for inclusion in this report.

- First, because this report and the National Healthcare Quality Report (NHQR) are companion documents, NHDR adopted the quality of care measure set for the NHQR in its entirety. In this first edition of the reports, the quality of care measures are identical in both the NHDR and the NHQR except for several measures for which analysis by race/ethnicity and socioeconomic position was not possible.

- Second, disparities can exist in many aspects of health care delivery other than quality of care. To compile measures that relate to these other areas where health care disparities exist (i.e., access to care, use of care, and cost of care), AHRQ published a call for measures in the *Federal Register* on June 5, 2002, and engaged the Institute of Medicine to convene experts to hear public testimony, commission papers, and provide guidance on this report.

The full measure set is available at <http://www.ahrq.gov/qual/nhdr02/prenhdr.htm> as well as in the Appendix.

Input From Disparities Data Experts

AHRQ formed the NHDR Data Group, an internal committee comprised of AHRQ staff with expertise in health care disparities and data analysis. These staff members helped develop preliminary access, utilization, and cost measures relevant to studying disparities and identify data sources for these measures. The measures were reviewed and augmented by the NHDR Interagency Work Group.

After a preliminary measure set was published on the AHRQ Web site, public input was again solicited. This process yielded the set of measures used in this report. They are organized into two major topic areas:

- Access to Health Care
- Quality of Health Care.

Access to health care covers issues related to whether persons can get health care or experience barriers to care. Measures relate to entry into the health care system, structural barriers within the system, the ability of providers to address patient needs and

health care utilization. Quality of health care covers issues related to whether persons getting health care receive the services that they need. Measures relate to the effectiveness, safety, timeliness, and patient centeredness of services received.

Selection of Data Sources

After identifying the major topic areas, the specific measures to be included and the data source for each measure were identified. The criteria used for selecting data sources for each of the identified measures are as follows:

- The data sources have to provide data by race, ethnicity, and/or socioeconomic status.

- Nationally representative data are preferred in order to allow for national estimates. However, when such data are not available, the NHDR team relies on non-Federal and/or regional data sources.

- Because of the small size of many populations of interest, the NHDR team favors databases with large sample sizes to increase the likelihood of reliable information for the population subgroups.

- If a measure is identical to one included in *Healthy People 2010*, the NHDR uses the same database.

- To enable tracking of trends over time, data collected periodically are emphasized over one-time efforts.

- To maximize consistency between both reports, the NHDR and the NHQR use the same data sources for shared measures. However, there are several exceptions. For several quality of care measures, NHQR uses databases that do not include reliable information for selected racial or ethnic groups. In these instances, NHDR seeks alternative sources with more reliable subpopulation data.

To address gaps in Federal data collection related to cultural competency and health care information, the NHDR team used 2001 data from the Commonwealth Fund Health Care Quality Survey. The response rate for this survey was not as high as the others included in this report. Gaps in available HIV data were filled by data collected by the HIV Research Network. To allow more detailed examinations of Hispanic and Asian subgroups and of American Indians and Alaska Natives, the NHDR used data from the California Health Interview Survey. This survey is the largest State health survey in the U.S. and collects information about health status and health care in six languages.

In total, the NHDR integrates data from over 20 different data sources. Federal data sets used in the NHDR include major data holdings maintained by the Agency for Healthcare Research and Quality, Centers for Disease Control and Prevention, Centers for Medicare

& Medicaid Services, National Centers for Health Statistics, National Institutes of Health, and Substance Abuse and Mental Health Services Administration. Details of individual data collections are available in the Appendix. A brief listing of databases used in the NHDR is included below:

Surveys collected from samples of civilian, noninstitutionalized populations:
- AHRQ, Medical Expenditure Panel Survey (MEPS), 1998-2000
- California Health Interview Survey (CHIS), 2001
- CMS, Medicare Current Beneficiary Survey (MCBS), 1999
- The Commonwealth Fund, Health Care Quality Survey, 2001
- NCHS, National Health and Nutrition Examination Survey (NHANES), 1999-2000
- NCHS, National Health Interview Survey (NHIS), 1998 and 2000
- NCHS, National Immunization Survey (NIS), 2001
- SAMHSA, National Household Survey of Drug Abuse (NHSDA), 2000.

Data collected from samples of health care facilities:
- CMS, End-Stage Renal Disease Clinical Performance Measurement Program, 2001
- CMS, Nursing Home Resident Profile Table, 2001
- NCHS, National Ambulatory Medical Care Survey (NAMCS), 1999-2000
- NCHS, National Home and Hospice Care Survey (NHHCS), 2000
- NCHS, National Hospital Ambulatory Medical Care Survey-Outpatient Department (NHAMCS-OPD), 1999-2000
- NCHS, National Hospital Ambulatory Medical Care Survey-Emergency Department (NHAMCS-ED), 1999-2000
- NCHS, National Hospital Discharge Survey (NHDS), 1998-2000
- NCHS's National Nursing Home Survey (NNHS), 1999
- NIH, United States Renal Data System (USRDS), 2000
- SAMHSA, Client/Patient Survey Sample (CPSS), 1997.

Data extracted from administrative data systems of health care organizations:
- AHRQ, Healthcare Cost and Utilization Project State Inpatient Databases 16-State database[i] (HCUP SID), 2000
- Medicare claim data from CMS
- HIV Research Network data (HIVRN), 2000.

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[i] This database was created specifically for NHDR analyses. It consists of inpatient data from 16 States that have high quality race/ethnicity data and includes information on 19 million hospitalizations. States included are: AZ, CA, CT, FL, GA, KS, MA, MD, MO, NJ, NY, SC, TN, TX, VA, and WI. See the appendix for details.

Data extracted from medical records of health care organizations:
- CMS, Quality Indicators program, 1998-1999.

Population-based data collections:
- CDC, HIV/AIDS Surveillance System, 2000
- CDC, TB Surveillance System, 1998-1999
- NCHS, National Vital Statistics System (NVSS), 2000
- NIH, Surveillance, Epidemiology, and End Results (SEER) program.

Years of data included in this report range from 1997 to 2001. These represent the most recent years of complete data available for the report. To ease reading, findings are discussed in the present tense but reflect data from these years.

Measure Specification

As with data selection, measure specification was guided by consistency with *Healthy People 2010*, the NHQR, and other Federal publications whenever applicable. In addition, when a specific measure was related to a *Healthy People 2010* measure, NHDR sought comparable specification.

For example, "proportion of persons with health insurance" is a *Healthy People 2010* measure, while "proportion of persons with public health insurance" is not. However, because the two measures are related, they are specified in a comparable fashion: restricted to persons under 65 and with age adjustment.

Examination of Disparities

Several decisions guided the comparisons that were made for this report. Criteria for comparisons relate to the selection of reference groups for comparisons and the choice of a measure of disparity. The NHDR team sought consistency with existing Federal guidelines and publications so that comparisons would be as easily understandable as possible.

Reference Groups

Disparities are typically defined relative to one or more reference points. Within DHHS, data experts are working to specify a reference point standard for disparities for *Healthy People 2010*, but consensus has not yet emerged. Therefore, the NHDR team considered three basic options for reference points. First, groups could be examined relative to the total population. Second, groups could be examined relative to the "best performing" group. Third, groups could be examined relative to the largest fixed group.

The NHDR team adopted the third option, reasoning that it would be the easiest to understand since reference groups would not change from measure to measure as in comparisons with the "best performing" group. In addition, because each reference

group is numerically the largest, standard errors tend to be the smallest for this group. Moreover, unlike comparisons with the total population, groups are independent.

The largest fixed groups are whites for racial comparisons, non-Hispanic whites for ethnic comparisons, 400% or more of the FPL for income comparisons, and any college education for education comparisons.

This choice of comparison groups is not meant to suggest that whites or persons with high income or college education are superior in any way or that disparities are an issue for racial and ethnic minorities or less affluent persons only. In fact, whites and persons with high income or college education are not the "best performing" group in many instances.

Measuring Disparities

Disparities can be measured as absolute differences or as percentage differences from a reference point. Disparities can be shown for individual groups compared with a reference group, or summary statistics can be calculated that incorporate disparities for individual groups into a single value for the population as a whole. As mentioned above, groups are working in DHHS to specify a disparities measurement standard as well as to create summary measures of disparity for the population as a whole for *Healthy People 2010*. In the absence of consensus, it was decided to measure disparities in relative terms as percentage differences compared with the reference group. This option appears to be the easiest to understand. Data for individual groups are available in the appendix.

Data Analysis

A number of decisions guided the specific analyses conducted for this report. These decisions relate to suppressing data that are unreliable and identifying the most significant disparities. In general, the NHDR team established high thresholds for data suppression and determination of significance in order to concentrate on the highest quality data and the most significant disparities.

Data Suppression

Different data systems apply different criteria to suppress data deemed unreliable, ranging from no suppression of data to complicated algorithms. In an effort to standardize the quality of data across the many data systems providing information for this report, the NHDR team decided to impose two minimum data suppression criteria across all databases:

- Estimates based on sample size less than 30
- Estimates with relative standard error (standard error divided by parameter estimate) greater than 30% when appropriate

Hence, almost all data in this report are based on cell sizes of at least 30 with a relative standard error of 30% or less, when appropriate. Any exceptions in the report are noted. Specific data suppression criteria for each database are available in the Appendix.

These criteria were applied in addition to standard data suppression criteria maintained by individual data systems. When data systems had more rigorous suppression criteria than those adopted by the NHDR team, the more stringent criteria were maintained. For example, the National Health Interview Survey suppresses data with cell sizes less than 50 and the Medical Expenditure Panel Survey suppresses data with cell sizes less than 100. NHIS and MEPS data presented in this report adhere to these more rigorous standards.

A general exception to these data suppression criteria is data that encompass population counts, such as data from vital statistics. Such data are not subject to error related to sampling and typically have their own suppression criteria. For example, mortality statistics based on fewer than 20 deaths are typically suppressed; data presented in this report adhere to this criterion.

Determination of Differences as Significant

Different databases used in this report vary greatly in their size and scope. In some large databases, such as the HCUP SID 16-State database, even very small differences are often statistically significant. Other databases, such as the National Vital Statistics System, encompass population counts, making significance testing inappropriate. Criteria other than statistical significance were therefore needed to help focus on the most important disparities.

Hence, two criteria were specified for determining significance. First, differences between each priority population and its reference group must be statistically significant with $p<0.05$. Second, relative differences of at least 10% from the comparison group are tagged as significant.

A related issue is whether disparities should be examined in terms of favorable outcomes, adverse outcomes or both. For example, *Healthy People 2010* specifies many measures in terms of favorable outcomes (e.g., percent of persons *with* health insurance, percent of persons *with* an ongoing source of care, etc.). Because achievement of these favorable outcomes is relatively high in the total population, relative differences tend to be minimized compared with examining adverse outcomes (e.g., percent of persons *without* health insurance, percent of persons *without* an ongoing source of care, etc.). Because the report includes measures that range from under 5% to over 95% of the general population, the NHDR team examined all relative proportions in terms of both favorable outcomes and adverse outcomes. Relative differences of at least 10% in one or the other comparison were used to label a difference as significant.

For example, the percent of persons under 65 *with* health insurance, a favorable outcome, is 85% among whites and 80% among blacks (NHIS, 2000). Calculating the difference between these two groups (blacks minus whites) relative to the comparison group (whites), $(80\% - 85\%)/85\% \approx 6\%$, this difference does not reach the 10% criterion for a significant difference. However, if we convert the measure to its adverse outcome, percent of persons under 65 *without* health insurance, the white rate is 15% and the black rate is 20%. Now, the relative difference $(20\% - 15\%)/15\% \approx 33\%$, does reach the 10% criterion for a significant difference. Therefore, this report considers the black-white difference in health insurance to be significant.

In summary, this report considers differences significant if:

- The difference is statistically significant at the alpha=0.05 level, two-tailed test **and**
- The relative difference is at least 10% different from the reference group when framed positively as a favorable outcome or negatively as an adverse outcome.

For population-based data for which significance testing would be inappropriate, only the second criterion needs to be met in order to be labeled a significant difference. However, it is important to note that the absence of a significance label for a particular comparison does not mean that disparities do not exist. Differences may be of a magnitude of less than 10% or may not achieve statistical significance due to small sample sizes.

Review Process

Because of the many measures and multiple comparisons that are an integral part of this report, it was recognized that focusing on specific differences would be problematic. Explicit adjustment for multiple comparisons was not performed. Instead, analyses focused on disparities that cut across multiple groups or across multiple related measures. Typically, disparities that involved all or most minority groups or all or most lower socioeconomic groups are presented. Greater weight is also given to differences that involve only one or two groups but that involve multiple related measures.

Because identifying disparities involves some subjectivity, the review process sought to be inclusive and iterative. Summary data tables containing all comparisons and identifying those that met criteria for significance were reviewed by members of the NHDR Interagency Work Group, AHRQ staff, and stewards of the data set employed.

Presentation of Findings

General Population

The NHDR illustrates findings related to the general population in three ways. First, the appendix contains summary tables and detailed tables for all measures. Summary tables

of disparities in the general population across all measures are presented to allow readers to see all data supporting this report, both areas with significant disparities and areas without. For the access and quality chapters, the summary tables identify when a priority population performs worse than the comparison group as well as when a priority population performs better than the comparison group. Detailed tables allow readers to see and evaluate all the primary data for themselves.

Second, summary tables included in the report body present information for measures deemed to be most useful for assessing disparities. Third, report text focuses on key findings. Key findings are illustrated with simple bar charts showing differences in representative measures. Whenever possible, *Healthy People 2010* measures are selected to be presented graphically; if none is available for that topic, the bar graph that appears in the text depicts a measure that affects larger numbers of people.

Priority Populations

AHRQ priority populations are listed in the Introduction. Given the sample size constraints, as well as the large numbers of measures, comparisons, and demographic groups, the NHDR does not present the same level of detail for each priority population as it does for the general population. Instead, the report underscores how specific priority populations are unique by highlighting disparities for a specific priority population when such disparities differ from the general population. (See Chapter 5.)

Challenges and Limitations

Analyzing the data in this report required weighing conflicting needs and interests to present a balanced view of those areas of health care in which disparities do and do not exist. Providing an overview of a broad range of measures precludes in-depth examination of each one.

For each measure, the report includes data on racial and ethnic disparities across each priority population, stratified by socioeconomic status (as recommended by the IOM), but does not include multivariate analyses or measures at the intersection of multiple priority populations (e.g., racial disparities among low-income women). In addition, the report emphasizes data at the national level rather than at the State or local levels. Ultimately, then, the first report favors a broader scope of measures over more detailed analysis of each measure.

Few Data on Subpopulations

Related constraints were posed by the availability of data for subpopulations. While important differences in health care exist *within* some of the populations examined, such as among Hispanic and Asian subpopulations from different countries of origin, many data sets do not collect this level of detailed data on race and ethnicity. Even among those that do, small sample sizes generally preclude such analysis.

Ultimately, the report relies on the racial and ethnic categories specified by the Office of Management and Budget for the collection of Federal data. As noted earlier in this chapter, racial categories include white alone, black alone, American Indian and Alaska Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, and more than one race; ethnic categories include Hispanic or Latino (of any race), not Hispanic or Latino white race alone, and not Hispanic or Latino black alone.[3] The main data included in the report based on this classification are supplemented by data from the California Health Interview Survey, one of the few large survey efforts with adequate samples to address subpopulation issues.

No Universal Definition for Socioeconomic Disparities

While OMB guidance is available to help specify racial disparities, comparable standards do not exist to help specify socioeconomic disparities. Researchers use a variety of measures of socioeconomic position including income, poverty, education, occupation, wealth, class, and social capital; consensus does not exist about which measure is best for examining disparities in health care. Thus, as previously mentioned, in the absence of specific guidance, the NHDR focuses on family income relative to Federal poverty thresholds and education as commonly used and available measures of socioeconomic position and sought to include both dimensions when feasible.

Finally, the capacity to measure the existence of racial, ethnic and socioeconomic disparities in health care far exceeds the current state of knowledge explaining why such disparities exist and how to reduce them. Given the breadth of the Congressional mandate to provide a national overview of disparities in health care, the NHDR focuses on documenting existing disparities. The first report will provide a baseline from which to track future trends in health care disparities.

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Chapter 3. Quality of Health Care

Introduction

Many studies and commentators have pointed out the gap between ideal health care and the actual health care that Americans often receive.[1] All too frequently, patients receive care that does not meet clinical standards for "best practice" or that responds insufficiently to the needs of individual patients. As medical knowledge and practice become more complex, quality-related problems are likely to persist or worsen. This is especially worrisome given the increased demands on the health care system posed by the aging of the American population. Fundamental changes may be needed to address a health care delivery system that is decentralized and that has not taken full advantage of advances in information technology to improve quality.

While disparities in access to health care and receipt of health care services have been studied for many decades, the study of disparities in the quality of health care is relatively new. Published just last year, the Institute of Medicine's report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare*, provided definitive evidence that racial and ethnic disparities in quality of health care exist across a range of illnesses and health care services.[2] Much still remains to be learned, however, about the magnitude and extent of disparities in the quality of health care related to socioeconomic factors. Moreover, only recently have scientists and quality improvement experts begun to address the issue of how best to measure, track, and improve quality of health care in diverse populations.[3]

In 2001, the National Quality Forum (NQF), a private organization seeking to develop and implement a national strategy for health care quality measurement and reporting, convened experts to consider two overarching questions:

- Can existing, commonly used health care quality measures appropriately address the needs of minority patients, or are new measures needed to more accurately evaluate minority health care quality?

- What unique challenges are involved in reporting health care quality information to minority consumers?

The conclusions and recommendations of these experts guided the work for this first NHDR.[4] The recommendation to use existing measure sets for studying the quality of health care of minority populations led to the adoption of the consensus measure set developed for the first NHDR.

Hence, whenever possible, the NHDR and the NHQR use the same measures of quality of health care. This is not always possible, however, due to sample size constraints and the lack of reliable information on race, ethnicity, or socioeconomic status in some databases. As a result, NHDR dropped 12 measures from the NHQR quality of care measure set. For 5 additional measures,

alternative data sources with reliable information on race and ethnicity were identified and used. These are:

- CMS's End-Stage Renal Disease (ESRD) Clinical Performance Measures Project (CPMP) for ESRD measures
- CMS's Nursing Home Resident Profile Table (RPT) database for long-term care measures.

In addition, sample size was often a limiting factor for measures of quality of health care, which are frequently restricted to persons with particular medical conditions. Often, insufficient sample sizes of individuals affected by specific conditions were available to produce reliable estimates of the quality of health care for many racial, ethnic, and socioeconomic groups.

Both the NHQR and the NHDR organize the quality of care measures into four main categories:

- Effectiveness (i.e., care based on scientific knowledge; it is provided to all patients who could benefit and not provided to patients unlikely to benefit);
- Safety (i.e., care that avoids injuring patients with care intended to benefit them);
- Timeliness (i.e., care that reduces waiting times and delays in receipt of care); and
- Patient centeredness (i.e., care that is respectful and responsive to the individualized needs, preferences, and values of patients).

This chapter will examine racial, ethnic, and socioeconomic disparities in quality of health care for the entire population. In it, various racial and ethnic groups, as well as people of differing socioeconomic status, are compared for each of the quality of care measures. Summary tables present disparities across all measures and share a common key:

Key to Quality of Health Care Tables
◑: Selected population and comparison population receive about same quality of health care
◒: Selected population receives better quality care than the comparison population
◓: Selected population receives worse quality care than the comparison population
○: Data are collected but do not meet criteria for statistical reliability

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Because of the large volume of measures and populations, this chapter presents only a small subset of the findings. It focuses upon areas in which disparities are prevalent either across multiple populations or across several related measures and illustrates specific types of disparities with data that represent existing measures. When *Healthy People 2010* measures are available, these measures are highlighted.

For an analysis of disparities in quality of health care as they relate to priority populations, as defined in the Agency for Healthcare Research and Quality's (AHRQ) authorizing legislation, see Chapter 5. Because many disparities cut across multiple populations, Chapter 5 focuses on disparities that are specific to each population group.

Effectiveness

Key Finding:

- Patient race, ethnicity, and socioeconomic status are important indicators of the effectiveness of health care.

The effectiveness of health care can be defined as the extent to which scientifically proven services and treatments are provided to all who could benefit and not provided to those unlikely to benefit. Prerequisites to the measurement of effectiveness include: evidence that a given treatment works and established guidelines that govern the types of patients to whom the treatment should be applied. Of the various elements of health care quality, effectiveness has been the most extensively studied.

The impact of disparities in health care is specific to particular conditions. This section examines disparities in the effectiveness of care for:
- Cancer
- Chronic kidney disease
- Diabetes
- Heart disease
- HIV/AIDS
- Maternal and child health
- Mental health
- Respiratory diseases
- Long term care

Cancer

> Key Findings:
> - Minorities and persons of lower socioeconomic status are less likely to receive cancer screening services and more likely to have late-stage cancer when the disease is diagnosed. *Exception:* Black women have higher screening rates for cervical cancer.
> - Blacks and persons of lower socioeconomic status also have higher death rates from cancer.

Why cancer is important

Cancer is the second leading cause of death in the United States after heart disease, and cancer causes one in four deaths.[5, 6, 7]

- In 2003, an estimated 1.3 million persons in the United States will be diagnosed with cancer and over 550,000 persons will die from it.[8] More than half of new cancer cases and cancer deaths can be attributed to four cancers: lung, colorectal, breast and prostate.[9] Lung cancer alone causes over 150,000 deaths per year.[10, 11]

- While cancer incidence rates have increased gradually in recent years, cancer death rates have declined.

- Economic costs of cancer are high; in 2002, total costs exceeded $171 billion, and direct costs for physicians, hospitals, and drugs exceeded $60 billion.[12]

Cancer incidence and death rates vary by race and ethnicity.

- Blacks have a 10% higher cancer incidence rate and a 30% higher cancer death rate compared with whites.[13] While cancer death rates are declining more quickly for blacks compared with whites, cancer survival is lower among blacks for almost all cancers regardless of site or stage.[14] Other minorities are disproportionately affected by select cancers.

- Compared with whites, Hispanics have higher rates of cervical, esophageal, gallbladder, and stomach cancer; Asians have higher rates of stomach and liver cancer; and Alaska Natives have higher rates of colorectal cancer.

Cancer care also varies by race, ethnicity, and socioeconomic status.[15]

- Studies indicate differences in screening for breast cancer[16] and colorectal cancer.[17] Some populations also are diagnosed with prostate cancer at earlier stages of the disease, while others are more likely to have it diagnosed at a later stage.[18]

- Differences in primary treatment of breast cancer,[19, 20, 21, 22] cervical cancer,[23] colorectal cancer,[24] early stage lung cancer[25] and prostate cancer,[26, 27] as well as adjuvant therapy for breast cancer,[28, 29] colorectal cancer[30, 31] and prostate cancer,[32] exist.

- Research also indicates that there are both differences in follow-up care after diagnosis of breast cancer[33] and colorectal cancer[34, 35] and differences in health care expenditures by cancer patients.[36]

How the Nation is doing

NHQR Findings:
The NHQR found that the rates of cervical cancer and colorectal cancer diagnosed at late stage have declined over time. However, delays in screening for breast, cervical and colorectal cancer remain. In addition, patterns of hospice use suggest that patients with cancer are not placed in palliative care settings until very close to death; median length of stay by cancer patients in hospice is just 15 days. See NHQR for details.

NHDR Findings:
The NHDR examines three aspects of cancer care (Tables 1 and 2):

- Screening for breast, cervical, and colorectal cancer
- Cancer treatment
- Palliative care (e.g., hospice care)

Screening for breast, cervical, and colorectal cancer is a highly effective means of reducing mortality caused by these cancers. Mammography can detect breast cancer at an early stage when chances for cure are highest. Pap testing can detect precancerous cervical changes and prevent the progression to invasive cervical cancer. Fecal occult blood testing and lower endoscopy can detect precancerous colorectal polyps and prevent the development of colorectal cancer.

Yet minorities and persons of lower socioeconomic status are less likely to receive cancer screening services. For example, black, Asian, and American Indian or Alaska Native (AI/AN) women aged 40 and over are less likely than white women to receive mammography. Similarly, Hispanic women are less likely to receive mammography compared with non-Hispanic white women. Lower income, less educated, and uninsured women are less likely to receive mammography compared with higher income, better educated, and privately insured women, respectively. (Source: NHIS, 2000)

Overall, 81% of women 18 and older report a Pap smear in the past 3 years (Figure 1) (NHIS, 2000). Although certain minorities and persons of lower socioeconomic status are less likely to receive cancer screening, there appears to be no significant difference in Pap smear rates between black and white women.

Figure 1. Percent of women (18 and over) who report they had a Pap smear within the past 3 years, age-adjusted.
(U.S. total = 81%)
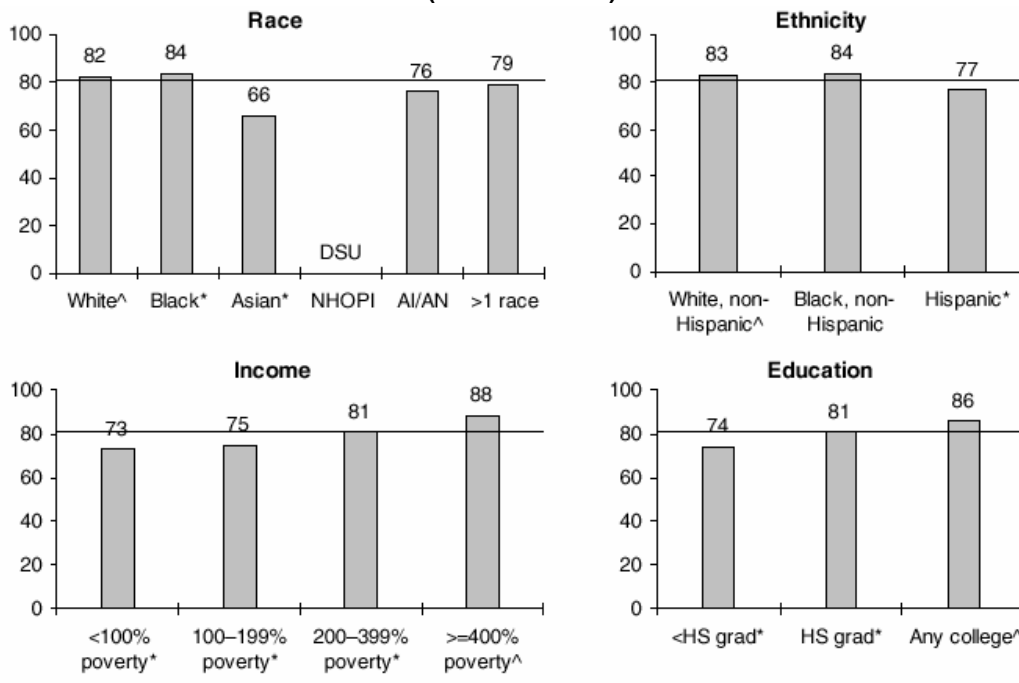
^Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group. Note that a relative rate>10% is achieved for the inverse of this measure, percent of women who report that they did not have a Pap smear within the past 3 years.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: National Center for Health Statistics, National Health Interview Survey, 2000.

Racial, ethnic, and socioeconomic differences in cervical cancer screenings:
- **Asian, Hispanic, low income, and less educated women are less likely than the general population to report having Pap smears.**
- **However, black women are more likely than the general population to report having Pap smears.**

Asian women report that they have not had a Pap smear in the past 3 years (34%) more frequently than whites (18%) or blacks (16%). Hispanics (23%) are also more likely to have not had Pap smears than their non-Hispanic white counterparts (17%).   Similarly, poor[i] (27%), near poor[ii] (25%), and middle income[iii] (19%) women are more likely than high income[iv] women (12%), and women with less than a high school education (26%) and high school graduates (19%) are more likely than women with any college education (14%) to report not having a Pap smear in the past 3 years.

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[i] "Poor" is defined as persons with family incomes less than 100% of Federal poverty thresholds.

[ii] "Near poor" is defined as persons with family incomes between 100% and 199% of Federal poverty thresholds.
[iii] "Middle income" is defined as persons with family incomes between 200% and 39% of Federal poverty thresholds.
[iv] "High income" is defined as persons with family incomes of 400% or more of Federal poverty thresholds.

Without screening, cancers may not be detected until they grow large or metastasize to distant sites and cause symptoms. Such late stage cancers are usually associated with more limited treatment options and poorer survival. Overall, minorities are more likely to be diagnosed with late-stage breast cancer and colorectal cancer compared with whites. Data on cancer diagnoses at late stage come from the Surveillance, Epidemiology and End Results (SEER) database.

Rates of cancer death may reflect a variety of factors not associated with health care such as genetic disposition, diet, and lifestyle. However, screening and early treatment can lead to significant reductions in mortality, particularly for breast and cervical cancer.

Cancer death rates tend to be higher among blacks and people of lower socioeconomic status. However, death rates from all cancers are lower among APIs (125 per 100,000 population) and AI/ANs (127 per 100,000) compared with whites (198 per 100,000). Cancer death rates are also lower among Hispanics (121 per 100,000) compared with non-Hispanic whites (203 per 100,000), but highest among blacks (250 per 100,000) (National Vital Statistics System – Mortality, 2000). Mortality statistics include educational attainment of decedents age 25 to 64. Among persons age 25 to 64, rates of cancer death from all cancers are also higher among persons with less than a high school education (141 per 100,000) and high school graduates (141 per 100,000) compared with persons with any college education (75 per 100,000)

At the end of life, many cancer patients benefit from palliative care in hospices. Data on palliative care only permit comparisons of blacks and whites. No evidence of a significant black-white disparity is present (Source: National Home and Hospice Care Survey, 2000).

Overall, there are significant disparities in cancer screening, diagnosis and outcomes. Many racial and ethnic minorities and persons of lower socioeconomic position persons are less likely to have indicated cancer screening, are more likely to have late-stage cancer when cancer is diagnosed, and are more likely to die from cancer. A notable exception: black women have higher screening rates for cervical cancer and no evidence of later stage cervical cancer presentation. While not clearly causally related to the lack of disparity, effective community-based cancer screening and outreach programs may be responsible.

Chronic Kidney Disease

Key Finding:
- While there are racial differences in the adequacy of hemodialysis and likelihood of transplantation, it is unclear to what degree this may be related to underlying differences in severity of illness, comorbidities, or patient preferences.

Why chronic kidney disease is important

Chronic kidney disease has been defined as structural or functional damage to the kidney with or without impairment of the kidney's ability to filter water and waste from the body. [37]

- Using this definition, 11% of the U.S. adult population has chronic kidney disease.[38] Of these 19.2 million persons, 8.3 million have moderate impairment of the kidney function and almost 400,000 have ESRD requiring renal replacement therapy to sustain life.[39]

- Each year, almost 100,000 new ESRD patients begin treatment with either dialysis or renal transplantation, and about 70,000 ESRD patients, 19% of the total ESRD population, die.

- Expenditures of the ESRD program totaled over $19 billion in 2000, of which the Medicare program paid $14 billion.[40]

Racial and ethnic minorities develop ESRD at a younger age and have rates of ESRD that are several-fold higher than whites. In spite of these differences, racial and ethnic minorities tend to have better survival after development of ESRD compared with whites.[40]

However, research has demonstrated that racial and ethnic disparities in care for chronic kidney disease exist.[41] There are significant differences in the rate of referral to renal transplant centers, placement on a waiting list, timing of placement on a transplant waiting list, and receipt of a kidney transplant.[42, 43]

How the Nation is doing

NHQR Findings:
The NHQR found that management of ESRD has improved over time. While the numbers of renal transplants have increased in recent years, too few transplants take place. Specifically, only 20% of ESRD patients are placed on a transplantation waiting list and only 20% of these persons actually succeed in getting a new kidney. (See the NHQR for details.)

NHDR Findings:

The NHDR examines two aspects of care for chronic kidney disease (Table 3):
- Management of ESRD

- Renal transplantation

Management of ESRD often involves dialysis to remove bodily waste and fluid. Data on the management of hemodialysis patients come from CMS's End Stage Renal Disease Clinical Performance Measurement Program. This quality improvement program has led to dramatic improvements in hemodialysis, as well as reductions in differences in adequacy of dialysis between black and white hemodialysis patients.[44] Compared to white adults (86%), black adults achieve adequate hemodialysis[i] less often (82%), while Asian adults achieve it more often (92%). In contrast, evidence of significant racial or ethnic disparity in management of anemia, commonly caused by ESRD, is not present.

Renal transplantation offers many advantages over dialysis including improved long term survival. Data on renal transplantation come from the United States Renal Data System (USRDS). Compared with whites (26%), blacks (14%) and AI/AN (13%) are less likely to report registration for kidney transplantation. Compared with non-Hispanic whites (28%), Hispanics (16%) are also less likely to report kidney transplant registration. Actual receipt of a kidney transplant within 3 years of renal failure is lower among blacks (10%), APIs (20%), and AI/ANs (11%) compared with whites (26%); it is also lower among Hispanics (17%) compared with non-Hispanic whites (28%).

In summary, there are significant racial disparities in the adequacy of hemodialysis and likelihood of transplantation. However, it is not clear to what degree these disparities may be related to underlying differences in severity of illness, comorbidities, or patient preferences. Regardless, quality improvement strategies that have resulted in demonstrable reductions in black-white differences in hemodialysis may offer important insights into efforts to reduce health care disparities.

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[i] "Adequate hemodialysis" is defined as a urea reduction ratio of 65% or higher.

Diabetes

Key Findings:
- While blacks and Hispanics have higher complication rates from diabetes, there are very small differences in receipt of recommended diabetic services.

Why diabetes is important

The prevalence of diabetes has risen in recent years, and this trend is projected to continue. A chronic condition, diabetes usually can be effectively controlled through a combination of primary care, specialty care referral, and patient self-management.[45, 46] The benefits of controlling glycemia, lipids, and blood pressure and of screening for diabetic retinopathy, nephropathy and foot disease are well demonstrated and form the basis for regularly published standards of care.[47] Unfortunately, recommended diabetes care is often not achieved.[48]

National statistics on the disease highlight the challenge it poses:

- Diabetes afflicts over 17 million people in the United States, including 20% of persons over age 65, and about one million new cases are diagnosed annually.

- Diabetes was the sixth leading cause of death in 1999, when about 200,000 death certificates listed diabetes as an underlying or contributing cause of death.

- Diabetes is also the leading cause of blindness, nontraumatic lower extremity amputation, and ESRD, and increases the risk of heart disease, stroke, neuropathy, and complication of pregnancy. [49, 50]

- The costs of diabetes total about $132 billion, including over $90 billion in direct medical expenditures and about $40 billion due to lost productivity and premature death.[51]

Significant racial, ethnic, and socioeconomic differences in diabetes have been observed.

- The prevalence of diabetes is higher among blacks and Hispanics and among less educated persons.[52]

- Blacks, American Indians and Hispanics have higher diabetes death rates. Blacks also have higher rates of serious complications from diabetes, including higher rates of ESRD due to diabetes[53] and higher rates of lower extremity amputation.[54, 55] Black diabetics are more likely than white diabetics to receive patient education[56] and to be treated with insulin.[57]

How the Nation is doing

NHQR Findings:
The NHQR found that only a fifth of diabetics receive all five services that are commonly recommended (i.e., annual retinal eye exams, annual influenza vaccinations, annual HbA1c checks, annual foot exams and biannual lipid profiles). While hospitalizations for uncontrolled diabetes fell significantly between 1994 and 2000, rates of lower extremity amputation have remained stable. (See the NHQR for details.)

NHDR Findings:
The NHDR examines two aspects of the management of diabetes (Tables 4 and 5):
- Receipt of diabetes services
- Hospitalizations for diabetes and its complications

Lower income and less educated adults with diabetes are less likely to report eye exams, but racial or ethnic differences are not significant. Patients with diabetes require multiple health care services to stay healthy, including: periodic hemoglobin A1c measurement to maintain optimal glycemic control; screening for diabetic eye and foot complications; screening for elevated lipids, which is often associated with diabetes; and immunization against influenza, which can be particularly severe among diabetic patients.

Diabetic patients of lower socioeconomic position are less likely to receive some recommended diabetic services. For example, poor (63%), near poor (64%), and middle income patients (61%) are less likely than those with high incomes (74%) to receive an annual retinal eye examination. Similarly, those with less than a high school education (64%) and high school graduates (61%), compared with persons with any college education (74%), are less likely to undergo annual retinal eye exams (Figure 2) (MEPS, 2000). In contrast, racial and ethnic differences in receipt of diabetic services are relatively small.

**Figure 2. Percent of adults with diabetes who had a retinal eye examination in past year
(U.S. total = 67%)**
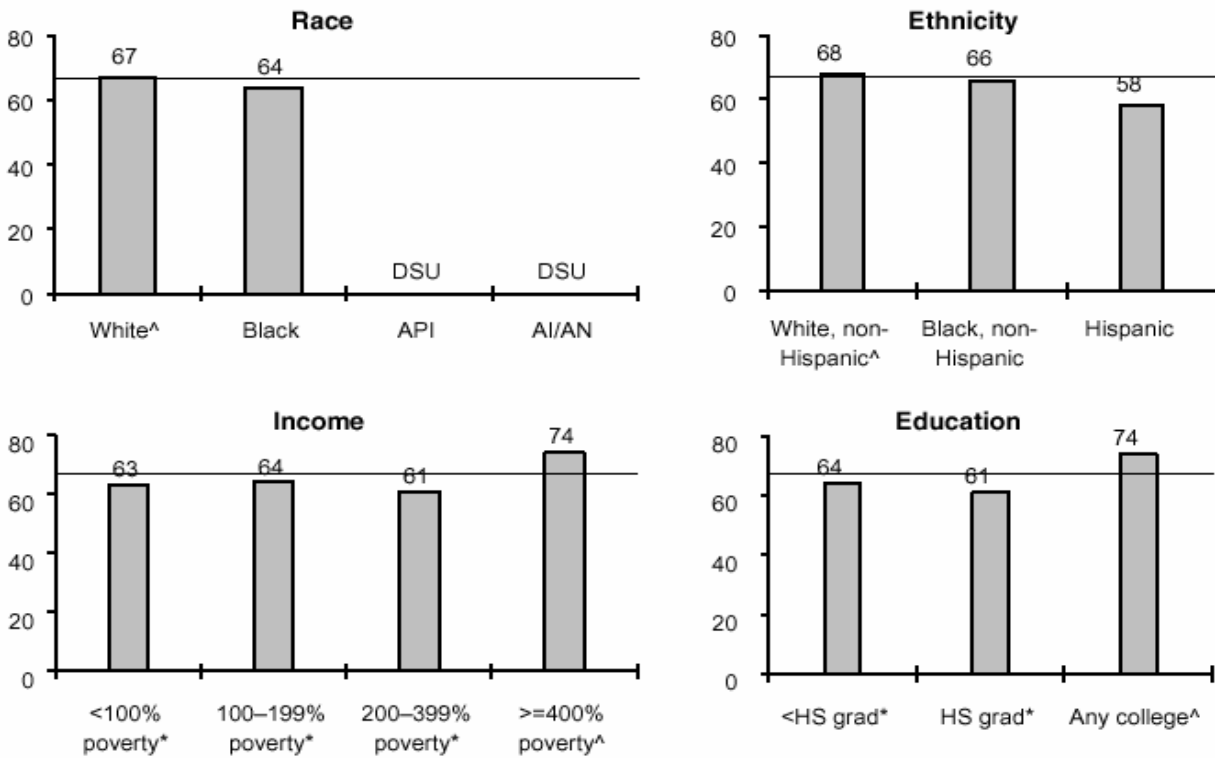
^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
**Source:** Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000.

**Blacks, Hispanics, and persons who live in poor neighborhoods are hospitalized
more often for complications of diabetes, but Asians or Pacific Islanders are
hospitalized less often.** When diabetic management is chronically inadequate, diabetics
may experience long-term complications and avoidable hospitalizations. Using State
administrative data from the Healthcare Cost and Utilization Project, State Inpatient
Databases (HCUP SID) in 16 States, significant disparities are noted by race, ethnicity,
and socioeconomic status.

Overall, blacks and Hispanics have higher rates of hospitalization for diabetes and its
complications. In contrast, Asians and Pacific Islanders have lower hospitalization rates.
Using median income of ZIP Code of residence as a proxy of patients' socioeconomic
position, lower income patients tend to have higher rates of hospitalization for diabetes
and its complications (Figure 3) (Source: HCUP SID, 2000).

**Figure 3. Hospital admissions for long term complications of diabetes per 100,000 population,
(age-adjusted)
(Total 16 States = 117 per 100,000)**
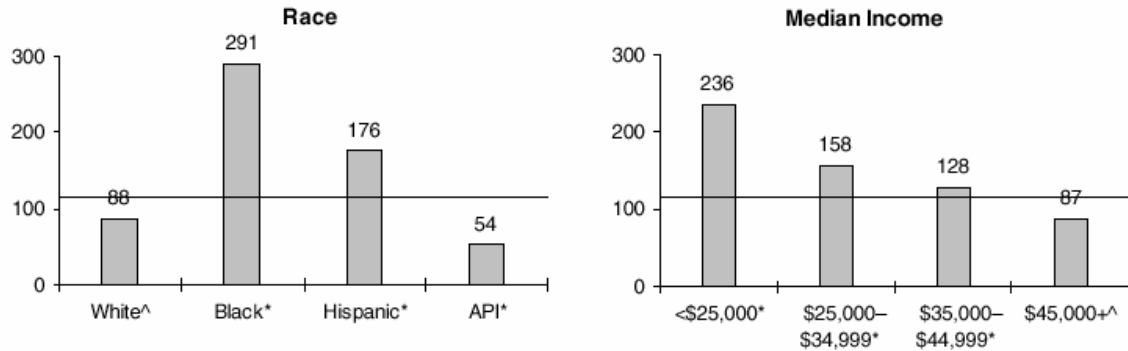
^ Indicates reference group.
*p<0.05 and relative rate 10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient
Database, 2000.

Diabetics are at high risk for developing foot ulcers and infections. When medical management of these conditions fails, amputation may be required. Overall, blacks have significantly higher rates of amputation for blacks (7.0 per 1000 diabetics) compared with whites (3.5 per 1000) (Source: NHDS, 1998-2000).

In summary, there are significant diabetes disparities in health care services and patient outcomes. Patients of lower socioeconomic position are less likely to receive recommended diabetic services and more likely to be hospitalized for diabetes and its complications. While blacks and Hispanics have higher diabetic complication rates, only small differences in the receipt of recommended diabetic services can be found. Further attempts to improve glycemic control for all patients may help to reduce the long-term adverse outcomes of diabetes.

Heart Disease

Key Findings:
- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive screening and treatment for cardiac risk factors.
- Exception: Blacks are **more** likely to report blood pressure monitoring.
- When hospitalized for acute myocardial infarction, Hispanics are less likely to receive optimal care.
- "Dual-eligible" individuals[i] who are hospitalized for cardiac conditions are less likely to receive quality care than other Medicare beneficiaries.

Why heart disease is important

- The leading cause of death for men and for women in the United States, heart disease was responsible for over 700,000 deaths in 2000. It is also the third leading cause of activity limitation. About 4.8 million Americans have heart failure, and 550,000 develop it each year.

- The economic cost of heart disease is estimated to be $214 billion, including $115 billion in health care expenditures.

- Two of the most common heart diseases are coronary heart disease and heart failure. About 12.6 million persons have coronary heart disease and over 1 million heart attacks occur each year.

- Over the last three decades, deaths due to coronary heart disease have fallen dramatically, in part due to declining rates of smoking and high cholesterol, two key cardiovascular risk factors. Heart disease risk can be modified through early detection and lifestyle changes.

Differences in heart disease among racial and ethnic groups have been observed. In particular:

- Heart disease deaths are higher among blacks and lower among Hispanics, Asians, and American Indians compared with non-Hispanic whites, although all groups have experienced declines in the past 15 years.

- Coronary heart disease is more prevalent among blacks compared with whites and the prevalence among blacks is rising while the prevalence among whites is falling. In addition, coronary heart disease mortality is higher among blacks compared with whites.[58]

[i] "Dual eligible" individuals are patients who use both Medicare and Medicaid coverage, a measure used as a proxy for low-income seniors

Racial, ethnic, and socioeconomic disparities in cardiovascular care have been extensively reviewed and documented.[59] Differences in recommendations for,[60] appropriateness of,[61, 62] and receipt of coronary revascularization procedures have been repeatedly demonstrated.[63, 64] In addition, differences in the management of acute myocardial infarction[65, 66] and unstable angina[67] and the diagnostic work-up of chest pain in the emergency room[68] have been demonstrated.

How the Nation is doing

NHQR Findings:
Blood pressure screening rates are high but cholesterol screening and smoking cessation rates are suboptimal. Rates of administration of aspirin to patients with acute myocardial infarction on hospital arrival are high, but rates of other recommended treatments for acute myocardial infarction are suboptimal.

NHDR Findings:
Given the evidence base and the quality measurement for heart disease, the NHDR examines numerous aspects of cardiovascular disease. Seven aspects of cardiovascular care considered in the NHDR are as follows (Tables 6 and 7):

- Screening for high blood pressure
- Screening for high cholesterol
- Counseling on risk factors
- Treatment of acute myocardial infarction
- Treatment of acute heart failure
- Management of hypertension
- Management of congestive heart failure

High blood pressure, high cholesterol, and smoking are three of the most important risk factors for heart disease that can potentially be modified by screening and treatment.

Asian, Hispanic, low income, and less educated adults are less likely than the general population to have their blood pressure monitored. Overall, 90% of adults have had their blood pressure measured within the preceding 2 years and can state whether their blood pressure was normal or high. The proportion of persons who have not had their blood pressure measured is lower among blacks (8%) and higher among APIs (14%) compared with whites (10%), and higher among Hispanics (16%) compared with non-Hispanic whites (9%). This measure is also higher among poor (14%), near poor (13%), and middle income (10%) persons compared with high income persons (6%), and among persons with less than a high school education (16%) and high school graduates (10%) compared with persons with any college education (7%)(Figure 4). (Source: NHIS, 1998). The percent of adults with hypertension whose blood pressure is under control is lower among persons with less than a high school education (20%) compared with persons with any college education (34%) (Source: NHANES, 1999-2000).

American Indian or Alaska Natives, Hispanics, low income, and less educated adults are less likely to have their cholesterol checked than the general population.

Screening for high cholesterol also demonstrates racial, ethnic, and socioeconomic disparity. The percent of adults who have had their blood cholesterol checked within the preceding 5 years is lower among AI/ANs (58%) compared with whites (67%) and among Hispanics (59%) compared with non-Hispanic whites (68%). This measure is also lower among poor (56%), near poor (60%), and middle income (67%) persons compared with high income persons (75%) and among persons with less than a high school education (58%) and high school graduates (69%) compared with persons with any college education (78%).(Figure 5) (Source: NHIS, 1998).

Among persons who had a check-up in the past year, the percentage of smokers receiving advice to quit smoking is lower among Hispanics (51%) compared with non-Hispanic whites (63%) (Source: MEPS, 2000). Moreover, while extensive disparity related to income or education is not noted, this measure is lower among the uninsured (49%) compared with persons with private health insurance (62%).

Figure 4. Percent of adults who have had their blood pressure measured within the preceding 2 years and can state whether their blood pressure was normal or high, (age-adjusted)
(U.S. total = 90%)
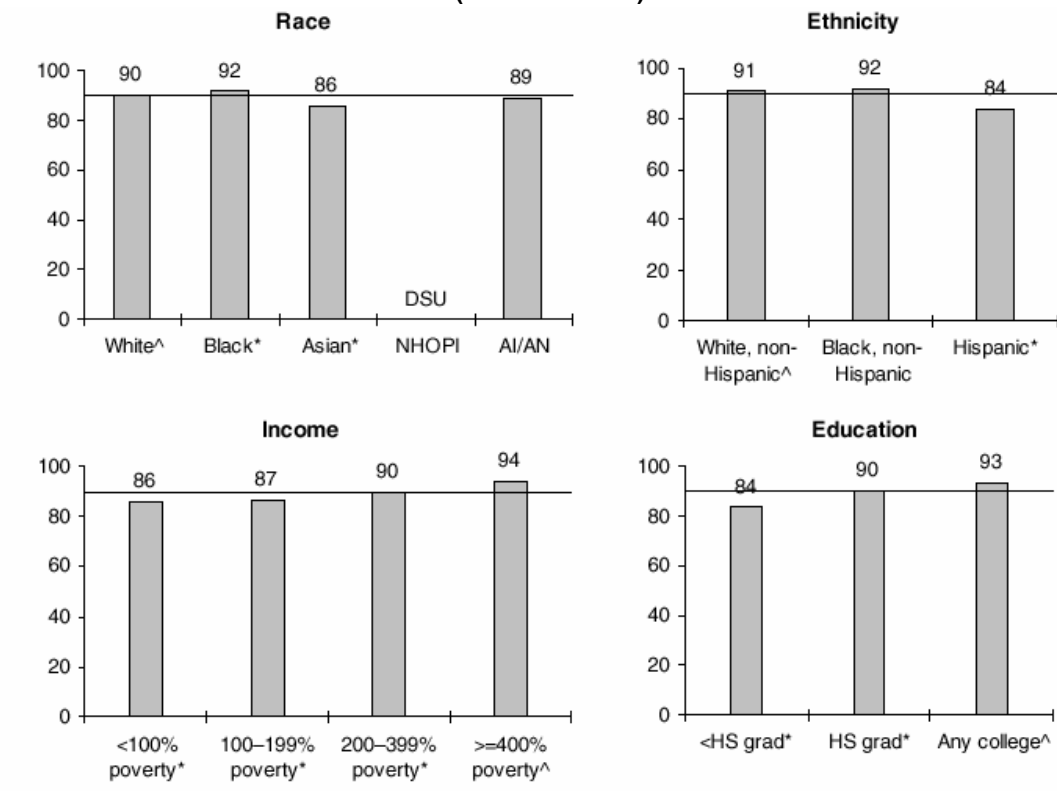
^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group. Note that a relative rate .10% is achieved for the inverse of this measure, percent of adults who have not had their blood pressure measured within the preceding 2 years.
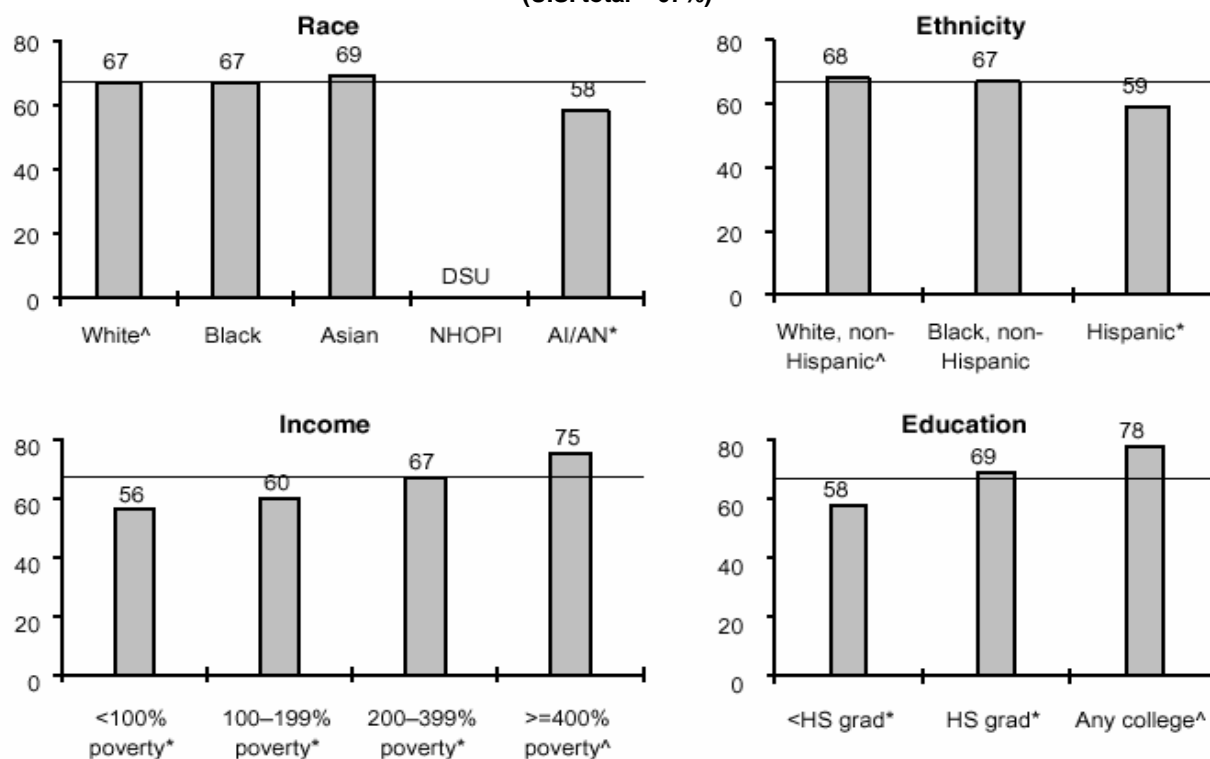Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: National Center for Health Statistics, National Health Interview Survey, 1998.

Quality of Health Care

Acute myocardial infarction and congestive heart failure are two serious cardiac conditions that demonstrate significant disparities in cardiac care. Overall, Hispanics tend to receive lower quality care for acute myocardial infarction compared with non-Hispanic whites. Since patient income and education information is not available, "dual eligible" status—using both Medicare and Medicaid coverage—is used as a proxy for socioeconomic position. "Dual-eligible" individuals who are hospitalized for acute myocardial infarction are less likely to receive aspirin and beta blockers within 24 hours compared with other Medicare beneficiaries. When hospitalized for acute heart failure, dual-eligibles are less likely to receive ACE inhibitors at discharge. (Source: Medicare Quality Improvement Organization program). Rates of hospital admissions for congestive heart failure are higher among blacks (5.5 per 1,000 population) compared with whites (2.5 per 1,000) (Source: NHDS, 2000).

Figure 5. Percent of adults who have had their blood cholesterol checked within the preceding 5 years, (age-adjusted) (U.S. total = 67%)

^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: National Center for Health Statistics, National Health Interview Survey. 1998.

In summary, many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive screening and treatment for cardiac risk factors. When hospitalized for acute myocardial infarction, Hispanics are less likely to receive optimal care. The combination of lower screening and effective treatment of risk factors, such as smoking among the uninsured, lend themselves to quality improvement initiatives that can potentially reduce heart disease disparities among populations at risk.

For the available NHDR measures, blacks suffer fewer cardiac disparities, especially when compared to other minority and socioeconomic groups. Blacks are more likely to receive blood pressure monitoring without any disparity in blood pressure management. The recognition of greater risk for significant cardiovascular disease among blacks may result in appropriately elevated rates of screening and treatment for risk factors. In addition, directed public education campaigns about cardiac risk factors and the importance of an involved patient may play an important role in the lower observed rate of cardiac disparities among blacks.

HIV/AIDS

Key Findings:
- Many racial and ethnic minorities and persons of lower socioeconomic position are more likely to die from HIV.

- Minorities also account for a disproportionate share of new AIDS cases.

Why HIV/AIDS is important

Human immunodeficiency virus (HIV) infection and its late-stage manifestation, acquired immune deficiency syndrome (AIDS), form one of the most devastating global infection disease pandemics in history.

- Worldwide, over 42 million persons are infected with the virus, and 40 million persons have died since the disease was first identified in 1981.[69] In 2002, over 5 million persons around the globe were infected with the virus and more than 3 million persons died, including 610,000 children.[70]

- Estimates indicate that, in the United States alone, between 850,000 and 950,000 individuals are infected, a quarter of whom do not yet know that they carry the disease.[71] More than 450,000 Americans have died from the disease since its discovery, and over 14,000 persons died in 2000.[72] Each year, about 40,000 persons acquire the infection, half of whom are under age 25.[73, 74]

Fortunately, great strides have been made in recent years in the management of this disease. Educational campaigns to prevent spread of the virus have been launched, treatments to control the virus and its associated opportunistic infections and cancers have been produced, and vaccines are under development.[75, 76, 77, 78]

HIV incidence and death rates vary by race and ethnicity.

- While blacks make up about 12 percent of the U.S. population, they accounted for 50% of the new HIV cases reported in the United States in 2001.[79]

- AIDS is the leading cause of death among black women 25 to 34 and black men 35 to 44.[80] Hispanics also have higher AIDS incidence rates compared with whites.[81]

Racial, ethnic, and socioeconomic disparities in quality care for HIV/AIDS have been documented in, for example, receipt of antiretroviral therapy and prophylactic therapy to prevent *Pneumocystis carinii* pneumonia (PCP),[82] receipt of highly active antiretroviral therapy,[83] and management of PCP.[84]

How the Nation is doing

NHQR Findings:
The NHQR found decreases in both new AIDS cases and in AIDS mortality. (See the NHQR for details.)

NHDR Findings:
This section examines two aspects of the quality of HIV/AIDS health care (Tables 8 and 9):

- AIDS prevention
- Management of HIV/AIDS

(Additional measures related to receipt of HIV care can be found in the chapter on Access to Health Care.)

While the overall rate of new AIDS cases is decreasing, new AIDS cases are reported at a higher rate among non-Hispanic blacks (75 per 100,000 population), Hispanics (26 per 100,000), and AI/ANs (12 per 100,000) compared with non-Hispanic whites (7 per 100,000). The new AIDS infection rate is even lower among APIs (4 per 100,000) (Source: CDC HIV/AIDS Surveillance System).

Effective treatments cannot cure HIV disease, but they can reduce or delay mortality from HIV-infection. Death rates due to HIV infection are higher among blacks (24 per 100,000 population) compared with whites (3 per 100,000); death rates are also higher among Hispanics (7 per 100,000) compared with non-Hispanic whites (2 per 100,000). There are a relationship between HIV morality and education; persons with less than a high school education (20 per 100,000) and high school graduates (13 per 100,000) had higher HIV death rates compared to persons with any college education (4 per 100,000) (Source: NVSS-M, 2000).

In summary, minorities account for a disproportionate share of new AIDS cases. In addition, many racial and ethnic minorities and persons of lower socioeconomic position are more likely to die from AIDS. However, given the complex relationship between HIV infection and mortality, factors such as lifestyle and patient preferences may play a role. Additional measures of HIV-related quality are needed to better understand health care disparities related to HIV treatment and outcomes.

Maternal and Child Health

Key Findings:
- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive timely prenatal care, are more likely to have low birthweight babies, and have higher rates of infant and maternal mortality.

- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive childhood immunizations.

Why maternal and child health is important

The health and care of mothers and children is of critical importance to maximize the health of the next generation. 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.[85]

- In 2001, 11.9% of infants were born preterm, 7.7% were born with low birthweight, including 1.4% with very low birthweight, and 1.4 percent had low 5-minute Apgar scores.[i] Over time, rates of preterm birth and low and very low birthweight have increased, although rates of low Apgar scores and infant mortality have decreased.[86]

- Comprehensive prenatal care can prevent complications of pregnancy and reduce neonatal mortality. Given that birth outcomes have effects that accrue over a lifetime, prenatal care is highly cost-effective.[87]

There are significant racial and ethnic differences in birth rates. For example:

- Non-Hispanic blacks, Hispanics, and APIs have higher birth rates than non-Hispanic whites. Similarly, non-Hispanic blacks, Hispanics, and American Indians have higher birth rates among teenagers than non-Hispanic whites.

- Black, American Indian, and Hawaiian mothers are more likely to have preterm, low birthweight, or low Apgar infants compared to white mothers. Similarly, Hispanic mothers are more likely to have preterm infants but less likely to have low birthweight or low Apgar infants compared with non-Hispanic white mothers.[88]

- During their first year of life, black infants are more likely to die than non-Hispanic white infants.[89]

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[i] Apgar scores are routinely performed to evaluate the general physical condition of newborns. Scores range from 0 to 10. Scores of 7 or higher indicate good neonate physical condition; scores under 7 are considered low.

Racial, ethnic, and socioeconomic disparities in maternal and child health care, particularly with respect to maternal care processes (e.g., prenatal care counseling),[90] use of prenatal care technologies,[91] modes of delivery[92, 93] and maternal care outcomes (e.g., birthweight and fetal and neonatal mortality)[94] have been extensively documented. Similarly, minority children and children of lower socioeconomic position often receive different care than white children and more affluent children. [95, 96, 97]

How the Nation is doing

NHQR Findings:
The NHQR found improvements in all maternal and child health measures over time, including maternity care, immunizations and treatment of pediatric gastroenteritis. See NHQR for details.

NHDR Findings:
Five aspects of the quality of maternal and child health care are included in this section (Tables 10 and 11):

- Maternity care
- Childhood immunization
- Adolescent immunization
- Childhood dental care
- Treatment of pediatric gastroenteritis

(General measures of access to care, receipt of care and quality of care as they are applied to children can be found in Chapter 5.)

Many racial and ethnic minorities and less educated women are less likely than the general population to receive timely prenatal care. Optimal prenatal care should reduce rates of low birthweight and of infant and maternal death. About 83% of women start prenatal care in the first trimester while 17% do not. There are significantly lower rates of prenatal care among blacks (26%), Native Hawaiians or Other Pacific Islanders (NHOPI) (23%), and AI/ANs (31%), compared to whites (15%). Hispanics (25%) are also more likely than non-Hispanic whites (11%) to lack prenatal care during the first trimester. Similarly, pregnant women with less than a high school education (30%) and those who completed high school (17%) are more likely to lack prenatal care than women with any college education (8%). (Figure 6) (NVSS-Natality, 2000)

Babies born to black, NHOPI, AIAN, and less educated mothers are more likely to die at birth. However, babies born to Asian mothers are less likely than those born to white mothers to die at birth. Racial and ethnic minorities are also more likely to have low birthweight babies and infants who die in the first year of life. Less educated women experience similar patterns. Although Hispanic women are more likely to die from obstetrical complications, Hispanic infants do not have higher mortality rates. Overall, infant mortality rates are higher for blacks (13.5 deaths per 1000 live births), NHOPIs (8.2 per 1000), and AI/ANs (8.3 per 1000) and lower for Asians (4.5 per 1000) compared with whites (5.7 per 1000) (Figure 7) (NVSS-Mortality, 2000). These patterns typically persist after stratification for infant birth weight.

**Figure 6. Percent of pregnant women receiving prenatal care in first trimester
(U.S. total = 83%)**
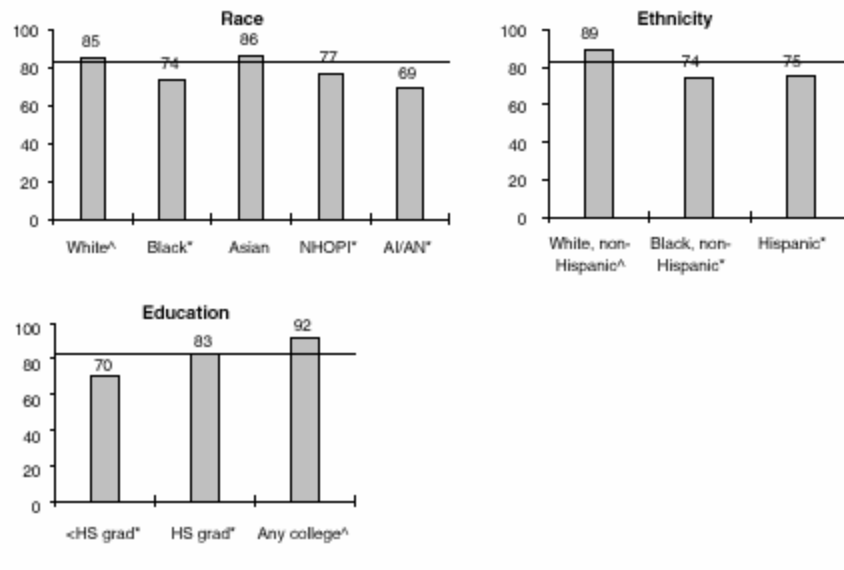
^ Indicates reference group.
*Relative rate >10% for comparison of group with reference group. Note that a relative rate >10% is achieved for the inverse of this measure, percent of pregnant women not receiving prenatal care in the first trimester.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: National Center for Health Statistics, National Vital Statistics System-Natality, 2000.

Black and low income children are less likely to receive all recommended vaccines.

Childhood and adolescent vaccination both protect its recipients from illness and disability and others in the community who cannot be vaccinated, such as small children and persons who are immunosuppressed. Vaccines routinely recommended for children tend to have net cost savings ranging from $24 saved for ever dollar spent on the diphtheria, tetanus, pertussis vaccine to $2 for the *Haemophilus influenzae* type b vaccine.[98]

Immunization of children and adolescents is an important means of reducing mortality and morbidity in these populations. Blacks are less likely to receive childhood immunizations compared with whites, and lower income children are less likely to receive immunizations compared with more affluent children.

For example, receipt of all recommended vaccinations is achieved by 74% of children ages 19 to 35 months, while 26% do not attain this goal. Black children are more likely to miss all recommended vaccinations (32%), compared with white children (25%). Similarly, children who are poor (32%), near poor (29%), and middle income (25%), compared with children from high income families (21%), do not receive all recommended vaccinations. (Figure 8) (National Immunization Survey, 2001).

Quality of Health Care

Dental care for children is important to develop healthy dental habits. Among children, blacks (32%) are less likely than whites (50%), and Hispanics (27%) are less likely than non-Hispanic whites (55%) to visit a dentist. Similarly, fewer poor (32%), near poor (29%), and middle income (51%) children, compared with high income children (65%), and fewer uninsured children (22%), compared with privately insured children (54%), visit a dentist (MEPS, 1999).

Figure 7. Infant mortality per 1,000 live births, all births
(U.S. total = 6.9)
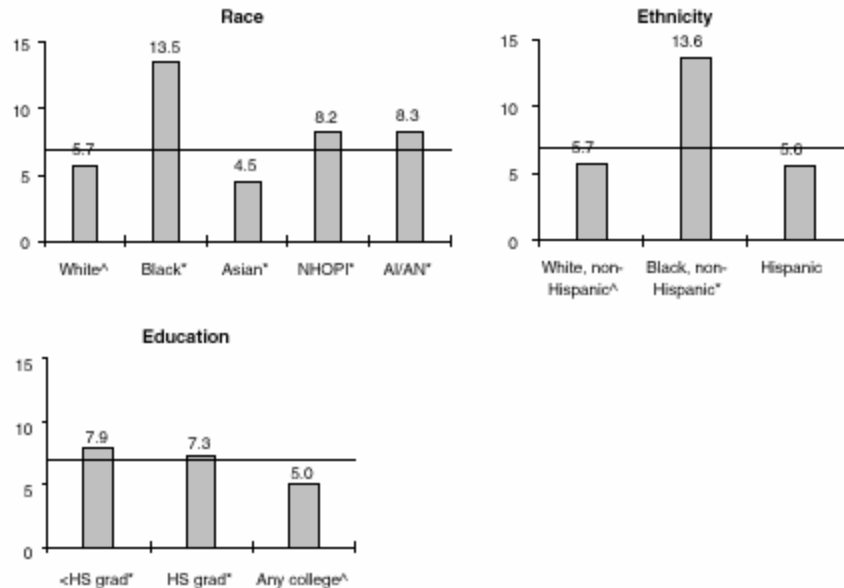
^ Indicates reference group.
*Relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: National Center for Health Statistics, National Vital Statistics System-Mortality, 2000.

Another measure of the quality of care for children is the rate of avoidable hospitalizations. For example, many hospitalizations for pediatric gastroenteritis should be avoidable with effective primary care. Rates of hospitalization for pediatric gastroenteritis are higher among Hispanic children (133 per 100,000 population) and lower among API children (47 per 100,000) compared with white children (107 per 100,000). Because information on patient income and education is not available, the median income of by patient ZIP Code is used as a proxy of socioeconomic position. Overall, hospitalization for gastroenteritis are higher among children who live in ZIP Codes with lower median incomes; incomes <$25,000 (172 per 100,000 population), incomes of $25,000-$34,999 (157 per 100,000), and incomes of $35,000-$44,999 (124 per 100,000), compared with children who live in ZIP Codes with median incomes of $45,000 and over (86 per 100,000) (HCUP SID 16-State database, 2000).

In summary, there are significant disparities in maternal and child health. Overall, minorities and women of lower socioeconomic position are less likely to have timely prenatal care. This lower rate of prenatal care is coupled with a higher rate of low birthweight babies and infant mortality.

However, birth outcomes may be affected by factors other than prenatal care, including maternal health, lifestyle, and patient preferences. Finally, many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive childhood immunizations.

Figure 8. Percent of children 19-35 months who receive all recommended vaccines (U.S. total = 74%)
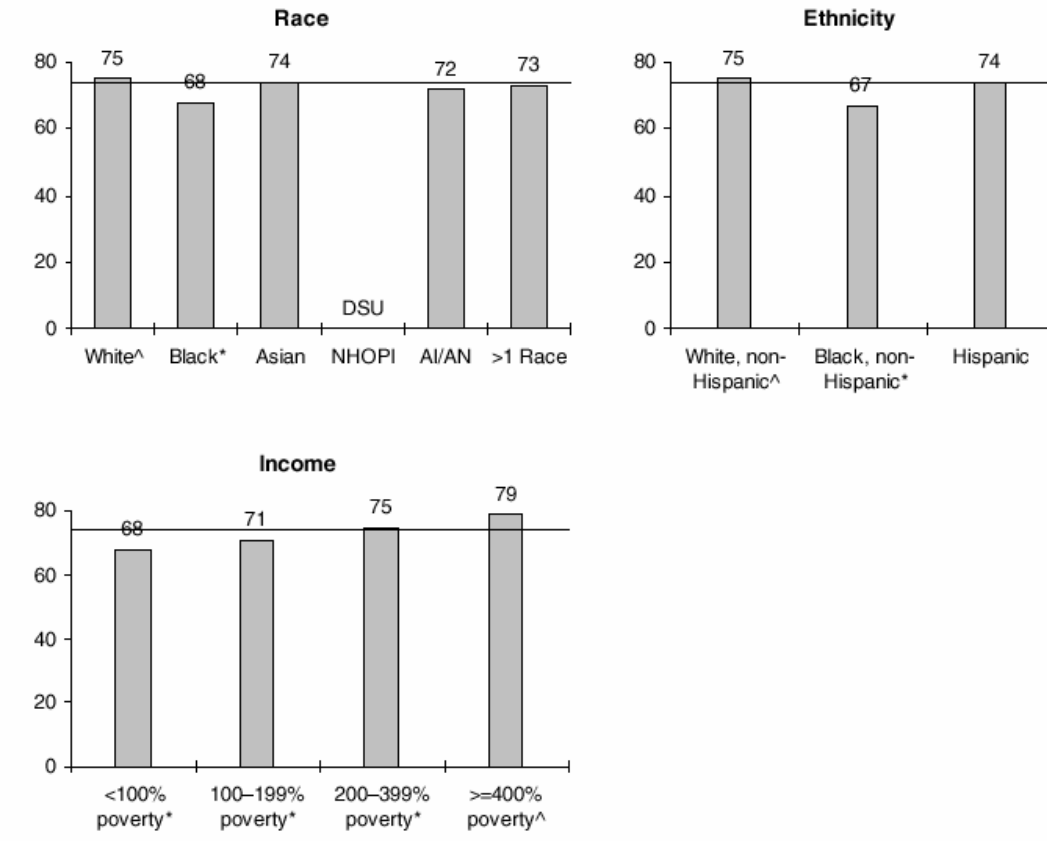
^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group. Note that a relative rate >10% is achieved for the inverse of this measure, percent of children 19-35 months who have not received all recommended vaccines.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: National Center for Health Statistics, National Immunization Survey, 2001.

Mental Health

Key Findings:
- Rates of suicide are lower among minority groups.
- Suicide is higher among high school dropouts and high school graduates compared with persons with any college education.

Why mental health is important

Mental illness is a category of diseases and problems which include major and minor depression, schizophrenia, substance abuse, bipolar disorder, Alzheimer's disease, and other disorders of the brain/mind. The personal and social costs associated with inadequate mental health care are staggering:

- The direct costs of mental disorders totaled $69 billion in 1996, while lost productivity and premature death accounted for an additional $75 billion. Mental disorders are the second leading cause of disability in established market economies such as the United States, accounting for over 15% of disability-adjusted life-years.

- Almost 15 million persons aged 18 and over, or 7% of the population, have a serious mental illness that substantially interferes with or limits one or more major life activities.[99]

- Depressive disorders account for about one-third of mental disorders. In any year, about 6.5% of women and 3.3% of men will have major depression. Major depression accounts for 6.8% of disability-adjusted life years and is associated with high rates of suicide.[100]

Although treatments of mental disorders are highly effective, only a quarter of persons with mental disorders and 40% of persons with serious mental illness seek help from the health care system. When patients do interact with health care providers, disorders such as depression often go undiagnosed.

Racial, ethnic, and socioeconomic disparities in mental health care have been documented in use of psychiatric medications[101] and of psychiatric outpatient,[102] emergency,[103] and inpatient services.[104]

How the Nation is doing

NHQR Findings:
Pharmacological treatment of depression has improved over time although opportunities for improvement remain. The NHQR also notes that while the suicide rate for adults has been relatively stable over time, the suicide rate for young adults has nearly tripled over the past four decades. (See the NHQR for details).

NHDR Findings:

Treatment of depression is examined in this section (Tables 12 and 13). (Additional measures related to access to and receipt of mental health care and substance abuse treatment can be found in the chapter on Access and Receipt of Care.)

There is not yet broad agreement within the mental health field on a core set of national mental health quality of care performance measures. But rather than omitting mental illness in its first report entirely, the NHQR turned to a reliable source of performance information on the quality of care for depression provided to managed care enrollees: the Health Plan Employer Data and Information Set (HEDIS®) measures. Unfortunately, racial, ethnic, and socioeconomic comparisons cannot be performed using HEDIS® data. Hence, the issue of disparities in pharmacological treatment of depression is not addressed in this section.

Effective treatment of depression may reduce rates of suicide.   Suicide rates are lower among blacks (5.6 per 100,000 population) and APIs (5.8 per 100,000), than whites (11.5 per 100,000), and lower among Hispanics (6.1 per 100,000) than non-Hispanic whites (12.1 per 100,000). Rates of suicide death are higher among high school dropouts (18.4 per 100,000 population) and high school graduates (18.8 per 100,000) compared with persons with any college education (9.3 per 100,000). However, suicide may be influenced by factors other than mental health care. Further measures of mental health disparities by race, ethnicity, and socioeconomic position are clearly required (Source: NVSS-M).

Respiratory Diseases

Key Findings:
- Black children have much higher hospitalization rates for asthma than white children.
- Many racial and ethnic minorities and individuals of lower socioeconomic status are less likely to receive recommended immunizations for influenza and pneumococcal disease.
- When racial and ethnic minorities are hospitalized for pneumonia, differences in quality of care received are observed.

Why respiratory diseases are important

Respiratory diseases cause activity limitation in 2.6 million persons. Annual costs of respiratory diseases exceed $116 billion, including $65 billion in health care expenditures.[58] Major respiratory diseases include:

- Chronic lower respiratory disease, such as chronic obstructive pulmonary disease (COPD) and asthma. COPD is the fourth leading cause of death; and

- Acute lower respiratory infection, such as influenza and pneumonia, which together are the seventh leading cause of death.[105]

Asthma affects about 15 million persons, and prevalence and mortality are increasing.[106] Each year, about 11 million persons experience asthma attacks and 5,500 persons die of the disease. Pneumonia is a leading cause of hospitalization among children and the elderly, and treatment costs in the United States exceed $9.7 billion.[107]

While not generally considered a respiratory disease, tuberculosis often has pulmonary manifestations. While progress toward elimination of tuberculosis was delayed by the resurgence of the disease between 1985 and 1992 and by emergence of drug-resistant strains,[108] rates of new tuberculosis cases continue to fall.[109]

Many respiratory diseases can be effectively prevented and managed. Vaccination of the elderly and high-risk adults is a highly effective strategy for reducing illness and death associated with pneumococcal disease and influenza. Consensus guidelines on the management of asthma are widely accepted and disseminated.[110] Anti-tuberculous medications are highly effective when treatment is adhered to and completed.

There are racial and socioeconomic differences in respiratory disease prevalence. For example, asthma is more prevalent among minorities and low income persons,[111] and asthma attack rates and mortality are higher among blacks compared with whites. Hospitalization and emergency room visits for asthma continue to rise among minority populations.[112] Tuberculosis is highly concentrated in two populations: foreign-born persons and U.S.-born non-Hispanic blacks. Non-Hispanic blacks account for almost half of all cases among U.S.-born persons. In addition, there

are differences in influenza vaccination among Medicare beneficiaries[113] and in management of asthma among managed care enrollees.[114, 115]

How the Nation is doing

NHQR Findings:
The NHQR found decreases in hospitalization rates for asthma between 1994 and 2000, but noted continued opportunities for improvement in asthma management. The NHQR found no change in the rate of inappropriate antibiotic prescriptions for the common cold between 1997-1998 and 1999-2000. (See the NHQR for details).

NHDR Findings:
This section examines six aspects of the quality of health care for respiratory diseases (Tables 14 and 15):

- Influenza immunization
- Pneumococcal immunization
- Treatment of pneumonia
- Treatment of upper respiratory infection
- Management of asthma
- Treatment of tuberculosis

Black, Hispanic, low income, and less educated elders are less likely to receive flu shots.
Sixty-five percent of persons aged 65 and above report that they received an influenza vaccine (Figure 9) (NHIS, 2000); 35% still do not receive this vaccine. Blacks (52%) are more likely than whites (34%) to fail to receive the vaccination. Those of low socioeconomic status are also less likely to receive immunization. Specifically, the poor (44%) and near poor (39%) are more likely than their high income counterparts (31%) to forego flu shots. Similarly, those with less than a high school education (42%) and high school graduates (34%) are more likely than those with any college education (30%) to miss the vaccine.

Among the elderly, Hispanics (44%) are more likely to go without an influenza vaccine than non-Hispanic whites (33%). Similarly, among persons 65 and over, blacks, Hispanics, and persons of lower socioeconomic position are less likely to receive pneumococcal vaccination. Among high risk persons aged 18-64, Hispanics (10%) are less likely to report pneumococcal vaccination than non-Hispanic whites (16%).

Many respiratory hospitalizations are avoidable with immunization and effective primary care. APIs and Hispanics have lower rates of hospitalization for influenza compared with non-Hispanic whites. Again, information on patient income and education is not available. Using median income of patient's ZIP Code as a proxy of socioeconomic position, patients who live in lower income areas have higher rates of hospitalization for influenza compared with residents of higher income ZIP Codes (HCUP SID 16-State database, 2000). Hospitalization rates among black children (60 per 10,000 population) and adults (21 per 10,000) tend to be higher than rates

among white children (17 per 10,000) and adults (8 per 10,000) (NHDS, 2000). Information on patient income or education is not available.

Figure 9. Percent of persons 65 and over who report receiving influenza vaccination in the past year (U.S. total = 65%)
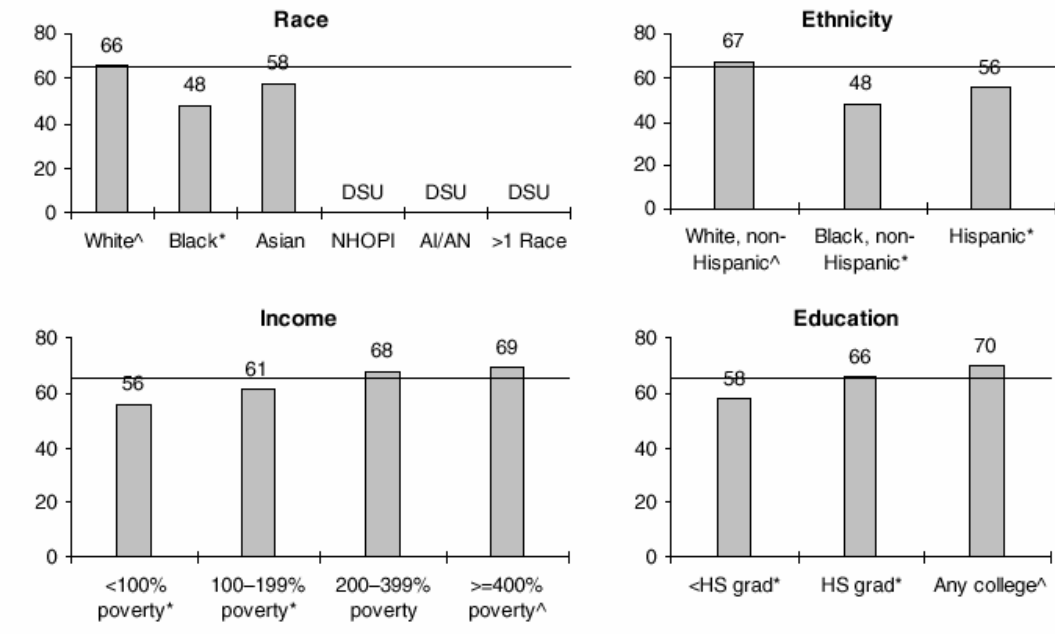
^ Indicates reference group.

*p<0.05 and relative rate >10% for comparison of group with reference group. Note that relative rate >10% is achieved for the inverse of this measure, percent of persons 65 and over who do not report receiving influenza vaccination in the past year.

Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.

Source: National Center for Health Statistics, National Health Interview Survey, 2000.

Though many cases of pneumonia can be prevented, there are important measures of the quality of care provided to patients hospitalized with pneumonia. Among Medicare beneficiaries, non-Hispanic blacks and Hispanics tend to receive lower quality pneumonia treatment and AI/ANs tend to receive higher quality care compared with non-Hispanic whites. Because information on patient income and education is unavailable, the NHDR uses both Medicare and Medicaid coverage as a proxy for low-income seniors. Such "dual-eligibles" who are hospitalized for pneumonia are less likely to receive influenza and pneumococcal screening or vaccination than other Medicare beneficiaries. (Source: Medicare Quality Improvement Organization program)

In summary, many racial and ethnic minorities and persons of lower socioeconomic position persons are less likely to receive recommended immunizations for influenza and pneumococcus. In some instances, these lower rates of vaccination are associated with higher rates of potentially avoidable respiratory admissions. Once hospitalized, some ethnic and racial minorities, as well as lower income patients, suffer worse quality of care for pneumonia. These differential rates of vaccination and hospitalization present opportunities for provider-based and community-based interventions to reduce disparities.

Long Term Care

Key Findings:
- The percent of residents in physical restraints is higher among Hispanics and APIs compared with non-Hispanic whites.
- The percent of residents with pressure sores is higher among non-Hispanic blacks and lower among APIs compared with non-Hispanic whites.

Why long term care is important

Long term care is the provision of personal, social, and medical services to persons who have functional or cognitive limitations in their ability to perform self-care and other activities necessary to live independently.   As the number of elderly Americans increases from 35 million in 2000 to an estimated 71 million in 2030,[116] the need for long-term care is expected to increase. Long term care includes the provision of services at home, in the community, and in special facilities.

- Home health care is available for those who can be managed at home. In 1996, about 12,000 home health care agencies provided care to 7.8 million persons, about two-thirds of whom were aged 65 and above.[117]

- Nursing homes are often a better option for those with serious disabilities that require 24-hour care or whose needs can be better met in a special facility. More than half of all nursing home residents are aged 85 and above.   Nursing home care costs on average, $56,000 per person per year, and expenditures total almost $80 billion, about half of which is paid by Medicaid and Medicare.[118] Approximately 70% of nursing home residents are supported in part by Medicaid.[118]

Use of home health care and of nursing home care has declined in recent years.[120] CMS data indicate that there are currently 1.4 million nursing home residents, down from 1.6 million in 1999.[119] At the same time, because growth in the elderly population over 75 has outpaced growth in the supply of nursing home beds, nursing homes are caring for older patients with more functional limitations.[120, 121]

Studies indicate that racial, ethnic, and socioeconomic disparities in nursing home care exist,[122] particularly with respect to differences in the management of pain[123] and the receipt of rehabilitative services.[124]   Concerns about nursing home quality, as well as lawsuits against nursing homes, are on the rise.[125]

How the Nation is doing

NHQR Findings:
The NHQR found that while use of restraints in nursing homes may have declined, many opportunities to improve the quality of nursing home care exist. (See the NHQR for details).

NHDR Findings:
Nursing facility care is examined in this section (Table 16). Additional measures related to receipt of nursing home, home health, and hospice care can be found in the Chapter 4. (Measures related to palliative (e.g., hospice) care for cancer patients can be found in the Cancer section of this chapter, and measures related to immunizations received by nursing home residents can be found in the Respiratory Diseases section of this chapter.)

Racial and ethnic minorities have more favorable quality of care on some measures and less favorable care on others. For example, the percent of nursing home residents who report pain is lower among non-Hispanic blacks (7%), Hispanics (7%), and APIs (5%) than among non-Hispanic whites (10%). However, the percent of residents in physical restraints is higher among Hispanics (12%) and APIs (12%) than among non-Hispanic whites (8%). The percent of residents with pressure sores is higher among non-Hispanic blacks (10%) and lower among APIs (7%) compared with non-Hispanic whites (8%). Overall, there are opportunities for improvement in nursing homes, though few examples of significant disparities. (Source: CMS's Nursing Home Resident Profile Table).

In summary, patient race, ethnicity, and socioeconomic status are important indicators of the effectiveness of health care.

Patient Safety

Key Findings:
- Racial and ethnic minorities have higher rates of hospital-acquired infections.
- Racial and ethnic minorities have higher rates of some complications of care, such as respiratory failure after surgery, and lower rates of other complications, such as hip fracture after surgery.
- Many racial and ethnic minorities have lower rates of injury related to labor and delivery and lower rates of inpatient death when hospitalized for conditions that should not lead to death.
- Many racial and ethnic minorities as well as the uninsured are more likely to be asked by their provider about medications and treatments from other doctors.
- For all findings, patient race, ethnicity, and socioeconomic position are associated with an increased risk of poor care.

Why patient safety is important

The prime directive of medical care is to do no harm, but the Institute of Medicine report, *To Err is Human*, estimated that 44,000 to 98,000 Americans die each year as a result of medical errors, making it the eighth leading cause of death.[126] This report also estimates costs attributable to medical errors total $29 billion annually.

Adverse drug reactions occur in 6.7% of hospitalized patients[127] and are rising.[128] Adverse drug events that are preventable occurred in about 2% of admissions to Utah hospitals[129] and Boston teaching hospitals;[130] 20% of these events were life-threatening. Among Medicare beneficiaries in an ambulatory setting, the overall rate of adverse drug events was 50 per 1,000 person years; over 40% of serious, life-threatening, or fatal events were deemed preventable.[131]

Relatively little is known about disparities in medical error. Blacks appear to be at greater risk for serious adverse events related to digitalis therapy[132] and pharmacologic treatment of diabetes.[133] Language barriers may increase the risk of drug complication among outpatients.[134] However, among hospitalized children, those who live in low income ZIP Codes have lower rates of medical errors compared with children from high income ZIP Codes.[135] Uninsured patients are more likely to suffer negligent medical injury in hospitals.[136]

How the Nation is doing

NHQR Findings:
The NHQR found that rates of many postoperative complications increased from 1994 to 2000. (See the NHQR for details.)

NHDR Findings:
Six aspects of patient safety are included in this section (Tables 17 and 18):

- Complications of care
- Nosocomial infections
- Injuries or adverse events due to technical errors
- Birth-related trauma
- Potentially avoidable death
- Medication safety

Because information on patient income and education are unavailable, the NHDR uses the median income of the patient's ZIP Code as a proxy of socioeconomic position. These inpatient measures are part of the Patient Safety Indicators developed by AHRQ (HCUP SID 16 State database).[137]

Racial and ethnic minorities and the poor have higher rates of severe breathing problems after surgery. Minorities and the poor also have higher rates of some complications of care: postoperative hemorrhage or hematoma with surgical drainage or evacuation postoperative respiratory failure, postoperative physiologic/metabolic derangement, and decubitus ulcers. For example, rates of postoperative respiratory failure are higher among persons who live in poor areas[i] (4.9 per 1,000 relevant discharges), near-poor areas[ii] (4.2 per 1,000), and medium-income areas[iii] (4.2 per 1,000), compared with high-income area[iv] residents persons who live in (3.7 per 1,000) (Figure 10) (HCUP SID 16 state database, 2000).

In contrast, rates of complications of anesthesia are lower among non-Hispanic blacks (0.57 per 1000 relevant discharges) and Hispanics (0.53 per 1,000) compared with non-Hispanic whites (0.74 per 1,000) and residents of poor areas (0.56 per 1,000 relevant discharges) compared with residents of high-income areas (0.71 per 1,000).

Racial and ethnic minorities and the low-income have higher rates of severe infection after surgery. Minorities and the poor have higher rates of nosocomial infections. For example, rates of postoperative septicemia[v] are higher among non-Hispanic blacks (17.3 per 1,000 relevant discharges), Hispanics (14.9 per 1,000), and APIs (14.5 per 1,000) compared with non-Hispanic whites (10.9 per 1,000). Postoperative septicemia rates are also higher among residents of poor

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[i] "Poor areas" are defined as having ZIP Codes with median incomes of under $25,000.

[ii] "Near-poor areas" are defined as having ZIP Codes with median incomes of $25,000-$34,999.

[iii] "Medium income areas" are defined as having ZIP Codes with median incomes of $35,000-$44,999.

[iv] "High-income areas" are defined as having ZIP Codes with median incomes of $45,000 and higher.

[v] Bacterial infection with invasion of the bloodstream and systemic illness.

areas (15.3 per 1,000 relevant discharges), near-poor areas (13.0 per 1,000), compared with high-income areas (11.3 per 1,000) (Figure 11) (HCUP SID 16-State database, 2000).

Figure 10. Postoperative respiratory failure per 1,000 elective surgical discharges
(Total 16 States = 4.0)
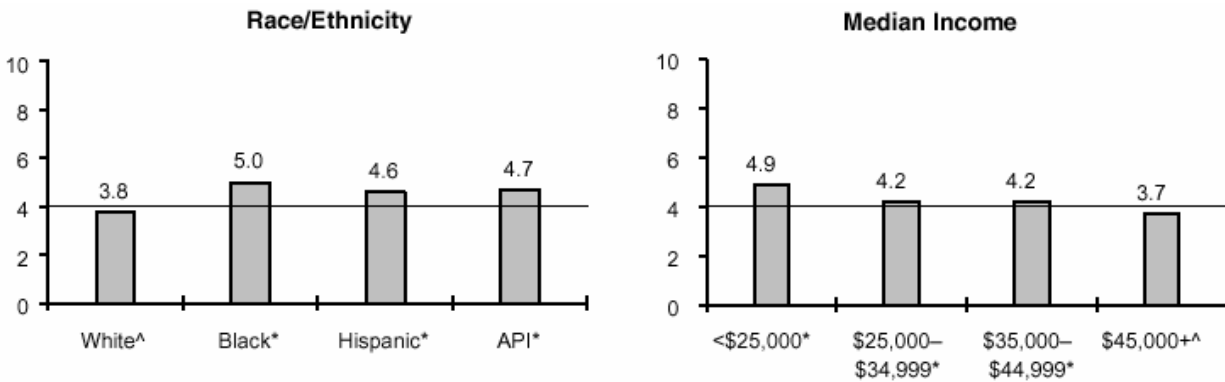
^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Database (16 States), 2000.

Figure 11. Postoperative septicemia per 1,000 elective surgical discharges of 4+ days
(Total, 16 States = 12.1)

^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Database (16-State), 2000.

Differences in rates of injuries and adverse events due to technical errors tend to be less pronounced than disparities in other aspects of patient safety. However, Hispanics and residents of poor areas have lower rates of some of these measures. For example, rates of iatrogenic pneumothorax are lower among Hispanics (0.61 per 1,000) compared with non-Hispanic whites

(0.75 per 1,000) and residents of poor areas (0.67 per 1,000 discharges) compared with residents of high-income areas (0.75 per 1,000) (HCUP SID 16-State database, 2000).

Blacks, Hispanics, and women who live in poor neighborhoods have lower rates of trauma associated with deliveries. Minorities and residents of lower income ZIP Codes also have lower rates of birth-related trauma. For example, rates of obstetric trauma during instrument-assisted deliveries, primarily serious lacerations, are lower among non-Hispanic blacks (193 per 1,000 instrument-assisted deliveries) and Hispanics (200 per 1,000) compared with non-Hispanic whites (235 per 1,000) and lower among residents of poor areas (183 per 1,000 instrument-assisted deliveries) and near-poor areas (207 per 1,000), compared with residents of high-income areas (238 per 1,000) (Figure 12) (HCUP SID 16 State database, 2000). It should be noted that since episiotomies increase the risk for "obstetric trauma," these procedures may account for the differential rates.[138]

Figure 12. Obstetric trauma per 1,000 instrument-assisted deliveries
(Total 16 States = 225)
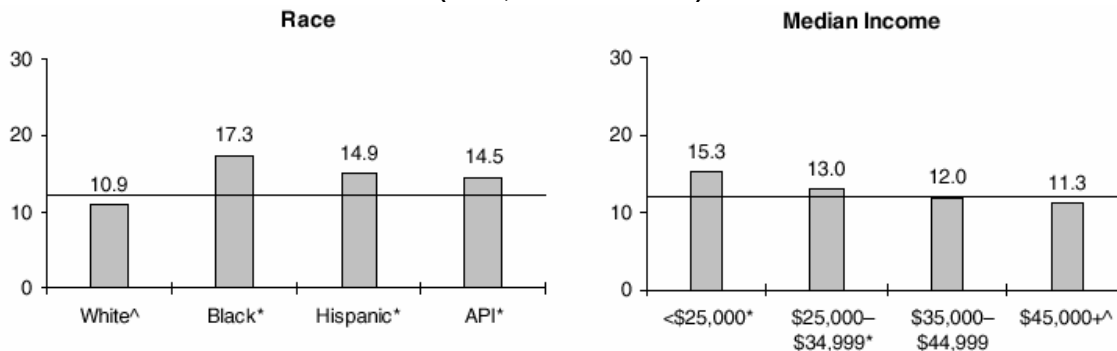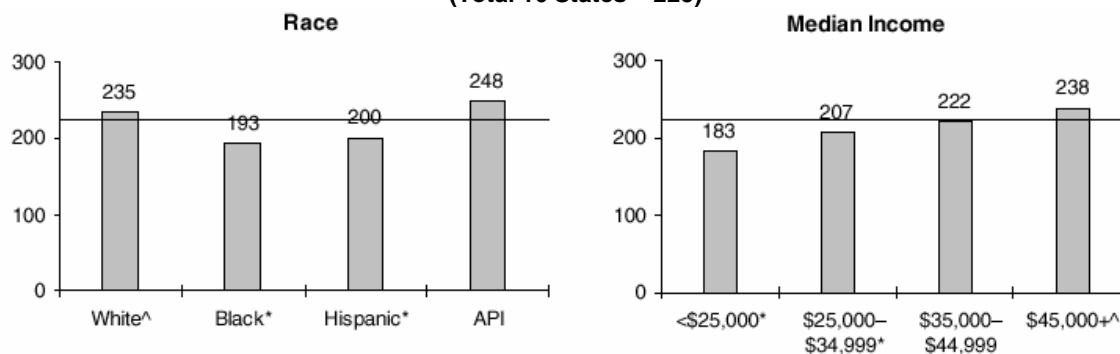

^ Indicates reference group.
*p<0.05 and relative rate 10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Database (16 States), 2000.

Hispanics and Asians or Pacific Islanders have lower death rates when hospitalized for less severe conditions. Differences in potentially avoidable death are noted. Death rates in low-mortality DRGs[i] were significantly lower among Hispanics (0.41 per 1000 relevant admissions) and APIs (0.41 per 1000) compared with non-Hispanic whites (0.48 per 1000) (Figure 13) (HCUP SID 16 State database, 2000).

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[i] DRGs are Diagnosis Related Groups. Low mortality DRGs are DRGs that generally have mortality rates under 0.5%, excluding trauma, immunocompromised, and cancer patients.

Figure 13. Deaths per 1,000 admissions in low-mortality DRGs
(Total 16 States = 0.46)
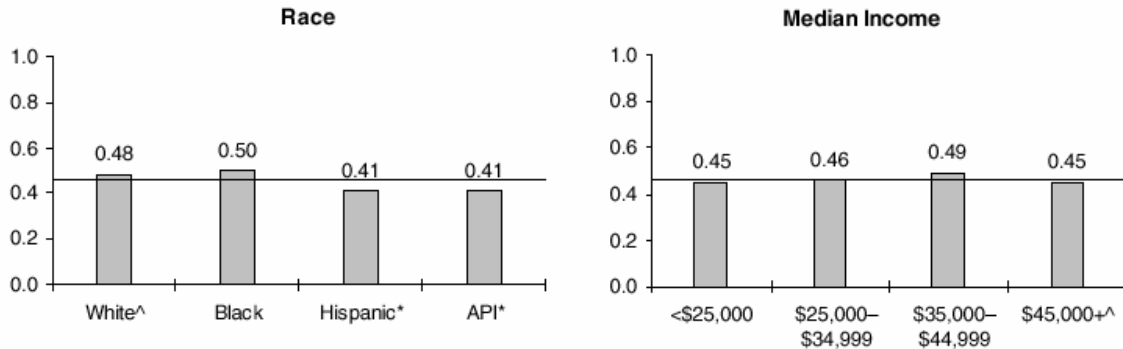
^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Database (16 States), 2000.

A measure of medication safety, the percentage of persons who report that their provider does not usually ask about medications and treatments other doctors may give, overlaps with the concept of patient-provider communication, which is discussed in the Access chapter. Black (86%) and Hispanic (86%) patients are more likely to report that their provider does not ask about medications and treatments other doctors may give than white (80%) compared with non-Hispanic white (79%) patients, respectively (MEPS, 1999).

In summary, racial and ethnic minorities often have higher rates of some complications, though they have lower rates on other patient safety measures.

Timeliness

Key Findings:
- Persons with lower income and less education face many barriers to receiving timely care.
- Households headed by Hispanics were more likely than those headed by non-Hispanics to report difficulties obtaining care.
- Many minorities are more likely to experience long wait times to see their health care provider.
- Compared with whites, blacks also experience longer waits in emergency departments and are more likely to leave without being seen.

Health care cannot prevent death and disability if it is delivered too late. For this reason, timeliness is a critical aspect of high-quality health care. Delays in health care delivery can lead to complications that not only make recovery more difficult, but also increase health care costs. Unfortunately, patients frequently face delays when scheduling appointments, visiting their health care providers, and entering hospital emergency departments.

Two aspects of timeliness are included in this section (Tables 19 and 20):
- Patient perceptions of inadequate access and need
- Waiting times

Patient Perceptions of Inadequate Access and Need

Patients' perceptions are inherently subjective and, therefore, difficult to standardize and quantify. But the unmet needs that result from insufficient access and receipt of treatment are tangible. If critical needs continue to go unmet, health care problems may worsen and the patient may ultimately enter the health care system with a much more advanced stage of illness. The NHDR focuses on measures of delayed care, the confidence a person has that he or she could obtain needed care, and ability to see clinicians when the person deems it necessary.

How the Nation is doing

Hispanic families and both families that are poor and have low education levels are more likely to report problems getting health care. In general, Hispanics and people of lower socioeconomic status are more likely to perceive unmet health care needs. For example, in the general population, about 10% of families report that they experience difficulties or delays in obtaining health care or that they do not receive needed health care for one or more family members (MEPS, 1999). Households headed by Hispanics were more likely (13%) than those headed by non-Hispanic whites (10%) to report difficulties obtaining care (Figure 14). Similarly, poor (15%), near poor (15%), and middle income (10%) persons are more likely to report difficulties obtaining care than higher income persons (6%). Families in which the head of the household has less than a high school education (13%), fare worse than those headed by

college attendees (9%). Hispanics and those with low socioeconomic status are also more likely to experience difficulties or delays due to financial or insurance reasons, forego health care because the family needed the money, and have low confidence that they can get health care when they need it (MEPS, 1999).

Racial differences in perceptions of need are more complex. Households headed by blacks (8%) are less likely than those headed by whites (11%) to report that they experience difficulties or delays in obtaining health care (MEPS, 1999). In addition, Asians are more likely than whites to report difficulty scheduling appointments for routine care (MEPS, 2000).

In summary, Hispanics and people of lower socioeconomic status are more likely to report unmet health care needs, while racial differences tend to be smaller. While it is true that patient perceptions of unmet need may not correlate with actual access to needed services, these population differences provide important quality information to health care systems, especially those who care for priority populations with perceived unmet needs.

Figure 14. Percent of families that experience difficulties or delays in obtaining health care or do not receive needed health care for one or more family members (U.S. total = 10%)
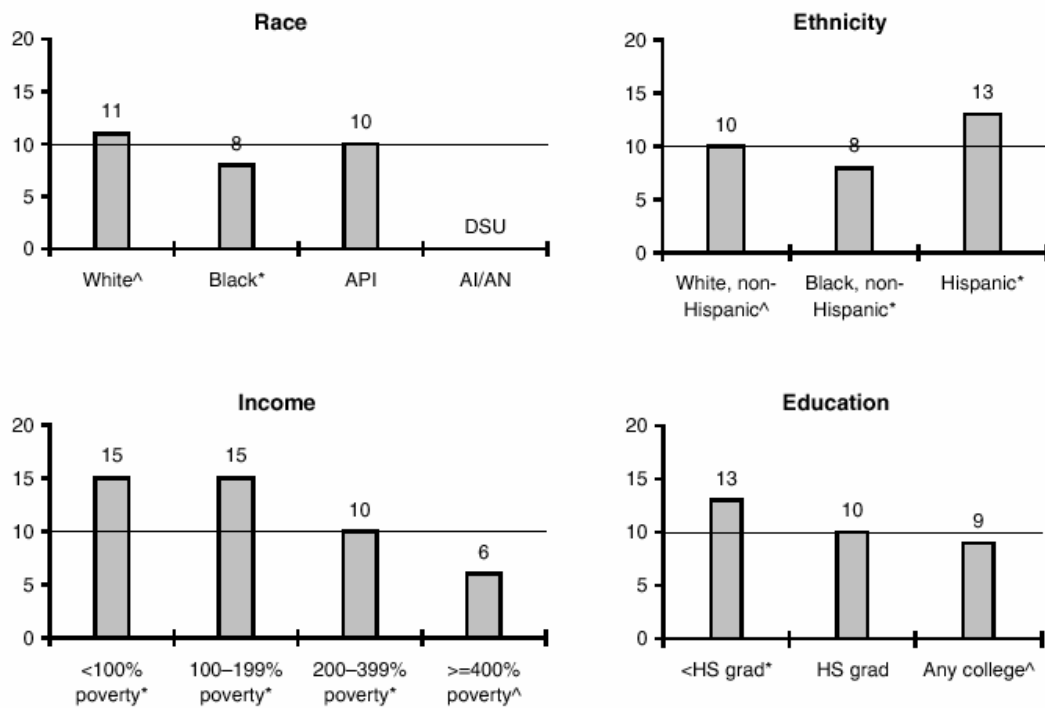
^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI= Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000.

Waiting Times

Why waiting times are important

Another dimension of timeliness is the amount of time a patient must wait, after entering the health care facility, before being seen by a health care provider. Long waits in a provider's office are inconvenient and lead to missed appointments and lower patient satisfaction.

In contrast, long waits in emergency departments can be fatal. Triage systems are effective at prioritizing patients by need, but long waits often prolong pain and fear. While patients seek care from emergency departments for different reasons and with varying levels of urgency, they wait an average of 45 minutes to see a physician. Those with emergent conditions (i.e., conditions that are ideally cared for in less than 15 minutes) wait an average of 24 minutes.[139]

How the Nation is doing

Disparities in emergency department waiting times are observed. Specifically, while differences in waits for emergent/urgent care are not noted, blacks and the uninsured are more likely than whites and the insured to report waiting over 1 hour for semi-urgent/non-urgent care and to report leaving the emergency department without being seen (NHAMCS-ED, 1999-2000).

In summary, many racial and ethnic minorities and people of lower socioeconomic position report longer waits to see health care providers. Overall, our health care system is not always respectful of patients' and providers' time. While waiting times may be related to patient health care needs and care-seeking behaviors, these population differences present important opportunities for system improvement.

Patient Centeredness

> Key Finding:
> - Blacks are more satisfied than whites that their providers listen carefully, explain things in a way they understand, show respect for what they had to say, and spend enough time with them.
> - Hispanics are less likely than non-Hispanic whites to report that their care is sufficiently patient centered.

Why patient centeredness is important

The Institute of Medicine defines patient centeredness as "health 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."[140] Patient-centered care is guided by the patient's values and is personalized to ensure that provider instructions are properly understood and followed.

How the Nation is doing

NHQR Findings:
The NHQR found many areas for which patient centeredness of care could be improved. For example, the report identifies that less than half of those surveyed indicated that their provider always spent enough time with them, while 16% reported that they only sometimes or never did. The NHQR examined measures of the time spent with provider, as well as the patient's perceptions of the clinician's skill, degree to which they were treated with respect and dignity, and ability to understand the clinician's explanations. (See the NHQR for details.)

NHDR Findings:
Measures of patient centeredness overlap with several concepts discussed in Chapter 4 (Tables 21 and 22):
- Patient-provider communication
- Patient-provider relationship

Evidence of racial and ethnic differences in patient centeredness is present. For example, Hispanics are more likely than non-Hispanic whites (yet blacks are less likely than whites) to report that their providers "did not listen carefully" or "explain themselves clearly" (MEPS, 2000). Socioeconomic differences in other aspects of patient-provider communication were not observed. Further, information on patient-provider communication is provided in the Access to Care chapter.

Equity

Equity encompasses that core need of the health care system to provide care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location and socioeconomic status. Equity is the focus of the NHDR and relates to all findings presented in this report.

Quality of Health Care

Table 1. Racial and Ethnic Differences in Effectiveness of Care: Cancer

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Screening for Breast Cancer							
% of women (40 and over) who report they had a mammogram within the past 2 years[iii]	◒	◒	○	◒	●	◒	◒
% of breast cancers diagnosed at late stage[iv]	◒	●	●	◒		◒	◒
Screening for Cervical Cancer							
% of women (18 and over) who report they had a Pap smear within the past 3 years[iii]	◒	◒	○	●	●	●	◒
% of cervical cancers diagnosed at late stage[iv]	●	●	●	○		●	●
Screening for Colorectal Cancer							
% of men and women (50 and over) who report they ever had a flexible sigmoidoscopy/colonoscopy[iii]	◒	◒	○	●	●	◒	◒
% of men and women (50 and over) who report they had a fecal occult blood test (FOBT) within the past 2 years[iii]	●	●	○	●	●	◒	◒
% of colorectal cancers diagnosed at late stage[iv]	◒	●	◒	●		◒	◒
Cancer Treatment[v]							
Cancer deaths per 100,000 persons per year for all cancers	◒	◒[v]		◒		◒	◒
Cancer deaths per 100,000 persons per year for most common cancers, prostate cancer	◒	◒[v]		◒		◒	◒
Cancer deaths per 100,000 persons per year for most common cancers, breast cancer	◒	◒[v]		◒		◒	◒
Cancer deaths per 100,000 persons per year for most common cancers, lung cancer	◒	◒[v]		◒		◒	◒
Cancer deaths per 100,000 persons per year for most common cancers, colorectal cancer	◒	◒[v]		◒		◒	◒
Palliative Care[vi]							
% of people who died of cancer who received hospice care	●[vi]						
Median length of stay for cancer patients who received hospice care	●[vi]						

[i] Compared with whites.
[ii] Compared with non-Hispanic whites.
[iii] Source: NHIS, 2000.
[iv] Source: SEER, 1998-1999. This source did not collect information for >1 race.
[v] Source: NVSS-M, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.
[vi] Source: NHHCS, 2000. Sample size constraints permit black-white comparisons only.

Key to Quality of Health Care Tables:
●: Selected population and comparison population receive about same quality of health care
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Quality of Health Care

Table 2. Socioeconomic Differences in Effectiveness of Care: Cancer

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Screening for Breast Cancer						
% of women (40 and over) who report they had a mammogram within the past 2 years[iv]	◒	◒	◒	◒	◒	◒
Screening for Cervical Cancer						
% of women (18 and over) who report they had a Pap smear within the past 3 years[iv]	◒	◒	◒	◒	◒	◒
Screening for Colorectal Cancer						
% of men and women (50 and over) who report they ever had a flexible sigmoidoscopy/colonoscopy[iv]	◒	◒	◒	◒	◒	◒
% of men and women (50 and over) who report they had a fecal occult blood test (FOBT) within the past 2 years[iv]	◒	◒	◒	◒	◒	◒
Cancer Treatment[v]						
Cancer deaths per 100,000 persons per year for all cancers				◒	◒	
Cancer deaths per 100,000 persons per year for most common cancers, prostate cancer				◒	◒	
Cancer deaths per 100,000 persons per year for most common cancers, breast cancer				●	◒	
Cancer deaths per 100,000 persons per year for most common cancers, lung cancer				◒	◒	
Cancer deaths per 100,000 persons per year for most common cancers, colorectal cancer				◒	◒	

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[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 person under 65 with any private health insurance.
[iv] Source: NHIS, 2000.
[v] Source: NVSS-M, 2000. This source did not collect information for >1 race. This source did not collect information on income or insurance.
HS=High school

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Quality of Health Care

Table 3. Racial and Ethnic Differences in Effectiveness of Care: Chronic Kidney Disease

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Management of End-Stage Renal Disease[iii]							
% of hemodialysis patients with urea reduction ratio 65% or higher	◒	◒	○	●		◒	●
% of hemodialysis patients with hemoglobin 11 or higher	●	●	○	●		●	●
Renal Transplantation[iv]							
% of dialysis patients registered on the waiting list for transplantation	◒	◒[4]		◒		◒	◒
% of patients with treated chronic kidney failure who receive a transplant within 3 years of registration on the waiting list	◒	◒[4]		◒		◒	◒

[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: CMS's End Stage Renal Disease Clinical Performance Measures Project, 2001. This source did not collect information for >1 race.

[iv] USRDS, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

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Quality of Health Care

Table 4. Racial and Ethnic Differences in Effectiveness of Care: Diabetes

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

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[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: MEPS, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

[iv] Source: HCUP SID 16 State database, 2000. 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. An * is inserted in the black column to indicate that estimates for this group could not be produced.

[v] Source: NHDS, 1998-2000. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

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Quality of Health Care

Table 5. Socioeconomic Differences in Effectiveness of Care: Diabetes

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Management of Diabetes						
% of adults with diabetes who had a hemoglobin A1c measurement at least once in past year[iii]	●	●	●	●	●	○
% of adults with diabetes who had a lipid profile in past two years[iii]	◒	◒	◒	●	●	○
% of adults with diabetes who had a retinal eye examination in past year[iii]	◒	◒	◒	◒	◒	○
% of adults with diabetes who had a foot examination in past year[iii]	●	●	●	●	●	○
% of adults with diabetes who had an influenza immunization in past year[iii]	●	●	●	●	●	○

[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 person under 65 with any private health insurance.
NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

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Quality of Health Care

Table 6. Racial and Ethnic Differences in Effectiveness of Care: Heart Disease

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Screening for High Blood Pressure							
% of adults who have had their blood pressure measured within the preceding 2 years and can state whether their blood pressure was normal or high[iii]	◒	◒	○	●	○	◒	◒
Screening for High Cholesterol							
% of adults who have had their blood cholesterol checked within the preceding 5 years[3]	●	●	○	◒	○	●	◒
Counseling on Risk Factors							
% of smokers receiving advice to quit smoking[iv]	●	○[iv]		○		●	◒
Treatment of Acute Myocardial Infarction[v]							
% of AMI patients administered aspirin within 24 hours of admission	*[v]	●[v]		○		●	◒
% of AMI patients with aspirin prescribed at discharge	*[v]	●[v]		○		●	◒
% of AMI patients administered beta blocker within 24 hours of admission	*[v]	●[v]		○		●	◒
% of AMI patients with beta blocker prescribed at discharge	*[v]	○[v]		○		●	◒
% of AMI patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	*[v]	○[v]		○		●	●
% of AMI patients given smoking cessation counseling while hospitalized	*[v]	○[v]		○		◒	●
Treatment of Acute Heart Failure							
% of heart failure patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge[v]	*[v]	●[v]		●		●	●
Management of Hypertension							
% of adults with hypertension whose blood pressure is under control[vi]	○	○	○	○		●	○
Management of Congestive Heart Failure							
Hospital admissions for congestive heart failure per 100,000 population[vii]	◓	○	○	○			

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[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: NHIS, 1998.

[iv] Source: MEPS, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

[v] Source: Medicare Quality Improvement Organization program. 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. An * is inserted in the Black column to indicate that estimates for this group could not be produced.

[vi] Source: NHANES, 1999-2000.

[vii] Source: NHDS, 2000. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

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Table 7. Socioeconomic Differences in Effectiveness of Care: Heart Disease

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Screening for High Blood Pressure						
% of adults who have had their blood pressure measured within the preceding 2 years and can state whether their blood pressure was normal or high[iv]	◒	◒	◒	◒	◒	◒
Screening for High Cholesterol						
% of adults who have had their blood cholesterol checked within the preceding 5 years[iv]	◒	◒	◒	◒	◒	◒
Counseling on Risk Factors						
% of smokers receiving advice to quit smoking[v]	●	◒	●	●	●	◒
Management of Hypertension						
% of adults with hypertension whose blood pressure is under control[vi]	○	○	○	◒	●	

[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 person under 65 with any private health insurance.

[iv] Source: NHIS, 1998.

[v] Source: MEPS, 2000.

[vi] Source: NHANES, 1999-2000.

HS=high school

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Quality of Health Care

Table 8. Racial and Ethnic Differences in Effectiveness of Care: HIV/AIDS

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

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[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: CDC, 2000. 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, Asians or Pacific Islanders. These contrasts compare each group with non-Hispanic whites. An ∗ is inserted in the black column to indicate that estimates for this group could not be produced.

[iv] Source: NVSS-M, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

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Table 9. Socioeconomic Differences in Effectiveness of Care: HIV/AIDS

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference [iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Management of HIV/AIDS						
HIV-infection deaths per 100,000 population[iv]				◒	◒	

[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.
Source: NVSS-M, 2000.
NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

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Quality of Health Care

Table 10. Racial and Ethnic Differences in Effectiveness of Care: Maternal and Child Health

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Maternity Care[iii]							
% of pregnant women receiving prenatal care in first trimester	◒	●	◒	◒		◒	◒
% of live born infants with low birth weight (<2500 grams)	◒	●	●	●		◒	●
% of live born infants with very low birth weight (<1500 grams)	◒	●	◒	●		◒	●
Infant mortality per 1000 live births, all	◒	◒	◒	◒		◒	●
Infant mortality per 1000 live births, birth weight >2499 grams	◒	◒	◒	◒		◒	●
Infant mortality per 1000 live births, birth weight 1500-2499 grams	●	◒	○	◒		●	●
Infant mortality per 1000 live births, birth weight <1500 grams	◒	●	◒	◒		◒	●
Maternal deaths per 100,000 live births	◒	○	○	○		◒	◒
Immunization, Childhood[iv]							
% of children 19-35 months who received all recommended vaccines	◒	●	○	●	●	◒	●
% of children 19-35 months who received 4 doses of DPaT vaccine	◒	●	○	●	●	◒	●
% of children 19-35 months who received 3 doses of polio vaccine	◒	●	●	●	●	◒	●
% of children 19-35 months who received 1 dose of MMR vaccine	◒	●	●	●	●	◒	●
% of children 19-35 months who received 3 doses of Hib vaccine	◒	●	●	●	●	◒	◒
% of children 19-35 months who received 3 doses of hepatitis B vaccine	◒	●	●	●	●	◒	●
% of children 19-35 months who received 1 dose of varicella vaccine	●	◒	○	●	●	●	◒
Immunization, Adolescent[v]							
% of adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	●	●	○	○	○	●	◒
% of adolescents (13-15) who received 2 or more doses of MMR vaccine	●	●	○	○	○	●	●
% of adolescents (13-15) who received 1 or more doses of Td booster	●	●	○	○	○	●	●
% of adolescents (13-15) who received 3 or more doses of varicella vaccine	●	○	○	○	○	●	●
Childhood Dental Care							
% of children 2-17 with a dental visit [vi]	◒	●[vi]	○			◒	◒

[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: NVSS, 2000. This source did not collect information for >1 race.

[iv] Source: NIS, 2001.

[v] Source: NHIS, 2000.

[vi] Source: MEPS, 1999. This source did not collect information on Asians and NHOPIs separately but in aggregate. This source did not collect information for >1 race.
NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

Quality of Health Care

Table 10. Racial and Ethnic Differences in Effectiveness of Care: Maternal and Child Health (continued)

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Treatment of Pediatric Gastroenteritis							
Hospital admissions for pediatric gastroenteritis per 100,000 population[iii]	*[iii]	⬒ [iii]				⬤	⬒

[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: HCUP SID 16 State database, 2000. 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. An * is inserted in the Black column to indicate that estimates for this group could not be produced.

Key to Quality of Health Care Tables:

⬤: Selected population and comparison population receive about same quality of health care

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⬒: Selected population receives worse quality care than the comparison population

○: Data are collected but do not meet criteria for statistical reliability

Quality of Health Care

Table 11. Socioeconomic Differences in Effectiveness of Care: Maternal and Child Health

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	**100-199%**	**200-399%**	**<HS**	**HS Grad**	**Uninsured**
Maternity Care[iv]						
% of pregnant women receiving prenatal care in first trimester				◒	◒	
% of live born infants with low birth weight (<2500 grams)				◒	◒	
% of live born infants with very low birth weight (<1500 grams)				◒	◒	
Infant mortality per 1000 live births, all births				◒	◒	
Infant mortality per 1000 live births, birth weight >2499 grams				◒	◒	
Infant mortality per 1000 live births, birth weight 1500-2499 grams				◒	◒	
Infant mortality per 1000 live births, birth weight <1500 grams				●	◒	
Maternal deaths per 100,000 live births				◒	◒	
Immunization, Childhood[v]						
% of children 19-35 months who received all recommended vaccines	◒	◒	◒			
% of children 19-35 months who received 4 doses of DPaT vaccine	◒	◒	◒			
% of children 19-35 months who received 3 doses of polio vaccine	◒	◒	◒			
% of children 19-35 months who received 1 dose of MMR vaccine	◒	◒	◒			
% of children 19-35 months who received 3 doses of Hib vaccine	◒	◒	◒			
% of children 19-35 months who received 3 doses of hepatitis B vaccine	◒	◒	◒			
% of children 19-35 months who received 1 dose of varicella vaccine	◒	◒	◒			
Immunization, Adolescent[vi]						
% of adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	●	●	●			◒
% of adolescents (13-15) who received 2 or more doses of MMR vaccine	●	●	●			●
% of adolescents (13-15) who received 1 or more doses of tetanus-diptheria booster	●	●	●			●
% of adolescents (13-15) who received 3 or more doses of varicella vaccine	●	●	●			●
Childhood Dental Care						
% of children 2-17 with a dental visit in the past year[vii]	◒	◒	◒			◒

[i] Compared with persons wit h family incomes 400% of Federal poverty threshold or above.
[ii] Compared with mothers with any college education.
[iii] Compared with person under 65 with any private health insurance.
[iv] Source: NVSS, 2000.
[v] Source: NIS, 2001.
[vi] Source: NHIS, 2000.
[vii] Source: MEPS, 1999.

Table 12. Racial and Ethnic Differences in Effectiveness of Care: Mental Health

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Treatment of Depression							
Suicide deaths per 100,000 population[iii]	◒	◒[3]		⬤		◒	◒

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[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: NVSS-M, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race. This source did not collect information on income or insurance.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

Key to Quality of Health Care Tables:

⬤: Selected population and comparison population receive about same quality of health care

◓: Selected population receives better quality care than the comparison population

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Table 13. Socioeconomic Differences in Effectiveness of Care: Mental Health

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference [iii]
	<100%	**100-199%**	**200-399%**	**<HS**	**HS Grad**	**Uninsured**
Treatment of Depression						
Suicide deaths per 100,000 population[iii]				⊖	⊖	

[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.

Quality of Health Care

Table 14. Racial and ethnic disparities in effectiveness of care: Respiratory diseases

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Influenza Immunization							
% of high risk persons 18-64 who received influenza vaccine in past year[iii]	◒	●	○	●	●	◒	●
% of persons 65 and over who received influenza vaccine in the past year[iii]	◒	●	○	○	○	◒	◒
% of adult nursing home residents who received influenza vaccine in past year[iv]	●	○	○	○			
Hospital admissions for influenza per 100,000 population 65 and over[v]	*[v]	◒[v]				●	◒
Pneumococcal Immunization							
% of high risk persons 18-64 who ever received pneumococcal vaccination[iii]	●	○	○	○	●	●	◒
% of persons 65 and over who ever received pneumococcal vaccination[iii]	◒	●	○	○	○	◒	◒
% of adult nursing home residents who ever received pneumococcal vaccination[iv]	●	○	○	○			
Treatment of Pneumonia[vi]							
% of pneumonia patients who have blood cultures taken before antibiotics	*[iv]	●[vi]	◒			◒	◒
% of pneumonia patients who receive initial antibiotic dose within 8 hours of arrival	*[iv]	●[vi]	●			◒	◒
% of pneumonia patients who receive initial antibiotic consistent with current recommendations	*[iv]	●[vi]	●			◒	◒
% of pneumonia patients who receive influenza screening or vaccination	*[iv]	●[vi]	◒			◒	◒
% of pneumonia patients who receive pneumococcal screening or vaccination	*[iv]	◒[vi]	◒			◒	◒

[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: NHIS, 2000.

[iv] Source: NNHS, 1999. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.

[v] Source: HCUP SID 16-State database, 2000. 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. An * is inserted in the black column to indicate that estimates for this group could not be produced.

[vi] Source: Medicare Quality Improvement Organization program. 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, Asians or Pacific Islanders. These contrasts compare each group with non-Hispanic whites. An * is inserted in the black column to indicate that estimates for this group could not be produced.

Table 14. Racial and ethnic disparities in effectiveness of care: Respiratory diseases (continued)

Treatment of Upper Respiratory Infection							
Courses of antibiotics prescribed for sole diagnosis of common cold per population[vii]	●	○	○	○			
Management of Asthma							
Hospital admissions for asthma per 100,000 population under 18[viii]	◒	○	○	○			
Hospital admissions for asthma per 100,000 population 18 and over[8]	◒	○	○	○			
Treatment of Tuberculosis							
Completion of TB Therapy[ix]	●	●[ix]			●	◒	●

[vii] Source: NAMCS/NHAMCS, 1999-2000. This source did not collect information for >1 race. Missing rates preclude analysis by et hnicity.

[viii] Source: NHDS, 2000. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.

[ix] Source: CDC's National TB Surveillance System, 1999. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

Key to Quality of Health Care Tables:
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Quality of Health Care

Table 15. Socioeconomic Differences in Effectiveness of Care: Respiratory Diseases

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

[i] Compared with persons with family incomes 400% of Federal poverty threshold or above.
[ii] Compared with mothers with any college education.
[iii] Compared with person under 65 with any private health insurance.
[iv] Source: NHIS, 2000.
HS=high school

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Table 16. Racial and Ethnic Differences in Effectiveness of Care: Long term care

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Nursing Facility Care[iii]							
% of nursing home residents with pain	*[iii]	◒[3]	●			◒	◒
% of nursing home residents with pressure sores	*[iii]	◒[3]	●			◗	●
% of nursing home residents in physical restraints	*[iii]	◗[3]	●			●	◗

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[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: CMS Resident Profile Table. 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. An * is inserted in the black column to indicate that estimates for this group could not be produced.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

Key to Quality of Health Care Tables:

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Quality of Health Care

Table 17. Racial and Ethnic Differences in Patient Safety

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Nosocomial Infections[iii]							
Infection due to intravenous lines or catheters per 1000 selected discharges	*3\[iii]	⊖[iii]				⊖	●
Postoperative septicemia per 1000 elective surgical discharges of 4+ days	*[iii]	⊖[iii]				⊖	⊖
Complications of Care[3]							
Postoperative hemorrhage or hematoma with surgical drainage or evacuation per 1000 surgical discharges	*[iii]	⊖[iii]				⊖	●
Postoperative pulmonary embolus or deep vein thrombosis per 1000 surgical discharges	*[iii]	⊖[iii]				⊖	⊖
Postoperative respiratory failure per 1000 elective surgical discharges	*[iii]	⊖[iii]				⊖	⊖
Postoperative physiologic/metabolic derangements per 1000 elective surgeries	*[iii]	⊖[iii]				⊖	⊖
Complications of anesthesia per 1000 surgical discharges	*[iii]	●[iii]				⊖	⊖
Decubitus ulcers per 1000 selected stays of 4 or more days	*[iii]	●[iii]				⊖	●
Postoperative hip fractures per 1000 surgical discharges age 18+ years	*[iii]	⊖[iii]				⊖	⊖
Injuries or Adverse Events Due to Technical Errors[iii]							
Accidental laceration or puncture during procedure per 1000 discharges	*[iii]	●[iii]				●	●
Iatrogenic pneumothorax per 1000 relevant discharges	*[iii]	●[iii]				●	⊖
Postoperative abdominal wound dehiscence per 1000 relevant discharges	*[iii]	●[iii]				●	⊖
Foreign body left in during procedure per 1000 discharges	*[iii]	●[iii]				●	●
Transfusion reactions per 1000 selected discharges	*[iii]	●[iii]				●	●
Birth Related Trauma[iii]							
Birth trauma injury per 1000 selected live births	*[iii]	●[iii]				●	⊖
Obstetric trauma per 1000 instrument-assisted deliveries	*[iii]	●[iii]				⊖	⊖
Obstetric trauma per 1000 vaginal deliveries without instrument assistance	*[iii]	●[iii]				⊖	⊖
Obstetric trauma per 1000 Cesarean deliveries	*[iii]	●[iii]				⊖	⊖
Potentially Avoidable Death[iv]							
Deaths per 1000 admissions in low-	*[iii]	⊖[iii]				●	⊖

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[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: HCUP SID 16-State database, 2000. 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, Asians or Pacific Islanders. These contrasts compare each group with non-Hispanic whites. An * is inserted in the black column to indicate that estimates for this group could not be produced.

[iv] Source: HCUP SID 16-State database, 2000. 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, Asians or Pacific Islanders. These contrasts compare each group with non-Hispanic whites. An * is inserted in the black column to indicate that estimates for this group could not be produced.

mortality DRGs						
Medication Safety						
Elderly prescribed inappropriate medications[v]	●	○[iv]	○			
Persons with provider who does not usually ask about medications and treatments other doctors may give[vi]	⊖	●[v]	●		⊖	⊖

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[v] Source: MEPS, 1998. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

[vi] Source: MEPS, 1999. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

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Table 18. Socioeconomic Differences in Patient Safety

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference [iii]
	<100%	**100-199%**	**200-399%**	**<HS**	**HS Grad**	**Uninsured**
Medication Safety						
Elderly prescribed inappropriate medications[4]				●	●	○
Persons with provider who does not usually ask about medications and treatments other doctors may give[5]	●	●	●	●	●	◒

[i] Compared with persons with family incomes 400% of Federal poverty threshold or above.
[ii] Compared with mothers with any college education.
[iii] Compared with persons under 65 with any private health insurance.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school
Key to Quality of Health Care Tables:
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Quality of Health Care

Table 19. Racial and Ethnic Differences in Timeliness

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Usual Source of Care[iii]							
% of persons who have a specific source of ongoing care	◒	◒	○	●	●	◒	◒
% of persons in fair or poor health who have a specific source of ongoing care	●	●	○	○	●	◒	◒
% of persons with a hospital, emergency room, or clinic as source of ongoing care	◒	●	○	◒	◒	◒	◒
Unmet Need							
% of families that experience difficulties or delays in obtaining health care or do not receive needed care[iv]	◒	●[iv]		○		◒	◒
% of families that experience difficulties or delays in obtaining health care due to financial or insurance reasons[iv]	●	○[iv]		○		●	◒
% of persons always can get appointment for routine care as soon as wanted[v]	●	◒[v]		○		●	◒
% of persons always can get care for illness or injury as soon as wanted[v]	●	○[v]		○		●	◒
Waiting Times							
% of persons who usually wait >30 minutes before seeing provider[iv]	◒	●[iv]		○		◒	◒
% of emergent/urgent emergency department visits with wait >=1 hour[vi]	●	●[vi]		○			
% of semi-urgent/non-urgent emergency department visits with wait >=1 hour[vi]	◒	●[vi]		○			
% of emergency department visits in which the patient left without being seen[vi]	◒	○[vi]		○			

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[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: NHIS, 2000.

[iv] Source: MEPS, 1999. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

[v] Source: MEPS, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

[vi] Source: NHAMCS-ED, 1999-2000. This source did not collect information on Asians and NHOPIs separately. This source did not collect information for >1 race or about income or education. Missing rates preclude analysis by ethnicity.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

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Quality of Health Care

Table 20. Socioeconomic Differences in Timeliness

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference[iii]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Usual Source of Care[iv]						
% of persons who have a specific source of ongoing care	◒	◒	◒	◒	◒	◒
% of persons in fair or poor health who have a specific source of ongoing care	◒	◒	◒	◒	◒	◒
% of persons with a hospital, emergency room, or clinic as source of ongoing care	◒	◒	◒	◒	◒	◒
Unmet Need						
% of families that experience difficulties or delays in obtaining health care or do not receive needed care[v]	◒	◒	◒	◒	●	◒
% of families that experience difficulties or delays due to financial or insurance reasons[v]	◒	◒	◒	●	●	◒
% of persons always can get appointment for routine care as soon as wanted[vi]	◒	●	●	◒	●	●
% of persons always can get care for illness or injury as soon as wanted[vi]	◒	●	●	●	●	◒
Waiting Times						
% of persons who usually wait >30 minutes before seeing provider[v]	◒	◒	◒	◒	◒	◒
% of emergent/urgent emergency department visits with wait >=1 hour[vii]						●
% of semi-urgent/non-urgent emergency department visits with wait >=1 hour[vii]						◒
% of emergency department visits in which the patient left without being seen[vii]						◒

[i] Compared with persons with family incomes 400% of Federal poverty thresholds or above.

[ii] Compared with persons with any college education.

[iii] Compared with person under 65 with any private health insurance.

[iv] Source: NHIS, 2000.

[v] Source: MEPS, 1999.

[vi] Source: MEPS, 2000.

[vii] Source: NHAMCS-ED, 1999-2000. This source did not collect information about income or education. Insurance contrast compares uninsured with persons with any private insurance including all ages.

HS=high school

Key to Quality of Health Care Tables:

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◓ : Selected population receives worse quality care than the comparison population

○ : Data are collected but do not meet criteria for statistical reliability

Quality of Health Care

Table 21 Racial and Ethnic Differences in Patient Centeredness

Measure	Racial Difference[i]					Ethnic Difference[ii]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Patient-Provider Communication[iii]							
% of adults whose providers always listened carefully to them	◓	●[iii]	○			◓	◓
% of adults whose providers always explained things in a way they could understand	◓	●[iii]	○			◓	◓
% of adults whose providers always showed respect for what they had to say	◓	●[iii]	○			◓	●
Patient-Provider Relationship							
% of adults whose providers always spent enough time with them[iii]	◓	●[iii]	○			●	◓

---

[i] Compared with whites.

[ii] Compared with non-Hispanic whites.

[iii] Source: MEPS, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islander. This source did not collect information for >1 race.

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school

Key to Quality of Health Care Tables:

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◓ : Selected population receives worse quality care than the comparison population

○ : Data are collected but do not meet criteria for statistical reliability

Table 22. Socioeconomic Differences in Patient Centeredness

Measure	Income Difference[i]			Educational Difference[ii]		Insurance Difference [iii]
	<100%	**100-199%**	**Uninsured**	**<HS**	**HS Grad**	**Uninsured**
Patient-Provider Communication[iii]						
% of adults whose providers always listened carefully	●	●	●	◓	●	●
% of adults whose providers always explained things in a way they could understand	●	●	●	●	●	◒
% of adults whose providers always showed respect for what they had to say	●	●	●	●	●	●
Patient-Provider Relationship						
% of adults whose providers always spent enough time[iii]	●	●	●	◒	●	●

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[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.
HS=high school

Key to Quality of Health Care Tables:
●: Selected population and comparison population receive about same quality of health care
◓: Selected population receives better quality care than the compariso n population
◒: Selected population receives worse quality care than the comparison population
○: Data are collected but do not meet criteria for statistical reliability

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Chapter 4. Access to Health Care

Introduction

Access to health care is a central aspect of health care quality.[1] Defined as "the timely use of personal health services to achieve the best health outcomes,"[2] access to care is essential to receive quality care, increase the quality and years of healthy life and to eliminate health disparities. Indeed, a recent IOM report asserts that "access-related factors may be the most significant barriers to equitable care, and must be addressed as an important first step toward eliminating healthcare disparities."[3]

To understand the current state of health care disparities, it is also important to consider receipt of care. Many of the landmark reports on disparities relied on measures of receipt of heath care.[4, 5, 6] However, while easier access and better quality of care are obviously more desirable, greater utilization is more ambiguous. This section clarifies this by comparing data for various demographic groups and identifying differences in access to and receipt of care.

The key presented in each summary table in this chapter signifies the amount of care received by selected racial, ethnic, and socioeconomic subpopulations relative to the amount received by other groups and by the general population. With input from the IOM, the public, and the NHDR Interagency Work Group, access measures were selected and organized into four main categories:

- Entry into the health care system—these measures focus on ease of gaining initial entrance into the health care system itself.
- Structural barriers within the system—these measures focus on the difficulty of getting care (e.g., transportation, ability to quickly schedule convenient appointments, and excessive wait times).
- Ability of provider to address patient needs— these measures focus on patient-provider communication and relationships, cultural competency, and health information.
- Utilization of care—these measures focus on receipt of health care (i.e., routine, acute, and chronic care) mental health care and substance abuse treatment, and HIV care.

This chapter focuses on only a small subset of the data analyzed for this report and highlights areas where disparities are prevalent either across multiple populations or across several related measures. It also illustrates disparities with specific examples of data that are representative of the observed trends. Where *Healthy People 2010* measures are available, these measures are presented in graphs.

Finally, because racial and ethnic minorities are disproportionately represented among low socioeconomic populations, health care disparities among racial and ethnic minorities are often highly correlated with disparities that fall along socioeconomic lines. It is vital that we understand the relative impact that race, ethnicity, and socioeconomic status have on disparities in access to health care. Without teasing out the independent effects of race, ethnicity, and

socioeconomic status (SES), policymakers lack critical insight into where to apply focused interventions to best help eliminate health care disparities. The NHDR analysis concluded that the impact of race, ethnicity, and socioeconomic position on access to health care are significant.

For an analysis of disparities in access to health care as they relate to priority populations, as defined in AHRQ's authorizing legislation, please see Chapter 5. Because many disparities cut across multiple priority populations, that chapter focuses on any disparities that are unique for each population group.

Entry Into the Health Care System

NHDR's first set of measures begins with primary access by looking at initial entry into the system. The measures of entry into the system include health insurance coverage, having a usual source of care, and patient perceptions of need (Tables 1 and 2). Health insurance and a usual source of care are two factors that can greatly facilitate entry into the health care system, and unmet needs result from difficulty in gaining entry into the system.

Health Insurance Coverage

> **Key Findings:**
>
> - Racial and ethnic minorities are significantly less likely to have health insurance
> - Minorities are more likely to have public insurance (e.g., Medicare and SCHIP).

Why health insurance coverage is important

Differences between those with and without health insurance coverage are profound and well documented. The Institute of Medicine concluded that providing health insurance to uninsured adults would result in improved health, including greater life expectancy. In particular, increasing the rate of health insurance coverage would "especially improve the health of those in the poorest health and most disadvantaged in terms of access to care and thus would likely reduce health disparities among racial and ethnic groups."[7]

Other research suggests that, compared with covered individuals, the uninsured:

- Receive less preventive care, are diagnosed at more advanced disease stages and, once diagnosed, tend to receive less therapeutic care (drugs and surgical interventions)[8]
- Are more likely both to be sicker upon hospital admission and to die while hospitalized[9]
- Are more likely to have poor health status[10,11]
- Are more likely to receive their care in a hospital outpatient clinic or emergency room
- Are more likely to report needing (but not receiving) medical care, primarily for economic reasons
- Have higher out-of-pocket medical expenses, despite generally being poorer.[12]

How the Nation is doing

Most of the population has some kind of health insurance. Approximately 83% of the general under-65 population[i] has health insurance at a given point in time (Figure 1), and 17% are uninsured. However, the uninsured are not equally divided among all demographic groups. Specifically, blacks (20%) and American Indians or Alaska Natives (AI/AN) (38%) are more likely than whites (15%) to lack health insurance. Hispanics (35%) are more likely than non-Hispanic whites (12%) to lack health insurance. Similarly, poor[ii] (34%), near poor[iii] (32%), and middle income[iv] (14%) persons are more likely than high income[v] persons (5%) to be uninsured (NHIS, 2000).

There are also differences in public insurance. Blacks (28%) and AI/ANs (33%) are more likely than whites (12%) to be publicly insured at some time during the year. Similarly, Hispanics (23%) are more likely to have public coverage than non-Hispanic whites (10%). Because having a low income is one of the prerequisites for participation in many public health care programs, poor (56%), near poor (27%), and middle income (6%) Americans are considerably more likely than high income individuals (2%) to have public coverage at any time during the year. Individuals with less than 12 years of education (23%) are also more likely to have public coverage than those with more than 12 years of schooling (3%) (MEPS, 1999).

In summary, while most Americans have health insurance, many minority groups and poor patients are more likely to be uninsured or insured through public programs. No group achieves the *Healthy People 2010* target of total coverage.

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[i] "General under-65 population" refers to the under-65 civilian noninstitutionalized population.
[ii] "Poor" is defined as persons with family incomes less than 100% of the Federal poverty threshold.
[iii] "Near poor" is defined as persons with family incomes between 100% and 199% of the Federal poverty threshold.
[iii] "Middle income" is defined as persons with family incomes between 200% and 399% of the Federal poverty threshold.
[v] "High income" is defined as persons with family incomes of 400% or more of the Federal poverty threshold.

**Figure 1. Percent of persons under age 65 with health insurance, age adjusted
[U.S. total = 83%]**
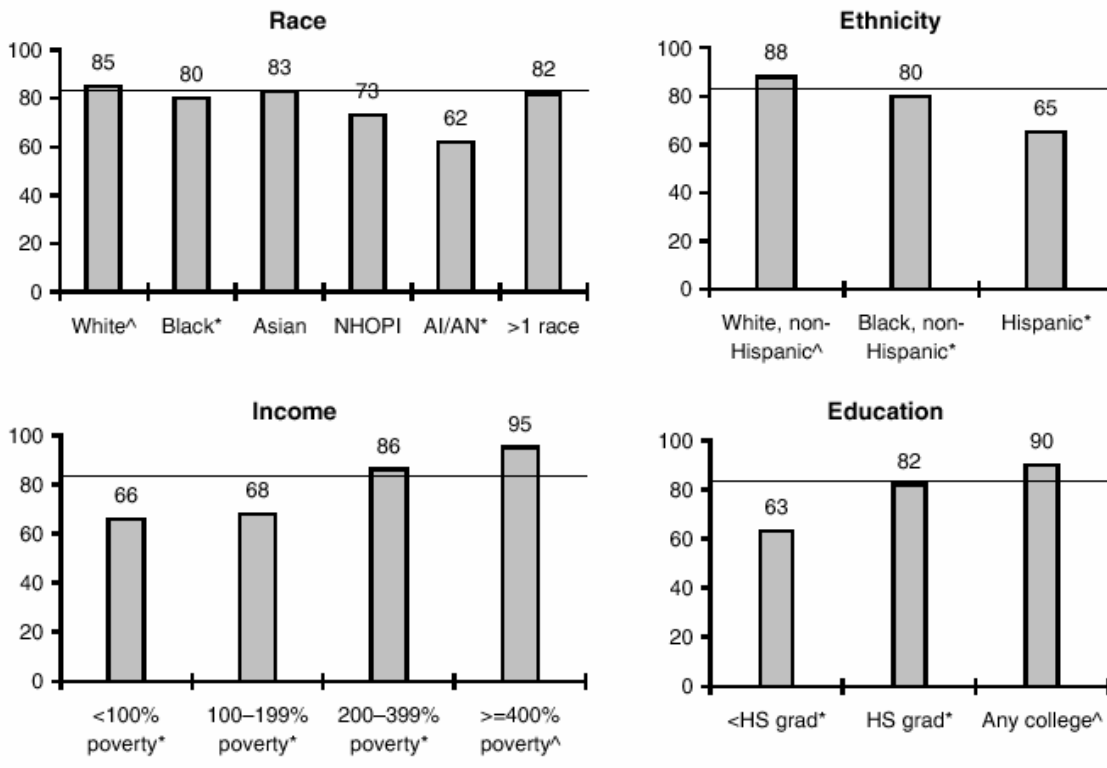
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group. Note that a relative rate >10% is achieved for the inverse of this measure, percent of persons <65 <u>without</u> health insurance.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school
Source: National Center for Health Statistics, National Health Interview Survey, 2000.

Usual Source of Care

Key Findings:

- Racial and ethnic minorities and individuals of lower socioeconomic status are less likely to have a usual source of care.
- Many racial and ethnic minorities and individuals of lower socioeconomic status are more likely to lack a source of ongoing care or identify a hospital, clinic, or emergency department as their usual source of care.

Why having a usual source of care is important

Having a "medical home," or a distinct location where one can obtain integrated health care services, offers patients an opportunity to develop relationships with accessible clinicians who

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are accountable for addressing most health care needs. It greatly increases the likelihood that a patient will receive preventive care, such as blood pressure and cholesterol monitoring; receive flu shots; and have prostate exams or Pap smears and mammograms.[13]

MEPS respondents with a usual source of care are less likely to report having difficulty obtaining care or going without needed services.[14] Data indicate that the uninsured, lower SES persons, and residents of rural areas particularly benefit from having a usual source of care,[15, 16] although the uninsured are still much less likely than the insured to have a regular source of care.[17] In addition to better outcomes, having a primary care provider as one's usual source of care also leads to lower long-term health care costs.[18] According to *Healthy People 2010*, more than 40 million Americans do not have a specific usual source of care.[19]

How the Nation is doing

In general, racial and ethnic minorities and individuals of lower socioeconomic status are less likely to have a usual source of care. For instance, approximately 87% of the population has a specific source of ongoing care (Figure 2) and 13% lack such a source of care. Hispanics (24%) are more likely than non-Hispanic whites (11%) to lack a source of ongoing care. Similarly, the poor (20%) are more likely than those with high incomes (8%) to report no ongoing source of care. The differences are less pronounced between the races: blacks (14%) and Asians (15%) are only slightly more likely than whites (12%) to lack a specific source of ongoing care (NHIS, 2000).

**Figure 2. Percent of persons with a usual source of care, age adjusted
(U.S. total = 87%)**
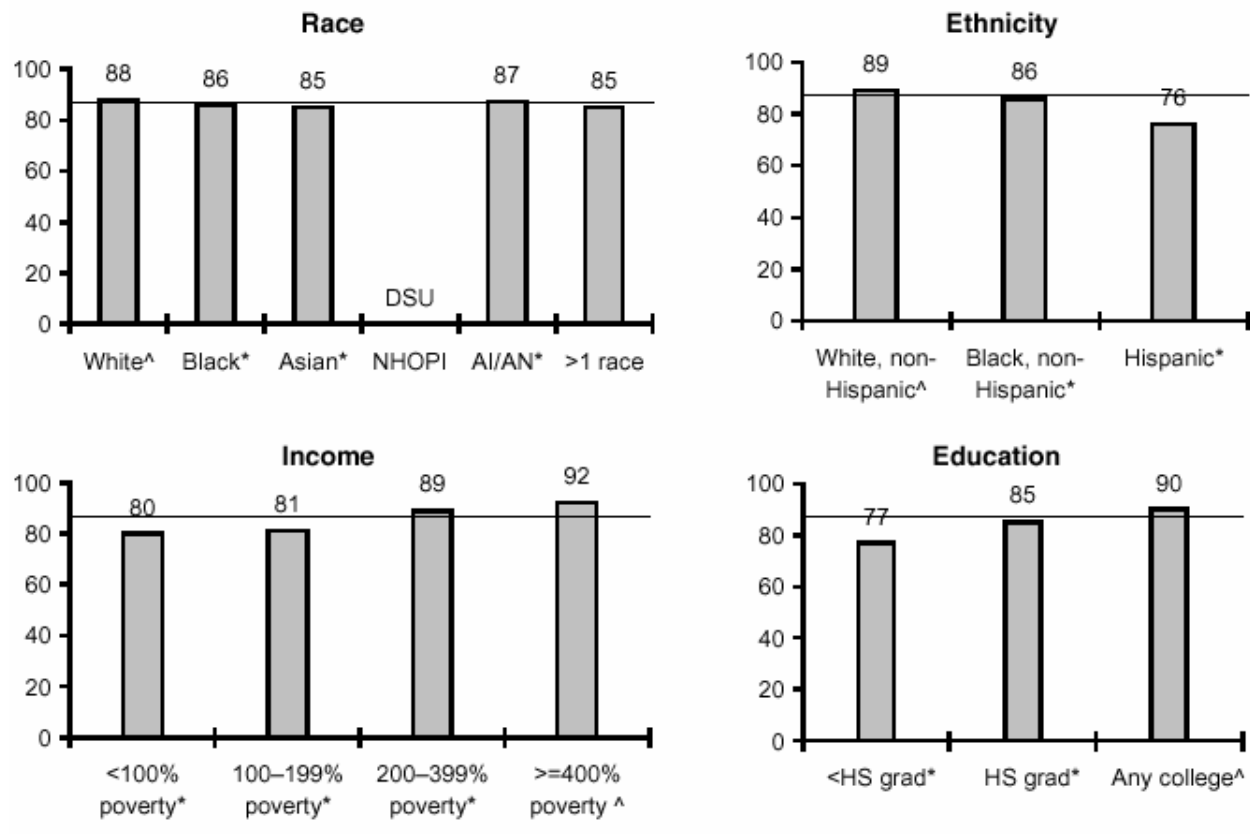
^ Indicates reference group.
*p<0.05 and relative rate >10% for comparison of group with reference group. Note that a relative rate >10% is achieved for the inverse of this measure, percent of persons without a source of ongoing care.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=High School
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: National Center for Health Statistics, National Health Interview Survey, 2000.

Racial and ethnic minorities and people with low incomes are also more likely to report having a clinic, hospital outpatient department or emergency department (ED) as their usual source of care (NHIS, 2000). These institutional providers are often suboptimal sources of primary care. Because they are not structured to offer effective continuity of care, primary care services provided in hospital EDs are far more expensive than those delivered in an office setting. Despite these concerns, many individuals without alternate sources of care frequently rely on hospital EDs to meet essential health care needs.

In summary, many racial and ethnic minorities and individuals of lower socioeconomic status are more likely to lack a source of ongoing care or identify institutional providers as their source of care. No group achieves the *Healthy People 2010* target of 96% of persons with a source of ongoing care. Given the critical role that a usual source of care plays in the delivery of high-quality health care, these population differences require further attention.

Patient Perceptions of Inadequate Access and Need

Key Finding:

- Hispanics and people of lower socioeconomic status are more likely to report unmet health care needs, while racial differences tend to be smaller.

For information on patient perceptions of inadequate access and need, please refer to the Quality chapter of the NHDR.

Structural Barriers Within the System

Having insurance coverage and a regular doctor does not guarantee that individuals will receive necessary medical treatment. All too frequently, structural barriers—poor transportation, inability to get care (e.g., schedule appointments quickly or during convenient hours), and excessive time spent in the waiting room—affect a person's ability and willingness to obtain and adhere to needed care[20] (Tables 3 and 4).

Difficulty Getting Care

Key Findings:

- There are few racial, ethnic, or socioeconomic differences in barriers to getting care.
- All priority populations experience significant difficulties obtaining access to specialty care.

Patients feel the impact of obstructions to health care differently. Transportation to providers may pose the greatest problem for the elderly or disabled, while working adults may only be able to get care on evenings and weekends. Many are frustrated by difficulties contacting their providers by telephone and by discourteous office staff. These obstacles can lead affected persons to defer or delay needed care or to seek care in inappropriate settings.

One important structural barrier is the ability to gain referral to a specialist. In this era of managed care, primary care providers are often called upon to monitor, approve, and coordinate referrals to other providers. About a quarter of patients report difficulty getting referrals, and these patients tend to have less trust, confidence and satisfaction with their providers.[21] Many primary care providers experience pressure from managed care organizations to limit referrals, and 17% of primary care providers believe such pressure compromises patient care.[22]

How the Nation is doing

In general, racial, ethnic, and socioeconomic differences in barriers to getting care are not particularly striking. Asians and Pacific Islanders and Hispanics express less satisfaction with professional staff (MEPS, 1999). Lower income and less educated persons are less likely to have providers with hours on nights and weekends (MEPS, 1999).

Minorities and low income populations are more likely to have trouble getting referrals to specialists. One exception relates to specialty referral. In the general population[i], 79% of persons have no problem obtaining referrals to specialists (Figure 3) (MEPS, 2000) while 21% report some difficulty. However, problems with access to specialists are disproportionately borne by priority populations. For example, 31% of Hispanics, compared with 19% of non-Hispanic whites, report trouble obtaining referrals. Similarly, 26% of blacks, compared with 20% of whites, have some problem obtaining referrals. Low income populations, too, experience difficulties: the poor (29%) and the near poor (26%) are more likely to report some problem getting referrals than those with high incomes (18%).

In summary, there are few racial, ethnic, and socioeconomic differences in barriers to getting care. There are significant differences in specialty referral. However, these perceived problems with specialty referral may be related to patient health care needs, knowledge, expectations, and preferences. The clinical consequences of barriers to specialty referral are unclear.

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[i] "General population" refers to the noninstitutionalized civilian population.

Figure 3. Percent of adults without problem getting referral to a specialist
[U.S. total = 79%]
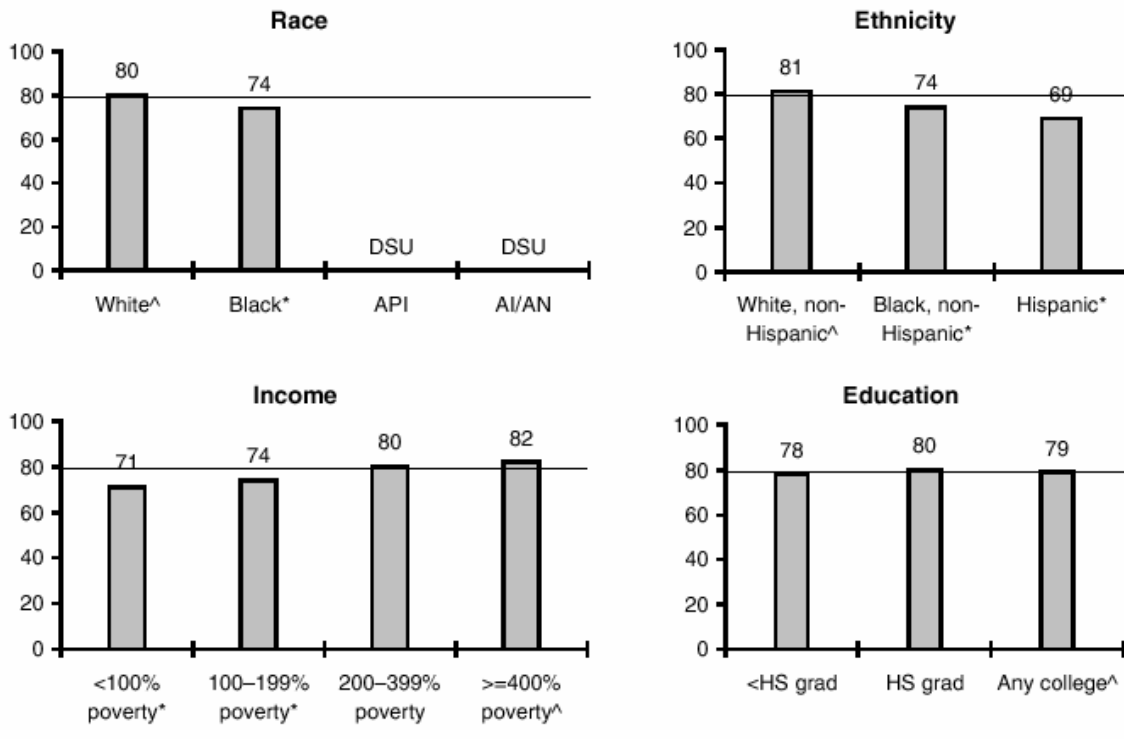
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group. Note that a relative rate >10% is achieved for the inverse of this measure, percent of persons <u>with</u> problem getting referral to a specialist.
Key: API=Asian or Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000.

Waiting Times

Key Findings:

- Blacks and the uninsured are more likely to report waiting over 1 hour at the ER for semi-urgent/non-urgent care, and to report leaving the ER without being seen.

For information on waiting times, please refer to the Quality chapter of the NHDR.

Patient's Perceptions of Providers Ability to Address Their Needs

Successfully gaining entry into the health care system and navigating structural barriers may not yield optimal care if patients and providers do not communicate effectively. This section considers the ability of providers to address patient needs and includes measures of patient-provider communication, the patient-provider relationship, cultural competency, and health information (Tables 5 and 6).

Patient-Provider Communication

Key Finding:

- Many racial and ethnic groups, as well as poor and less educated patients, are more likely to report poor communication with their physicians.

Why patient-provider communication is important

One of the *Healthy People 2010* goals is to "use communication strategically to improve health," and it defines health communication as "the use of communication strategies to inform and influence individual and community decisions that enhance health."[23] Patient-provider communication increases awareness of both health risks and risky behaviors, helps patients make complex choices by clarifying complicated issues (such as selecting the best treatment plans), and increases the likelihood that patients understand and adhere to multifaceted treatment regimens. Additionally, it simultaneously increases demand for appropriate health services and lowers demand for inappropriate services. Several studies affirm the relationship between the quality of the patient-provider interaction, patient behavior, and outcomes.[24]

Communication can be impaired by such factors as differences in language, a patient's degree of literacy (and "health literacy," described in more detail under "health information," below), pressure on providers to see patients quickly, and a patient's hesitancy to discuss sensitive issues. Indeed, data from the Commonwealth Fund's 2001 Health Care Quality Survey indicate that, while all demographic groups reported problems with patient-physician communication and interaction, difficulties were most pronounced for minority patients, even among those whose primary language is English.[25] (Language barriers are discussed in more detail in Chapter 5.)

How the Nation is doing

American Indians and Alaska Natives, Asians, blacks, Hispanics, low-income populations, and the less-educated are more likely to report poor communication with their physicians. Priority populations are overrepresented among the 19% of Americans that believe they had

"poor communication"[i] with their physician during their last health care visit. Specifically, 44% of AI/ANs, 27% of Asians, and 23% of blacks, compared with 17% of whites; 33% of Hispanics, compared with 16% of non-Hispanic whites; 31% of the poor, 25% of near poor, and 17% of those with middle incomes compared with 13% of those with high incomes; and 30% of those without a high school diploma, compared to 17% of those who attended college, report poor communication during their most recent clinical encounter (Figure 4) (Commonwealth Fund Health Care Quality Survey, 2001).

Figure 4. Percent of adults with one or more indicators of poor communication at their last health care visit
[U.S. total = 19%]
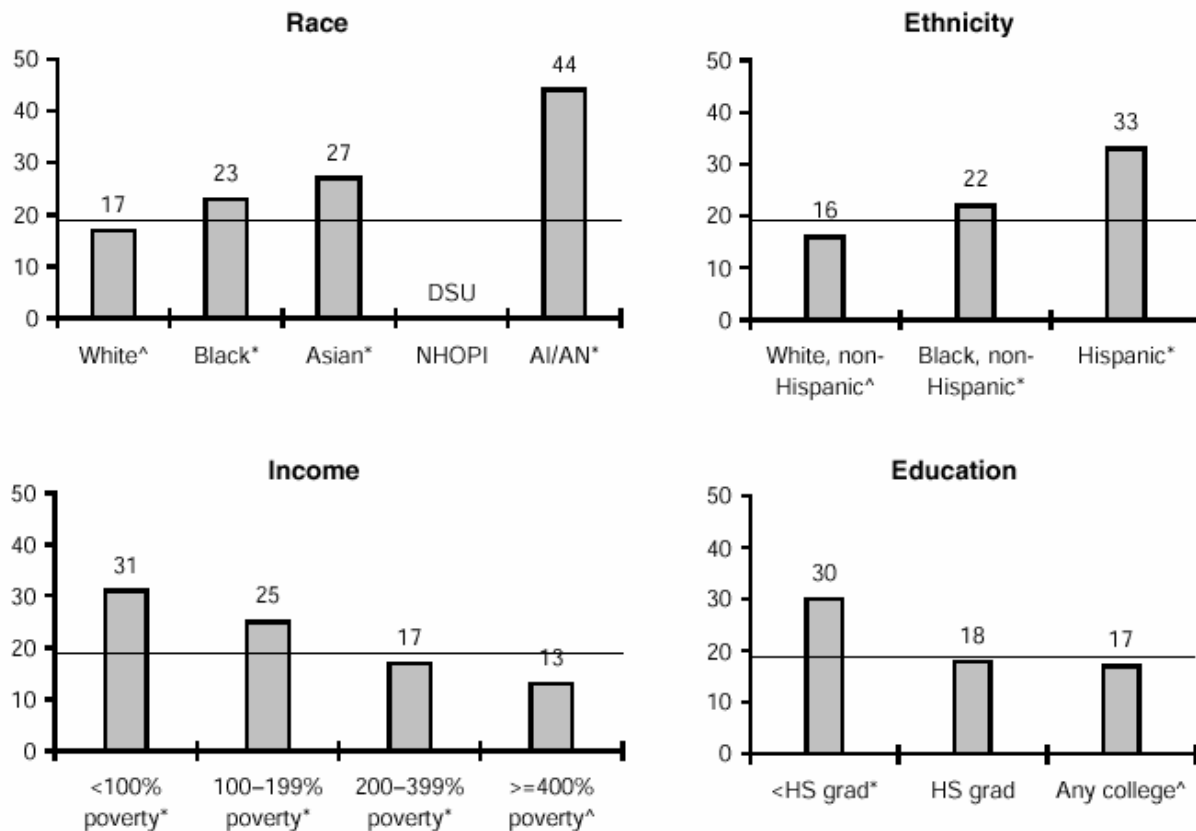
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: The Commonwealth Fund Health Care Quality Survey, 2001.

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[i] In this interview survey, measures of poor communication included: reporting that the provider did not listen to everything, that the patient did not understand everything, or that the patient had questions that they did not ask.

Patient-Provider Relationship

Key Finding:

- Many racial and ethnic minorities and lower socioeconomic position persons report more problems with some aspects of the patient-provider relationships.

Why the patient-provider relationship is important

Strong patient-provider communication is just one aspect of effective care. The patient-provider relationship should include mutual trust, respect, confidence, and shared decisionmaking. Relationships that lack these dimensions may limit the clinician's ability to provide care and the patient's willingness and ability to follow the clinician's recommendations. This ultimately can lower the quality of care.

Ideally, a provider helps a patient translate values into treatment decisions. In this way, clinicians discuss not only the treatment, but also tease out the values inherent in the available options. The physician plays the role of a teacher or friend by "engaging the patient in dialogue on what course of action would be best."[26]

The provider assists patients to select interventions that reflect the patients' health-related values, and patients and providers collaboratively rank health-related values as they pertain to the decisions at hand, weighing available treatments with patient preferences.[27]

How the Nation is doing

Blacks, Asians, Hispanics, and low income populations are more likely to feel disenfranchised in the decisionmaking process. Nationwide, nearly one out of four people report that they are not involved in health care decisions as much as they would like (Commonwealth Fund Health Care Quality Survey, 2001). Compared to whites (22%), blacks (27%) and Asians (41%) more frequently report under-involvement in the health care decisionmaking process. Similarly, Hispanics (34%) compared with non-Hispanic whites (21%), and low income populations (30% of the poor, 26% of the near poor, and 24% of the middle income category) compared with high income populations (20%) are more likely to feel disenfranchised in the decisionmaking process. (Figure 5).

Blacks, Asians and Pacific Islanders, Hispanics, and those of low socioeconomic status are less satisfied with their health care. Similarly, 16% of adults were less satisfied with their health care (rating it at a "6 or below" on a scale of "0 to 10") (MEPS, 2000). Racial minorities (20% of blacks and 28% of APIs vs. 16% of whites), ethnic minorities (19% of Hispanics vs. 15% of non-Hispanic whites), lower income persons (24% of the poor, 19% of the near poor and 17% of those with middle income vs. 13% of those with high income), and less educated persons (21% of persons with less than a high school education and 17% of high school graduates vs.

14% of college attendees) are all more likely to rate their overall health care more negatively (Figure 6).

In summary, many racial and ethnic minorities and lower socioeconomic position persons report more difficult patient-provider relationships. Patient concerns regarding the decision-making process may result in receipt of care that does may not meet patients' perceived needs. When coupled with low patient satisfaction, these represent significant opportunities for improvement.

**Figure 5. Percent of adults not involved as much as wanted in decisionmaking
[U.S. total = 24%]**
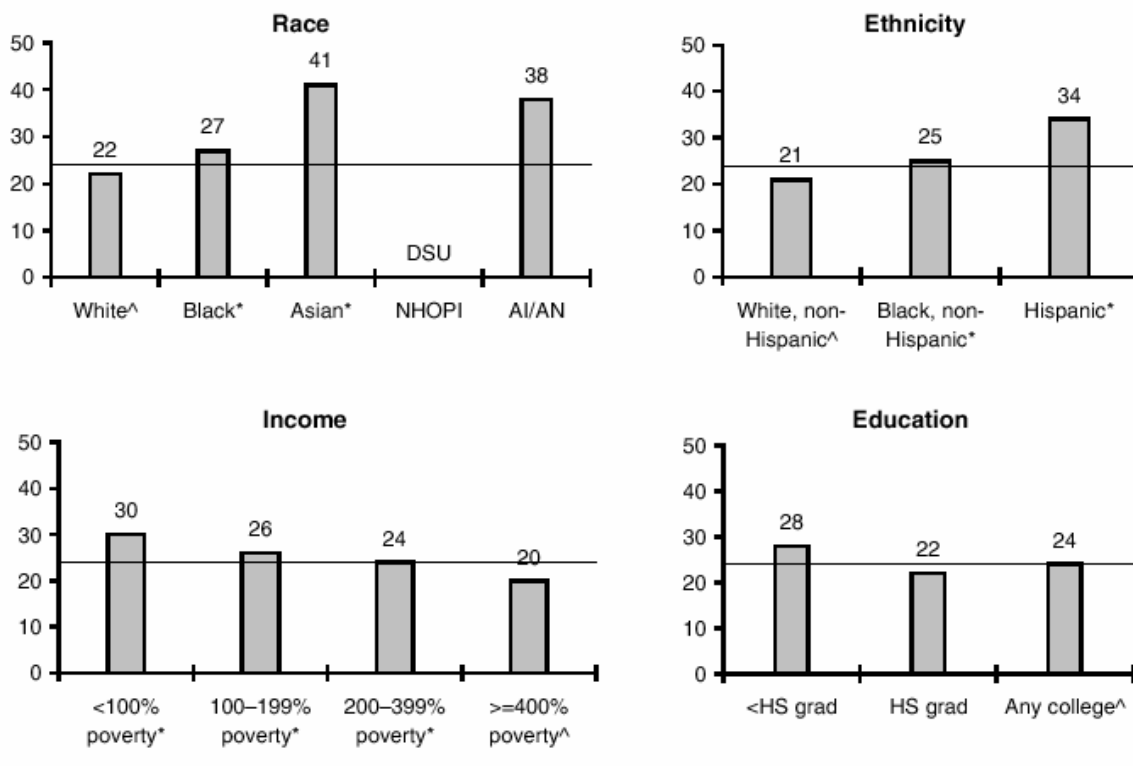
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: The Commonwealth Fund Health Care Quality Survey, 2001.

Figure 6. Percent of adults who have low patient satisfaction[i] for their overall health care [U.S. total = 16%]
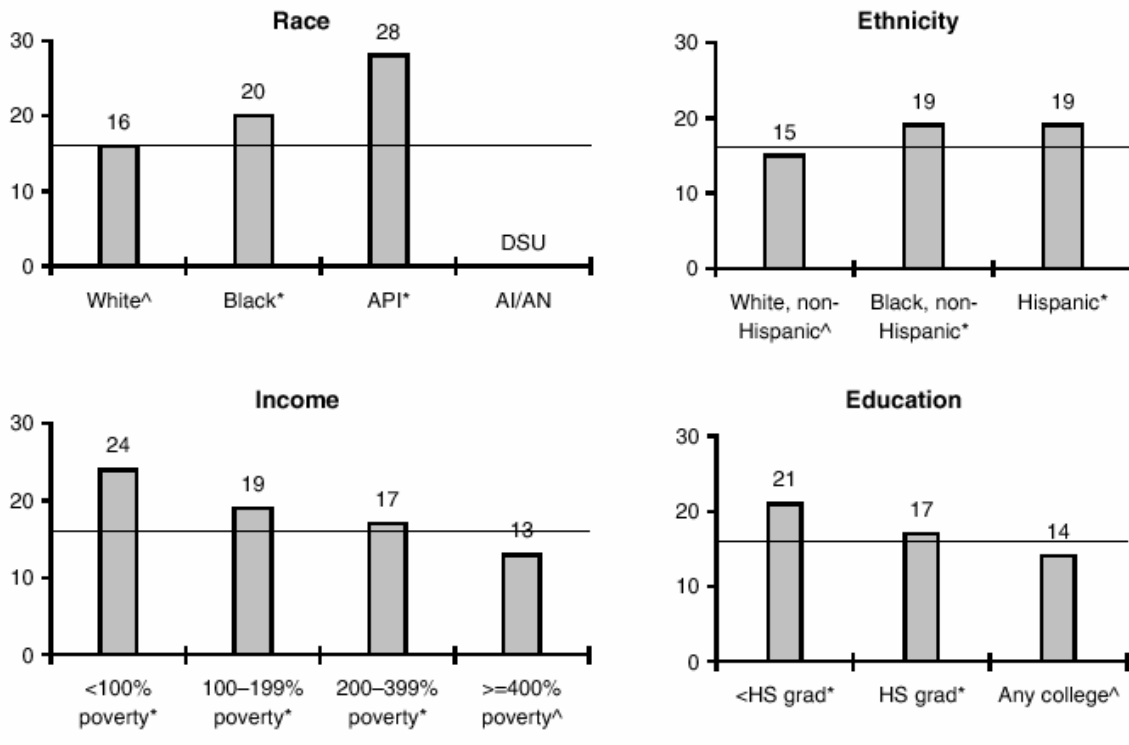
^ Indicates reference group.

*p<0.05 and relative rate >10% for comparison of group with reference group.

[i] Patients ranked their overall health care satisfaction from "0 to 6" on a scale of "0 to 10."
Key: API=Asian or Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000.

Cultural Competency

Key Finding:

- Only 5% of the population report that their health care is affected by race or ethnicity but differences by race, ethnicity, and socioeconomic status are large.

Why cultural competency is important

Cultural values and ideas about what constitutes good health can vary between demographic groups. "Cultural competency" implies an awareness of health beliefs and behaviors, disease prevention and incidence, and treatment outcomes for different populations.[28] It can be defined as: "The design, implementation, and evaluation process that accounts for special issues of select population groups (ethnic and racial, linguistic) as well as differing educational levels and physical abilities."[29] Health care experts discern a link between cultural competence, quality

improvement, and the elimination of racial and ethnic disparities.[30] Because culture and language affect how both the patient and the provider perceive health care, incorporating cultural and linguistic awareness can support patients' health more effectively. Studies also suggest that earlier detection and more appropriate treatment brought about by culturally competent health care delivery is cost effective.[31] Furthermore, researchers note that culturally sensitive care is an effective means of expanding market share and appears to reduce the likelihood of malpractice claims.[32] As a result, medical schools have begun introducing cultural competence formally into their curricula.[33] It is, however, important to note that we have much to learn about how to operationalize cultural competency.

How the Nation is doing

Although only 5% of the population report that their health care is affected by race or ethnicity, priority populations more frequently cite this sentiment than their comparison groups. For example, blacks (17%) and Asians (13%) believe that their race affects their care more often than whites (3%). Hispanics (15%) more frequently believe that their race and ethnicity affects their care than non-Hispanic whites (1%). The poor (9%) and near poor (8%) are more likely than persons in high income families (3%); and persons with less than a high school education (10%) are more likely than college attendees (5%) to share this belief (Commonwealth Fund Health Care Quality Survey, 2001). The greater attention to cultural competency within the health care system and health professions training may reduce some of these differences.

Health Information

> **Key Finding:**
>
> - **Asians, Hispanics, and those of lower socioeconomic status have greater difficulty accessing health care information, including information on prescription drugs.**

Why health information is important

Health care consumers need health information to decide when to seek medical care, choose appropriate providers, and adhere to treatment recommendations. Such information may be distributed via caregivers, direct-to-consumer advertisements, public health campaigns, or publications from health-focused associations. Additionally, computer-related sources include interactive health communication software and the Internet. Yet frequently, the very populations with the greatest needs have the least access to information. Differences in access to computers are of particular concern as the delivery of information grows more reliant on electronic dissemination (e.g., the "digital divide").

Another aspect of health information is health literacy, or "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions."[34] In the U.S., health literacy is often difficult without

English literacy—or the ability to read, write, and speak English. In fact, an estimated 75% of those with chronic physical or mental health problems in the U.S. have limited literacy.[35] Research indicates that those with low levels of health literacy are more likely to report poor health, lack a full understanding of their health problems and treatment, and be at a greater risk of hospitalization.[36] Moreover, studies suggest that limited literacy among those with asthma, hypertension, and diabetes is correlated with lower levels of understanding of these chronic conditions.[37, 38]

Low levels of health literacy affect all Americans, but certain priority populations are at increased risk. For example, one study found that 81% of patients age 60 and older at a public hospital could not read or understand basic materials, such as prescription labels.[39]

How the Nation is doing

In general, Hispanics, Asians, and those of lower socioeconomic status have greater difficulty accessing health care information. About 43% of adults report that it is "not very easy" to understand information from their doctor's offices. Differences between racial and ethnic group data indicate that Asians (58%, compared with 41% of whites) and Hispanics (54%, compared with 40% of non-Hispanic whites) have a harder time comprehending doctor-provided health information.

The data also reveal a gradient effect with respect to income: 52% of the poor, 47% of the near poor, and 44% of those with middle incomes vs. 35% of those with high incomes report difficulty understanding health information provided by their clinician. Those with low levels of education are also more likely to report this problem (60% of persons with less than a high school education and 47% of high school grads compared with 36% of college attendees) (Figure 7) (Commonwealth Fund Health Care Quality Survey, 2001).

Figure 7. Percent of adults who report it is not very easy to understand information from doctor's office
[U.S. total = 43%]
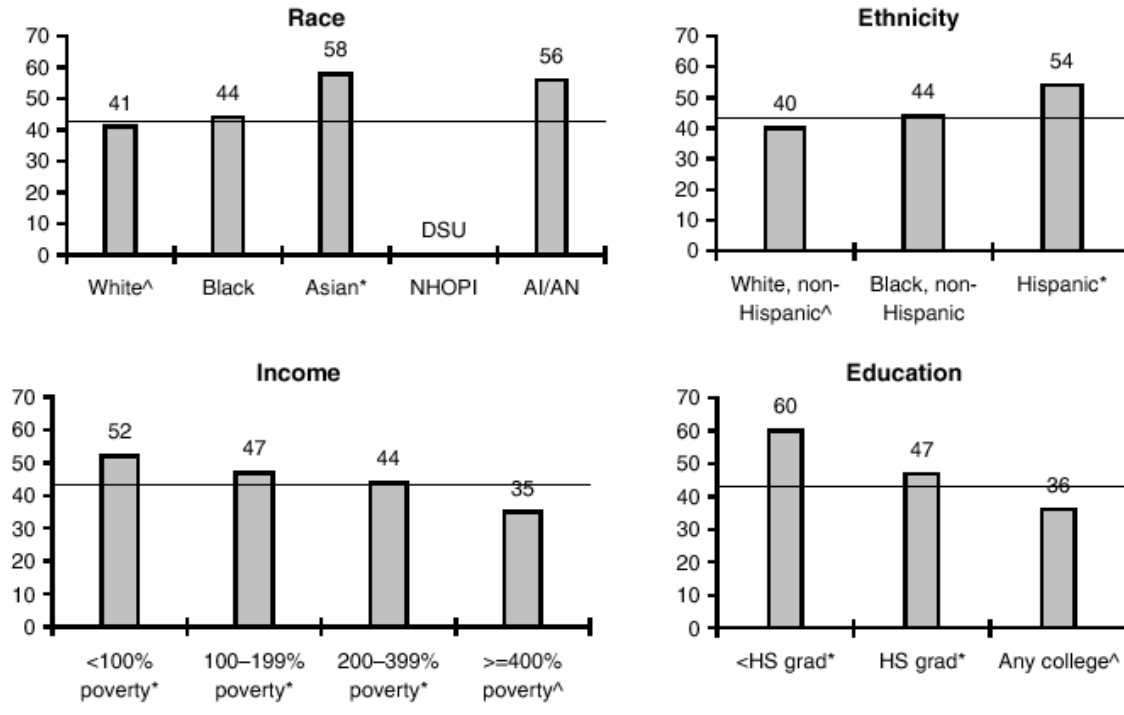
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: The Commonwealth Fund Health Care Quality Survey, 2001.

Similarly, Hispanics and Asians, as well as those with the lowest socioeconomic status, more frequently find prescription drug-related instructions difficult to understand. Hispanics, those with low incomes and those with no college education are less likely to use the Internet, read printed material, or contact their doctor to obtain information on issues affecting their health.

In summary, many racial and ethnic minorities and persons of lower socioeconomic position report problems understanding health information. Health information more tailored to patients' needs, including appropriate literacy level, could have significant benefits on health costs and outcomes.

Utilization of Care

This section considers measures of receipt of health care (i.e., routine care, acute care, and chronic care) as well as mental health care and substance abuse treatment, and HIV care.

Receipt of Health Care

> **Key Findings:**
>
> - Racial and ethnic minorities are generally less likely to report routine health care.
> - Racial and ethnic differences in acute care tend to be less pronounced than differences in routine care.
> - Racial and ethnic differences in chronic care tend to be small.

While some differences in receipt of care are likely to reflect individual needs, preferences, and behaviors, not all differences can be fully explained by these factors. Regardless of the reason, failure to receive needed health care may have severe consequences. Many studies have demonstrated racial, ethnic, and socioeconomic differences in use of office[40] and outpatient department[41] care, prescription medications, and dental care.[42, 43, 44, 45]

How the Nation is doing

Blacks, Hispanics, and those of low socioeconomic status are less likely than whites, non-Hispanic whites, and those of high socioeconomic status to report having a routine office or outpatient visit in the past year (MEPS, 1999). Racial and ethnic minorities also have fewer overall outpatient visits (NHAMCS, 1999-2000) and are less likely to report receipt of prescription medications and dental visits (MEPS, 1999).

Those with lower incomes and less education are less likely to receive routine care, but are more likely to receive acute care. For example, the poor (17%) and high school dropouts (16%) are more likely to make emergency room visits, respectively, than high income persons (10%) and those with any college education (10%). These differences exist both among persons in poor or fair health, as well as among persons in good or excellent health. Individuals of lower socioeconomic status are also more likely than their high socioeconomic counterparts to report inpatient hospitalizations (MEPS, 1999).

Racial and ethnic differences in chronic care tend to be small. Hispanics are less likely to receive home health care than non-Hispanics whites (MEPS, 1999), but racial differences are not noted. Among persons aged 18 to 64, rates of nursing home discharge are higher among blacks than whites (NNHS, 1999). Among persons aged 65 and over, rates of hospice discharge are lower among blacks (890 per 100,000 population) compared with whites (1,425 per 100,000) (NHHCS, 2000). Lower income and less educated persons are more likely than the affluent and better educated to receive chronic care services (MEPS, 1999).

Mental Health Care and Substance Abuse Treatment

Key Findings:

- Mental health treatment or counseling is reported less often by racial and ethnic minorities. Among adults with serious mental illness, blacks and Hispanics are less likely to receive any kind of mental health treatment.
- Among those who need care for illicit drug or substance abuse, blacks and people with less education are more likely than whites or college attendees to receive treatment.

Why mental health care and substance abuse treatment are important

Over 40 million persons ages 18 to 64, or 22% of the adult population, experienced a mental disorder in the past year.[46] This does not include the large and increasing number of children and adolescents who are treated for mental disorders, especially attention deficit disorder (ADD). An estimated 7% of the adult population is considered to have a serious mental illness that substantially limits activities.[47]

Although the prevalence of mental disorders for racial and ethnic minorities in the United States is similar to that for whites,[48] differences in provision of care can be observed. Compared with whites, minorities have less access to mental health care, are less likely to receive needed mental health care services, and often receive poorer quality mental health care when in treatment.[49] Racial, ethnic, and socioeconomic differences in the use of psychiatric medications[50] and of psychiatric outpatient,[51] emergency,[52] and inpatient services[53] have also been documented.

How the Nation is doing

Mental health treatment or counseling is reported less often by racial and ethnic minorities. Blacks (8%) and Asians (4%) are less likely than whites (12%), and Hispanics (6%) are less likely than non-Hispanic whites (13%) to receive any kind of mental health treatment or counseling (Figure 8) (NHSDA, 2001).

Similar differences are noted for receipt of outpatient mental health care and for receipt of prescription medications as part of mental health treatment. Even among adults with serious mental illness, blacks and Hispanics are less likely to receive any kind of mental health treatment. In contrast, blacks are more likely than whites to be hospitalized for mental health treatment and have higher rates of admission to specialty mental health organizations (SAMHSA's Client/Patient Survey Sample [CPSS], 1997).

Socioeconomic status is also associated with differences in care for mental health conditions. While differences in overall mental health care are not noted, adults who attended college are more likely to receive outpatient mental health care and less likely to receive inpatient mental

health care compared with high school dropouts and those whose educations ended with high school graduation (NHSDA, 2001).

Differences in treatment for illicit drug use are also noted. Among persons 12 and over who meet criteria for needing treatment for illicit drug use, blacks are more likely than whites to receive such treatment. Similarly, less educated persons in need of substance abuse treatment are more likely to receive such care compared with persons with any college education (NHSDA, 2001).

Figure 8. Percent of adults who received outpatient mental health treatment or counseling in the past year

[U.S. total = 11%]
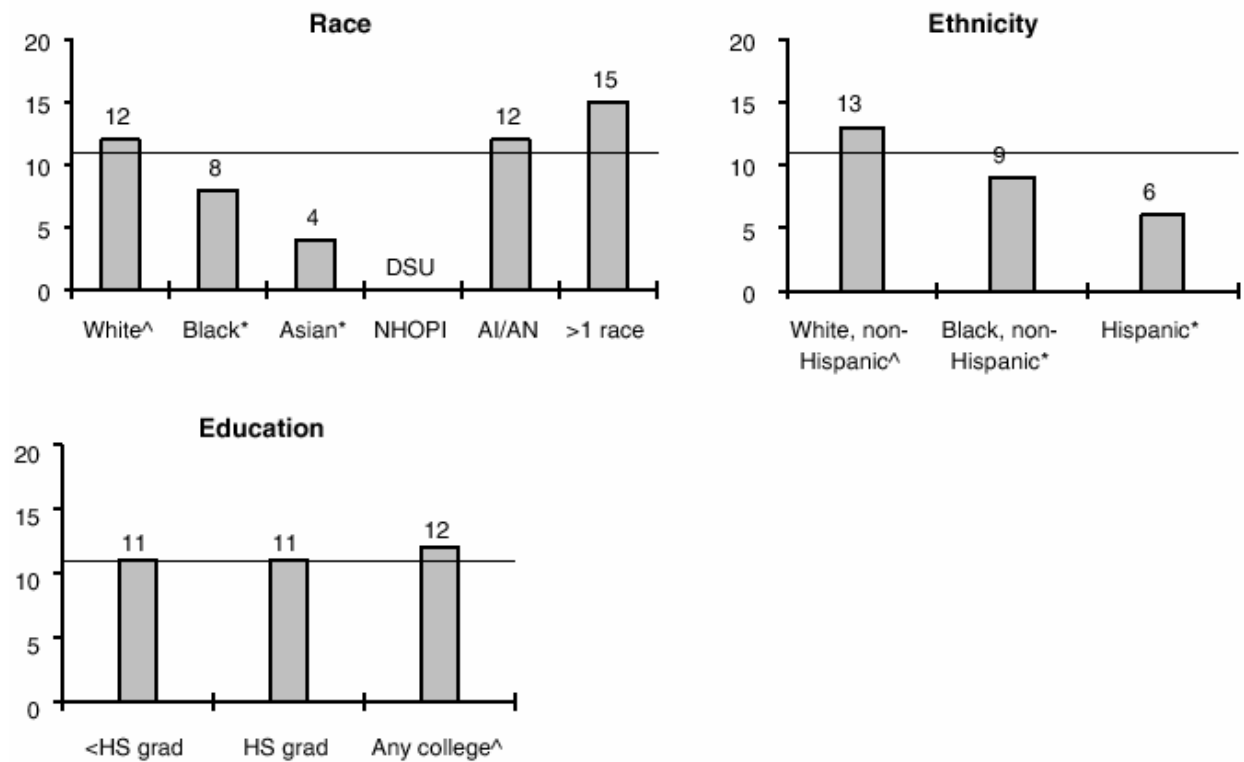
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian/Alaska Native; HS=high school
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Substance Abuse and Mental Health Services Administration, National Household Survey on Drug Abuse, 2001.

HIV Care

> **Key Findings:**
>
> - Non-Hispanic black and Hispanic HIV patients experience more inpatient hospitalizations than non-Hispanic white HIV patients.
> - Those HIV patients with no health insurance (or Ryan White coverage only) are less likely than HIV patients with private health insurance to receive four or more ambulatory visits per year or to be hospitalized.

Why HIV care is important

Human immunodeficiency virus (HIV) infection and its late-stage manifestation as acquired immune deficiency syndrome (AIDS) are among the most devastating global infectious disease pandemics in history. Between 850,000 and 950,000 U.S. residents are estimated to be infected,[54] and each year, about 40,000 persons acquire the infection.[55] Educational campaigns have brought down infection rates in the United States, and new treatments have transformed the disease from a death sentence into a chronic condition. Vaccines for the virus are under development.[56]

HIV incidence and death rates vary by race and ethnicity. For example, blacks comprise about 12% of the U.S. population, but accounted for half of the new HIV cases reported in the U.S. in 2001.[57] AIDS is the leading cause of death among black women aged 25 to 34 and among black men aged 35 to 44.[58] Hispanics also have higher AIDS incidence rates than whites.[59]

Differences in receipt of antiretroviral therapy and prophylactic therapy to prevent *Pneumocystis carinii* pneumonia (PCP),[60] receipt of highly-active antiretroviral therapy,[61] and management of PCP[62] have also been demonstrated.

How the Nation is doing

Blacks have higher rates of hospitalization for HIV than whites (NHDS, 2000).[i] Non-Hispanic black (18%) and Hispanic (17%) HIV patients experience more inpatient hospitalizations than

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[i] With the exception of hospitalization rates, nationally representative data on HIV care that include race and ethnicity are not available. To fill this important gap, the NHDR uses data from the HIV Research Network. Although the network spans the Nation, members tend to be large, urban academic medical centers that treat large numbers of HIV patients. Findings are therefore not generalizable to all HIV patients.

The HIV Research Network collects race and ethnicity data as a single item as follows: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander, and American Indian or Alaska Native. In lieu of patient income and education data, the NHDR compares HIV services provided to uninsured patients with services provided to privately insured patients as a proxy of socioeconomic position. Furthermore, since Ryan White coverage may be available to individuals with no other health insurance, it is difficult to differentiate them from the uninsured. Persons with no health insurance and persons with Ryan White coverage only are therefore aggregated in these analyses.

non-Hispanic white HIV patients (11%). HIV patients with no health insurance or Ryan White coverage only are less likely than HIV patients with private health insurance to receive four or more ambulatory visits per year or to be hospitalized. These differences are observed both among the sickest AIDS patients (with CD4 count below 50), as well as among less immunocompromised HIV patients.

Avoidable Admissions

Key Findings:

- Compared with whites, blacks typically have higher rates of avoidable admissions; Asians and Pacific Islanders typically have lower rates.
- Rates of avoidable admissions are higher for persons who live in low-income areas compared with persons who live in higher income neighborhoods.

Why avoidable admissions are important

Avoidable admissions (also called "admissions of ambulatory care sensitive conditions") are hospitalizations for health conditions that, in the presence of comprehensive primary care, rarely require hospitalization. High rates of avoidable admissions suggest impaired access to or quality of ambulatory care.

Racial, ethnic, and socioeconomic differences in avoidable admissions are well documented, and are higher for blacks and low-income persons (compared with whites and high-income individuals).[63, 64, 65] As the numbers of such hospitalizations has increased over time, the gap between these demographic groups has widened.[66]

How the Nation is doing

Nationally representative data on hospitalizations are often limited by sample size and variations in the quality of race and ethnicity reporting from different States. The NHDR uses data from the 16 States that collect fairly complete race and ethnicity data and that participate in the Healthcare Cost and Utilization Project State Inpatient Databases (HCUP SID).[i] In aggregate, these hospitalizations account for over half of the hospitalizations in the Nation. Avoidable admissions examined include hospitalizations for hypertension, angina, chronic obstructive pulmonary disease, and bacterial pneumonia.

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[i] The HCUP State Inpatient Databases collect race and ethnicity data as a single item. The categories are as follows: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander, and American Indian or Alaska Native. Because it does not collect information on patient income and education, the NHDR uses median income of patient's ZIP Code as a crude proxy of socioeconomic position.

Compared with non-Hispanic whites, non-Hispanic blacks typically have higher rates of avoidable admissions while Asians and Pacific Islanders typically have lower rates. Rates of admission for bacterial pneumonia are higher among non-Hispanic blacks (473 per 100,000 population) and lower among APIs (190 per 100,000) compared with non-Hispanic whites (335 per 100,000) (Figure 9) (HCUP SID 16-State database, 2000).

Figure 9. Avoidable admissions for bacterial pneumonia per 100,000 population [Total, 16 States = 349 per 100,000]
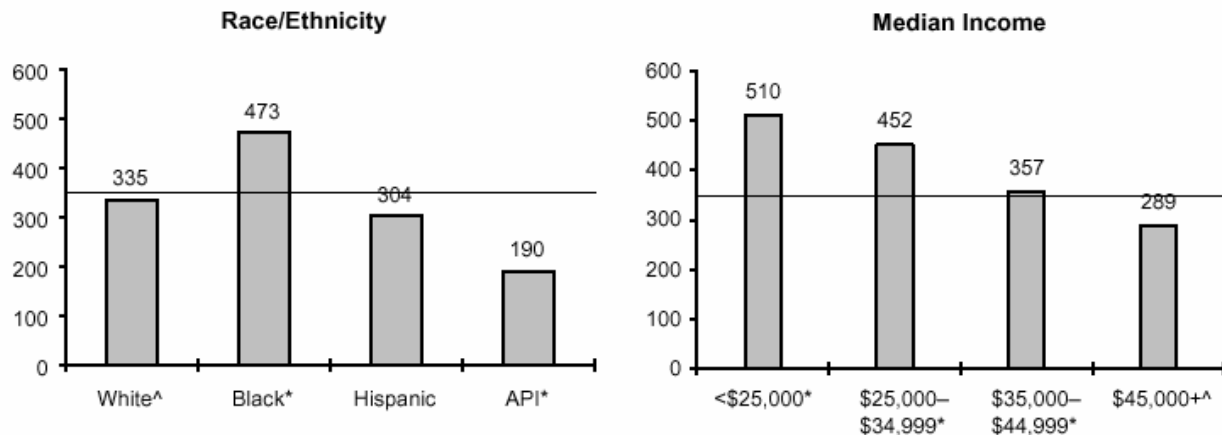
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: API=Asian or Pacific Islander
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases, 16-State database, 2000.

Rates of avoidable admissions are also higher for persons who live in poorer neighborhoods. For example, rates of admission for bacterial pneumonia are higher among persons who live in poor areas[i] (510 per 100,000 population), near-poor areas[ii] (452 per 100,000), and medium-income areas[iii] (357 per 100,000), than for high-income area[iv] residents (289 per 100,000). Similar differences are noted for other avoidable admissions.

Tracking avoidable admissions is important because such hospitalizations may reflect, in part, the adequacy of primary care. When health care needs are not met by the primary health care

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[i] "Poor areas" are defined as having ZIP Codes with median incomes of under $25,000.
[ii] "Near-poor areas" are defined as having ZIP Codes with median incomes of $25,000-$34,999.
[iii] "Medium income areas" are defined as having ZIP Codes with median incomes of $35,000-$44,999.
[iv] "High-income areas" are defined as having ZIP Codes with median incomes of $45,000 and higher.

system, rates of avoidable admissions may rise. Higher rates of avoidable admissions by blacks and persons of lower socioeconomic position may be explained, in part, by lower receipt of routine care by these populations. However, avoidable admissions may be influenced by many other factors, such as comorbidities and patient preferences.

Table 1. Racial and Ethnic Differences in Entry into the Health Care System

Measure	Racial Difference[1]					Ethnic Difference[2]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Health Insurance Coverage							
% of persons, ages <65, with health insurance[3]	◐	●	●	◐	●	◐	◐
% of persons, ages <65, with public health insurance only[3]	◐	●	○	◐	◐	◐	◐
% of persons, ages <65, with any private health insurance[3]	◐	◐	◐	◐	◐	◐	◐
% of persons, ages 65+, with any private health insurance[3]	◐	◐	○	○	●	◐	◐
% of persons uninsured all year[4]	◐	●[4]		◐		◐	◐
% of persons with any period of uninsurance during the year[4]	◐	●[4]		◐		◐	◐
% of persons with any period of public insurance during the year[4]	◐	●[4]		◐		◐	◐
Usual Source of Care							
% of persons who have a specific source of ongoing care[3]	◐	◐	○	●	●	◐	◐
% of persons in fair or poor health who have a specific source of ongoing care[3]	●	●	○	○	●	◐	◐
% of persons with a hospital, emergency room, or clinic as source of ongoing care[3]	◐	●	○	◐	◐	◐	◐
% of persons with a community health center as source of ongoing care[5]	●	●	○	○		◐	◐
% of persons without a usual source of care who indicate a financial or insurance reason for not having a source of care[4]	●	●[4]		○		●	◐
% of persons who have a usual primary care provider[4]	◐	◐[4]		●		◐	◐
% of adults who report very little or no choice in source of care[5]	●	◐	●	●		●	◐
% of adults who have had a regular doctor for more than 5 years[5]	●	◐	●	●		●	◐

[1] Compared with whites.

[2] Compared with non-Hispanic whites.

[3] Source: National Center for Health Statistics, National Health Interview Survey, 2000.

[4] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

[5] Source: The Commonwealth Fund Health Care Quality Survey, 2001. This source did not collect information for >1 race separately.

Table 1. Racial and Ethnic Differences in Entry into the Health Care System (continued)

Measure	Racial Difference[1]					Ethnic Difference[2]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Patient Perceptions of Need							
% of families that experience difficulties or delays in obtaining health care or do not receive needed care[3]	◖	●[3]	○			◖	◗
% of families that experience difficulties or delays in obtaining health care due to financial or insurance reasons[3]	●	○[3]	○			●	◗
% of families that did not receive a doctor's care or prescription medications because the family needed the money[3]	●	●[3]	○			●	◗
% of families not very satisfied that they can get health care if they need it[3]	●	◗[3]	○			●	◗
% of persons who can always get appointments for routine care as soon as wanted[4]	●	◗[4]	○			●	◗
% of persons who can always get care for illness or injury as soon as wanted[4]	●	○[4]	○			●	◗

[1] Compared with whites.

[2] Compared with non-Hispanic whites.

[3] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

[4] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

Key to Access to Health Care Tables:

●: Selected population and comparison population receive about same access to health care

◖: Selected population receives better access to care than the comparison population

◗: Selected population receives worse access to care than the comparison population

○: Data are collected but do not meet criteria for statistical reliability

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; NHB=non-Hispanic black

Table 2. Socioeconomic Differences in Entry into the Health Care System

Measure	Income Difference[1]			Educational Difference[2]		Insurance Difference[3]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Health Insurance Coverage						
% of persons, ages <65, with health insurance[4]	◒	◒	◒	◒	◒	
% of persons, ages <65, with public health insurance only[4]	◒	◒	◒	◒	◒	
% of persons, ages <65, with any private health insurance[4]	◒	◒	◒	◒	◒	
% of persons, ages 65+, with any private health insurance[4]	◒	◒	●	◒	◒	
% of persons uninsured all year[5]	◒	◒	◒	◒	◒	
% of persons with any period of uninsurance during the year[5]	◒	◒	◒	◒	◒	
% of persons with any period of public insurance during the year[5]	◒	◒	◒	◒	◒	
Usual Source of Care						
% of persons who have a specific source of ongoing care[4]	◒	◒	◒	◒	◒	◒
% of persons in fair or poor health who have a specific source of ongoing care[4]	◒	◒	◒	◒	◒	◒
% of persons with a hospital, emergency room, or clinic as source of ongoing care[4]	◒	◒	◒	◒	◒	◒
% of persons with a community health center as source of ongoing care[6]	◒	◒	◒	◒	◒	◒
% of persons without a usual source of care who indicate a financial or insurance reason for not having a source of care[5]	◒	◒	◒	◒	◒	◒
% of persons who have a usual primary care provider[5]	◒	◒	◒	◒	◒	◒
% of adults who report very little or no choice in source of care[6]	◒	◒	◒	●	●	◒
% of adults who have had a regular doctor for more than five years[6]	●	◒	●	●	●	●

[1] Compared with persons with family incomes 400% of Federal poverty threshold or above.
[2] Compared with persons with any college education.
[3] Compared with persons under 65 with any private health insurance.
[4] Source: National Center for Health Statistics, National Health Interview Survey, 2000.
[5] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999.
[6] Source: The Commonwealth Fund Health Care Quality Survey, 2001.

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Table 2. Socioeconomic Differences in Entry into the Health Care System (continued)

Measure	Income Difference[1]			Educational Difference[2]		Insurance Difference[3]
	<100%	**100-199%**	**200-399%**	**<HS**	**HS Grad**	**Uninsured**
Patient Perceptions of Need						
% of families that experience difficulties or delays in obtaining health care or do not receive needed care[4]	◒	◒	◒	◒	●	◒
% of families that experience difficulties or delays due to financial or insurance reasons[4]	◒	◒	◒	●	●	◒
% of families that did not receive a doctor's care or prescription medications because the family needed the money[4]	◒	◒	◒	◒	◒	◒
% of families not very satisfied that they can get health care if they need it[4]	◒	◒	◒	◒	◒	◒
% of persons who can always get appointments for routine care as soon as wanted[5]	◒	●	●	◒	●	●
% of persons who can always get care for illness or injury as soon as wanted[5]	◒	●	●	●	●	◒

[1] Compared with persons with family incomes 400% of Federal poverty threshold or above.
[2] Compared with persons with any college education.
[3] Compared with persons under 65 with any private health insurance.
[4] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999.
[5] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000.

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◒: Selected population receives worse access to care than the comparison population
○: Data are collected but do not meet criteria for statistical reliability
HS=high school

Table 3. Racial and Ethnic Differences in Structural Barriers within the Health Care System

Measure	Racial Difference[1]					Ethnic Difference[2]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Barriers to Getting Care							
% of persons with provider who has office hours nights or weekends[3]	●	◒[3]		●		●	●
% of persons with difficulty getting appointments on short notice[3]	●	●[3]		◓		●	●
% of persons with difficulty contacting provider over the telephone[3]	●	●[3]		●		●	◓
% of adults without problems getting referral to a specialist in past year[3]	◓	○[4]		○		◓	◓
% of persons not very satisfied with professional staff at provider's office[3]	●	◓[3]		●		●	◓
Waiting Times							
% of persons who usually wait >30 minutes before seeing provider[3]	◓	●[3]		○		◓	◓
% of emergent/urgent emergency department visits with wait >=1 hour[4]	●	●[4]		○			
% of semi-urgent/non-urgent emergency department visits with wait >=1 hour [4]	◓	●[4]		○			
% of emergency department visits in which the patient left without being seen[4]	◓	○[4]		○			

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[1] Compared with whites.

[2] Compared with non-Hispanic whites.

[3] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

[4] Source: National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey-Emergency Department, 2000. This source did not collect information on Asians and NHOPIs separately. This source did not collect information for >1 race. Missing rates preclude analysis by ethnicity.

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NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; NHB=non-Hispanic black

Table 4. Socioeconomic Differences in Structural Barriers within the Health Care System

Measure	Income Difference[1]			Educational Difference[2]		Insurance Difference[3]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Barriers to Getting Care						
% of persons with provider who has office hours nights or weekends[4]	◒	◒	●	◒	●	◒
% of persons with difficulty getting appointments on short notice[4]	●	●	●	●	●	●
% of persons with difficulty contacting provider over the telephone[4]	●	●	●	●	●	●
% of adults without problems getting referral to a specialist in past year[4]	◒	◒	●	●	●	◒
% of persons not very satisfied with professional staff at provider's office[4]	◒	●	●	●	●	●
Waiting Times						
% of persons who usually wait >30 minutes before seeing provider[4]	◓	◓	◓	◓	◓	◓
% of emergent/urgent emergency department visits with wait >=1 hour[5]						●
% of semi-urgent/non-urgent emergency department visits with wait >=1 hour[5]						◓
% of emergency department visits in which the patient left without being seen[5]						◓

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[1] Compared with persons with family incomes 400% of Federal poverty threshold or above.

[2] Compared with persons with any college education.

[3] Compared with persons under 65 with any private health insurance.

[4] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000.

[5] Source: National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey-Emergency Department, 2000. This source did not collect information about income or education. Insurance contrast compares uninsured with persons with any private insurance including all ages.

Key to Access to Health Care Tables:

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Table 5. Racial and Ethnic Differences in Ability of Provider to Address Patient Needs

Measure	Racial Difference[1]					Ethnic Difference[2]	
	Black	**Asian**	**NHOPI**	**AI/AN**	**>1 Race**	**NHB**	**Hispanic**
Patient-Provider Communication							
% of persons with provider who generally listens and gives needed information about health/health care[3]	●	●[3]		○		●	◐
% of persons with provider who usually asks about medications and treatments other doctors may give[3]	◐	●[3]		●		◐	◐
% of adults whose providers always listened carefully to them[4]	◐	●[4]		○		◐	◐
% of adults whose providers always explained things in a way they could understand[4]	◐	●[4]		○		◐	◐
% of adults whose providers always showed respect for what they had to say[4]	◐	●[4]		○		◐	●
% of adults with one or more indicators of poor communication at their last visit[5]	◐	◐	○	◐		◐	◐
Patient-Provider Relationship							
% of persons not satisfied with quality of care received from provider[3]	●	◐[3]		●		●	◐
% of persons not confident in provider's help when they have a medical problem[3]	●	○[3]		○		●	●
% of adults whose providers always spent enough time with them[4]	◐	●[4]		○		●	◐
% of adults who rate their health care in the past year <6 on a scale from 0 to 10[4]	◐	◐[4]		○		◐	◐
% of adults not treated with a great deal of dignity and respect[5]	●	◐	○	●		●	●
% of adults not involved as much as wanted in decision-making[5]	◐	◐	○	●		◐	◐
% of adults not with as much time as wanted with doctor[5]	●	◐	●	●		●	◐
% of adults with incident in past two years when they did not follow doctor's advice[5]	●	●	○	○		●	●
% of adults with family member who got sick due to doctor or hospital mistake[5]	●	●	○	○		●	◐
Cultural Competency[5]							
% of adults who believe they would have gotten better care if different race/ethnicity	◐	◐	○	○		◐	◐
% of adults who felt treated with disrespect because of race/ethnicity	◐	○	○	○		◐	◐
% of adults who do not strongly agree that doctor understands background and values	●	◐	○	●		●	●

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[1] Compared with whites.

[2] Compared with non-Hispanic whites.

[3] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

[4] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asian or Pacific Islander. This source did not collect information for >1 race.

[5] Source: The Commonwealth Fund Health Care Quality Survey, 2001. This source did not collect information for >1 race separately

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Table 5. Racial and Ethnic Differences in Ability of Provider to Address Patient Needs (continued)

Measure	Racial Difference[1]					Ethnic Difference[2]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Health Information[3]							
% of adults who did not find prescription bottle very easy to understand	●	◐	○	○		●	◐
% of adults who did not find information from doctor's office very easy to understand	●	◐	○	●		●	◐
% of adults who do not use web for health information	◐	●	●	●		◐	◐
% of adults who do not use printed material for health information	●	●	○	●		●	◐
% of adults who do not call their doctor for health information	●	●	●	●		●	◐

[1] Compared with whites.

[2] Compared with non-Hispanic whites.

[3] Source: The Commonwealth Fund Health Care Quality Survey, 2001. This source did not collect information for >1 race separately

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Table 6. Socioeconomic Differences in Ability of Provider to Address Patient Needs

Measure	Income Difference[4]			Educational Difference[5]		Insurance Difference[6]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Patient-Provider Communication						
% of persons with provider who generally listens and gives needed information about health/health care[7]	●	●	●	◐	◐	●
% of persons with provider who usually asks about medications and treatments other doctors may give[7]	●	●	●	●	●	◐
% of adults whose providers always listened carefully[8]	●	●	●	◐	●	●
% of adults whose providers always explained things in a way they could understand[8]	●	●	●	●	●	◐
% of adults whose providers always showed respect for what they had to say[8]	●	●	●	●	●	●
% of adults with one or more indicators of poor communication at their last visit[9]	◐	◐	◐	◐	●	◐

[4] Compared with persons with family incomes 400% of Federal poverty threshold or above.

[5] Compared with persons with any college education.

[6] Compared with persons under 65 with any private health insurance.

[7] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999.

[8] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000.

[9] Source: The Commonwealth Fund Health Care Quality Survey, 2001.

Table 6. Socioeconomic Differences in Ability of Provider to Address Patient Needs (continued)

Measure	Income Difference[1]			Educational Difference[2]		Insurance Difference[3]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Patient-Provider Relationship						
% of persons not satisfied with quality of care from provider[4]	●	●	●	●	●	●
% of persons not confident in provider's help when they have a medical problem[4]	◒	●	●	●	●	●
% of adults whose providers always spent enough time[5]	●	●	●	◒	●	●
% of adults who rate their health care in the past year <6 on a scale from 0 to 10[5]	◒	◒	◒	◒	◒	◒
% of adults not treated with a great deal of dignity and respect[6]	◒	◒	●	●	●	◒
% of adults not involved as much as wanted in decisionmaking[6]	◒	◒	◒	●	●	◒
% of adults who did not have as much time as wanted with doctor[6]	◒	●	●	●	●	◒
% of adults with incident in past 2 years when they did not follow doctor's advice[6]	●	●	●	●	○	●
% of adults with family member who got sick due to doctor or hospital mistake[6]	●	●	●	●	●	◒
Cultural Competency[6]						
% of adults who believe would have gotten better care if different race/ethnicity	◒	◒	●	◒	●	◒
% of adults who felt treated with disrespect because of race/ethnicity	◒	◒	◒	◒	●	◒
% of adults who do not strongly agree that doctor understands background and values	●	●	●	○	●	◒
Health Information[6]						
% of adults who do not find prescription bottle very easy to understand	◒	◒	●	◒	●	◒
% of adults who do not find information from doctor's office very easy to understand	◒	◒	◒	◒	◒	◒
% of adults who do not use web for health information	◒	◒	◒	◒	◒	◒
% of adults who do not use printed material for health information	◒	◒	◒	◒	◒	◒
% of adults who do not call doctor for health information	◒	●	●	◒	◒	◒

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HS=high school

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[1] Compared with persons with family incomes 400% of Federal poverty threshold or above.
[2] Compared with persons with any college education.
[3] Compared with persons under 65 with any private health insurance.
[4] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999.
[5] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2000.
[6] Source: The Commonwealth Fund Health Care Quality Survey, 2001.

Table 7. Racial and Ethnic Differences in Health Care Utilization

Measure	Racial Difference[1]					Ethnic Difference[2]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Routine Health Care							
% of persons with office or outpatient visit[3]	◐	◐[3]	●			◐	◐
% of persons with prescription medications[3]	◐	◐[3]	◐			◐	◐
% of persons with dental visit[3]	◐	◐[3]	◐			◐	◐
Outpatient visits per population[4]	◐	●[4]		◐			
Acute Care							
% of persons with emergency room visit[3]	●	◐[3]	●			●	◐
% of persons with inpatient discharge[3]	●	●[3]	●			●	●
Emergency department visits per population[4]	◒	◐[4]	●				
Total hospitalizations per population[5]	◐	○	○	○			
Chronic Care							
% of persons with home health visit[3]	●	○[3]	○			●	◐
Home health care discharges per population 18-64[6]	●[6]						
Home health care discharges per population 65 and older[6]	●[6]						
Nursing home discharges per population 18-64[7]	◐[7]						
Nursing home discharges per population 65 and older[7]	●[7]						
Hospice discharges per population 18-64[6]	●[6]						
Hospice discharges per population 65 and older[6]	◐[6]						
Avoidable Admissions[8]							
Avoidable admissions for hypertension per population 18 and older	*[8]	◐[8]				◐	◐
Avoidable admissions for angina per population 18 and older	*[8]	◐[8]				◐	●
Avoidable admissions for chronic obstructive pulmonary disease per population 18 and older	*[8]	◐[8]				●	◐
Avoidable admissions for bacterial pneumonia per population	*[8]	◐[8]				◐	●

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[1] Compared with whites.

[2] Compared with non-Hispanic whites.

[3] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islandesr. This source did not collect information for >1 race.

[4] Source: National Center for Health Statistics, National Ambulatory Medical Care Survey/National Hospital Ambulatory Medical Care Survy, 1999-2000. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race. Missing rates preclude analy sis by ethnicity.

[5] Source: National Center for Health Statistics National Hospital Discharge Survey, 2000. This source did not collect information for >1 race separately. Missing rates preclude analysis by ethnicity.

[6] Source: National Center for Health Statistics, National Home and Hospice Care Survey, 2000. Sample size constraints permit black-white comparisons only.

[7] Source: National Center for Health Statistics, National Nursing Home Survey, 1999. Sample size constraints permit black-white comparisons only.

[8] Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases, 16-State database, 2000. 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. An * is inserted in the black column to indicate that estimates for this group could not be produced.

Table 7. Racial and Ethnic Differences in Health Care Utilization (continued)

Measure	Racial Difference[1]					Ethnic Difference[2]	
	Black	Asian	NHOPI	AI/AN	>1 Race	NHB	Hispanic
Mental Health Care and Substance Abuse Treatment							
% of adults who received mental health treatment or counseling in the past year[3]	◓	◓	○	●	●	◓	◓
% of adults who received outpatient mental health treatment or counseling[3]	◓	◓	○	●	●	◓	◓
% of adults who received prescription medications for mental health treatment[3]	◓	○	○	●	●	◓	◓
% of adults who received inpatient mental health treatment or counseling[3]	◒	○	○	○	○	◒	◒
% of adults with serious mental illness who received mental health treatment or counseling[3]	◓	○	○	○	○	◓	◓
% of persons 12 and older who received illicit drug or alcohol abuse treatment in the past year[3]	●	○	○	○	○	◓	●
% of persons 12 and older who needed treatment for illicit drug use and who received such treatment in the past year[3]	◓	○	○	○	○	◓	●
Inpatient admissions to specialty mental health organizations per population[4]	◓	○[4]		○		◓	◓
Residential care admissions to specialty mental health organizations per population[4]	◓	○[4]		○		◓	●
<24 hour admissions to specialty mental health organizations per population[4]	◓	◓[4]		◓		◓	●
HIV Care							
Hospitalizations for HIV per population[5]	◓	○	○	○			
% of HIV patients with 4+ ambulatory visits in the past year[6]	*[6]	●[6]		●		◓	●
% of HIV patients with CD4 <50 with 4+ ambulatory visits in the past year[6]	*[6]	○[6]		○		◓	●
% of HIV patients with inpatient hospitalization in the past year[6]	*[6]	●[6]		●		◓	◓
% of HIV patients with CD4 <50 with inpatient hospitalization in the past year[6]	*[6]	○[6]		○		◓	◓

Key to Health Care Utilization Tables:

●: Selected population and comparison population receive about same amount of health care

◓: Selected population receives more care than the comparison population

◒: Selected population receives less care than the comparison population

○: Data are collected but do not meet criteria for statistical reliability

NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native; NHB=non-Hispanic black

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[1] Compared with whites.

[2] Compared with non-Hispanic whites.

[3] Source: Substance Abuse and Mental Health Services Administration, National Household Survey on Drug Abuse, 2001.

[4] Source: Substance Abuse and Mental Health Services Administration, Client/Patient Survey Sample, 1997. This source did not collect information on Asians and NHOPIs separately but in aggregate as Asians or Pacific Islanders. This source did not collect information for >1 race.

[5] Source: National Center for Health Statistics, National Hospital Discharge Survey, 2000. This source did not collect information for >1 race separately. Missing rates preclude analysis by ethnicity.

[6] Source: HIV Research Network, 2000. This source categorizes race/ethnicity very differently from other sources. Race/ethnicity information is categorized as a single item: non-Hispanic white, non-Hispanic black, Hispanic, Asian or Pacific Islander American Indian or Alaska Native. These contrasts compare each group with non-Hispanic whites. An * is inserted in the black column to indicate that estimates for this group could not be produced.

Access to Health Care

Table 8. Socioeconomic Differences in Health Care Utilization

Measure	Income Difference[1]			Educational Difference[2]		Insurance Difference[3]
	<100%	100-199%	200-399%	<HS	HS Grad	Uninsured
Routine Health Care[4]						
% of persons with office or outpatient visit	less	less	less	less	less	less
% of persons with prescription medications	less	less	less	less	same	less
% of persons with dental visit	less	less	less	less	less	less
Acute Care[4]						
% of persons with emergency room visit	more	more	more	more	more	same
% of persons with inpatient discharge	more	more	more	more	more	less
Chronic Care[4]						
% of persons with home health visit	more	more	same	more	more	unreliable
Mental Health Care and Substance Abuse Treatment[5]						
% of adults who received mental health treatment or counseling in the past year				same	same	
% of adults who received outpatient mental health treatment or counseling				less	less	
% of adults who received prescription medications for mental health treatment				same	same	
% of adults who received inpatient mental health treatment or counseling				less	less	
% of adults with serious mental illness who received mental health treatment or counseling				less	same	
% of persons age 12 and older who received illicit drug or alcohol abuse treatment in the past year				more	more	
% of persons age 12 and older who needed treatment for illicit drug use and who received such treatment in the past year				same	less	
HIV Care[6]						
% of HIV patients with 4+ ambulatory visits in the past year						less[6]
% of HIV patients with CD4 <50 with 4+ ambulatory visits in the past year						less[6]
% of HIV patients with inpatient hospitalization in the past year						less[6]
% of HIV patients with CD4 <50 with inpatient hospitalization in the past year						less[6]

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[1] Compared with persons with family incomes 400% of Federal poverty threshold or above.

[2] Compared with persons with any college education.

[3] Compared with persons under 65 with any private health insurance.

[4] Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999.

[5] Source: Substance Abuse and Mental Health Services Administration, National Household Survey on Drug Abuse, 2001. Income and insurance disparities were not analyzed.

[6] Source: HIV Research Network, 2000. This source did not collect information about income or education. Because Ryan White covers HIV patients who otherwise would be uninsured, this insurance contrast compares HIV patients who are uninsured or have no coverage other than Ryan White with patients with private health insurance.

Key to Health Care Utilization Tables:

●: Selected population and comparison population receive about same amount of health care

◒: Selected population receives more care than the comparison population

◓: Selected population receives less care than the comparison population

○: Data are collected but do not meet criteria for statistical reliability

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Chapter 5. Priority Populations

Introduction

Data from numerous sources show that some racial, ethnic, socioeconomic, and geographic groups suffer disproportionately from preventable or treatable chronic conditions. Assessing disparities in health care provided to U.S. residents at greatest risk of debilitating and costly illnesses enables policymakers to pinpoint areas where interventions can make the greatest overall difference in reducing national health care disparities.

The consequences of health care disparities for these groups reverberate throughout the society by lowering national health indicators and contributing to escalating health care costs. Moreover, characteristics and conditions of people within these populations are likely to overlap in ways that exacerbate disparities.

One goal of this report is to increase understanding of the independent effects of demographic characteristics on health care. While substantial work has been done on the impact of ethnicity and race on health care disparities, quality, and outcomes,[i] much less is known about the independent consequences of varying levels of income and education, as well as geographic location. In this chapter, the NHDR analyzes the role of socioeconomic position and geographic location—separate from racial and ethnic factors—on health care disparities *within and across* priority populations (e.g., comparing low-income women with high-income women). Disentangling these complex causal factors provides the fact-based foundation that policymakers need to devise and evaluate health care policies and programs. This chapter provides additional perspective on which factors are most important to implement effective programs to eliminate inappropriate disparities in care.

Which Groups Are Included in the Report?

The statutory mandate for this report refers to "priority populations," a term that is defined in AHRQ's authorizing statute (section 901 (c) of the Public Health Service Act) as encompassing both specific population groups as well as geographically defined groups. In accordance with these guidelines, the NHDR includes data and analysis on the following:

- Low-income groups[ii]
- Racial and ethnic minority groups
- Women

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[i] Institute of Medicine of the National Academies, *Unequal Treatment*.

[ii] Income categories for each of the populations described in this chapter are as follows: "poor" is defined as persons with family incomes less than 100% of the Federal poverty threshold; "near poor" is defined as persons with family incomes between 100% and 199% of the Federal poverty threshold; "middle income" is defined as persons with family incomes between 200% and 399% of the Federal poverty threshold; "high income" is defined as persons with family incomes of 400% or more of the Federal poverty threshold.

- Children
- Elderly
- Individuals with special health care needs, specifically children with special needs, the disabled, people in need of long-term care, and people requiring end-of-life care.

Rural populations, mentioned elsewhere in the authorizing legislation, are also included. Although other demographic groups may also suffer from health care disparities, they are not considered in this report. For each group, selected findings are highlighted for quality of and access to care.

The NHDR uses categories are compliant with OMB standards for reporting Federal statistics.[1] These standards consider race and Hispanic origin to be two separate and distinct concepts. Racial categories are: white, black, Asian, Native Hawaiian or Other Pacific Islander (NHOPI), American Indian or Alaska Native (AIAN), and more than one race. Because Hispanics can be of any race, all racial categories can include persons of Hispanic and non-Hispanic origin. Ethnic categories are: Hispanic or Latino, non-Hispanic white (i.e., whites who do not list their ethnicity as Hispanic) and non-Hispanic black (i.e., blacks who do not list their ethnicity as Hispanic).

A Word About Data

Both the reauthorization legislation[i] and the IOM guidance for the NHDR[ii] direct AHRQ to assess the usefulness of the data available for analysis of health care quality (including health care disparities). The forthcoming analyses of the priority populations clarify both the limitations and potentialities of current data sets.

Priority populations are already subsets of the general population. Subdivision into smaller groups for analysis by different variables, factors, or conditions often results in sample sizes that are often too small to yield statistically valid results. As noted in earlier chapters, the omission of racial, ethnic, and socioeconomic data from information gathered in health care settings limits our ability to make comparisons.

For these reasons, this chapter does not provide a comprehensive assessment of health care disparities in priority populations. Instead, it should be seen as a starting point, identifying some problem areas and indicating gaps in current data and understanding.

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[i] U.S., Congress, S.580, see Sec. 901(b)1)(F), methods for measuring quality and strategies for improving quality; Sec. 901(c)(2) Process to Ensure Appropriate Research; Sec. 902 (a)(2)quality measurement and improvement; Sec. 912 (a) Support for Efforts to Develop Information on Quality; and Sec. 914, Information Systems for Health Care Improvement.
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Women

Introduction

> *"We are in the midst of a revolution in women's health; a revolution that has brought new attitudes, awareness and an appreciation that women have some fundamentally different health needs that need to be addressed in their own right.[2]"*
>
> <div align="right">-HHS Secretary Tommy G. Thompson</div>

Over the past decade, women's health has become a research and policy priority. By one rough measure, a *Journal of the American Medical Association* editorial notes that the number of indexed clinical trials under "women and health" grew from 66 in 1992 to 276 in 1998; and in 2000, the journal received one of the highest responses ever for a call for papers on the topic.[3] While life expectancy for women is approximately 6 years greater than that for men, they suffer higher morbidity rates than their male counterparts. An oft-cited maxim is that "men die quicker, but women live sicker."

Women also comprise the majority of persons needing long-term care;[4] three of four nursing home residents and two of three home care consumers are female.[5] Additionally, women are at greater risk for Alzheimer's disease than are men and are twice as likely as men to be affected by major depression.[6]

The number of women in the United States who do not have health insurance has grown three times faster than the number of men without health insurance over a 5-year period. Uninsured women are nearly 20% more likely to have difficulty obtaining health care services than uninsured men.[7] The majority (roughly 3 out of 5) of low-income uninsured patients are low-income mothers.[8]

Health care is particularly important to women during pregnancy, a critical period when care (or lack of it) can have far-reaching consequences for both mother and child. While approximately 17% of mothers-to-be do not start prenatal care in the first trimester,[9] provision of prenatal care has increased for all women over the last decade.[10] Black women, however, are more likely to die from complications of childbirth than white women. These findings suggest that, while prenatal care is essential, it is likely that as yet unresolved scientific issues may contribute to excess mortality among pregnant black women. In addition, these findings underscore the additional value of examining care provided to different subgroups: identification and clarification of critical scientific issues.

Quality of Care

This section evaluates quality of health care for women in terms of effectiveness, safety, timeliness, and patient centeredness. It also identifies which areas health care quality varies among female subpopulations.

Effectiveness of Care

Health care is "effective" when appropriate, proven medical services and treatments are provided to all who could benefit, and not provided to those unlikely to benefit. In general, disparities observed in the general population were echoed in the female population. For example, few differences were observed in measures relating to chronic renal disease, heart disease, and frailty in old age.

The following discussion of health care effectiveness for women provides an overview of treatment patterns that can help identify data needs and suggest additional areas for future research.

Cancer screening

Since the passage of the 2000 Breast and Cervical Cancer Prevention and Treatment Act, 40 States have begun to cover breast and cervical cancer treatment through Medicaid for uninsured women under age 65.[11]

In general, minority women and women of lower socioeconomic position are less likely to receive many cancer screening services. One exception may be cervical cancer screening among black women. Specifically, blacks (84%) are more likely than whites (82%) or Asians (66%) to report receipt of Pap smears in the past 3 years. Hispanic women (77%) are less likely than non-Hispanic whites (83%), and poor[i] (73%), near poor[ii] (75%), and middle income[iii] (81%) women are less likely than high income[iv] women (88%) to report recent Pap smears. Similarly, high school dropouts (74%) and high school graduates (81%) are less likely than women with any college education (86%) to report Pap smears in the past 3 years. As in the general population, black, Hispanic, and women of lower socioeconomic position are less likely to receive screening for colorectal cancer (see Chapter 3) (NHIS, 2000).

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[i] "Poor" is defined as persons with family incomes less than 100% of the Federal poverty threshold.

[ii] "Near poor" is defined as persons with family incomes between 100% and 199% of the Federal poverty threshold.

[iii] "Middle income" is defined as persons with family incomes between 200% and 399% of the Federal poverty threshold.

[iv] "High income" is defined as persons with family incomes of 400% or more of the Federal poverty threshold.

Diabetes

Women appear to fare better than men in diabetes care. While rates of retinal screening represent substantial improvements overall in the past few years, within the general population, the poor report annual retinal eye examinations (63%) less frequently than those with high incomes (74%). Among women, the differences are not significant (see Chapter 3) (MEPS, 2000). Similarly, although black and Hispanic diabetics in the general population are less likely to receive influenza vaccination, these differences are greatly reduced among women.

HIV/AIDS

In general, disparities related to HIV/AIDS are larger among women than among men or the general population. Overall, the rate of new AIDS cases is higher non-Hispanic blacks, Hispanics, and AI/ANs compared with non-Hispanic whites. These racial and ethnic disparities are also observed among women, but relative effect sizes tend to be larger. Among women age 13 and over, new AIDS cases are reported at a higher rate among non-Hispanic blacks (48 per 100,000 population), Hispanics (12 per 100,000), and AI/ANs (7 per 100,000), compared with non-Hispanic whites (2 per 100,000) (HIV/AIDS Surveillance System, 2000).

HIV/AIDS death rates in the general population are higher among blacks and patients with lower education. Among women, HIV/AIDS death rates are also higher among blacks (13 per 100,000 population) compared with whites (1 per 100,000) and among high school dropouts (13 per 100,000) and high school graduates (7 per 100,000) compared with persons with any college education (1 per 100,000), but again relative effect sizes are larger.

Maternity care

Black (74%), NHOPI (77%), and AI/AN (69%) women are less likely to receive prenatal care during the first trimester than white women (85%). Similarly, Hispanics (75%) are less likely than non-Hispanic whites (89%), while high school dropouts (70%) and high school graduates (83%) are less likely than women any college education (92%) to initiate early prenatal care (see Chapter 3). In addition, minority and less educated mothers are more likely to die from obstetrical complications (NVSS, 2000).

Mental health

Suicide rates are higher for female high school dropouts (6.5 per 100,000 population) and female high school graduates (7.3 per 100,000) compared with females with any college education (4.8 per 100,000) (NVSS-M, 2000).

Respiratory diseases

The percent of male nursing home residents who ever received pneumococcal pneumonia vaccination is similar between blacks (30%) and whites (32%). However, among women, this measure is significantly lower among blacks (21%) compared with whites (36%) (NNHS, 1999). Sample sizes only allow for black-white comparisons.

Patient Safety

The prime directive of medical care is to do no harm, but the Institute of Medicine report, *To Err is Human*, estimated that 44,000 to 98,000 Americans die each year as a result of medical errors, making it the eighth leading cause of death.[12] This report also estimated costs attributable to medical errors totaling $29 billion annually. Two aspects of the patient safety among women are included in this section: inpatient safety and medication safety.

Inpatient safety

Minorities and residents of *lower* income ZIP Codes tend to have lower rates of obstetric trauma. For example, rates of serious lacerations or other obstetric trauma during instrument-assisted deliveries are lower among non-Hispanic blacks (193 per 1000 instrument-assisted deliveries) and Hispanics (200 per 1000) compared with non-Hispanic whites (235 per 1000). The rates are also lower among women who live in poor areas[i] (183 per 1000 instrument-assisted deliveries) and near-poor areas[ii] (207 per 1000), compared with women who live in high-income areas[iii] (238 per 1000) (see Chapter 3) (HCUP SID 16-State database, 2000). Differential rates of obstetric trauma may be due to differential rates of episiotomy.[13]

Among other inpatient safety indicators differences among women typically parallel variation in the general population. However, one exception is noted: among all hospitalized patients and among hospitalized men, rates of postoperative abdominal wound dehiscence are not significantly different between non-Hispanic blacks and non-Hispanic whites. Among women, this measure is higher among non-Hispanic blacks (1.3 per 1,000 abdominopelvic surgery discharges) compared with non-Hispanic whites (0.6 per 1,000).

Medication safety

In the general population, as well as among women, the percentage of patients whose provider does not usually ask about medications and treatments from other doctors is higher among blacks compared with whites and among Hispanics compared with non-Hispanic whites (see Chapter 4). In addition, this measure is also higher among API women (MEPS, 1999).

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[i] Poor areas" are defined as having ZIP Codes with median incomes of under $25,000.
[ii] "Near-poor areas" are defined as having ZIP Codes with median incomes of $25,000-$34,999.
[iii] "High-income areas" are defined as having ZIP Codes with median incomes of $45,000 and higher.

Timeliness

Health care cannot prevent death and disability if it is delivered too late, and delays can lead to complications that ultimately increase health care costs. In general, trends of disparities in measures of timeliness are similar between women and the population as a whole.

Patient Centeredness

This section considers the health care system's obligation to provide care that is respectful of and responsive to individual patient preferences, needs, and values, and to ensure that patient values guide all clinical decisions. Health care recommendations must be personalized to ensure that they are concordant with patient values, properly understood, and followed. Measures of patient centeredness overlap with the concepts of patient-provider communication and patient-provider relationship discussed under Access to Health Care, below. In general, disparities in measures of patient centeredness are similar between women and men.

Access to Care

This section focuses on factors that relate to initial contact with the health care system that aid or hinder entry into the system. These measures cover health insurance coverage, usual source of care and unmet need.

Health insurance

Racial, ethnic, and socioeconomic disparities in health insurance coverage among women are similar to differences within the general population. Among women, blacks (28%) are more likely than whites (23%), and Hispanics (45%) more likely than non-Hispanic whites (21%) to spend any time during the year being uninsured. As with the general population, the probability of being uninsured follows an income gradient, such that poor (43%), near poor (40%), and middle income (23%) women are more likely to have spent time being uninsured than high income (11%) women. Female high school dropouts are considerably more likely (43%) to spend time being uninsured than those who attended at least some college (17%). Again mirroring general population trends, AI/AN (34%) and black women (30%) are considerably more likely than white women (13%) to receive public coverage, and Hispanic women (27%) are nearly twice as likely as non-Hispanic white women (14%) to have spent time being publicly insured. Finally, women with fewer than 12 years of education are more than 7 times as likely to have public insurance at any point during the year as those with more than 12 years (29% vs. 4%, respectively) (MEPS, 1999).

Usual source of care

In the overall population, racial, ethnic, and SES disparities exist in access to a usual source of care. Similarly, female Hispanics (82%, vs. 92% of non-Hispanic whites) and poor (84%), near poor (85%), and middle income women (92%, vs. 95% of high income women) are less likely to have a usual source of care (NHIS, 2000).

Money is often a constraint. Women are more likely than men to cite financial reasons for having no usual source of care, and priority populations represent a disproportionate amount of these respondents. Specifically, Hispanic women (23%, vs. 14% of non-Hispanic white women), poor women and near poor women (22% and 23%, respectively, vs. 8% of high income women), and female high school dropouts (23%, vs. 11% of women with at least some college) report that financial limitations prevent them from having a usual source of care (MEPS, 1999).

Women and men are equally likely to rely upon a hospital, emergency room, or clinic as a usual source of care. Within the female population, however, differences exist: AI/ANs (47%) and blacks (26%) are more likely to depend upon these institutional sources of care than are whites (15%). Similarly, Hispanic women (25%) are more likely than non-Hispanic white women (14%), and poor, near poor, and middle income women (32%, 24%, and 16%, respectively) are more likely than high income women (11%) to depend upon these delivery sites for their primary care (NHIS, 2000).

Patient perceptions of inadequate access and need

Female respondents who are concerned about their ability to receive medical care if they should need it are frequently members of priority populations. For example, Hispanics (38%) are more likely than non-Hispanic whites (26%), poor (34%), near poor (33%), and middle income women (26%) are more likely than those with high income (20%), and women who did not finish high school (33%) are more likely than those who completed at least some college (24%) to be dissatisfied that they can obtain health care if they should need it (MEPS, 1999).

This dissatisfaction and concern is often borne out by experience. The following groups of women are less likely to "always obtain care for an illness or injury as soon as desired": APIs (36%, vs. 54% of whites), Hispanics (39% vs. 55% of non-Hispanic whites), and the poor (47%, vs. 55% of those with high incomes) (MEPS, 2000). Similarly, the following groups of women are less likely to always be able to schedule appointments for routine care as soon as they wanted: APIs (29%, vs. 42% of whites), Hispanics (34%, vs. 43% of non-Hispanic whites), 48% of the poor (compared with 41% of those with high incomes), and 44% of those with less than a high school education (compared with 40% of college attendees).

Getting care

Access to off-hour care is restricted for many women. For example, poor women (43%, vs. 52% of high income women) and high school dropouts (39%, vs. 45% of women who attended

college) are less likely to have the option of scheduling off-peak appointments. Interestingly, API women are actually more likely than white women (55% vs. 49%) to frequent clinicians that offer flexibility in scheduling off-peak appointments. Yet despite their ability to schedule appointments, API women tend to be less satisfied with the professional staff at their usual source of care's office (36%) than white women (25%) (MEPS, 1999).

Another important measure of getting care is the ability to see specialists. Hispanic women (69%, vs. 83% of non-Hispanic white women) and poor women (70%, vs. 84% of high income women) are less likely to report that they had no problems obtaining referrals to specialists (MEPS, 2000).

Waiting times

Once at the health care delivery site, certain groups of women are more likely to have to wait over 30 minutes before being seen by a clinician. Women who are black (20%, vs. 15% of whites), Hispanic (25%, vs. 14% of non-Hispanic whites), poor (25%, vs. 12% of those with high incomes), and who did not complete high school (23%, vs. 12% of college attendees) are more likely to experience long waits to see their health care provider (MEPS, 1999).

Even more pressing, black women are more likely both to wait over 1 hour for emergent/urgent care (15%, vs. 12% of white women) and for semi-urgent/non-urgent care (31%, vs. 24% of white women) in hospital emergency departments (NHAMCS-ED, 1999-2000).

Patient-provider communication

Among women, some groups are more likely than others to report having poor communication with their health care provider at their last visit—specifically: women who are black (24%) and Asian (28%, compared with 18% of whites), Hispanic (29%, compared with 17% of non-Hispanic whites), poor (29%, compared with 15% of high income women), and have less than a high school education (30%, compared with 18% of college attendees) report problematic communication at their last doctor's visit (Commonwealth Fund Health Care Quality Survey, 2001).

Patient-provider relationship

Men and women have similar rates of satisfaction with care and similar ratings of their health care. However, racial, ethnic, and socioeconomic disparities among women exist. For example, APIs (31%, vs. 20% of whites) and Hispanics (24%, vs. 19% of non-Hispanic whites) are more likely to report dissatisfaction with the quality of care their provider offers (MEPS, 1999).

These same female subpopulations also report low levels of satisfaction with their overall health care. Specifically, among women, APIs (31%) and blacks (20%, vs. 16% of whites), Hispanics (19%, vs. 15% of non-Hispanic whites), the poor (25%, vs. 15% of those with high-incomes),

and high school dropouts (21%, compared with 15% of women who attended college) reported lower satisfaction with care (MEPS, 2000).

Cultural competency

Cultural values and ideas about what constitutes good health can vary between demographic groups. "Cultural competency" implies an awareness of health beliefs and behaviors, disease prevention and incidence, and treatment outcomes for different populations.[14] It is, however, important to note that we have much to learn about how to operationalize cultural competency. Echoing findings in the general population, women who are black (17%), Asian (13%, compared with 2% of whites), Hispanic (16%, vs. 1% of non-Hispanic whites), and poor (11%, vs. 3% of those with high incomes) are more likely to believe that they would have received better care if they were a different race or ethnicity. Furthermore, high school dropouts (33%) are less likely than women who attended college (41%) to report that their doctors understand their background and values (Commonwealth Fund Health Care Quality Survey, 2001).

Health information

Women are more likely than men to understand and use health information. For example, women report that prescription medication instructions are difficult to understand less often (18%) than do men (23%). Consistent with findings in the general population, women who are Asian (39%, compared with 17% of white women) and Hispanic (35%, vs. 15% of non-Hispanic white women) are more likely to find prescription bottle information difficult to understand (Commonwealth Fund Health Care Quality Survey, 2001).

Chronic care

Due to sample size constraints, both data sources used for chronic care measures only provide black-white comparisons. In general, disparities in chronic care do not differ between women and men (NHHCS, 2000 and NNHS, 1999).

Mental health care and substance abuse treatment

Mirroring trends in the general population, minorities tend to be less likely to receive mental health treatment or counseling, especially outpatient treatment. For example, black women (9%) and Hispanics (7%) are less likely than whites (15%) and non-Hispanic whites (16%) to have received mental health treatment or counseling in the past year (NHSDA, 2001). These data are particularly important given the fact that depression is the second leading cause of hospitalizations for women of reproductive age (HCUP Chartbook). Data on substance abuse treatment do not allow assessment of disparities among women.

HIV care

Frequency of inpatient hospitalization of female HIV patients mirrors trends seen in the general HIV population: non-Hispanic black women (20%) and Hispanic women (19%) more frequently receive inpatient HIV care than non-Hispanic white women (13%) (HIV Research Network, 2000).

Avoidable admissions

Avoidable admissions (also called "admissions of ambulatory care sensitive conditions") are hospitalizations for health conditions that, in the presence of comprehensive primary care, rarely require hospitalization. High rates of avoidable admissions suggest impaired access to or quality of ambulatory care.

Similar to the general population, non-Hispanic black women typically have higher rates of avoidable admissions, while API women typically have lower rates. One exception may be in admissions for chronic obstructive pulmonary disease, where rates are higher among non-Hispanic black men (345 per 100,000 population 18 and over) compared with non-Hispanic white men (264 per 100,000). In contrast, rates are lower among non-Hispanic black women (231 per 100,000 population 18 and over) compared with non-Hispanic white women (269 per 100,000).

Children

Introduction

The health and well-being of children has long been a research and policy priority in the United States and worldwide.[15, 16] Children are recognized as deserving of special attention for at least three reasons: childhood is a unique developmental stage of life, child health must provide continuity with adult health, and the child health care system is distinctive.[17]

Childhood is a unique period of life. At least four distinguishing characteristics ("the 4 D's") have important implications for health care for children:

- Developmental change—children develop at a rapid rate and their health depends in large measure on the success of their cognitive, emotional, and physical growth and development
- Dependency—on parents and other adults for financing, accessing and receiving health care (some exceptions for some adolescents)
- Differential epidemiology—children experience a unique pattern of health, illness, and disability
- Demographic patterns—the high rate of children living in poverty, the disproportionate numbers of children who are racial and ethnic minorities, and the high rates of single-parent families shape both children's health and health care.[17]

Reflecting these differences, a unique set of financing and organizational arrangements have evolved for children in the U.S. health care system. Part of society's obligation to children has been expressed in the special attention paid to children for public payment of their health care. For example, poor children are a mandatory population for the Medicaid program, and adolescents were added gradually over time as optional populations. In 1997, the State Children's Health Insurance Program (SCHIP) was passed to provide coverage to certain low-income children who were not eligible for Medicaid and otherwise not insured. The Maternal and Child Health Block Grant program and other public programs provide direct financing of some services for children. Families of some disabled children also can receive cash benefits from Social Security to help pay health care and related costs that otherwise remain uncovered.

This chapter summarizes NHDR findings on children in general. It also focuses on disparities within the child population for racial and ethnic minority children and children of different income levels.[i] Disparities affecting children with special health care needs are addressed in the chapter on individuals with special health care needs. Because many child-specific health care needs and services are not explicitly addressed and sample size limitations exist, these findings

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[i] Children are defined differently in different measurement sets. Unless otherwise noted, children are defined in the NHDR as they are defined in the MEPS and the NHIS: 0 through 17 years old.

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should not be interpreted as a comprehensive assessment of disparities in health care among children.

Quality of Care

Effectiveness of Care

Not all measures of effectiveness included in the quality of care measure set are applicable to children; some are applicable because children suffer from the disorders but have not been applied to children or to racial and ethnic minority children or children of different socioeconomic statuses. One reason that more quality of care measures have not been developed for children is the limited evidence on whether or not specific child health care interventions are effective. Eight aspects of the effectiveness of child health care are included in this section:

- HIV/AIDS
- Prenatal care
- Low birthweight
- Childhood and adolescent immunization
- Childhood dental care
- Treatment of pediatric gastroenteritis
- Mental health
- Respiratory diseases

HIV/AIDS

Among adolescents ages 13 to 17, new AIDS cases are being reported at a higher rate among non-Hispanic black (3.5 per 100,000 population) and Hispanic (1.0 per 100,000) adolescents compared with non-Hispanic white adolescents (0.2 per 100,000) (CDC HIV/AIDS Surveillance System, 2000).

Among children, HIV infection death rates are higher among black children (0.5 per 100,000) compared with white children (0.1 per 100,000) (NVSS-M, 2000).

Prenatal care

Among adolescent mothers under 15, prenatal care is less often initiated by blacks (41%) and AI/ANs (43%) compared with whites (51%) but is similar between Hispanics (49%) and non-Hispanic whites (53%) (NVSS, 2000).

Childhood and adolescent immunization

Blacks are less likely to receive childhood immunizations compared with whites, and lower income children are less likely to receive immunizations compared with more affluent children.

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For example, receipt of all recommended vaccinations is achieved by fewer black children (68%) than white children (75%) and by fewer children in poor (68%), near poor (71%), and middle income (75%) families, compared with children in high income families (79%) (see Chapter 3). In contrast, receipt of the varicella vaccine is achieved more often by Asian (82%) and Hispanic (80%) children than by white (76%) and non-Hispanic white (75%) children, respectively (NIS, 2001). There is no evidence of disparity for adolescent immunizations (NHIS).

Childhood dental care

Black children receive fewer dental visits (32%) than white children (50%), and Hispanic children receive fewer (33%) than non-Hispanic white children (54%). Additionally, children who are poor (30%), near poor (36%), and middle income (50%) are less likely than high income children (63%) to see a dentist. Finally, uninsured children (24%) have fewer dental visits than privately insured children (54%) (MEPS, 1999).

Treatment of pediatric gastroenteritis

Pediatric gastroenteritis, one of the most common reasons for pediatric hospitalizations, can be treated on an outpatient basis, and proper outpatient treatment can reduce admissions for gastroenteritis among children. Rates of hospitalization for pediatric gastroenteritis are higher among Hispanic children (133 per 100,000 population) and lower among API children (47 per 100,000) compared with white children (115 per 100,000). Because information on patient income and education is not available, median income of patient's ZIP Code is used as a crude proxy of socioeconomic position. Hospitalization rates are higher among children who live in poor areas[i] (172 per 100,000 population), near-poor areas[ii] (157 per 100,000), and medium-income areas[iii] (124 per 100,000) compared with children who live in high-income areas[iv] (86 per 100,000) (HCUP SID, 2000).

Mental health and substance abuse

Among children, rates of suicide are lower among black (1.0 per 100,000 population) and API (0.8 per 100,000) children than white children (1.7 per 100,000) and among Hispanic children (0.9 per 100,000 population) than non-Hispanic white children (1.8 per 100,000). However, AI/AN children have the highest rates of suicide of all groups (3.8 per 100,000 population) (NVSS-M, 2000).

Among children ages 12 to 17, substance abuse treatment is reported less frequently by non-Hispanic blacks (0.8%) compared with non-Hispanic white (1.6%) (National Household Survey on Drug Abuse, 2001)

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[i] "Poor areas" are defined as having ZIP Codes with median incomes of under $25,000.
[ii] "Near-poor areas" are defined as having ZIP Codes with median incomes of $25,000-$34,999.
[iii] "Medium income areas" are defined as having ZIP Codes with median incomes of $35,000-$44,999.
[iv] "High-income areas" are defined as having ZIP Codes with median incomes of $45,000 and higher.

Respiratory diseases

Data on treatment of upper respiratory infection come from NAMCS/NHAMCS in 1999-2000. Evidence of significant racial disparity is not present. Hospitalization rates among black children (60 per 10,000 population) and adults (21 per 10,000) tend to be higher than rates among white children (17 per 10,000) and adults (8 per 10,000) (NHDS, 2000).

Patient Safety

Two aspects of the child patient safety are included in this section: inpatient safety and medication safety.

Inpatient safety

Again, because information on patient income and education is not available, median income of patient's ZIP Code is used as a crude proxy of socioeconomic position. One inpatient safety indicator is specific to children: birth trauma. Rates of birth trauma are lower among Hispanics (5.5 per 1000 live births) than non-Hispanic whites (8.2 per 1,000) and among children who live in ZIP Codes with median incomes $25,000-$34,999 (4.9 per 1,000 live births) and incomes $35,000-$44,999 (5.8 per 1,000) than children who live in ZIP Codes with median incomes $45,000 and over (8.0 per 1,000) (Figure 1) (HCUP SID, 2000).

Rates of obstetric trauma during cesarean delivery are lower among non-Hispanic black adolescents (1.2 per 1,000 cesarean deliveries) and Hispanic adolescents (1.3 per 1,000) than white adolescents (5.1 per 1,000). In addition, among children, rates of accidental puncture or laceration during procedures are higher among non-Hispanic blacks (2.5 per 1,000 relevant discharges) and Hispanics (2.3 per 1,000) compared with non-Hispanic whites (2.0 per 1,000) (Figure 2) (HCUP SID, 2000).

Figure 1. Birth trauma injuries per 1,000 selected live births
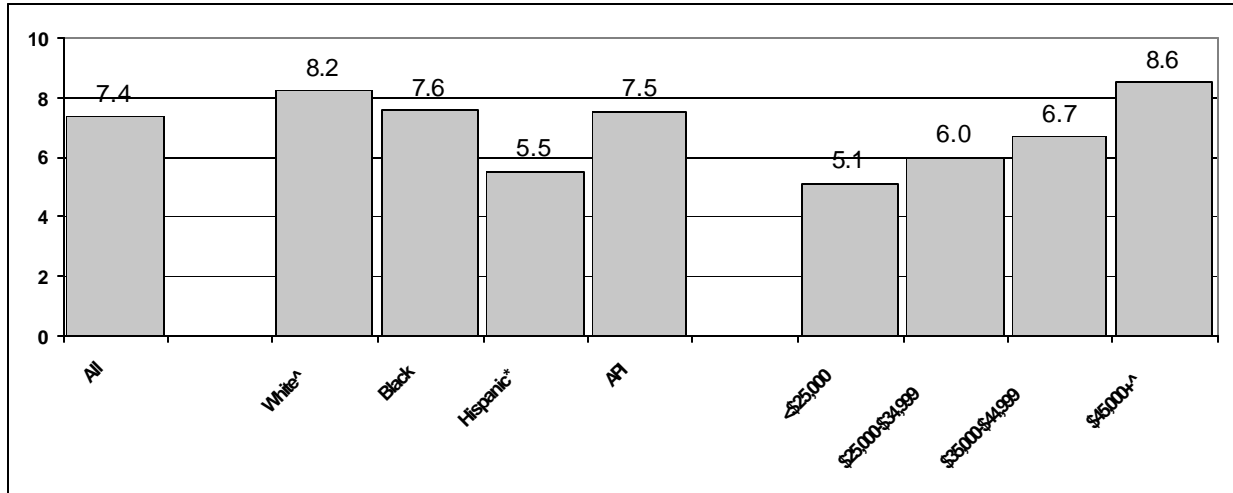
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: API=Asian or Pacific Islander
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases 16-State database, 2000.

Figure 2. Accidental laceration or puncture during procedure per 1,000 discharges
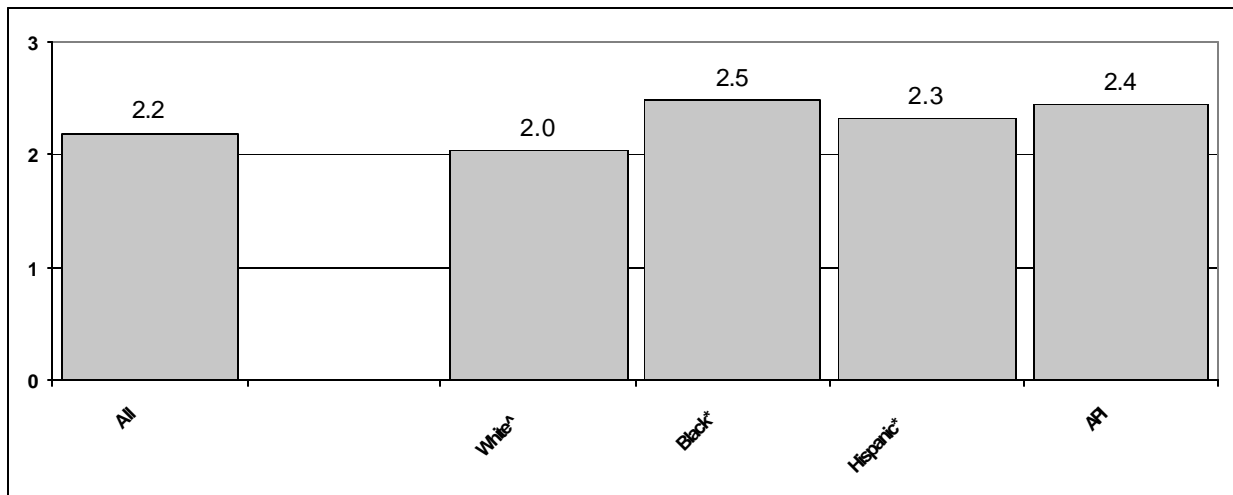
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: API=Asian or Pacific Islander
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases, 16-State database, 2000.

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Medication safety

Among children, the percentage of persons with a provider who does not usually ask about medications and treatments other doctors may give is higher among blacks (86%) than whites (78%) and higher among Hispanics (85%) than non-Hispanic whites (77%) (MEPS, 1999).

Access to Care

Traditional measures and data sources on children's access to health care are limited. Not all traditional measures of mainstream health care (e.g., care provided in physicians' offices, hospitals, and emergency departments) are tailored to children's health care needs. Moreover, children sometimes get needed services outside the mainstream health care system, such as in schools, public specialty clinics, and from non-physician subspecialists. Mainstream efforts to collect data on children's health care rarely collect information about these sources of health care. As a result, little is known about how and where many children obtain many health services and about the extent to which there may be disparities among children.

This section focuses on factors that relate to initial contact with the health care system that aid or hinder entry into the system. These measures cover health insurance coverage, usual source of care, and unmet need.

Health insurance

Over 1 out of 5 children spends some time being uninsured. Hispanic children (41%) are considerably more likely than non-Hispanic white children (17%) to have been uninsured for part of the year (Figure 3). Three in 10 poor and near poor children and 19% of middle income children spend time being uninsured, compared with 10% of children in high income families. More than a quarter of all children experience public health insurance coverage for at least some period over the course of a year, and children are less likely than the general population to lack coverage either all year or at any point during the year (MEPS, 1999).

About one quarter of children, mostly poor and near poor, have public coverage any time during the year. Children who are AI/AN (55%) and black (46%) are far more likely to have public coverage than white children (21%). Hispanic children (39%) are more likely to be publicly insured than non-Hispanic children (23%). Nearly three quarters of poor children and 2 in 5 near poor children have public coverage, compared with 3% of children in high income families (MEPS, 1999).

Figure 3. Percent of children with any period of uninsurance during the year
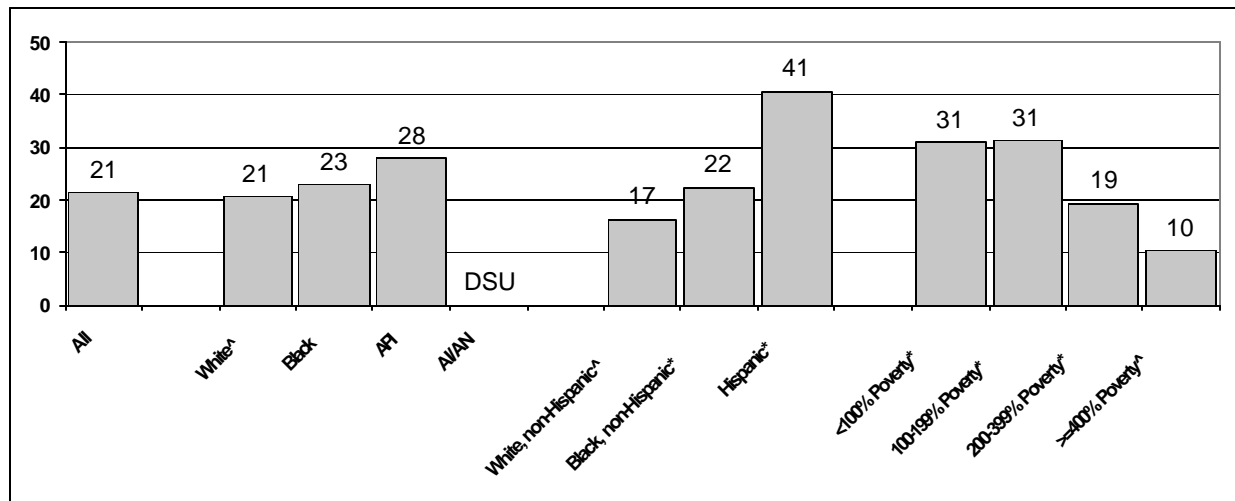
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: API=Asian or Pacific Islander; AI/AN=American Indian or Alaska Native
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 1999.

Usual source of care

The American Academy of Pediatrics asserts that having a usual source of care or "medical home" is an essential element of effective pediatric care.[18] About 93% of children are reported to have a usual primary care provider. However, API children (81%) are less likely to have a usual primary care provider than white children (88%). Hispanic children of any race (75%) are less likely than non-Hispanic white children (91%) to have a usual primary care provider. Finally, poor children (81%) are less likely than high income children (93%) to have a usual source of primary care (MEPS, 1999).

About 20% of children report that their source of ongoing care is a clinic, outpatient department or a hospital emergency department (Figure 4). AI/AN (49%) and black (28%) children are more likely than white (17%) children to report these settings as their source of ongoing care. Hispanic children of any race (28%) are more likely than non-Hispanic white children (15 percent) to report these facilities as their source of ongoing care, as are poor (30%) versus high-income (12%) children (NHIS, 2000).

Patient perceptions of inadequate access and need

The percent of children who can always get an appointment for routine care as soon as desired is lower among Hispanics (45%) than non-Hispanic whites (54%) and among poor (48%), near poor (45%), and middle income (52%) children compared with high income children (58%) (MEPS, 2000).

Figure 4. Percent of children who identify a hospital, emergency room, or clinic as their source of ongoing care
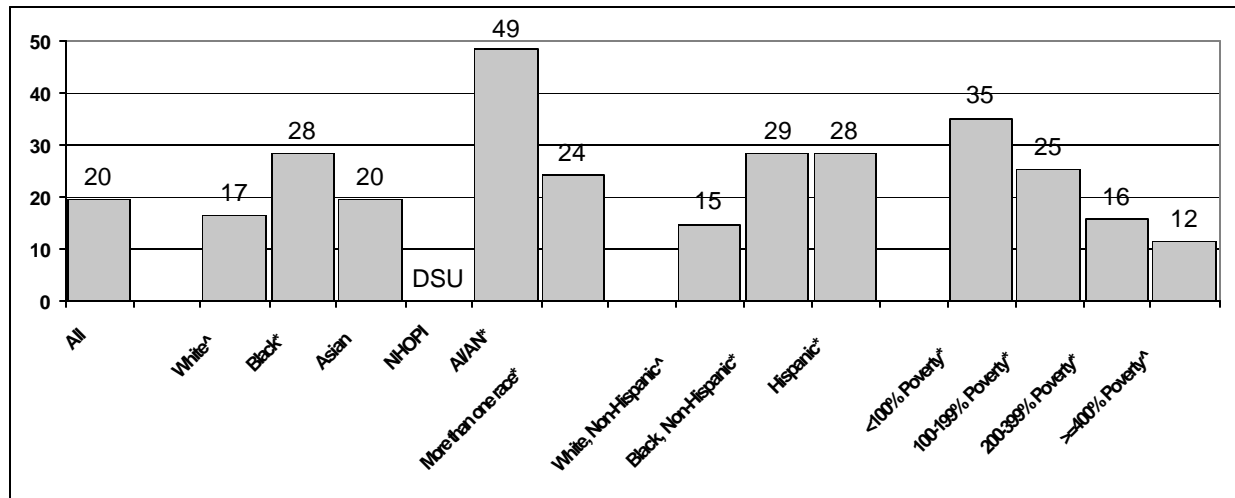
^ Indicates reference group.
* p<0.05 and relative rate >10% for comparison of group with reference group.
Key: NHOPI=Native Hawaiian or Other Pacific Islander; AI/AN=American Indian or Alaska Native
Source: National Center for Health Statistics, National Health Interview Survey, 2000.

Getting care

Scheduling appointments in off-peak hours is a less frequent option for black (50%) and AI/AN (52%) children than white children (62%). Hispanic children (54%, vs. 64% of non-Hispanic white children) and poor children (52%, vs. 67% of high income children) are also less likely to have access to off-peak appointments (MEPS, 1999).

Satisfaction with professional staff at the usual source of care's office is an indicator of the ability to obtain care. Families of children who are APIs (38%) and AI/ANs (32%, vs. 24% of whites), Hispanic (29%, vs. 23% of non-Hispanic whites), and poor (29% vs. 22% of high income children) are more likely to report dissatisfaction with the professional staff at their child's usual health care delivery site (MEPS, 1999).

Among children, no racial or ethnic disparity is noted in difficulty obtaining referral to a specialist. However, poor and near poor children are more likely to report difficulty obtaining a referral compared with high income children.

Waiting times

Once at the doctor's office, children who are black (19%, vs. 15% of whites), Hispanic (25%, vs. 13% of non-Hispanic whites), and poor (26%, vs. 18% of near poor, 16% of middle income, and 10% of high income children) are more likely to wait more than 30 minutes to see their usual source of care. Black children (33%) are also more likely than white children (25%) to have an hour or more wait for semi-urgent or non-urgent emergency department care (MEPS, 1999).

There are insufficient data to determine disparities among other groups of children for this measure and similarly inadequate data to determine if there are disparities in wait times at hospital emergency departments among different groups of children needing urgent or emergent care.

Patient-provider communication

Families of black (86%, compared with 78% of white), Hispanic (85%, vs. 77% of non-Hispanic white), and poor (84%, vs. 78% of high income) children are more likely to report that their "usual source of care asks about prescription medications and treatments other doctors may give" (MEPS, 1999)

Patient-provider relationship

Data on overall satisfaction with health care provided to children are reported by parents or other adults responding on behalf of children. Eleven percent of parents overall rate their children's health care relatively low (<= 6 on a 0-10 scale). Black (14%) compared to white (10%) and poor (19%) compared with high income (6%) families are more likely to report dissatisfaction with their children's health care on this scale (MEPS, 2000).

Receipt of health care

Among children, many racial and ethnic minorities as well as persons of lower socioeconomic position are less likely to receive office or outpatient visits, prescription medications, and dental visits. For example, among children, blacks (58%) and APIs (62%) are less likely than whites (74%), Hispanics (61%) are less likely than non-Hispanic whites (76%), and poor children (65%) are less likely than high income children (79%) to receive an office visit (MEPS, 1999).

Significant racial disparities in referred care are not evident among children. However, visits in which the patient was referred by another physician or health plan are received less often by uninsured children (7%) than by children with private insurance (12%) (NAMCS/NHAMCS, 1999-2000).

Among children, rates of emergency department visits are higher among blacks (54 per 100 population) and lower among APIs (17 per 100) compared with whites (35 per 100) (NHAMCS-ED, 1999-2000).

Avoidable admissions

Avoidable admissions (also called "admissions of ambulatory care sensitive conditions") are hospitalizations for health conditions that, in the presence of comprehensive primary care, rarely require hospitalization. High rates of avoidable admissions suggest impaired access to or quality of ambulatory care.

Among children, non-Hispanic blacks typically have higher rates of avoidable admissions while APIs typically have lower rates than non-Hispanic whites. In addition, rates of admission for bacterial pneumonia are higher among Hispanic children (200 per 100,000 population 18 and over) compared with non-Hispanic white children (147 per 100,000) (HCUP SID, 2000).

Elderly

Introduction

The aging of our population poses significant health care, economic, and social challenges. Studies document the growing prevalence of disease, disability, and dependency in the elderly population.[19] Increased need for long-term care and treatment for chronic conditions are likely to place a strain on individuals, families, and the health care infrastructure, even without the added burden resulting from disparities associated with demographic characteristics.

About 1 in 20 Americans requires assistance with activities of daily living, and approximately 2 out of 3 disabled elderly persons live in community settings—which require timely long-term care as well as appropriate access to health care services. Today's elderly population is confronted with inadequate access to long-term care, and estimates of expected demand in the next 10 years depict a dire situation for those needing nursing home beds and home health care.

Since the 1965 enactment of the Medicare program, nearly all elderly persons have been covered by a core health insurance package. This insurance greatly reduces one significant barrier to health care—the ability to pay for acute care services. However, because Medicare does not completely eliminate cost as a barrier to health care, and other obstacles continue to affect the ability of the elderly to get timely and appropriate treatment of their health care needs, significant disparities in access to and utilization of health care among the elderly remain.

The impact of factors affecting access to and use of health care on racial, ethnic, and low income populations are well known.[20] Among the elderly, the vulnerable subgroups include racial and ethnic minorities, individuals with low income, beneficiaries without supplemental insurance, and the oldest old (i.e., persons aged 85 or older). All of these groups have or are susceptible to disparities in access to and utilization of medically needed health care, particularly because many of these subgroups are growing faster than the Medicare population as a whole.[21]

Surveys of the general population often do not include enough elderly to permit assessment of many disparities. Therefore, the NHDR supplements its analysis with data from the Medicare Current Beneficiary Survey (MCBS, 1999). MCBS data allow comparisons of elderly beneficiaries who have Medicare and Medigap coverage with beneficiaries who have only Medicare fee-for-service coverage. The analysis presented here focuses on Medicare beneficiaries aged 65 and over who reside in the community.

Quality of Care

This section evaluates quality of health care for the elderly in terms of effectiveness, safety, timeliness, and patient centeredness. It also identifies which areas health care quality varies among female subpopulations.

Effectiveness

Health care is "effective" when appropriate, proven medical services and treatments are provided to all who could benefit and not provided to those unlikely to benefit. The following discussion of health care effectiveness for the elderly provides an overview of treatment patterns that can help identify data needs and suggest additional areas for future research.

Cancer

As in the general population, minorities and low socioeconomic status elderly are less likely to receive many cancer screening services. However, while Hispanic women generally are less likely to receive mammograms and Pap smears compared with non-Hispanic white women, these differences disappear among seniors. The percent of elderly women who report they had a mammogram within the past two years is the same for both Hispanics and non-Hispanic whites (68%), while the percent who report they had a Pap smear in the past three years is similar for Hispanics (67%) and non-Hispanic whites (64%) (NHIS, 2000).

Cancer treatment

Within the general population, women who are black and of lower socioeconomic status tend to have higher rates of death from cancer, while API, AI/AN, and Hispanic women tend to have lower rates. Lung cancer and breast cancer death rates follow different trends among the elderly than among the population as a whole. Specifically, while blacks generally have higher mortality rates from lung and breast cancer than whites, death rates from lung cancer are not significantly different between elderly blacks (329 per 100,000 population) and elderly whites (323 per 100,000). Likewise, death rates from breast cancer among elderly black women (132 per 100,000) do not significantly differ from the rates among and elderly white women (123 per 100,000) (National Vital Statistics System-Mortality (NVSS-M), 2000).

Heart disease

Disparities in screening for cardiovascular risk factors differ between the general population and the elderly. While there is no evidence for disparity in cholesterol screening among the general population, elderly blacks (84%) are less likely than whites (88%) to have had their blood cholesterol checked in the preceding 5 years. There are no significant disparities in blood pressure measurement noted among the elderly (NHIS, 1998).

Data on management of congestive heart failure from the National Hospital Discharge Survey (NHDS) indicate that rates of potentially avoidable hospital admissions for congestive heart failure increase with age, and differences between blacks and whites tend to attenuate (Figure 5).

Figure 5. Hospital admissions for congestive heart failure per 100,000 population by age and race
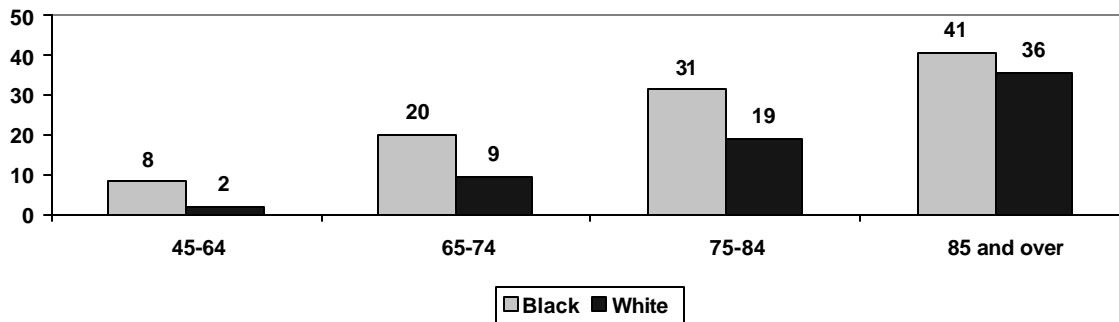
Source: National Center for Health Statistics, National Hospital Discharge Survey, 2000.

HIV/AIDS

Data on new AIDS cases indicate that disparities in HIV/AIDS are generally larger among the elderly than among younger age groups. Among the elderly, new AIDS cases are being reported at a higher rate by non-Hispanic blacks (15.1 per 100,000 population) and Hispanics (5.9 per 100,000) than by non-Hispanic whites (0.7 per 100,000), and relative rates tend to be higher than in the general population (CDC's HIV/AIDS Surveillance System, 2000).

Data on HIV-infection deaths indicate similar disparities. Overall HIV infection death rates are higher among blacks and Hispanics. Among the elderly, HIV infection death rates are also higher among blacks (9.4 per 100,000 population) compared with whites (0.7 per 100,000) and among Hispanics (2.8 per 100,000) compared with non-Hispanic whites (0.5 per 100,000); but again, relative effects sizes are larger (NVSS-M, 2000).

Respiratory diseases

Research indicates that vaccination against flu among the elderly results in lower rates of hospitalization, mortality, and complications, as well as cost savings.[22] However, elderly blacks and persons of lower socioeconomic position are less likely to receive influenza and pneumococcal immunization. Among persons 65 and over, receipt of influenza vaccine is less often reported by blacks (48%) than by whites (66%), by the poor (56%) and near poor (61%) than by high income families (69%), and by persons with less than a high school education (58%) and high school graduates (66%) than by persons with any college education (70%) (see Chapter 3). Among persons age 65 and over, receipt of influenza vaccine is also less often reported by Hispanics (56%) than by non-Hispanic whites (67%) (NHIS, 2000).

Data on immunization of nursing home residents from the National Nursing Home Survey (NNHS) only allow for comparisons of blacks to whites due to small sample sizes. In the total adult nursing home population, the black-white difference in the percent of residents who have ever received pneumococcal vaccination is not statistically significant. However, this measure is

significantly different between blacks (29%) and whites (39%) age 75 to 84 and between blacks (32%) and whites (41%) age 85 and over (NNHS, 1999).

Long-term care

Data on nursing facility care from CMS's Nursing Home Resident Profile Table contain information on all current Medicare nursing home residents (~1.4 million residents). In the total nursing home population, non-Hispanic blacks and Hispanics are more likely than non-Hispanic whites to have bed sores. As the prevalence of bed sores increases with age among minorities, these differences tend to grow larger (Figure 6).

Figure 6. Percent of nursing home residents with bed sores by age and race/ethnicity
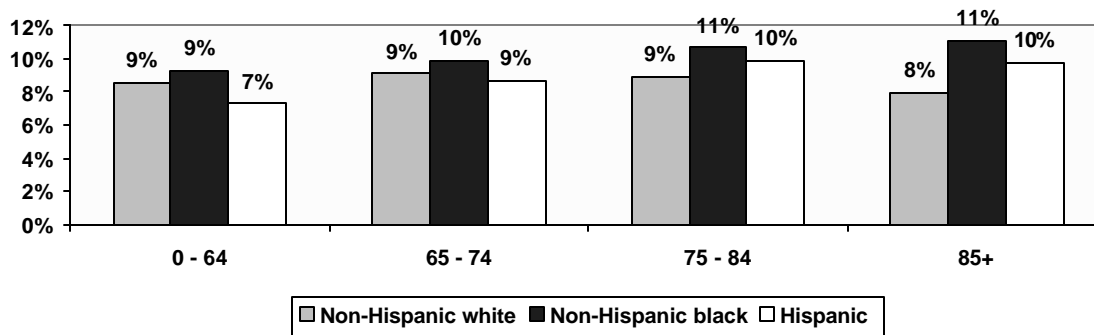
Source: Centers for Medicare & Medicaid Services Nursing Home Resident Profile Table.

In the total nursing home population, Hispanics and APIs are more likely than non-Hispanic whites to be restrained but non-Hispanic blacks are not more likely to be restrained. In contrast, among nursing home residents age 85 and older, non-Hispanic blacks, Hispanics, and APIs are all more likely to be in restraints compared with non-Hispanic whites (Figure 7).

Figure 7. Percent of nursing home residents in restraints by age and race/ethnicity
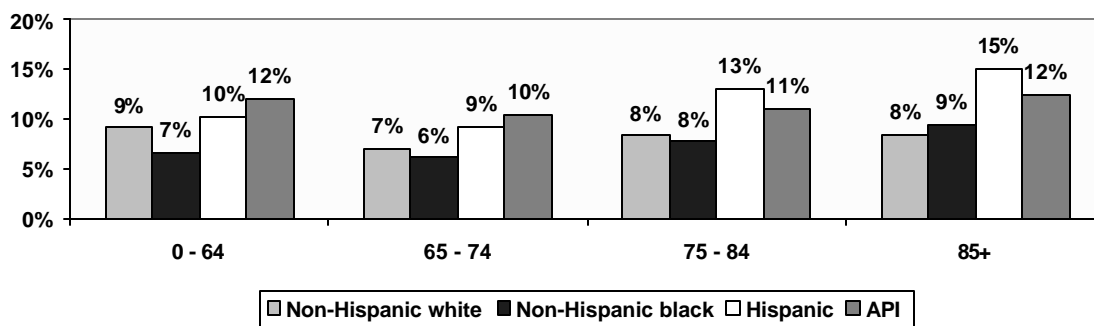
API=Asian or Pacific Islander
Source: Centers for Medicare & Medicaid Services Nursing Home Resident Profile Table.

Patient Safety

This report has previously noted that medical errors are the eighth leading cause of death[23] in the Nation. Two aspects of patient safety among the elderly are discussed here: inpatient safety and medication safety.

Inpatient safety

When disparities among hospitalized elderly are identified, they typically parallel disparities in the general population. However, several exceptions are noted. Among all hospitalized patients, rates of decubitus ulcers are higher among non-Hispanic blacks compared with non-Hispanic whites. As the frequency of these pressure ulcers increases with age, differences tend to grow larger (Figure 8). In addition, among the elderly, Hispanics also have higher rates of decubitus ulcers compared with non-Hispanic whites (HCUP SID 16-State database, 2000).

Among hospitalized patients, rates of death in low mortality DRGs are not significantly different between non-Hispanic blacks and non-Hispanic whites. Among the elderly, this measure is higher among non-Hispanic blacks (3.9 per 1,000 admissions in low mortality DRGs) compared with non-Hispanic whites (3.5 per 1,000).

Medication safety

Data on medication safety from MEPS indicate that the use of inappropriate medications among the elderly do not indicate significant disparity.

Figure 8. Decubitus ulcers per 1,000 selected stays of 4 or more days
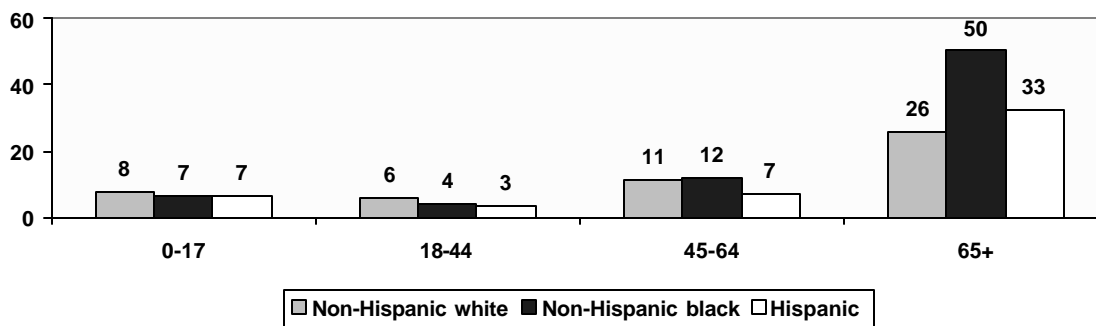
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project State Inpatient Databases 16-State database, 2000.

Timeliness and Patient Centeredness

In general, the elderly encounter fewer problems with sources of care and delays in getting care. Seniors who are minorities or of low socioeconomic status, however, do wait longer to be seen in doctor's offices and emergency rooms.

The elderly generally report problems with patient-provider relationship and communication less often than younger age groups. Disparities related to patient centeredness tend to decrease with age.

Access to Care

The impact of factors affecting access to and use of health care on racial, ethnic, and low income populations has been widely documented.[24]   Many of the vulnerable elderly groups are growing faster than the Medicare population as a whole. Between 1992 and 1998, the Medicare population grew at an average annual rate of 1.5% compared to 6.3% for Hispanics, 9.8% for non-Hispanic minorities, and 3.4% for the oldest old.[25] Other barriers also continue to affect the ability of the elderly to get timely and appropriate treatment for their health care needs.

Health insurance

Patterns of health insurance coverage among the population age 65 and over are considerably different from patterns among the general population. Since the 1965 enactment of the Medicare program, nearly all elderly persons have been covered by a core health insurance package; in contrast, only 83% of younger persons are insured.   This insurance greatly reduces one barrier to health care—the ability to pay for acute care services.

However, Medicare does not completely eliminate cost as a barrier to health care. For example, elderly patients often have out-of-pocket expenses for prescription medications and doctor bills. In response to these gaps, many elderly opt to augment their Medicare coverage with supplemental private health insurance plans.

Usual source of care

MCBS findings confirm the presence of race/ethnic and socioeconomic disparities in access to care among the elderly. For example, the percent of the elderly with no usual source of care is higher among blacks (7.8%) compared with whites (5.1%), Hispanics (8.4%) compared with non-Hispanic whites (4.9%), poor (7.5%) and near poor (6.3%) compared with those with high incomes (4.0%), and elderly with only Medicare (17.5%) compared with those with both Medicare and Medigap coverage (4.6%).

Similarly, the percent who delay care due to cost is higher among poor (6.8%), near poor (7.3%), and middle income (2.8%) elderly than high income elderly (1.2%), as well as among the elderly

with only Medicare (12.1%) compared with elderly who have both Medicare and Medigap coverage (3.0%).

Finally, the percent experiencing problems getting to the doctor is higher among poor (7.8%), near poor (5.5%), and middle income (4.0%) elderly than high income elderly (2.4%), as well as among the elderly with only Medicare (6.3%) compared with those covered by both Medicare and Medigap (3.7%) (MCBS, 1999).

While the elderly are more likely than younger age groups to have a regular or usual source of ongoing care, prominent disparities are associated with race, ethnicity, and socioeconomic position. As in the general population, elderly minorities are more likely to have a hospital, emergency room, or clinic as their source of ongoing care (21% of elderly blacks vs. 13% of elderly whites, and 21% of elderly Hispanics vs. 12% of elderly non-Hispanic whites). Utilization of these potentially suboptimal sources of care is also higher among the elderly who are poor (21%), near poor (17%), or middle income (14%) compared with the elderly who have higher incomes (10%) (NHIS, 2000).

Patient perceptions of inadequate access and need

The elderly report fewer difficulties or delays in obtaining health care than younger persons, but there are discernible socioeconomic differences. For example, elderly persons with less than a high school education (6%) are more likely to report having difficulty in obtaining care than those who have attended college (2%). Similarly, the elderly who did not complete high school (23%) and those who ended their education after high school graduation (18%) are more likely to report dissatisfaction with getting needed health care than their peers who attended college (13%) (MEPS, 1999).

Getting care

Compared with younger groups, the elderly are more likely to report having difficulties obtaining referrals to specialists than younger populations. These problems are reported more frequently by racial and ethnic minorities and by the poor. Elderly blacks (76%) are less likely to report no problems obtaining specialist referrals than elderly whites (89%), and elderly Hispanics (84%) are less likely to report no problems obtaining specialist referrals than elderly non-Hispanic whites (89%). Similarly, the elderly poor (84%) are less likely to report no problems obtaining specialist referrals than the elderly with high incomes (90%) (MEPS, 2000).

Waiting times

There is evidence of racial/ethnic and socioeconomic differences in waiting times among the elderly. The following elderly subgroups experience longer waiting times at their usual source of care: blacks (27%) and APIs (10%) compared with whites (16%); Hispanics (31%) compared with non-Hispanic whites (16%); and poor (24%) compared with high income elderly (16%) (MEPS, 1999).

Patient-provider communication

Within the elderly population, racial, ethnic, and socioeconomic disparities exist in patient-provider communication. Black seniors (27%) are more likely than white seniors (13%) and elderly Hispanics (31%) are more likely than elderly non-Hispanic whites (11%) to have had poor communication with their provider during their last visit, as indicated by one or more indicators (Commonwealth Fund Health Care Quality Survey, 2001). Similarly, the elderly with less than a high school education (23%) are more likely than the elderly with any college education (13%) to report poor communication with their provider during their last visit, as measured by one or more indicators.

On the other hand, elderly Hispanics (88%) and blacks (81%) are more likely than elderly non-Hispanic whites (76%) or whites (77%) to report that their usual sources of care inquires about treatments prescribed by other doctors (MEPS, 1999).

Patient-provider relationship

While the elderly tend to rate their health care higher than younger groups, there are disparities among the elderly. Disparities among elderly subgroups in rating their health care less favorably (from 0 to 6) on a '0 to 10 scale' are seen as follows: elderly blacks (20%) and APIs (16%) compared with elderly whites (10%); the elderly poor (14%) compared with those with high incomes (7%); and the elderly with less than a high school education (15%) compared with those who attended at least some college (7%) (MEPS, 2000).

Disparities also exist between race/ethnic groups when respondents are asked if they felt as involved in decisionmaking as they wanted to be. Specifically, 30% of elderly blacks compared with 14% of whites and 36% of elderly Hispanics compared with 13% of non-Hispanic whites report not being involved in decisionmaking as much as they wanted (Commonwealth Fund Health Care Quality Survey, 2001).

Cultural competency

Data from the Commonwealth Fund Health Care Quality Survey indicate that the elderly are more likely than younger groups to agree that their doctor understood their background and values, and significant disparities associated with demographic characteristics are not apparent.

Health information

Generally, the elderly are less likely to seek out health information and to have more difficulty understanding information provided by their doctors. Disparities among the elderly are similar to disparities noted among younger groups. For example, elderly Asians (55%) have more difficulty than elderly whites (47%) in understanding health care information provided by their

physicians. Similarly, 63% of the elderly with less than a high school education compared to 45% of high school graduates and 40% of those who attended college have more difficulty obtaining health care information than those with college educations (Commonwealth Fund Health Care Quality Survey, 2001).

Receipt of health care

Disparities in the receipt of health care associated with race, ethnicity, and socioeconomic status observed in the general population tend to lessen among the elderly.

The elderly are more likely to receive most types of services, and disparities in the receipt of health care observed among younger populations are reduced. Disparities in ambulatory care are similar between the elderly and younger age groups. However, the significance is often lost due to small sample sizes. One exception may be rates of outpatient visits among blacks. In the general population, rates are lower among blacks (262 per 100 population) compared with whites (333 per 100). Among the elderly, rates of outpatient visits are higher. In addition, rates are similar between blacks (614 per 100 population) and whites (643 per 100) (NAMCS/ NHAMCS, 1999-2000). Data on referred care from NAMCS/NHAMCS indicate significant racial disparities in referred care among the general population, but these are not seen among the elderly.

In the general population, non-Hispanic blacks, Hispanics, and APIs typically have lower rates of high variation surgeries. Among the elderly, these disparities typically persist. One exception may be in rates of hysterectomy. In the general population, admission rates are higher among non-Hispanic blacks (560 per 100,000 female population age 18 and over) compared with non-Hispanic whites (487 per 100,000). In contrast, among the elderly, rates are lower among non-Hispanic blacks (131 per 100,000 female population age 18 and over) compared with non-Hispanic whites (191 per 100,000).

Data on chronic care from the National Home and Hospice Care Survey (NHHCS) and the National Nursing Home Survey only provide black-white comparisons due to small sample size. Among the elderly, rates of home health and nursing home discharge are similar between blacks and whites, while rates of hospice discharge are lower among blacks (890 per 100,000 population) compared with whites (1,425 per 100,000).

Mental health care and substance abuse treatment

Data on mental health care and substance abuse treatment from National Household Survey on Drug Abuse (NHSDA) do not allow assessment of disparities among the elderly due to small sample sizes.

HIV care

Data on HIV care from the HIV Research Network do not allow assessment of disparities among the elderly due to small sample sizes.

Avoidable admissions

Non-Hispanic blacks typically have higher rates of avoidable admissions while APIs typically have lower rates compared with non-Hispanic whites in the general population. Among the elderly, these disparities typically persist. One exception may be in rates of admission for bacterial pneumonia. In the general population, admission rates of Hispanics and non-Hispanic whites are similar, but among the elderly, rates are lower among Hispanics (1,313 per 100,000 population) compared with non-Hispanic whites (1,630 per 100,000) (HCUP SID 16-State database, 2000).

Medicare Current Beneficiary Survey (MCBS) Studies

Because surveys of the general population often include inadequate numbers of the elderly to assess many disparities, analyses of the MCBS were conducted to better understand disparities in access to health care among the elderly. The MCBS allows comparisons between elderly beneficiaries with Medicare and Medigap coverage and beneficiaries with only Medicare fee-for-service coverage. The analysis presented here focuses on Medicare beneficiaries age 65 and over who reside in the community.

In general, MCBS findings confirm the presence of racial/ethnic and socioeconomic disparities in access to care among the elderly. For example, the percent of the elderly with no usual source of care is higher among blacks (7.8%) compared with whites (5.1%), Hispanics (8.4%) compared with non-Hispanic whites (4.9%), poor (7.5%) and near poor (6.3%) compared with high income persons (4.0%), and elderly with only Medicare (17.5%) compared with those covered by both Medicare and Medigap (4.6%).

Similarly, the percent who delayed care due to cost is higher among the poor (6.8%), near poor (7.3%), and middle income (2.8%) elderly compared with high income elderly (1.2%) and among the elderly with only Medicare (12.1%) compared with those who have both Medicare and Medigap coverage (3.0%).

Finally, the percent experiencing problems getting to the doctor is higher among poor (7.8%), near poor (5.5%), and middle income (4.0%) elderly compared with high income elderly (2.4%) and among the elderly with only Medicare (6.3%) compared with those covered by both Medicare and Medigap (3.7%).

Racial and Ethnic Subpopulations

Introduction

The U.S. population has become increasingly diverse in terms of national origin over the last three decades. In 2002, an estimated 28 million documented residents were foreign born;[26] the actual number is undoubtedly higher, given the recent increase in illegal immigration. Although previous chapters of this report describe health care disparities by racial[i] and ethnic[ii] categories (as defined by the Office of Management and Budget and used by the U.S. Census Bureau[27]), these aggregate figures fail to capture important variances among subsets of some primary groups. This section provides a look at health care disparities in subsets of three primary racial and/or ethnic groups: (1) the large and heterogeneous Hispanic population (based on place of origin); (2) the smaller but equally disparate Asian population; and (3) the approximately 60% of American Indian and Alaska Natives who receive care from Indian Health Services (IHS) facilities.

While disparities in health care for minority populations can be linked to levels of income and education, limited English proficiency (LEP) and cultural differences are important source of barriers. The 2000 census found that close to half of persons age 5 and over who speak a foreign language have difficulty communicating in English, and 4.7% of persons age 5 and over live in households where English is not routinely spoken.[28]

Numerous studies have shown the negative effect of LEP on health care. For example, non-English speaking patients are more likely than English-speaking consumers to rely on emergency rooms for primary care; non-English-speaking women who skipped the Pap test for cervical cancer said that educational materials on the procedure were unavailable or inadequate; and asthmatic patients with limited English skills are more likely than others to break appointments and stop taking their medication.[29]

Cultural differences are also significant causes of miscommunication.[30] People in many parts of the world do not know of or accept the pathogen concept and choose to rely on folk remedies or herbs for treatment.[31] Attitudes about the body and the role of the doctor can pose problems, as can ways of describing illnesses and needs.[32] Proper treatment of behavioral anomalies such as phobias and visions may require understanding reported symptoms within the context of the patient's culture.[33]

These variables are reflected in the markedly higher proportions of Asian and Hispanic respondents who showed difficulty communicating at their last health visit, when stratified by

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[i] Races include: American Indian or Alaska Native, Asian, black or African American, Native Hawaiian or Other Pacific Islander, and white.
[ii] Ethnicity differentiates Hispanics and non-Hispanics. The NHDR also distinguishes non-Hispanic whites and non-Hispanic blacks.

income and education (see Chapter 4). Only Asians in the highest income group reportedly approximated the communication skills of whites. Looking at these variables among subsets of the selected primary populations can shed light on the nature and dynamics of health care disparities in ethnic minorities.

Federal health care data collections often do not include information about ethnic subpopulations and, when they do, sample sizes tend to be small. In an attempt to help fill this gap, non-Federal data collections were examined; but none was identified that could provide reliable national estimates for subpopulations across a range of health care topics. As a result, and as noted below, findings are not nationally representative of racial and ethnic subpopulations.

Quality and Access for Hispanic Subpopulations

Census 2000 counted over 35 million Hispanics, or 12.5% of the population in the United States, making Hispanics the largest minority group in America. An additional 3.8 million Hispanics live in the Commonwealth of Puerto Rico.[34]

The Hispanic population is highly heterogeneous. Mexicans are the largest Hispanic subpopulation in the United States, accounting for almost 60% of Hispanics, followed by Puerto Ricans, Central Americans and South Americans. Among Hispanics, variation in access to and quality of health care has been observed related to place of origin and degree of acculturation.[35]

To help tease apart these differences, AHRQ identified a State database, the 2001 California Health Interview Survey (CHIS), which includes large numbers of Hispanic subpopulations. California is home to more Hispanics (i.e., 11 million) than any other State; and CHIS included over 10,000 Hispanics in its sample design. In addition, CHIS was conducted in six languages, including Spanish, and collected information about languages spoken at home—which is used as a proxy for acculturation.[i]

This section identifies disparities in access to and, to a limited extent, quality of health care between Hispanics and non-Hispanic whites, among different Hispanic subpopulations related to place of origin, and among Hispanics related to language.

Quality of Care

In California, the NHDR identifies disparities in quality of health care between Hispanics and non-Hispanic whites, among different Hispanic subpopulations related to place of origin, and among Hispanics related to language. For example, the percent of persons age 50 and over who ever had flexible sigmoidoscopy or colonoscopy is lower among Hispanic Californians (39%) compared with non-Hispanic white Californians (58%) (Figure 9). In addition, among Hispanics, this measure ranges from 32% for Central Americans to 51% for South Americans. This measure is also lower among Hispanics who speak Spanish only at home (29%) and Spanish and English at home (39%) compared with Hispanics who speak English only at home (50%).

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[i] Virtually no data sources routinely record language spoken at home, place or birth, or length of time in this country.

Figure 9. Percent of Californians 50 and over who ever had flexible sigmoidoscopy or colonoscopy by ethnicity, place of origin, and language
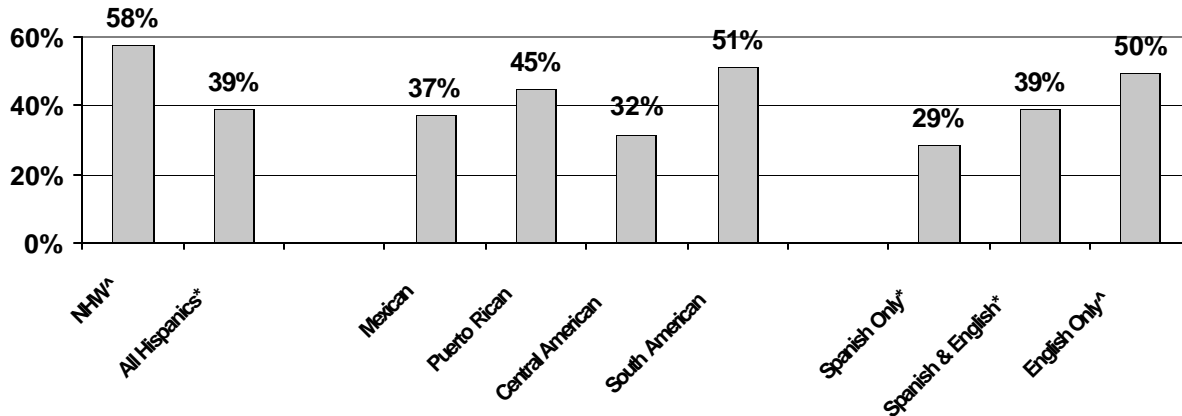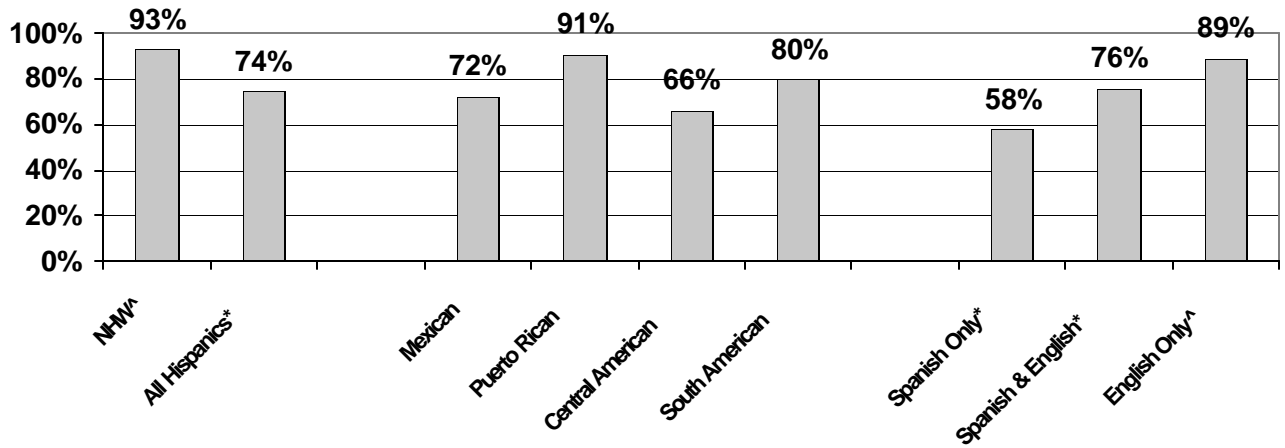

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Hispanics by place of origin.
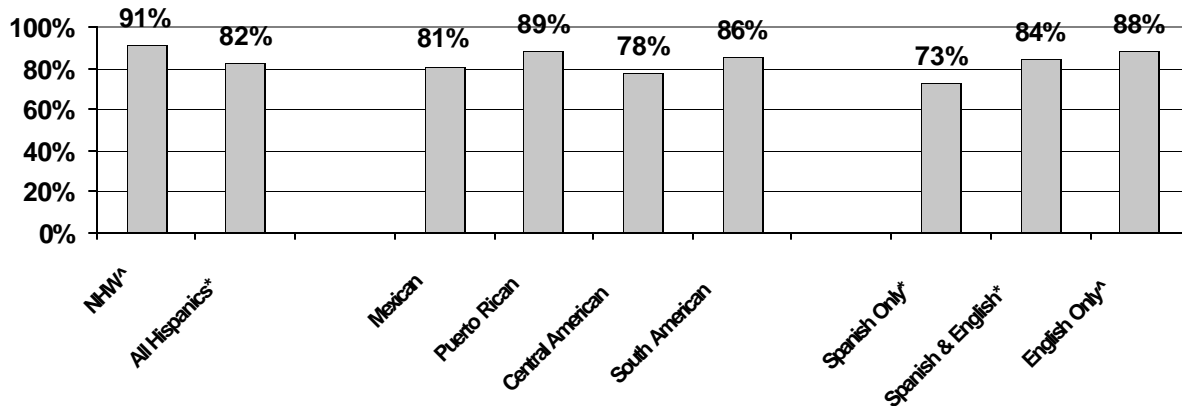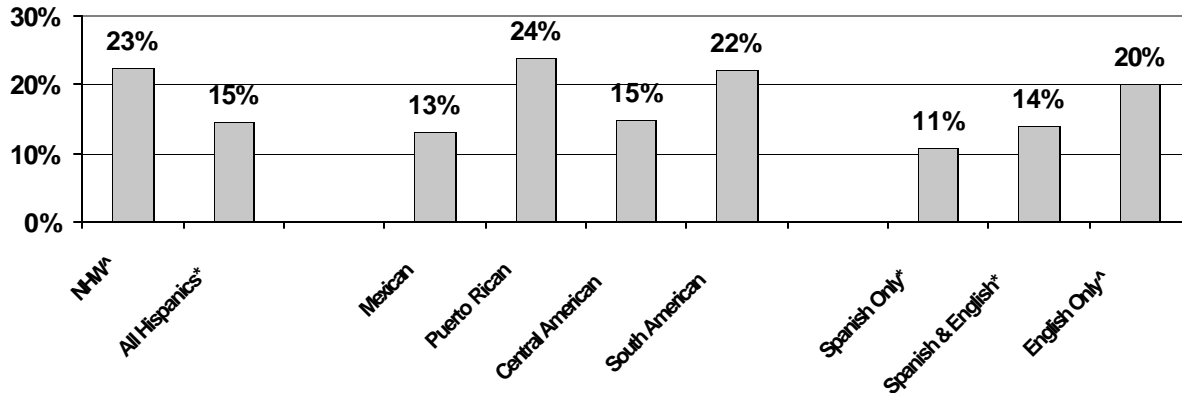Key: NHW=non-Hispanic white
Source: California Health Interview Survey, 2001.

Similarly, the percent of persons age 65 and over that received influenza vaccination in the past 12 months is lower among Hispanic Californians (54%) than non-Hispanic white Californians (70%) (Figure 10). In addition, among Hispanics, influenza vaccination ranges from 41% for Central Americans to 58% of Mexicans. Hispanics who speak Spanish only at home (50%) and Spanish and English at home (54%) are less likely to receive the vaccination than Hispanics who speak English only at home (66%).

Access to Care

Health insurance

The percent of persons with health insurance is lower among Hispanic Californians (74%) compared with non-Hispanic white Californians (93%) (Figure 11). In addition, among Hispanics, this measure ranges from 66% for Central Americans to 91% for Puerto Ricans. This measure is also lower among Hispanics who speak Spanish only at home (58%) and Spanish and English at home (76%) compared with Hispanics who speak English only at home (89%) (CHIS, 2001).

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Figure 10. Percent of Californians 65 and over who received influenza vaccination in the past 12 months by ethnicity, place of origin, and language
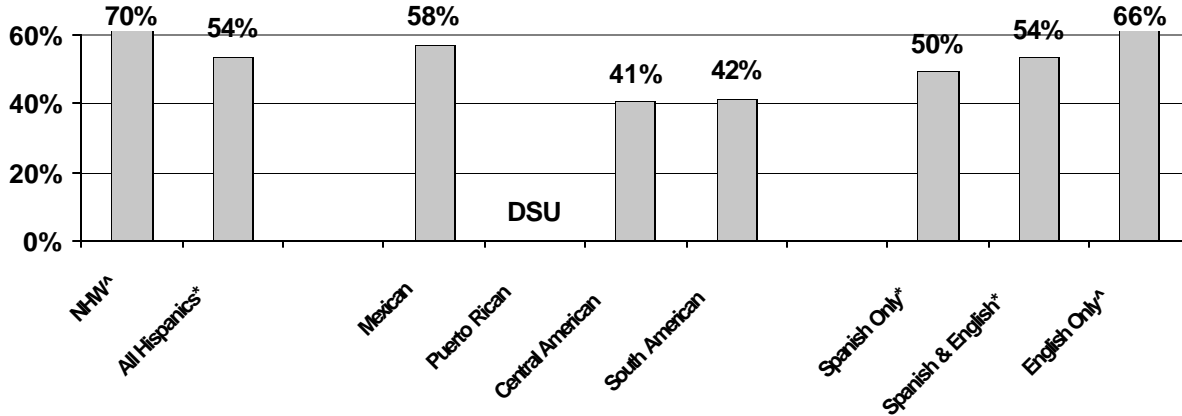
^ Indicates reference group.
* indicates p<0.05 for comparison of group with reference group. Note that no comparisons are made among Hispanics by place of origin.
Key: NHW=non-Hispanic white
DSU=Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
Source: California Health Interview Survey, 2001.

Figure 11. Percent of Californians with health insurance by ethnicity, place of origin, and language

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Hispanics by place of origin.
Key: NHW=non-Hispanic white
Source: California Health Interview Survey, 2001.

Usual source of care

Similarly, the percent of persons with a source of ongoing care is lower among Hispanic Californians (82%) compared with non-Hispanic white Californians (91%) (Figure 12). In

addition, among Hispanics, this measure ranges from 78% for Central Americans to 89% of Puerto Ricans. This measure is also lower among Hispanics who speak Spanish only at home (73%) and Spanish and English at home (84%), compared with Hispanics who speak English only at home (88%).

Figure 12. Percent of Californians with source of ongoing care by ethnicity, place of origin, and language

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Hispanics by place of origin.
Key: NHW=non-Hispanic white
Source: California Health Interview Survey, 2001.

Patient perceptions of inadequate access and need

In contrast, the percent of persons who experience delays in medical care is lower among Hispanic Californians (15%) than among non-Hispanic white Californians (23%) (Figure 13). In addition, among Hispanics, this measure ranges from 13% for Mexicans to 24% for Puerto Ricans. This measure is also lower among Hispanics who speak Spanish only at home (11%) and Spanish and English at home (14%) compared with Hispanics who speak English only at home (20%).

Figure 13. Percent of Californians who experience delays in medical care by ethnicity, place of origin, and language
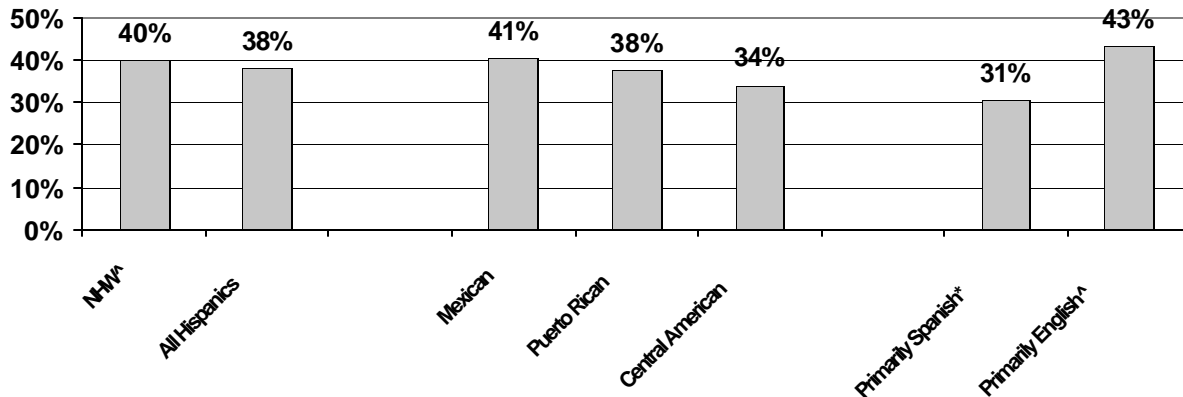

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Hispanics by place of origin.
Key: NHW=non-Hispanic white
Source: California Health Interview Survey, 2001.

Because Federal health care data collections typically do not collect information on the patient-provider relationship, cultural competency, and health information, the NHDR uses the Commonwealth Fund Health Care Quality Survey to provide national estimates. In 2001, this survey included over 1,100 Hispanics and collected information about Hispanic subpopulations, and was conducted in five languages (including Spanish). The Commonwealth Fund survey included questions about languages spoken at home—which is used as a proxy for acculturation.

Patient-provider relationship

The percent of persons not treated with a great deal of dignity and respect, a measure of the patient-provider relationship, is not significantly different between Hispanics (24%) and non-Hispanic whites (23%) (Figure 14). However, among Hispanics, this measure ranges from 16% of Puerto Ricans to 34% of Central Americans. This problem is also reported less often by Hispanics who speak primarily Spanish at home (12%) than Hispanics who speak primarily English at home (31%).

Cultural competency

Similarly, the percent of persons who do not strongly agree that their doctor understands their background and values, a measure of cultural competency, is not significantly different between Hispanics (38%) and non-Hispanic whites (40%) (Figure 15).   However, among Hispanics, this measure ranges from 34% of Central Americans to 41% of Mexicans. This problem is also reported less often by Hispanics who speak primarily Spanish at home (31%) than by Hispanics who speak primarily English at home (43%).

Figure 14. Percent of persons not treated with a great deal of dignity and respect by ethnicity, place of origin, and language
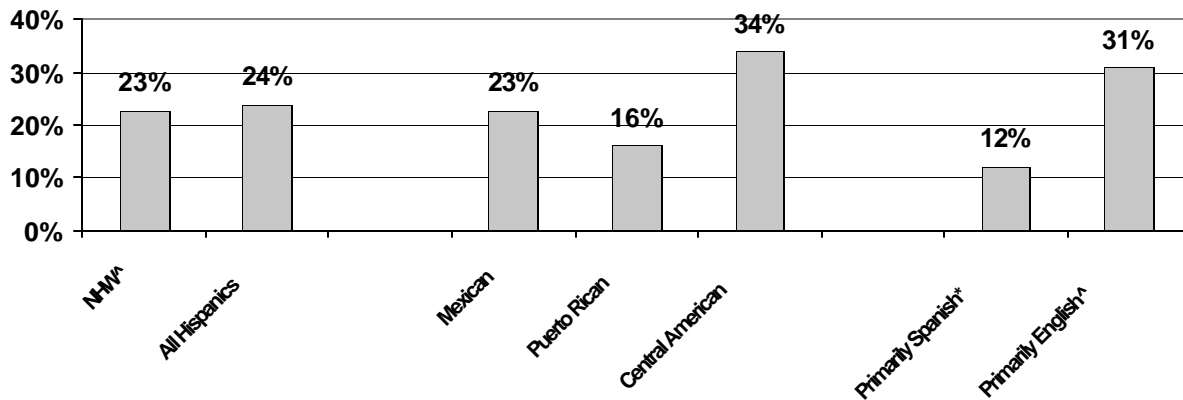
^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Hispanics by place of origin.
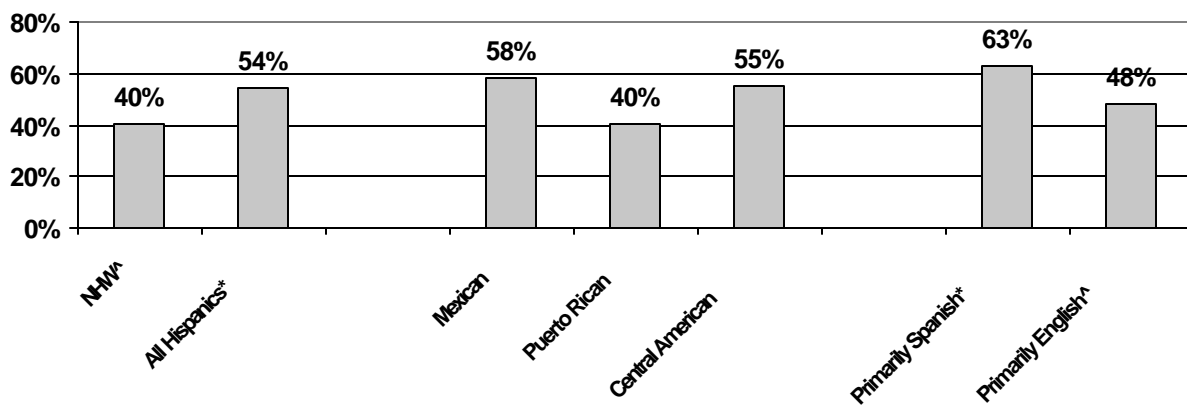Key: NHW=non-Hispanic white
Source: Commonwealth Fund Health Care Quality Survey, 2001.

Figure 15. Percent of persons who do not strongly agree that their doctor understands their background and values by ethnicity, place of origin, and language

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Hispanics by place of origin.
Key: NHW=non-Hispanic white
Source: Commonwealth Fund Health Care Quality Survey, 2001.

Health information

In contrast, the percent of persons who do not find it very easy to understand information from their doctor's office is higher among Hispanics (54%) than non-Hispanic whites (40%) (Figure 16). In addition, among Hispanics, this measure ranges from 40% of Puerto Ricans to 58% of Mexicans. This problem is also reported more often by Hispanics who speak primarily Spanish at home (63%) than Hispanics who speak primarily English at home (48%).

Figure 16. Percent of persons who do not find it very easy to understand information from their doctor's office by ethnicity, place of origin and language

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Hispanics by place of origin.
Key: NHW=non-Hispanic white
Source: Commonwealth Fund Health Care Quality Survey, 2001.

Quality and Access for Asian Subpopulations

Census 2000 counted almost 12 million Asians, or 4.2% of the population, in the United States. Asians are the fastest growing racial group in America.[36] As with the Hispanic population, the Asian population is highly heterogeneous. Among Asians, differences in health care have been observed related to place of origin. Differences have also been observed related to degree of acculturation.[37]

No databases were identified that could provide reliable national estimates for Asian subpopulations for the topics covered in this report; but again the California Health Interview Survey, which includes large numbers of Asian subpopulations, was identified. California is the home to more Asians (i.e., 4.2 million) than any other State, and CHIS included almost 6,500 Asians in its sample design, including oversampling of Japanese, Vietnamese, South Asians, Koreans, and Cambodians. In addition, CHIS was conducted in six languages including Chinese, Vietnamese, Korean, and Khmer and collected information about languages spoken at

home. Languages spoken at home are used as a proxy for acculturation and differentiate Asians who speak Asian languages only at home, Asian languages and English at home, and English only at home. This section presents data on access to care and quality of care among Asian subpopulations from CHIS in 2001.

Quality of Care

In California, disparities exist in measures of quality of health care between Asians and whites, among different Asian subpopulations related to place of origin, and among Asians related to language. For example, the percent of persons age 50 and over who ever had flexible sigmoidoscopy or colonoscopy is lower among Asian Californians (44%) than white Californians (57%) (Figure 17), ranging from 36% of Vietnamese to 56% of Japanese. Asian Californians who only speak Asian languages at home (37%) and those who speak both Asian languages and English at home (42%) are less likely to have had flexible sigmoidoscopy or colonoscopy than Asians who speak English only at home (57%).

Figure 17. Percent of Californians 50 and over who ever had flexible sigmoidoscopy or colonoscopy by select race categories, place of origin, and language
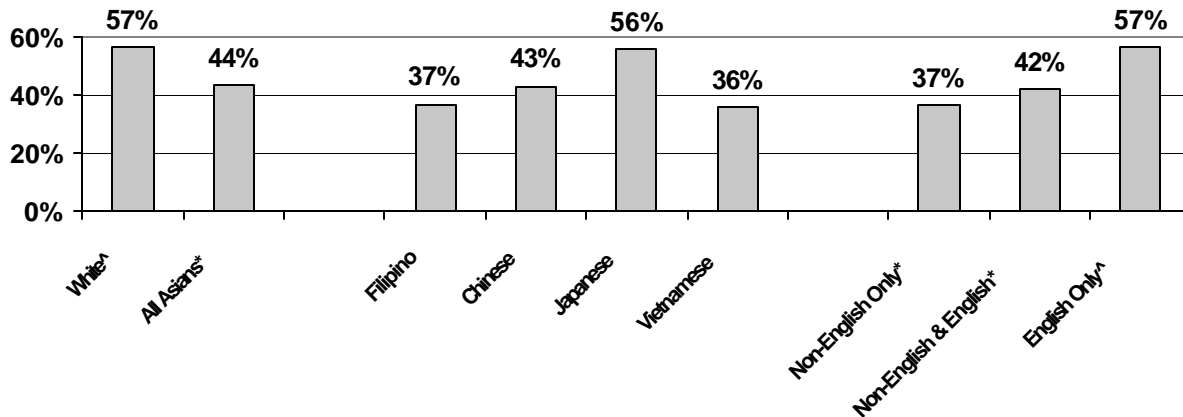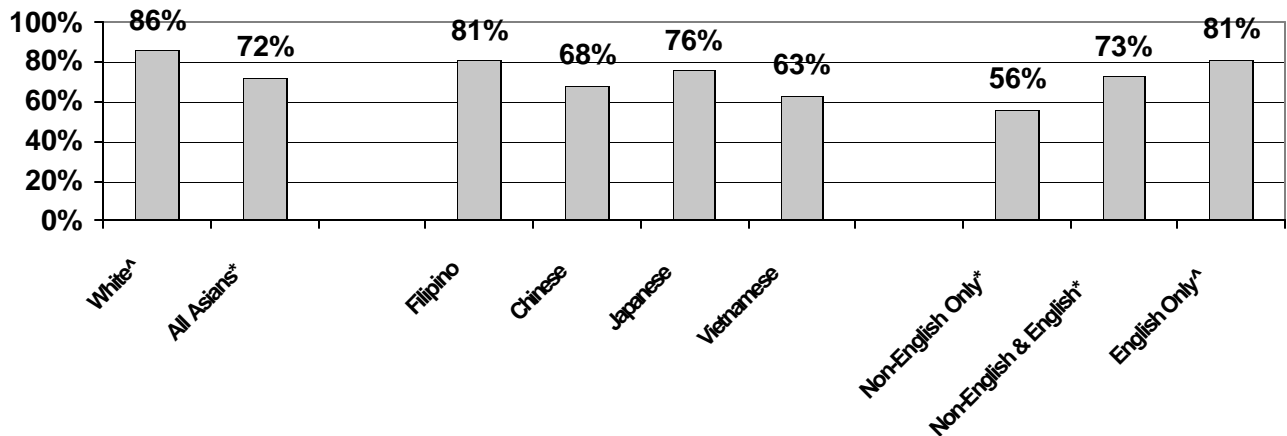

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Asians by place of origin.
Source: California Health Interview Survey, 2001.

Similarly, the percent of women age 18 and over who had a Pap smear in the past 3 years is lower among Asian Californians (72%) than white Californians (86%) (Figure 18), ranging from 63% of Vietnamese to 81% of Filipinos. Asian Californians who only speak Asian languages at home (56%) and those who speak both Asian languages and English at home (73%) are more likely to have had a Pap smear in the last 3 years compared with Asians who speak English only at home (81%).

Figure 18. Percent of Californian women 18 and over who had a Pap smear in the past 3 years by select race categories, place of origin, and language

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Asians by place of origin.
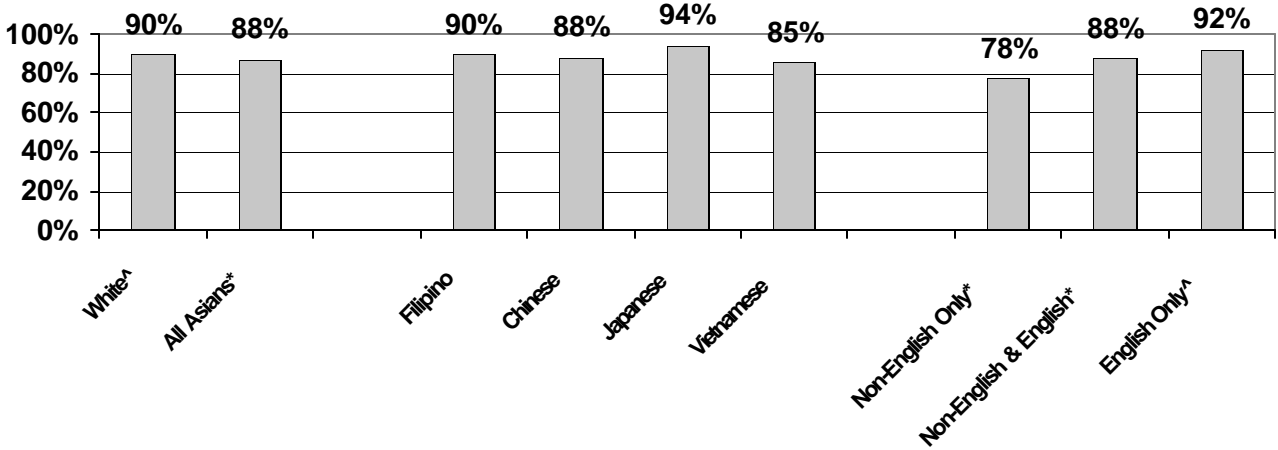**Source**: California Health Interview Survey, 2001.

Access to Care

Health insurance

In California, disparities in access to health care are noted between Asians and whites, among different Asian subpopulations related to place of origin, and among Asians related to language. For example, the percent of persons with health insurance is lower among Asian Californians (88%) compared with white Californians (90%) (Figure 19). In addition, health insurance coverage among California's Asian population ranges from 85% of Vietnamese to 94% of Japanese. Health insurance is less common among those who only speak Asian languages at home (78%) and those who speak both Asian languages and English at home (88%) compared with Asians who speak English only at home (92%).

Usual source of care

Similarly, Asian Californians are less likely than white Californians to have a source of ongoing care (Figure 20). Asians who only speak Asian languages than at home are less likely (80%) Asians who only speak English at home (90%) to have a source of ongoing care.

Figure 19. Percent of Californians with health insurance by select race categories, place of origin, and language

^ Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Asians by place of origin.
Source: California Health Interview Survey, 2001.

Figure 20. Percent of Californians with source of ongoing care by select race categories, place of origin, and language
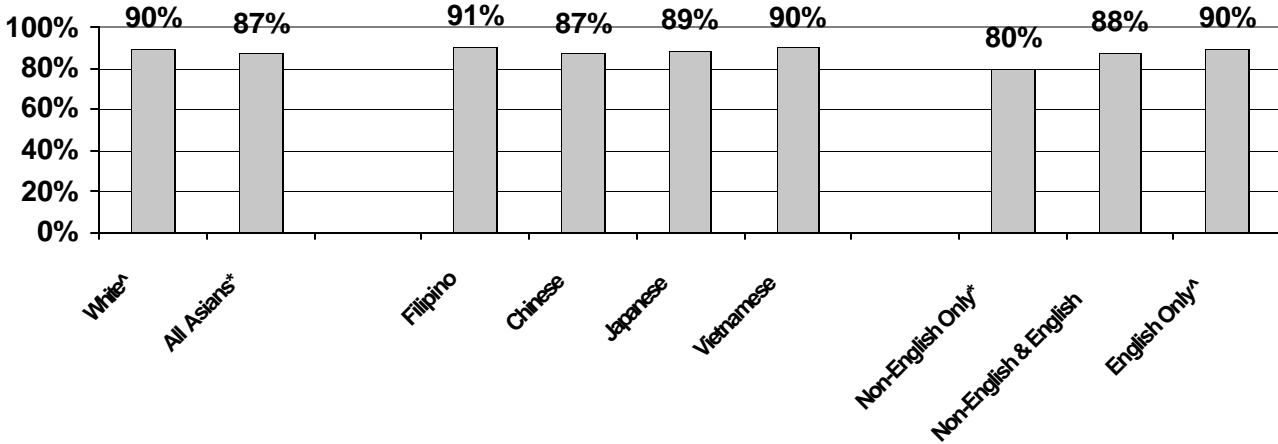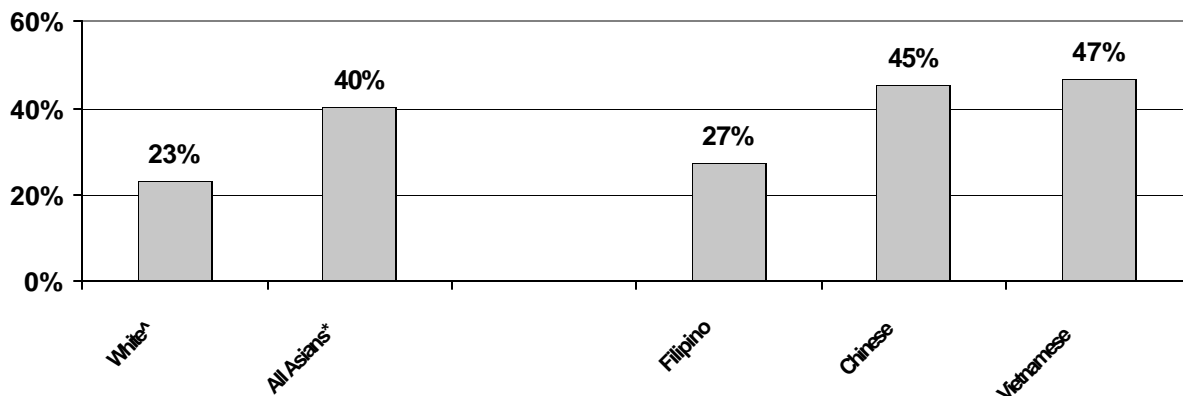

^ Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Asians by place of origin.
Source: California Health Interview Survey, 2001.

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The NHDR uses the Commonwealth Fund Health Care Quality Survey to provide national estimates on measures of the patient-provider relationship, cultural competency, and health information among Asian subpopulations and identifies differences between Asians and whites and among different Asian subpopulations. In 2001, this survey included over 600 Asians and collected information about Asian subpopulations. In addition, it was conducted in five languages including Chinese, Korean, and Vietnamese.

Patient-provider relationship

The percent of persons not treated with a great deal of dignity and respect is higher among Asians (40%) than whites (23%) (Figure 21). Furthermore, not all Asians respond similarly: Filipinos are much less likely to report that they were treated with respect (27%) than Vietnamese respondents (47%).

Figure 21. Percent of persons not treated with a great deal of dignity and respect by select race categories and place of origin
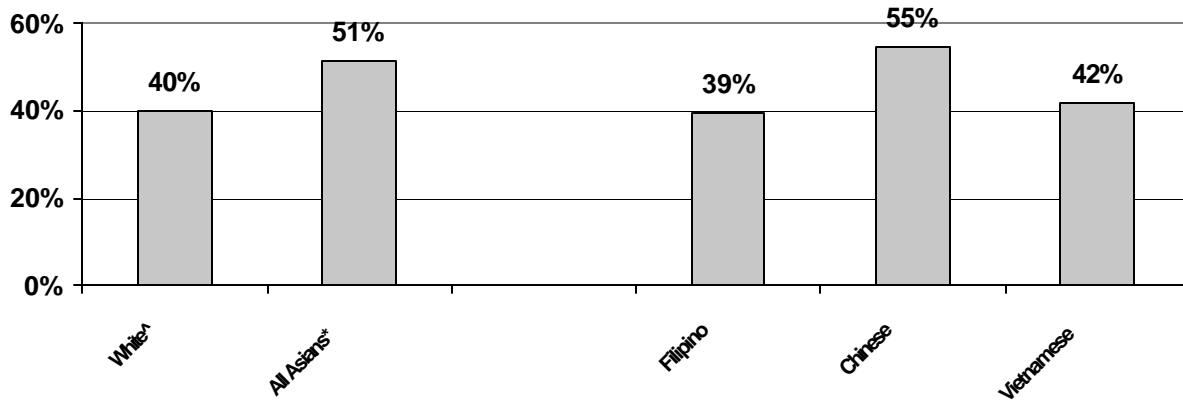

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Asians by place of origin.
Source: Commonwealth Fund Health Care Quality Survey, 2001.

Cultural competency

Similarly, the percent of persons who do not strongly agree that their doctor understands their background and values is higher among Asians (51%) than with whites (40%) (Figure 22) and is reported differently by different subgroups—ranging from 39% of Filipinos to 55% of Chinese.

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Figure 22. Percent of persons who do not strongly agree that their doctor understands their background and values by select race categories and place of origin
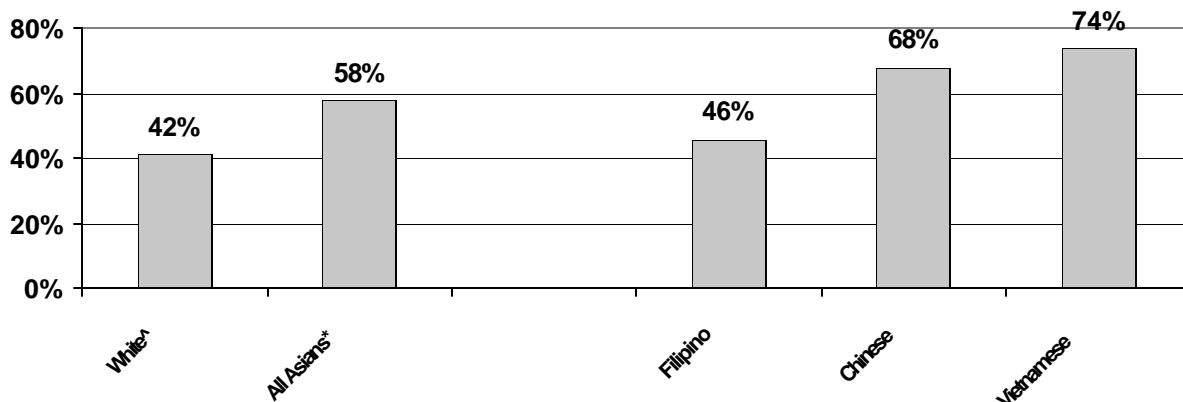

^Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Asians by place of origin.
Source: Commonwealth Fund Health Care Quality Survey, 2001.

Health information

Finally, the percent of persons who do not find it very easy to understand information from their doctor's office is higher among Asians (58%) than whites (42%) (Figure 23). In addition, among Asians, this problem ranges from 46% of Filipinos to 74% of Vietnamese.

Figure 23. Percent of persons who do not find it very easy to understand information from their doctor's office by select race categories and place of origin

^ Indicates reference group.
*p<0.05 for comparison of group with reference group. Note that no comparisons are made among Asians by place of origin.
Source: Commonwealth Fund Health Care Quality Survey, 2001.

Quality and Access for American Indians and Alaska Natives

There are slightly over 2 million self-identified American Indians and Alaska Natives in the United States, with only 38% that continue to reside on Federal trust lands.[38] Over 30% of the AI/AN population falls below the poverty standard, experiencing unemployment rates that are 2.5 times that of the national average.[39] Lower life expectancy and a disproportionate disease burden exist, perhaps due to inadequate education, disproportionate poverty, geographic isolation, service delivery problems, and cultural differences.[40]

Of all AI/ANs nationwide, approximately 60% rely on the Indian Health Service (IHS) to provide access to health care. The IHS serves populations in 35 States through a network of 12 areas that operate over 500 facilities.[41] The IHS service population is predominantly rural. The disproportionate incidence of disease and conditions experienced by this population increases the costs of delivering care. Because life-threatening disease and injury get first priority, patients with less severe problems find their medical care may be postponed or simply never carried out.[42] For example, cardiovascular disease has become a major source of disability, increasing hospitalizations and both inpatient and outpatient procedures, resulting in significantly increasing expenditures for IHS and Tribal Contract Health Service funds. A need for aggressive treatment and prevention activities has been recognized by Tribes as well as the IHS.[43]

Among persons with diabetes being served by IHS facilities, 93% had a hemoglobin A1c measurement done in the past year, and 53% received an annual flu vaccine, not unlike the rates experienced by the overall U.S. diabetic population. However only 53% received a retinal eye exam in the past year compared to 67% for the overall U.S. diabetic population, and only 55% received a foot examination in the past year, compared to the overall U.S. diabetic rate of 66%.[44]

The annual IHS per capita personal health care expenditure for AI/ANs in fiscal year 2001 was $1,730 compared with $4,392 for the overall U.S. population— a 39% lower per capita expenditure than that for the U.S. population as a whole. A study by managed care organizations showed the average cost of caring for a person with diabetes ranges from $5,000-$9,000 annually.[45] More than $150 million is spent annually by the IHS on the treatment of injuries, may be reduced by implementation of effective injury prevention programs, in turn making additional resources potentially available for the treatment of other health conditions.[46]

Researchers examining medical care expenditures found only 1 in 3 AI/ANs has private health insurance, compared with 80% of U.S. whites.[47] According to the 1999 Federal Employees Health Benefit Plan (FEHBP) Disparity Index study, IHS funding is only 60% of the funding provided by mainstream employer-provided plans. In trying to account for the disparities, health care experts, policymakers, and tribal leaders are looking into funding and other factors that affect health care delivery to AI/ANs.

There are significant disparities experienced by American Indians and Alaska Natives residing in areas served by the IHS — males can expect to live 6 years less than the average U.S. male and AI/AN females can expect to live 5 years less than the average U.S. female. Infant mortality

rates among AI/ANs are 24% higher than the total U.S. population. Mortality rates experienced by AI/ANs are disparate with overall U.S. rates: mortality rates are 67% higher due to alcohol-related causes, 318% higher for diabetes, 180% higher mortality rates due to accidents, 92% higher due to suicide, and 110% higher due to homicide.[48, 49]

Rural Populations

Introduction

According to the U.S. Bureau of the Census, more than 60 million people live in rural areas[i], and roughly 55 million live in "non-metropolitan counties."[ii] Americans in these areas face specific challenges to accessing, utilizing, and paying for quality health care. Access to specialty care can be particularly difficult due to a limited (and diminishing) supply of health care delivery sites. Many facilities that rural residents have grown to rely upon, including small rural hospitals, have either closed or are in serious financial straits.[50]

Among these few delivery sites, the supply of health care providers in rural areas is smaller per capita than other areas. While 20% of Americans live in rural areas, only 9% of the Nation's physicians practice in rural areas.[51] Loan forgiveness and other programs that seek to recruit and retain health care clinicians in shortage areas are facing difficult times, in part because funding sources for such initiatives have grown unstable.

Transit and transportation needs are also pronounced among rural populations, who face longer distances to reach health care delivery sites—particularly when seeking specialty or dental care. Usually, rural areas have no public transportation infrastructure. Residents of frontier counties, where there is a low population density, find it particularly difficult to access and receive health care where it is required that one travel over long distances or have long travel times to reach sources of care. Of the 940 frontier counties, most have few health care services and 78 do not have any at all.[52]

The unique demographics of rural areas augment the challenges of providing high-quality health care. Compared with their urban counterparts, rural populations are disproportionately elderly and less affluent, more likely to describe their health as poor or fair and to lack private health insurance, and receive care in a less timely fashion.[53, 54, 8] Furthermore, low population density makes it difficult to deliver services that target persons with special health care needs. Groups at particular risk include: the elderly, the poor, those living with AIDS or HIV infection, the homeless, mothers with children and adolescents, racial and ethnic minorities, those living with disabilities,[55] the uninsured, and agricultural workers.

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[i] For Census 2000, the Census Bureau's classification of "rural" consists of all territory, population, and housing units located outside of urban areas (UAs) and urban clusters (UCs). The Census Bureau classified as "urban" all territory, population, and housing units located within:
- Core census block groups or blocks that have a population density of at least 1,000 people per square mile, and
- Surrounding census blocks that have an overall density of at least 500 people per square mile.

See www.census.gov/geo/www/ua/ua_2k.html for more detail.

[ii] The Office of Management and Budget (OMB) classifies metropolitan counties as having a population of at least 50,000, or a census-defined urbanized area and a total metropolitan area population of at least 100,000 (alternatively, it could reflect the economic activities of a location meeting this definition).

Difficulties accessing and receiving health care may help explain some of the adverse health outcomes experienced by rural residents. Residents of the Nation's most rural counties experience the highest death rates for children and young adults, as well as the highest mortality for ischemic heart disease and suicide among men.[56] Although inadequate controls in research on this topic make it difficult to argue that rurality alone significantly impacts health[57], rural minorities appear to be particularly disadvantaged in cancer screening and management, cardiovascular disease, and diabetes as compared with their urban counterparts.[58]

This section applies the NHDR measure set to residents of rural, non-Metropolitan Statistical Area (MSA) counties. It is the first step to understanding disparities in quality and access to care among rural populations. Yet significant gaps exist. Many health care needs and services of importance to rural populations are not addressed. In addition, sample size limitations become a significant problem as the general population is subdivided into small groups. Hence, these findings should not be interpreted as a comprehensive assessment of disparities in health care among rural populations.

Quality of Care

Effectiveness of Care

Most measures of effectiveness included in the quality of care measure set are applicable to the rural population, although small sample sizes become an analytic impediment. In addition, measures related to chronic kidney disease, HIV/AIDS, mental health, and long term care could not distinguish urban and rural residents. In general, disparities observed in the general population were also observed when examining rural residents; yet few differences were observed in the measure of effectiveness related to diabetes and heart disease. This section focuses on measures that demonstrate different disparities between rural and urban residents:

- Cancer screening
- Maternal and child health
- Respiratory diseases

Cancer screening

As in the general population, minority and rural residents of lower socioeconomic position are less likely to receive many cancer screening services. Disparities in colorectal cancer screening may be particularly pronounced for some rural residents and reduced for others. Among urban residents, receipt of fecal occult blood testing within the past 2 years is reported at about the same rates by blacks (33%) and whites (34%). In contrast, among rural residents, colorectal screenings are reported less often by blacks (19%) than whites (32%). Among urban residents, receipt of fecal occult blood testing is reported less often by Hispanics (21%) than by non-

Hispanic whites (36%). Rural residents, Hispanics (27%), and non-Hispanic whites (32%) have similar rates (NHIS, 2000).

Among rural populations, there do not appear to be any racial or ethnic differences for receipt of Pap screening. However, poor (70%) and near poor (77%) rural women are less likely than high income women (85%) to have received a Pap test within the last 3 years (NHIS, 2000.)

Maternal and child health

Rural maternal and child health data were insufficient to make statistically significant comparisons.

Respiratory diseases

Data on immunization in the general population indicate that blacks and persons of lower socioeconomic position tend to be less likely to receive influenza and pneumococcal immunization. Disparities in immunization may be particularly pronounced for some rural residents and reduced for others. Among urban residents, the percent of high risk persons ages 18 to 64 who received influenza vaccination in the past year is similar across income groups. However, among rural residents, poor (19%) and near poor (24%) persons had lower rates compared with high income persons (32%). On the other hand, urban blacks (25%) had lower rates than urban whites (29%), while rural blacks (26%) and whites (27%) had similar rates (NHIS, 2000).

Patient Safety

Inpatient safety

When disparities among hospitalized rural residents are identified, they typically parallel disparities in the general population. However, there is an exception among all hospitalized patients and hospitalized urban residents, where rates of birth trauma are lower among non-Hispanic blacks compared with non-Hispanic whites. Among rural residents, this measure is higher among non-Hispanic blacks (7.5 per 1,000 live births) compared with non-Hispanic whites (6.2 per 1,000) (HCUP SID, 2000).

Medication safety

In the general population, the percentage of persons with a provider that does not usually ask about medications and treatments other doctors may give is higher among blacks compared with whites and among Hispanics compared with non-Hispanic whites (see Chapter 4). Similarly, among rural residents, this measure is higher among blacks (87%) compared with whites (78%) and among Hispanics (88%) compared with non-Hispanic whites (77%) (MEPS, 1999).

Timeliness and Patient Centeredness

Timeliness is the core need of the health care system to reduce waits and harmful delays for those who receive care. Health care cannot prevent death and disability if it is delivered too late and delays can lead to complications that ultimately increase health care costs. In general, rural residents wait longer periods of time to be seen in a doctor's office but shorter periods of time to be seen in emergency rooms. Disparities in most measures of timeliness are similar or slightly reduced among rural residents compared with urban residents. Measures of patient centeredness overlap with several concepts discussed in the access section below.

Access to Care

Health insurance

Individuals living outside of MSAs are about as likely as those living inside MSAs to be uninsured. Blacks (35%) and APIs (46%) living in non-metropolitan areas are more likely than non-metropolitan whites (24%) to be uninsured for at least part of the year. Similar to the general population, Hispanics living in non-metropolitan areas (50%) are twice as likely to be uninsured as non-Hispanics (24%). As with the general population, poor, near poor, and middle income individuals (41%, 40%, and 22%, respectively) in non-MSAs are more likely than high income individuals (12%) to be uninsured for at least some period of time. Rural residents with less than a high school education are more likely than those with more than a high school education to be uninsured for at least part of the year (42% vs. 18%, respectively) (MEPS, 1999).

Individuals living in non-MSAs are somewhat more likely to have public insurance coverage than those living in MSAs. In non-metropolitan areas, blacks are more likely than whites (32% vs. 16%) and Hispanics are more likely than non-Hispanic whites (29% vs. 15%) to spend some time enrolled in a public insurance program during the year. As with the general population, rural residents who are poor (51%) or near poor (29%) are more likely to have any public coverage than those with high incomes (3%). Similarly, rural residents with fewer than 12 years of education are more likely to be publicly insured than those with more than 12 years of schooling (25% vs. 4%) (MEPS, 1999).

Usual source of care

Generally, rural and urban populations have similar access to sources of ongoing care, yet disparities observed in the general population typically persist among rural residents. Hispanics and lower income populations fare worse than non-Hispanic whites and high income persons across most "usual source of care" measures in both the general and rural populations. One exception may relate to rural blacks. Data indicate that in urban areas, blacks are more likely to identify a clinic, hospital outpatient department, or emergency room as their source of ongoing care compared with whites. In contrast, in rural areas, blacks and whites have similar rates (NHIS, 2000).

Patient perceptions of inadequate access and need

Generally, unmet needs in rural populations are similar to urban populations, yet disparities observed in the general population typically persist among rural residents. Data indicate that rural Hispanics and lower income individuals are more likely than rural non-Hispanic whites and wealthier populations to experience delays in care and be less satisfied that they can obtain health care should they need it. Also, blacks in rural areas are more likely to report that their families did not receive care or medications because the family needed the money compared with rural whites (MEPS, 1999).

Getting care

Rural and urban populations face similar barriers to getting care with one exception: rural residents report that their provider does not have office hours at night or on weekends more frequently than do urban residents. However, disparities observed in the general population typically persist among rural residents. Data indicate that reporting of problems in obtaining referrals to specialists is higher among rural Hispanics than rural non-Hispanic whites and by lower income rural residents compared with high income rural residents. One exception may relate to the ability of Hispanics to contact their providers to discuss health problems over the telephone. In urban areas, Hispanics are more likely to report problems than non-Hispanic whites, but in rural areas, this problem is experienced about equally by Hispanics and non-Hispanic whites (MEPS, 2000).

Waiting times

Rural residents tend to have longer waiting times to see their provider but shorter waiting times in emergency departments. However, racial/ethnic and socioeconomic disparities in waiting times are similar among rural and urban residents. Only about 16% of the overall population, compared with 21% of the rural population, report waiting more than 30 minutes to see their health care provider. This trend is reversed in hospital settings where 12% of the general population waits an hour or more for care in emergency departments, compared with only 7% of rural residents. Similarly, waiting times of an hour or more for semi-urgent/non-urgent emergency department care are more common among the population at large (26%) compared with the rural population (15%). Race, ethnicity, education, and income disparities in waiting times at doctor's offices appear to be less significant in the rural population than among the general population (MEPS, 1999).

Patient-provider communication

Patient-provider communication is comparable between urban and rural residents. Disparities in the general population typically persist among rural residents. Data indicate that rural residents with lower incomes and less education are more likely to report indicators of poor communication compared with more affluent rural residents (Commonwealth Fund Health Care Quality Survey, 2001).

Patient-provider relationship

Rural and urban populations have similar perceptions of their relationships with their health care providers. Disparities observed in the general population typically persist among rural residents. Data indicate that the percent of rural residents who rate satisfaction with health care lower (<= d 6 on 0-10 scale) is higher among blacks compared with whites and among lower income and less educated persons compared with more affluent persons (MEPS, 2000).

Cultural competency

Rural residents are more likely to report that their doctor understands their background and values compared with urban residents. Unfortunately, there is too little cultural competency data on rural priority populations to discern if and to what extent health care disparities exist.

Health information

Rural populations are more likely to have problems obtaining and understanding health information. Compared with urban respondents, rural respondents less frequently find information from their doctor's office that is easy to understand and experience greater difficulty in using the Internet to obtain health information. Disparities observed in the general population typically persist among rural residents: lower income and less educated rural residents have more difficulty finding easy to understand information from their doctor's office compared with more affluent rural residents.

Receipt of health care

In general, disparities in receipt of health care do not differ between rural and urban residents. In the general population, many racial/ethnic minorities as well as low income and less educated persons are less likely to receive office or outpatient visits, prescription medications, and dental visits. During the past year, office or outpatient visits were less likely to be received by blacks compared with whites, by Hispanics compared with non-Hispanic whites, by persons with lower family incomes compared with persons with higher family incomes, and by less educated persons compared with more educated persons (see Chapter 4). Similarly, among rural residents, office or outpatient visits are less likely to be received by blacks (62%) compared with whites (74%) and by Hispanics (55%) compared with non-Hispanic whites (75%) (MEPS, 1999). The fundamental issue behind these disparities may be attributed to socioeconomic disparities, which are also present among rural residents but tend to be attenuated.

In the general population, rates of emergency department visits and hospitalization are higher among blacks than whites. Among rural residents, rates of emergency department visits are also higher among blacks (70 per 100 population) compared with whites (47 per 100) (NHAMCS-ED, 1999-2000).

Non-Hispanic blacks, Hispanics, and APIs typically have lower rates of utilization for high variation surgeries. For example, rates of PTCA are lower among non-Hispanic blacks (335 per 100,000 population), Hispanics (297 per 100,000), and APIs (195 per 100,000) compared with non-Hispanic whites (535 per 100,000).   Also, compared with non-Hispanic whites, APIs have lower rates of Cesarean delivery and higher rates of vaginal birth after cesarean delivery; a disparity persists among rural residents (HCUP SID, 2000).

Mental health care and substance abuse treatment

Data on mental health care and substance abuse treatment come from the National Household Survey on Drug Abuse (NHSDA) where sample sizes do not allow assessment of disparities among rural residents, compounded by the paucity of mental health providers in rural areas.

Avoidable admissions

In the general population, non-Hispanic blacks typically have higher rates of avoidable admissions while APIs typically have lower rates than non-Hispanic whites. Among rural residents, these disparities typically persist. In terms of rates of admissions for chronic obstructive pulmonary disease for urban residents, rates are higher among non-Hispanic blacks (271 per 100,000 population 18 and over) than non-Hispanic whites (241 per 100,000); but overall rates in rural populations are higher: the rate for non-Hispanic blacks is 320 per 100,000 population 18 and over compared with a rate of 379 per 100,000 for non-Hispanic whites (HCUP SID, 2000).

Individuals with Special Health Care Needs

Introduction

Persons with special health care needs may be particularly vulnerable to disparities in health care. Though somewhat constrained by the availability of data, four populations with special health care needs are examined:

- Children with special health care needs
- Persons with disabilities
- Persons who utilize long term care
- Persons at the end of life.

This section applies relevant NHDR measures to individuals with special health care needs. These findings are supplemented with some analyses from the Medicare Current Beneficiary Survey. The measures used include some measures specific to these individuals, but many health care needs and services of importance to each of these populations are not addressed. In addition, since sample size limitations are a significant problem among subgroups of the general population, these findings should not be interpreted as a comprehensive assessment of disparities in health care among the individuals with special health care needs.

Children with Special Health Care Needs

Background

The term "children with special health care needs" (CSHCN) was first used in the Omnibus Budget Reconciliation Act of 1989, replacing earlier categories such as "crippled," "handicapped," "disabled" or "chronically ill." The broader classification provides a framework that focuses on common goals and needs, especially concerning services administered through the Maternal and Child Health Bureau (MCHB) of the Health Resources and Services Administration in States and territories. With the focus on prevention, functional limitations, and increased medical needs, the MCHB defines CSHCN as those who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions and who also require health and related services of a type or amount beyond that required by most children.

The prevalence of CSHCN is estimated to fall between 10% and 20%[59] of theNnation's 72.5 million children. CSHCN often have a higher need for health and rehabilitative services, such as services from specialty physicians, mental health providers, or physical, speech, or occupational therapists; or personal assistance for developing children. As provision of health care services evolves, access to well-coordinated care that includes the development of relationships that support family caregivers is particularly important in providing effective care to this population.

Currently, parents of CSHCN report problems obtaining needed care for their children, including obtaining referrals, finding a provider with the needed skill and experience to provide care, and getting the number of visits needed for their child's care, as well as the family's out-of-pocket cost for services and poor coordination of the services.[60] There are few studies addressing racial and ethnic disparities within CSHCN; however, racial/ethnic disparities in access to care, having a usual source of care, rates of unmet need, and dissatisfaction with services have been identified.[2]

Data on CSHCN are examined for access measures of patient perceptions of inadequate access and need, patient-provider communication, and the patient-provider relationship.

Patient perceptions of inadequate access and need

In general, CSHCN have greater unmet care needs than other children. However, among CSHCN, disparities in unmet need are noted. Among CSHCN, the percent of children who always can get appointments for routine care as soon as wanted is higher among blacks (55%) than whites (43%). Significant differences in the percent of children who always can get care for illness or injury as soon as wanted are not noted (MEPS, 2000).

Patient-provider communication

Disparities in patient-provider communication among CSHCN are also noted. Among CSHCN, the percent of children whose providers always listened carefully to them is higher among blacks (75%) than whites (60%) (MEPS, 2000).

Patient-provider relationship

Finally, disparities in patient-provider relationships among CSHCN are also noted. Among CSHCN, the percent of children who rate their health care 6 or worse on a scale from 0 to 10 is higher among children in poor households (32%) compared with children in high income households (12%) (MEPS, 2000).

Persons with Disabilities

Background

There are multiple ways of defining and measuring disability. Two of the more common approaches are to identify functional activity limitations or to identify those meeting the criteria for eligibility for a program, such as Social Security Disability Insurance (SSDI), that addresses disability. A particular challenge in reporting on racial/ethnic and socioeconomic disparities related to disability is that many data collections do not capture disability and, when collected, do not have adequate sample sizes of the disabled to examine racial/ethnic and socioeconomic disparities.

Analyses of recent trends in disability and functioning among older adults have shown improvements in the last decade, with the prevalence of having any disability declining significantly during the 1990s. However, there are considerable gaps in availability of measures and understanding of trends in disparities across major racial and ethnic groups with respect to functional limitations in the elderly population.[61] About 5.6 million beneficiaries under age 65 qualified for Medicare in 2001, and that number is expected to grow to more than 9 million by 2020.[62][63] The non-elderly disabled beneficiaries are more likely to have lower income and difficulties accessing care than their elderly Medicare counterparts.[5]

Data on persons with disabilities are examined below in quality of care and access to care, including patient perceptions of inadequate access and need and utilization of care.

Quality of Care

In general, MCBS findings indicate the presence of racial/ethnic and socioeconomic disparities in quality of health care among disabled persons. Among the disabled elderly, the percent of persons who report problems with quality of care is higher among APIs (11%) compared with whites (4%) and among persons in poor households (6%) compared with persons in high income households (3%). Small sample sizes preclude assessment of disparities in quality of health care among the disabled non-elderly.

Access to Care

In general, data indicate the presence of racial, ethnic, and socioeconomic disparities in access to health care among disabled persons. For example, among the disabled elderly, the percent of persons with a problem getting to the doctor from home is higher among Hispanics (16%), compared with non-Hispanic whites (7%). In addition, there is an income gradient with this measure of physical access to a doctor: persons in poor (11%), near poor (9%), and middle income (7%) households experience more difficulty than persons in high income households (4%) (MCBS, 1999).

Among the disabled, blacks (12%) and Hispanics (12%) are less likely to report delayed care due to cost compared with whites (20%) and non-Hispanic whites (21%), respectively (MCBS, 1999).

Persons Who Utilize Long-Term Care

Background

Long-term care is the provision of personal, social, and medical services to persons who have functional or cognitive limitations in their ability to perform self-care and other activities necessary to live independently. It includes the provision of services at home, in the community, and in special facilities. As the number of elderly Americans increases from 35 million in 2000 to an estimated 71 million in 2030,[64] long-term care is expected to increase.

Long-term care includes home health care that is available for those who can be managed at home. In 1996, about 12,000 home health care agencies provided care and 7.8 million persons completed episodes of care. About two-thirds of home health care discharges are elderly.[65]

For those with serious disabilities requiring 24-hour care and needs that can often be better met in a special facility, nursing homes are an option. In 1999, there were 1.6 million nursing home residents residing in 18,000 nursing homes.[66] Just over half of nursing home residents are age 85 and over. Activities of daily living measure a person's ability to perform six basic self-care tasks: bathing, dressing, eating, transferring from a bed to a chair, toileting, and walking. On average, residents need help with 4.4 activities of daily living. Nursing home care costs $56,000 per year, and expenditures totaled almost $80 billion in 1998, about half of which were paid by Medicaid and Medicare. About 70% of nursing home residents are supported in part by Medicaid.[67]

In recent years, use of home health care and of nursing home care has declined. However, because growth in the elderly population has outpaced growth in the supply of nursing home beds, nursing homes are caring for older patients with more functional limitations.[68][69]

Racial, ethnic, and socioeconomic disparities in nursing home care have been documented.[70] Differences in the management of pain[71] and the receipt of rehabilitative services[72] among nursing home residents have been demonstrated.

Quality of Care

Disparities in quality of long-term care are present. Two types of care are examined: immunization of nursing home residents, which reflects medical care received by nursing home residents, and quality of nursing home care.

Immunization

Data on immunization of nursing home residents from the NNHS are sparse, allowing only comparison of blacks with whites. Significant disparities in influenza vaccination are not observed, but disparities in pneumococcal vaccination among some nursing home residents are present. Specifically receipt of influenza vaccination is significantly lower among black women (21%) compared with white women (36%) as well as lower among blacks than whites in two ages groups: 29% of blacks vs. 39% of whites ages 75 to 84 and 32% of blacks vs. 41% of whites ages 85 and over (NNHS, 1999).

Quality of nursing home care

Again, disparities are noted, and racial and ethnic minorities have more favorable care on some measures and less favorable care on others. The percent of nursing home residents with pain is lower among non-Hispanic blacks (7%), Hispanics (7%), and APIs (5) compared with non-

Hispanic whites (10%). However, the percent of residents in physical restraints is higher among Hispanics (12%) and APIs (12%) compared with non-Hispanic whites (8%) (CMS's Nursing Home Resident Profile Table).

Access to Care

Due to sample size constraints, the NHDR uses only black-white comparisons for these measures. Among persons ages 65 and over, rates of home health care discharge and nursing home discharge did not differ significantly between blacks and whites. Similarly, among persons ages 18 to 64, rates of home health care discharge did not differ significantly between blacks and whites. However, among persons ages 18 to 64, rates of nursing home discharge are higher among blacks (22 per 10,000 population) compared with whites (16 per 10,000). In addition, when discharged from a nursing home, the percent of persons who were stabilized or recovered is lower among blacks (22%) than to whites (34%) (NHHCS, 2000).

Persons at the End of Life

Background

The quality of life and the quality of health care for individuals who are approaching the end of life is an integral and important part of the delivery of health care. As in other aspects of health care delivery, the social, cultural, and economic structure of the American health care system affects the experience of dying.   Nationally, only 25% of deaths occur at home, although more than 70% of Americans say that this is where they prefer to die. About half of all deaths in the United States occur in hospitals, but less than 60% of hospitals in any given State offer end-of-life services.[73] Evidence suggests persons living in wealthier areas are more likely to use hospice care.[74]

The Institute of Medicine's 1997 *Approaching Death* report emphasized that a significant number of people experience needless suffering, fear, and distress at the end of life. Research has found that many Americans are concerned that: (1) caregivers will overtreat, thereby protracting death by providing clinically inappropriate or care unwanted by the patient; (2) caregivers will underuse effective treatments to relieve pain or other physical or psychological symptoms; and (3) the quality of end-of-life care will not involve adequate pain and symptom management[75] and lack access to supportive care.

End-of-life care includes the period of time during which an individual experiences declining health from an ultimately terminal illness or condition. For many, this period of time should include palliative care which focuses on addressing the control of pain and other symptoms (e.g., nausea, labored breathing, etc.), as well as psychological, social, and spiritual distress.

About one quarter of Medicare's dollars are spent on 5% of its beneficiaries in the last year of their life, half of which is spent in the last month of life.[76] Racial/ethnic disparities in Medicare expenditures in the last year of life have been documented.[77, 78] In addition, minority Medicare beneficiaries may be more likely to die suddenly with little or no interaction with the health care system before dying.[79]

While more research is needed to understand disparities in end-of-life care associated with age, gender, or income, access to appropriate end-of-life care with effective provider relationships continues to be of great concern. Today we are challenged by the affects of constraints within the health care system on patients, providers and institutions, and the need to address racial/ethnic disparities in end-of-life care, including palliative care.[80]

Quality of Care

At the end of life, disparities in quality of health care are still present. Two measures of quality of palliative care for cancer were examined: (1) percent of people who died of cancer who received hospice care and (2) median length of stay for cancer patients who received hospice

care. Low use of hospice and short lengths of stay in hospice among cancer patients would suggest suboptimal palliative care.

Data limitations only allow for black-white comparisons. While median lengths of stay for cancer patients in hospice were similar between blacks and whites, the percent of cancer patients who used hospice care prior to death was lower among elderly blacks (32%) than elderly whites (52%) (NNHS, 1999).

Access to Care

Mean Medicare expenditures in the last year of life were higher among blacks ($31,759) compared with whites ($23,980). Since information on patient income or education is not available from this source, mean expenditures of Medicare beneficiaries who have both Medicare and Medicaid coverage (dual eligibles) was compared with all other Medicare beneficiaries as a crude proxy of socioeconomic position. Mean expenditures of dual eligibles are not significantly different from mean expenditures of other Medicare beneficiaries. These findings persist after stratification by age, gender, and comorbidities.

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Chapter 6. Conclusions

Equity in health care is an important national goal, both because it fulfills our commitment to equality of opportunity for all and because it can improve the overall health of all Americans. Although the United States spends more on health care per capita than any industrialized nation, some health indicators remain lower than we would like. Multiple studies conducted over the past two decades have documented that differences in health care related to race, ethnicity, and socioeconomic status exist in the United States. This report assesses the extent of these differences from a national perspective and examines the capacity of current datasets to measure and monitor differences across the country.

Key Findings

The NHDR presents seven key findings to policymakers, clinicians, health system administrators, and community leaders who seek to use this information to improve health care services for all populations:

1) Inequality in quality exists
2) Disparities come at a personal and societal price
3) Differential access may lead to disparities in quality
4) Opportunities to provide preventive care are frequently missed
5) Knowledge of why disparities exist is limited
6) Improvement is possible
7) Data limitations hinder targeted improvement efforts

Inequality in quality exists

This report presents the most comprehensive national picture confirms that there is significant inequality in quality in the United States. Although selected research studies have documented disparities in health care services, these examinations were often limited to specific populations with specific conditions. By using nationally available data sets, a national view on health care disparities is provided.

This first report clearly demonstrates that racial, ethnic, and socioeconomic disparities are national problems that affect health care at all points in the process, at all sites of care, and for all medical conditions—in fact, disparities in the health care system are pervasive. Our conclusions bring us closer to understanding why, where, and how disparities occur—essential knowledge for devising and targeting programs to eliminate these inequities.

While disparities in health care potentially affect all Americans and individuals of any population group, they are not uniformly distributed across populations. We are only

beginning to understand the magnitude of differential burden of illness in populations with special health care needs, such as minority children and poor patients with disabling chronic illnesses. Geography can play an important mitigating role in health care disparities. Remote rural populations, for example, are clearly at risk for having worse access and receiving poorer quality care.

Examples from the NHDR:

- Minorities are more likely to be diagnosed with late-stage breast cancer and colorectal cancer compared with whites.
- Patients of lower socioeconomic position are less likely to receive recommended diabetic services and more likely to be hospitalized for diabetes and its complications.
- When hospitalized for acute myocardial infarction, Hispanics are less likely to receive optimal care.
- Many racial and ethnic minorities and persons of lower socioeconomic position are more likely to die from HIV disease. Minorities also account for a disproportionate share of new AIDS cases.
- The use of physical restraints in nursing homes is higher among Hispanics and Asian/Pacific Islanders than among non-Hispanic whites.
- Blacks and poorer patients have higher rates of avoidable admissions.

Disparities come at a personal and societal price

Health care disparities are costly. Poorly managed care or missed diagnoses result in expensive and avoidable complications. As discussed in *Unequal Treatment:* "to the extent that minority beneficiaries of publicly funded health programs are less likely to receive high quality care, these beneficiaries—as well as the taxpayers that support public health care programs—may face higher future health care costs."[1] The personal cost of disparities can lead to significant morbidity, disability, and lost productivity at the individual level. At the societal level, distal costs follow from proximal opportunities that were missed to intervene and reduce burden of illness. For example, end-stage renal disease may result from longstanding, poorly controlled diabetes. The highly morbid and highly costly condition could potentially be avoided with access to indicated services and effective management of diabetes.

Examples from the NHDR:

- Without screening, cancers may not be detected until they grow large or metastasize to distant sites and cause symptoms. Such late-stage cancers are usually associated with more limited treatment options and poorer survival. Minorities and persons of lower socioeconomic status are less likely to receive cancer screening services and more likely to have late-stage cancer when the disease is diagnosed.

- Persons of lower socioeconomic position who have diabetes are less likely to receive recommended diabetic services and more likely to be hospitalized for diabetes and its complications.
- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive recommended immunizations for influenza and pneumococcus. Once hospitalized, some ethnic and racial minorities, as well as lower income patients, suffer worse quality of care for pneumonia. These differential rates of vaccination and hospitalization present opportunities for provider-based and community-based interventions to reduce disparities.

Differential access may lead to disparities in quality

Access to health care is an important prerequisite to obtaining quality care. Some access barriers, whether perceived or actual, can result in adverse health outcomes. Patients may perceive barriers to delay seeking needed care, resulting in presentation of illness at a later, less treatable stage of illness. For example, a usual source of care can serve as a navigator to the health care system and an advocate to obtain needed evidence-based preventive and health care services. Of the major measures of access, the lack of health insurance has significant consequences. Avoidable hospitalizations are a good example of the link between access and disparities in quality of care. These hospitalizations may reflect, in part, the adequacy of primary care. When health care needs are not met by the primary health care system, rates of avoidable admissions may rise. In contrast, perceived problems with specialty referral do not have clear clinical consequences.

Examples from the NHDR:

- Many racial and ethnic minorities and individuals of lower socioeconomic status are less likely to have a usual source of care.
- Hispanics and people of lower socioeconomic status are more likely to report unmet health care needs
- While most of the population has health insurance, racial and ethnic minorities are less likely to report health insurance compared with whites. Lower income persons are also less likely to report insurance compared with higher income persons.
- Higher rates of avoidable admissions by blacks and persons of lower socioeconomic position may be explained, in part, by lower receipt of routine care by these populations.

Opportunities to provide preventive care are frequently missed

Our health care system continues to emphasize care that occurs after an illness occurs, rather than preventive services that could potentially prevent the illness or reduce the burden of disease. The NHQR documents that this is a pervasive issue for all Americans; the NHDR illustrates that there are significant disparities in the use of evidence-based preventive services for certain populations. For example, while smoking remains the

single most preventable cause of mortality, rates of smoking cessation counseling during hospitalizatio n are only 40%. For blacks, this rate of smoking cessation counseling is only 29%. Given the significant impact on morbidity, mortality, outcomes, and costs of care, efforts to target preventive services to populations most at risk would be a critical aspect of an improvement strategy to decrease disparities.

Examples from the NHDR:

- Blacks and persons of lower socioeconomic status tend to have higher rates of death from cancer. Although cancer death rates may reflect a variety of factors not associated with health care (such as genetic disposition, diet, and lifestyle), screening and early treatment of cancers can lead to reductions in mortality.
- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive screening and treatment for cardiac risk factors. The combination of lower screening and effective treatment of risk factors, such as smoking among the uninsured, lend themselves to quality improvement initiatives that can potentially reduce heart disease disparities among populations at risk.
- Many racial and ethnic minorities and persons of lower socioeconomic position are less likely to receive childhood immunizations.
- Many racial and ethnic minorities and individuals of lower socioeconomic status are less likely to receive recommended immunizations for influenza and pneumococcal disease.

Knowledge of why disparities exist is limited

There are complicated interrelationships between race, ethnicity, and socioeconomic status that may result in health care disparities. Although we may have sufficient data about disparities by race and ethnicity, it is difficult to tease out the individual contributions of race, income, or education to these differences. For example, we found significantly lower rates of smoking cessation offered to minority patients. However, we cannot determine how much these differences are affected by different levels of patient income, education, or types of insurance. While the relationships between these factors may seem theoretical, a better understanding of the underlying factors that result in disparities could better target improvement efforts aimed at reducing disparities. Further research may help to sort out these issues for future reports.

The NHDR cannot tell us what factors are causally related to health care disparities, although it does identify factors that may be related to disparities.

Examples from the NHDR:

- Many racial and ethnic groups, as well as poor and less educated patients, are more likely to have report poor communication with their physicians.

- Many racial and ethnic minorities and poor patients report more problems with some aspects of the patient-provider relationships.
.
- Asians, Hispanics, and those of lower socioeconomic status have greater difficulty accessing health care information, including information on prescription drugs.

Improvement is possible

Although this report offers a sobering view of health care disparities, there are some positive findings which suggest that targeted improvement efforts could significantly reduce health care disparities. The following notable exceptions demonstrate what is *possible* to achieve.

Examples from the NHDR:

- While blacks and poor patients are more likely to present with later stage cancers with higher death rates, black women have higher screening rates for cervical cancer and no evidence of later stage cervical cancer presentation. Alhough it is not possible to demonstrate a causal link, the significant investment in community-based cancer screening and outreach programs for cervical cancer may be responsible for the lack of disparity.

- Quality improvement efforts have resulted in demonstrable reductions in black-white differences in hemodialysis. A targeted intervention within a quality improvement culture may offer important lessons in disparity reduction.

- Black patients are more likely to receive blood pressure monitoring without any disparity in blood pressure management. A greater perceived risk for significant cardiovascular disease among blacks may result in appropriately increased screening rates and treatment for risk factors. Directed public education campaigns about cardiac risk factors and the importance of an actively involved patient may play an important role in the lower observed rate of cardiac disparities among blacks.

When detailed data are available at the most actionable level, such as population subgroups, the efficiency of quality improvement efforts can be enhanced. For example, the subpopulation data from the California Health Interview Survey would allow more targeted prevention efforts directed at Asians over age 50 in need of colorectal cancer screening. The information on language spoken at home provides a far more precise target population—Asians who do not speak English were 20% less likely to undergo colorectal cancer screening than their English-speaking Asian counterparts. The NHDR can also serve to identify the best "performers," help others learn from their experiences, and disseminate the lessons learned to other communities. Community-based

participatory research has numerous examples of communities working to improve quality overall, while reducing health care disparities for vulnerable populations.

Data limitations hinder targeted improvement efforts

Gaps in national data exist. National data currently being collected are useful for examining many racial, ethnic and socioeconomic disparities in U.S. health care. However, large gaps in the data required for a complete study of disparities were noted. For analyses of disparities related to racial/ethnic groups, data limitations were found to usually related to sample sizes.

Examples from the NHDR:

- Data are often adequate to assess the health care of whites, blacks, Hispanics, and Asians but are rarely adequate for the study of American Indians or Alaska Natives (AI/AN) and almost never adequate for the study of Native Hawaiians or Other Pacific Islanders (NHOPI). The majority of smaller racial/ethnic priority populations cannot be assessed, especially with regard to the care received for specific health conditions.
- These disparities in data are exacerbated when the general population is subdivided to examine disparities among priority populations and become severe for many studies of children, the elderly, and rural populations.
- Data limitations for the study of socioeconomic groups usually relate to the lack of relevant information included in many health care provider databases.

Current Efforts To Improve Data Quality

More data would improve understanding of disparities

Much is still unknown about disparities in U.S. health care. As noted above, because of data limitations, relatively little is known about disparities among many populations such as AI/ANs and NHOPIs. Studies have just begun to explore disparities among individuals with special health care needs—such as the disabled, persons receiving chronic care, and persons at the end of life. In addition, possible disparities in the care provided for many medical conditions have yet to be addressed.

As Federal data continue to improve, the ability to study different aspects of disparity will increase. For example, the expansion of questions related to barriers to health care and delays in care and the addition of questions related to cultural competency in the Medical Expenditure Panel Survey starting in 2002 are expected to greatly improve the ability to study disparities in these areas. The increase in sample size of over 50% between 2000 and 2002 and the addition of oversamples of Asians and of low income populations in 2002 will also greatly facilitate disparities research using MEPS.

In addition, new Federal data collections will help fill some data gaps. For example, the recently completed National Survey of Children with Special Health Care Needs will provide a unique opportunity to examine disparities in health care among this otherwise difficult-to-study population.

Although health care disparities are a national problem, they vary from place to place; and solutions will likely be developed at the local as well as the national level. Currently, however, relatively little information is available about disparities in health care in many States and localities. The measurement tools developed for the first NHDR (as well as in future iterations of the report) will be made widely available in hopes that it can help States and localities measure and understand disparities at the local level.

Better methods would improve understanding of disparities

A variety of methodological issues also limit understanding of disparities in health care. For example, this first NHDR focuses on measures that have been developed for, and used to study, access and quality of health care in the general U.S. population. However, priority subpopulations—i.e., women, children, the elderly, each racial and ethnic minority, low income persons, rural populations, and individuals with special health care needs—often have different health care priorities and different needs for services. Measures that capture the unique needs of specific priority populations are required for a fuller understanding of disparities faced by each group.

In this first NHDR, income and education level were used in this study as primary measures of socioeconomic position. It is unknown if other dimensions of socioeconomic position might be more relevant to disparities in health care, especially in terms of access and quality of services. Are different dimensions relevant for different aspects of health care? If so, can they be measured? And should they be measured individually or as a composite measure?

Data and measurement issues also limit the examination of disparities in health care as they relate to the urban-rural continuum. Most Federal data collections are able to distinguish MSA from non-MSA counties, and these two categories form the basis for the geographic analyses presented in this report. However, it is well known that these two categories do not capture well the heterogeneity that exists along the urban-rural continuum. As a result, disparities being experienced by residents of inner cities and very rural areas could not be adequately addressed.

It is hoped that future NHDRs will benefit from continuing methodological innovation in each of these areas. Such innovations will help to focus investigation of the most pressing disparities issues and allow a better understanding of disparities with reduced data collection needs.

Conclusions

Knowledge of why disparities exist and how they can be eliminated is limited

Perhaps the most important limitation of this first NHDR is the scarcity of information about why disparities in health care exist. Causes of disparities are likely to be multifactorial, complex, and specific to each priority population and type of health care. While DHHS continues to support research aimed at identifying the root causes of disparities, much remains to be known. Optimal interventions to eliminate disparities cannot be developed without knowledge of the causal factors.

How such interventions should relate to quality improvement activities is also relatively unstudied. With some notable exceptions such as the HRSA Health Disparity Collaboratives, interventions to reduce disparities and to improve quality are often conducted separately. Additional research is needed to understand how efforts to reduce disparities and improve quality can best be coordinated.

Future NHDRs

This report, the first NHDR, could not address all the issues important to the elimination of health care disparities. Future reports will build upon this initial effort and will seek to fill in gaps as they are identified.

Progress will be tracked

The first NHDR is cross-sectional and provides a snapshot of disparities in the United States at a point in time. While some longitudinal data were gathered, these generally were insufficient to examine trends over time. Future NHDRs will build upon this baseline to identify trends and mark the progress of the Nation towards the elimination of health care disparities. In addition, future NHDRs will seek to communicate innovations in measuring, understanding, and intervening to eliminate disparities as these are developed.

Measures of disparity will be refined

The first set of NHDR measurement tools has limitations. The measure set on the first NHDR is long, and similar concepts are sometimes duplicated by different data sources. In addition, it is generally restricted to common measures that were developed to assess access to care and quality of care in the general population. Many health care needs and services specific to particular populations are not addressed.

Future NHDRs will build upon the first NHDR measurement tools. Data assembled for the first NHDR, which encompass a broad range of measures, will enable an informed review of these measures. It is anticipated that the number of measures that are useful for tracking disparities in the general population will be reduced significantly. In addition, measures specific to particular priority populations will be developed and incorporated into the measure set.

Methods for assessing disparities will be improved

Identified methodological limitations for studying disparities include problems measuring socioeconomic position and rurality. Future NHDRs will incorporate refined measures of socioeconomic position and rurality as these are developed.

Knowledge of why disparities exist and how they can be eliminated will be emphasized

Using this report as a baseline, future NHDRs will be able to report on best practices and innovations for reducing disparities in health care. In addition, effective ways of coordinating efforts to eliminate disparity and to improve quality will be presented. The continuing simultaneous release of the NHDR and the NHQR should serve to reinforce the important linkages between disparities and quality and facilitate the study of solutions that effectively address both issues.

The journey to high quality and equitable health care will be long and challenging. It will be marked by small but continuous improvements. At its end lies the promise of better health and well being for all Americans. The first NHDR and the first NHQR are small but significant steps on this journey. Future reports will mark the progress of the Nation towards a better health care system for all.

Reference

[1] Institute of Medicine, Board of Health Sciences Policy, Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Unequal treatment: Confronting racial and ethnic disparities in Health Care. Washington DC: Institute of Medicine; 2003.

Acronyms and Abbreviations

AARP	Former acronym of American Association of Retired Persons
ACE	Angiotensin-converting enzyme
ACF	Administration for Children and Families (DHHS)
ADD	Attention deficit disorder
ADLs	Activities of daily living
AHCPR	Agency for Health Care Policy and Research (former name of AHRQ/DHHS)
AHRQ	Agency for Healthcare Research and Quality (DHHS)
AHSRHP	Academy for Health Services Research and Health Policy
AI/AN	American Indian/Alaska Native
AIDS	Acquired immune deficiency syndrome
AMI	Acute myocardial infarction
AoA	Administration on Aging (DHHS)
API	Asian or Pacific Islander
CABG	Coronary artery bypass graft
CAHMI	Child and Adolescent Health Measurement Initiatives
CDC	Centers for Disease Control and Prevention (NIH/DHHS)
CHEF	Catastrophic Health Emergency Funds
CHIS	California Health Interview Survey
CHS	Contract Health Services
CMS	Centers for Medicare & Medicaid Services (DHHS)
COPD	Chronic obstructive pulmonary disease
CPMP	Clinical Performance Measures Project (CMS/DHHS)
CPSS	Client/Patient Survey Sample (SAMHSA/DHHS)
CSHCN	Children with special health care needs
DHHS	U.S. Department of Health and Human Services
DRG	Diagnosis related group
DSU	Data do not meet the criteria for statistical reliability, data quality, or confidentiality.
ED	Emergency department
ESRD	End-stage renal disease
FACCT	Foundation for Accountability
FDA	Food and Drug Administration (DHHS)
FDI	Federal Disparity Index
FEHBP	Federal Employees Health Benefits Plan
FPL	Federal poverty level
FY	Fiscal year
HCUP	Healthcare Cost and Utilization Project (AHRQ/DHHS)
HEDIS®	Health Plan Employer Data and Information Set (National Committee for Quality Assurance)
Hib	*Haemophilus influenzae* type B
HIV	Human immunodeficiency virus
HIVRN	HIV Research Network
HMO	Health maintenance organization

Acronyms and Abbreviations

HPSA	Health Professional Shortage Area
HRSA	Health Resources and Services Administration (DHHS)
HS	High school
IADLs	Instrumental activities of daily living
IHS	Indian Health Service (DHHS)
IOM	Institute of Medicine (National Academies)
JAMA	*Journal of the American Medical Association*
LEP	Limited English proficiency
MCBS	Medicare Current Beneficiary Survey (CMS/DHHS)
MCHB	Maternal and Child Health Bureau (HRSA/DHHS)
MCHBG	Maternal and Child Health Block Grant/Title V (CMS/DHHS)
MEPS	Medical Expenditure Panel Survey (AHRQ)
MMWR	*Morbidity and Mortality Weekly Report* (CDC/DHHS)
MQIO	Medicare Quality Improvement Organization
MRI	Magnetic resonance imaging
MSA	Metropolitan Statistical Area
NAMCS	National Ambulatory Medical Care Survey (NCHS/DHHS)
NCHS	National Center for Health Statistics (CDC/DHHS)
NHAMCS	National Hospital Ambulatory Medical Care Survey (NCHS/DHHS)
NHAMCS-ED	National Hospital Ambulatory Medical Care Survey-Emergency Department
NHAMCS-OPD	National Hospital Ambulatory Medical Care Survey-Outpatient Department
NHANES	National Health and Nutrition Examination Survey (NCHS/DHHS)
NHB	Non-Hispanic black
NHDR	*National Healthcare Disparities Report*
NHDS	National Hospital Discharge Survey (NCHS/DHHS)
NHHCS	National Home and Hospice Care Survey (NCHS/DHHS)
NHIS	National Health Interview Survey (NCHS)
NHOPI	Native Hawaiian or Other Pacific Islander
NHQR	*National Healthcare Quality Report*
NHRPT	Nursing Home Resident Profile Table (CMS/DHHS)
NHSDA	National Household Survey on Drug Abuse (SAMHSA/DHHS)
NHW	Non-Hispanic white
NIDDM	Non-insulin-dependent diabetes mellitus
NIH	National Institutes of Health (DHHS)
NIS	National Immunization Survey (NCHS)
NNHS	National Nursing Home Survey (NCHS/DHHS)
NQF	National Quality Forum
NVSS	National Vital Statistics System (NCHS/DHHS)
NVSS-M	National Vital Statistics System-Mortality (NCHS/DHHS)
NVSS-N	National Vital Statistics System-Natality (CDC/DHHS)
OECD	Organisation for Economic Co-Operation and Development
OMB	Office of Management and Budget
ORHP	Office of Rural Health Policy (HRSA/DHHS)
PCP	*Pneumocystis carinii* pneumonia
PSIs	Patient Safety Indicators

PTCA	Percutaneous transluminal coronary angioplasty
RPT	Resident Profile Table
RWHC	Rural Wisconsin Health Cooperatives
SAMHSA	Substance Abuse and Mental Health Services Administration
SCHIP	State Children's Health Insurance Program (CMS/DHHS)
SEER	Surveillance, Epidemiology, and End Results program
SES	Socioeconomic status
SI	Screener instrument
SID	State Inpatient Databases (HCUP/AHRQ)
SSA	Social Security Administration
TB	Tuberculosis
TBSS	Tuberculosis Surveillance System (CDC/DHHS)
TRIPP-II	Translating Research into Practice and Policy II
UNAIDS	United Nations Programme on HIV/AIDS
UNICEF	United Nations Children"s Fund
USRDS	United States Renal Data System (NIH/DHHS)

Other Surveys

Health Care Quality Survey (The Commonwealth Fund)
HIV/AIDS Surveillance System (CDC/DHHS)
Quality Indicators Program
Access to Care Survey (Robert Wood Johnson Foundation)
National TB Surveillance System (CDC/DHHS)