

Highlights From the National Healthcare Quality and Disparities Reports

Health care seeks to prevent, diagnose, and treat disease and to improve the physical and mental well-being of all Americans. Across the lifespan, health care helps people stay healthy, recover from illness, live with chronic disease or disability, and cope with death and dying. Quality health care delivers these services in ways that are safe, timely, patient centered, efficient, and equitable.

Unfortunately, Americans too often do not receive care that they need, or they receive care that causes harm. Care can be delivered too late or without full consideration of a patient's preferences and values. Many times, our system of health care distributes services inefficiently and unevenly across populations. Some Americans receive worse care than other Americans. These disparities may be due to differences in access to care, provider biases, poor provider-patient communication, and poor health literacy.

Each year since 2003, the Agency for Healthcare Research and Quality (AHRQ) has reported on progress and opportunities for improving health care quality and reducing health care disparities. Guided by a subcommittee of AHRQ's National Advisory Council and a Department of Health and Human Services (HHS) Interagency Work Group,ⁱ past reports were built on more than 250 measures categorized across six dimensions: effectiveness, patient safety, timeliness, patient centeredness, efficiency, and access to care. As mandated by the U.S. Congress, the National Healthcare Quality Report (NHQR) focuses on "national trends in the quality of health care provided to the American people" (42 U.S.C. 299b-2(b)(2)) while the National Healthcare Disparities Report (NHDR) focuses on "prevailing disparities in health care delivery as it relates to racial factors and socioeconomic factors in priority populations" (42 U.S.C. 299a-1(a)(6)).

The 2010 reports and this summary incorporate a number of recommendations made by the Institute of Medicine (IOM). The IOM first provided guidance to AHRQ on the NHQR and NHDR in 2002. In 2008, AHRQ again asked the IOM to offer suggestions for enhancing future reports and associated products to ensure that these reports raise awareness of the performance of the U.S. health care system. In April 2010, AHRQ received advice from the IOM Committee on Future Directions for the National Healthcare Quality and Disparities Reports.ⁱⁱ

In the past, separate Highlights were produced for each report. This year, we have integrated findings from the 2010 NHQR and 2010 NHDR to produce a single summary document. This is intended to reinforce the need to consider simultaneously the quality of health care and disparities across populations when assessing our health care system. The National Healthcare Reports Highlights seeks to address three questions critical to guiding Americans toward the optimal health care they need and deserve:

- What is the status of health care quality and disparities in the United States?
- How have health care quality and disparities changed over time?
- Where is the need to improve health care quality and reduce disparities greatest?

ⁱ The HHS Interagency Work Group represents 18 HHS agencies and offices.

ⁱⁱ The full report of this committee's recommendations can be found at www.ahrq.gov/research/iomqrdreport.

Highlights

Consistent with past reports, the 2010 reports emphasize one of AHRQ's priority populations as a theme. This year, we present expanded analyses of care across the urban-rural continuum, and the National Healthcare Reports Highlights includes a summary of care received by residents of different types of geographic areas. Finally, this document summarizes information on eight national priorities identified by the IOM Committee and presents novel strategies for improving quality and reducing disparities from AHRQ's Health Care Innovations Exchange (HCIE).

Four themes from the 2010 NHQR and 2010 NHDR emphasize the need to accelerate progress if the Nation is to achieve higher quality and more equitable health care in the near future.

- Health care quality and access are suboptimal, especially for minority and low-income groups.
- Quality is improving; access and disparities are not improving.
- Urgent attention is warranted to ensure improvements in quality and progress on reducing disparities with respect to certain services, geographic areas, and populations, including:
 - Cancer screening and management of diabetes.
 - States in the central part of the country.
 - Residents of inner-city and rural areas.
 - Disparities in preventive services and access to care.
- Progress is uneven with respect to eight national priorities:
 - Two are improving in quality: (1) Palliative and End-of-Life Care and (2) Patient and Family Engagement.
 - Three are lagging: (3) Population Health, (4) Safety, and (5) Access.
 - Three require more data to assess: (6) Care Coordination, (7) Overuse, and (8) Health System Infrastructure.
 - All eight priority areas showed disparities related to race, ethnicity, and socioeconomic status.

Health Care Quality and Access Are Suboptimal, Especially for Minority and Low-Income Groups

A key function of the reports is to summarize the state of health care quality, access, and disparities for the Nation. This undertaking is difficult, as no single national health care database collects a comprehensive set of data elements that can produce national and State estimates for all population subgroups each year. Rather, data come from more than three dozen databases that provide estimates for different population subgroups and data years. While most data are gathered annually, some data are not collected regularly or are old. Despite the data limitations, our analyses indicate that health care quality in America is suboptimal. The gap between best possible care and that which is routinely delivered remains substantial across the Nation.

In the reports, measures are classified as either process measures or outcome measures. Process measures are further subdivided, when possible, into preventive care, acute treatment, and chronic disease management.

On average, people received the preventive services tracked in the reports two-thirds of the time. Moreover, wide variation was found in receipt of different types of preventive services. For instance, 20% of high-risk adults ages 18-64 ever received pneumococcal vaccination, but 94% of children ages 19-35 months received 3 doses of polio vaccine.

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On average, people received appropriate acute care services three-quarters of the time. Rates of receipt of acute care services ranged from a low of 8% among patients who needed and received treatment for an alcohol problem at a specialty facility to a high of 94% of hospitalized patients who indicated that communication with their doctors was good.

On average, patients received recommended chronic disease management services three-quarters of the time. Again, receipt of chronic disease management services varied widely, from 17% of dialysis patients being registered on a kidney transplant waiting list to 95% of hospice patients receiving the right amount of pain medication.

Access to care is also far from optimal. On average, Americans report barriers to care one-fifth of the time, ranging from 3% of people saying they were unable to get or had to delay getting prescription medications to 60% of people saying their usual provider did not have office hours on weekends or nights.

All Americans should have equal access to high-quality care. Instead, we find that racial and ethnic minorities and poor people often receive poorer quality of care and face more barriers when trying to access care. To assess disparities, we focus on a set of “core” measures,ⁱⁱⁱ which includes the most important and scientifically supported measures in the full reports measure set.

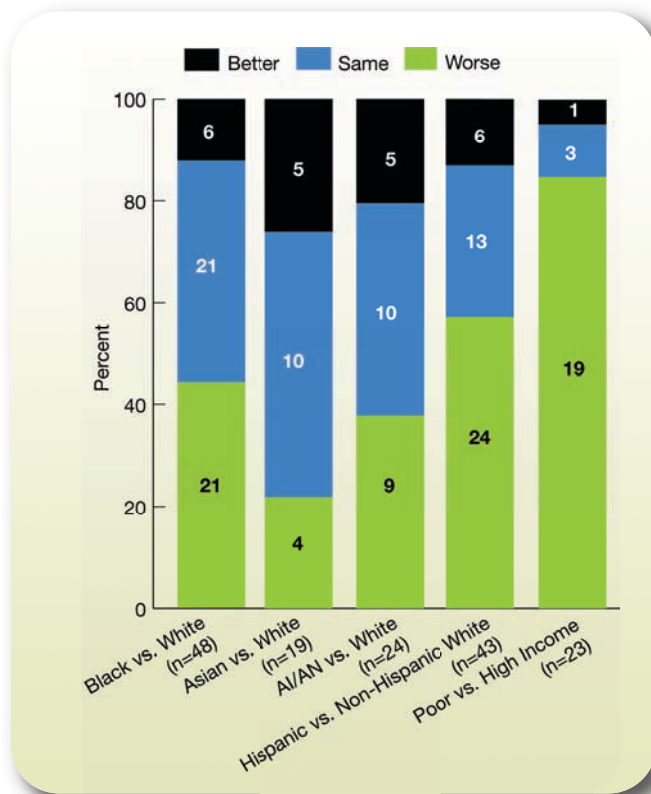
For each measure, we examine the relative difference between a selected group and its reference group. Differences that are statistically significant, are larger than 10%, and favor the reference group are labeled as indicating poor quality or access for the selected group. Differences that are statistically significant, are larger than 10%, and favor the selected group are labeled as indicating better quality or access for the selected group. Differences that are not statistically significant or are smaller than 10% are labeled as the same between the selected group and the reference group.



ⁱⁱⁱ A list of core measures can be found in the Introduction and Methods chapter. Analyses of disparities presented in these Highlights focus on core measures and are so labeled. Other analyses use the entire measure set.

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Figure H.1. Distribution of core quality measures for which members of selected groups experienced better, same, or worse quality of care compared with reference group



Key: AI/AN = American Indian or Alaska Native; NHW = non-Hispanic White; n = number of measures.

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

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

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

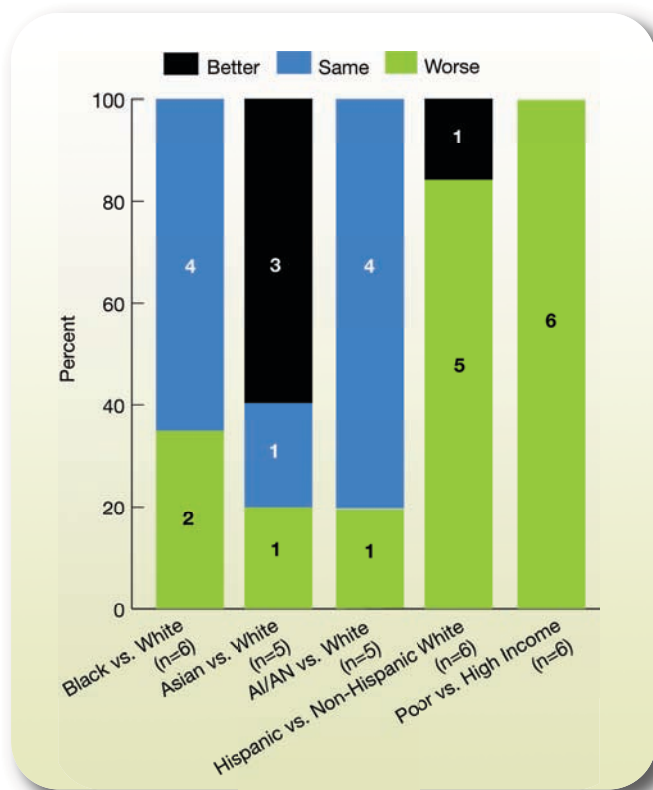
● Disparities in quality of care are common:

- Blacks and American Indians and Alaska Natives received worse care than Whites for about 40% of core measures.
- Asians received worse care than Whites for about 20% of core measures.
- Hispanics received worse care than non-Hispanic Whites for about 60% of core measures.
- Poor people received worse care than high-income people^{iv} for about 80% of core measures.

^{iv} Throughout these highlights and reports, unless otherwise specified, poor indicates individuals whose household income is below the Federal poverty level and high income indicates individuals whose household income is at least four times the Federal poverty level.

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



Key: AI/AN = American Indian or Alaska Native; NHW = non-Hispanic White; n = number of measures.

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

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

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

- **Disparities in access are also common, especially among Hispanics and poor people:**
 - Blacks had worse access to care than Whites for one-third of core measures.
 - Asians and American Indians and Alaska Natives had worse access to care than Whites for 1 of 5 core measures.
 - Hispanics had worse access to care than non-Hispanic Whites for 5 of 6 core measures.
 - Poor people had worse access to care than high-income people for all 6 core measures.

Quality Is Improving; Access and Disparities Are Not Improving

Suboptimal health care is undesirable, but we may be less concerned if we observe evidence of vigorous improvement. Hence, the second key function of the reports is to examine change over time. To track the progress of health care quality and access in this country, the reports present annual rates of change, which represent how quickly quality of and access to services delivered by the health care system are improving or

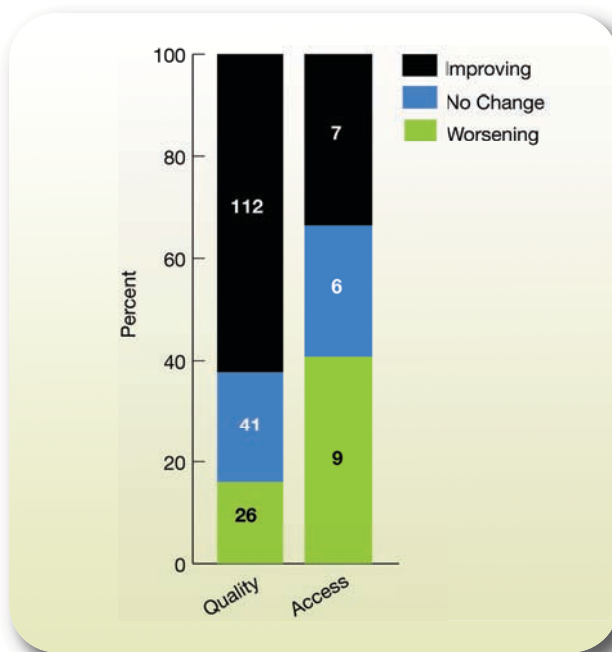
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declining. Another way to describe rate of change is the speed of improvement or decline in health care quality and access.

As in past NHQRs, regression analysis is used to estimate annual rate of change for each measure. Annual rate of change is calculated only for measures with at least 3 years of data. For most measures, trends include data points from 2001-2002 to 2007-2008. We label measures going in a favorable direction at a rate exceeding 1% per year as improving, going in an unfavorable direction at a rate exceeding 1% per year as worsening, and changing at a rate less than 1% per year as not changing.

This year, for the first time, we introduce a similar method for assessing change in disparities using regression results. When a selected group's rate of change is at least 1% higher than the reference group's rate of change, we label the disparity as improving. When a selected group's rate of change is at least 1% lower than the reference group's rate of change, we label the disparity as worsening. When the difference in rates is less than 1%, we label the disparity as no change.

Figure H.3. Change in quality and access over time



Improving = Quality or access is going in a positive direction at an average annual rate greater than 1% per year.

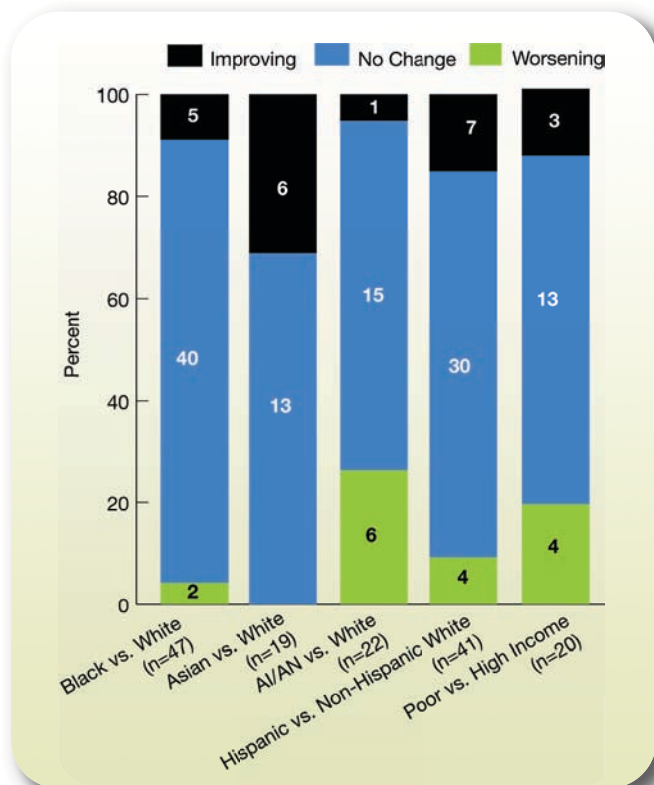
No Change = Quality or access is not changing or is changing at an average annual rate less than 1% per year.

Worsening = Quality or access is going in a negative direction at an average annual rate greater than 1% per year.

- **Quality is improving slowly.** Across all 179 measures of health care quality tracked in the reports, almost two-thirds showed improvement. However, median rate of change was only 2.3% per year.
- **Access is not improving.** Across the 22 measures of health care access tracked in the reports, about 70% did not show improvement and 40% were headed in the wrong direction. Median rate of change was -0.6% per year, indicating no change over time.

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Figure H.4. Distribution of changes over time in racial, ethnic, and socioeconomic disparities for core quality measures



Key: AI/AN = American Indian or Alaska Native; NHW = non-Hispanic White; n = number of measures.

Improving = Disparity is getting smaller at a rate greater than 1% per year.

No Change = Disparity is not changing or is changing at a rate less than 1% per year.

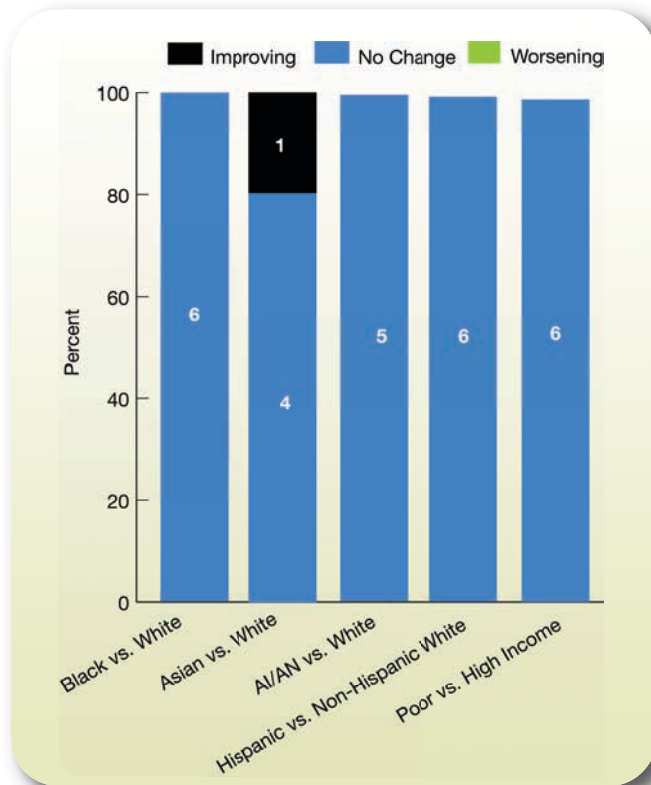
Worsening = Disparity is getting larger at a rate greater than 1% per year.

● **Few disparities in quality of care are getting smaller.**

- Fewer than 20% of disparities faced by Blacks, American Indians and Alaska Natives, Hispanics, and poor people showed evidence of narrowing.
- The Asian-White gap was narrowing for about 30% of core measures, the largest proportion of any group, but most disparities were not changing.

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Figure H.5. Distribution of changes over time in racial, ethnic, and socioeconomic disparities for core access measures



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

Improving = Disparity is getting smaller at a rate greater than 1% per year.

No Change = Disparity is not changing or is changing at a rate less than 1% per year.

Worsening = Disparity is getting larger at a rate greater than 1% per year.

- **Almost no disparities in access to care are getting smaller.**
 - Among disparities in core access measures, only one showed reduction.

Urgent Attention Is Warranted To Ensure Improvements in Quality and Progress on Reducing Disparities

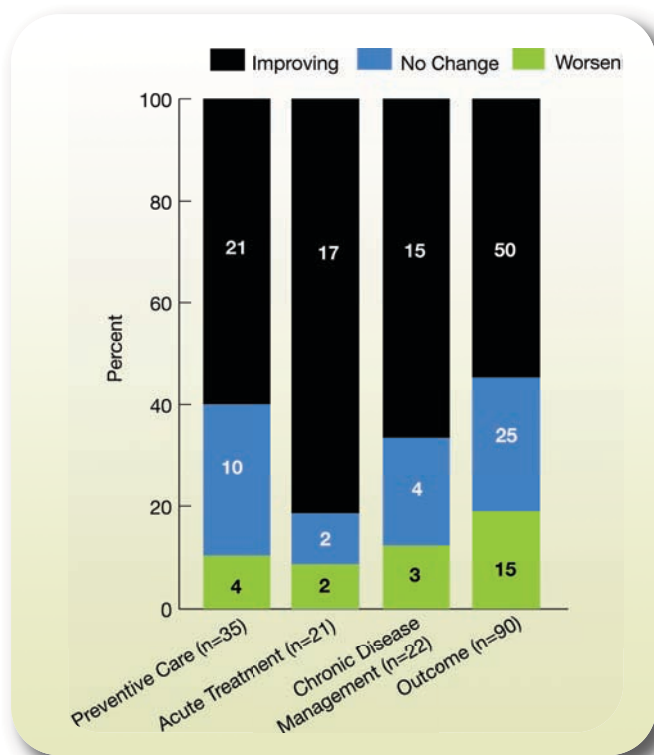
The third key function of the reports is to identify which areas are in greatest need of improvement. Potential problem areas can be defined in terms of types of services, parts of the country, and populations at risk.

Variation Across Types of Services

Pace of improvement varies across preventive services, acute treatment, and chronic disease management.

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Figure H.6. Change in quality over time by type of measure



Key: n = number of measures.

Improving = Quality is going in a positive direction at an average annual rate greater than 1% per year.

No Change = Quality is not changing or is changing at an average annual rate less than 1% per year.

Worsening = Quality is going in a negative direction at an average annual rate greater than 1% per year.

- **Measures of acute treatment are improving; measures of preventive care and chronic disease management are lagging.**
 - While both process and outcome measures are improving, rates of improvement are faster among processes of care. Median rate of improvement of process measures was 2.6% per year compared with 1.6% per year for outcome measures.
 - Among process measures, the highest rate of improvement was in measures related to treatment of acute illnesses or injuries. Of the 21 process of care measures related to acute treatment, about 80% showed improvement.
 - In contrast, of the 35 process measures related to preventive services, only 60% showed improvement. Of the 22 process measures related to chronic disease management, about 70% showed improvement. This may reflect the high proportion of hospital measures included in acute treatment, many of which are tracked by the Centers for Medicare & Medicaid Services and publicly reported.

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Table H1. Process measures getting worse over time

Preventive Care	Acute Treatment	Chronic Disease Management
Women age 40+ who received a mammogram in the last 2 years Women age 18+ who received a Pap smear in the last 3 years Adults age 50+ who received a fecal occult blood test in the last 2 years Children ages 19-35 months who received 3 doses of <i>Haemophilus influenzae</i> type B vaccine	Emergency department (ED) visits lasting 6+ hours and resulting in admission to the hospital or transfer to another facility per 1,000 ED visits	Adults age 40+ with diabetes who received a hemoglobin A1c measurement in the calendar year Adults age 40+ with diabetes who received a dilated eye examination in the calendar year Adults age 40+ with diabetes who had their feet checked for sores in the calendar year

- **Several measures related to cancer screening and management of patients with diabetes have worsened over time.**

Variation Across Parts of the Country

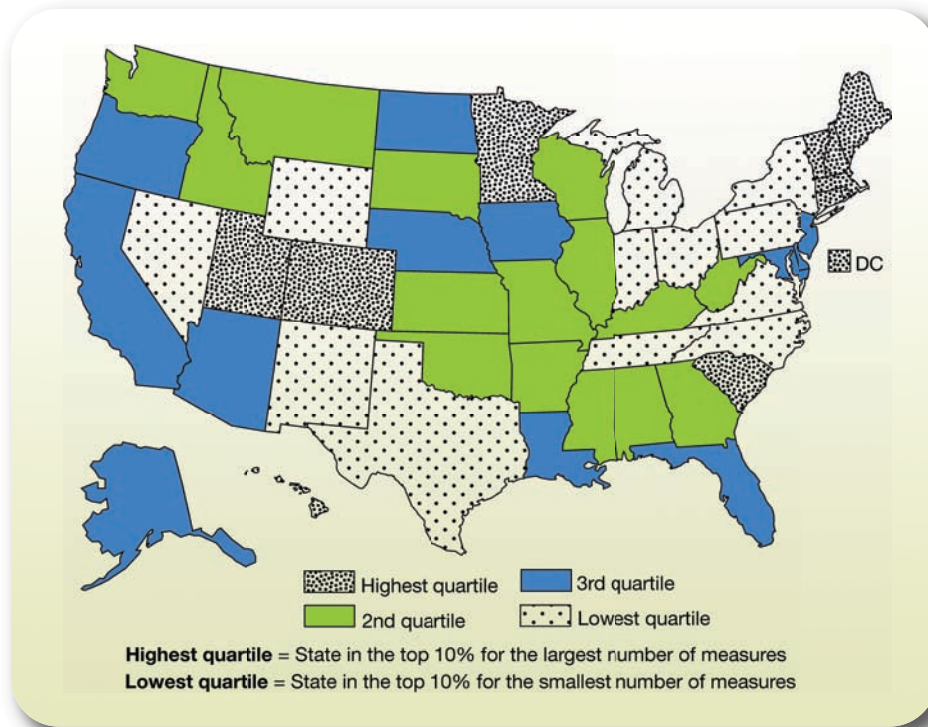
Quality of care varies not only across types of care but also across parts of the country. Knowing where to focus efforts improves the efficiency of interventions. Delivering data that can be used for local benchmarking and improvement is a key step in raising awareness and driving quality improvement. Since 2005, AHRQ has examined variation across States in the State Snapshots tool (<http://statesnapshots.ahrq.gov>). This Web site helps State health leaders, researchers, consumers, and others understand the status of health care quality in individual States and the District of Columbia. The State Snapshots are based on more than 100 NHQR measures, each of which evaluates a different aspect of health care performance and shows each State’s strengths and weaknesses.

The 2010 reports introduce a new method for examining variation across States and benchmarking quality of care. For measures with State data, we calculate the benchmark as the average for the top 10% of States; this average is referred to as the “achievable benchmark.” Achievable benchmarks are believed to be more actionable because they represent a level of performance that has been demonstrated in the real world. Here, we examine the frequency with which States perform in the top 10% of States and contribute to the achievable benchmark.

Data are not available for all States for all measures. Thus, States that have less health care data, either because it is not collected or because samples are too small to generate reliable estimates, have fewer opportunities to be in the top 10%. In addition, State data are more readily available from vital statistics and from hospitals, nursing homes, and home health agencies, while State data are much more limited for important topics such as quality of HIV or mental health care and care coordination. Policies that improve data collection at the State level would allow benchmarking across a broader array of measures. It is hoped that as health information technologies continue to expand, more information will become available for finer geographic units as well as for more granular subpopulations.

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Figure H.7. Number of measures for which a State was in the top 10% by quartile



- **Two parts of the country led in performance.** While every State was in the top 10% for some measure and was part of a benchmark, States in the New England (CT, MA, ME, NH, RI, VT) and Pacific (AK, CA, HI, OR, WA) census divisions were benchmark States most often and States in the East North Central (IL, IN, MI, OH, WI), East South Central (AL, KY, MS, TN), and West South Central (AR, LA, OK, TX) divisions were benchmark States less often.

Table H2. States most often contributing to the top 10%

Preventive Care	Acute Treatment	Chronic Disease Management	Outcome
Delaware	Maine	Hawaii	Arizona
Massachusetts	New Hampshire	Minnesota	District of Columbia
New Hampshire	New Jersey	New Hampshire	Hawaii
	Vermont	South Carolina	Utah

- New England did best on preventive care and acute treatment; western States did best on outcomes of care.

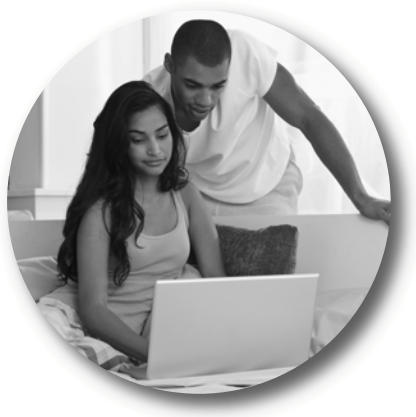
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Variation Across Populations at Risk

Previous reports have emphasized one of AHRQ's priority populations as a theme. This year, we present expanded analyses of care across the urban-rural continuum. AHRQ is charged with examining the care received by residents of inner-city and rural areas. People who live in these areas often face unique barriers to care related to provider availability and transportation. As in past reports, we have categorized areas into the following urban-rural categories:

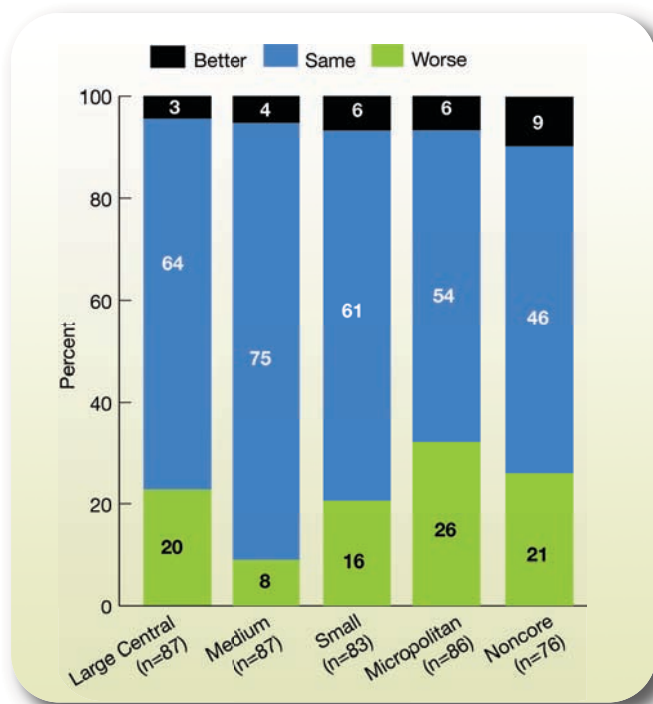
- Large central metropolitan statistical area (MSA): Central counties (inner city) in metropolitan area of 1 million+ inhabitants.
- Large fringe MSA: Outlying counties (suburbs) in metropolitan area of 1 million+ inhabitants.
- Medium MSA: Counties in metropolitan area of 250,000 to 1,000,000 inhabitants.
- Small MSA: Counties in metropolitan area of 50,000 to 250,000 inhabitants.
- Micropolitan statistical area: Counties with an urban cluster of 10,000 to 50,000 inhabitants.
- Noncore statistical area: Counties outside of metropolitan or micropolitan areas.

For comparisons across areas, residents of large fringe MSAs (large city suburbs) are used as the reference group since these counties have the lowest levels of poverty and typically have the best quality and access to health care.



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Figure H.8. Distribution of quality measures for which residents of specific areas experienced better, same, or worse quality of care compared with residents of large fringe metropolitan areas



Key: n = number of measures.

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

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

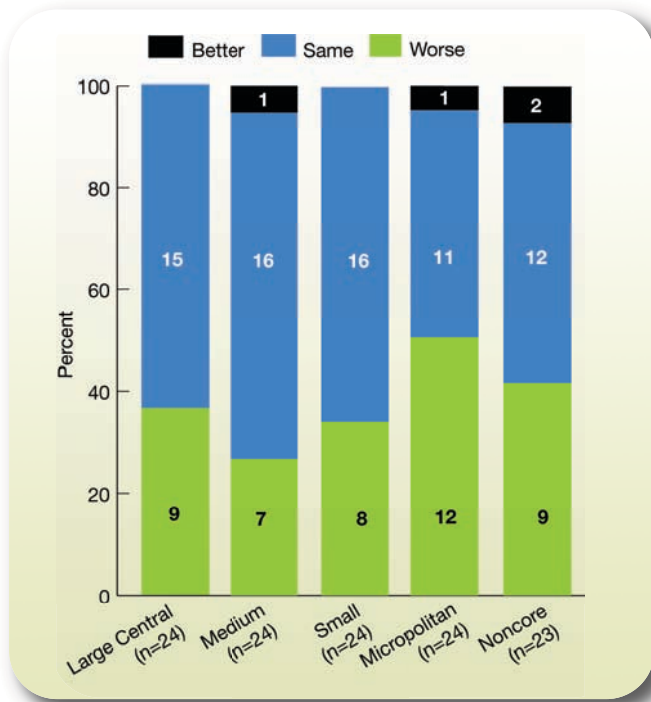
Worse = Population received worse quality of care than reference group.

Note: Number of measures varies for each group because for some measures, data for some groups were not available.

- **Residents of the inner-city and rural areas sometimes receive worse quality of care.** For most measures of quality of health care, differences across the urban-rural continuum were small. However, some disparities are noted. Compared with residents of large city suburbs, residents of large inner cities received worse care for about a quarter of quality measures tracked in the reports. Residents of micropolitan and noncore areas (areas typically regarded as “rural”) received worse care for about 30% of measures.
- Disparities related to preventive care were common across urban and rural areas while disparities related to diabetes were largest for residents of large inner cities and noncore rural areas.

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Figure H.9. Distribution of access measures for which residents of specific areas experienced better, same, or worse access to care compared with residents of large fringe metropolitan areas



Key: n = number of measures.

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

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

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

Note: Number of measures varies for each group because for some measures, data for some groups were not available.

- Disparities in access to care across the urban-rural continuum tended to be more common than disparities in quality of care.** Compared with residents of large city suburbs, residents of large inner cities had worse access to care for about 35% of access measures tracked in the reports. Residents of micropolitan areas had worse access to care for 50% of access measures. Residents of noncore areas had worse access to care for about 40% of access measures.

The NHDR focuses on disparities related to race, ethnicity, and socioeconomic status. Table H.3 summarizes the largest disparities for each major group tracked in the reports that are either getting larger or staying the same. The table shows that many groups experience disparities related to preventive services and access to care.

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Table H3. Largest racial, ethnic, and socioeconomic disparities in core quality and access measures that are not improving

Groups	Measure	RR
Black compared with White	Hospital admissions for lower extremity amputations per 1,000 population age 18 and over with diabetes	2.0
	Emergency department visits where patients left without being seen	1.7
	Adults age 65 and over who ever received pneumococcal vaccination	1.5
Asian compared with White	Adults age 65 and over who ever received pneumococcal vaccination	1.4
	People with a usual primary care provider	1.3
	Adults who had a doctor's office or clinic visit in the last 12 months whose health providers listened carefully, explained things clearly, respected what they had to say, and spent enough time with them	1.2
American Indian/ Alaska Native compared with White	People under age 65 with health insurance	1.7
	Hospital patients with heart failure who received recommended hospital care	1.7
	Adults age 50 and over who ever received colorectal cancer screening	1.6
Hispanic compared with Non-Hispanic White	New AIDS cases per 100,000 population age 13 and over	3.3
	People under age 65 with health insurance	2.7
	People with a specific source of ongoing care	2.0
Poor compared with High Income	People under age 65 with health insurance	4.7
	Female Medicare beneficiaries age 65 and over who reported ever being screened for osteoporosis with a bone mass or bone density measurement	3.6
	People with a specific source of ongoing care	2.9

Key: RR indicates rate relative to reference group.

Note: To compare RRs, measures were framed negatively. Hence, an RR greater than 1 indicates that a group is receiving poorer quality of care or facing larger problems with access to care compared with the reference group. For example, an RR of 1.3 indicates that Asians are 1.3 times more likely than Whites not to have a usual primary care provider.

Progress Is Uneven With Respect to Eight National Priority Areas

A key IOM recommendation was that AHRQ highlight progress in selected priority areas that are expected to yield the greatest gains in health care quality. These priorities include six areas identified by the National Priorities Partnership (NPP), a coalition representing 48 key health care organizations, as well as two areas proposed by the IOM. In this section, we report on progress in each of these priority areas. Findings are organized around key goals for each priority and include information from both the NHQR and NHDR.

In addition, the IOM encouraged the reports to go beyond problem identification and to include information that might help users address the quality and disparities concerns we identify. To that end, we present novel strategies for improving quality and reducing disparities, gathered from the AHRQ Health Care Innovations Exchange (HCIE). The HCIE is a repository of more than 1,500 quality improvement tools and more than 500 quality improvement stories. For each priority area, stories of successful innovations were searched.

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Innovations that were most clearly described and yielded significant improvements in outcomes are displayed here.^v By demonstrating that improvement can be achieved, we hope that these anecdotes inspire others to act.

Five of the eight priorities recommended by the IOM aligned with existing chapters of the 2009 NHQR and NHDR; new chapters were developed to address care coordination and health system infrastructure. Detailed findings related to these seven priorities can be found in the body of the reports. One priority area, population health, cuts across many sections of the reports. Hence, a more detailed summary of this priority is presented here in the Highlights. Table H.4 aligns the priorities with this year's reports.

Table H.4. National Priorities Partnership priorities and location in NHQR and NHDR

National Priority Area	NHQR/NHDR Chapter
Population Health	Highlights only
Palliative and End-of-Life Care	Palliative and Supportive Care section of Effectiveness chapter
Safety	Patient Safety
Patient and Family Engagement	Patient Centeredness
Care Coordination	New Care Coordination chapter
Overuse	Efficiency
Access	Access to Health Care
Health System Infrastructure	New Health System Infrastructure chapter

National Priority: Population Health

Population health is influenced by many factors, including genetics, lifestyle, health care, and the physical and social environment. The reports focus on health care and counseling about lifestyle modification and do not address biological and social determinants of health that are currently not amenable to alteration through health care services. Nonetheless, it is important to acknowledge that the fundamental purpose of health care is to improve the health of populations. Acute care is needed to treat injuries and illnesses with short courses, and chronic disease management is needed to minimize the effects of persistent health conditions. But preventive services that avert the onset of disease, foster the adoption of healthy lifestyles, and help patients to avoid environmental health risks hold the greatest potential for maximizing population health.

The NPP envisioned “communities that foster health and wellness as well as national, state, and local systems of care fully invested in the prevention of disease, injury, and disability.” Key goals include promoting effective preventive services, adopting healthy lifestyle behaviors, and developing a national index of health.

^v Identification numbers of items from the HCIE are included to help users find more information. To access detailed information about each novel strategy, insert the identification numbers at the end of this link and copy it into your browser window: <http://www.innovations.ahrq.gov/content.aspx?id=>

Progress Toward Key Goals

Figure H.10 shows progress on measures related to population health:

- **Preventive services:** The NHQR and NHDR track 10 measures related to screening recommended by the U.S. Preventive Services Task Force, 11 measures related to adult immunizations, and 6 measures related to childhood immunizations.^{vi}
 - Screening measures: Across the screening measures, most showed improvement. Median rate of improvement was 2.8% per year. In contrast, most disparities did not change, with the exception of mammography, in which the Asian-White gap was narrowing. In addition, the Black-White gap in rates of advanced stage breast cancer and the AI/AN-White, Hispanic-non-Hispanic White, and poor-high income gaps in colorectal cancer screening all widened.
 - Adult immunizations: Across the adult immunization measures, most showed improvement. Median improvement across measures was 11% per year. Receipt of adult immunizations varied dramatically by setting. Among outpatient measures, median rate of improvement was 0.8% per year, and most disparities did not change. Among inpatient measures, median rate of improvement was 22% per year, and most racial and ethnic disparities were getting smaller.
 - Childhood immunizations: Across the childhood immunization measures, most showed improvement. The childhood immunization measures all come from the Centers for Disease Control and Prevention's National Immunization Survey, so we can report them as a composite. The percentage of children who received the 4:3:1:3:3 vaccine series^{vii} peaked in 2004 and has fallen since that time. There are few racial or ethnic disparities in childhood immunization, but income-related disparities persist.
- **Healthy lifestyles:** The NHQR and NHDR track five measures related to obesity, diet, and exercise; four measures related to nicotine and other substance addictions; and four measures related to transportation safety for children.^{viii} Across these measures, most showed no improvement. Median rate of improvement was 0.9% per year. Most disparities did not change, but the Hispanic-non-Hispanic White and poor-high income gaps in counseling about smoking cessation narrowed.
- **National index of health:** The NHQR and NHDR track eight mortality measures.^{ix} Across these measures, most showed improvement. Median rate of improvement was 1.3% per year. Most disparities did not change; the Black-White gap in prostate cancer mortality narrowed while education-related disparities in lung cancer mortality widened.

^{vi} Screening: Mammogram, Pap test, colonoscopy/sigmoidoscopy; late-stage breast, cervical, and colorectal cancer screening; blood pressure, cholesterol, and osteoporosis screening; and vision check. Adult immunizations: Influenza and pneumococcal vaccine among elderly, high-risk, and diabetic patients; patients hospitalized for pneumonia; and long-stay and short-stay nursing home residents. Childhood immunizations: 4 doses of diphtheria-tetanus-acellular pertussis (DTaP), 3 doses of polio, 1 dose of measles-mumps-rubella (MMR), 3 doses of *Haemophilus influenzae* B (Hib), and 3 doses of hepatitis B vaccines, and 1 dose of varicella vaccine.

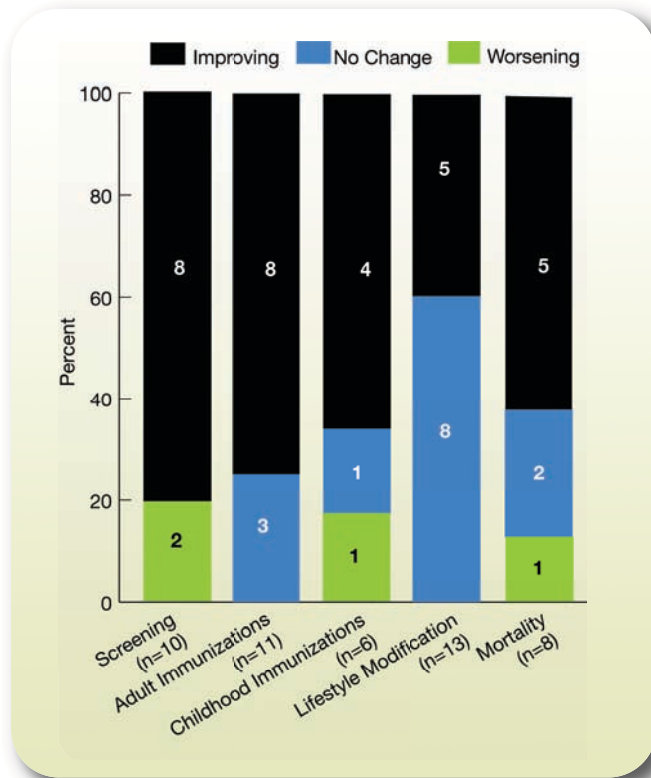
^{vii} Number of children ages 19-35 months receiving first five childhood immunizations listed above.

^{viii} Screening, diet counseling, exercise counseling for children and obese adults; smoking cessation and treatment for alcohol and other substance abuse; car seat, booster seat, seat belt, and bicycle helmet use.

^{ix} Breast, colorectal, prostate, and lung cancer; HIV; suicide; and infant and maternal mortality.

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Figure H.10. Change in measures of population health



Key: n = number of measures.

Improving = Quality is going in a positive direction at an average annual rate greater than 1% per year.

No Change = Quality is not changing or is changing at an average annual rate less than 1% per year.

Worsening = Quality is going in a negative direction at an average annual rate greater than 1% per year.

Successful Strategies From AHRQ Health Care Innovations Exchange

El Rio Health Center, AZ (2252)

- **Intervention:** Ongoing immunization training for pediatricians and nurses; nurse-run immunization clinics offered at the center and in the community; computerized data system tracking immunizations and reminders for both patients and providers.
- **Impact:** Program tripled childhood immunization rates, exceeding Federal standards.

Wayne Action Teams for Community Health (WATCH), NC (2929)

- **Intervention:** Created new processes to identify and provide individuals in need of colorectal cancer screening and smoking cessation education by forming partnerships with community-based organizations and providers. Patients participated in ongoing performance monitoring and evaluation.
- **Impact:** Over 1 year, colorectal cancer screening rose from 16% to 98%. Smokers receiving cessation education increased from 66% to 98%.

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Bienestar Health Program, TX (2085)

- **Intervention:** Culturally competent school-based behavior modification program intended to prevent or delay the onset of type 2 diabetes among Mexican-American and other at-risk youth. The five key components of the program are: health education, physical education, family education, student health club, and lessons for the school cafeteria.
- **Impact:** Program increased physical fitness and dietary fiber intake and reduced blood sugar levels, changes that reduce the risk of type 2 diabetes.

National Priority: Palliative and End-of-Life Care

Disease cannot always be cured, and disability cannot always be reversed. For patients with long-term health conditions, relieving symptoms, enhancing quality of life, and preventing complications are important goals. Providing emotional and spiritual support to patients and their families during serious and advanced illness and honoring patient values and preferences for care is critical.

The NPP vision for this priority is health care “capable of promising dignity, comfort, companionship, and spiritual support to patients and families facing advanced illness or dying.” Key goals include relief of suffering, help with emotional and spiritual needs, effective communication about options for treatment and dying, and high-quality hospice services.

Progress Toward Key Goals

- **Relief of suffering:** Among patients receiving home health care and nursing home care, management of symptoms, such as shortness of breath or pressure sores, is improving. However, most quality of care measures are far below achievable benchmarks, and considerable disparities persist related to age, gender, race, and ethnicity.
- **Help with emotional support:** Among hospice patients, fewer than 10% do not receive the right amount of help for feelings of anxiety or sadness. However, considerable disparities related to age, race, and ethnicity are observed.
- **Communication about dying:** Among family caregivers of hospice patients, about one in six wanted more information about what to expect while the patient was dying. In addition, considerable disparities related to age, gender, race, and ethnicity are observed.
- **Palliative care and hospice services:** Among hospice patients, few received care inconsistent with their stated end-of-life wishes. However, considerable disparities related to age, race, ethnicity, and education are observed. Availability of nonhospice palliative care providers also is a problem; roughly half of U.S. hospitals have yet to develop palliative care programs.

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Successful Strategies From AHRQ Health Care Innovations Exchange

North Florida/South Georgia Veterans Health System Advanced Illness Palliative Care Program, FL (1850)

- **Intervention:** Multidisciplinary initiative that provides care management and palliative care to chronically or terminally ill veterans in their homes via telehealth technology.
- **Impact:** In a 2-year period, 98% of participants reported adherence to their medications; 92% felt more connected to their providers; overall health care expenditures for program participants decreased by 67%.

Dana-Farber Cancer Institute Pediatric Advanced Care Team (PACT), MA (2195)

- **Intervention:** Pediatric palliative care consultation service that addresses the physical, psychosocial, and spiritual needs of children with life-threatening illnesses and their families. PACT services focus on providing intensive symptom management, as well as honest, complete, and sensitive communication with patients and families.
- **Impact:** Improved communication and documentation related to care goals helped ease patient suffering at the end of life and helped parents feel more prepared for their child's end-of-life experience.

National Priority: Patient Safety

An inherent level of risk is involved in performing procedures and services to improve the health of patients. Although degree of risk is often related to the severity of illness, variations in adverse event rates occur between different facilities and between caregivers. Avoidable medical errors account for an immense number of deaths annually. Even if patients do not die from a medical error, they will often have longer and more expensive hospital stays. Clearly, some risk can be reduced and some cannot, but research has shown that large numbers of errors and adverse events can be markedly reduced if addressed with appropriate interventions and efforts.

The NPP's vision is "a healthcare system that is relentless in continually reducing the risks of care, aiming for a 'zero' harm wherever possible—a system that can promise absolute care, guaranteeing that every patient, every time, receives the benefits of care based solidly on science." The vision sees health care leaders and professionals as leading this effort and being resolute in eliminating defects and errors in care, regardless of their current safety performance levels. Key goals are reducing healthcare-associated infections (HAIs) and serious adverse events (SAEs), reducing preventable and premature hospital-level mortality rates, and improving 30-day mortality rates following hospitalization for selected conditions (acute myocardial infarction, heart failure, pneumonia).

Progress Toward Key Goals

Figure H.11 shows progress in measures related to patient safety:

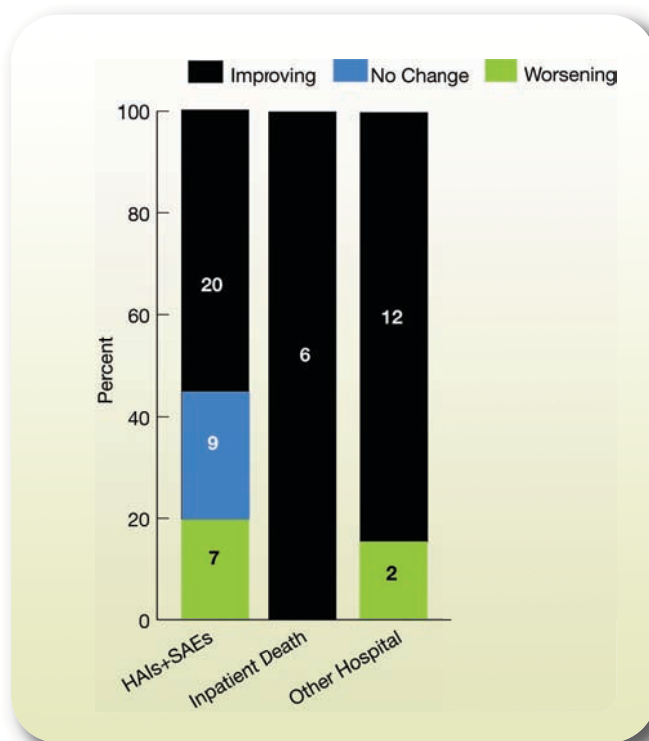
- **Reducing HAIs and SAEs:** The reports track 36 safety measures related to HAIs and other SAEs that can occur during hospitalization. Of these measures, most showed improvement. Across all measures, median improvement was 3.6% per year. By comparison, among 14 hospital quality measures not

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related to safety, median improvement was 21% per year. While progress in safety is clearly being made, it lags behind improvement in other hospital quality measures. In both process and outcome measures, disparities have been observed mainly across geographic locations and among racial and ethnic groups and are especially prominent among Hispanics. Although progress has been made, with some gaps closing, disparities continue over time. In addition, we are unable to examine many adverse events outside of hospital settings due to insufficient data and measures.

- **Reducing preventable and premature hospital-level mortality rates:** To track preventable and premature hospital-level mortality rates, the NHQR and NHDR monitor failure to rescue (deaths per 1,000 discharges having developed specified complications of care during hospitalization). Although an overall trend cannot be drawn from this single measure, it is noteworthy to mention that this rate has been decreasing for a number of years. Disparities have been observed for failure to rescue, mainly among racial and ethnic populations and less so across income groups. Over time, these disparities have not changed significantly.
- **Improving mortality rates for selected conditions:** Data do not support tracking 30-day mortality rates for all payers across the Nation. Instead, the NHQR and NHDR track inpatient mortality, which correlates well with 30-day mortality rates. Across six inpatient mortality measures, all showed improvements. Significant disparities were observed across racial and ethnic populations, with gaps not changing over time.

Figure H.11. Change in measures of safety versus other hospital measures



Key: HAI = healthcare-associated infection; SAE = serious adverse event.

Improving = Quality is going in a positive direction at an average annual rate greater than 1% per year.

No Change = Quality is not changing or is changing at an average annual rate less than 1% per year.

Worsening = Quality is going in a negative direction at an average annual rate greater than 1% per year.

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Successful Strategies From AHRQ Health Care Innovations Exchange

St. John Hospital and Medical Center, MI (2333)

- **Intervention:** Standardized, nurse-enforced protocols were developed to prevent catheter-related bloodstream infections, including tools to assist in following these protocols and an education program for physicians and nurses.
- **Impact:** Catheter-related bloodstream infections were reduced from 9.6 to 3 per 1,000 central line days, delaying the onset of infections in those who develop them; the reduction in such infections has led to substantial cost savings.

Barnes-Jewish Hospital, St. Louis, MO (2262)

- **Intervention:** Initiative integrates technology with a procedural checklist during the preoperative process to prevent wrong-site surgery. Checklist enables clinicians to confirm that the patient's history and physical examination reports are in the chart, circulating nurse visits the patient before surgery, and surgical site is inkmarked. An electronic patient wristband with an embedded sensor is deactivated when the correct surgical site is definitively marked.
- **Impact:** Program has eliminated wrong-site surgeries and near-misses at Barnes-Jewish Hospital's ambulatory center and the short-stay operating room suite has full compliance with required preoperative processes.

National Priority: Patient and Family Engagement

In order to effectively navigate the complicated health care system, providers need to ensure that patients can access culturally and linguistically appropriate tools. Strategies to support patient and family engagement enable patients to understand all treatment options and to make decisions consistent with their values and preferences.

The vision of the NPP is health care “that honors each individual patient and family, offering voice, control, choice, skills in self-care, and total transparency, and that can and does adapt readily to individual and family circumstances, and to differing cultures, languages, and social backgrounds.” Key goals include enabling patients to effectively navigate and manage their care and enabling patients to make informed decisions about their treatment options.

Progress Toward Key Goals

- **Effectively navigating and managing care:** More than 90% of U.S. adults were able to easily read their prescription instructions. However, disparities were observed among groups varying by insurance status, English proficiency, education, and income. Ethnicity, income, and education also were associated with the need for language assistance when navigating the health care system.
- **Making informed decisions about treatment options:** Most adults felt it was easy to understand written instructions from a doctor's office but nearly one-fifth of adults were sometimes or never asked to help with decisions on treatment. Disparities were observed related to insurance status, English proficiency, education, and race/ethnicity.

Successful Strategies From AHRQ Health Care Innovations Exchange

UC San Francisco Breast Care Center Decision Services Unit, CA (95)

- **Intervention:** Initiative offers a consultation planning, recording, and summarizing service in which trained interns help patients brainstorm and write down a list of questions and concerns for their providers.
- **Impact:** Program improved patient decisionmaking and communication between provider and patient. The preappointment planning session and the assistance during the appointment resulted in a 19% reduction in decisional conflict.

Health Literacy Collaborative of the Iowa Health System, IA (1855)

- **Intervention:** Educates staff on the importance of communicating health information clearly to patients and families regardless of reading ability, creates easy-to-understand materials based on patients' needs and preferences, and trains health care workers to use these materials with their patients.
- **Impact:** Patients have access to more understandable health information and report high levels of satisfaction with provider-patient communication.

University of Massachusetts Memorial Medical Center's Language Services Department, MA (2657)

- **Intervention:** Developed a comprehensive process to ensure that patients with limited English proficiency and patients who are deaf or hard of hearing have timely access to interpreter services.
- **Impact:** Program reduced patient waiting time for an interpreter; 86% of patients waited 15 minutes or less. The number of languages in which interpreter services are available increased from 51 in 2007 to 75 in 2009.

National Priority: Care Coordination

Care coordination is a conscious effort to ensure that all key information needed to make clinical decisions is available to patients and providers. Health care in the United States was not designed to be coordinated. Patients commonly receive medical services, treatments, and advice from multiple providers in many different care settings, each scrutinizing a particular body part or system. Attending to the patient as a whole is rare. Less than sufficient provider-provider and provider-patient communication is common and may lead to delays in treatment and inaccuracies in medical information. Enhancing teamwork and increasing use of health information technologies to facilitate communication among providers and patients can improve care coordination.

The NPP envisioned health care that “guides patients and families through their healthcare experience, while respecting patient choice, offering physical and psychological supports, and encouraging strong relationships between patients and the healthcare professionals accountable for their care.” Key goals include coordinating transitions of care, communicating medication information, and reducing hospital readmissions and preventable emergency department visits.

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Progress Toward Key Goals

- **Transitions of care:** Among patients hospitalized for heart failure, the quality of patient discharge instructions is improving. However, race-related disparities are observed.
- **Hospital readmissions:** While not all rehospitalizations can be prevented, better coordination at the point of discharge can prevent some readmissions. About 20% of patients hospitalized for heart failure are rehospitalized for a condition related to heart failure within 30 days. Considerable variation across States and by race is also observed.
- **Medication information:** Most providers ask patients about medications prescribed by other providers, and rates are improving. However, age- and education-related disparities are observed. Moreover, few hospitals currently support the electronic exchange of medication information with ambulatory care providers outside of their own system.
- **Preventable emergency department visits:** In patients with asthma, emergency department visits are five times as likely as hospitalizations, and some of these emergency department visits could be prevented with better coordination of outpatient care. Residents of inner cities and low-income neighborhoods have particularly high rates of emergency department visits.

Successful Strategies From AHRQ Health Care Innovations Exchange

University of Colorado at Denver Care Transitions Interventions, CO (1833)

- **Intervention:** A transition coach works directly with patients and family members for 30 days after discharge to help them understand and manage their complex postdischarge needs and ensure continuity of care across settings.
- **Impact:** The program reduced hospital readmissions and costs.

Aurora Health Care, WI (1766)

- **Intervention:** A communitywide medication collaborative, involving health care consumers, providers, pharmacists, and community stakeholders, to give elderly patients and their providers the tools and education needed to assemble and verify accurate medication lists, and communicate effectively to prevent medication errors.
- **Impact:** The rate of accurate medication lists among patients improved from 55 to 72%.

National Priority: Overuse of Services

Some diagnostic tests, procedures, and other services are performed even when they are unlikely to benefit the patient. These instances represent overuse of health services. Apart from causing discomfort and distress for patients, overuse can be harmful to the patient's health and increase costs.

The NPP's vision is "healthcare that promotes better health and affordable care by continually and safely reducing the burden of unscientific, inappropriate, and excessive care including tests, drugs, procedures,

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visits, and hospital stays.” The key goal is that all health care organizations will continually strive to improve the delivery of appropriate patient care and substantially and measurably reduce extraneous services and treatment.

Progress Toward Key Goals

- **Inappropriate medication use:** Inappropriate medication use among older adults has been stable over time. No significant disparities among groups persisted over the observed study period for inappropriate medications for older adults.
- **Preventable emergency department visits and hospitalizations:** Preventable emergency department visits and hospitalizations have decreased gradually over the past decade. However, hospitalizations within 30 days of admission to nursing homes have not markedly changed. Significant disparities are observed for potentially avoidable hospitalization rates among different racial, ethnic, and income groups.
- **Potentially harmful preventive services with no benefit:** A preventive service without benefit tracked in the NHQR and NHDR is prostate-specific antigen (PSA) testing of men age 75 and over to screen for prostate cancer. During the time measured, there has been a slight increase in testing. Disparities among racial, ethnic, and income groups are observed although typically the reference groups experienced higher rates of PSA testing.

Successful Strategies From AHRQ Health Care Innovations Exchange

MaineHealth AH! (Asthma Health) Program, ME (2476)

- **Intervention:** Initiative uses hospital-based educators to support providers and other caregivers in providing quality asthma care. Asthma educators meet one on one with patients and their families to promote better asthma self-management.
- **Impact:** Asthma-related hospitalizations declined from 23.8% to 0% after the education sessions, and the percentage of children and parents who missed school or work declined from 49.4 to 7.8%.

Summa Health System Care Coordination Network, OH (2162)

- **Intervention:** Ensures smooth transitions between the hospitals and 37 local skilled nursing facilities. The network uses a simplified transfer form, an electronic referral system, regular meetings, and other communication tools to boost patients’ discharge to a facility that meets their medical needs. The network also works to ensure smooth transitions when patients need to return to a hospital for surgery or testing.
- **Impact:** Program has led to fewer patients being readmitted to hospitals, lower hospital length of stay for patients transferred to skilled nursing facilities (which increased the bed capacity to an additional 130 inpatient admissions each year), and fewer cancellations of tests and surgeries for patients transferred from skilled nursing facilities.

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National Priority: Access

Access to care is defined as “the timely use of personal health services to achieve the best health outcomes.” The NPP’s vision for the access priority is a health care system that is “accessible and affordable for all segments of the U.S. population.” Access to health care has a significant effect on health disparities. There is substantial evidence that access to the health care system varies by socioeconomic factors and geographic location. Individuals with limited or no access to care (uninsured and underinsured people and those without a usual source of care) experience poor health outcomes, as well as worse quality of care. The NHQR and NHDR examine disparities in care related to insurance status, usual source of care, and financial barriers to care.

Progress Toward Key Goals

- **Health insurance:** Adults ages 18-44 were least likely to have health insurance compared with other age groups. Hispanics were least likely to have health insurance compared with other racial and ethnic groups. While the percentage of people with health insurance increased for poor people, the percentage worsened for middle-income people. The percentage of poor people and near-poor people who were uninsured all year was about four times as high as that for high-income people.
- **Usual source of care:** Slightly more than one-half of uninsured people had a specific source of ongoing care. Blacks and Hispanics were much less likely than Whites and non-Hispanic Whites to have a specific source of ongoing care. About one in five uninsured children did not have a usual source of care. Minority children were also less likely than White children to have a usual source of care.
- **Financial burden:** Individuals with private nongroup insurance were nearly three times as likely as individuals with private employer-sponsored insurance to have high health insurance premiums and out-of-pocket medical expenses. Poor individuals were five times as likely as high-income individuals to have high health care expenses. Overall in 2007, 1 in 10 individuals reported that they were unable to receive or were delayed in receiving needed medical care, dental care, or prescription medicines due to financial or insurance reasons. Poor people were twice as likely as high-income people to report that they had this problem.

Successful Strategies From AHRQ Health Care Innovations Exchange

CarePartners, ME (1689)

- **Intervention:** Program matches uninsured Maine residents with local primary care physicians, specialists, and hospitals that are willing to provide free care and helps patients access free or low-cost drugs through prescription assistance programs.
- **Impact:** Program has helped to reduce emergency department visits, hospitalizations, and costs among participants to levels that are well below the average for Medicaid patients.

MinuteClinic, MN (1772)

- **Intervention:** Walk-in primary care clinics are located within retail stores. Staffed by nurse practitioners and physician assistants, clinics use electronic health records and decision-support tools to provide low-

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cost, evidence-based primary care services, including diagnosis and treatment of common illnesses and routine vaccinations.

- **Impact:** Patients are highly satisfied with the quality and convenience of services. Various studies suggest that clinic services cost less than similar services provided in other settings and conform with evidence-based guidelines.

National Priority: Health System Infrastructure

Health system infrastructure is a priority area that requires national attention. The development of organizational capacity, adoption of health information technology (HIT), and provision of a sufficient, culturally competent workforce are important areas of infrastructure that are central to improving health care quality and reducing disparities. The vision for this priority is to improve the foundation of health care systems, including infrastructure for data and quality improvement, culturally diverse workforce capacity and distribution, and systems to coordinate care.

Progress Toward Key Goals

- **Organizational capacity:** In surveys of patient safety culture, Teamwork Within Units and Supervisor Expectations and Actions Promoting Patient Safety were the two areas that consistently received the most positive response regardless of the hospital's teaching status, ownership, geographic region, or bed size. Handoffs and Transitions and Nonpunitive Response to Error were the two areas that had the lowest percentage of positive response. This observation was consistent across hospitals, even after controlling for teaching status, ownership, size, and geographic region.
- **HIT:** Currently, less than half of office-based providers have fully implemented e-prescribing. Physicians practicing in urban areas, the western United States, and larger groups had the highest adoption rates, as did younger physicians. Among hospitals, size, location, ownership, and teaching status were shown to be determinants of the adoption of e-prescribing. Larger hospitals, hospitals in urban areas, government-owned hospitals, and hospitals that were members of the Council of Teaching Hospitals (COH) had higher rates of adoption.
- **Workforce:** Previous reports have examined the physician and nursing workforce; this year, the focus is on pharmacists. The pharmacy workforce is distributed in proportion to population across all four regions of the United States. In contrast, relative to population, Hispanics and non-Hispanic Blacks are underrepresented in the pharmacy workforce while non-Hispanic Whites and Asians are overrepresented.

Successful Strategies From AHRQ Health Care Innovations Exchange

HealthSpring, TN (2080)

- **Intervention:** Program offers financial bonuses to selected medical practices, onsite practice coordinators, and dedicated disease management support. Bonuses equal to 20% of health plan payments are awarded if physicians meet clinical care improvement goals.

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- **Impact:** In eight practices, the program led to significant improvements in a broad range of clinical quality indicators, along with decreases in members' emergency department visits, hospitalizations, and total medical expenses.

Arizona Medical Information Exchange, AZ (2599)

- **Intervention:** Enables clinicians to immediately access hospital discharge, laboratory test, and medication data on specific patients from other providers, allowing them to make more fully informed clinical decisions, avoid test duplication, ensure safe medication prescribing, and provide continuity of care.
- **Impact:** Users report that it has led to greater efficiency, increased safety, and a reduction in costs associated with unnecessary procedures and laboratory tests.

Table H5 summarizes progress on the national priorities, categorizing each as making progress, progress lagging, or lacking sufficient data to assess.

Table H5. Summary of progress on national priorities

Making Progress	Progress Lagging	Need More Data
Palliative and End-of-Life Care Patient and Family Engagement	Population Health Safety Safety Access	Care Coordination Overuse Health System Infrastructure

- **Palliative and End-of-Life Care:** Quality generally high; more problems with access to palliative care.
- **Patient and Family Engagement:** Quality generally high; most measures improving.
- **Population Health:** Most measures improving slowly; healthy lifestyles not improving.
- **Safety:** Most measures improving but more slowly than other hospital measures.
- **Access:** Not improving.
- **Care Coordination, Overuse, Health System Infrastructure:** Measures and data are limited; more information is needed to assess performance.
- **Disparities:** Present in all national priorities with little evidence of improvement.

Conclusion

Improving quality and reducing disparities require measurement and reporting, but these are not the ultimate goals. The fundamental purpose of improvement in health care is to make all patients' and families' lives better. The NHQR and NHDR concentrate on tracking health care quality and disparities at the national level, but the statistics reported in the reports reflect the aggregated everyday experiences of patients and their providers across the Nation.

It makes a difference in people's lives when breast cancer is diagnosed early; when a patient suffering from a heart attack is given the correct lifesaving treatment in a timely fashion; when medications are correctly administered; and when doctors listen to their patients and their families, show them respect, and answer their questions in a culturally and linguistically skilled manner. All Americans should have access to quality care that helps them achieve the best possible health.

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With the publication of this eighth NHQR and NHDR, AHRQ stands ready to contribute to efforts that encourage and support the development of national, State, Tribal, and “neighborhood” solutions using national data and achievable benchmarks of care. These documents identify areas where novel strategies have made a difference in improving patients’ quality of life, as well as many areas where much more should be done. Future reports will track the success of the National Health Care Quality Strategy, the National Prevention and Health Promotion Strategy, and the National Plan for Action to End Health Disparities.

We need to improve access to care, reduce disparities, and accelerate the pace of quality improvement, especially in the areas of preventive care, chronic disease management, and safety. More data are needed to assess progress in care coordination, efficiency, and health system infrastructure. Information needs to be shared with partners who have the skills and commitment to change health care. Building on data in the NHQR, NHDR, and State Snapshots, we believe that stakeholders can design and target strategies and clinical interventions to ensure that all patients receive the high-quality care needed to make their lives better.

