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Data Brief

COMMISSION ON A HIGH PERFORMANCE HEALTH SYSTEM

The Agency for Healthcare Research and Quality's *National Healthcare Quality Report, 2006*

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ABSTRACT: In the 2006 edition of its annual *National Healthcare Quality Report* (NHQR), the Agency for Healthcare Research and Quality finds that the rate of improvement across 42 core measures of quality ranged from a high of 7.8 percent (hospital acute care) to only 1 percent (nursing home and home health care). Improvements are not occurring across all aspects of the health care system and are highly variable across the states. The Commonwealth Fund's Commission on a High Performance Health System believes it will take an organized health system and expanded access to care to address many of the deficiencies in performance illustrated in the NHQR. National standards of care and performance benchmarks are essential to this effort.

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Background

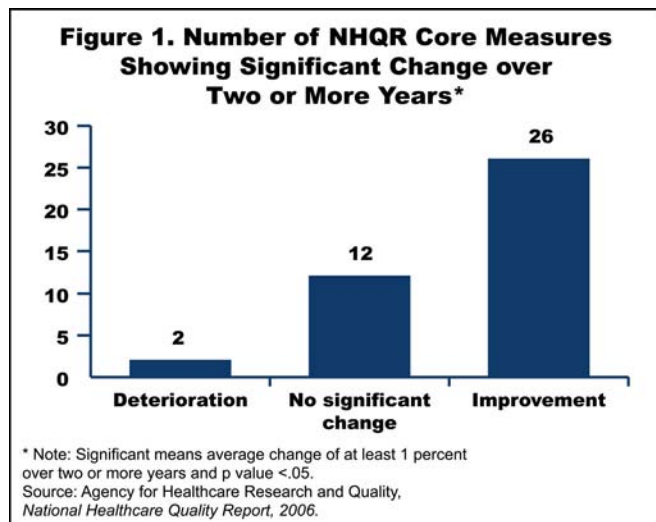
In December 2006, the federal Agency for Healthcare Research and Quality (AHRQ) issued its fourth annual *National Healthcare Quality Report* (NHQR), alongside the *National Healthcare Disparities Report*.¹ These two reports, based on data from a variety of national databases, are a unique source of information on quality and disparities and merit the attention of all who are interested in health care performance. This data brief examines the implications of the NHQR findings and their relevance to the recommendations of the Commonwealth Fund Commission on a High Performance Health System. The report finds evidence that improvements—while impressive in some areas of care—are not occurring across all aspects of the health care system and are highly variable across the states. To achieve widespread change, national standards and benchmarks are needed.

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Key Findings

AHRQ is now tracking 211 measures of the quality of U.S. health care. The NHQR focuses on 42 core measures, of which many are composites. As AHRQ reports, it is possible to analyze trends for two or more years for 40 of the measures. Of these, 26 (about two-thirds) showed significant improvement, two showed significant deterioration, and 12 showed no significant change (Figure 1). The NHQR notes that, over the past three years, there has been about 3 percent improvement per year.



The report includes several different types of performance measures:

- domains of quality—effectiveness, patient safety, timeliness, and patient-centeredness;
- types of care—preventive care, acute care, and care of chronic conditions; and
- settings of care—ambulatory settings, hospitals, nursing homes, and home health care.

AHRQ reports that the rate of improvement across all of these categories ranged from a

high of 7.8 percent for acute care in hospitals to only 1 percent improvement in nursing home and home health care.

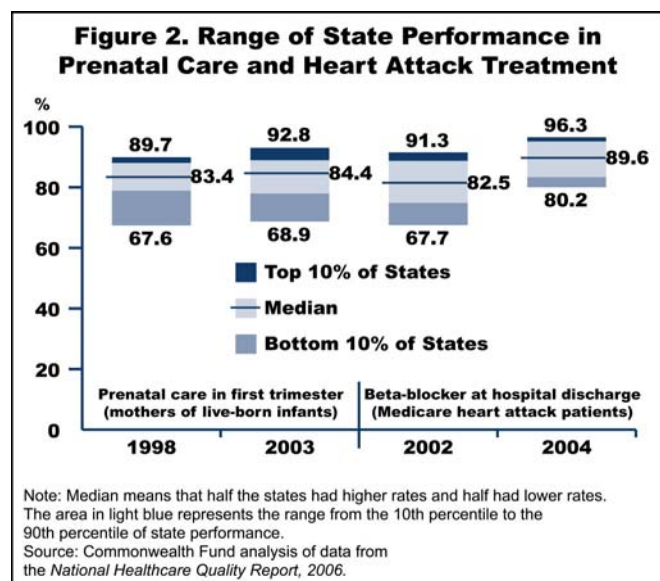
Analysis of State Variation

The NHQR and its appendices provide state-specific data for many of the measures, enabling an assessment of state variation in performance. For analysis, we selected a subset of 21 measures with state-level trend data in each of the core topic areas (see Tables 1 and 2 on pages 6–7).²

- Comparing the performance of the median states, we found that 16 of the 21 measures showed improvement. In other words, the top half of the distribution got better.
- When comparing the spread between the top 10 percent and the bottom 10 percent of states, however, the picture was mixed: the performance range widened for 10 of the measures and narrowed for 11 measures.
- When the overall level of performance is good, we expect the median performance level to be high, with a narrow range of performance above and below the median. Yet, among NHQR measures that enable analyses of state-level trends, the median performance levels rose and the performance ranges narrowed for only 10 of the 21 measures.

For example, Figure 2 depicts variation by state across the broadest time period available for two measures: initiation of prenatal care in the first trimester among women with live-born infants and receipt of beta blocker medication among Medicare patients hospitalized for heart attack. The two measures had similar baseline rates of performance, as well as comparable spread from lowest to highest state. Although in neither case has performance reached 100 percent, the contrast between the two is striking. There was only slight

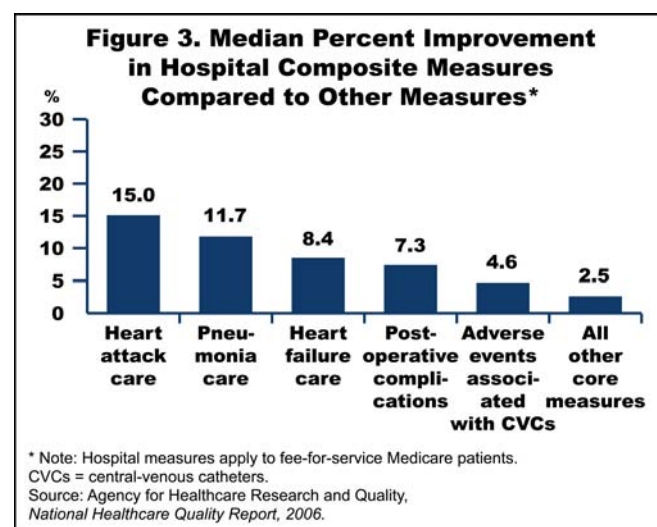
improvement in timely prenatal care initiation over a five-year period and a widening in the range from lowest to highest state. In comparison, heart attack treatment improved substantially over two years, with a narrowing in the range.



Why, in 2003, did nearly 93 percent of pregnant women in one state receive prenatal care during their first trimester, when the national average was 84 percent and the poorest-performing state achieved a rate of only 69 percent? Although this variation may be attributable in part to differences among state populations, it is likely also related to differences among the states in health care programs as well as health insurance coverage and health care delivery organizations. Lack of progress also may reflect the challenges inherent in influencing patients' care-seeking behaviors, in contrast to changing the processes of care.³

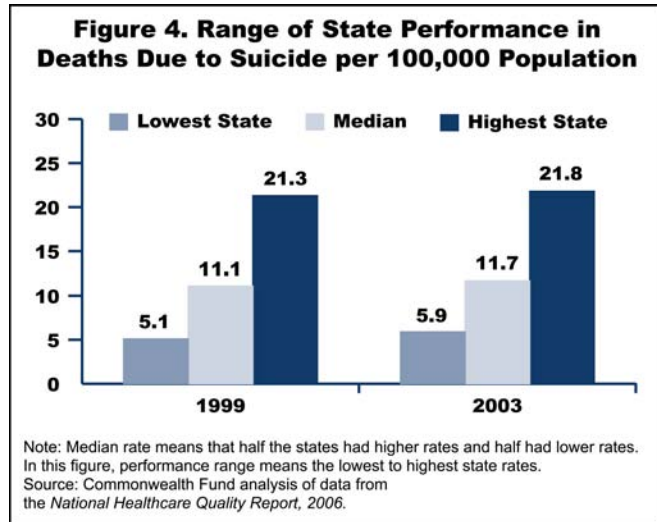
The Medicare Modernization Act (MMA) has stimulated hospital reporting of quality measures for treatment of heart attack, pneumonia, and heart failure by tying participation in the voluntary reporting system operated by the Centers for Medicare and Medicaid Services (CMS) to

increases in Medicare reimbursement. Almost certainly this incentive system played a role in the significant improvements seen in heart attack care—the greatest rate of improvement among all of the NHQR's core measures. Improvement in the other two areas, pneumonia and heart failure, also was above average (Figure 3). This is consistent with the old adage, "what gets measured gets done." It also is a demonstration of the effect that "pay-for-participation" programs can have not just on participation, but also on performance.⁴



One of the most disturbing parts of the report is the section on the effectiveness of mental health care. Suicide death rates actually increased slightly between 1999 and 2003 (Figure 4). The variation between states widened during this time period—in 2003 it ranged from 5.9 to 21.8 deaths per 100,000. Is this substantial variation due primarily to population differences, or to differences in detection and treatment of depression? The report notes that, according to the National Survey on Drug Use and Health, only 65 percent of U.S. adults ages 18 to 64 who experienced a major depressive episode in 2004 received treatment for depression. Even more troubling, the same survey

found that only 18 percent of those who met criteria for needing treatment for illicit drug use actually received it.

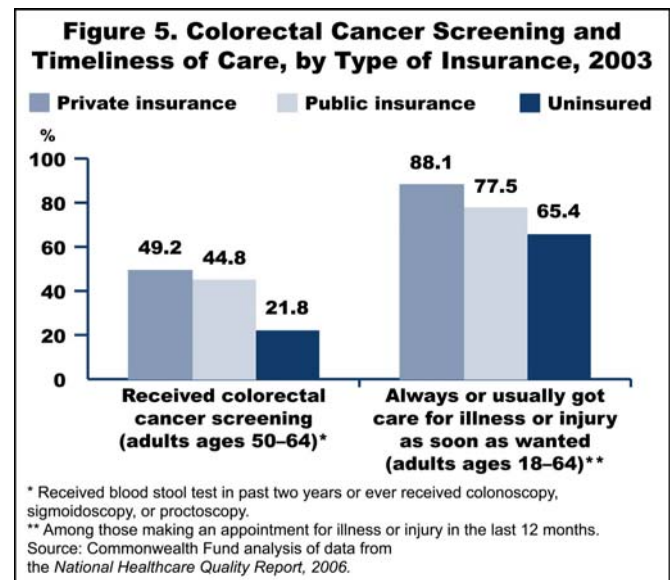


The Need for Systems Change

The Commonwealth Fund's Commission on a High Performance Health System has pointed out that the United States lacks an organized health care system.⁵ It will take an organized health care system and meaningful access to care to address many of the deficiencies in performance illustrated in the NHQR.⁶ There are many ways to improve care. Manual and electronic systems, including health information systems, help. Incentives, such as pay-for-participation and pay-for-performance programs, help. But care will remain far from what it could be, given the substantial U.S. investment, until there are not only national performance reports but also national standards and performance benchmarks.⁷ The Commission's National Scorecard on U.S. Health System Performance does set out benchmarks based on what has been achieved on certain measures by top-performing countries, states, health plans, hospitals, or providers.⁸

In addition, policies are needed to ensure access to health care for all. The role that insurance

coverage plays in health care quality is discussed in detail in the disparities report. The NHQR appendix tables further underscore the link between poor access and lower-quality care.⁹ For example, compared with insured individuals, the uninsured were less likely to report in 2003 that they received a recommended colorectal cancer screening test or gotten care for an illness or injury as soon as they wanted (Figure 5).

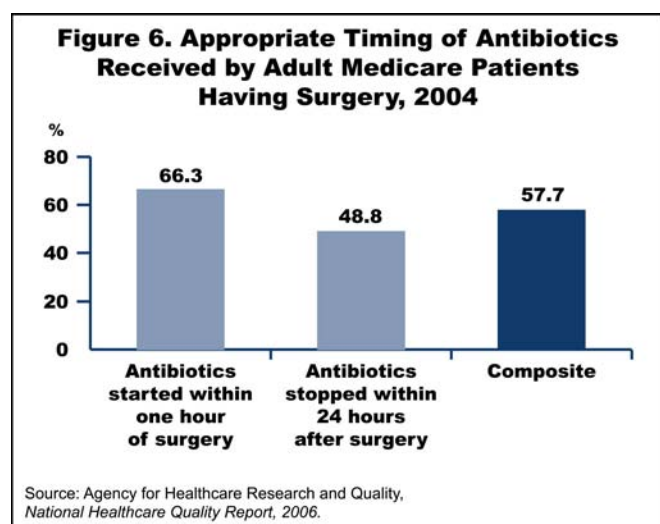


The U.S. does have a process for setting national health goals (known as Healthy People 2010).¹⁰ In several cases for which national health goals exist (e.g., initiation of prenatal care in the first trimester and lowering the suicide death rate), the NHQR points out that—even where there has been improvement—the rate of change is too slow to achieve the Healthy People goal by 2010. The goals should be made into standards, and we should implement practices to achieve those standards.

It also seems clear that, given the considerable variation across the nation, state policies and systems must be addressed to achieve improvement on a state-by-state basis. The practices of high-

performing states should be identified, evaluated formally, and disseminated among other states. Federal policies also could support and encourage improvements at the state level, for example by funding the evaluations and dissemination just mentioned or by providing technical assistance to states for implementation of new practices.

In other instances it probably makes sense to work at the provider level. For example, numerous studies have identified procedures for which prophylactic antibiotics reduce postoperative infections. It is well established that antibiotics must be started within one hour of surgery and stopped within 24 hours after surgery. With support from appropriate information systems, it would be possible to have near-perfect (99 percent) performance on this measure.¹¹ Yet, only two-thirds of Medicare patients who had surgery for which prophylaxes were indicated had the antibiotics started within one hour of their procedure, and the antibiotics were stopped within 24 hours for less than half (Figure 6). Should Medicare pay, or pay fully, for procedures in which these basic criteria are not met? At a minimum, federal performance measurement efforts could focus attention on areas in need of improvement.



Both the NHQR and the Commission's scorecard tell a similar story, which is consistent with the story told by the Institute of Medicine in their landmark report, *Crossing the Quality Chasm*.¹² In some instances where trends can be assessed over time, there are signs of health system improvement. Yet, overall, national health system performance is far from optimal and there is an enormous amount of variation in all types of performance. Unfortunately, the next edition of each of these reports is likely to come to the same conclusion—unless we systematically raise standards of care, reduce variation by moving the entire distribution toward benchmarks of high performance, and ensure timely and appropriate access to needed care.

**Complete analysis of the
National Healthcare Quality Report is
available from the authors upon request.**

NOTES

¹ Agency for Healthcare Research and Quality, *National Healthcare Quality Report, 2006*, AHRQ Publication No. 07-0013 (Washington, D.C.: U.S. Department of Health and Human Services, Dec. 2006). AHRQ simultaneously released the *National Healthcare Disparities Report*. This data brief is limited to discussion of the *Quality Report*.

² We selected subcomponents of composite measures where no state-level composite measure was reported; only measures with data for at least 30 states were included. The length of the time trend varied by measure. Variation was measured as the range of performance from the 10th to the 90th percentile of state rates. When the comparison was

Table 1. Selected NHQR Measures with State-Level Trend Data for Which Higher Rates Indicate Better Performance

Core Topic	Measure	Years (No. of States)	Change in Median	Change in Range*
Maternity care	Percent of pregnant women receiving prenatal care in first trimester	1998(51) –2003(49)	Better	Wider
Immunization: childhood	Percent of children 19–35 months who received five recommended vaccines	2000(51) –2004(51)	Better	Narrower
Immunization: pneumonia	Percent of persons ages 65+ who ever received a pneumococcal vaccination	2001(51) –2004(50)	Better	Narrower
Cancer screening	Percent of adults age 50+ who ever had had a colonoscopy, sigmoidoscopy, or proctoscopy	2001(51) –2004(50)	Better	Wider
Diabetes management	Percent of adults age 40+ with diabetes who had a retinal eye exam in past year	2001(42) –2004(41)	Worse	Wider
End-stage renal disease management	Percent of dialysis patients registered on waiting list for transplantation	1998(51) –2003(51)	Better	Wider
	Percent of hemodialysis patients with urea reduction ratio 65 percent or higher	2000(51) –2004(51)	Better	Narrower
Heart attack treatment	Percent of Medicare heart attack patients with a beta blocker prescribed at hospital discharge	2002(51) –2004(51)	Better	Narrower
Heart failure treatment	Percent of Medicare heart failure patients with left ventricular systolic dysfunction prescribed an ACE inhibitor at hospital discharge	2002(51) –2004(51)	Worse	Wider
Pneumonia treatment	Percent of Medicare pneumonia patients who received the first dose of antibiotics within 4 hours of hospital arrival	2002(51) –2004(51)	Better	Narrower
Timeliness	Percent of fee-for-service Medicare beneficiaries who reported always getting care for illness or injury as soon as wanted	2003(51) –2004(51)	Better	Wider
Patient-centeredness	Percent of fee-for-service Medicare beneficiaries whose health providers always listened carefully, explained things clearly, showed respect, and spent enough time	2003(51) –2004(51)	Worse	Narrower

* Range was measured from the 10th to the 90th percentile of state performance.

Source: Commonwealth Fund analysis of data from the *National Healthcare Quality Report, 2006*.

Table 2. Selected NHQR Measures with State-Level Trend Data for Which Lower Rates Indicate Better Performance

Core Topic	Measure	Years (No. of States)	Change in Median	Change in Range*
Cancer screening	Rate of colorectal cancer incidence per 100,000 adults ages 50+ diagnosed at advanced stage	2001(40) –2002(40)	Better	Wider
Cancer treatment	Cancer deaths per 100,000 persons per year for colorectal cancer	1999(51) –2003(51)	Better	Narrower
Maternity care	Infant mortality per 1,000 live births, birthweight <1,500 grams	2002(47) –2003(50)	Better	Narrower
Depression treatment	Deaths due to suicide per 100,000 population	1999(51) –2003(51)	Worse	Wider
Pediatric gastroenteritis	Hospital admissions for pediatric gastroenteritis per 100,000 population age <18 years	2002(32) –2003(33)	Better	Narrower
Asthma management	Hospital admissions for pediatric asthma per 100,000 population age <18 years	2002(32) –2003(33)	Worse	Wider
Nursing facility care	Percent of residents who were physically restrained	2003(51) –2005(51)	Better	Narrower
	Percent of high-risk residents who have pressure sores	2003(51) –2005(51)	Better	Wider
	Percent of short-stay residents with pressure sores	2003(51) –2005(51)	Better	Narrower

* Range was measured from the 10th to the 90th percentile of state performance.

Source: Commonwealth Fund analysis of data from the *National Healthcare Quality Report, 2006*.

restricted to the same states in both years, the performance range no longer widened substantially for diabetic eye exam; all other results remained substantially the same.

- ³ It may not be possible to achieve an early prenatal care rate of 100 percent, as other research indicates that some women do not realize they are pregnant during their first trimester (Centers for Disease Control and Prevention, *Morbidity and Mortality Weekly Report*, May 12, 2000 49(18):393–98).
- ⁴ Results are collected by CMS and publicly reported on the Hospital Compare Web site for hospitals participating in a voluntary public–private collaboration known as the Hospital Quality Alliance. This effort builds on the longstanding work of Medicare’s Quality Improvement Organization program, for which many of the measures were originally developed.
- ⁵ The Commonwealth Fund Commission on a High Performance Health System, *Framework for a High Performance Health System for the United States* (New York: The Commonwealth Fund, Aug. 2006).
- ⁶ Examples of such deficiencies include the following: only 55 percent of persons over age 50 met the

colon cancer screening requirement and one-third of obese adults were not told they were overweight by a doctor or health professional.

- ⁷ S. C. Schoenbaum and A. L. Holmgren, *The National Committee for Quality Assurance’s The State of Health Care Quality 2006* (New York: The Commonwealth Fund, Nov. 2006).
- ⁸ The Commonwealth Fund Commission on a High Performance Health System, *Why Not the Best? Results from a National Scorecard on U.S. Health System Performance* (New York: The Commonwealth Fund, Sept. 2006).
- ⁹ Available at: <http://www.ahrq.gov/qual/nhqr06/index.html>.
- ¹⁰ Available at: <http://www.healthypeople.gov/>.
- ¹¹ J. P. Burke, “Maximizing Appropriate Antibiotic Prophylaxis for Surgical Patients: An Update from LDS Hospital, Salt Lake City,” *Clinical Infectious Diseases*, Sept. 2001 33(Suppl. 2):S78–S83.
- ¹² Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century* (Washington, D.C.: National Academies Press, 2001).

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