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Why Not the Best?

Results from a National Scorecard on U.S. Health System Performance

THE COMMONWEALTH FUND COMMISSION ON A HIGH PERFORMANCE HEALTH SYSTEM

SEPTEMBER 2006

THE COMMONWEALTH FUND

THE COMMONWEALTH FUND COMMISSION ON A HIGH PERFORMANCE HEALTH SYSTEM

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THE COMMONWEALTH FUND

The Commonwealth Fund, among the first private foundations started by a woman philanthropist—Anna M. Harkness—was established in 1918 with the broad charge to enhance the common good.

The mission of The Commonwealth Fund is to promote a high performing health care system that achieves better access, improved quality, and greater efficiency, particularly for society's most vulnerable, including low-income people, the uninsured, minority Americans, young children, and elderly adults.

The Fund carries out this mandate by supporting independent research on health care issues and making grants to improve health care practice and policy. An international program in health policy is designed to stimulate innovative policies and practices in the United States and other industrialized countries.

COVER PHOTOS
TOP LEFT: ROGER CARR
TOP RIGHT: PETER YATES/REDUX PLUS
BOTTOM LEFT: CHOICE HEALTH NETWORK
BOTTOM RIGHT: LARRY EVANS/REDUX PLUS

Why Not the Best?

RESULTS FROM A NATIONAL SCORECARD ON U.S. HEALTH SYSTEM PERFORMANCE

The Commonwealth Fund Commission on a High Performance Health System

September 2006

ABSTRACT: Created by the Commonwealth Fund Commission on a High Performance Health System, the *National Scorecard on U.S. Health System Performance* is the first-ever comprehensive means of measuring and monitoring health care outcomes, quality, access, efficiency, and equity in one report. Its findings indicate that America's health system falls far short of what is attainable, especially given the resources the nation invests. Across 37 indicators of performance, the U.S. achieves an overall score of 66 out of a possible 100 when comparing actual national performance to achievable benchmarks. Scores on efficiency are particularly low. This report explains how the Scorecard works, describes results for each domain of performance, and discusses implications for policies to improve quality, access, and cost performance.

Support for this research was provided by The Commonwealth Fund. The views presented here are those of the authors and not necessarily those of The Commonwealth Fund or its directors, officers, or staff. This report and other Fund publications are available online at www.cmwf.org. To learn more about new publications when they become available, visit the Fund's Web site and register to receive e-mail alerts. Commonwealth Fund pub. no. 951.

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Contents

PHOTO: ROGER CARR

Preface

As Chairman and Executive Director of the Commonwealth Fund Commission on a High Performance Health System, we are pleased to bring you this first report from the Commission's National Scorecard on U.S. Health System Performance.

In recent years concern has grown about ever rising health care costs, and about whether the nation is reaping optimal value for its spending. To respond to these concerns, The Commonwealth Fund established its Commission in July 2005, and charged it with helping to move the U.S. toward a higher-performing health care system that achieves better access, improved quality, and greater efficiency.

From the outset it was anticipated that the Commission would need a comprehensive set of measures of health system performance with which to assess the current status of the U.S. health system, and to provide a yardstick going forward for measuring improvement. Hence the Commission and Commonwealth Fund staff, under the direction of Cathy Schoen, Senior Vice President, spent a considerable amount of time developing this Scorecard in the Commission's first year.

We find the results both disturbing and energizing, and anticipate that you will too. There are enormous opportunities for improvement. Tremendous variation in the way Americans experience the health care system is the rule—from how often people receive preventive services, to how well those with chronic diseases have their condition managed and, indeed, to whether one has health insurance at all. Why is this the case in a country where everyone expects the health system to perform at a more uniformly high standard? At the same time, the top level of performance is usually good and considerably better than the average performance across the U.S. This provides us with hope that, by focusing on how top level performance has been achieved, it will be possible for the entire country to improve.

The Scorecard findings highlighted for us the problems of fragmentation of our health care system and the need for cross-cutting policies and practices to improve the system and its performance. That will inform the Commission's future work. We have already issued the Commission's Framework for a High Performance Health System in the U.S., and are developing strategies, policies, and practices for transformation of the system. Future Commission reports will present elements of these strategies; and the Scorecard will be updated on an annual basis.

James J. Mongan, M.D.
Chairman

Stephen C. Schoenbaum, M.D.
Executive Director

Acknowledgments

Special thanks go to Cathy Schoen, senior vice president of The Commonwealth Fund, for working with the Commission to conceptualize and oversee the development and production of the Scorecard, and Sabrina K. H. How for research and preparation of Scorecard materials. Cathy Schoen, Karen Davis, Sabrina K. H. How, and Stephen C. Schoenbaum authored the companion article, "U.S. Health System Performance: A National Scorecard," *Health Affairs* Web Exclusive, September 20, 2006.

Five Commission members who worked along with senior Fund staff to review and select indicators and design the scorecard include: Maureen Bisognano, executive vice president and COO, Institute for Healthcare Improvement; Michael Chernew, Ph.D., professor, Harvard Medical School; George Halvorson, chairman and CEO, Kaiser Foundation Health Plan, Inc.; Sheila Leatherman, research professor, University of North Carolina; and Alan Weil, J.D., executive director, National Academy for State Health Policy.

The Commission also wishes to thank all those researchers who developed indicators and conducted data analyses for the Scorecard. These include: Gerard Anderson, Ph.D., and Robert Herbert, Johns Hopkins Bloomberg School of Public Health; Elliott Fisher, M.D., and Douglas Staiger, Ph.D., Dartmouth College; Katherine Hempstead, Ph.D., Rutgers University; Sir Brian Jarman, M.D., Imperial College, London, U.K.; Ashish Jha, M.D., M.P.H., and Arnold Epstein, M.D., Harvard School of Public Health; and Vincent Mor, Ph.D., Brown University. Bisundev Mahato, led by Sherry Glied, Ph.D., Columbia University Mailman School of Public Health, provided programming and analytical support.

Other individuals also kindly provided assistance and information to help improve the Scorecard. Douglas McCarthy, president, Issues Research, reviewed and provided sources for new indicators. Joel Cantor, Sc.D., director, Center for State Health Policy at Rutgers University, helped to review indicators and oversee efforts to produce a forthcoming State Scorecard. The Agency for Healthcare Research and Quality (AHRQ) convened a workgroup to develop a composite measure based on the Prevention Quality Indicators (measures of potentially avoidable hospitalizations for ambulatory care sensitive conditions) for which the Scorecard used Medicare data. The AHRQ Consumer Assessment of Health Providers and Systems (CAHPS) benchmarking database team, working with Dale Shaller, Shaller Consulting, provided the Hospital-CAHPS data on patient-centered hospital care. Sarah Shih, part of the National Committee for Quality Assurance's Research and Analysis staff, provided the managed care doctor–patient communication data.

Additionally, we thank the following Commonwealth Fund staff: Karen Davis, Steve Schoenbaum, and Anne Gauthier for their guidance and review and Barry Scholl, Chris Hollander, Mary Mahon, Paul Frame, and the communications team for support in production and dissemination. We are also grateful to Jim Walden of Walden Creative for demonstrating great flexibility in working with us under a demanding design schedule.

List of Tables and Figures

Executive Summary

Once upon a time, it was taken as an article of faith among most Americans that the U.S. health care system was simply the best in the world. Yet growing evidence indicates the system falls short given the high level of resources committed to health care. Although national health spending is significantly higher than the average rate of other industrialized countries, the U.S. is the only industrialized country that fails to guarantee universal health insurance and coverage is deteriorating, leaving millions without affordable access to preventive and essential health care. Quality of care is highly variable and delivered by a system that is too often poorly coordinated, driving up costs, and putting patients at risk. With rising costs straining family, business, and public budgets, access deteriorating and variable quality, improving health care performance is a matter of national urgency.

The Commonwealth Fund Commission on a High Performance Health System has developed a National Scorecard on U.S. Health System Performance (see Table 1 on pages 10 and 11 for scores on 37 key indicators). The Scorecard assesses how well the U.S. health system is performing as a whole *relative to what is achievable*. It provides benchmarks for the nation and a mechanism for monitoring change over time across core health care system goals of health outcomes, quality, access, efficiency, and equity.

Scores come from ratios that compare the U.S. national average performance to benchmarks, which represent top performance. If performance in the U.S. was uniform for each of the health system goals, and if, in those instances in which U.S. performance can be compared with other countries, we were consistently at the top, the average score for the U.S. would be 100. But, the U.S. as a whole scores an average of 66 (Figure 1). Several different measures or indicators were examined for each of the goal areas and dimensions of health system performance. There are wide gaps between national average rates and benchmarks in each of the dimensions of the Scorecard, with U. S. average scores ranging from 51 to 71.

By showing the gaps between national performance and benchmarks that have been achieved, the Scorecard offers performance targets for improvement. And it provides a foundation for the development of public and private policy action, and a yardstick against which to measure the success of new policies.

See also C. Schoen et al., "U.S. Health System Performance: A National Scorecard," *Health Affairs* Web Exclusive, September 20, 2006, for scoring exhibits and analysis. For additional results and methods, see *National Scorecard on U.S. Health System Performance: Technical Report.* For charts for all indicators, see *National Scorecard on U.S. Health System Performance: Complete Chartpack* and the accompanying *Technical Appendix* with indicator details and data sources. These Commonwwealth Fund reports are available for free download at www.cmwf.org.

SCORECARD HIGHLIGHTS AND LEADING INDICATORS

Table 1 summarizes U.S. average rates on 37 indicators, their benchmark comparison rates—typically those achieved by the top 10 percent of countries, states, health plans, hospitals, or other providers—and the U.S. average score, calculated as the ratio between U.S. performance and benchmark rate. In just a few instances the benchmarks represent targets, rather than achieved top performance. The sources of the benchmarks are shown in the Table.

Some major findings include:

Long, Healthy, and Productive Lives: Total Average Score 69

- The U.S. is one-third worse than the best country on mortality from conditions "amenable to health care"—that is, deaths that could have been prevented with timely and effective care. Its infant mortality rate is 7.0 deaths per 1,000 live births, compared with 2.7 in the top three countries. The U.S. average adult disability rate is one-fourth worse than the best five U.S. states, as is the rate of children missing 11 or more days of school because of illness or injury.

Quality: Total Average Score 71

- Despite documented benefits of timely preventive care, barely half of adults (49%) received preventive and screening tests according to guidelines for their age and sex.

- The current gap between national average rates of diabetes and blood pressure control and rates achieved by the top 10 percent of health plans translates into an estimated 20,000 to 40,000 preventable deaths and $1 billion to $2 billion in avoidable medical costs.
- Only half of patients with congestive heart failure receive written discharge instructions regarding care following their hospitalization.
- Nursing home hospital admission and readmission rates in the bottom 10 percent of states are two times higher than in the top 10 percent of states.

Access: Total Average Score 67

- In 2003, one-third (35%) of adults under 65 (61 million) were either underinsured or were uninsured at some time during the year.
- One-third (34%) of all adults under 65 have problems paying their medical bills or have medical debt they are paying off over time. And premiums are increasingly stretching median household incomes.

Efficiency: Total Average Score 51

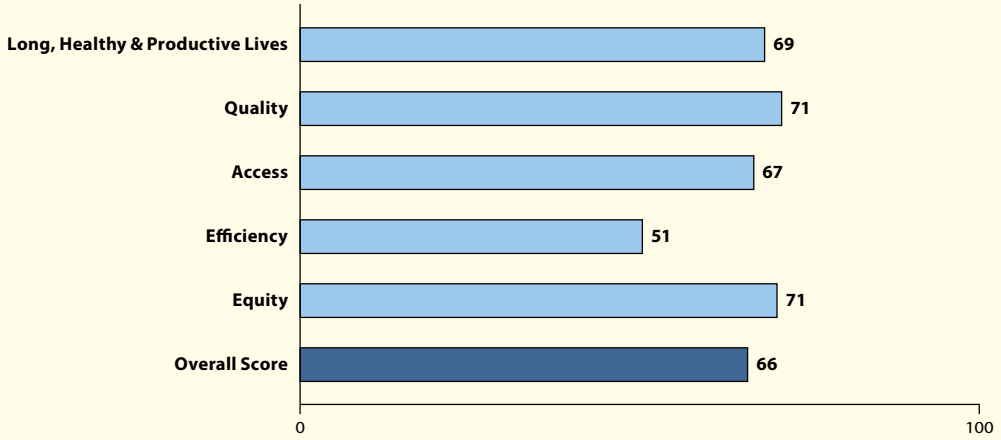
- National preventable hospital admissions for patients with diabetes, congestive heart failure, and asthma (ambulatory care sensitive conditions) were twice the level achieved by the top states.
- Hospital 30-day readmission rates for Medicare patients ranged from 14 percent to 22 percent across regions. Bringing readmission rates down to the levels achieved by the top performing regions would save Medicare $1.9 billion annually.
- Annual Medicare costs of care average $32,000 for patients with congestive heart failure, diabetes, and chronic lung disease, with a twofold spread in costs across geographic regions.
- As a share of total health expenditures, U.S. insurance administrative costs were more than three times the rates of countries with the most integrated insurance systems.
- The U.S. lags well behind other nations in use of electronic medical records: 17 percent of U.S doctors compared with 80 percent in the top three countries.

Equity: Total Average Score 71

- On multiple indicators across quality of care and access to care, there is a wide gap between low-income or uninsured populations and those with higher incomes and insurance. On average, low-income and uninsured rates would need to improve by one-third to close the gap.
- On average, it would require a 20 percent decrease in Hispanic risk rates to reach benchmark white rates on key indicators of quality, access, and efficiency. Hispanics are at particularly high risk

FIGURE 1

Scores: Dimensions of a High Performance Health System



SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

of being uninsured, lacking a regular source of primary care, and not receiving essential preventive care.

- Overall, it would require a 24 percent or greater improvement in African American mortality, quality, access, and efficiency indicators to approach benchmark white rates. Blacks are much more likely to die at birth or from chronic conditions such as heart disease and diabetes. Blacks also have significantly lower rates of cancer survival.

System Capacity to Innovate and Improve: Not Scored

Innovations in the ways care is delivered—from more integrated decision-making and information sharing to better workforce retention and team-oriented care—are necessary to make strides in all dimensions of care.

Investment in research to assess effectiveness, develop evidence-based guidelines, or support innovations in care delivery is low. The current federal investment in health services research, estimated at $1.5 billion, amounts to less than $1 out of every $1,000 in national health care spending. Ideally a national Scorecard would include indicators of the system's capacity to innovate and improve, but good indicators in this area are not currently available—itself a problem.

National Scorecard on U.S. Health System Performance TABLE 1

Indicator	U.S. National Rate	Benchmark	Benchmark Rate	*Score:* Ratio of U.S. to Benchmark
1. Mortality amenable to health care, Deaths per 100,000 population	115	Top 3 of 19 countries	80	*70*
2. Infant mortality, Deaths per 1,000 live births	7.0	Top 3 of 23 countries	2.7	*39*
3. Healthy life expectancy at age 60, Years	16.6	Top 3 of 23 countries	19.1	*87*
4. Adults under 65 limited in any activities because of physical, mental, or emotional problems, %	14.9	Top 10% states	11.5	*77*
5. Children missed 11 or more school days due to illness or injury, %	5.2	Top 10% states	3.8	*73*
6. Adults received recommended screening and preventive care, %	49	Target	80	*61*
7. Children received recommended immunizations and preventive care*	Various	Various	Various	*85*
8. Needed mental health care and received treatment*	Various	Various	Various	*66*
9. Chronic disease under control*	Various	Various	Various	*61*
10. Hospitalized patients received recommended care for AMI, CHF, and pneumonia (composite), %	84	Top hospitals	100	*84*
11. Adults under 65 with accessible primary care provider, %	66	65+ yrs, High income	84	*79*
12. Children with a medical home, %	46	Top 10% states	60	*77*
13. Care coordination at hospital discharge*	Various	Various	Various	*70*
14. Nursing homes: hospital admissions and readmissions among residents*	Various	Various	Various	*64*
15. Home health: hospital admissions, %	28	Top 25% agencies	17	*62*
16. Patients reported medical, medication, or lab test error, %	34	Best of 6 countries	22	*65*
17. Unsafe drug use*	Various	Various	Various	*60*
18. Nursing home residents with pressure sores*	Various	Various	Various	*67*
19. Hospital-standardized mortality ratios, Actual to expected deaths	101	Top 10% hospitals	85	*84*

Indicator	U.S. National Rate	Benchmark	Benchmark Rate	*Score:* Ratio of U.S. to Benchmark
20. Ability to see doctor on same/next day when sick or needed medical attention, %	47	Best of 6 countries	81	*58*
21. Very/somewhat easy to get care after hours without going to the emergency room, %	38	Best of 6 countries	72	*53*
22. Doctor–patient communication: always listened, explained, showed respect, spent enough time, %	54	90th percentile Medicare plans	74	*74*
23. Adults with chronic conditions given self-management plan, %	58	Best of 6 countries	65	*89*
24. Patient-centered hospital care*	Various	Various	Various	*87*
25. Adults under 65 insured all year, not underinsured, %	65	Target	100	*65*
26. Adults with no access problem due to costs, %	60	Best of 5 countries	91	*66*
27. Families spending <10% of income or <5% of income, if low-income, on out-of-pocket medical costs and premiums, %	83	Target	100	*83*
28. Population under 65 living in states where premiums for employer-sponsored health coverage are <15% of under-65 median household income, %	58	Target	100	*58*
29. Adults under 65 with no medical bill problems or medical debt, %	66	Target	100	*66*
30. Potential overuse or waste*	Various	Various	Various	*48*
31. Went to emergency room for condition that could have been treated by regular doctor, %	26	Best of 6 countries	6	*23*
32. Hospital admissions for ambulatory care sensitive conditions*	Various	Various	Various	*57*
33. Medicare hospital 30-day readmission rates, %	18	10th percentile regions	14	*75*
34. Medicare annual costs of care and mortality for AMI, hip fracture, and colon cancer (Annual Medicare outlays; deaths per 100 beneficiaries)	$26,829; 30	10th percentile regions	$23,314; 27	*88*
35. Medicare annual costs of care for chronic diseases: diabetes, CHF, COPD*	Various	Various	Various	*68*
36. Percent of national health expenditures spent on health administration and insurance, %	7.3	Top 3 of 11 countries	2.0	*28*
37. Physicians using electronic medical records, %	17	Top 3 of 19 countries	80	*21*
OVERALL SCORE				**66**

* Various denotes indicators that comprise two or more related measures. Scores average the individual ratios for each component. For detailed information on the national and benchmark rates for individual components, please refer to C. Schoen et al., "U.S. Health System Performance: A National Scorecard," *Health Affairs* Web Exclusive, Sept. 20, 2006. See also the box on page 31.
AMI = acute myocardial infarction; CHF = congestive heart failure; COPD = chronic obstructive pulmonary disease

Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006.

SUMMARY AND IMPLICATIONS

The Case for a Systems Approach to Change

The Scorecard results make a compelling case for change. Simply put, we fall far short of what is achievable on all major dimensions of health system performance. The overwhelming picture that emerges is one of missed opportunities—at every level of the system—to make American health care truly the best that money can buy.

And let there be no doubt, these results are not just numbers. Each statistic—each gap in actual versus achievable performance—represents illness that can be avoided, deaths that can be prevented, and money that can be saved or reinvested. In fact, if we closed just those gaps that are described in

the Scorecard—we could save at least $50 billion to $100 billion per year in health care spending and prevent 100,000 to 150,000 deaths. Moreover, the nation would gain from improved productivity. The Institute of Medicine, for example, estimates national economic gains of up to $130 billion per year from insuring the uninsured.

The central messages from the Scorecard are clear:

- Universal coverage and participation are essential to improve quality and efficiency, as well as access to needed care.
- Quality and efficiency can be improved together; we must look for improvements that yield both results. Preventive and primary care quality deficiencies undermine outcomes for patients and contribute to inefficiencies that raise the cost of care.
- Failures to coordinate care for patients over the course of treatment put patients at risk and raise the cost of care. Policies that facilitate and promote linking providers and information about care will be essential for productivity, safety, and quality gains.
- Financial incentives posed by the fee-for-service system of payment as currently designed undermine efforts to improve preventive and primary care, manage chronic conditions, and coordinate care. We need to devise payment incentives to reward more effective and efficient care, with a focus on value.
- Research and investment in data systems are important keys to progress. Investment in, and implementation of, electronic medical records and modern health information technology in physician offices and hospitals is low—leaving physicians and other providers without useful tools to ensure reliable high quality care.
- Savings can be generated from more efficient use of expensive resources including more effective care in the community to control chronic disease and assure patients timely access to primary care. The challenge is finding ways to re-channel these savings into investments in improved coverage and system capacity to improve performance in the future.
- Setting national goals for improvement based on best achieved rates is likely to be an effective method to motivate change and move the overall distribution to higher levels.

Our health system needs to focus on improving health outcomes for people over the course of their lives, as they move from place to place and from one site of care to another. This requires a degree of organization and coordination that we currently lack. Whether through more integrated health care delivery organizations, more accountable physician groups, or more integrated health information systems (in truth, likely all of these), we need to link patients, care teams, and information together. At the same time, we need to deliver safer and more reliable care.

Furthermore, the extremely high costs of treating patients with multiple chronic diseases, as detailed in this report, serve as a reminder that a minority of very sick patients in the U.S. account for a high proportion of national health care expenditures. Payment policies that support integrated, team-based approaches to managing patients with multiple, complex conditions—along with efforts to engage patients in care self-management—will be of paramount importance as the population continues to age.

By assessing the nation's health care against achievable benchmarks, the Scorecard, in a sense, tracks the vital signs of our health system. With rising costs and deteriorating coverage, leadership to transform the health system is urgently needed to secure a healthy nation.

Overview

Once upon a time, it was taken as an article of faith among most Americans that the U.S. health care system was simply the best in the world. Its well-trained, well-equipped doctors and hospitals were the envy of other nations. Its "models of excellence" were studied across the globe. When evidence began to trickle in showing that other countries were surpassing us in such health indicators as life expectancy and infant mortality, it was explained away as the differences that inevitably result from having a far more heterogeneous population than the comparatively homogeneous societies of Europe and Asia.

But that trickle of evidence has long since grown into a torrent. A raft of studies, most notably a series of seminal reports issued by the Institute of Medicine, has documented the multiple failings of American health care.[1] Despite a rate of spending on health care double that of the median industrialized nation,[2] health care quality in the U.S. is highly variable, with whole regions, states, and localities performing well in some areas and poorly in many others. Care is often compromised, and costs driven up, by a highly fragmented delivery system that, in truth, is not really a system at all. Our way of paying for health services, meanwhile, tolerates—and often rewards—mediocrity. Perhaps most glaring of all, we remain the only industrialized country that does not guarantee health insurance for its citizens, tens of millions of whom lack any coverage at all and cannot afford to get the preventive and essential health care services they need.

If there is a silver lining, it is that the country is entirely capable of doing better—much better. That much is evident from the National Scorecard on U.S. Health System Performance developed by the Commonwealth Fund Commission on a High Performance Health System. The first-ever comprehensive, evidence-based means of measuring and monitoring health outcomes, quality, access, efficiency, and equity, the Scorecard allows the nation to see how its health care system fares against achievable benchmarks and, in the process, highlights areas where improvement efforts should be targeted.

Overall, the Scorecard indicates that our health care system falls far short of what is attainable, especially given the tremendous resources we invest. Across 37 separate indicators of performance—from preventive care for children to hospital readmission rates for nursing home residents, from the accessibility of primary care to physicians' use of electronic health records—the U.S. achieves an overall score of 66 out of a possible 100. That is simply not good enough.

In reviewing these scores, it quickly becomes clear that technical proficiency in medicine alone will not generate good health outcomes consistently. Patients die when the various clinicians caring for them do not communicate with one another and fail to coordinate their care. Chronic conditions that are easily controlled with the proper medications are transformed into health crises when patients fail to fill prescriptions or skip doses in order to afford basic necessities.

Nor is it true that high costs go hand-in-hand with high quality. Indeed, the Scorecard reveals that lower quality is often associated with higher costs resulting from duplication, waste, error, and administrative inefficiency. And while ensuring universal participation in the health care system entails its own substantial costs, not doing so has serious consequences: poorer health from lack of access to timely care; health conditions that, left unchecked for too long, have become costlier to treat; and reduced economic output from a sicker workforce.

In the sections that follow, we discuss how the Scorecard works, break down results for each of the domains of health system performance, and then discuss how these findings can lay the foundation for real change across all sectors of health care.

See also C. Schoen et al., "U.S. Health System Performance: A National Scorecard," *Health Affairs* Web Exclusive, September 20, 2006, for scoring exhibits and analysis. For additional results and methods, see *National Scorecard on U.S. Health System Performance: Technical Report.* For charts for all indicators, see *National Scorecard on U.S. Health System Performance: Complete Chartpack* and the accompanying *Technical Appendix* with indicator details and data sources. These Commonwwealth Fund reports are available for free download at www.cmwf.org.

The Scorecard: Measuring and Monitoring Health System Performance

WHAT THE SCORECARD MEASURES

The Commonwealth Fund Commission on a High Performance Health System developed the National Scorecard with three central objectives in mind:

- to provide benchmarks for assessing health system performance;
- to have a mechanism for monitoring change over time;
- to be able to estimate the effects of proposed policies to improve performance.

The core dimensions of performance around which the Scorecard is organized are:

- *health outcomes,* which includes life expectancy, mortality, and prevalence of disability and limitations due to health;
- *quality,* a broad measure covering the extent to which the care delivered is the right care and is well coordinated, safe, timely, and patient-centered;
- *access,* which is concerned with participation in the health care system and the affordability of insurance coverage and medical services;
- *efficiency,* which assesses overuse or inappropriate use of services, preventable hospitalizations and readmissions, regional variation in quality and cost, administrative complexity, and use of information systems; and
- *equity,* which looks at disparities among population groups in terms of health status, care, and coverage.

These core dimensions of performance are based in large part on the framework used by the Institute of Medicine in its series of reports on quality and insurance coverage.

When selecting specific indicators of performance, the Commission was most interested in those aspects of health care where substantial improvement would yield significant gains for the country overall. Other considerations included the accessibility of information from national or international databases and the ability to analyze change in performance over time. The final set of 37 indicators, while building on measures developed previously by various federal health care agencies, quality improvement organizations, and profes-

Scorecard Methodology

The Scorecard assesses U.S. national performance relative to benchmarks, with a maximum score of 100. For each indicator, we identified the benchmark rate based on rates achieved by top countries or the top 10 percent of U.S. states, hospitals, health plans, or other providers. The choice of benchmarks reflected the specific indicator and availability of data. For example, for hospital clinical care, the benchmark is the best hospitals, but for potentially preventable admissions, the benchmark is the top 10 percent of states or regions. Where patient data were available only at the national level, we compared national rates to experiences of high-income, insured individuals, choosing the benchmark group least likely to face barriers because of costs.

Benchmarks generally reflect the performance achieved by top-performing groups although there are a few instances where benchmarks use target rates. Four access benchmarks aim for logical policy goals, such as achieving 100 percent of the population to be adequately insured. We also used targets for two quality indicators—getting all basic preventive care and mental health care—since even best attained rates fell below clinically accepted guidelines. For these, we set targets of 80 percent to allow for less than perfect scores and still aim for significant improvement.

To score, we calculated simple ratios of U.S. national averages compared with benchmarks. Where higher rates would indicate a move in a positive direction, we divided the national average by the benchmark. Where lower rates would indicate a positive direction—e.g., mortality or medical errors—we divided the benchmark (lower rate) by the U.S. average.

To summarize scores by dimension, we averaged indicator ratios. For equity, we compared experiences by insurance coverage, income, and race/ethnicity on a subset of the main indicators, and a few equity-only indicators that we added to highlight certain areas of concern. We used the percent of the group at risk (e.g., percent not receiving recommended care, percent with no primary care provider, percent uninsured) to calculate risk ratios. Specifically, the ratios compare rates for insured relative to uninsured; high-income to low-income, and whites to African Americans and Hispanics.

See *National Scorecard on U.S. Health System Performance: Technical Report* and *National Scorecard on U.S. Health System Performance: Complete Chartpack and Technical Appendix* for additional information on benchmarks and scoring.

sional societies contains many indicators that are unique to the Scorecard.[3]

For each indicator, the Scorecard compares U.S. performance nationally against benchmarks achieved either within the U.S. or by other countries. These benchmarks do not, in general, represent perfection; rather, they reflect the performance achieved by the top 10 percent of U.S. states, hospitals, health plans, or other health care providers, or the best-performing countries. In a few instances, benchmarks reflect policy goals. For example, the benchmark for health insurance coverage is 100 percent, a rate achieved by virtually all major industrialized countries. Each score, then, is a simple ratio of the current U.S. average performance to the benchmark, with a maximum possible score of 100. (See box on page 14 for further information about the Scorecard's methodology.)

Future editions of the Scorecard will assess changes in performance on this initial set of indicators and will also include new indicators as data become available.

Findings from the 2006 National Scorecard

HEALTH OUTCOMES: LEADING LONG, HEALTHY, AND PRODUCTIVE LIVES

TOTAL AVERAGE SCORE: 69

The overarching goal of any health care system is to help people lead long, healthy, and productive lives. To measure U.S. health system capacity in this regard, the Scorecard includes indicators of mortality, healthy life expectancy, and health-related limitations faced by children and adults. The low average score on this dimension of performance, 69 out of a possible 100, reflects not only the extent to which the U.S. lags behind other nations but also the wide variations in health outcomes within our own borders.

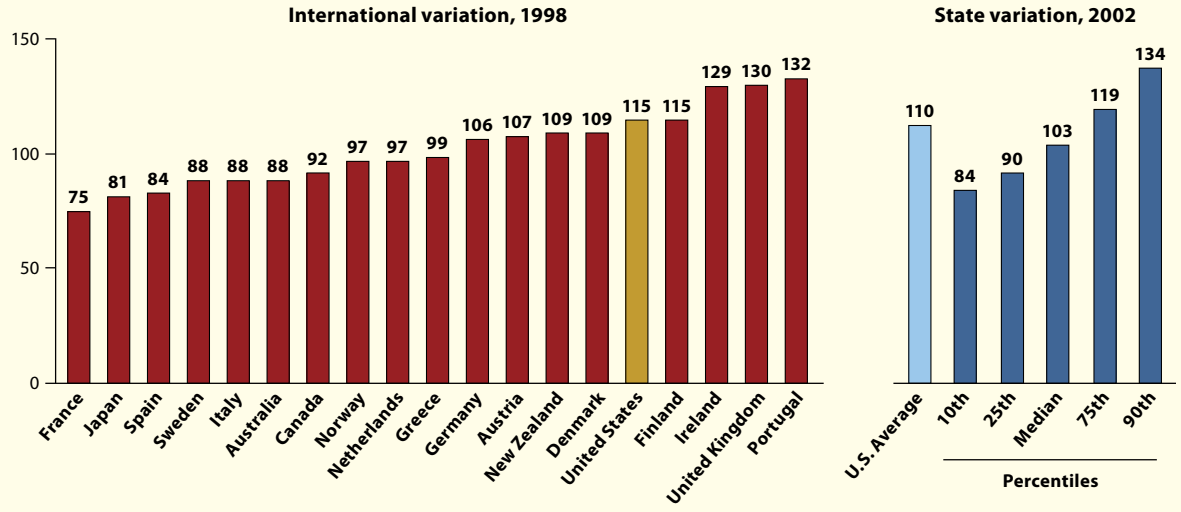
Preventable Mortality

One indicator focuses on mortality from conditions "amenable to health care"—a measure widely used in Europe—by aggregating deaths before age 75

LONG, HEALTHY & PRODUCTIVE LIVES FIGURE 2

Mortality Amenable to Health Care

Deaths per 100,000 population*



* Countries' age-standardized death rates, ages 0–74; includes ischemic heart disease
DATA: International estimates—World Health Organization, WHO mortality database (Nolte and McKee 2003); State estimates—K. Hempstead, Rutgers University using Nolte and McKee methodology
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

from diseases or conditions that are preventable or treatable with timely, effective medical care.[4] In 1998, the U.S. ranked 15th out of 19 countries on this indicator, with 115 deaths per 100,000 population (Figure 2). The three best-performing countries that represent the benchmark have death rates 30 percent lower than that of the U.S. If mortality in the U.S. were reduced to the benchmark level, the improvement would translate into 88,000 fewer deaths per year.

Within the U.S., deaths from conditions amenable to health care vary remarkably across states. As of 2002, the top 10 percent of U.S. states—with 84 or fewer deaths per 100,000 population—approached the average level achieved by the top-performing countries.[5] The bottom five states, however, which experience 134 or more deaths per 100,000, would rank last among advanced, industrialized countries.

Infant Mortality

The U.S. also fares poorly in the area of infant mortality. Of 23 countries, the U.S ranked last on this indicator, with a rate of seven infant deaths per 1,000 live births, more than double the rates of the top three countries, Iceland, Japan, and Finland (2 to 3 per 1,000 births), and well above the median rate for high-income, industrialized countries (4.4 per 1,000 births). Improving infant mortality to levels achieved by the leading, benchmark countries would reduce infant deaths by more than 17,000 each year. Again, performance is highly variable within the U.S. But even the best five U.S. states (5.3 deaths per 1,000 live births) lag well behind the international leaders; states at the bottom are almost twice as high (9.1 deaths per 1,000 live births).[6]

Life Impacts of Poor Health

Rates of chronic disease have been rising among both adults and children in the U.S., pointing to the need for systems of care and public policies that promote and help maintain health. The U.S. ranked among the bottom of industrialized countries on healthy life expectancy at age 60, reflecting both the shorter life expectancy for U.S. men and women and the higher number of years lived in poor health resulting from chronic illness or disability.[7] By age 60, U.S. rates of healthy life expectancy fall two to four years short of rates achieved by leaders Japan, Switzerland, and France.

Within the U.S., the Scorecard finds wide disparities among the states in the percentage of working-age adults who report health-related limits on their ability to work or carry on other activities, and in the percentage of school-age children who miss 11 or more days from school due to illness or injury. The U.S. average adult disability rate is one-fourth worse than the best five U.S. states, as is the rate of health-related school absences. Certainly, performance on these indicators also reflects a variety of environmental factors, such as living and working conditions. But it is also true that the availability of timely and effective health care can prevent or delay the onset of disabling health conditions, while improving functioning and reducing complications from such illnesses.

QUALITY OF CARE

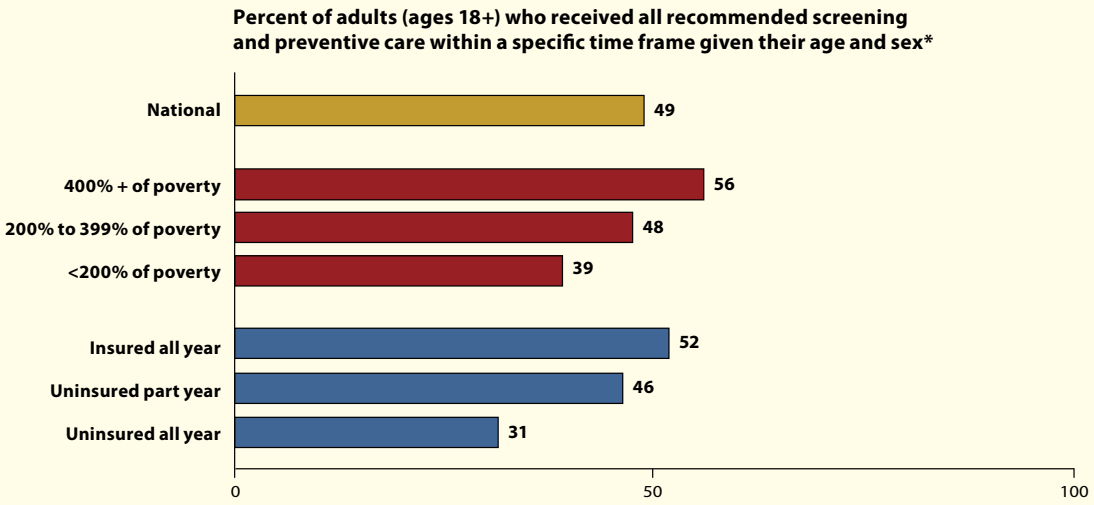
TOTAL AVERAGE SCORE: 71
The Right Care 71
Coordinated Care 70
Safe Care 69
Patient-Centered, Timely Care 72

Ensuring that patients get "the right care" and that the care delivered is safe, timely, well-coordinated, and patient-centered is the essential foundation of high-quality care. Averaging U.S. scores for these components of quality yields an overall quality score of 71 out of 100—about 30 percent below the Scorecard's benchmark rates. On key indicators of preventive care, chronic disease control, care coordination, and timely access to care, national scores are well below benchmarks. Within the U.S., differences between best and worst performance among states, hospitals, and health plans are often startling.

The Right Care

An important measure of quality in health care is the underuse of treatments that, according to evidence-based guidelines, are effective and appropriate for a given condition—in other words, that represent *the right care.* Across indicators of right

Receipt of Recommended Screening and Preventive Care for Adults, by Family Income and Insurance Status, 2002



* Recommended care includes seven key screening and preventive services: blood pressure, cholesterol, Pap, mammogram, fecal occult blood test or sigmoidoscopy/colonoscopy, and flu shot
DATA: B. Mahato, Columbia University analysis of 2002 Medical Expenditure Panel Survey
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

care, the U.S. averages 71 percent of benchmark rates, with scores for individual indicators ranging from 39 to 89.

Preventive care. One area of relatively good performance is immunizations for children. Four of five children (79%) received all recommended doses of five key vaccines—an indicator that has been targeted for improvement by many public and private efforts over the years. Yet that positive news is tempered by evidence that receipt of timely vaccines and other preventive care varies greatly by where children live. There is a 25-percentage-point spread between the top five states and the bottom five states in children's receipt of annual medical and dental preventive care (73% vs. 48%). Meanwhile, barely half of adults (49%) receive recommended periodic clinical screening tests and preventive care; the Scorecard's recommended target rate is 80 percent (Figure 3).

Mental health care. Adults and children in need of mental health services often fail to receive them. Only 47 percent of all adults with serious mental health needs, and 59 percent of children in need of mental health care, receive any care during the year. Rates for adults and children are low even among high-income groups, which would be expected to receive better care. The extent to which children with mental or behavioral health needs received at least some care also varies significantly across states.

Chronic disease management. The Scorecard highlights substantial room for improvement in the care of patients with chronic disease—even those patients who have health insurance. According to health plan data reported to the National Committee for Quality Assurance (NCQA), there is as much as a 45-point difference in performance between the top and bottom 10 percent of private, Medicare, and Medicaid health plans regarding the proportion of patients who have their diabetes or hypertension under control. NCQA estimates that improving national rates of management of these two conditions to levels achieved by the top plans would potentially prevent 20,000 to 40,000 deaths each year, save from $1 billion to $2 billion in medical costs, and save $7 billion in lost productivity and 46 million sick days.[8]

Hospital care for common conditions. Gaps are also evident in hospital care for some common serious conditions: heart attacks, congestive heart

failure, and pneumonia. In the best hospitals, adherence to broadly accepted care guidelines for these conditions reached 100 percent. But according to a composite measure based on 10 clinical indicators that hospitals report to the Medicare program, recommended care was delivered only 84 percent of the time.[9]

Coordinated Care

Coordination of patient care throughout the course of treatment and across various sites of care helps to ensure appropriate follow-up treatment, minimize the risk of error, and prevent complications. There are additional benefits to patients as well: reduced stress and confusion surrounding their treatment, and time saved in navigating a complex health care system.

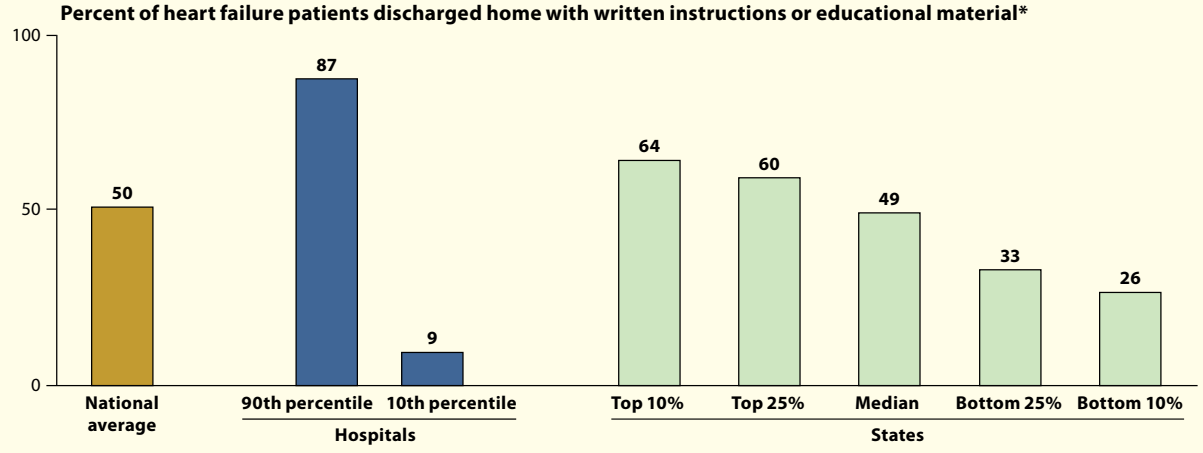
Poor care coordination is pervasive in the U.S. Failure to properly coordinate and integrate care raises the costs of treatment, undermines delivery of appropriate, effective care, and puts patients' safety at risk.[10] The overall average score for coordinated care was only 70 out of 100, with wide disparities in performance across the country on individual indicators.

Regular source of primary care. Maintaining continuity in care is difficult when the patient does not have a medical home—a primary care doctor who serves as an easily accessible, central source of care and referrals to specialists. Yet, one-third of adults (31%) and more than half of all children (54%) do not have such a doctor, based on surveys of patients and parents. Not surprisingly, having health insurance helps facilitate connections with an accessible and accountable primary care provider. Individuals insured all year have a primary care connection at twice the rate of uninsured people. The Scorecard further reveals uneven primary care access for children in the U.S.: those who have a primary care medical home ranges from a high of 60 percent in the top five states to a low of 36 percent in the bottom five states.

Coordination of care for hospital patients. Ensuring coordination of care is especially critical at the time of discharge from the hospital.[11] For example, has a hospital physician or nurse reviewed with the patient, prior to discharge, how newly prescribed medications might interact with medications the patient had been previously taking? Too often in this country, the answer

QUALITY: COORDINATED CARE FIGURE 4

Heart Failure Patients Given Written Instructions or Educational Materials When Discharged, by Hospitals and States, 2004



* Discharge instructions must address all of the following: activity level, diet, discharge medications, follow-up appointment, weight monitoring, and what to do if symptoms worsen
DATA: National and hospital estimates— A. Jha and A. Epstein, Harvard University analysis of data from Hospital Quality Alliance reporting system; State estimates—Retrieved from Hospital Compare database at www.hospitalcompare.hhs.gov
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

is "no". Compared with Germany, the leading performer on this indicator among a group of six countries studied, patients in the U.S. are substantially less likely to have their medications reviewed before being discharged from the hospital (86% vs. 67%).[12]

The Scorecard also tells us that lack of hospital discharge planning may be the norm rather than the exception. For patients hospitalized with complex or chronic diseases, proper discharge planning ensures that patients understand what to do when they get home, whom to call if they have questions or concerns, and how to make arrangements for follow-up care—all necessary to head off medical complications and yet another hospital stay. Using congestive heart failure as a marker for hospital discharge planning, the Scorecard finds that patients receive care instructions only 50 percent of the time, on average, with an 80-percentage-point gap between the top and bottom 10 percent of hospitals (Figure 4).

Hospitalizations of nursing home residents. For long-term care patients, nursing homes and home health care agencies can also help keep down hospitalization and rehospitalization rates by providing high-quality care to their clients. Currently, one of six U.S. nursing home residents, on average, is hospitalized each year, and of those discharged from a hospital to a nursing home, one of eight (12%) is readmitted within 30 days. These national averages are 50 percent higher than the rates achieved by the five top-performing states, with a twofold variation in rates between top and bottom states.[13] The hospital admission rate for home health care patients nationally (28%) is also well above the benchmark set by top-performing home health agencies (17%).[14]

The Medicare Payment Advisory Commission estimates that 28 percent of readmissions from nursing homes and home health agencies are potentially preventable.[15] Indeed, studies indicate that facilities that invest in nurse staffing and enhanced training for nurse aides have lower rates of hospitalization of nursing home residents for preventable conditions.[16] Current reimbursement policies and financial incentives, however, tend to undermine rather than support such efforts.

Safe Care

More than six years after the Institute of Medicine published its landmark report, *To Err Is Human,* the U.S. still lacks medical error reporting systems to assess safety or to target areas for improvement at the national, state, and local levels.[17]

For those indicators for which benchmarks are available, the Scorecard's average safety grade is only 69 out of 100. Unacceptably high risks to patient safety cut across settings of patient care, from doctors' offices to hospitals. One-third of American patients surveyed said that in the last two years, a medical mistake or a medication or lab test error was made during their care.[18] It would take a one-third reduction in the U.S. error rate to reach the levels of the top countries, the United Kingdom and Germany.

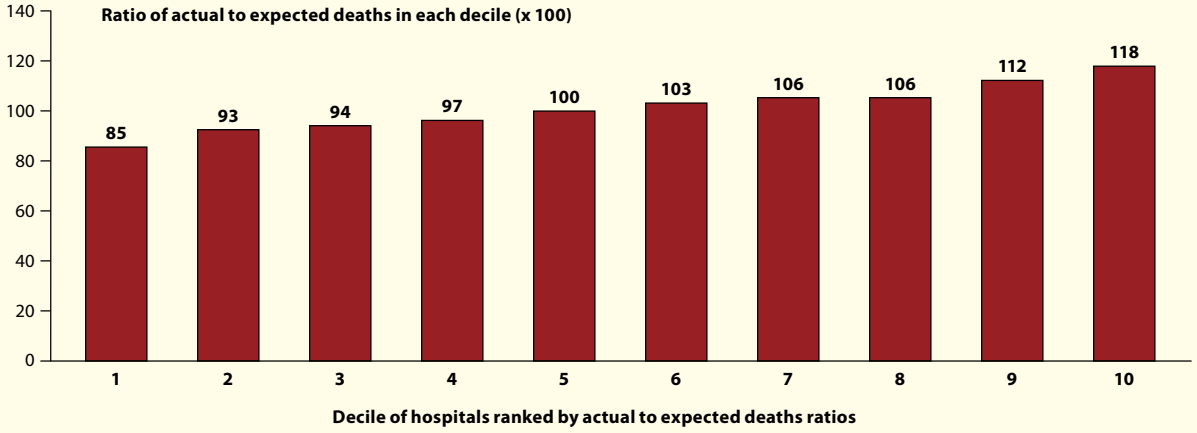
Drug safety. Based on three indicators of prescription drug safety, recent national trends appear to be heading the wrong way. In doctors' offices, patients who experienced adverse drug effects are up over the past five years.[19] Although rates are down compared with a decade ago, the proportion of elderly adults prescribed one of 33 drugs listed as inappropriate for the elderly has edged up since 2000, and the proportion of children prescribed antibiotics for sore throats has ticked up since 1998.[20] These indicators underscore the importance of closely monitoring trends.

Adverse drug events are often caused by inadequate care coordination, especially for patients in the care of multiple physicians or undergoing the transition from hospital to community-based physician care. A recent study found that one of five hospitalized patients experienced an adverse event within a month of discharge; of these, two-thirds (66%) were medication-related.[21] In ambulatory care settings, the greater the number of doctors involved in a patient's care, the higher the number of medication errors reported. Yet, patients with complex medications regimens say that their doctors often fail to review all medications prescribed.[22]

QUALITY: SAFE CARE FIGURE 5

Hospital-Standardized Mortality Ratios, 2000–2002

Standardized ratios compare actual to expected deaths, risk-adjusted for patient mix and community factors. Medicare national average for 2000 = 100



DATA: B. Jarman analysis of Medicare discharges from 2000 to 2002 for conditions leading to 80 percent of all hospital deaths
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

Nursing home pressure sores. In nursing homes, residents who do not receive adequate care can develop pressure sores, which carry the risk of serious complications. It would take a 33 percent reduction in national pressure sore rates to reach the level achieved by the top 10 percent of states.

Hospital mortality. Both in the U.S. and abroad, safety indicators based on standardized hospital mortality ratios are being used to assess patient safety and identify areas for improvement.[23] These ratios, which contrast actual death rates to expected rates based on average mortality nationally, are adjusted for relevant patient and community risk factors. Standardized mortality ratios using data for Medicare beneficiaries from 2000 to 2002 show a 33-percentage-point gap between the best-performing group of hospitals (lowest mortality ratios) and worst-performing group (Figure 5).[24] If hospitals brought observed mortality rates to levels expected given patient mix—as many as 21,000 lives per year would be saved over the three-year period. Reducing mortality ratios even further to the levels achieved by the top-performing hospitals would more than triple the number of lives saved.

Patient-Centered and Timely Care

Patient-centered care, as the term implies, is care delivered with the patient's needs and preferences in mind. Open and clear communication between doctor and patient is a key component. When care is both patient-centered and delivered in a timely manner, patients are more likely to adhere to treatment plans, to be fully engaged in care decisions, and to receive better care overall.

Scorecard indicators based on patients' experiences indicate major deficiencies in timeliness of care and in communication. The overall score for patient-centered and timely care is 72. National scores on certain component indicators are as much as 47 percent below benchmarks set by leading countries, health plans, or hospitals.

Rapid access to primary care. Compared with patients in several other countries, those in the U.S. are notably less likely to have rapid access to a physician when sick—either the same or next day—or to find it easy to obtain physician care after-hours without going to the emergency room (ER).[25] Nearly one of four (23%) U.S. adults reported having to wait six or more days for care when they needed medical attention. Nearly two-thirds of U.S. adults (61%) find it difficult to get after-hours care

without going to the ER, compared with 25 percent of adults in Germany, the benchmark country. Studies conducted in the U.S. indicate that improved after-hours care and primary care access can reduce relatively costly visits to the ER, particularly for higher-risk, low-income populations.[26]

Self-management plan for chronic conditions. For patients with chronic illnesses such as hypertension and diabetes, having a self-management plan promotes greater responsibility for controlling their condition. Such plans can not only improve health outcomes, but they can lower the cost of care.[27] Yet, only three of five adults with chronic conditions in the U.S. are provided with a self-management plan.[28] In this instance, the U.S. average rate (58%) is not far off the international benchmark rate (65%), though both fall far short of what would be considered good performance.

Hospital responsiveness to patients. Hospitalized patients' experiences reported in the CAHPS (Consumer Assessment of Health Providers and Systems) Hospital Survey benchmarking database also reveal a wide range of performance on patient-centered indicators. For example, there is an 18-to-22 percentage point differential between the top- and bottom-performing groups of hospitals on how well they manage pain well, respond when patients press call buttons or need help going to the bathroom, or explain medications and possible side effects (Figure 6).[29] As a result, national averages are well below benchmarks set by the top 90th percentile of hospitals.

HEALTH CARE ACCESS

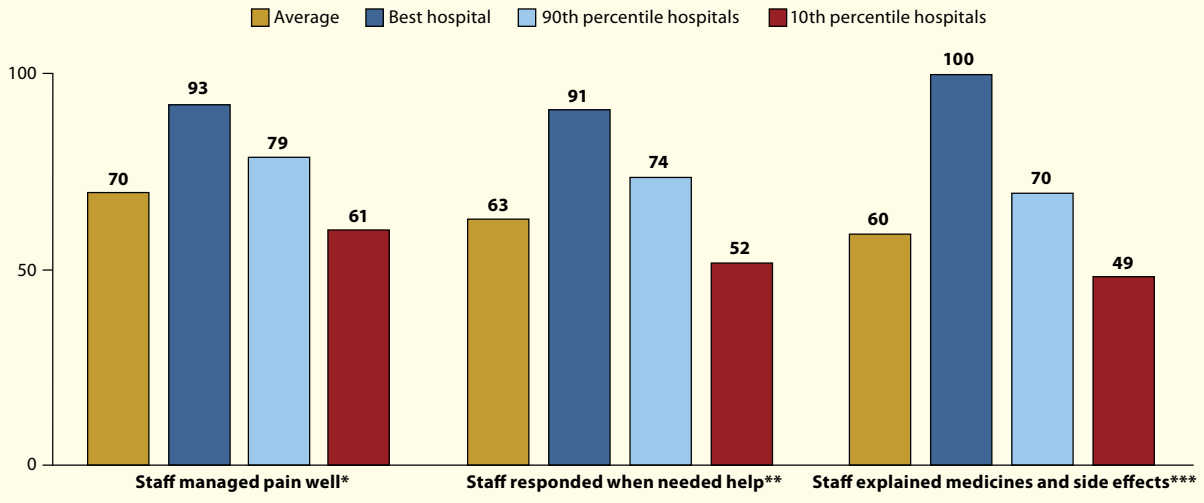
TOTAL AVERAGE SCORE: 67
Participation 65
Affordability 69

Access to care is a critical hallmark of health system performance, and the single most important factor determining whether people can obtain essential health care is whether they have health insurance coverage.[30] New studies also underscore how important comprehensive health benefits are to ensuring affordability of needed care and protection from medical costs.[31] Even for those with health insurance, high out-of-pocket costs relative to income

QUALITY: PATIENT-CENTERED, TIMELY CARE — FIGURE 6

Patient-Centered Hospital Care: Staff Managed Pain, Responded When Needed Help, and Explained Medicines, by Hospitals, 2005

Percent of patients reporting "always"



* Patient's pain was well controlled and hospital staff did everything to help with pain
** Patient got help as soon as wanted after patient pressed call button and in getting to the bathroom/using bedpan
*** Hospital staff told patient what medicine was for and described possible side effects in a way that patient could understand
DATA: CAHPS Hospital Survey results for 254 hospitals submitting data in 2005. National CAHPS Benchmarking Database
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

can undermine access and financial security.

Despite an upswing in the business cycle in recent years, the number of uninsured has grown from 39.8 million in 2000 to 46.6 million in 2005, with working-age adults accounting for the entire increase.[32] Health insurance premiums, meanwhile, have been increasing at rates three to four times faster than wages, placing tremendous strain on families and employers alike.[33]

The Scorecard monitors participation in the health system and affordability of care, the two major components of access. For each, benchmarks include rates of actual performance as well as policy targets, such as ensuring that 100 percent of the population has adequate health coverage. The low scores of 65 for participation and 69 for affordability both fall well short of what is attainable.

Participation

Universal participation is essential for dramatic improvement in health care outcomes as well as overall performance of the U.S. health system. The Scorecard indicator for participation—insurance coverage—tracks the proportion of under-65 adults who are insured all year and enjoy adequate financial protection. Inadequate protection, or being "underinsured," is defined as having out-of-pocket medical expenses that exceed 10 percent of family income, or 5 percent for those whose incomes amount to less than twice the federal poverty level or whose insurance deductibles alone constitute 5 percent or more of income.

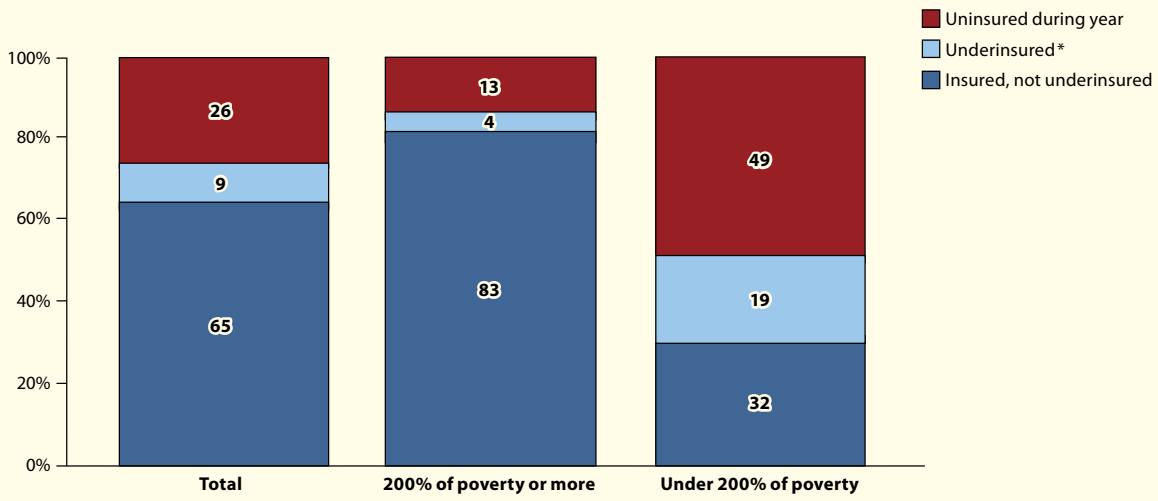
As of 2003, 16 million adults were underinsured. Including those who were uninsured for any time during the year, 61 million adults, or 35 percent of all adults ages 19 to 64, were either uninsured or underinsured (Figure 7).[34] Not having stable adequate coverage, much like having no coverage at all, limits access to care. Forty percent of U.S. adults and 57 percent of adults with below-average incomes reported in 2004 that they went without care during the year because of the cost—four times higher than in the U.K., a country with universal health insurance coverage and other protective policies.[35]

Affordability

Two of the Scorecard's three indicators of affordability focus on out-of-pocket costs and insurance premium costs. The first one tracks the proportion

ACCESS: UNIVERSAL PARTICIPATION — FIGURE 7

Adults Ages 19–64 Who Are Uninsured and Underinsured, by Poverty Status, 2003



* Underinsured defined as insured all year but experienced one of the following: medical expenses equaled 10% or more of income; medical expenses equaled 5% or more of income if low-income (<200% of poverty); or deductibles equaled 5% or more of income
DATA: 2003 Commonwealth Fund Biennial Health Insurance Survey (Schoen et al. 2005)
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

of families spending 10 percent or more of their income on out-of-pocket costs or premiums, or, for low-income families, 5 percent or more of income. It shows that high out-of-pocket and premium costs relative to income affect 17 percent of all nonelderly families, including nearly half (46%) of poor families.[36] The second indicator, which tracks variation by state in the share of income devoted to employer premium costs, find that only 58 percent of the under-65 adult population live in a state where premiums average less than 15 percent of median household income.

The third affordability indicator looks at rates of unpaid medical bills and accumulated medical debt. The percentage of adults who are contacted by bill collectors for unpaid medical bills, or are paying medical debt off over time, has been increasing. By 2005, one-third (34%) of all adults under 65 reported having medical debt, being contacted by creditors, or experiencing problems paying medical bills (Figure 8).[37] Although those who were uninsured during the year or had below-average incomes were disproportionately affected, more than one-third (38%) of families with incomes between 200 and 400 percent of the poverty level were in medical debt or had problems paying bills.

EFFICIENCY OF THE HEALTH SYSTEM

TOTAL AVERAGE SCORE: 51

An efficient, high-value health care system seeks to maximize the quality of care and outcomes given the resources committed, while ensuring that additional investments yield net value over time. Although the U.S. devotes far more of its economic resources to health care than other countries, its international ranking on quality-of-care indicators is remarkably low.

The Scorecard uses eight efficiency/value indicators, which it contrasts against benchmarks. With an average score of 51 out of 100 in relation to benchmarks, the U.S. has ample room to reduce costs by improving access and quality, and by making the delivery and financing of care more efficient.

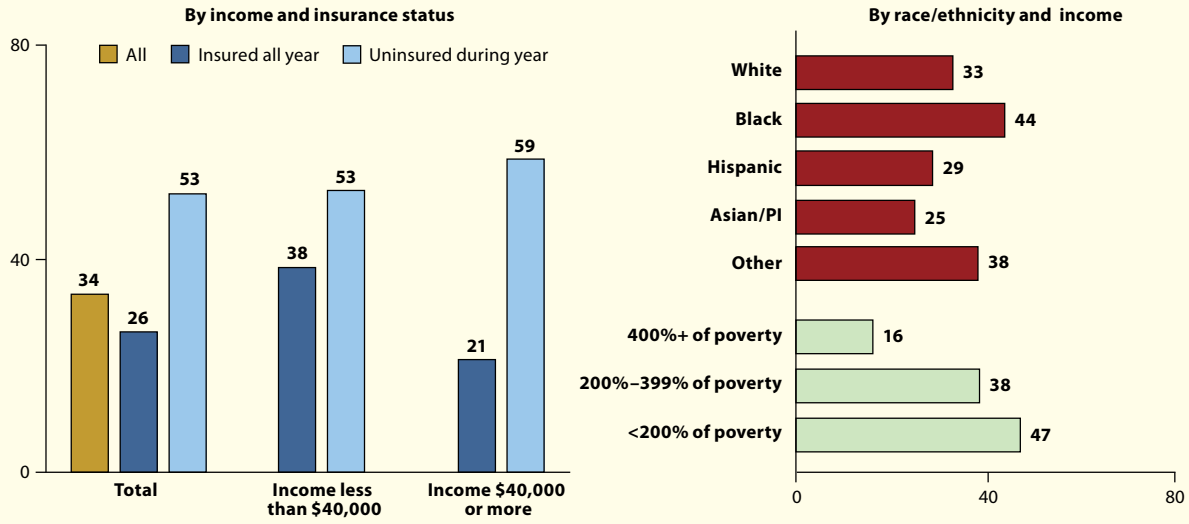
Overuse, Inappropriate Care, or Waste

In the U.S., financial incentives encourage and reward physicians and hospitals to "do more," even

ACCESS: AFFORDABLE CARE FIGURE 8

Medical Bill Problems or Accrued Medical Debt, 2005

Percent of adults (ages 19–64) with any medical bill problem or outstanding debt*



* Problems paying or unable to pay medical bills, contacted by a collection agency for inability to pay medical bills (only), had to change way of life to pay bills, or has medical debt being paid off over time. PI = Pacific Islander
DATA: Analysis of 2005 Commonwealth Fund Biennial Health Insurance Survey; Collins et al. 2006
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

though doing more too often means that duplicative services, or services of marginal or no value, are being provided. NCQA has begun tracking potential overuse or inappropriate use of health services by measuring the use of imaging tests for lower-back pain within 28 days of onset, when the patient has no apparent risk factors or signs of serious pathology.[38] Within commercial and Medicaid managed care plans, average rates for this indicator of potentially inappropriate testing were 50 percent higher than rates reported by the lowest 10 percent of health plans. Sharp increases in such diagnostic testing in recent years have driven up Medicare program costs.[39]

Inefficient, fragmented care results in wasted time and effort. Compared with adults in other countries, U.S. adults with health problems are more likely to show up to their doctor's appointment only to find that their medical records or test results are not available: in a recent survey, 23 percent of U.S. adults reported that test and medical records were not available when needed, versus 11 to 12 percent of adults in Germany and Australia. U.S. patient-reported rates of doctors unnecessarily repeating tests (duplicate tests) are triple the rates in the benchmark country (18% in U.S. vs. 6% in U.K.).[40]

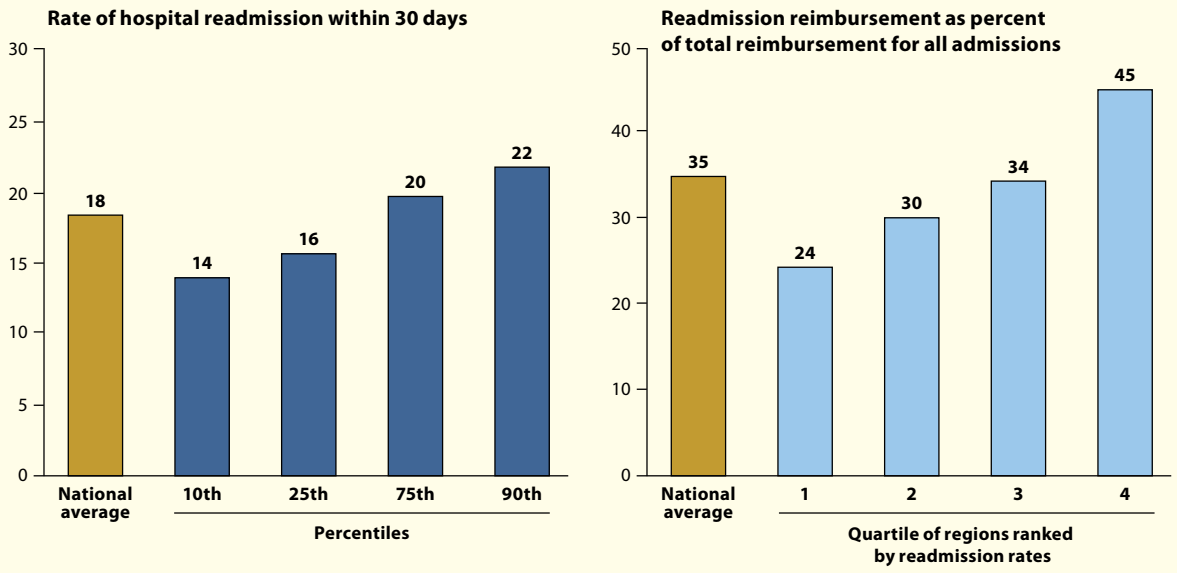
Access and Efficiency

Having timely access to primary care, whether during regular office hours or after-hours, can avert the need for expensive visits to the ER or admission to the hospital. It can further reduce costs by lessening the risk of developing medical complications. Based on a cross-national survey of six nations, U.S. adults' use of the ER for conditions that could have been treated by a primary care physician if one were available is four times higher than in countries with better access to community-based care. It would require nearly an 80 percent reduction in U.S. rates for this indicator to reach rates achieved in the benchmark country (26% in U.S. vs. 6% in Germany).

Rates of ambulatory care sensitive (ACS) hospital admissions vary widely across U.S. states. For three of the most frequent chronic condition admissions—congestive heart failure, diabetes, and pediatric asthma—there is a two- to fourfold spread between states with the lowest and highest

EFFICIENCY FIGURE 9

Medicare Hospital 30-Day Readmission Rates and Associated Costs, by by Hospital Referral Regions, 2003



DATA: G. Anderson and R. Herbert, Johns Hopkins University analysis of 2003 Medicare Standard Analytical Files (SAF) 5% Inpatient Data
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

rates of admissions. Current national rates for the three indicators of potentially preventable hospitalization are twice the level achieved by the top states. Based on federal estimates of costs for all ACS admissions, bringing national rates down by 20 percent to 30 percent would amount to savings of $8 billion to $13 billion annually.[41]

Variations in Quality and Costs

Good care provided during a hospital stay and appropriate follow-up following discharge can prevent the patient's later readmission to the hospital, thus reducing the total costs of care. Evidence from the Medicare program reveals wide variations across the country in the quality and cost of hospital care.

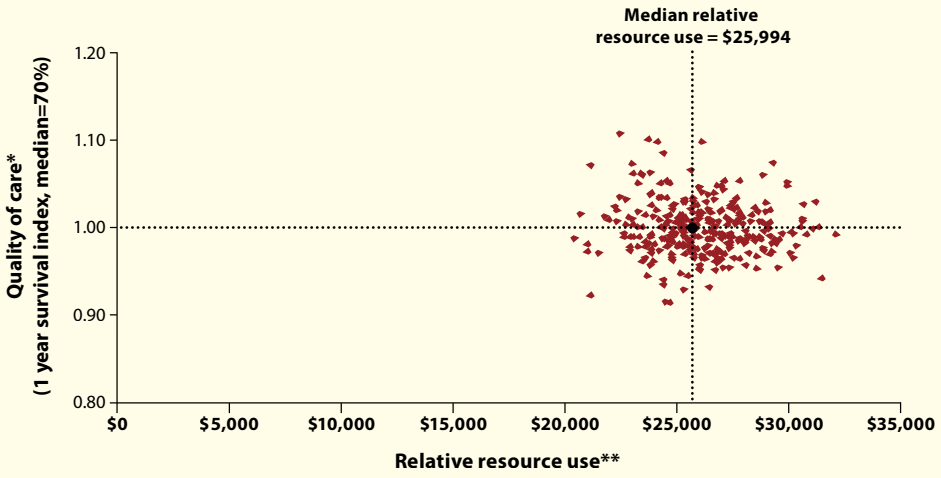
Looking at hospital readmissions of Medicare patients for selected conditions, the Scorecard found, on average, that 18 percent of patients initially hospitalized with one of a set of selected conditions, including congestive heart failure, are readmitted to the hospital within 30 days (Figure 9).[42] Medicare 30-day readmission rates vary significantly across states as well as in hospital regions within states; rates in the worst 10 percent of regions are more than 50 percent higher than in the best 10 percent of regions. Bringing all regional readmission rates down to levels achieved by the top-performing 10 percent of regions would save Medicare $1.9 billion annually.[43]

In addition, Medicare costs of care are highly concentrated among patients with multiple chronic conditions. Focusing on these patients offers opportunities to improve care outcomes and use resources more efficiently. For example, annual Medicare costs of care average $32,000 for patients with congestive heart failure, diabetes, and chronic lung disease (all three conditions).[44] But cost and care vary significantly across the country. On average, Medicare annual costs are 50 percent higher than the lowest-cost regions for patients with two to three of these conditions, with a twofold spread between the lowest and highest 10 percent of hospital referral regions.

Additional analysis of regional variations for hospitalized Medicare patients show that some regions of the country achieve better outcomes than other regions, and at lower cost, through more efficient systems. To identify high-performing regions, Medicare data for patients hospital-

EFFICIENCY FIGURE 10

Quality and Costs of Care for Medicare Patients Hospitalized for Heart Attacks, Colon Cancer, and Hip Fracture, by Hospital Referral Regions, 2000–2002

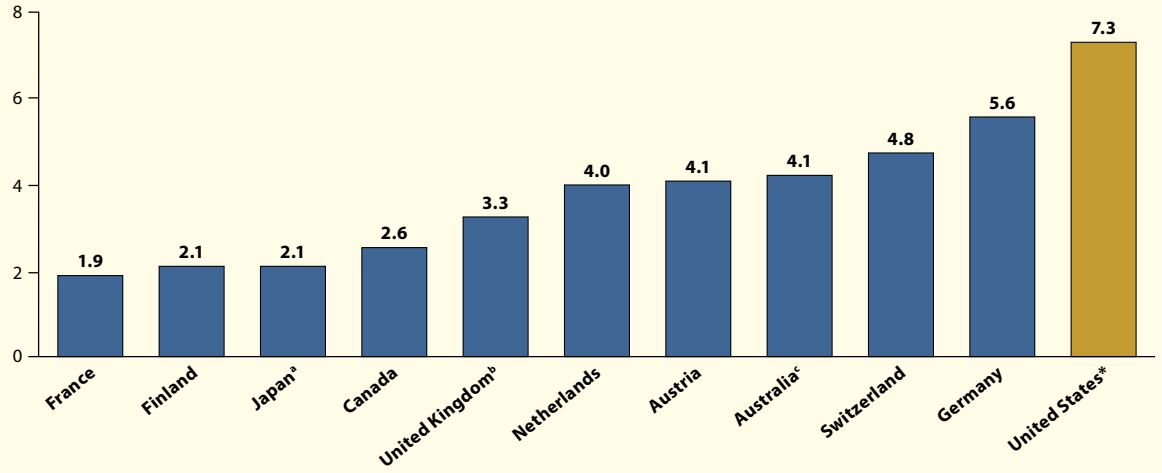


* Indexed to risk-adjusted 1 year survival rate (median= 0.70)
** Risk-adjusted spending on hospital and physician services using standardized national prices
DATA: E. Fisher and D. Staiger, Dartmouth College analysis of data from a 20% national sample of Medicare beneficiaries
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

EFFICIENCY FIGURE 11

Percentage of National Health Expenditures Spent on Health Administration and Insurance, 2003

Net costs of health administration and health insurance as percent of national health expenditures



[a] 2002 [b] 1999 [c] 2001

* Includes claims administration, underwriting, marketing, profits, and other administrative costs; based on premiums minus claims expenses for private insurance

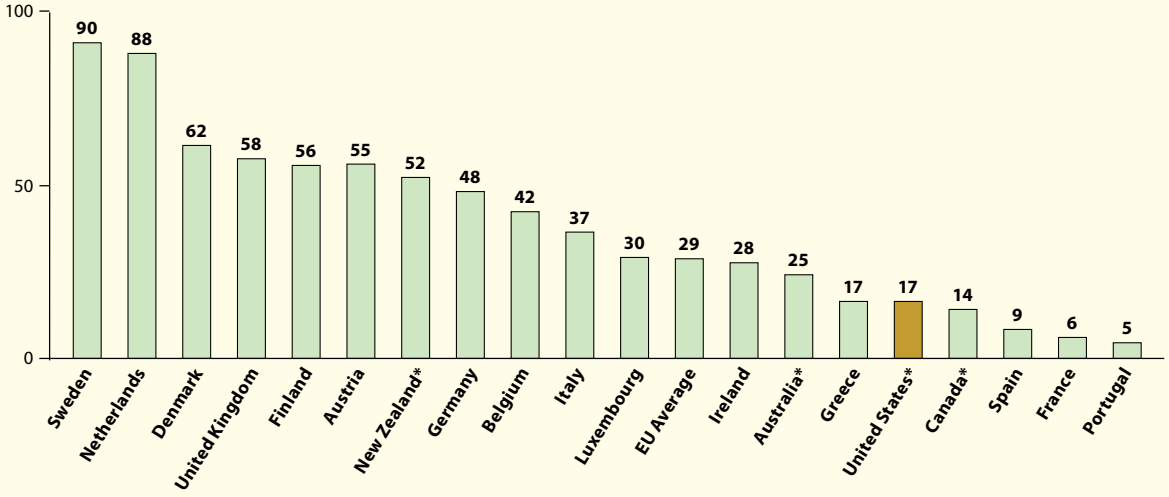
DATA: OECD Health Data 2005

SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

EFFICIENCY FIGURE 12

Physicians' Use of Electronic Medical Records, U.S. Compared with Other Countries, 2001

Percent of physicians



* 2000

DATA: 2001 European Union EuroBarometer and 2000 Commonwealth Fund International Health Policy Survey of Physicians (Harris Interactive 2002)

SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

ized between 2000 and 2002 for heart attacks, hip fracture, or colon cancer were used to rank all hospital referral regions in terms of their care outcomes and relative resource use (Figure 10).[45]

One-year mortality rates on this composite indicator of three conditions ranged from a low of 27 percent in the top-performing 10 percent of hospital referral regions to a high of 32 percent in the bottom 10 percent of regions. Risk-adjusted annual costs ranged from a high of $29,000 in the highest 10 percent of regions to $23,000 in the lowest 10 percent. A high proportion of those regions with the lowest one-year mortality rates also had lower total resource costs over the course of the year. In all, Medicare could save an estimated 8,400 lives and reduce annual costs by nearly $900 million for these three conditions alone if all other U.S. regions could achieve the performance levels of the benchmark regions.

Insurance Administrative Costs

Private health insurance in the U.S. is characterized by complex benefit and cost-sharing designs and high rates of turnover in plan enrollment. Health plans also incur significant marketing and underwriting costs. These costs add up: over the past five years, the net cost of insurance administration has increased by 75 percent.[46]

No detailed studies have been done in this country to estimate what part of administrative costs could be reduced with standardization, streamlined functions, and greater collaboration. However, by venturing outside our borders we can find possible models. As a percentage of national health expenditures, U.S. insurance administrative costs are more than three times the rates found in countries with the most integrated insurance systems (France, Finland, and Japan) (Figure 11). Rates in the U.S. were also 20 to 30 percent higher than those in Germany and Switzerland, two countries where private insurance plays a substantial role.

Information Systems to Support Efficient Care

Well-integrated electronic information systems have the capacity to improve the delivery and coordination of care, reduce medical errors, and provide a mechanism for tracking and assessing performance.

U.S. physicians lag well behind their counterparts abroad in use of electronic medical records—a

EQUITY FIGURE 13

Equity: Ratio Scores for Insurance, Income, Race/Ethnicity

	Insured compared with uninsured	High-income compared with low-income*	White compared with Black	White compared with Hispanic
EQUITY AVERAGE SCORE	**66**	**62**	**76**	**80**
(number of indicators)	(17)	(25)	(25)	(25)
DIMENSION AVERAGES				
Long, healthy, and productive lives	**NA**	**54**	**77**	**97**
Quality				
The right care	**63**	**71**	**80**	**72**
Safe care	**97**	**95**	**73**	**94**
Patient-centered, timely care	**51**	**57**	**78**	**64**
Universal participation and affordable care	**59**	**29**	**81**	**84**
Coordinated and efficient care	**61**	**64**	**65**	**69**

* Generally income compares either poor/near poor (<200% poverty) to those with incomes of 400% of poverty or higher or compares annual incomes of under $35,000 to incomes above $45,000. For mortality, income uses either census tract poverty rates or education level.
NA = data not available
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

key component of health information technology. Fewer than one of five (17%) U.S. doctors say they use electronic records, compared with 80 percent in the top three countries that make up the benchmark (Figure 12).

EQUITY IN THE HEALTH SYSTEM

TOTAL AVERAGE SCORE: 71
Uninsured 66
Low-Income 62
African American 76
Hispanic 80

Having an equal opportunity to lead a healthy and productive life is consistent with the founding principles of this country. In fact, the elimination of disparities in health and health care has for years been a national policy priority. But gaps nonetheless remain pervasive, and they have even widened in some cases.[47]

Key Roles of Coverage, Income, and Race

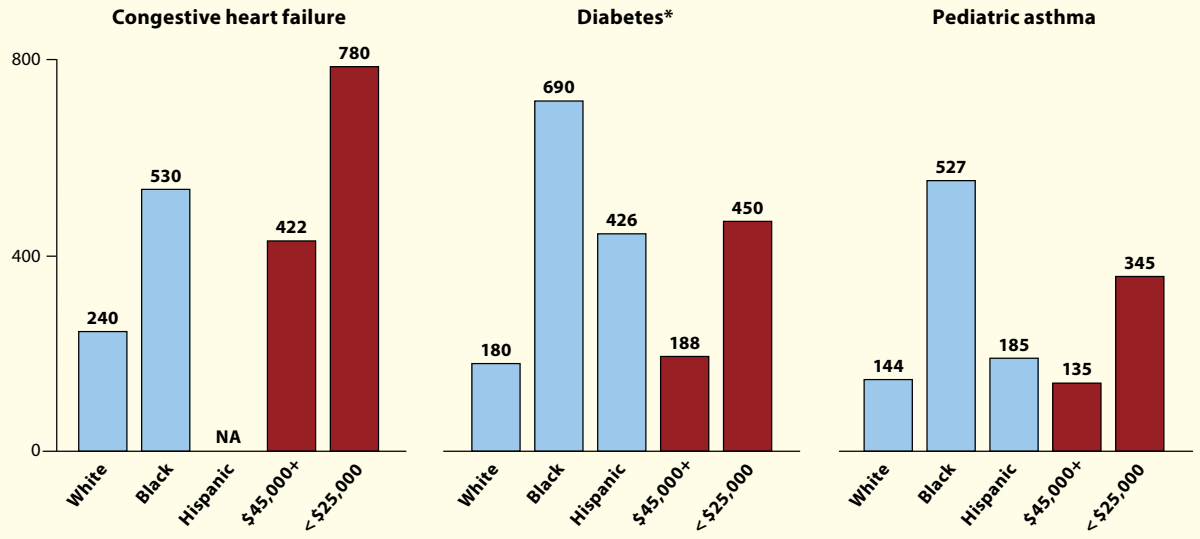
The Scorecard's findings highlight the impact of insurance coverage, income, and race/ethnicity on equity in the health care system. The average gap in health outcomes, quality, access, and efficiency between uninsured populations and the benchmark insured populations is 34 percent, while the gap between low-income and high-income groups is 38 percent (Figure 13).

Likewise, there are wide gaps between minorities and whites—the benchmark group. On average, it would require a 20 percent decrease in Hispanic risk rates on key indicators of quality, access, and efficiency to reach white rates. Hispanics are at particularly high risk of being uninsured, lacking a regular source of primary care, and not receiving essential preventive care. Overall, gaps for African Americans tend to be equally wide or wider; they would require a 24 percent improvement across all indicators, including mortality, to reach the benchmark. Black mortality rates are strikingly higher for heart disease, diabetes,

EQUITY FIGURE 14

Ambulatory Care Sensitive (Potentially Preventable) Hospital Admissions, by Race/Ethnicity and Patient Income Area, 2002

Adjusted rate per 100,000 population



* Four diabetes complications-related admission measures are combined: Uncontrolled, Short–term Complications, Long–term Complications, and Lower Extremity Amputations
Patient Income Area = median income of patient zip code; NA = data not available
DATA: Race/ethnicity estimates—Healthcare Cost and Utilization Project, State Inpatient Databases (disparities analysis files) and National Hospital Discharge Survey (AHRQ 2005a,2005b); Income area estimates—HCUP, Nationwide Inpatient Sample (AHRQ 2005a)
SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

and infant mortality. Blacks also have significantly lower rates of cancer survival.

Compared with the benchmark populations, adults in each vulnerable group are less likely to receive preventive care according to guidelines, more likely to wait for care when they are sick, and more likely to report communication difficulties in the physician's office. Across a variety of indicators, higher-income, insured populations are generally at lower risk for poor access or quality, regardless of race/ethnicity.

Insurance- and income-related disparities are especially prevalent among people with chronic disease. Among adult diabetics, those with private insurance were more than twice as likely as those uninsured to receive all three recommended health services for their condition, with steep differences seen by income as well. Low-income and minority populations also are more likely to require hospitalization for potentially preventable medical conditions, particularly complications of chronic disease (Figure 14). Federal data show that admissions for ACS conditions in low-income communities are at least double those in higher-income communities.[48] Across the board, cancer survival rates included in Scorecard equity indicators are lower for whites, blacks, and Hispanics living in high-poverty areas.[49]

Disparities in care are not only a social concern. They affect performance throughout the health care system, and signify missed opportunities to ensure all Americans the chance of leading long, healthy, and productive lives.

SYSTEM CAPACITY TO INNOVATE AND IMPROVE

NOT SCORED

Until the U.S. enhances its health system capacity to innovate and improve, it is unlikely to see marked improvement in Scorecard performance. The nation has been slow to invest in the research, people, and infrastructure necessary to catalyze and implement change.

A high performance system requires a highly motivated, committed health care workforce, nowhere more so than in the nation's hospitals and long-term care facilities. The current high turnover among such frontline workers as nursing home aides—a result of low wages, a lack of benefits, and stressful working conditions—puts the health and quality of life of patients and residents at serious risk. The average national turnover rate among nursing home aides, 71 percent, is double the rates achieved in the top five states.[50] Studies indicate that redesigning nursing homes to be more "resident-centered" and increasing staff autonomy and input in decision-making could improve both quality of life and staff retention.[51] Improved staffing can also prevent complications leading to hospital admissions and readmissions, for a net gain in health and efficiency.

In the future, transformative change within the U.S. health care system will likely come from innovations in the way care is organized and delivered, and from better research in support of evidence-based medicine. At present, U.S. investment in research on evidence-based care, comparative effectiveness of care, and systems innovations is not commensurate with the scope, cost, and complexity of the nation's health system. Only 2.1 percent of total national health expenditures, or $39 billion, is spent on research. Of this, the federal government spends an estimated $1.5 billion on health systems research, or less than $1 for every $1,000 in national health care spending.[52]

Stepping Back: Scorecard Findings in Context

THE CASE FOR A SYSTEMS APPROACH TO CHANGE

The Scorecard results make a compelling case for change. Simply put, we fall far short of what is achievable on all major dimensions of health system performance. The overwhelming picture that emerges is one of missed opportunities—at every level of the system—to make American health care truly the best that money can buy.

And let there be no doubt, these results are not just numbers. Each statistic—each gap in actual versus achievable performance—represents illness

that can be avoided, deaths that can be prevented, and money that can be saved or reinvested. In fact, if we closed just those gaps that are described in the Scorecard—we could save at least $50 billion to $100 billion per year in health care spending and prevent 100,000 to 150,000 deaths. Moreover, the nation would gain from improved productivity. The Institute of Medicine, for example, estimates national economic gains of up to $130 billion per year from insuring the uninsured.[53]

The central messages from the Scorecard are clear:

- Universal coverage and participation are essential to improve quality and efficiency, as well as access to needed care.
- Quality and efficiency can be improved together; it is essential to look for improvements that yield both results. Taken together preventive and primary care quality deficiencies undermine outcomes for patients and contribute to duplicate efforts, inefficient use of specialized care, and higher rates of hospital admission and readmission, raising the cost of care.
- Failures to coordinate care for patients over the course of treatment as they see multiple physicians, are hospitalized and re-hospitalized, and are cared for at home, by home health aides, or in nursing homes, put patients at risk and raise costs of care. Policies that facilitate and promote linking care providers and information about care will be essential for productivity, safety, and quality gains.
- Financial incentives posed by the fee-for-service system of payment as currently designed undermine efforts to improve preventive and primary care, manage chronic conditions, and coordinate care. We need to devise payment incentives to reward more effective and efficient care, with a focus on value and total costs of episodes of care.
- Research and investment in data systems are important keys to progress. Investment in, and implementation of, electronic medical records and modern health information technology in physician offices and hospitals is low—leaving physicians and other providers without useful tools to ensure reliable high quality care. Attention to the way care is organized and delivered and investment in system innovation are prerequisites to moving toward more efficient, accessible, and higher quality care.
- Savings can be generated from more efficient use of expensive resources, including more effective care in the community to control chronic disease and assure patients timely access to primary care. The challenge is finding ways to re-channel these savings into investments in improved coverage and system capacity to improve performance in the future.
- Setting national goals for improvement based on best achieved rates is likely to be an effective method to motivate change and move the overall distribution to higher levels.

Our health system needs to become a system that focuses on improving health outcomes for people over the course of their lives, as they move from place to place and from one site of care to another. This requires a degree of organization and coordination that we currently lack. Whether through more integrated health care delivery organizations, more accountable physician groups, or more integrated health information systems (in truth, likely all of these), we need to link patients, care teams, and information together. At the same time, processes of care need to be redesigned to deliver safer and more reliable care.

Furthermore, the extremely high costs of treating patients with multiple chronic diseases, as detailed in this report, serve as a reminder that a minority of very sick patients in the U.S. account for a high proportion of national health care expenditures. Payment policies that support integrated, team-based approaches to managing patients with multiple, complex conditions—along with efforts to engage patients in care self-management—will be of paramount importance as the population continues to age.

By assessing the nation's health care against achievable benchmarks, the Scorecard, in a sense, tracks the vital signs of our health system. With rising costs and deteriorating coverage, leadership to transform the health system is urgently needed to secure a healthy nation.

Notes

Indicators labeled "various" in Table 1 include the following components: Indicator 7—Children preventive care: vaccines and preventive care visits; Indicator 8—Mental health: adults and children; Indicator 9—Chronic disease control: diabetes and hypertension; Indicator 13—Coordination at discharge: Rx reviewed, CHF discharge instructions, and follow-up visit after mental health discharge; Indicator 14—Nursing homes: admission and 30-day readmission rates; Indicator 17—Unsafe drug use: ambulatory visits for adverse effects, antibiotics for children with throat infection, and elderly use of inappropriate drugs; Indicator 18—Nursing home pressure sores: high-risk and short-stay; Indicator 24—Patient-centered hospital care: managed pain, responded when needed help, and explained Rx; Indicator 30—Overuse/waste: duplicate tests, test results/records not available at appointment, and imaging study for back pain with no risk factors; Indicator 32—ACS admissions: national (CHF, diabetes, pediatric asthma) and Medicare total ACS; Indicator 35—Medicare annual costs for diabetes, CHF, COPD: patients with all 3 and any 2 conditions.

[1] Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century* (Washington, D.C.: National Academies Press, 2001); Institute of Medicine, *Insuring America's Health: Principles and Recommendations* (Washington, D.C.: National Academies Press, Jan. 2004); E. A. McGlynn, S. M. Asch, J. Adams et al., "The Quality of Health Care Delivered to Adults in the United States," *New England Journal of Medicine,* June 26, 2003 348(26):2635–45.

[2] G. F. Anderson, B. K. Frogner, R. A. Johns et al., "Health Care Spending and Use of Information Technology in OECD Countries," *Health Affairs,* May/June 2006 25(3):819–31.

[3] The indicator set includes 13 from new data analyses and composites developed for the Scorecard. The full set of indicators draws from multiple data sources, including NCQA and AHRQ. For definitions and data sources see *National Scorecard on U.S. Health System Performance: Technical Report* and *National Scorecard on U.S. Health System Performance: Complete Chartpack and Technical Appendix*.

[4] E. Nolte and M. McKee, "Measuring the Health of Nations: Analysis of Mortality Amenable to Health Care," *British Medical Journal,* Nov. 15, 2003 327(7424):1129–33. See *Scorecard Technical Report* for list of conditions considered amenable to health care in the analysis.

[5] Analysis by K. Hempstead, Rutgers University, using Nolte and McKee methodology.

[6] For details and charts for infant mortality and *all other Scorecard indicators,* see *Scorecard Technical Report* and *Scorecard Chartpack and Technical Appendix*.

[7] World Health Organization, *The World Health Report 2003: Shaping the Future* (Geneva, Switzerland: WHO, 2003).

[8] National rates come from AHRQ analyses for all adults. Analysis of plan variations and estimates of potential savings if national rates approached the best 10% of plans come from National Committee for Quality Assurance, *The State of Health Care Quality 2005, Industry Trends and Analysis* (Washington, D.C.: NCQA, 2005).

[9] Analysis by A. Jha and A. Epstein, Harvard School of Public Health. See *Scorecard Technical Report* for list of 10 clinical indicators included in the analysis.

[10] Medicare Payment Advisory Commission, *Report to the Congress, Increasing the Value of Medicare—Chapter 2: Care Coordination in Fee For Service Medicare* (Washington, D.C.: MedPAC, June 2006).

[11] E. Coleman, J. Smith, D. Raha et al., "Posthospital Medication Discrepancies: Prevalence and Contributing Factors," *Archives of Internal Medicine,* Sept. 12, 2005 165(16):1842–47; E. A. Coleman and R. A. Berenson, "Lost in Transition: Challenges and Opportunities for Improving the Quality of Transitional Care," *Annals of Internal Medicine,* Oct. 5, 2004 141(7):533–36.

[12] C. Schoen, R. Osborn, P. T. Huynh et al., "Taking the Pulse of Health Care Systems: Experiences of Patients with Health Problems in Six Countries," *Health Affairs* Web Exclusive (Nov. 3, 2005):W5-509–W5-525.

[13] Analysis by V. Mor, Brown University, for the Scorecard, under a grant funded by the National Institute on Aging.

[14] K. Pace and K. Johnson, "Acute Hospitalization of Home Health Patients Report of Analyses, Literature Review and Technical Expert Panel," Paper presented at the 2005 National Association for Home Care Annual Meeting, Seattle, Wash., and 2005 Tri-Regional QIO Conference, St. Pete Beach, Fla.

[15] Medicare Payment Advisory Commission, *A Data Book: Health Care Spending and the Medicare Program* (Washington, D.C.: MedPAC, June 2005).

[16] O. Intrator, J. Zinn, and V. Mor, "Nursing Home Characteristics and Potentially Preventable Hospitalization of Long-Stay Residents," *Journal of the American Geriatrics Society* Oct. 2004 52(10):1730–36.

[17] R. M. Wachter, "The End of the Beginning: Patient Safety Five Years After *To Err Is Human*," *Health Affairs* Web Exclusive (Nov. 30, 2004):W4-534–W4-545.

[18] Schoen et al., "Taking the Pulse," 2005.

[19] C. Zhan, I Arispe, E. Kelley et al., "Ambulatory Care Visits for Treating Adverse Drug Effects in the United States, 1995–2001," *Joint Commission Journal on Quality and Patient Safety,* July 2005 31(7):372–78.

[20] Agency for Healthcare Research and Quality, *National Healthcare Quality Report 2005* (Rockville, Md.: AHRQ, 2005); J. A. Linder, D. W. Bates, G. M. Lee et al., "Antibiotic Treatment for Children with Sore Throat," *Journal of the American Medical Association,* Nov. 9, 2005 294(18):2315–22.

[21] A. J. Forster, H. J. Murff, J. F. Peterson et al., "The Incidence and Severity of Adverse Events Affecting Patients after Discharge from the Hospital," *Annals of Internal Medicine,* Feb. 4, 2003 138(3):161–74.

[22] Schoen et al., "Taking the Pulse," 2005; I. Wilson, C. Schoen, P. Neuman et al., "Physician–Patient Communication About Prescription Medication Non-Adherence: A 50 State Study of America's Seniors," *Journal of General Internal Medicine*, forthcoming.

[23] B. Jarman, S. Gault, B. Alves et al., "Explaining Differences in English Hospital Death Rates Using Routinely Collected Data," *British Medical Journal*, June 5, 1999 318(7197):1515–20; B. Jarman, A. Bottle, P. Aylin et al., "Monitoring Changes in Hospital Standardised Mortality Ratios," *British Medical Journal,* Feb. 12, 2005 330(7487):329; Institute for Healthcare Improvement, *Move Your Dot: Measuring, Evaluating and Reducing Hospital Mortality Rates* (Cambridge, Mass.: IHI, 2003).

[24] Analysis by B. Jarman, Imperial College, United Kingdom, for the Scorecard. See *Scorecard Technical Report* for methodology.

[25] Schoen et al., "Taking the Pulse," 2005.

[26] R. A. Lowe, A. R. Localio, D. F. Schwarz et al., "Association Between Primary Care Practice Characteristics and Emergency Department Use in a Medicaid Managed Care Organization," *Medical Care,* Aug. 2005 43(8):792–800.

[27] T. Bodenheimer, E. H. Wagner and K. Grumbach, "Improving Primary Care for Patients with Chronic Illness: The Chronic Care Model, Part 2," *Journal of the American Medical Association,* Oct. 16, 2002 288(15):1909–14; MedPAC, *Report to Congress, Increasing Value Medicare*, 2006.

[28] Schoen et al., "Taking the Pulse," 2005.

[29] Based on 254 hospitals submitting 2005 data to the National CAHPS Benchmarking Database. Data provided by AHRQ for the Scorecard.

[30] Institute of Medicine, *Hidden Costs, Value Lost: Uninsurance in America* (Washington, D.C.: National Academies Press, June 2003).

[31] J. Hsu, M. Price, J. Huang et al., "Unintended Consequences of Caps on Medicare Drug Benefits," *New England Journal of Medicine* June 1, 2006 354(22):2349–59; K. Davis, M. M. Doty, and A. Ho, *How High Is Too High? Implications of High-Deductible Health Plans* (New York: The Commonwealth Fund, Apr. 2005).

[32] U.S. Census Bureau, *Income, Poverty and Health Insurance Coverage in the United States: 2005* (Washington, D.C.: U.S. Department of Commerce, Aug. 2006).

[33] S. R. Collins, K. Davis, M. M. Doty et al., *Gaps in Health Insurance: An All-American Problem* (New York, N.Y.: The Commonwealth Fund, Apr. 2006).

[34] C. Schoen , M. M. Doty, S. R. Collins et al., "Insured But Not Protected: How Many Adults Are Underinsured?" *Health Affairs* Web Exclusive (June 14, 2005):W5-289–W5-302.

[35] C. Schoen, R. Osborn, P. T. Huynh et al., "Primary Care and Health System Performance: Adults' Experiences in Five Countries," *Health Affairs* Web Exclusive (Oct. 28, 2004) W4-487–W4-503.

[36] M. Merlis, D. Gould and B. Mahato, *Rising Out-of-Pocket Spending for Medical Care: A Growing Strain on Family Budgets* (New York: The Commonwealth Fund, Feb. 2006).

[37] Collins, *Gaps,* 2006.

[38] NCQA, *State of Health Care Quality,* 2005.

[39] M. E. Miller, "MedPAC Recommendations on Imaging Services," Testimony before the Subcommittee on Health, Committee on Ways and Means, U.S. House of Representatives, Mar. 17, 2005; Medicare Payment Advisory Commission, *Report to the Congress, Medicare Payment Policy—Chapter 3: Issues in Physician Payment Policy* (Washington, D.C.: MedPAC, Mar. 2005).

[40] Schoen et al., "Taking the Pulse," 2005.

[41] Calculation based on national costs from: D. T. Kruzikas, H. J. Jiang, D. Remus et al., *Preventable Hospitalizations: A Window into Primary and Preventive Care, 2000,* HCUP Fact Book No. 5 (Rockville, Md.: AHRQ, Sept. 2004). Costs updated to 2006 using rates of hospital cost increases.

[42] Analysis by G. F. Anderson, Johns Hopkins Bloomberg School of Public Health, for the Scorecard. See *Scorecard Technical Report* for list of conditions used to assess readmission rates.

[43] Calculation based on 2003 variations in Medicare readmission rates and costs per readmission.

[44] Analysis by G. F. Anderson, Johns Hopkins Bloomberg School of Public Health, for the Scorecard.

[45] Analysis by E. Fisher, Dartmouth College, for the Scorecard.

[46] Calculation based on data from: C. Smith, C. Cowan, S. Heffler et al., "National Health Spending in 2004: Recent Slowdown Led by Prescription Drug Spending," *Health Affairs,* Jan./Feb. 2006 25(1):186–96; and C. Borger, S. Smith, C. Truffer et al., "Health Spending Projections Through 2015: Changes on the Horizon," *Health Affairs* Web Exclusive (Feb. 22, 2006):w61–w73.

[47] AHRQ, *National Healthcare Disparities,* 2005.

[48] Kruzikas et al., *Preventable Hospitalizations,* 2004.

[49] G. K. Singh, B. A. Miller, B. F. Hankey et al., *Area Socioeconomic Variations in U.S. Cancer Incidence, Mortality, Stage, Treatment, and Survival 1975–1999,* NCI Cancer Surveillance Monograph Series, No. 4 (Bethesda, Md.: National Cancer Institute, 2003).

[50] American Health Care Association, *Results of the 2002 AHCA Survey of Nursing Staff Vacancy and Turnover in Nursing Homes* (Washington, D.C.: AHCA, 2003).

[51] R. I. Stone, S. C. Reinhard, B. Bowers et al., *Evaluation of the Wellspring Model for Improving Nursing Home Quality* (New York: The Commonwealth Fund, Aug. 2002).

[52] Coalition for Health Services Research, Testimony before the Committee on Appropriation, U.S. House of Representatives, March 29, 2006, http://www.chsr.org/testimony032906.pdf, accessed June 20, 2006.

[53] See the impact section of the *Scorecard Technical Report* for details on dollars and lives estimates.

Further Reading

Publications listed below can be found on The Commonwealth Fund's Web site at www.cmwf.org.

National Scorecard on U.S. Health System Performance: Technical Report (Sept. 2006). Cathy Schoen and Sabrina K. H. How.

National Scorecard on U.S. Health System Performance: Complete Chartpack and Technical Appendix (Sept. 2006). Cathy Schoen and Sabrina K. H. How.

"U.S. Health System Performance: A National Scorecard" (Sept. 20, 2006). Cathy Schoen, Karen Davis, Sabrina K. H. How, and Stephen C. Schoenbaum. *Health Affairs* Web Exclusive.

Framework for a High Performance Health System for the United States (Aug. 2006). The Commonwealth Fund Commission on a High Performance Health System.

Public Views on Shaping the Future of the U.S. Health System (Aug. 2006). Cathy Schoen, Sabrina K. H. How, Ilana Weinbaum, John E. Craig, Jr., and Karen Davis.

Gaps in Health Insurance: An All-American Problem—Findings from the Commonwealth Fund Biennial Health Insurance Survey (Apr. 2006). Sara R. Collins, Karen Davis, Michelle M. Doty, Jennifer L. Kriss, and Alyssa L. Holmgren.

Health Information Technology: What Is the Federal Government's Role? (Mar. 2006). David Blumenthal.

Workers' Health Insurance: Trends, Issues, and Options to Expand Coverage (Mar. 2006). Paul Fronstin.

Toward a High Performance Health System for the United States (Mar. 2006). Anne Gauthier, Stephen C. Schoenbaum, and Ilana Weinbaum.

Quality Development in Health Care in The Netherlands (Mar. 2006). Richard Grol.

Medicare's New Adventure: The Part D Drug Benefit (Mar. 2006). Jack Hoadley.

Measuring, Reporting, and Rewarding Performance in Health Care (Mar. 2006). Richard Sorian.

Can Medicaid Do More with Less? (Mar. 2006). Alan Weil.

Recent Growth in Health Expenditures (Mar. 2006). Stephen Zuckerman and Joshua McFeeters.

A Need to Transform the U.S. Health Care System: Improving Access, Quality, and Efficiency: A Chartbook (Oct. 2005). Anne Gauthier and Michelle Serber.

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