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The First National Snapshot of Health Care Quality in the United States

Study to examine variations in the quality of care

SUMMARY

From 1997 to 2002, researchers with the RAND Corporation assessed the quality of care delivered to a large sample of patients living in 12 U.S. communities. The resulting publications provided the first national snapshot of health care quality in the United States.

Findings

- Overall, adults received 55 percent of recommended care for the leading causes of death and disability and the major health issues for which adults use the health care system.
- Quality of care was similar across the 12 major metropolitan areas studied, ranging from 51 percent to 59 percent of recommended care.
- Everyone is at risk for receiving poor quality care. Remarkably little variation was found by age, gender, race, income, education, and insurance status.
- Overall, children received just 47 percent of recommended care for 12 clinical areas and preventive care.

Funding

The Robert Wood Johnson Foundation (RWJF) provided four grants to RAND Corporation totaling $17,632,335.[1] The grants were made as part of a national effort called *Health Tracking*, to track and report on changes in the U.S. health care system and how they affect Americans' health. See Program Results Report on Health Tracking for more information.

[1] ID#s 32809, 33095, 34940, and 40829

CONTEXT

Numerous studies prior to this one had documented serious deficits in the quality of health care. But most of these studies focused on a single condition, a small number of indicators of quality, persons with a single type of insurance coverage, or persons receiving care in a small geographic area.

The few national studies were limited to specific segments of the population, such as Medicare beneficiaries, or enrollees in managed-care plans; focused on a limited set of topics, such as preventive care, diabetes, or human immunodeficiency virus (HIV); or assessed health outcomes without a link to specific processes involved in care.

As a result, there was no comprehensive view of the level of quality of care given to the average person in the United States. In the view of the researchers on this study, led by Elizabeth A. McGlynn, PhD, there was a widespread belief that quality of care was not a serious national problem.

If you don't think there is a problem there is no motivation to garner resources, time and attention on fixing the problem. If people are satisfied with quality, there is no particular interest in closing a gap because no one thinks there is a gap.

– Elizabeth McGlynn, PhD

Lead Researcher on the RAND Community Quality Index Study

RWJF's Community Tracking Study

In the mid-1990s, RWJF spearheaded the Community Tracking Study, a large-scale longitudinal investigation of health system change and its effects on people managed by the Center for Studying Health System Change, and funded under the *Health Tracking* program.[2] The study included periodic surveys of up to 33,000 households in 60 communities from 1996 to 2010, surveys of 22,000 employers, and site visits in 12 communities.

The Community Tracking Study investigated the ways in which hospitals, health plans, physicians, safety net providers, and other provider groups restructure their systems, and the forces driving the organizational change. The Community Tracking Study also tracked health insurance coverage, access to care, use of health services, health care costs, and perceptions of health care quality.

[2] For more information on the Community Tracking Study, read the Program Results Report on Health Tracking.

Asking people whether they think the care they receive is good has its limitations, however. “Even though we had asked in the main Community Tracking Study about perceptions of quality,” said Maureen Michael, former RWJF program officer, “We were not getting a good sense of what changes in the health care system meant for real quality outcomes. Were people getting the right care?”

RWJF’s Interest in This Area

RWJF’s interest in the quality of care goes back to the Foundation’s earliest days. Over the years, RWJF has employed a number of strategies and directions to address issues of quality. See the Topic Summary on this work from 1972 to 2006.

THE PROJECT

In late 1997, the RAND Corporation launched the Community Quality Index (CQI) study to assess the quality of health care. The project relied on Community Tracking Study participants living in the 12 communities most intensively examined by that study. For a list of the communities, see the Appendix.

The Pilot Study

RAND began with a pilot study to test the feasibility of using data and participants from the Community Tracking Study household survey.

Piggybacking on the Community Tracking Study offered both pros and cons. On the plus side, the Community Tracking Study gathered information about the communities and the participants that the new study would not have to ask about again. However, the RAND team knew that Community Tracking Study already had a certain nonresponse rate, and some of its participants would fail to respond to the new study. “From our perspective, we were starting with nonrespondents, and we knew with our study we would also get nonrespondents,” lead researcher McGlynn said.

The pilot took place in two of the 12 intensive Community Tracking Study sites: Indianapolis and Orange County, Calif. The research team:

- Conducted focus groups with Community Tracking Study respondents to gauge their willingness to participate in the CQI study.
- Conducted focus groups with medical records administrators to gauge their willingness to provide medical records for the study.
- Tested methods of recruiting participants to the study and getting permission for access to medical records.

- Tested the feasibility of adding a set of screening questions on chronic conditions to the Community Tracking Study, because the CQI would focus on chronic conditions.
- Conducted strategic planning around arranging health examinations of participants, and chose to subcontract the examinations to providers in each of three study sites (the two pilot sites plus Greenville, S.C.).

Results of the Pilot

The pilot study demonstrated that a full study based on the Community Tracking Study sample would be feasible. Respondents in the focus groups were generally receptive to the project and had either a positive or neutral attitude toward the physical examination component.

The researchers were able to obtain access to medical records for about half the participants in the pilot. While this was a low response rate, there were few significant differences between those who did and did not permit access, suggesting that it would be possible to obtain unbiased estimates of quality.

The Full Study

Between October 1998 and August 2000, the project team contacted by telephone households in the 12 targeted communities which had participated in the Community Tracking Study interviews. Respondents were asked to:

- Complete a telephone interview regarding their health history.
- List any health care providers they had seen in the previous two years.
- Agree to provide RAND with access to their medical records.

Those who agreed orally to provide access to their records were sent written consent forms, which researchers used to acquire the records. Of an initial sample of about 18,000 eligible respondents, 13,275 participated in the health history interview. Researchers were able to acquire at least one medical record for 6,712.

For indicators of quality, the researchers used the Quality of Care Assessment Tools (QA Tools) previously developed by RAND. QA Tools indicators are based on literature reviews and the ratings of expert panels and cover the full range of medical care from screening to follow-up. The CQI researchers used 439 indicators for 30 conditions plus preventive care.

RAND trained 20 registered nurses to abstract respondents' medical records. It developed computer-assisted abstraction software to support this effort and provide quality checks.

RAND researchers also compared the CQI findings with a previous RAND study of the quality of care delivered in the Veterans Affairs health system.

Challenges

The researchers completed telephone interviews with about three-quarters of their eligible sample, but had more trouble getting respondents to provide access to their medical records. They tried a variety of strategies, including increasing incentives, but none had much impact.

They had even less success getting respondents to agree to physical exams in the three communities where those were planned.

"Physical exams was a failed experiment," former RWJF Program Officer Michael said. "We thought, naively perhaps, that it might be a benefit for people. People were not enthusiastic about getting a physical exam by your friendly researcher."

Ultimately, the researchers did not use data gathered through physical exams in their published analyses.

In the course of designing the medical examination component, however, the team developed a health history questionnaire that could be administered by a nonclinician. They realized that the questionnaire could help to fill in gaps in medical records, and sought and received additional RWJF funding to collect health histories during the initial telephone interview.[3]

"We found that it was a better introduction to the study than starting by asking people about getting access to their medical records," McGlynn said.

CQI Survey Round Two

The RAND team administered a second full CQI survey in the same 12 communities from November 2002 to March 2003. Of an initial sample of about 31,000 eligible respondents, 19,114 participated in the health history interview and 16,021 agreed to permit access to their medical records.

Quality of care changed very little from the first to the second round. Therefore, the researchers did not publish findings from the second survey. Findings from the project (see Findings) are based on only the 1998–2000 survey.

Communications

RAND contracted with Washington-area-based Burness Communications to develop a comprehensive strategy for disseminating the research findings. Burness provided media training and support to the researchers to help them "tell the story" of their research

[3] Grant ID# 34940

findings. See the sidebar, "Breaking Through the Denial About Health Care Quality in the U.S.," for a full description of the communications effort.

Other Funding

The California HealthCare Foundation provided approximately $1.5 million to support the development of medical record abstraction software. Steven Asch, MD, MPH, a co-principal investigator, and Eve Kerr, MD, MPH, a senior investigator, received career development awards from Veterans Affairs Health Services Research and Development that supported part of their research time.

FINDINGS

The RAND researchers published findings based on the 1998–2000 survey in a series of articles examining different aspects of the quality question:

Overall Quality of American Health Care

These findings were reported in a 2003 article in the *New England Journal of Medicine*[4] (available online):

- **Overall, adults received 55 percent of recommended care for the leading causes of death and disability and the major health issues for which adults use the health care system.** Failure to receive appropriate care could mean they received either less care or more care than the indicators called for.
- **The level of performance was similar for all areas of care.** For example, respondents received:
  - 55 percent of recommended preventive care
  - 54 percent of recommended acute care
  - 56 percent of recommended care for chronic conditions
- **Among different medical functions, adherence to recommended care ranged from 52 percent (for screening) to 59 percent (for follow-up care).**
- **Quality varied substantially among medical conditions.** At the extremes:
  - 79 percent of those suffering from senile cataracts received appropriate care.
  - 65 percent of those with hypertension received appropriate care.

[4] McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, DeCristofaro A and Kerr EA. "The Quality of Health Care Delivered to Adults in the United States." *New England Journal of Medicine,* 348(26): 2635–2645, June 26, 2003. Available online.

- 58 percent of those suffering from depression received appropriate care.
- 45 percent of those suffering from headaches received appropriate care.
- 37 percent of those suffering from sexually transmitted disease or vaginitis received appropriate care.
- 11 percent of those with alcohol dependence received appropriate care.

Are There Regional Differences in Quality?

These findings were reported in a 2004 article in *Health Affairs*[5] (available online):

- **Quality of care was similar across the 12 major metropolitan areas studied,** ranging from 51 percent of recommended care delivered in Orange County, Calif., and Little Rock, Ark., to 59 percent in Seattle.
- **All communities did a better job on some aspects of preventive care than others.** Screening and immunizations were generally provided more often than other dimensions of preventive care. Substance abuse counseling and prevention of sexually transmitted diseases were consistently provided less often.
- **For the five chronic conditions examined, there was a good deal of variability in the quality of care provided.** The quality of hypertension care was the best of the five chronic conditions examined, with residents in the top-performing community (Cleveland) receiving about 70 percent of recommended care. The worst performance in most communities was for diabetes care. No community consistently had the highest or lowest performance for all of these chronic conditions.

Quality for Different Groups of Americans

These findings were reported in a 2006 article in the *New England Journal of Medicine*[6] (available online):

- **There was only moderate variation in the quality of care received by different sociodemographic groups.** For example:
  - Women (56.6%) received higher quality care than men (52.3%).
  - Respondents below age 31 (57.5%) received higher quality care than those over age 64 (52.1%).

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[5] Kerr EA, McGlynn EA, Adams J, Keesey J and Asch SM. "Profiling The Quality Of Care In Twelve Communities: Results From The CQI Study." *Health Affairs*, 23(3): 247–256, 2004. Available online.

[6] Asch SM, Kerr EA, Keesey J, Adams JL, Setodji CM, Malik S and McGlynn EA. "Who Is at Greatest Risk for Receiving Poor-Quality Health Care?" *New England Journal of Medicine*, 354(11): 1147–1156, March 16, 2006. Available online.

— Blacks (57.6%) and Hispanics (57.5%) had slightly higher quality of care scores than Whites (54.1%).

— People with annual household incomes above $50,000 (56.6%) received higher quality care than those making less than $15,000 (53.1%).

Quality and Children's Health Care

These findings were reported in a 2007 article in the *New England Journal of Medicine*[7] (available online):

- **Overall, children received just 47 percent of recommended care for 12 clinical areas and preventive care.**[8] In particular, children received:
  - 68 percent of the indicated care for acute problems
  - 53 percent of the indicated care for chronic conditions
  - 41 percent of the appropriate preventive care
- **Quality of care varied widely for different conditions.** At the high end, children received 92 percent of indicated care for upper respiratory infections. At the low end, adolescents received only 35 percent of appropriate preventive services (e.g., follow-up visits in cases of abnormal changes in height or weight).

Comparing Private Health Care to Care Provided by the Veterans Administration

These findings were reported in a 2004 article in the *Annals of Internal Medicine*[9] (available online):

- **Veterans Administration (VA) participants received 67 percent of recommended care, a considerably better rate than the 55 percent observed in the CQI study.** The researchers noted that the VA has "one of the country's most mature electronic medical-record systems, decision-support tools at the point of care, automated order entry, routine measurement of and reporting on quality, and financial incentives for performance," and illustrates the potential for quality improvement using such tools.

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[7] Mangione-Smith R, DeCristofaro AH, Setodji CM, Keesey J, Klein DJ, Adams JL, Schuster MA and McGlynn EA. "The Quality of Ambulatory Care Delivered to Children in the United States." *New England Journal of Medicine*, 357(15): 1515–1523, October 11, 2007. Available online.

[8] The list of 12 conditions is in a table in the article.

[9] Asch SM, McGlynn EA, Hogan MM, Hayward RA, Shekelle P, Rubenstein L, Keesey J, Adams J and Kerr A. "Comparison of Quality of Care for Patients in the Veterans Health Administration and Patients in a National Sample." *Annals of Internal Medicine*, 141(12): 938–945, 2004. Available online.

SIGNIFICANCE OF THE PROJECT

Prior to the publication of the first set of findings in the June 26, 2003 *New England Journal of Medicine*, the public perception was that quality of care in the United States was the best in the world and was at a high level. The RAND research changed that perception at many levels, according to both RAND and RWJF officials.

"There had been lots of research for years," noted lead researcher Elizabeth McGlynn, PhD. "But the message had not gotten out beyond a small group of researchers and those who read that research."

"The huge impact of the study was to get people's attention that there was a problem and we needed to be vigilant in measuring how well we were doing and to invest in finding ways to then close the gaps," she said.

"Finally getting a picture of how bad things were nationally was a huge wake up call," former RWJF Program Officer Maureen Michael noted. "Following on the heels of the Institute of Medicine's report, *Crossing the Quality Chasm*, the RAND finding that Americans are getting about half of recommended care was a real tipping point for the field."

LESSONS LEARNED

1. **To get important findings out beyond the research community, invest in media training and outreach.** The RAND researchers worked with Burness Communications to hone their messages and communicate them strategically. This resulted in widespread coverage of the findings well beyond the research community. (Project Director McGlynn)

2. **Getting information about people's health through telephone surveys is increasingly difficult.** The researchers made on average five calls to persons who agreed to participate and as many as 45 to persons who ultimately refused or did not participate. Many participants do not even pick up the phone (most likely using Caller ID or some other screening mechanism), so the researchers had no opportunity to explain why they were calling.

   Researchers used the following strategies for improving response rates: sending a full set of study materials through the mail first and then calling people; offering larger incentives; sending phone cards ($10 long distance) along with an 800 number so people could call back; and sending postcards. None of these strategies produced improvements; some even reduced response rates. (Project Director McGlynn)

3. **When evaluating quality, it is important to use multiple sources of information.** No single data source is adequate for understanding the complex issues related to assessing even the technical quality of care. It is important to have information about the health problems people are experiencing from their perspective in combination

with information from medical records. This is particularly important for examining underuse of services. (Project Director McGlynn)

4. **Large-scale medical record abstraction projects are expensive and time-consuming.** Due to patient privacy laws, many doctors were reluctant to provide photocopies of medical records, even with patient permission. Similarly, many patients were reluctant to allow access to this information. Finding and keeping good abstractors is also difficult. "Our experience in this project underscored the critical problem in the U.S., of the lack of appropriate data for ongoing management and evaluation of the health care system," the project team reported.

5. **People are generally not interested in getting a health exam by someone other than their own physician.** Even with financial and other incentives, people were reluctant to submit to the physical exam part of the study. "People don't view going to the doctor as a positive thing necessarily," Project Director McGlynn concluded. Even when exams were done at well-known medical practices in a community, "people were still leery," she added. "It was a surprise that the response was as poor as it was."

AFTERWARD

The RAND study has informed quality initiatives in the United States and in other countries. For example, RAND collaborated with an investigator from the United Kingdom on the development of a quality of care component for the U.K. Longitudinal Study of Aging. The experiences from the RAND health history questionnaire informed the recommendations for survey items in the U.K. study, RAND researchers said.

Prepared by: Kelsey Menehan
Reviewed by: Robert Narus and Molly McKaughan
Program officers: Maureen Lane Michael, Kelly Hunt and Laura C. Leviton
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APPENDIX

Communities Surveyed for the Community Quality Index

- Boston, Mass.
- Cleveland, Ohio
- Greenville, S.C.
- Indianapolis, Ind.
- Lansing, Mich.
- Little Rock, Ark.
- Miami, Fla.
- Newark, N.J.
- Orange County, Calif.
- Phoenix, Ariz.
- Seattle, Wash.
- Syracuse, N.Y.

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